From:	Ziegelbauer, Heather <heather.ziegelbauer@jacobs.com></heather.ziegelbauer@jacobs.com>
Sent:	Thursday, January 9, 2025 3:44 PM
То:	Kleinberg, Andrew
Cc:	Ryan Suennen; Krueger, Sarah E - DNR; Denice Nelson; Scott D Wahl; Carey,
	Angela J - DNR
Subject:	Monitoring Wells Proposed for Abandonement - Tyco Fire Products LP
	Stanton Street Property, Marinette, WI
Attachments:	20250109_TycoProposedWellAbandonmentLtr.pdf

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Andrew,

On behalf of Tyco, attached is a letter requesting approval to abandon and replace 2 monitoring wells and permanently abandon an additional 10 monitoring wells and 9 piezometers at the Tyco Fire Products LP Stanton Street property, Marinette, WI.

Please let us know if you have any questions.

Regards,

Heather Ziegelbauer, PE* | Jacobs | Project Manager O:+1.262.644.6167 | M:+1.312.933.1017 | <u>heather.ziegelbauer@jacobs.com</u> 1610 N. 2nd Street, Suite 201 | Milwaukee, WI 53202 | USA *Wisconsin

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January 9, 2025

Andrew Kleinberg U.S. Environmental Protection Agency Region 5 Land, Chemicals & Redevelopment Division 77 West Jackson Blvd, LR-16J Chicago, IL 60604-3590

Subject: Monitoring Wells Proposed for Abandonment Tyco Fire Products LP, Stanton Street Facility, Marinette, Wisconsin WID 006 125 215

Dear Mr. Kleinberg:

On behalf of Tyco Fire Products LP (Tyco), Jacobs has prepared this letter to request approval to abandon and replace 2 monitoring wells and permanently abandon an additional 10 monitoring wells and 9 piezometers at the Tyco property at One Stanton Street, Marinette, Wisconsin (site).

We recently performed a comprehensive review of site wells during which the 12 monitoring wells and 9 piezometers, addressed in this letter, were identified as inactive, superfluous or needed replacment. As a best practice, the inactive wells, which are no longer used for monitoring or are in an area with sufficient coverage, are proposed for abandonment to limit the number of potential contaminant migration pathways. The justification for abandonment for each location is presented herein.

Background Monitoring Well Information

This request includes a total of 12 monitoring wells (MW009M, MW105M-R, MW106M, MW113M, MW052S, MW054S, MW060S, MW060M, MW063S, MW063M, MW066S, and MW066M)¹ and 9 piezometers (PZ01 through PZ09) (Figure 1). These 12 monitoring wells and 9 piezometers were installed under the Resource Conservation and Recovery Act (RCRA) program as part of historical site investigations or monitoring program enhancements.

Three of these monitoring wells (MW105M-R, MW106M, and MW113M) are included in the current monitoring program (as detailed in the 2015 *Revised Barrier Wall Groundwater Monitoring Plan Update*²

¹ "S" = shallow wells: Typically screened from 5 to 15 feet bgs (10-foot screens) in the alluvial sand and fill deposits. Select S wells are partially screened across varying thicknesses of discontinuous peat deposits near the shoreline in the vicinity of the former Salt Vault.
"M" = medium-depth or intermediate wells: Typically screened from 25 to 30 feet bgs (5-foot screens). These wells are typically screened above the glacial till within the lacustrine silt and sand; however, at some locations, the M wells are screened within the glacial till.

² CH2M HILL, Inc. (CH2M). 2015. *Final Revision 2, Revised Barrier Wall Groundwater Monitoring Plan Update*. September 3.

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and the 2019 Addendum).³ As discussed in greater detail below, two of these three wells that are part of the current monitoring program will be replaced (MW105M-R and MW106M) and the third well is only used for water elevation gauging in an area where there is sufficient monitoring well coverage from other wells (MW113M) – therefore this well is proposed for abandonment and is not proposed for replacement.

The remaining wells and piezometers proposed for abandonment are not included in the current monitoring program and are not used for long-term monitoring. Specifically, monitoring wells MW052S, MW054S, MW060S, MW060M, MW063S, MW063M, MW066S, and MW066M have not been sampled since the supplemental RCRA investigation in 2004 and 2005 and have not been used for groundwater elevation measurements since 2011 (with the exception of MW054S and MW066M, which were gauged last in 2021 and 2015, respectively). Monitoring well MW009M has not been sampled since 2009 and has not been used for groundwater elevation measurements since 2015. Table 1 includes the installation date and reason for installation of each well proposed for abandonment.

All of these wells are shown on Figure 1 and in Table 1.

The site background and current site conditions are reviewed annually as part of the barrier wall groundwater monitoring and reporting. The most recent summary of this information can be found in the 2023 *Five-Year Technical Review Report*,⁴ which also provides details on the site geology, hydrogeology, contaminant distribution, and current conceptual site model.

Proposed Medium-depth Monitoring Well Abandonment and Replacements for Two Wells

Two wells are medium-depth monitoring wells that have been determined to likely be screened within the confining unit and extend to within 3 feet or less of the bedrock surface. The proximity of the bottom of these wells to the top of bedrock indicates that these medium-depth wells may not reflect the actual groundwater elevation in the medium aquifer but rather reflect the heads within the confining unit (glacial till) or the bedrock aquifer. A secondary concern for medium-depth wells screened within 3 feet of the bedrock surface is the potential for these installations to serve as a conduit between ground surface or the shallow and medium aquifer units and the underlying bedrock aquifer, which generally has much lower concentrations of site constituents of concern.

These two wells are part of the current monitoring program and therefore will be replaced:

- MW105M-R—The bottom of the well screen is approximately 1.7 feet above the top of bedrock. This
 well is gauged during the sitewide synoptic gauging events and sampled annually for arsenic as part of
 the current monitoring program and therefore will be replaced at a slightly shallower elevation. The
 replacement well screens will be installed above the glacial till and at a depth of at least 5 feet above
 the estimated bedrock elevation to prevent any potential for a conduit to develop between the well
 and the bedrock aquifer.
- MW106M—The bottom of the well screen is approximately 1.3 feet above the top of bedrock. This well
 is gauged during the sitewide synoptic gauging events and sampled annually for arsenic as part of the

³ Jacobs. 2019. Addendum to 2015 Barrier Wall Groundwater Monitoring Plan Update. June 24.

⁴ Jacobs. 2024. *Five-Year Technical Review Report*. April 1.

current monitoring program and therefore will be replaced at a slightly shallower elevation in the manner described for MW105M-R above.

Proposed Permanent Abandonment for Ten Wells and Nine Piezometers

Ten monitoring wells and nine piezometers are proposed to be permanently abandoned. Because they are not included in the current monitoring program (or in the case of one well, are not necessary), and are not used for long-term monitoring, they will not be replaced. The abandonment of these wells is proposed as a best practice for limiting potential conduits to the subsurface to the extent practicable. The monitoring locations proposed for abandonment are in the southern portion of the Main Plant, where additional monitoring locations are included in the current long-term monitoring program. Two of the wells are likely screened within the confining unit and extend to within 3 feet or less of the bedrock surface, and as noted above may not reflect the actual groundwater elevation in the medium aquifer but rather reflect the heads within the confining unit (glacial till) or the bedrock aquifer. As noted above, there is also the potential for these installations to serve as a conduit between ground surface or the shallow and medium aquifer units and the underlying bedrock aquifer:

- MW009M—The bottom of the well screen is approximately 2.6 feet above the top of bedrock. This well
 is not included in the current monitoring program and is not used for long-term monitoring and
 therefore is not proposed to be replaced.
- MW113M—The bottom of the well screen is approximately 1.0 foot above the top of bedrock. Additionally, the groundwater elevations at this location are generally higher than the shallow well and more closely resemble the river elevations, which is indicative of what is typically observed in a bedrock well rather than a medium-depth or shallow well (Attachment 1). This well is part of the current monitoring program but is only used for water elevation gauging and is not sampled, and is within the former Salt Vault, where there are sufficient additional shallow monitoring well locations for supporting the target elevation calculations, (MW113S); therefore, this well is not proposed to be replaced.

The eight other monitoring wells are:

- MW052S
- MW054S
- MW060S
- MW060M
- MW063S
- MW063M
- MW066S
- MW066M

The nine Piezometers are: PZ01 through PZ09.

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Summary

We believe this proposal is necessary to improve data quality in two of the medium-depth wells and to remove the potential for the migration of site constituents of concern from ground surface or the shallow and medium aquifer units to the underlying bedrock aquifer.

We propose that this work be conducted in Spring 2025.

If you have any questions or require additional information, please contact me at 262-644-6167 or Denice Nelson at 651-280-7259.

Respectfully Yours,

Jacobs

Hather J. Miegelbauer

Heather Ziegelbauer Project Manager

cc: Angela Carey, Wisconsin Department of Natural Resources Sarah Krueger, Wisconsin Department of Natural Resources Ryan Suennen, Tyco Fire Products Denice Nelson, Johnson Controls Scott Wahl, Tyco Fire Products Mariel Carter, Stephenson Public Library

Tables

1 Summary of Monitoring Wells and Piezometers Proposed to Be Abandoned

Figures

1 Site Plan with Wells Proposed to Be Abandoned

Attachments

1 MW113 Well Nest Hydrograph

Document Control No.: D3924000.322

Table

Table 1. Summary of Monitoring Wells and Piezometers Proposed to Be Abandoned

Tyco Fire Products LP, Marinette, Wisconsin

		Measured						BOS Elevation	Bottom of	Estimated	Difference (BOS						
			TOC	DTB (ft		TOS (ft	BOS (ft	(TOC Elevation -	Boring (ft	Bedrock	Elevation - Bedrock				Installation		
Well ID	Northing ^a	Easting ^a	Elevation ^a	from TOC)	TD	bqs)	bqs)	DTB)	bqs)	Elevation	Elevation)	Replace?	Well Type	Area	Date	Installation Purpose	Comments
MW009M	470256.239	2583952.046	583.06	29.45	30.00	25.00	30.00	553.61	30.00	551.00	2.61	No, is no longer part of the Barrier Wall Groundwater	Monitorina	MP	1998	Barrier Wall Groundwater	
												Monitoring Program				Monitoring Program	
MW105M-R	470080.872	2583772.742	582.86	29.55	30.00	25.00	30.00	553.31	30.50	551.61	1.70	Yes	Monitoring	MP	2023	Barrier Wall Groundwater	Installed on July 26, 2023, replacement for
													5			Monitoring Program	MW105M (installed on May 24, 2011)
MW106M	470519.950	2584073.990	582.87	30.46	32.00	27.00	32.00	552.41	32.50	551.07	1.34	Yes	Monitoring	MP	2011	Barrier Wall Groundwater	Converted from stickup to flush-mount in
													-			Monitoring Program	November 2022
MW113M	469402.471	2585224.837	590.22	45.80	43.00	38.00	43.00	544.42	43.00	543.38	1.04	No, in SV with sufficient additional monitoring locations	Monitoring	SV	2014	Barrier Wall Groundwater	
												and shallow well (MW113S) for evaluation				Monitoring Program	
MW052S	469604.110	2584819.430	584.90	13.32	15.00	5.00	15.00	571.58	N/A	N/A	N/A	No, not part of current monitoring program and not	Monitoring	MP	2004	Installed for a supplemental	
												planned for future use				RCRA investigation	
MW054S	469613.340	2584617.410	587.66	15.35	20.00	10.00	20.00	572.31	N/A	N/A	N/A	No, not part of current monitoring program and not	Monitoring	MP	2004	Installed for a supplemental	
												planned for future use				RCRA investigation	
MW060S	469528.870	2584638.900	587.51	12.01	15.00	5.00	15.00	575.50	N/A	N/A	N/A	No, not part of current monitoring program and not	Monitoring	MP	2005	Installed for a supplemental	
												planned for future use				RCRA investigation	
MW060M	469528.130	2584636.730	587.62	22.57	25.00	20.00	25.00	565.05	N/A	N/A	N/A	No, not part of current monitoring program and not	Monitoring	MP	2005	Installed for a supplemental	
												planned for future use				RCRA investigation	
MW0635	469494.610	2584570.010	589.47	13.45	13.45	5.00	15.00	576.02	N/A	N/A	N/A	No, not part of current monitoring program and not	Monitoring	MP	2005	Installed for a supplemental	
		250/5/0 2/0	500 / /	24.44	20.00	25.00	20.00	F (2 0 2				planned for future use			2005	RCRA investigation	
MW063M	469497.590	2584568.340	589.46	26.44	30.00	25.00	30.00	563.02	N/A	N/A	N/A	No, not part of current monitoring program and not	Monitoring	MP	2005	Installed for a supplemental	
	1/0//0 210	250/710 2/0		12.20	12.20	F 00	15.00	F72 20	NI / A	NI / A	NI / A	planned for future use	Manitarina	MD	2005	RCRA investigation	
MWU005	409408.310	2584719.200	584.50	12.30	12.30	5.00	15.00	572.20	N/A	N/A	N/A	No, not part of current monitoring program and not	Monitoring	MP	2005	DCDA investigation	
MW066M	460460 600	258/717 /60	587 12	22.02	25.00	20.00	25.00	565 10	NI/A	N/A	Ν/Λ	No. not part of current monitoring program and not	Monitorina	MD	2005	Installed for a supplemental	
MWUUUUM	409409.000	2364717.400	307.12	22.02	25.00	20.00	25.00	505.10	N/A	N/A	N/A	no, not part of current monitoring program and not	Monitoring	IMP	2005		
P7001	469572 540	2584279 730	589 30	16 27	15.00	5.00	15.00	573.03	N/A	Ν/Δ	N/A	No. not part of current monitoring program and not	Piezometer	MP	2006	Groundwater elevation	
12001	407512.540	2304217.130	507.50	10.21	15.00	5.00	15.00	515.05	IN THE REAL PROPERTY AND A DECIMAL PROPERTY A	ny A	N/A	nlanned for future use	Tiezometer	1411	2000	monitoring of Phyto Zone 1	
PZ002	469609,100	2584295.050	588.70	16.08	15.00	5.00	15.00	572.62	N/A	N/A	N/A	No. not part of current monitoring program and not	Piezometer	MP	2006	Groundwater elevation	
												planned for future use				monitoring of Phyto Zone 1	
PZ003	469644.590	2584309.480	588.78	17.05	15.00	5.00	15.00	571.73	N/A	N/A	N/A	No, not part of current monitoring program and not	Piezometer	MP	2006	Groundwater elevation	
												planned for future use				monitoring of Phyto Zone 1	
PZ004	469658.380	2584194.550	589.37	16.85	15.00	5.00	15.00	572.52	N/A	N/A	N/A	No, not part of current monitoring program and not	Piezometer	MP	2006	Groundwater elevation	
												planned for future use				monitoring of Phyto Zone 1	
PZ005	469614.930	2584396.870	588.21	16.81	15.00	5.00	15.00	571.40	N/A	N/A	N/A	No, not part of current monitoring program and not	Piezometer	MP	2006	Groundwater elevation	
												planned for future use				monitoring of Phyto Zone 1	
PZ006	469717.280	2584144.280	587.27	17.07	15.00	5.00	15.00	570.20	N/A	N/A	N/A	No, not part of current monitoring program and not	Piezometer	MP	2006	Groundwater elevation	
												planned for future use				monitoring of Phyto Zone 1	
PZ007	469701.600	2584211.270	588.90	17.32	15.00	5.00	15.00	571.58	N/A	N/A	N/A	No, not part of current monitoring program and not	Piezometer	MP	2006	Groundwater elevation	
												planned for future use				monitoring of Phyto Zone 1	
PZ008	469670.940	2584321.280	588.44	17.01	15.00	5.00	15.00	571.43	N/A	N/A	N/A	No, not part of current monitoring program and not	Piezometer	MP	2006	Groundwater elevation	
												planned for future use				monitoring of Phyto Zone 1	
PZ009	469708.230	2584335.150	588.39	16.10	15.00	5.00	15.00	572.29	N/A	N/A	N/A	No, not part of current monitoring program and not	Piezometer	MP	2006	Groundwater elevation	
												planned for future use				monitoring of Phyto Zone 1	

Notes:

^a Northing, easting, and TOC elevation are from the most recent survey data available for each well location.
bgs = below ground surface
BOS = bottom of screen
DTB = depth to bottom
Elevation = feet above mean sea level in Wisconsin State Plane Coordinate System North American Vertical Datum of 1988
ft = foot (feet)
ID = identification
MP = Main Plant
N/A = not applicable
RCRA = Resource Conservation and Recovery Act
SV = former Salt Vault
TD = total depth
TOC = top of casing
TOS = top of screen

Figure



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Attachment 1 MW113 Well Nest Hydrograph

