Endpoint Solutions
6871 South Lovers Lane
Franklin, WI 53132
Telephone: (414) 427-1200
Fax: (414) 427-1259
www.endpointcorporation.com

Mr. John Feeney
Wisconsin Department of Natural Resources
Plymouth Service Center
1155 Pilgrim Parkway
Plymouth, WI 53073

May 15, 2020

Subject: **Clarifications to Site Investigation Work Plan – PFAS Contamination**
Arkema Coating Resins/Cook Composites & Polymers/Freeman Chemical
340 Railroad Street, Saukville, Wisconsin
BRRTS #: 02-46-000767, FID #: 246004330

Dear John:

In response to the questions and comments provided via email on April 30, 2020, we are providing these clarifications to the PFAS Site Investigation Work Plan prepared for the above-described site. The questions/comments presented in the email are listed below with our response immediately following each bullet point.

- *I'm not familiar with how a Macropore sampler works. That's a discreet sample, right? Can you describe how a macropore sampler works? I thought it might be like a Geoprobe sleeve?*

The Site Investigation Work Plan referred to a MacroCore sampler, not a Macropore sampler. The MacroCore sampler is simply a larger diameter sampler created by GeoProbe™ to allow for the collection of a larger volume of soil sample from a direct-push borehole. Additionally, in areas with loose sand deposits, the MacroCore sampler can be utilized as a borehole casing, allowing for sampling with a traditional diameter GeoProbe™ sampler through the hollow enter of the sampler.

- *We are wondering why you will collect the lab sample at the shallowest native soil location vs. at the water table interface?*

We chose to sample the shallowest native soil interval during this Site Investigation for several reasons. First of all, the historical information obtained from employees at the Site indicate AR-AFFF foam products were only stored in aboveground storage tanks (ASTs) or containers stored in the warehouse or firefighting shed. As such, any discharge of AR-AFFF from storage locations would have consisted of a surface release to the concrete floor slab or asphalt pavement, rather than a subsurface release. Secondly, the only known discharge of AR-AFFF at the Site was during a nozzle test where the AR-AFFF was released to the ground surface in the area as depicted on Figure 2 included with the Site Investigation Work Plan. Lastly, the depth to groundwater as measured during the April 2020 groundwater sampling event in the vicinity of the areas of investigation range from approximately seven (7) to nine (9) feet below the ground surface (ft bgs). Therefore, a surface release would not need to migrate very far to encounter the groundwater, as such, we added the downgradient monitoring well sampling to the Work Plan.

- *Can you put the location where the fire department stored their firefighting foam on the map? We thought it would be appropriate to add sampling from that location.*

According to former employees of the Site, the Village of Saukville Fire Department did not store any firefighting foam at the Site. When the AR-AFFF maintained at the Site in the event of a fire reached their expiration date, the AR-AFFF stored in the AST, drums and the firefighting cart were exchanged for new product and the expired product was donated to the Fire Department for their use. However, upon donation, the Fire Department removed the donated AR-AFFF from the Site. The only known storage locations for the AR-AFFF products on the site are shown in yellow highlight on Figure 1.

- *We thought it would be appropriate to add groundwater samples from wells on the north and east side of the PFAS foam storage and use areas (areas in yellow on Figure 4 of the SIWP) to investigate any potential releases to groundwater from those areas. Can you add groundwater flow directions to your proposed well sampling map?*

See **Figure 1** (attached) for the glacial drift aquifer groundwater flow map based on depth to water measurements made during the April 2020 groundwater sampling event. While there are some minor variations in the flow paths induced by active pumping of several glacial drift extraction wells along the southern portion of the west fence line and gravity drainage and active pumping of water within the glacial drift aquifer by the three (3) Ranney Collectors (RC-1, RC-2 and RC-3 and their associated trench drains depicted with the green dotted lines), overall shallow groundwater flow across the Site is from the west to the east.

Existing glacial drift aquifer monitoring wells W-44, W-46 and W-48 are located to the north of the Warehouse, Liquids Incinerator and Fire Shed, respectively. These monitoring wells are not actively sampled as part of the current groundwater monitoring plan; however, depth to groundwater measurements are collected in each of these wells semi-annually. During the April 2020 groundwater monitoring event, the depth to water in these wells ranged between approximately 5.5 to 8.5 ft bgs. Based on the general west to east groundwater flow pattern across the Site, glacial drift aquifer monitoring well W-08R is located in a general downgradient sentinel well position for the areas of AR-AFFF use. Therefore, in response to DNR's request we propose a sample be collected from W-08 to evaluate the downgradient migration of potential PFAS contaminant constituents in the glacial drift aquifer.

- *Submit well construction details for the wells that are proposed to be sampled.*

Soil boring logs and well construction details for wells W-04, W-08, W-23, W-44, W-46, W-48, W-49 and W-50 are included in **Appendix A**. Please note, W-04, W-08, W-23, W-44, W-46 and W-48 were installed in the early 1980's and the information presented in Appendix A is the extent of the information available regarding these wells. The available information requested regarding soil profiles and well construction details are provided on the attachments.

CLOSING

We trust the proposed Site investigation activities described in this Work Plan sufficiently address the request made by the WDNR in the March 5, 2020 Notice of Non-Compliance. Following review

of this Work Plan, we request the WDNR issue an opinion whether Retia USA LLC should proceed with the scope of work described herein. Should you have any questions or comments regarding the contents of this Work Plan, please feel free to contact me directly at 414-858-1202 or via email at bob@endpointcorporation.com.

Sincerely,

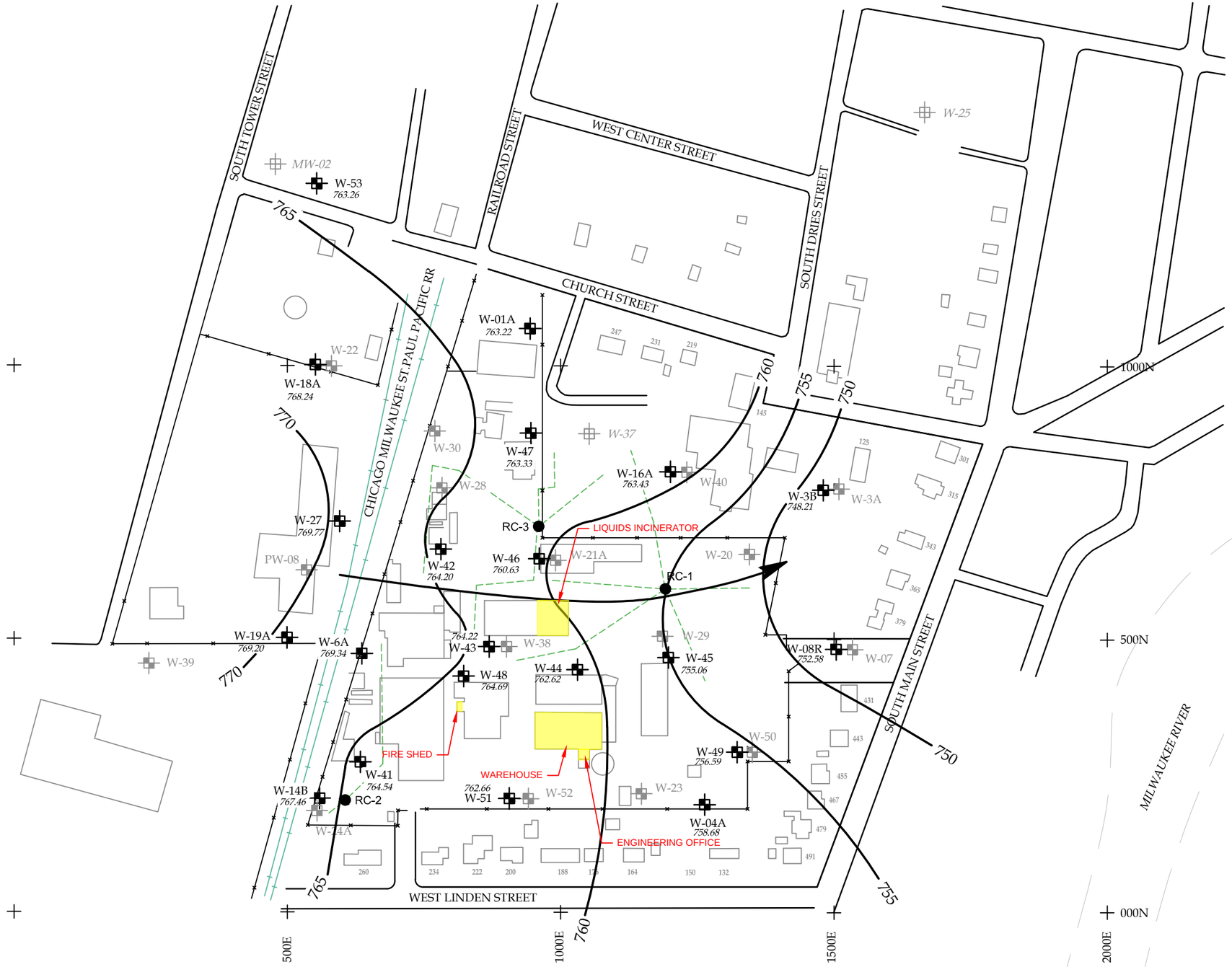
Endpoint Solutions

Robert A. Cigale, P.G.
Principal

cc: Michelle Norman – WDNR-SED
Doug Loutzenhiser – Retia USA LLC
Keith Linton – Retia USA LLC

ATTACHMENTS
Figures
Appendix A

FIGURES



LEGEND

- W-18A — MONITORING WELL LOCATION AND NUMBER
- *W-18A* — ABANDONED WELL LOCATION AND NUMBER
- GROUNDWATER FLOW DIRECTION
- NM — NOT MEASURED
- CONTOUR INTERVAL = 5 FEET
- RANNEY COLLECTOR
- AR-AFFF STORAGE LOCATION

NOTES

1. BASE MAP WAS DEVELOPED FROM DRAWINGS PROVIDED BY RMT, INC.
2. W-37 WAS ABANDONED AUGUST 2, 1996.
3. W-25 WAS ABANDONED JULY 29, 1997.
4. MW-02 WAS ABANDONED NOVEMBER 2004.

SCALE:1"=200'

0 200' 400' 600'

WATER TABLE MAP
GLACIAL DRIFT AQUIFER - SPRING 2020

ARKEMA COATING RESINS
SAUKVILLE, WISCONSIN

Endpoint Solutions
6871 S. Lovers Lane
Franklin, WI 53132
Phone: (414) 427-1200 Fax: (414) 427-1259

DRAWN BY: NWD	DATE: 05/06/2020	341-020-001-003
REVIEWED BY: TCP	DWG: APRIL 2020 FIGURES	FIGURE 1

APPENDIX A

SOIL BORING LOGS

WELL CONSTRUCTION DETAILS

State of Wisconsin
Department of Natural Resources

GROUNDWATER MONITORING WELL INFORMATION FORM
Chapter 144, Wis. Stats.
Form 4400-89
2-84

EPA ID NO.

Facility Name	Facility ID Number	Date	Completed By (Name and Firm)
Freeman Chemical Corp.	WID980615439	11/19/87	John Hanscom, Hatcher Incorporated

Well Name	Well ID Number (DNR No.)	Well Location	N	S	E	W	Date Established	Well Casing Diam	Well Casing Type	Elevations Top of Well Casing	Elevations Ground Surface	Elevations Screen Top	Reference MSL (✓)	Reference Site Datum (✓)	Screen Length	Screen Material	Well Depth	Type of Well (✓) PIEZ	OW	PW	LYS	Other
1A		1082	✓				8/7/85	2"	PVC	767.81'	766.54'	757.54'	✓		5'	PVC	15'					MW
		960			✓																	
PW3A		782	✓				11/11/85	6"	MS	768.30'	767.30'	-	✓		-	open	233'					MW
		1500			✓																	
PW3B		782	✓				11/11/85	2"	PVC	769.40'	767.38'	717.3'	✓		20'	PVC	70'					MW
		1500			✓																	
4A		200	✓				8/2/85	2"	PVC	766.69'	765.08'	758.08'	✓		10'	PVC	17'					MW
		1265			✓																	
6A		472	✓				8/27/85	2"	PVC	770.55'	771.10'	766.1'	✓		10'	PVC	15'					MW
		640			✓																	
7		490	✓				9/13/83	2"	PVC	758.31'	756.52'	739.52'	✓		5'	PVC	22'					MW
		1532			✓																	
8		490	✓				9/13/83	2"	PVC	758.30'	756.62'	751.62'	✓		5'	PVC	10'					MW
		1532			✓																	
PW8		628	✓				NA	6"	MS	774.86'	773.16'	-	✓		-	open	455'					DIS
		545			✓																	
14B		205	✓				11/20/86	2"	PVC	772.25'	770.13'	765.13'	✓		10'	PVC	15'					MW
		565			✓																	
16A		840	✓				11/19/86	2"	PVC	767.87'	766.56'	743.56'	✓		10'	PVC	14.5'					MW
		1223			✓																	
18A		1003	✓				8/2/85	2"	PVC	772.40'	772.30'	766.3'	✓		10'	PVC	16'					MW
		570			✓																	
19A		492	✓				8/14/85	2"	PVC	774.68'	772.74'	765.74'	✓		15'	PVC	23'					MW
		500			✓																	

Location Coordinates Are:
☐ Grid System
State Plane Coordinate
☐ Northern
☐ Central

Received In:
District: _____ Area: _____ Bureau: _____
By: _____

SMS Use:
File Maint. Completed: _____ Date
Other: _____

DIS = Discharge and Cooling Water Well
DW = Dewatering Well
MS = Mild Steel
MW = Monitoring Well

State of Wisconsin
Department of Natural Resources

GROUNDWATER MONITORING WELL INFORMATION FORM
Chapter 144, Wis. Stats.
Form 4400-89

2-84

EPA ID NO.

Facility Name	Facility ID Number	Date	Completed By (Name and Firm)
Freeman Chemical Corp.	WID980615439	11/19/87	John Hanscom, Hatcher Incorporated

Well Name	Well ID Number (DNR Nos)	Well Location	N	S	E	W	Date Established	Well Casing Diam.	Well Casing Type	Elevations Top of Well Casing	Elevations Ground Surface	Elevations Screen Top	Reference MSL (✓)	Reference Site Datum (✓)	Screen Length	Screen Material	Well Depth	Type of Well (✓) PIEZ	OW	PW	LYS	Other
20		660	✓				8/12/85	4" & 2"	PVC	767.07'	764.38'	714.38'	✓		30'	PVC	123'					MW
		1360			✓																	
21A		643	✓				6/20/86	4"	PVC	765.14'	768.63'*	-	✓		-	open	80'					DIS
		968			✓																	
22		1003	✓				8/7/85	4"	PVC	744.03'	772.53'	-	✓		-	open	66'					MW
		570			✓																	
23		213	✓				7/25/85	4"	PVC	767.05'	767.44'	-	✓		-	open	65'					MW
		1149			✓																	
24A		188	✓				6/21/86	4"	PVC	765.79'	771.81'*	-	✓		-	open	85'					DIS
		560			✓																	
25		1462	✓				8/9/85	4"	PVC	TO BE SURVEYED			✓		-	open	84'					MW
		1672			✓																	
27		720	✓				8/13/85	2"	PVC	775.01'	773.17'	NA	✓		15'	PVC	23'					MW
		598			✓																	
28		774	✓				6/20/86	4"	PVC	766.51'	771.84'*	-	✓		-	open	90.5'					DIS
		795			✓																	
29		503	✓				6/20/86	4"	PVC	759.94'	764.96'	-	✓		-	open	81.5'					DIS
		1200			✓																	
30		882	✓				7/17/86	13"	MS	771.64'	NA	-	✓		-	open	556'					DC
		779			✓																	
31		302	✓				7/24/86	10"	MS	765.87'	771.57'*	761.57'	✓		10'	SS	20'					DW
		651			✓																	
32		360	✓				7/24/86	10"	MS	765.68'	771.32'	761.32'	✓		10'	SS	20'					DW
		651			✓																	

Location Coordinates Are:
☐ Grid System
State Plane Coordinate
☐ Northern
☐ Central

Received In:
District: _____ Area: _____ Bureau: _____
By: _____

SMS Use:
File Maint. Completed: _____ Date
Other: _____

* = Elev. at Top of Manhole Rim
DC = Discharge and Cooling Water Well
DIS = Discharge Well
DW = Dewatering Well
MS = Mild Steel
MW = Monitoring Well

State of Wisconsin
Department of Natural Resources

GROUNDWATER MONITORING WELL INFORMATION
Chapter 144, Wis. Stats.
Form 4400-89

2-84

EPA ID NO.

Facility Name	Facility ID Number	Date	Completed By (Name and Firm)
Freeman Chemical Corp.	WID980615439	11/19/87	John Hanscom, Hatcher Incorporated

Well Name	Well ID Number (DNR No.)	Well Location	N	S	E	W	Date Established	Well Casing: Diam	Well Casing: Type	Elevations: Top of Well Casing	Elevations: Ground Surface	Elevations: Screen Top	Reference: MSL (✓)	Reference: Site Datum (✓)	Screen: Length	Screen: Material	Well Depth	Type of Well (✓): PIEZ	OW	PW	LYS	Other
33		400	✓				7/25/86	10"	MS	765.67'	771.57'*	761.57'	✓		10'	SS	20'					DW
		663			✓																	
34		455	✓				7/25/86	10"	MS	765.78'	771.44'*	764.44'	✓		10'	SS	17'					DW
		658			✓																	
35		528	✓				7/25/86	10"	MS	765.58'	770.99'*	760.99'	✓		10'	SS	20'					DW
		668			✓																	
37		872	✓				6/24/86	16"	MS	766.32'*	-	762.32'	✓		15'	GS	18.5'					DW
		1073			✓																	
MW1		1724	✓				10/30/40	10"		NOT AVAILABLE						open	492'					FWS
		1896			✓																	
MW2		1380	✓				7/60	12"		"	"					open	480'					FWS
		482			✓																	
38		498	✓				11/13/86	6"	MS	767.85'	770.98'*	-	✓		-	open	49'					DIS
		885			✓																	
39		445	✓				11/5/86	6"	MS	781.52'	-	-	✓		-	open	70'					MW
		230			✓																	
40		840	✓				11/19/86	6"	MS	767.59'	766.69'	-	✓		-	open	48'					MW
		1223			✓																	
41		275	✓				11/17/86	2"	PVC	772.38'	771.65'	768.15'	✓		15'	PVC	18'					MW
		630			✓																	
42		670	✓				11/14/86	2"	SS	773.33'	771.72'	767.72'	✓		10'	SS	20'					MW
		795			✓																	
43		498	✓				11/13/86	2"	SS	768.25'	770.98'*	762.25'	✓		10'	SS	15'					MW
		885			✓																	

Location Coordinates Are:
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Received In:
District: _____ Area: _____ Bureau: _____
By: _____

SMS Use:
File Maint. Completed: _____ Date
Other: _____

* = Elev. at Top of Manhole Rim
Dis = Discharge Well
DW = Dewatering Well
FWS = Former Water Supply
MW = Monitoring Well
SS = Stainless Steel

State of Wisconsin
Department of Natural Resources

GROUNDWATER MONITORING WELL INFORMATION FORM
Chapter 144, Wis. Stats.
Form 4400-89

2-84

EPA ID NO.

Facility Name	Facility ID Number	Date	Completed By (Name and Firm)
Freeman Chemical Corp.	WID980615439	11/19/87	John Hanscom, Hatcher Incorporated

Well Name	Well ID Number (DNR No.)	Well Location	N	S	E	W	Date Established	Well Casing Diam.	Well Casing Type	Elevations: Top of Well Casing	Elevations: Ground Surface	Elevations: Screen Top	Reference: MSL (✓)	Reference: Site Datum (✓)	Screen: Length	Screen: Material	Well Depth	Type of Well (✓): PIEZ	OW	PW	LYS	Other
44		445	✓				11/15/86	2"	SS	768.65'	768.88'	763.88'	✓		10'	SS	15'					MW
		1035			✓																	
45		460	✓				11/17/86	2"	PVC	766.10'	765.27'	761.27'	✓		10'	PVC	13'					MW
		1203			✓																	
46		643	✓				11/14/86	2"	SS	765.60'	768.58'*	758.6'	✓		10'	SS	15'					MW
		968			✓																	
47		880	✓				11/14/86	2"	SS	770.62'	769.44'	764.44'	✓		10'	SS	15'					MW
		948			✓																	
48		430	✓				11/18/86	2"	PVC	772.84'	771.64'	762.64'	✓		10'	PVC	19'					MW
		820			✓																	

Location Coordinates Are:
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File Maint. Completed: _____ Date
Other: _____

* = Elev. at Top of Manhole Rim
SS = Stainless Steel
MW = Monitoring Well

OLVER INCORPORATED
1531 North Main Street Blacksburg, Virginia 24060

TECHNICAL SERVICES DIVISION
BORING LOG

Project:	Freeman Chemical Corp., Saukville, Wisconsin		
Boring No.:	23/PZ-4	Elevation–Top of Boring:	Date of Boring: 9/15/83
Location:	See location map		Total Depth: 22.0'
Drilling Contractor:	Wisconsin Testing Laboratories	Type of Boring:	4¼" I.D. Hollow Stem Auger

Ground Water Data:
Water level is 12.0 ft. below ground surface 0.25 hrs. after completion.

Elevation	Depth	Description	Sample Blows ★	% Core Recovery ★★	Remarks
		Gravel Fill			
		Dark brown SAND, with gravels			No odor
	5	Brown, silty SAND; dry; boulder from 4'-5'			No odor
		Light, yellowish-brown, silty CLAY, with gravels			No odor
	10				
		Gray, silty CLAY, with gravels; wet			No odor
	15				
	20				
		Dolomite			Niagara Fm.
		Terminated			
	25				

★ No. of Blows 140-lb. Hammer, 30-in. Fall, Required to Drive 2-in. O.D., 1.375-in. I.D. Sampler 6-in.
★★ Core Recovery as Percent of Length of Drill Run.
See NOTES TO BORING LOG which are a part of this log.

Scale: 1" = 5'

OLVER INCORPORATED
1531 North Main Street Blacksburg, Virginia 24060

TECHNICAL SERVICES DIVISION
BORING LOG

Project: Freeman Chemical Corp., Saukville, Wisconsin			
Boring No.: 27/PZ-8	Elevation–Top of Boring:	Date of Boring: 9/15/83	
Location: See location map			Total Depth: 10.0'
Drilling Contractor: Wisconsin Testing Laboratories		Type of Boring: 4¼" I.D. Hollow Stem Auger	
Ground Water Data: Water level is ft. below ground surface		hrs. after completion. Dry 12 hours after completion.	

Elevation	Depth	Description	Sample Blows ★	% Core Recovery ★★	Remarks
		Gravel Fill			
		Yellowish-brown, sandy CLAY; wet			No odor
	5	Yellowish-brown, silty CLAY; damp			No odor
	10	Gray, silty CLAY; damp			No odor
		Terminated			
	15				

★ No. of Blows 140-lb. Hammer, 30-in. Fall, Required to Drive 2-in. O.D., 1.375-in. I.D. Sampler 6-in.
★★ Core Recovery as Percent of Length of Drill Run.
See NOTES TO BORING LOG which are a part of this log.

Scale: 1" = 5'

HATCHER INCORPORATED

Borehole Log Sheet 1 of 1

Client Freeman Chemical Corporation Project/Location Saukville, Wisconsin

Hole No. SD (44) Elevation _____ A.M.S.L.

By Darren Brown Date _____

Boring Contractor _____ Hole Size _____

Depth ft.	Thick. ft.	Elev. ft.*	Lithologic Description	Remarks
			Clay and sand	
5			Clayey sandy gravel	
10			Sandy gravel	
15				

Water Level _____ Date _____ Time _____

*Above Mean Sea Level

HATCHER INCORPORATED

Borehole Log Sheet 1 of 1

Client Freeman Chemical Corporation Project/Location Saukville, Wisconsin

Hole No. SF (46) Elevation _____ A.M.S.L.

By Darren L. Brown Date _____

Boring Contractor _____ Hole Size _____

Depth ft.	Thick. ft.	Elev. ft.*	Lithologic Description	Remarks
			Sandy pebbly clay	
5			As above	
10			As above	
15				

Water Level _____ Date _____ Time _____

*Above Mean Sea Level

HATCHER INCORPORATED

Borehole Log

Sheet 1 of 1

Client Freeman Chemical Corporation Project/Location Saukville, Wisconsin

Hole No. 48 (SI) Elevation _____ A.M.S.L.

By Darren L. Brown Date _____

Boring Contractor _____ Hole Size _____

Depth ft.	Thick. ft.	Elev. ft.*	Lithologic Description	Remarks
0			Coarse sand and clay	
5			As above	
10			Tan dolomite chips, and coarse sandy clay	
15			As above	
20				

Water Level _____ Date _____ Time _____

*Above Mean Sea Level

State of Wisconsin
Department of Natural Resources

Route To:
☐ Solid Waste ☐ Haz. Waste
☐ Emergency Response ☐ Underground Tanks
☐ Wastewater ☐ Water Resources
☐ Superfund ☐ Other

SOIL BORING LOG INFORMATION
Form 4400-122 Rev. 5-92

Page 1 of 2

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
COOK COMPOSITES AND POLYMERS CO.		W-49

Boring Drilled By (Firm name and name of crew chief)	Date Drilling Started (MM/DD/YY)	Date Drilling Completed (MM/DD/YY)	Drilling Method
VINCE MEINDEL LAYNE-NORTHWEST	09/16/05	09/16/05	SONIC

DNR Facility Well No.	WI Unique Well No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
		W-49	Feet MSL	762.8 Feet MSL	6 inches

Boring Location
State Plane 2543381.2 N, 512,275.26 E S/C/N
Lat ° ' "
SE 1/4 of NE 1/4 of Section 35, T 11 N, R 21 E W
Long ° ' "
Local Grid Location (If applicable) ☐ N ☐ E Feet ☐ S Feet ☐ W

County: OZAUKEE
DNR County Code: 46
Civil Town/City/ or Village: VILLAGE OF SAUKVILLE

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth in Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
			1	BLIND DRILLED FOR WELL INSTALLATION - SEE LOG FOR W-50 FOR SOIL PROFILE.										
			2											
			3											
			4											
			5											
			6											
			7											
			8											
			9											
			10											
			11											
			12											

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

Signature: [signature] Firm: ELM CONSULTING, LLC

This form is authorized by Chapters 144.147 and 162, Wis. Stats. Completion of this report is mandatory. Penalties: Forfeit not less than $10 nor more than $5,000 for each violation. Fined not less than $10 or more than $100 or imprisoned not less than 30 days, or both for each violation. Each day of continued violation is a separate offense, pursuant to ss 144.99 and 162.06, Wis. Stats.

State of Wisconsin
Department of Natural Resources

SOIL BORING LOG INFORMATION SUPPLEMENT

Form 4400-122A Rev. 5-92

Boring Number W-49 Use only as an attachment to Form 4400-122.

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth in Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Compressive Strength	Soil Properties: Moisture Content	Soil Properties: Liquid Limit	Soil Properties: Plasticity Index	Soil Properties: P 200	RQD/ Comments
			13											
			14											
			15											
			16											
			17											
			18											
			19	END OF BORING @ -18.5'										
			20											
			21											
			22											
			23											
			24											
			25											
			26											
			27											
			28											
			29											
			30											
			31											
			32											

State of Wisconsin
Department of Natural Resources

Route To:
☐ Solid Waste ☐ Haz. Waste
☐ Emergency Response ☐ Underground Tanks
☐ Wastewater ☐ Water Resources
☐ Superfund ☐ Other

SOIL BORING LOG INFORMATION
Form 4400-122 Rev. 5-92

Page 1 of 2

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
COOK COMPOSITES AND POLYMERS CO.		W-50

Boring Drilled By (Firm name and name of crew chief)	Date Drilling Started (MM DD YY)	Date Drilling Completed (MM DD YY)	Drilling Method
VINCE MEINDEL LAYNE - NORTHWEST	09/16/05	09/19/05	SONIC 0-18.5 ROTARY WASH 18.5-31

DNR Facility Well No.	WI Unique Well No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
		W-50	Feet MSL	762.9 Feet MSL	6 inches

Boring Location
State Plane 2543381.8 N, 512280.14 E S/C/N
Lat ° ' "
SE 1/4 of NE 1/4 of Section 35, T 11 N, R 21 E/W
Long ° ' "
Local Grid Location (If applicable)
☐ N ☐ E
Feet ☐ S Feet ☐ W

County	DNR County Code	Civil Town/City/ or Village
OZAUKEE	46	VILLAGE OF SAUKVILLE

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth in Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1 SONIC	96/96		0–6	GRASS / TOPSOIL FILL: DARK BROWN, CLAYEY SAND WITH GRAVEL, DRY TO MOIST										
			6–9	BROWN-GRAY MOTTLED SILTY CLAY, SOME SAND, VERY STIFF TO HARD, MOIST	CL									
2 SONIC	96/96		9–12											

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

Signature [signature] Firm ELM CONSULTING, LLC

This form is authorized by Chapters 144.147 and 162, Wis. Stats. Completion of this report is mandatory. Penalties: Forfeit not less than $10 nor more than $5,000 for each violation. Fined not less than $10 or more than $100 or imprisoned not less than 30 days, or both for each violation. Each day of continued violation is a separate offense, pursuant to ss 144.99 and 162.06, Wis. Stats.

State of Wisconsin
Department of Natural Resources

SOIL BORING LOG INFORMATION SUPPLEMENT

Form 4400-122A Rev. 5-92

Boring Number W-50 Use only as an attachment to Form 4400-122.

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth in Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Compressive Strength	Soil Properties: Moisture Content	Soil Properties: Liquid Limit	Soil Properties: Plasticity Index	Soil Properties: P 200	RQD/ Comments
			13											
			14	GRAY CLAYEY SAND WITH GRAVEL, SOME SILT, VERY DENSE	SC									
			15	DARK GRAY DOLOMITE FRAGMENTS										
3 SONIC	48/48		16	COARSE GRAY SAND & GRAVEL, LITTLE SILT	GP									
			17											
			18	GRAY CLAYEY SAND & GRAVEL; VERY HARD	GC									6" CASING GROUTED TO -18.5'
			19	TAN VUGGY DOLOMITE, SOME BLACK INCLUSIONS, BROWN FRACTURE PLANES (NIAGARA)										
4 SONIC	12/12		20											RQD = 100%
5 NX	120/30		21											
			22											RQD = 9" / 120" = 7.5%
			23											
			24											
			25											
			26											
			27											
			28											
			29											
			30											
			31	END OF BORING @ -31'										
			32											

State of Wisconsin
Department of Natural Resources

Route to: Solid Waste ☐ Haz. Waste ☐ Wastewater ☐
Env. Response & Repair ☐ Underground Tanks ☐ Other ☐ _____

MONITORING WELL CONSTRUCTION
Form 4400-113A Rev. 4-90

Facility/Project Name: COOK - COMPOSITES AND POLYMERS CO.	Local Grid Location of Well: _____ ft. ☐N ☐S _____ ft. ☐E ☐W	Well Name: W-49
Facility License, Permit or Monitoring Number: _____	Grid Origin Location: Lat. _____ Long. _____ or	Wis. Unique Well Number: 0 2 9 6 [illegible] DNR Well Number: 269
Type of Well: Water Table Observation Well ■ 11; Piezometer ☐ 12	St. Plane 254338[illegible].2 ft. N, 512275.22 ft. E.	Date Well Installed: 09/16/05 (m m / d d / y y)
Distance Well Is From Waste/Source Boundary: _____ ft.	Section Location of Waste/Source: SE 1/4 of NE 1/4 of Sec. 35, T. 11 N, R. 21 ■ E ☐ W.	Well Installed By: (Person's Name and Firm) VINCE MEINDER; LAYNE - NORTHWEST
Is Well A Point of Enforcement Std. Application? ☐ Yes ■ No	Location of Well Relative to Waste/Source: u ☐ Upgradient s ☐ Sidegradient; d ☐ Downgradient n ☐ Not Known	

A. Protective pipe, top elevation _____ ft. MSL
B. Well casing, top elevation 765.83 ft. MSL
C. Land surface elevation 762.8 ft. MSL
D. Surface seal, bottom _____ ft. MSL or _____ ft.

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

13. Sieve analysis attached? ☐ Yes ■ No

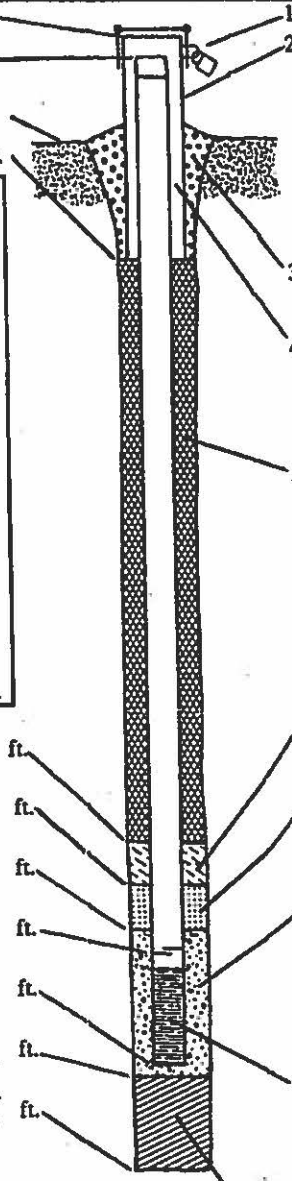
14. Drilling method used: Rotary ☐ 50; Hollow Stem Auger ☐ 41; Other ■ SONIC

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): _____

E. Bentonite seal, top _____ ft. MSL or 0.0 ft.
F. Fine sand, top _____ ft. MSL or 6.0 ft.
G. Filter pack, top _____ ft. MSL or 7.0 ft.
H. Screen joint, top _____ ft. MSL or 8.0 ft.
I. Well bottom _____ ft. MSL or 18.0 ft.
J. Filter pack, bottom _____ ft. MSL or 18.0 ft.
K. Borehole, bottom _____ ft. MSL or 18.5 ft.
L. Borehole diameter 6.0 in.
M. O.D. well casing 2.38 in.
N. I.D. well casing 1.91 in.



1. Cap and lock? ■ Yes ☐ No
2. Protective cover pipe:
a. Inside diameter: 4.0 in.
b. Length: 5.0 ft.
c. Material: Steel ■ 04; Other ☐ _____
d. Additional protection? ☐ Yes ■ No
If yes, describe: ~~Bumper Post~~
3. Surface seal: Bentonite ■ 30; Concrete ☐ 01; Other ☐ _____
4. Material between well casing and protective pipe: Bentonite ☐ 30; Annular space seal ☐ _____; Other ☐ _____
5. Annular space seal: a. Granular 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. 0.15 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 pellets ■ 32
c. _____ Other ☐ _____
7. Fine sand material: Manufacturer, product name & mesh size
a. #80 SILICA
b. Volume added 0.02 ft³
8. Filter pack material: Manufacturer, product name and mesh size
a. #30-60 RED FLINT BLAST ABRASIVE
b. Volume added 0.25 ft³
9. Well casing: Flush threaded PVC schedule 40 ☐ 23; Flush threaded PVC schedule 80 ■ 24; Other ☐ _____
10. Screen material: SCH 80 PVC
a. Screen type: Factory cut ■ 11; Continuous slot ☐ 01; Other ☐ _____
b. Manufacturer MONOFLEX
c. Slot size: 0.010 in.
d. Slotted length: 10.0 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 ELM CONSULTING, LLC

Please complete both sides of this form and return to the appropriate DNR office listed at the top of this form as required by chs. 144, 147 and 160, Wis. Stats., and ch. NR 141, Wis. Ad. Code. In accordance with ch.144, Wis Stats., failure to file this form may result in a forfeiture of not less than $10, nor more than $5000 for each day of violation. In accordance with ch. 147, Wis. Stats., failure to file this form may result in a forfeiture of not more than $10,000 for each day of violation. NOTE: Shaded areas are for DNR use only. See instructions for more information including where the completed form should be sent.

State of Wisconsin
Department of Natural Resources

Route to: Solid Waste ☐ Haz. Waste ☐ Wastewater ☐
Env. Response & Repair ☐ Underground Tanks ☐ Other ☐ _____

MONITORING WELL CONSTRUCTION
Form 4400-113A Rev. 4-90

Facility/Project Name: COOK COMPOSITES AND POLYMERS CO.	Local Grid Location of Well: _____ ft. ☐N. ☐S. _____ ft. ☐E. ☐W.	Well Name: W-50
Facility License, Permit or Monitoring Number: _____	Grid Origin Location: Lat. _____ Long. _____ or	Wis. Unique Well Number: OXG967 DNR Well Number: Z700
Type of Well: Water Table Observation Well ☐ 11; Piezometer ■ 12	St. Plane 2543381.8 ft. N, 517720.14 ft. E.	Date Well Installed: 09/19/05 (mm dd yy)
Distance Well Is From Waste/Source Boundary: _____ ft.	Section Location of Waste/Source: SE 1/4 of NE 1/4 of Sec. 35, T. 11 N, R. 21 ■E. ☐W.	Well Installed By: (Person's Name and Firm): VINCE MEINDEL; LAYNE - NORTHWEST
Is Well A Point of Enforcement Std. Application? ☐ Yes ■ No	Location of Well Relative to Waste/Source: u ☐ Upgradient s ☐ Sidegradient; d ☐ Downgradient n ☐ Not Known	

A. Protective pipe, top elevation _____ ft. MSL
B. Well casing, top elevation 765.74 ft. MSL
C. Land surface elevation 762.9 ft. MSL
D. Surface seal, bottom _____ ft. MSL or 0.0 ft.

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

13. Sieve analysis attached? ☐ Yes ■ No

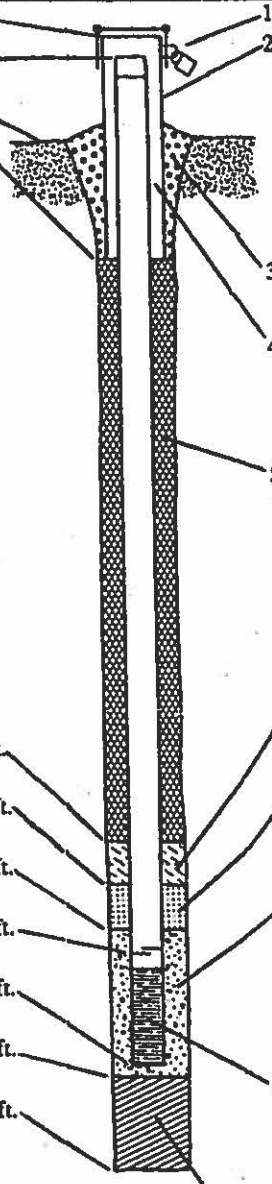
14. Drilling method used: Rotary ■ 50; Hollow Stem Auger ☐ 41; Other ☐ _____

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): _____

E. Bentonite seal, top _____ ft. MSL or 0.0 ft.
F. Fine sand, top _____ ft. MSL or 22.0 ft.
G. Filter pack, top _____ ft. MSL or 24.0 ft.
H. Screen joint, top _____ ft. MSL or 26.0 ft.
I. Well bottom _____ ft. MSL or 31.0 ft.
J. Filter pack, bottom _____ ft. MSL or 31.0 ft.
K. Borehole, bottom _____ ft. MSL or 31.0 ft.
L. Borehole, diameter 6.0 in.
M. O.D. well casing 2 3/8 in.
N. I.D. well casing 1.98 in.



1. Cap and lock? ■ Yes ☐ No
2. Protective cover pipe:
a. Inside diameter: 6.0 in.
b. Length: 28.0 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: Bentonite ■ 30; Annular space seal ☐ _____; Other ☐ _____
5. Annular space seal: a. Granular 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. 0.47 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 pellets ■ 32
c. _____ Other ☐ _____
7. Fine sand material: Manufacturer, product name & mesh size
a. #80 SILICA
b. Volume added 0.04 ft³
8. Filter pack material: Manufacturer, product name and mesh size
a. #30-60 RED FLINT BLAST ABRASIVE
b. Volume added 0.11 ft³
9. Well casing: Flush threaded PVC schedule 40 ☐ 23; Flush threaded PVC schedule 80 ■ 24; Other ☐ _____
10. Screen material: SCH 80 PVC
a. Screen type: Factory cut ■ 11; Continuous slot ☐ 01; Other ☐ _____
b. Manufacturer MONOFLEX
c. Slot size: 0.010 in.
d. Slotted length: 5.0 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 ELM CONSULTING, LLC

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...atural Resources

Route to: Solid Waste ☐ Haz. Waste ☐ Wastewater ☐
Env. Response & Repair ☐ Underground Tanks ☐ Other ☐ _____

MONITORING WELL CONSTRUCTION
Form 4400-113A Rev. 4-90

Facility/Project Name: OOP Facility	Local Grid Location of Well: 490 ft. ☒N ☐S 1512 ft. ☒E ☐W	Well Name: PZ-8R
Facility License, Permit or Monitoring Number: _____	Grid Origin Location: Lat. _____ Long. _____ or	Wis. Unique Well Number: _____ DNR Well Number: _____
Type of Well: Water Table Observation Well ☒ 11; Piezometer ☐ 12	St. Plane _____ ft. N, _____ ft. E.	Date Well Installed: 09/22/94 (m m d d y y)
Distance Well Is From Waste/Source Boundary: _____ ft.	Section Location of Waste/Source: SE 1/4 of NE 1/4 of Sec. 35, T. 11 N, R. 21 ☒E ☐W	Well Installed By: (Person's Name and Firm): Rick O'Gorman; WTD Environmental Drilling
Is Well A Point of Enforcement Std. Application? ☐ Yes ☐ No	Location of Well Relative to Waste/Source: u ☐ Upgradient s ☐ Sidegradient d ☐ Downgradient n ☒ Not Known	

A. Protective pipe, top elevation 758.75 ft. MSL
B. Well casing, top elevation 758.69 ft. MSL
C. Land surface elevation 756.69 ft. MSL
D. Surface seal, bottom _____ ft. MSL or 00 ft.

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

13. Sieve analysis attached? ☐ 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):
_____

E. Bentonite seal, top _____ ft. MSL or 00 ft.
F. Fine sand, top _____ ft. MSL or 50 ft.
G. Filter pack, top _____ ft. MSL or 60 ft.
H. Screen joint, top _____ ft. MSL or 70 ft.
I. Well bottom _____ ft. MSL or 120 ft.
J. Filter pack, bottom _____ ft. MSL or 120 ft.
K. Borehole, bottom _____ ft. MSL or 120 ft.
L. Borehole, diameter 80 in.
M. O.D. well casing 2.37 in.
N. I.D. well casing 2.01 in.

1. Cap and lock? ☒ Yes ☐ No
2. Protective cover pipe:
a. Inside diameter: 4.0 in.
b. Length: 6.0 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: Bentonite ☒ 30; Annular space seal ☐ __; Other ☐ __
5. Annular space seal: a. Granular 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 pellets ☐ 32
c. _____ Other ☐ __
7. Fine sand material: Manufacturer, product name & mesh size
a. American Material #70
b. Volume added _____ ft^3
8. Filter pack material: Manufacturer, product name and mesh size
a. American Material #30
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 Northern Air
c. Slot size: 0.020 in.
d. Slotted length: 5.0 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: WTD Environmental Drilling

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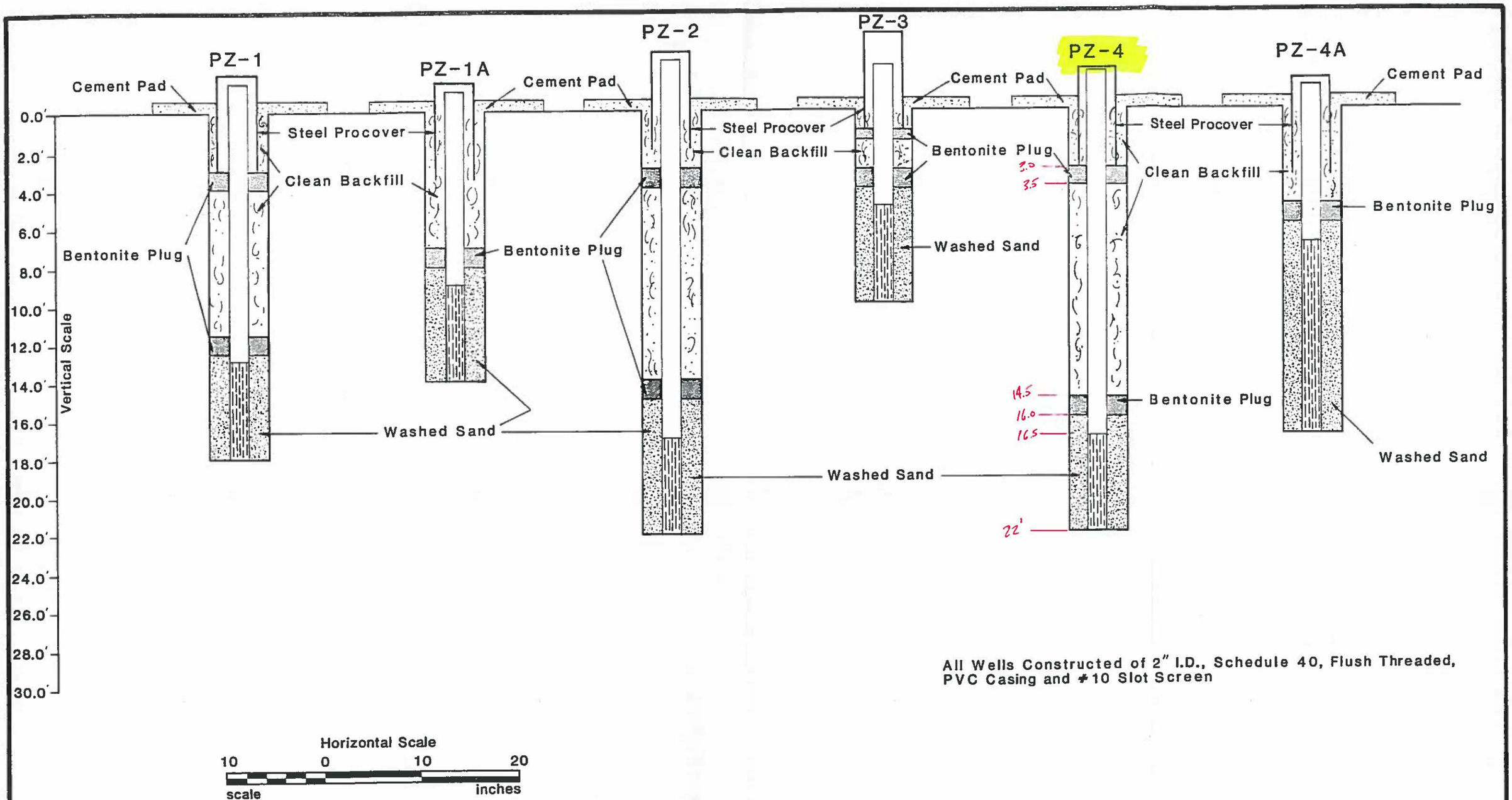
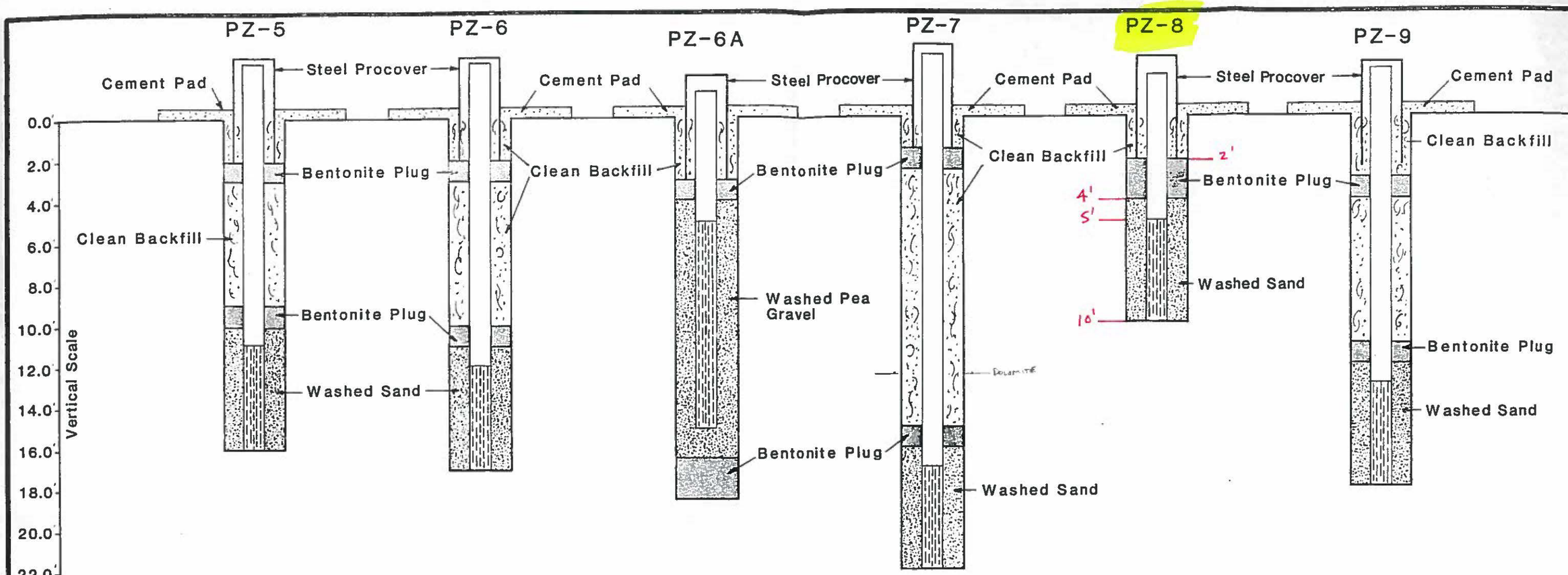


All Wells Constructed of 2" I.D., Schedule 40, Flush Threaded, PVC Casing and #10 Slot Screen

	Job No.: 0001-003	Hatcher Incorporated	Date: 5/6/87	Well Construction Diagrams	
	Freeman Chemical	RICHMOND, VIRGINIA	Scale: As Noted	Drawing No.:	Figure No.:



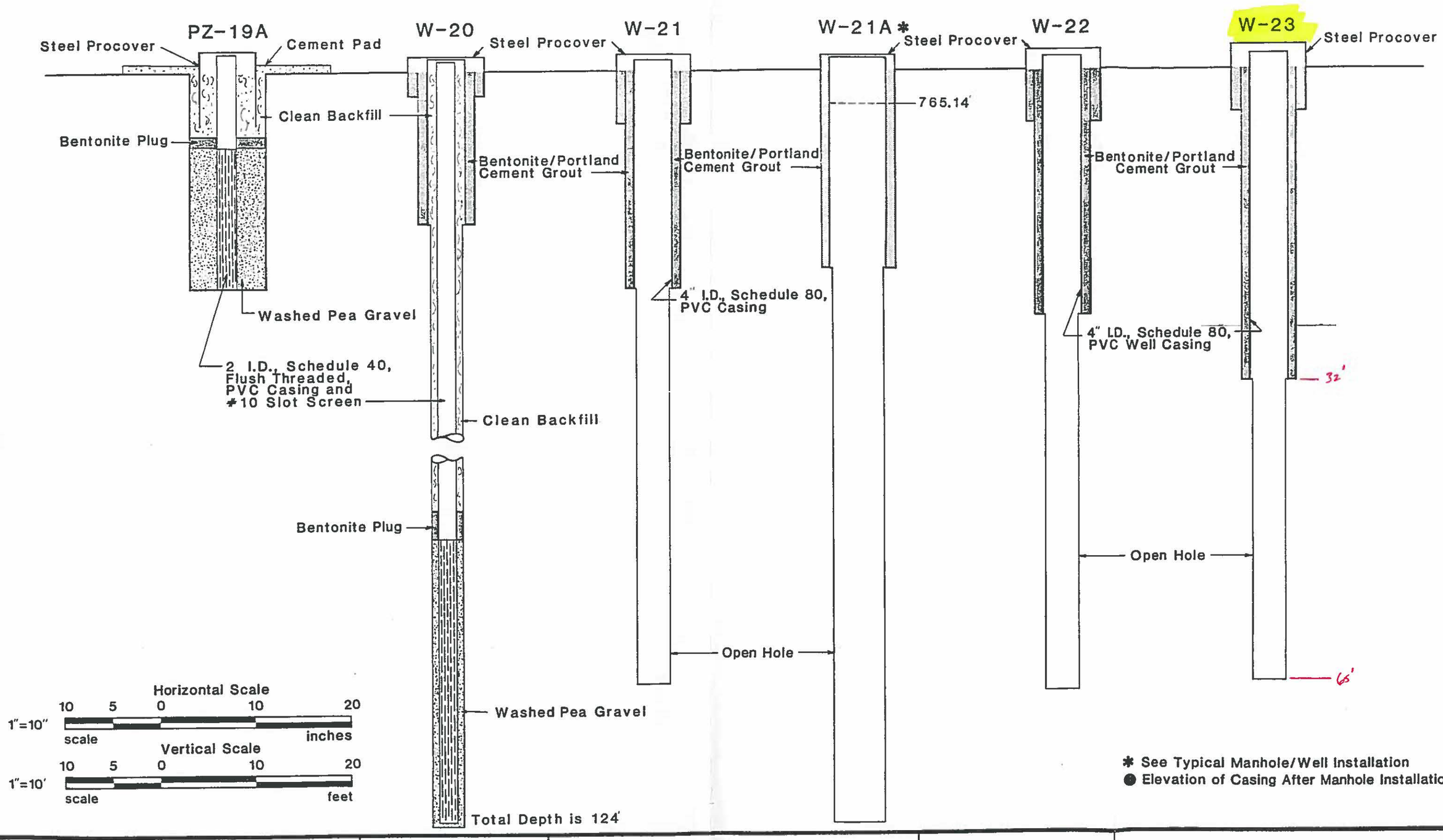
All Wells Constructed of 2" I.D., Schedule 40, Flush Threaded, PVC Casing and #10 Slot Screen

Horizontal Scale

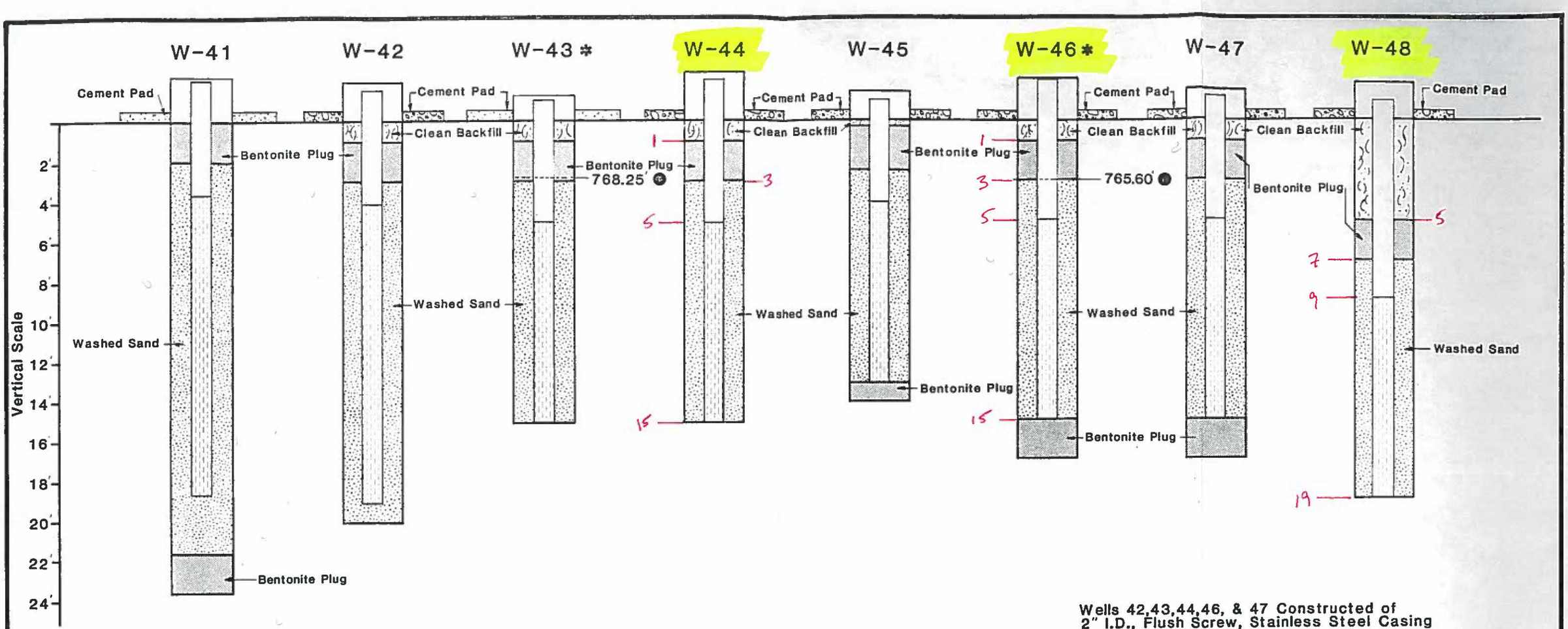
10 0 10 20

scale inches

	Job No.: 0001-003	Hatcher Incorporated	Date: 5/5/87	Well Construction Diagrams
	Freeman Chemical	RICHMOND, VIRGINIA	Scale: As Noted	Drawing No.: / Figure No.:



	Job No.: 0001-003	Hatcher Incorporated	Date: 5/13/87	Well Construction Diagrams
	Freeman Chemical	RICHMOND, VIRGINIA	Scale: As Noted	Drawing No.: / Figure No.:



Horizontal Scale

1"=10" scale: 10 5 0 10 20 inches

Wells 42,43,44,46, & 47 Constructed of 2" I.D., Flush Screw, Stainless Steel Casing and #10 Slot Screen

Wells 41,45, & 48 Constructed of 2" I.D., Flush Threaded, PVC Casing and #10 Slot Screen

* See Typical Manhole/Well Installation

● Elevation of Casing After Manhole Installation

	Freeman Chemical	Hatcher Incorporated	Date: 5/14/87	Well Construction Diagrams
	Job No.: 0001-003	RICHMOND, VIRGINIA	Scale: As Noted	Drawing No.: / Figure No.: