

May 6, 2019

Mr. Conor Neal  
Hydrogeologist  
Land & Chemicals Division  
US Environmental Protection Agency, Mail Code LU-9J  
77 West Jackson Blvd  
Chicago, IL 60604-3590

RE: Bi-Weekly Summary Report for Pump Down Program  
Tyco Fire Products LP Site  
Marinette, WI

Dear Mr. Neal:

The information provided herein is a summary of activities conducted at the Tyco Fire Products LP (Tyco) site associated with the Pump Down Program (PDP) for the former Salt Vault and 8<sup>th</sup> Street Slip areas. The PDP is required as part of the Administrative Order on Consent between Tyco and U.S. Environmental Protection Agency (USEPA). This summary report covers the period from April 15, 2019 through April 26, 2019.

### **Summary of Work during Reporting Period**

Work conducted during the reporting period included:

- Start-up of the PDP on April 15, 2019.
- Manual water level readings at the designated monitoring points and extraction wells were collected at least weekly during the reporting period. The average water level, based on the most recent water level measurements (April 25, 2019) during the reporting period, in the former Salt Vault was 579.95 feet above mean seal level (ft. AMSL), or 2.05 feet above the target level. The average water level in the former 8<sup>th</sup> Street Slip was 575.4 ft. AMSL, or 2.5 feet below the target level. A cumulative summary of manual water level readings and corrected elevations is attached as Table 1.
- During pumping operations, total groundwater recovery rates in the former Salt Vault area averaged 1.01 gallons per minute (gpm) from the four extraction wells during the reporting period and 2.91 gpm from the two extraction wells in the

former 8<sup>th</sup> Street Slip. Shutdown of the extraction wells occurred April 18 thru April 21 and April 26 of the reporting period due to restrictions on water disposal at Waste Management's Vickery, Ohio facility; otherwise, the extraction wells in each area were reported to have operated continuously during the reporting period without any mechanical issues.

- Off-site transportation of recovered groundwater was conducted during the reporting period. Off-site disposal operations are limited to five days per week with generally 1-2 trucks (approximately 5,000-10,000 gallons) per day necessary to maintain tank levels allowing for continuous pumping from the extraction wells.

A summary of pumping and disposal operations for the 2019 season is provided below.

#### Summary of Pump Down Operations (through April 26, 2019)

	Gallons Pumped	Gallons Treated at GWTS <sup>1</sup>	Gallons Transported for Off Site Disposal
This Period	~68,675	~0	~44,475
2019 Operations to Date	~68,675	~0	~44,475 <sup>2</sup>

All quantities are estimated

#### Issues Encountered during Reporting Period

The disposal facility limited the quantity of groundwater for disposal during the reporting period due to injection well capacities being met. The limitation in disposal quantities has been increased and operations continue as needed for the work.

#### Issues To Be Resolved During Next Reporting Period

No issues that require resolution have been identified at this time.

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<sup>1</sup> GWTS – Groundwater Treatment System

<sup>2</sup> Volume includes stormwater recovered in secondary containment structure

### **Anticipated Work During Next Reporting Period**

Manual water level measurements will continue to be collected from the designated monitoring wells and extraction wells on a weekly basis. Extracted groundwater will continue to be transported to Vickery for disposal.

If you have any questions regarding this report, please contact me at 414-524-3344 or [jeffrey.howard.danko@jci.com](mailto:jeffrey.howard.danko@jci.com).

Sincerely,



Jeffrey Danko  
EHS Manager – Remediation

#### **Attachments:**

Table 1 –Pump Down Program Groundwater Elevation Monitoring

cc: Angela Carey – WDNR  
Trevor Moen - WDNR  
Joseph Janeczek – Johnson Controls  
Ryan Suennen – Tyco Fire Products

**Tabke 1. 2019 Pump Down Program Groundwater Elevation Monitoring**  
 Tyco Fire Products LP, Marinette, Wisconsin

Target Elevation	577.9
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Well ID	January 16, 2019		February 14, 2019		March 26, 2019		April 10, 2019		April 16, 2019		April 18, 2019		April 23, 2019		April 25, 2019	
	DTW	Corrected Groundwater Elevation (for equivalent fresh water)	DTW	Corrected Groundwater Elevation (for equivalent fresh water)	DTW	Corrected Groundwater Elevation (for equivalent fresh water)	DTW	Corrected Groundwater Elevation (for equivalent fresh water)	DTW	Corrected Groundwater Elevation (for equivalent fresh water)	DTW	Corrected Groundwater Elevation (for equivalent fresh water)	DTW	Corrected Groundwater Elevation (for equivalent fresh water)	DTW	Corrected Groundwater Elevation (for equivalent fresh water)
MW001M	6.87	580.30	NM	-	6.29	580.88	5.55	581.62	8.25	578.92	8.53	578.64	7.31	579.86	7.48	579.69
MW001S	6.95	580.31	NM	-	NM	-	6.54	580.72	10.14	577.12	7.54	579.72	7.30	579.96	7.45	579.81
MW002M-R	10.09	580.65	10.22	580.51	9.61	581.14	8.78	581.98	10.23	580.50	10.56	580.17	10.39	580.34	10.48	580.25
MW002S-R	10.02	580.30	10.14	580.18	9.5	580.82	8.68	581.64	10.15	580.17	10.49	579.83	10.30	580.02	10.44	579.88
MW031M	7.49	580.54	7.77	580.26	7.05	580.99	6.29	581.75	7.36	580.67	7.92	580.11	7.61	580.42	7.73	580.30
MW031S	8.47	580.43	8.80	580.10	7.97	580.93	7.24	581.66	8.48	580.42	8.66	580.24	8.57	580.33	8.69	580.21
MW113S	9.97	580.32	10.04	580.25	9.43	580.86	8.62	581.67	10.15	580.14	10.51	579.78	10.28	580.01	10.73	579.56
MW113M	9.11	581.19	9.25	581.05	8.58	581.72	7.96	582.34	9.73	580.57	9.80	580.50	9.56	580.74	9.88	580.42
MW115P	8.49	580.60	9.66	579.43	8.12	580.97	6.12	582.98	6.23	582.87	6.09	583.01	6.16	582.94	6.28	582.82
MW115S	8.68	580.32	8.78	580.22	8.15	580.85	7.32	581.68	9.10	579.90	9.47	579.53	9.40	579.60	9.50	579.50
MW116P	10.17	579.74	10.36	579.55	9.30	580.62	8.22	581.70	7.84	582.08	7.73	582.19	7.70	582.22	7.79	582.13
MW116S	9.56	580.35	9.64	580.27	9.02	580.90	8.17	581.75	9.66	580.25	10.00	579.91	9.94	579.97	9.99	579.92
MW119D	10.53	578.21	9.36	579.38	8.54	580.20	8.32	580.42	8.20	580.54	8.15	580.59	8.09	580.65	8.22	580.52
EW-3	NM	-	NM	-	NM	-	NM	-	NM	-	NM	-	NM	-	NM	-
EW-10	NM	-	NM	-	NM	-	5.45	582.34	21.28	566.48	21.50	566.26	21.44	566.32	21.73	566.03
EW-11	6.06	581.28	NM	-	5.57	581.77	4.7	582.64	21.53	565.78	22.39	564.92	21.88	565.43	22.51	564.80
EW-13	4.75	581.06	NM	-	4.28	581.53	3.35	582.47	20.76	564.99	20.95	564.80	21.01	564.74	21.13	564.62
EW-14	5.8	580.98	NM	-	5.16	581.62	3.96	582.83	20.50	566.21	20.03	566.68	20.98	565.73	21.21	565.50
MW034M	12.76	575.49	12.52	575.73	12.16	576.09	11.69	576.56	13.10	575.15	12.16	576.09	12.65	575.60	12.77	575.48
MW034S	13.07	575.15	12.85	575.37	12.57	575.65	12.00	576.22	13.30	574.92	12.66	575.56	12.93	575.29	13.14	575.08
MW036M	13.72	574.85	13.41	575.16	13.21	575.36	12.76	575.82	12.53	576.06	12.84	575.74	12.86	575.72	13.12	575.46
MW036S	13.19	575.08	12.91	575.36	12.68	575.59	12.24	576.03	13.12	575.15	12.30	575.97	12.26	576.01	12.53	575.74
MW038M	12.69	575.00	12.43	575.26	12.13	575.56	11.58	576.11	12.09	575.60	11.49	574.54	11.60	574.43	11.89	574.14
MW038S	12.74	574.96	12.36	575.34	12.19	575.51	11.60	576.11	12.16	575.54	11.45	574.57	11.65	574.37	11.96	574.06
MW120D	7.99	580.84	7.61	581.22	7.50	581.34	7.41	581.43	7.41	581.43	6.98	581.86	6.78	582.06	6.90	581.94
MW120M	13.56	575.37	13.39	575.54	13.16	575.77	12.49	576.46	12.58	576.36	12.51	576.44	12.45	576.50	12.59	576.35
MW120S	13.33	575.26	13.16	575.43	13.08	575.51	12.00	576.59	11.60	576.99	11.54	577.05	11.60	576.99	11.73	576.86
EW-2	NM	-	NM	-	NM	-	NM	-	NM	-	NM	-	NM	-	NM	-
EW-8	NM	-	NM	-	10.09	576.69	9.55	577.23	14.64	572.13	9.55	577.23	10.58	576.20	13.56	573.21
EW-9	9.91	575.79	NM	-	9.39	576.31	8.85	576.85	15.57	570.12	10.47	575.23	11.03	574.67	11.16	574.54
MW004M	NM	-	NM	-	NM	-	NM	-	NM	-	NM	-	NM	-	NM	-
MW004S	5.77	582.81	6.44	582.14	5.22	583.36	4.41	584.17	4.02	584.56	3.83	583.09	3.81	583.11	3.92	583.00
MW032M	6.44	581.78	6.59	581.63	5.64	582.59	5.38	582.85	5.10	583.12	4.79	581.77	4.94	581.62	5.03	581.53
MW032S	5.62	582.74	6.24	582.12	4.91	583.45	4.60	583.76	4.42	583.94	4.32	582.37	4.27	582.42	4.37	582.32
MW033M	4.73	584.07	5.34	583.45	4.06	584.75	3.35	585.47	3.04	585.79	2.86	585.97	2.87	585.96	2.96	585.87
MW033S	4.36	582.81	5.11	582.06	3.78	583.39	3.11	584.06	2.89	584.28	2.50	584.67	2.52	584.65	2.65	584.52
MW039M	NM	-	NM	-	NM	-	NM	-	NM	-	NM	-	NM	-	NM	-
MW039S	2.57	583.52	NM	-	2.63	583.46	1.85	584.24	1.49	584.60	1.29	584.80	1.25	584.84	1.37	584.72
MW035M	NM	-	NM	-	NM	-	NM	-	NM	-	NM	-	NM	-	NM	-
MW035S	6.20	581.47	6.73	580.94	5.45	582.22	5.58	582.09	5.61	582.06	5.42	582.25	12.43	575.24	5.58	582.09
MW037M	NM	-	NM	-	NM	-	NM	-	NM	-	NM	-	NM	-	NM	-
MW037S	5.53	581.55	6.14	580.94	4.43	582.65	5.50	581.58	5.51	581.57	5.43	581.65	5.43	581.65	4.89	582.19
SG4	NM	-	NM	-	7.10	581.79	7.80	581.09	7.60	581.29	7.13	581.76	6.94	581.95	6.90	581.99
<b>Rough Target Elevation Calc SV*</b>		580.47		580.36		581.01		581.68		579.87		579.84		580.12		579.95
<b>Rough Target Elevation Calc 8SS*</b>		575.14		575.40		575.63		576.24		575.72		575.75		575.61		575.40
<b>Target Elevation (NAVD88)</b>		577.9		577.9		577.9		577.9		577.90		577.90		577.90		577.90
<b>SV Variance</b>		2.57		2.46		3.11		3.78		1.97		1.94		2.22		2.05
<b>8SS Variance</b>		-2.76		-2.50		-2.27		-1.66		-2.18		-2.15		-2.29		-2.50

**Notes:**

Measurements were collected from top of casing (TOC). All depth measurements are in feet.

Elevations are reported in feet above mean sea level (AMSL) relative to the North American Vertical Datum 1988 (NAVD88)

Shaded = Well part of evaluation during Drawdown and Interim Phases

**Bold** = Well part of Target Elevation calculation

- = Information not applicable or not collected

Area Definitions - SV - Salt Vault, 8SS - 8th Street Slip

\*Wells identified for target elevation calculation are for during the drawdown and interim phases. Only wells outside the steepest portion of the cone of depression will be included in the calculation of the average elevations. The average elevation of all suitable measured wells will be considered the calculated elevation to compare against the target elevation. The number of post-drawdown phase wells used for this calculation may be reduced and will be determined based on results observed during the drawdown phase.

ID = identification; DTW = depth to water

NM = Not Measured; MW = Monitoring Well