

June 20, 2018

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 for the former Salt Vault and 8th Street Slip areas. The Pump Down Program 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 June 2, 2018 through June 15, 2018.

Summary of Work during Reporting Period

Work conducted during the reporting period included:

- Manual water level readings at the designated monitoring points and extraction wells were collected at least weekly during the reporting period. On June 8, 2018, an average of the water levels in the pump down program area indicate that the target level was reached in the former Salt Vault and 8th Street Slip areas. The average water level, based on the most recent water level measurements during the reporting period, in the former Salt Vault was 577.67 feet above mean seal level (ft. AMSL), or 0.23 feet below the target level. The average water level in the former 8th Street Slip was 577.28 ft. AMSL, or 0.62 feet below the target level. A cumulative summary of manual water level readings and corrected elevations is attached as Table 1.
- Groundwater recovery rates in the former Salt Vault area averaged 1.39 gallons per minute (gpm) during pumping operations. Recovery rates in the former 8th Street

Slip averaged 3.33 gpm during pumping operations. As experienced in the past, average recovery rates continue to decrease as water levels continue to decrease.

- Off-site transportation of recovered groundwater was conducted during the reporting period. Off-site disposal operations are limited to five days per week.

A summary of pumping and disposal operations for the 2018 season is provided below.

Summary of Pump Down Operations (through June 15, 2018)

	Gallons Pumped	Gallons Treated at GWTS ¹	Gallons Transported for Off Site Disposal
This Period	~102,663	~0	~104,613
2018 Operations To Date	~466,170	~0	~448,020

All quantities are estimated

Issues Encountered during Reporting Period

The limited ability to dispose recovered groundwater at Vickery as well as limited availability of tankers to transport the water to the facility has resulted in periodic shut down of the system because tank capacity has been reached. However, in an attempt to reduce the periodic shut downs, Tyco has procured additional tanker trucks from Heritage Environmental Services (Heritage) to support removal of the recovered groundwater from the site. The recovered water transported by Heritage is treated at the Heritage facility in Indianapolis, IN. This facility currently manages transport and treatment/disposal of the groundwater collection and treatment system concentrate/reject water.

Issues To Be Resolved During Next Reporting Period

No issues require resolution at this time.

Anticipated Work During Next Reporting Period

Manual water levels will be collected from the designated monitoring wells on a weekly basis. Groundwater elevation data will be provided in the next bi-weekly summary report. Extracted groundwater will continue to be transported to Vickery for disposal, with limited transport to the Heritage facility as available.

¹ GWTS – Groundwater Treatment System
²

If you have any questions regarding this report, please contact Jeff Danko at 262-951-6888 or jeff.danko-ext@jci.com.

Sincerely,



Jeffrey Danko
Environmental Project Geologist

Attachments:

Table 1 –Pump Down Program Groundwater Elevation Monitoring

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

Well ID	May 18, 2018		May 22, 2018		May 24, 2018		May 25, 2018		May 29, 2018		May 31, 2018		June 5, 2018		June 8, 2018		June 12, 2018		June 14, 2018	
	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)	DTW	Corrected Groundwater Elevation (for equivalent fresh water)	DTW	Corrected Groundwater Elevation (for equivalent fresh water)
MW001M	10.45	576.72	10.00	577.17	10.33	576.84	9.68	577.49	9.47	577.70	8.99	577.18	10.25	576.92	10.71	576.46	10.19	576.88	10.62	576.55
MW001S	9.58	577.68	9.09	578.17	9.45	577.81	8.63	578.63	8.49	578.77	9.01	578.25	9.63	577.53	9.90	577.36	9.35	577.91	9.79	577.47
MW002M-R	12.49	578.20	12.00	578.70	12.44	578.25	11.63	579.08	11.40	579.31	12.03	578.67	12.26	578.44	12.86	577.82	12.06	578.64	12.76	577.93
MW002S-R	12.41	577.91	11.92	578.40	12.35	577.97	11.51	578.81	11.28	579.04	11.89	578.43	12.22	578.10	12.75	577.57	11.94	578.38	12.67	577.65
MW0031M	9.85	578.17	9.06	578.96	9.89	578.13	9.20	578.82	8.15	579.88	9.29	578.73	9.34	578.68	10.22	577.80	9.46	578.56	10.10	577.92
MW0031S	11.00	577.90	10.41	578.40	10.98	577.92	9.90	578.00	9.74	579.16	10.39	578.51	10.74	578.16	11.31	577.59	10.14	578.76	11.21	577.69
MW113S	12.49	577.79	11.92	578.37	12.39	577.89	11.55	578.74	11.31	578.98	11.96	578.33	12.23	578.05	12.78	577.50	11.37	578.92	12.69	577.59
MW113M	11.13	579.16	10.81	579.49	11.13	579.16	10.04	580.26	10.33	579.97	10.81	579.49	10.99	579.30	11.34	578.95	9.82	580.48	11.38	578.91
MW115P	9.06	580.03	8.69	580.40	9.14	579.95	8.77	580.32	8.49	580.60	8.67	580.42	9.10	579.99	9.79	579.30	9.23	579.86	9.66	579.43
MW115S	11.14	577.85	10.53	578.47	11.11	577.88	10.37	578.63	10.05	578.95	10.56	578.44	11.22	577.77	11.69	577.30	11.09	577.80	11.58	577.41
MW116P	9.34	580.58	9.22	580.70	9.43	580.49	9.32	580.60	9.14	580.78	9.15	580.77	9.31	580.61	9.76	580.16	9.57	580.35	9.80	580.11
MW116S	12.04	577.86	11.55	578.35	11.99	577.91	11.28	578.62	11.05	578.86	11.50	578.40	11.90	578.00	12.38	577.52	11.80	578.10	12.31	577.59
MW119D	45.69	543.05	42.24	546.50	40.51	548.23	39.94	548.80	37.01	551.73	35.52	553.22	32.35	556.39	30.63	558.11	28.47	560.27	27.54	561.20
EW-1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
EW-10	23.80	563.95	21.30	566.46	23.86	563.89	20.93	566.83	23.46	564.29	23.74	564.01	21.54	566.22	21.69	566.07	19.43	568.33	23.64	564.11
EW-11	29.74	557.56	27.98	559.32	23.03	564.28	22.89	564.42	26.01	561.29	22.79	564.52	22.78	564.53	23.02	564.29	28.52	558.78	23.19	564.12
EW-13	10.17	575.62	8.53	577.27	10.39	575.40	11.22	574.57	9.91	575.88	8.26	577.54	20.26	565.49	20.73	565.02	19.46	566.30	15.02	570.75
EW-14	20.38	566.33	20.33	566.38	20.83	565.88	21.25	565.46	20.94	565.77	21.21	565.50	21.32	565.39	21.13	565.58	21.11	565.60	21.30	565.41
MW034M	9.89	578.36	9.86	578.39	10.08	578.17	10.40	577.85	10.44	577.81	10.74	577.51	10.84	577.41	11.19	577.06	11.13	577.12	11.40	576.85
MW034S	10.00	578.22	9.98	578.24	10.25	577.97	10.56	577.66	10.60	577.62	10.97	577.25	11.05	577.17	11.43	576.79	11.31	576.91	11.60	576.62
MW036M	10.51	578.11	10.41	578.22	10.77	577.85	10.48	578.14	10.42	578.21	10.89	577.73	10.93	577.69	11.36	577.25	11.01	577.60	11.65	576.95
MW036S	9.71	578.56	9.58	578.69	9.91	578.36	9.69	578.58	9.62	578.65	10.09	578.18	10.13	578.14	10.61	577.66	10.06	578.21	10.92	577.35
MW038M	9.73	577.96	9.51	578.18	9.91	577.78	9.60	578.09	9.43	578.26	10.01	577.68	10.00	577.69	10.43	577.26	10.04	577.65	10.78	576.91
MW038S	9.82	577.89	9.59	578.12	10.05	577.66	9.69	578.02	9.48	578.23	10.12	577.59	10.05	577.66	10.56	577.15	10.10	577.61	10.91	576.80
MW120D	7.21	581.63	7.30	581.54	7.17	581.67	7.33	581.51	7.22	581.62	6.87	581.97	7.35	581.49	7.37	581.47	7.57	581.27	7.36	581.48
MW120M	9.51	579.49	9.48	579.52	9.73	579.26	9.70	579.29	9.78	579.21	10.02	578.97	10.16	578.83	10.58	578.40	10.03	578.96	10.84	578.13
MW120S	8.65	579.95	8.57	580.03	8.85	579.75	8.66	579.94	8.86	579.74	8.94	579.66	9.25	579.35	9.70	578.90	8.99	579.61	9.95	578.65
EW-2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
EW-8	11.63	575.14	11.37	575.40	12.05	574.72	11.52	575.25	11.27	575.50	12.02	574.75	11.95	574.82	12.38	574.39	12.69	574.08	12.86	573.91
EW-9	11.26	574.44	12.41	573.28	12.44	573.25	18.36	567.32	18.19	567.49	18.83	566.85	19.84	565.84	20.26	565.42	18.27	567.41	20.94	564.74
MW004M	4.62	583.96	4.92	583.66	5.02	583.56	4.99	583.59	5.09	583.49	5.09	583.49	5.13	583.45	5.31	583.27	5.40	583.18	5.53	583.05
MW032M	5.80	582.43	5.85	582.38	5.88	582.35	5.86	582.37	5.90	582.33	5.81	582.42	5.96	582.27	6.07	582.16	6.89	581.33	6.23	582.00
MW032S	12.26	576.09	11.83	576.52	11.58	576.77	11.53	576.82	11.15	577.20	10.93	577.42	10.50	577.85	10.19	578.16	12.27	576.08	9.70	578.65
MW033M	4.95	583.85	4.07	584.74	4.11	584.70	4.12	584.69	4.21	584.60	4.20	584.61	4.25	584.56	4.46	584.34	4.54	584.26	4.67	584.13
MW033S	3.52	583.65	3.65	583.52	3.74	583.43	3.74	583.43	3.83	583.34	3.80	583.37	3.84	583.33	4.06	583.11	4.18	582.99	4.25	582.92
MW039M	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW039S	2.25	583.84	2.38	583.71	2.42	583.67	2.46	583.63	2.52	583.57	2.50	583.59	2.56	583.53	2.75	583.34	2.62	583.47	2.98	583.11
MW035M	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW035S	5.80	581.87	5.89	581.78	5.92	581.75	5.95	581.72	6.12	581.55	6.04	581.63	6.13	581.54	6.40	581.27	6.60	581.07	6.86	580.81
MW037M	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW037S	5.13	581.95	5.21	581.87	5.28	581.80	5.31	581.77	5.50	581.58	5.50	581.58	5.52	581.56	5.88	581.20	5.80	581.28	6.46	580.62
SG4	7.69	580.98	7.70	580.97	7.30	581.37	7.55	581.12	7.40	581.27	7.20	581.47	7.25	581.42	7.54	581.13	7.13	581.54	7.80	580.87
Rough Target Elevation Calc SV*	-	577.92	-	578.46	-	577.98	-	578.81	-	579.06	-	578.44	-	578.11	-	577.59	-	578.46	-	577.67
Rough Target Elevation Calc 8S*	-	578.57	-	578.67	-	578.35	-	578.45	-	578.47	-	578.07	-	577.99	-	577.56	-	577.96	-	577.28
Target Elevation (NAVD88)	-	577.90	-	577.90	-	577.90	-	577.90	-	577.90	-	577.90	-	577.90	-	577.90	-	577.90	-	577.90
SV Variance	-	0.02	-	0.56	-	0.08	-	0.91	-	1.16	-	0.54	-	0.21	-	-0.31	-	0.56	-	-0.23
8S Variance	-	0.67	-	0.77	-	0.45	-	0.55	-	0.57	-	0.17	-	0.09	-	-0.34	-	0.06	-	-0.62

Notes:
Measurements were collected from top of casing (TOC). All depth measurements are in feet.
ID = Identification; DTW = depth to water; DTB = Depth to Bottom; TOC = Top of Casing
NM = Not Measured; MW = Monitoring Well; PZ = Piezometer
August 3rd measurements taken during Salt Vault Shut Down Period
August 10-11 measurements taken during 8th Street Slip Shut Down Period, only pumping wells EW-10 and EW-13 operating in Salt Vault
August 13th through August 23rd measurements taken with only EW-08 operating in 8th Street Slip and EW-10 and EW-13 operating in Salt Vault
August 24th through September 14th measurements taken with only EW-09 operating in 8th Street Slip and EW-10 and EW-13 operating in Salt Vault
September 17th through October 22nd measurements taken with only EW-09 operating in 8th Street Slip and EW-10, EW-11, EW-13 and EW-14 operating in Salt Vault