Table 1
2016 - 2023 Summary
Dinitrotoluene Groundwater Results
Deterrent Burning Ground
Badger Army Ammunition Plant

						Dinitrotoluenes						
Plume	**Well Name**	**Well ID**	**License**	**Sample Level**	**Date**	**2,3-Dinitrotoluene**	**2,4-Dinitrotoluene**	**2,5-Dinitrotoluene**	**2,6-Dinitrotoluene**	**3,4-Dinitrotoluene**	**3,5-Dinitrotoluene**	**Dinitrotoluene, Total**
DBG	ELN-1003B	468	2813	B	9/19/16	<0.006	<0.008	<0.003	<0.004	<0.004	<0.004	<0.008
					9/19/16 (D)	<0.006	<0.008	<0.003	<0.004	<0.004	<0.004	<0.008
					4/25/17	<0.006	<0.008	<0.003	<0.004	0.051	<0.004	**0.051**
					9/12/17	0.014 (J)	<0.0082	<0.0031	<0.0041	0.054	<0.0041	**0.068**
					4/26/18	0.029 (J)	**0.026 (J)**	0.028 (J)	**0.024 (J)**	0.1	0.025 (J)	**0.232**
					4/26/18 (D)	0.029 (J)	**0.024 (J)**	0.027 (J)	**0.023 (J)**	0.097	0.025 (J)	**0.225**
					5/14/18	0.03	<0.008	<0.003	**0.036**	0.12	<0.004	**0.186**
					6/28/18	0.059	<0.0076	<0.0029	<0.0038	0.12	<0.0038	**0.179**
					10/3/18	0.032	<0.0078	<0.0029	**0.01 (J)**	0.15	<0.0039	**0.192**
					10/3/18 (D)	0.031	<0.0081	<0.003	**0.01 (J)**	0.13	<0.004	**0.171**
					11/15/18	0.078	<0.0081	<0.003	**0.072**	0.17	<0.004	**0.32**
					4/23/19	0.045	<0.0078	<0.0029	<0.0039	0.12	<0.0039	**0.165**
					6/13/19	0.033	<0.0078	<0.0029	**0.02 (J)**	0.13	<0.0039	**0.183**
					6/13/19 (D)	0.033	<0.0077	<0.0029	**0.019 (J)**	0.13	<0.0038	**0.182**
					9/17/19	0.048	<0.0082	<0.0031	**0.023 (J)**	0.16	<0.0041	**0.231**
					9/17/19 (D)	0.048	<0.0082	<0.0031	**0.022 (J)**	0.15	<0.0041	**0.22**
					11/20/19	0.053	<0.0078	<0.0029	<0.0039	0.17	<0.0039	**0.223**
					5/6/20	<0.0063	<0.0083	<0.0031	<0.0042	0.13	<0.0042	**0.13**
					6/11/20	0.051	<0.0081	<0.003	<0.004	0.13	<0.004	**0.181**
					9/22/20	0.041	<0.0076	<0.0029	<0.0038	0.13	<0.0038	**0.171**
					11/9/20	0.04	<0.0082	<0.0031	<0.0041	0.13	<0.0041	**0.17**
					4/22/21	0.051 (J)	<0.0084	<0.0053	**0.022 (J)**	0.12	<0.0053	**0.193**
					4/22/21 (D)	0.048 (J)	<0.0082	<0.0051	**0.022 (J)**	0.12	<0.0051	**0.19**
					6/8/21	0.051 (J)	<0.0082	<0.0052	**0.027 (J)**	0.1	<0.0052	**0.178**
					6/8/21 (D)	0.053	<0.0084	<0.0053	**0.029 (J)**	0.1	<0.0053	**0.182**
					9/30/21	0.037 (J)	<0.0082	<0.0051	<0.0051	0.083	<0.0051	**0.12**
					11/9/21	0.038 (J)	<0.0077	<0.0048	<0.0048	0.086	<0.0048	**0.124**
					5/5/22	0.038 (J)	<0.0078	<0.0049	<0.0049	0.083	<0.0049	**0.121**
					7/7/22	0.041 (J)	<0.0078	<0.0049	<0.0049	0.084	<0.0049	**0.125**
					9/26/22	0.022 (J)	<0.0077	<0.0048	<0.0048	0.047 (J)	<0.0048	**0.069**
					11/9/22	0.038 (J)	<0.0076	<0.0048	<0.0048	0.092	<0.0048	**0.13**
					4/25/23	0.034 (J)	<0.0076	0.0048	<0.0048	0.062	<0.0048	**0.096**

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Deterrent Burning Ground
Badger Army Ammunition Plant

						Dinitrotoluenes						
Plume	**Well Name**	**Well ID**	**License**	**Sample Level**	**Date**	**2,3-Dinitrotoluene**	**2,4-Dinitrotoluene**	**2,5-Dinitrotoluene**	**2,6-Dinitrotoluene**	**3,4-Dinitrotoluene**	**3,5-Dinitrotoluene**	**Dinitrotoluene, Total**
DBG	ELN-1003C	469	2813	C	9/19/16	<0.0061	<0.0081	<0.003	<0.004	<0.004	<0.004	<0.0081
					4/25/17	<0.006	<0.008	<0.003	**0.0085 (J)**	<0.004	<0.004	**0.0085 (J)**
					9/12/17	<0.0064	<0.0085	<0.0032	<0.0043	<0.0043	<0.0043	<0.0085
					4/26/18	0.025 (J)	**0.026 (J)**	<0.003	**0.023 (J)**	<0.004	<0.004	**0.074**
					5/14/18	<0.0061	<0.0081	<0.003	**0.029 (J)**	0.079	<0.004	**0.108**
					6/28/18	<0.0057	<0.0076	<0.0029	<0.0038	<0.0038	<0.0038	<0.0076
					6/28/18 (D)	<0.0058	<0.0077	<0.0029	<0.0038	<0.0038	<0.0038	<0.0077
					10/3/18	0.024 (J)	<0.0078	<0.0029	**0.0087 (J)**	0.1	<0.0039	**0.1327**
					11/15/18	0.07	<0.0078	<0.0029	**0.068**	0.14	<0.0039	**0.278**
					4/23/19	<0.0058	<0.0078	<0.0029	<0.0039	0.09	<0.0039	**0.09**
					4/23/19 (D)	<0.0058	<0.0078	<0.0029	<0.0039	0.093	<0.0039	**0.093**
					6/13/19	0.028 (J)	<0.0082	<0.0031	**0.022 (J)**	0.11	<0.0041	**0.16**
					9/17/19	0.039	<0.0082	<0.0031	**0.022 (J)**	0.11	<0.0041	**0.171**
					11/20/19	<0.0059	<0.0079	<0.003	<0.004	0.13	<0.004	**0.13**
					11/20/19 (D)	<0.0059	<0.0079	<0.003	<0.004	0.13	<0.004	**0.13**
					5/6/20	<0.0064	<0.0085	<0.0032	<0.0043	0.13	<0.0043	**0.13**
					5/6/20 (D)	<0.0064	<0.0085	<0.0032	<0.0043	0.11	<0.0043	**0.11**
					6/11/20	0.05	<0.0084	<0.0032	**0.035**	0.13	<0.0042	**0.215**
					9/22/20	0.039	<0.0078	<0.0029	<0.0039	0.13	<0.0039	**0.169**
					11/9/20	0.038	<0.0082	<0.0031	<0.0041	0.14	<0.0041	**0.178**
					4/22/21	0.048 (J)	<0.0083	<0.0052	**0.026 (J)**	0.13	<0.0052	**0.204**
					6/8/21	0.054	<0.0084	<0.0053	**0.031 (J)**	0.12	<0.0053	**0.205**
					9/30/21	0.037 (J)	<0.008	<0.005	**0.024 (J)**	0.11	<0.005	**0.171**
					11/9/21	0.045 (J)	<0.0081	<0.0051	<0.0051	0.11	<0.0051	**0.155**
					5/5/22	0.046 (J)	<0.0083	<0.0052	**0.033 (J)**	0.11	<0.0052	**0.189**
					5/5/22 (D)	0.045 (J)	<0.0081	<0.0051	<0.0051	0.11	<0.0051	**0.155**
					7/7/22	0.044 (J)	<0.0079	<0.005	**0.035 (J)**	0.11	<0.005	**0.189**
					9/26/22	0.028 (J)	<0.0078	<0.0049	<0.0049	0.077	<0.0049	**0.105**
					11/9/22	0.047 (J)	<0.0076	<0.0048	**0.031 (J)**	0.13	<0.0048	**0.208**
					11/9/22 (D)	0.051	<0.008	<0.005	**0.037 (J)**	0.13	<0.005	**0.218**
					4/25/23	0.042 (J)	<0.008	<0.005	**0.023 (J)**	0.099	<0.005	**0.164**
					4/25/23 (D)	0.039 (J)	<0.0077	<0.0048	**0.02 (J)**	0.091	<0.0048	**0.15**

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2016 - 2023 Summary
Dinitrotoluene Groundwater Results
Deterrent Burning Ground
Badger Army Ammunition Plant

						Dinitrotoluenes						
Plume	**Well Name**	**Well ID**	**License**	**Sample Level**	**Date**	**2,3-Dinitrotoluene**	**2,4-Dinitrotoluene**	**2,5-Dinitrotoluene**	**2,6-Dinitrotoluene**	**3,4-Dinitrotoluene**	**3,5-Dinitrotoluene**	**Dinitrotoluene, Total**
DBG	ELN-1502A	533	2813	A	9/15/16	0.065	<0.008	<0.003	<0.004	0.13	<0.004	**0.195**
					4/18/17	0.11	<0.0082	<0.0031	**0.011 (J)**	0.28	<0.0041	**0.401**
					4/18/17 (D)	0.12	<0.0084	<0.0032	**0.012 (J)**	0.31	<0.0042	**0.442**
					9/5/17	0.13	<0.0082	<0.0031	<0.0041	0.28	0.023 (J)	**0.433**
					9/5/17 (D)	0.13	<0.008	<0.003	<0.004	0.34	0.022 (J)	**0.492**
					4/24/18	0.14	<0.0083	<0.0031	**0.03 (J)**	0.39	0.034	**0.594**
					4/24/18 (D)	0.13	<0.008	<0.003	**0.027 (J)**	0.38	<0.004	**0.537**
					5/14/18	0.17	<0.008	<0.003	**0.08**	0.44	<0.004	**0.69**
					9/4/18	0.16	<0.0082	<0.0031	**0.011 (J)**	0.42	0.036	**0.627**
					9/4/18 (D)	0.21	<0.008	<0.003	**0.02 (J)**	0.53	0.041	**0.801**
					4/1/19	0.17	<0.0082	<0.0031	**0.024 (J)**	0.37	0.054	**0.618**
					4/1/19 (D)	0.16	<0.0082	<0.0031	**0.023 (J)**	0.35	0.053	**0.586**
					9/10/19	0.13	<0.0083	<0.0031	**0.026 (J)**	0.3	0.051	**0.507**
					9/10/19 (D)	0.14	<0.0081	<0.003	**0.027 (J)**	0.32	0.05	**0.537**
					4/6/20	0.085	<0.0087	<0.0033	<0.0043	0.19	<0.0043	**0.275**
					4/6/20 (D)	0.076	<0.0082	<0.0031	<0.0041	0.17	<0.0041	**0.246**
					9/21/20	0.078	<0.008	<0.003	<0.004	0.16	0.03	**0.268**
					4/5/21	0.059	**0.022 (J)**	<0.0051	**0.011 (J)**	0.12	0.028 (J)	**0.24**
					4/5/21 (D)	0.058	**0.027 (J)**	<0.0052	**0.012 (J)**	0.12	0.028 (J)	**0.245**
					9/9/21	0.06	<0.0079	<0.005	<0.005	0.13	0.027 (J)	**0.217**
					9/9/21 (D)	0.061	<0.0078	<0.0049	**0.018 (J)**	0.13	0.026 (J)	**0.235**
					4/25/22	0.067	<0.0082	<0.0051	<0.0051	0.11	<0.0051	**0.177**
					4/25/22 (D)	0.069	<0.008	<0.005	<0.005	0.12	<0.005	**0.189**
					9/15/22	0.067	<0.0078	<0.0049	<0.0049	0.13	0.025 (J)	**0.222**
					4/10/23	0.091	<0.008	<0.005	<0.005	0.17	<0.005	**0.261**
					4/10/23 (D)	0.094	<0.005	<0.005	<0.005	0.17	<0.005	**0.264**

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Deterrent Burning Ground
Badger Army Ammunition Plant

						Dinitrotoluenes						
Plume	**Well Name**	**Well ID**	**License**	**Sample Level**	**Date**	**2,3-Dinitrotoluene**	**2,4-Dinitrotoluene**	**2,5-Dinitrotoluene**	**2,6-Dinitrotoluene**	**3,4-Dinitrotoluene**	**3,5-Dinitrotoluene**	**Dinitrotoluene, Total**
DBG	ELN-1503A	535	2813	A	4/26/21	<0.0065	<0.0087	<0.0054	<0.0054	<0.0054	<0.0054	<0.0087
					9/28/21	<0.0058	<0.0077	<0.0048	<0.0048	<0.0048	<0.0048	<0.0077
					11/9/21	0.035 (J)	<0.0081	<0.0051	<0.0051	0.05 (J)	<0.0051	**0.085 (J)**
					4/28/22	0.043 (J)	<0.008	<0.005	<0.005	0.07	<0.005	**0.113**
					4/28/22 (D)	0.04 (J)	<0.008	<0.005	<0.005	0.067	<0.005	**0.107**
					7/7/22	<0.006	<0.008	<0.005	<0.005	<0.005	<0.005	<0.008
					7/7/22 (D)	0.037 (J)	<0.008	<0.005	<0.005	<0.005	<0.005	**0.037 (J)**
					9/22/22	0.018 (J)	<0.008	<0.005	<0.005	0.02 (J)	<0.005	**0.038 (J)**
					11/8/22	<0.0058	<0.0078	<0.005	<0.005	<0.005	<0.005	<0.0078
					4/27/23	0.041 (J)	<0.008	<0.005	<0.005	0.064	<0.005	**0.105**
					4/27/23 (D)	0.04 (J)	<0.008	<0.005	<0.005	0.06	<0.005	**0.1**
Chapter NR 140 PAL						NE	0.005	NE	0.005	NE	NE	0.005
Chapter NR 140 ES						NE	0.05	NE	0.05	NE	NE	0.05

Notes:
DBG - Deterrent Burning Ground
The Sample Level references the typical well depth configuration
All results are expressed in micrograms per liter (µg/l)
DNT analysis was performed by CT Laboratories
D = Duplicate sample
J = Analytical result is between the Limit of Detection (LOD) and Limit of Quantitation (LOQ)
NE = Not Established
Chapter NR 140 PAL - Chapter NR 140, Wisconsin Administrative Code, Preventive Action Limit (bold values)
Chapter NR 140 ES - Chapter NR 140, Wisconsin Administrative Code, Enforcement Standard (bold & underline values)

Table 2
2017 - 2023 Summary
Dinitrotoluene Groundwater Results
Propellant Burning Ground
Badger Army Ammunition Plant

						Dinitrotoluenes						
Plume	**Well Name**	**Well ID**	**License**	**Sample Level**	**Date**	**2,3-Dinitrotoluene**	**2,4-Dinitrotoluene**	**2,5-Dinitrotoluene**	**2,6-Dinitrotoluene**	**3,4-Dinitrotoluene**	**3,5-Dinitrotoluene**	**Dinitrotoluene, Total**
PBG	PBM-9801	360	2814	A	9/20/17	0.18	**0.11**	<0.0031	**0.2**	0.058	<0.0041	**0.548**
					9/17/18	0.48	**2**	0.028	**0.81**	0.19	0.074	**3.582**
					9/25/19	0.31	**5.7**	0.039	**0.61**	0.13	0.07	**6.859**
					9/1/20	0.37	**110**	<0.0032	**2.1**	0.18	<0.0042	**112.65**
					9/21/21	0.45	**64**	0.044 (J)	**2.2**	0.2	0.081	**66.975**
					5/4/22	0.44	**0.26**	0.055	**0.28**	0.19	0.078	**1.303**
					9/21/22	0.41	**0.16**	0.031 (J)	**0.11**	0.18	0.059	**0.95**
					4/26/23	0.34	**0.12**	0.057	**0.1**	0.17	0.07	**0.857**
PBG	PBN-8202A	613	2814	A	9/20/17	0.91	**0.059**	0.02 (J)	**0.07**	0.27	0.14	**1.469**
					9/20/17 (D)	0.83	**0.056**	0.019 (J)	**0.066**	0.25	0.12	**1.341**
					4/23/18	45	**2.1**	0.14	**27**	17	2.1	**93.34**
					4/23/18 (D)	48	**2.2**	0.15	**24**	18	2.3	**94.65**
					5/14/18	78	**33**	0.094	**270**	35	4.2	**420.294**
					9/17/18	70	**6.3**	0.12	**2**	32	6	**116.42**
					9/17/18 (D)	62	**5.1**	0.12	**4.4**	27	4.7	**103.32**
					4/8/19	20	**0.26**	0.12	**0.31**	4.6	5.2	**30.49**
					9/25/19	75	**9.1**	0.14	**110**	15	6.5	**215.74**
					1/14/20	49	**30**	<0.14	**79**	13	4.9	**175.9**
					1/14/20 (D)	49	**39**	<0.14	**88**	15	5	**196**
					4/30/20	72	**670**	<0.15	**500**	35	9.9	**1,286.9**
					6/8/20	17	**0.35**	0.1	**17**	7.9	1.9	**44.25**
					6/8/20 (D)	18	**0.4**	0.12	**15**	8.1	2.6	**44.22**
					9/1/20	9.1	**0.3**	0.078	**0.14**	3.3	1.2	**14.118**
					4/7/21	14	**0.24**	0.065	**0.17**	2.1	1	**17.575**
					9/21/21	21	**0.38**	0.082	**0.22**	1.8	1.4	**24.882**
					9/21/21 (D)	19	**0.37**	0.081	**0.22**	1.7	1.4	**22.771**
					5/4/22	36	**2.3**	0.051	**0.2**	12	3.4	**53.951**
					9/21/22	13	**0.27**	0.032 (J)	**0.17**	1.6	1.3	**16.372**
					4/26/23	0.38	**0.11**	0.06	**0.085**	0.4	0.093	**1.128**

Table 2
2017 - 2023 Summary
Dinitrotoluene Groundwater Results
Propellant Burning Ground
Badger Army Ammunition Plant

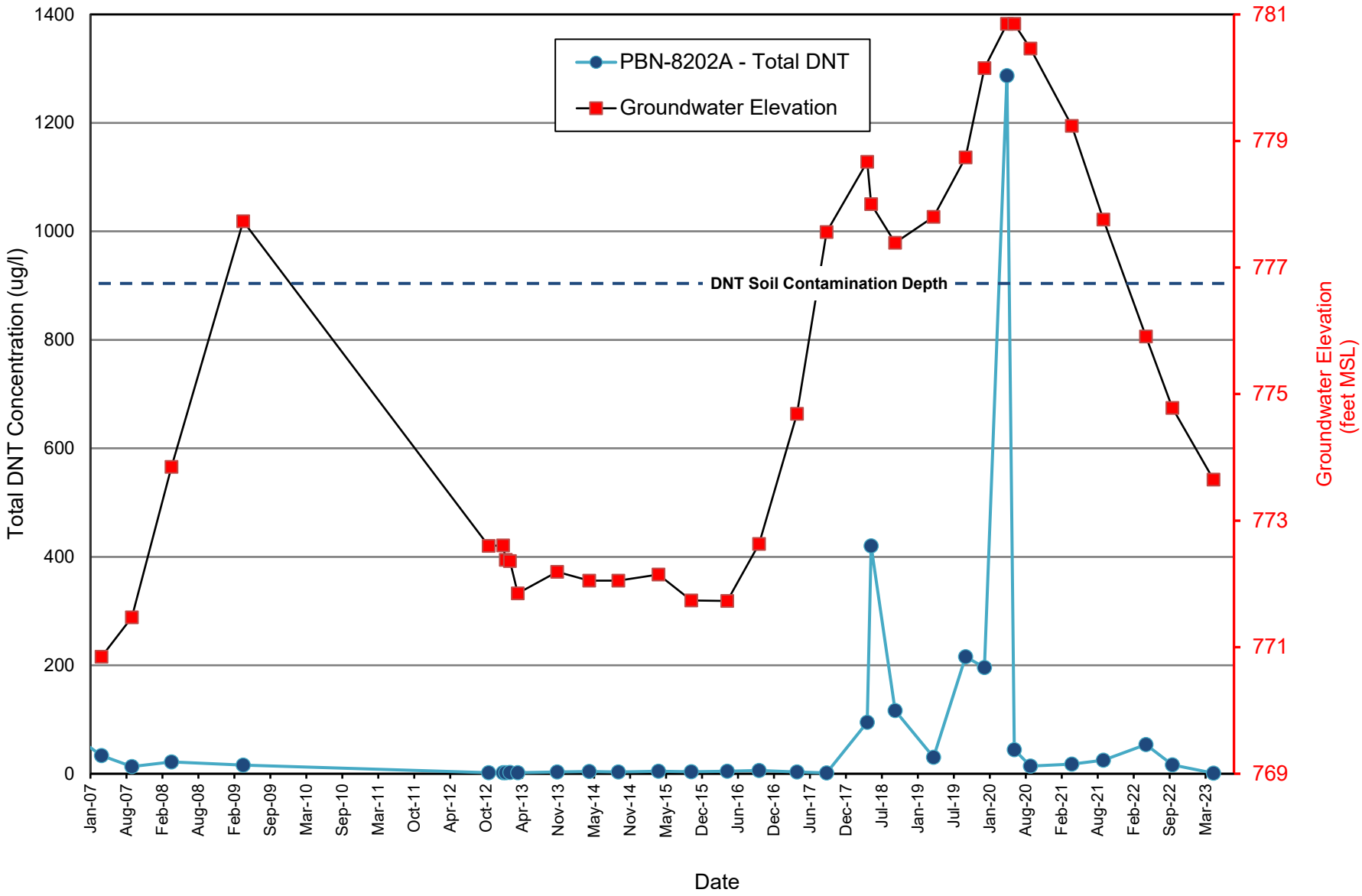
						Dinitrotoluenes						
Plume	**Well Name**	**Well ID**	**License**	**Sample Level**	**Date**	**2,3-Dinitrotoluene**	**2,4-Dinitrotoluene**	**2,5-Dinitrotoluene**	**2,6-Dinitrotoluene**	**3,4-Dinitrotoluene**	**3,5-Dinitrotoluene**	**Dinitrotoluene, Total**
PBG	PBN-8202B	614	2814	B	9/20/17	0.54	**0.055**	<0.0031	**0.049**	0.15	0.087	**0.881**
					4/23/18	0.99	<0.0081	<0.003	**0.12**	0.36	0.13	**1.6**
					9/17/18	9.2	**0.26**	0.054	**0.038**	4.6	0.46	**14.612**
					4/8/19	39	**0.63**	0.13	**0.54**	36	8.8	**85.1**
					9/25/19	16	**0.18**	0.12	**0.26**	6.3	1.6	**24.46**
					1/14/20	9.9	**0.44**	<0.029	**0.25**	2.8	1	**14.39**
					4/30/20	11	**0.35**	0.091	**0.21**	1.7	1.2	**14.551**
					6/8/20	8.7	**0.2**	0.075	**0.055**	1.2	1.1	**11.33**
					9/1/20	7.3	**0.22**	0.4	**0.058**	0.71	0.88	**9.208**
					4/7/21	4.2	**0.11**	0.032 (J)	**0.086**	0.2	0.53	**5.158**
					9/21/21	2.4	**0.19**	0.049 (J)	**0.13**	0.13	0.28	**3.179**
					5/4/22	15	**0.18**	0.076	**0.16**	0.35	0.82	**16.586**
					9/21/22	24	**0.18**	0.063	**0.19**	0.8	1.1	**26.333**
					4/26/23	2.5	**0.23**	0.055	**0.15**	0.38	0.46	**3.775**
PBG	PBN-8202C	615	2814	C	9/20/17	0.15	**0.061**	<0.0031	**0.078**	0.055	0.033	**0.377**
					4/23/18	0.16	**0.19**	0.04	**0.19**	0.091	0.065	**0.736**
					9/17/18	0.2	**0.19**	0.036	**0.16**	0.11	0.075	**0.77**
					4/8/19	0.13	**0.088**	0.054	**0.064**	0.081	0.065	**0.482**
					9/25/19	0.19	**0.16**	0.082	**0.078**	0.12	0.095	**0.725**
					1/14/20	0.13	**0.12**	0.059	**0.062**	0.078	0.07	**0.519**
					4/30/20	<0.0062	**0.39**	0.08	**0.44**	0.14	0.13	**1.18**
					6/8/20	<0.0058	**0.47**	0.06	**0.46**	0.11	0.11	**1.21**
					9/1/20	0.17	**0.29**	<0.0031	**0.26**	0.072	0.076	**0.868**
					4/7/21	0.091	**0.16**	0.038 (J)	**0.093**	0.043 (J)	0.057	**0.482**
					9/21/21	0.099	**0.26**	0.044 (J)	**0.094**	0.053	0.063	**0.613**
					5/4/22	0.45	**0.15**	0.047 (J)	**0.1**	0.072	0.094	**0.913**
					9/21/22	0.49	**0.094**	0.032 (J)	**0.074**	0.045 (J)	0.076	**0.811**
					4/26/23	8.2	**0.2**	0.075	**0.095**	1.2	1	**10.77**

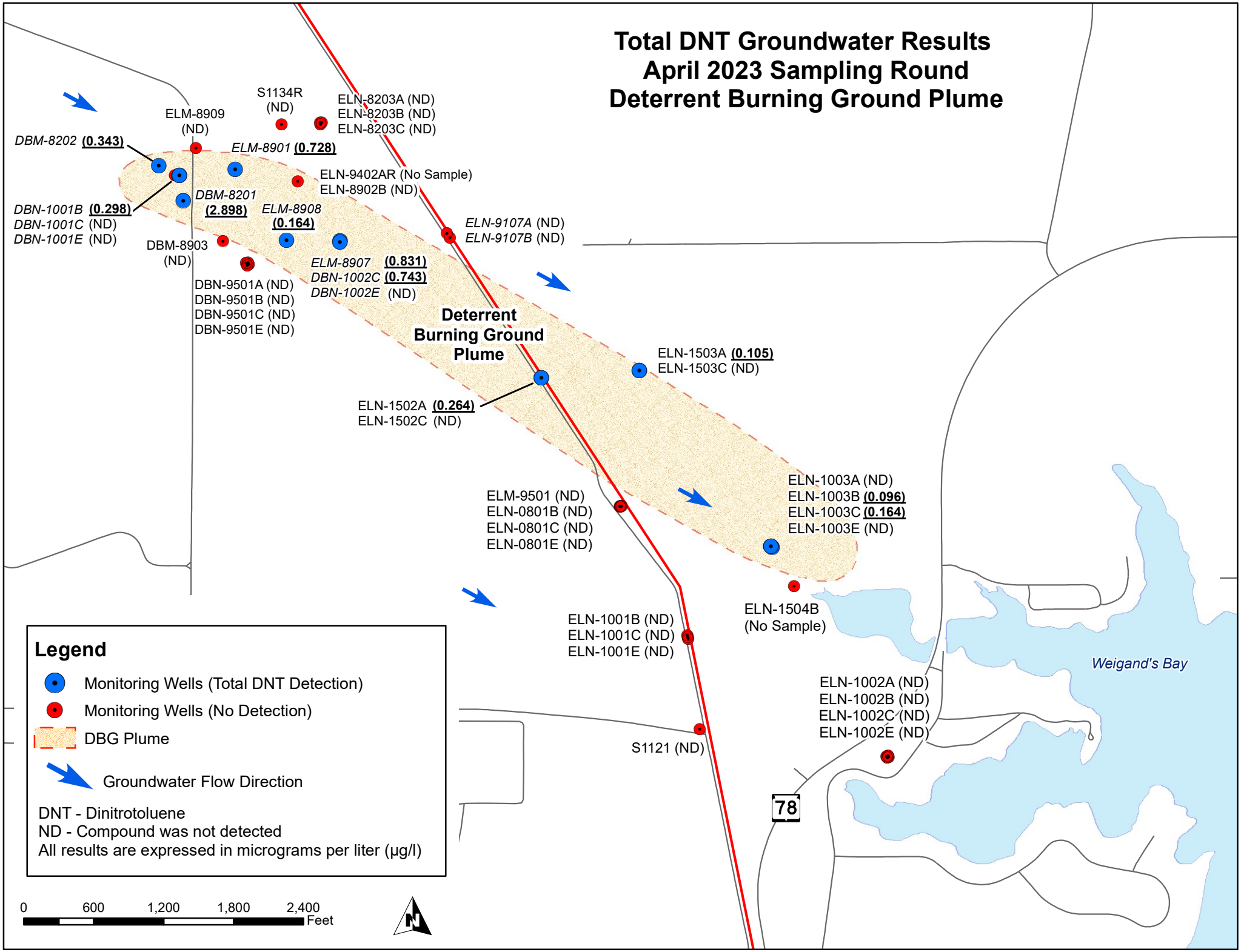
Table 2
2017 - 2023 Summary
Dinitrotoluene Groundwater Results
Propellant Burning Ground
Badger Army Ammunition Plant

						Dinitrotoluenes						
Plume	**Well Name**	**Well ID**	**License**	**Sample Level**	**Date**	**2,3-Dinitrotoluene**	**2,4-Dinitrotoluene**	**2,5-Dinitrotoluene**	**2,6-Dinitrotoluene**	**3,4-Dinitrotoluene**	**3,5-Dinitrotoluene**	**Dinitrotoluene, Total**
PBG	PBM-0001	367	2814	A	9/20/17	0.41	**0.059**	0.015	**0.059**	0.11	0.048	**0.701**
					4/23/18	0.74	<0.008	<0.003	**0.13**	0.23	0.099	**1.199**
					9/17/18	8.7	**0.24**	0.07	**0.19**	3.1	0.68	**12.98**
					4/23/19	14	**0.19**	0.12	**0.068**	6.2	1.6	**22.178**
					9/25/19	2.9	**0.15**	0.085	**0.12**	1.3	0.39	**4.945**
					1/14/20	1	**0.38**	0.069	**0.43**	0.2	0.17	**2.249**
					4/30/20	8	**0.25**	0.18	**0.22**	1.5	0.9	**11.05**
					9/1/20	5.6	**0.25**	0.093	**0.15**	0.62	0.58	**7.293**
					4/7/21	8.5	**0.13**	0.058	**0.1**	0.4	0.58	**9.768**
					9/21/21	4.9	**0.26**	0.083	**0.15**	0.45	0.46	**6.303**
					5/4/22	2.6	**0.2**	0.088	**0.24**	0.28	0.28	**3.688**
					9/21/22	29	**110**	0.059	**130**	9.4	1.8	**280.259**
					4/26/23	7.6	**0.24**	0.068	**0.13**	0.86	1.1	**9.998**
PBG	PBM-0006	372	2814	A	9/20/17	0.42	**0.063**	0.016 (J)	**0.046**	0.27	0.068	**0.883**
					4/23/18	0.79	0.27	0.04	**0.11**	0.62	0.14	**1.97**
					9/17/18	0.73	**0.27**	0.031	**0.11**	0.57	0.13	**1.841**
					4/8/19	0.34	**0.12**	0.042	**0.057**	0.31	0.086	**0.955**
					9/25/19	0.58	**0.16**	0.048	**0.12**	0.53	0.12	**1.588**
					4/30/20	0.84	**0.16**	0.068	**0.13**	0.73	0.14	**2.068**
					9/1/20	0.63	**0.13**	<0.0031	**0.067**	0.52	0.098	**1.445**
					4/7/21	0.72	**0.12**	0.034 (J)	**0.069**	0.5	0.11	**1.553**
					4/7/21 (D)	0.7	**0.13**	0.033 (J)	**0.065**	0.48	0.11	**1.518**
					9/21/21	0.77	**0.2**	0.043 (J)	**0.088**	0.55	0.11	**1.761**
					5/4/22	0.64	**0.17**	0.06	**0.12**	0.54	0.12	**1.65**
					5/4/2022 (D)	0.64	**0.18**	0.059	**0.12**	0.52	0.12	**1.639**
					9/21/22	0.39	**0.09**	0.03 (J)	**0.082**	0.36	0.074	**1.026**
					4/26/23	7.8	**0.21**	0.14	**0.098**	0.16	0.55	**10.398**
Chapter NR 140 PAL						NE	0.005	NE	0.005	NE	NE	0.005
Chapter NR 140 ES						NE	0.05	NE	0.05	NE	NE	0.05

Notes:
PBG - Propellant Burning Ground
The Sample Level references the typical well depth configuration
All results are expressed in micrograms per liter (µg/l)
DNT analysis was performed by CT Laboratories
D = Duplicate sample
J = Analytical result is between the Limit of Detection (LOD) and Limit of Quantitation (LOQ)
NE = Not Established
Chapter NR 140 PAL - Chapter NR 140, Wisconsin Administrative Code, Preventive Action Limit (bold values)
Chapter NR 140 ES - Chapter NR 140, Wisconsin Administrative Code, Enforcement Standard (bold & underline values)

PBN-8202A **Total Dinitrotoluene vs Groundwater Elevation** **2007 - 2023**




Total DNT Groundwater Results
April 2023 Sampling Round
Deterrent Burning Ground Plume
S1134R
(ND)
ELN-8203A (ND)
ELN-8203B (ND)
ELN-8203C (ND)
ELM-8909
(ND)
DBM-8202 (0.343)
ELM-8901 (0.728)
ELN-9402AR (No Sample)
ELN-8902B (ND)
DBM-8201
(2.898)
ELM-8908
(0.164)
DBN-1001B (0.298)
DBN-1001C (ND)
DBN-1001E (ND)
DBM-8903
(ND)
ELN-9107A (ND)
ELN-9107B (ND)
ELM-8907 (0.831)
DBN-1002C (0.743)
DBN-1002E (ND)
DBN-9501A (ND)
DBN-9501B (ND)
DBN-9501C (ND)
DBN-9501E (ND)
Deterrent
Burning Ground
Plume
ELN-1503A (0.105)
ELN-1503C (ND)
ELN-1502A (0.264)
ELN-1502C (ND)
ELM-9501 (ND)
ELN-0801B (ND)
ELN-0801C (ND)
ELN-0801E (ND)
ELN-1003A (ND)
ELN-1003B (0.096)
ELN-1003C (0.164)
ELN-1003E (ND)
ELN-1504B
(No Sample)
ELN-1001B (ND)
ELN-1001C (ND)
ELN-1001E (ND)
Weigand's Bay
ELN-1002A (ND)
ELN-1002B (ND)
ELN-1002C (ND)
ELN-1002E (ND)
S1121 (ND)
78
Legend
Monitoring Wells (Total DNT Detection)
Monitoring Wells (No Detection)
DBG Plume
Groundwater Flow Direction
DNT - Dinitrotoluene
ND - Compound was not detected
All results are expressed in micrograms per liter (µg/l)
0
600
1,200
1,800
2,400
Feet
N

April 2023

Monitoring Well and Residential Well Groundwater Data

Badger Army Ammunition Plant

Central Plume

Deterrent Burning Ground Plume

Nitrocellulose Production Area Plume

Propellant Burning Ground Plume

State of Wisconsin
Department of Natural Resources

Environmental Monitoring Data Certification

Form 4400-231(R 1/04)

Notice: Personally identifiable information collected will be used for program administration and enforcement purposes. The Department may also provide this information to requesters as required under Wisconsin's Open Records law, ss. 19.31 to 19.39, Wis. Stats.
When submitting monitoring data, the owner or operator of the facility, practice or activity is required to notify the Department in writing that a groundwater standard or an explosive gas level has been attained or exceeded, as specified in ss. NR 140.24(1)(a); NR 140.26(1)(a); NR 507.30NR 635.14(9)(a); NR 635.18(20) and NR 507.30, Wis. Adm. Code. Failure to report may result in fines, forfeitures or other penalties resulting from enforcement under ss. 289.97, 291.97 or 299.95, Wis. Stats.

Instructions:

- **Prepare one form for each license or monitoring ID.**
- **Please type or print legibly.**
- Attach a notification of any values that attain or exceed groundwater standards (that is, preventive action limits, enforcement standards or alternative concentration limits). The notification must include a preliminary analysis of the cause and significance of each value.
- Attach a notification of any gas values that attain or exceed explosive gas levels.
- Send the original signed form, any notification, and Electronic Data Deliverable [EDD] to: GEMS Data Submittal Contact - WA/5
  Bureau of Waste Management
  Wisconsin Department of Natural Resources
  101 South Webster Street
  Madison WI 53707-7921

Monitoring Data Submittal Information

Name of entity submitting data (laboratory, consultant, facility owner):

SpecPro Professional Services - Badger Army Ammunition Plant

Contact for questions about data formatting. Include data preparer's name, telephone number and E-mail address:

Name: Joel Janssen Phone: (608) 438-1110

E-mail: Joel.Janssen@SpecProSvcs.com

Facility name:	License # / Monitoring ID	Facility ID [FID]	Actual sampling dates (e.g., July 2-6, 2003)
BAAP - Landfill #5	02813	157005530	4/10 - 4/27/23

The enclosed results are for sampling required in the month(s) of: (e.g., June 2003)

April 2023

Type of Data Submitted (Check all that apply)

- [X] Groundwater monitoring data from monitoring wells
- [ ] Groundwater monitoring data from private water supply wells
- [ ] Leachate monitoring data
- [ ] Gas monitoring data
- [ ] Air monitoring data
- [ ] Other (specify)

Notification attached?

- [ ] No. No groundwater standards or explosive gas limits were exceeded.
- [X] Yes, a notification of values exceeding a groundwater standard is attached. It includes a list of monitoring points, dates, sample values, groundwater standard and preliminary analysis of the cause and significance of any concentration.
- [ ] Yes, a notification of values exceeding an explosive gas limit is attached. It includes the monitoring points, dates, sample values and explosive gas limits.

Certification

To the best of my knowledge, the information reported and statements made on this data submittal and attachments are true and correct. Furthermore, I have attached complete notification of any sampling values meeting or exceeding groundwater standards or explosive gas levels, and a preliminary analysis of the cause and significance of concentrations exceeding groundwater standards.

Joel Janssen	Project Manager	(608) 438-1110
Facility Representative Name (Print)	Title	(Area Code) Telephone No.

Joel Janssen 6/15/23

Signature Date

FOR DNR USE ONLY. Check action taken, and record date and your initials. Describe on back side if necessary.

- [ ] **Found uploading problems on** _____ **Initials**
- [ ] **Notified contact of problems on** _____ **Uploaded data successfully on** _____

EDD format(s): [ ] **Diskette** [ ] **CD (initial submittal and follow-up)** [ ] **E-mail (follow-up only)** [ ] **Other**

Case Narrative
Groundwater Monitoring
License Number 2813
Landfill #5
April 2023
Badger Army Ammunition Plant

Groundwater is currently being monitored by the facility because of past production activities. Thirty (30) wells were sampled to assist with determining the degree and lateral extent of dinitrotoluene (DNT) in the Deterrent Burning Ground Plume. No water was present in ELN-9402AR; therefore, it could not be sampled. ELN-1504B could not be sampled due to high water surrounding the well.

Total DNT exceeded the Enforcement Standard (ES) in ELM-8901 (216), ELM-8907 (220), ELM-8908 (221), ELN-1003B (468), ELN-1003C (469), ELN-1502A (533), and ELN-1503A (535). This is the third time total DNT has exceeded the ES in ELN-1503A.

2,6-DNT exceeded the Preventive Action Limit (PAL) in ELM-8901 (216), ELM-8907 (220), and ELN-1003C (469).

Sulfate exceeded the ES in ELN-8203A (210) and ELN-8203B (211).

Tetrahydrofuran exceeded the PAL in ELN-8203B (211).

1,1,2-Trichloroethane exceeded the PAL in ELN-8203A (210) and ELN-8203B (211).

VOC analysis was performed by CT Laboratories (CT Lab) using method EPA 8260C.

DNT analysis was performed by CT Lab using method SW 8270D SIM. The following DNT isomers were reported: 2,3-DNT, 2,4-DNT, 2,5-DNT, 2,6-DNT, 3,4-DNT, and 3,5-DNT.

Sulfate analyses were performed by CT Lab using method SW 846 9056A.

Badger Army Ammunition Plant

SpecPro Professional Services, LLC

GROUNDWATER MONITORING EXCEEDANCE REPORT

April 2023 Report Date: 6/15/2023

Parameter Name	Lic No.	Well No.	Well Name	Date	Dup	Result	Units	PAL	ES
1,1,2-Trichloroethane	2813	210	ELN-8203A	4/25/2023	1	0.71	ug/l	0.5	5
Sulfate	2813	210	ELN-8203A	4/25/2023	1	1200	mg/l	125	250
1,1,2-Trichloroethane	2813	211	ELN-8203B	4/25/2023	1	1.1	ug/l	0.5	5
Sulfate	2813	211	ELN-8203B	4/25/2023	1	820	mg/l	125	250
Tetrahydrofuran	2813	211	ELN-8203B	4/25/2023	1	15	ug/l	10	50
2,6-Dinitrotoluene	2813	216	ELM-8901	4/24/2023	1	0.038	ug/l	0.005	0.05
Total Dinitrotoluenes	2813	216	ELM-8901	4/24/2023	1	0.728	ug/l	0.005	0.05
2,6-Dinitrotoluene	2813	220	ELM-8907	4/24/2023	1	0.031	ug/l	0.005	0.05
Total Dinitrotoluenes	2813	220	ELM-8907	4/24/2023	1	0.831	ug/l	0.005	0.05
Total Dinitrotoluenes	2813	221	ELM-8908	4/24/2023	1	0.145	ug/l	0.005	0.05
Total Dinitrotoluenes	2813	221	ELM-8908	4/24/2023	2	0.164	ug/l	0.005	0.05
Total Dinitrotoluenes	2813	468	ELN-1003B	4/25/2023	1	0.096	ug/l	0.005	0.05
2,6-Dinitrotoluene	2813	469	ELN-1003C	4/25/2023	1	0.023	ug/l	0.005	0.05
2,6-Dinitrotoluene	2813	469	ELN-1003C	4/25/2023	2	0.02	ug/l	0.005	0.05
Total Dinitrotoluenes	2813	469	ELN-1003C	4/25/2023	1	0.164	ug/l	0.005	0.05
Total Dinitrotoluenes	2813	469	ELN-1003C	4/25/2023	2	0.15	ug/l	0.005	0.05
Total Dinitrotoluenes	2813	533	ELN-1502A	4/10/2023	1	0.261	ug/l	0.005	0.05
Total Dinitrotoluenes	2813	533	ELN-1502A	4/10/2023	2	0.264	ug/l	0.005	0.05
Total Dinitrotoluenes	2813	535	ELN-1503A	4/27/2023	1	0.105	ug/l	0.005	0.05
Total Dinitrotoluenes	2813	535	ELN-1503A	4/27/2023	2	0.1	ug/l	0.005	0.05

Badger Army Ammunition Plant

SpecPro Professional Services, LLC

April 2023 GROUNDWATER MONITORING ALL HITS REPORT

License No: 2813 Report Date: 6/15/2023

Parameter Name	Well	Well Name	Date	Dup	Result	LOD	LOQ	Units	PAL	ES
1,1,2-Trichloroethane	210	ELN-8203A	4/25/2023	1	0.71	0.2	0.4	ug/l	0.5	5
1,2-Dichloropropane	210	ELN-8203A	4/25/2023	1	0.43	0.1	0.2	ug/l	0.5	5
Dichlorodifluoromethane	210	ELN-8203A	4/25/2023	1	0.52	0.1	0.2	ug/l	200	1000
Ethyl ether	210	ELN-8203A	4/25/2023	1	1.1	0.1	0.2	ug/l	100	1000
Sulfate	210	ELN-8203A	4/25/2023	1	1200	40	150	mg/l	125	250
1,1,1-Trichloroethane	211	ELN-8203B	4/25/2023	1	0.15	0.1	0.2	ug/l	40	200
1,1,2-Trichloroethane	211	ELN-8203B	4/25/2023	1	1.1	0.2	0.4	ug/l	0.5	5
1,2-Dichloropropane	211	ELN-8203B	4/25/2023	1	0.33	0.1	0.2	ug/l	0.5	5
Dichlorodifluoromethane	211	ELN-8203B	4/25/2023	1	1	0.1	0.2	ug/l	200	1000
Ethyl ether	211	ELN-8203B	4/25/2023	1	0.2	0.1	0.2	ug/l	100	1000
Sulfate	211	ELN-8203B	4/25/2023	1	820	40	150	mg/l	125	250
Tetrahydrofuran	211	ELN-8203B	4/25/2023	1	15	1	2	ug/l	10	50
1,1,2-Trichloroethane	212	ELN-8203C	4/25/2023	1	0.47	0.2	0.4	ug/l	0.5	5
Sulfate	212	ELN-8203C	4/25/2023	1	90	4	15	mg/l	125	250
1,1,1-Trichloroethane	216	ELM-8901	4/24/2023	1	0.89	0.1	0.2	ug/l	40	200
2,3-Dinitrotoluene	216	ELM-8901	4/24/2023	1	0.28	0.0059	0.049	ug/l		
2,6-Dinitrotoluene	216	ELM-8901	4/24/2023	1	0.038	0.0049	0.049	ug/l	0.005	0.05
3,4-Dinitrotoluene	216	ELM-8901	4/24/2023	1	0.27	0.0049	0.049	ug/l		
3,5-Dinitrotoluene	216	ELM-8901	4/24/2023	1	0.14	0.0049	0.049	ug/l		
Sulfate	216	ELM-8901	4/24/2023	1	55	4	15	mg/l	125	250
Total Dinitrotoluenes	216	ELM-8901	4/24/2023	1	0.728	0.0078	0.049	ug/l	0.005	0.05
1,1,1-Trichloroethane	220	ELM-8907	4/24/2023	1	0.12	0.1	0.2	ug/l	40	200
2,3-Dinitrotoluene	220	ELM-8907	4/24/2023	1	0.54	0.0058	0.048	ug/l		
2,6-Dinitrotoluene	220	ELM-8907	4/24/2023	1	0.031	0.0048	0.048	ug/l	0.005	0.05
3,4-Dinitrotoluene	220	ELM-8907	4/24/2023	1	0.15	0.0048	0.048	ug/l		
3,5-Dinitrotoluene	220	ELM-8907	4/24/2023	1	0.11	0.0048	0.048	ug/l		
Sulfate	220	ELM-8907	4/24/2023	1	18	0.8	3	mg/l	125	250
Total Dinitrotoluenes	220	ELM-8907	4/24/2023	1	0.831	0.0077	0.048	ug/l	0.005	0.05
2,3-Dinitrotoluene	221	ELM-8908	4/24/2023	1	0.05	0.0059	0.049	ug/l		
2,3-Dinitrotoluene	221	ELM-8908	4/24/2023	2	0.056	0.0058	0.049	ug/l		
3,4-Dinitrotoluene	221	ELM-8908	4/24/2023	1	0.052	0.0049	0.049	ug/l		
3,4-Dinitrotoluene	221	ELM-8908	4/24/2023	2	0.062	0.0049	0.049	ug/l		
3,5-Dinitrotoluene	221	ELM-8908	4/24/2023	1	0.043	0.0049	0.049	ug/l		
3,5-Dinitrotoluene	221	ELM-8908	4/24/2023	2	0.046	0.0049	0.049	ug/l		
Sulfate	221	ELM-8908	4/24/2023	2	16	0.8	3	mg/l	125	250
Sulfate	221	ELM-8908	4/24/2023	1	16	0.8	3	mg/l	125	250
Total Dinitrotoluenes	221	ELM-8908	4/24/2023	2	0.164	0.0078	0.049	ug/l	0.005	0.05
Total Dinitrotoluenes	221	ELM-8908	4/24/2023	1	0.145	0.0078	0.049	ug/l	0.005	0.05
1,1,1-Trichloroethane	222	ELM-8909	4/24/2023	1	0.76	0.1	0.2	ug/l	40	200
Sulfate	222	ELM-8909	4/24/2023	1	13	0.8	3	mg/l	125	250
Sulfate	224	ELN-8902B	4/24/2023	1	14	0.8	3	mg/l	125	250
Sulfate	227	ELN-9107A	4/24/2023	1	16	0.8	3	mg/l	125	250
Sulfate	228	ELN-9107B	4/24/2023	1	16	0.8	3	mg/l	125	250
1,1,1-Trichloroethane	236	S1134R	4/25/2023	1	0.1	0.1	0.2	ug/l	40	200
1,1,2-Trichloroethane	236	S1134R	4/25/2023	1	0.41	0.2	0.4	ug/l	0.5	5
Sulfate	236	S1134R	4/25/2023	1	120	8	30	mg/l	125	250
2,3-Dinitrotoluene	468	ELN-1003B	4/25/2023	1	0.034	0.0057	0.048	ug/l		
3,4-Dinitrotoluene	468	ELN-1003B	4/25/2023	1	0.062	0.0048	0.048	ug/l		

Parameter Name	Well	Well Name	Date	Dup	Result	LOD	LOQ	Units	PAL	ES
Total Dinitrotoluenes	468	ELN-1003B	4/25/2023	1	0.096	0.0076	0.048	ug/l	0.005	0.05
2,3-Dinitrotoluene	469	ELN-1003C	4/25/2023	1	0.042	0.0059	0.05	ug/l		
2,3-Dinitrotoluene	469	ELN-1003C	4/25/2023	2	0.039	0.0058	0.048	ug/l		
2,6-Dinitrotoluene	469	ELN-1003C	4/25/2023	2	0.02	0.0048	0.048	ug/l	0.005	0.05
2,6-Dinitrotoluene	469	ELN-1003C	4/25/2023	1	0.023	0.005	0.05	ug/l	0.005	0.05
3,4-Dinitrotoluene	469	ELN-1003C	4/25/2023	1	0.099	0.005	0.05	ug/l		
3,4-Dinitrotoluene	469	ELN-1003C	4/25/2023	2	0.091	0.0048	0.048	ug/l		
Total Dinitrotoluenes	469	ELN-1003C	4/25/2023	2	0.15	0.0077	0.048	ug/l	0.005	0.05
Total Dinitrotoluenes	469	ELN-1003C	4/25/2023	1	0.164	0.0079	0.05	ug/l	0.005	0.05
2,3-Dinitrotoluene	533	ELN-1502A	4/10/2023	1	0.091	0.006	0.05	ug/l		
2,3-Dinitrotoluene	533	ELN-1502A	4/10/2023	2	0.094	0.0059	0.049	ug/l		
3,4-Dinitrotoluene	533	ELN-1502A	4/10/2023	1	0.17	0.005	0.05	ug/l		
3,4-Dinitrotoluene	533	ELN-1502A	4/10/2023	2	0.17	0.0049	0.049	ug/l		
Total Dinitrotoluenes	533	ELN-1502A	4/10/2023	1	0.261	0.008	0.05	ug/l	0.005	0.05
Total Dinitrotoluenes	533	ELN-1502A	4/10/2023	2	0.264	0.0078	0.049	ug/l	0.005	0.05
1,1,1-Trichloroethane	534	ELN-1502C	4/10/2023	1	0.75	0.1	0.2	ug/l	40	200
Dichlorodifluoromethane	534	ELN-1502C	4/10/2023	1	0.25	0.1	0.2	ug/l	200	1000
2,3-Dinitrotoluene	535	ELN-1503A	4/27/2023	1	0.041	0.006	0.05	ug/l		
2,3-Dinitrotoluene	535	ELN-1503A	4/27/2023	2	0.04	0.006	0.05	ug/l		
3,4-Dinitrotoluene	535	ELN-1503A	4/27/2023	1	0.064	0.005	0.05	ug/l		
3,4-Dinitrotoluene	535	ELN-1503A	4/27/2023	2	0.06	0.005	0.05	ug/l		
Total Dinitrotoluenes	535	ELN-1503A	4/27/2023	2	0.1	0.008	0.05	ug/l	0.005	0.05
Total Dinitrotoluenes	535	ELN-1503A	4/27/2023	1	0.105	0.008	0.05	ug/l	0.005	0.05
Dichlorodifluoromethane	536	ELN-1503C	4/27/2023	1	0.68	0.1	0.2	ug/l	200	1000

State of Wisconsin
Department of Natural Resources

Environmental Monitoring Data Certification

Form 4400-231(R 1/04)

Notice: Personally identifiable information collected will be used for program administration and enforcement purposes. The Department may also provide this information to requesters as required under Wisconsin's Open Records law, ss. 19.31 to 19.39, Wis. Stats.
When submitting monitoring data, the owner or operator of the facility, practice or activity is required to notify the Department in writing that a groundwater standard or an explosive gas level has been attained or exceeded, as specified in ss. NR 140.24(1)(a); NR 140.26(1)(a); NR 507.30NR 635.14(9)(a); NR 635.18(20) and NR 507.30, Wis. Adm. Code. Failure to report may result in fines, forfeitures or other penalties resulting from enforcement under ss. 289.97, 291.97 or 299.95, Wis. Stats.

Instructions:

- **Prepare one form for each license or monitoring ID.**
- **Please type or print legibly.**
- Attach a notification of any values that attain or exceed groundwater standards (that is, preventive action limits, enforcement standards or alternative concentration limits). The notification must include a preliminary analysis of the cause and significance of each value.
- Attach a notification of any gas values that attain or exceed explosive gas levels.
- Send the original signed form, any notification, and Electronic Data Deliverable [EDD] to: GEMS Data Submittal Contact - WA/5
  Bureau of Waste Management
  Wisconsin Department of Natural Resources
  101 South Webster Street
  Madison WI 53707-7921

Monitoring Data Submittal Information

Name of entity submitting data (laboratory, consultant, facility owner):

SpecPro Professional Services - Badger Army Ammunition Plant

Contact for questions about data formatting. Include data preparer's name, telephone number and E-mail address:

Name: Joel Janssen Phone: (608) 438-1110

E-mail: Joel.Janssen@SpecProSvcs.com

Facility name:	License # / Monitoring ID	Facility ID [FID]	Actual sampling dates (e.g., July 2-6, 2003)
BAAP - Propellant Burning Grounds	02814	157005420	4/11 - 4/27/23

The enclosed results are for sampling required in the month(s) of: (e.g., June 2003)

April 2023

Type of Data Submitted (Check all that apply)

- [x] Groundwater monitoring data from monitoring wells
- [ ] Groundwater monitoring data from private water supply wells
- [ ] Leachate monitoring data
- [ ] Gas monitoring data
- [ ] Air monitoring data
- [ ] Other (specify)

Notification attached?

- [ ] No. No groundwater standards or explosive gas limits were exceeded.
- [x] Yes, a notification of values exceeding a groundwater standard is attached. It includes a list of monitoring points, dates, sample values, groundwater standard and preliminary analysis of the cause and significance of any concentration.
- [ ] Yes, a notification of values exceeding an explosive gas limit is attached. It includes the monitoring points, dates, sample values and explosive gas limits.

Certification

To the best of my knowledge, the information reported and statements made on this data submittal and attachments are true and correct. Furthermore, I have attached complete notification of any sampling values meeting or exceeding groundwater standards or explosive gas levels, and a preliminary analysis of the cause and significance of concentrations exceeding groundwater standards.

Joel Janssen	Project Manager	(608) 438-1110
Facility Representative Name (Print)	Title	(Area Code) Telephone No.

Signature Joel Janssen Date 6/15/23

FOR DNR USE ONLY. Check action taken, and record date and your initials. Describe on back side if necessary.

- [ ] **Found uploading problems on** _____ **Initials**
- [ ] **Notified contact of problems on** _____ **Uploaded data successfully on** _____

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Case Narrative
Groundwater Monitoring
License Number 2814
Propellant Burning Grounds
April 2023
Badger Army Ammunition Plant

Groundwater is currently being monitored by the facility because of past production activities. Contamination from the Propellant Burning Ground (PBG) impacts groundwater quality in wells associated with this license. Forty-seven (47) wells were sampled to assist with determining the degree and lateral extent of dinitrotoluene (DNT) and volatile organic compounds (VOCs) in the PBG Plume.

2,4-DNT, 2,6-DNT, and total DNT exceeded the Enforcement Standards (ES) in PBM-9801 (360), PBM-0001 (367), PBM-0006 (372), PBM-0008 (374), PBN-8202A (613), PBN-8202B (614), PBN-8202C (615), PBN-8205A (622), PBN-1401A (782), PBN-1401B (783), and PBN-1401C (784). 2,4-DNT and total DNT exceeded the ES in PBN-8205B (623) and PBN-8912B (655). Total DNT exceeded the ES in PBN-8205C (624), PBN-8902C (645), and PBN-1303C (776).

2,6-DNT exceeded the Preventive Action Limit (PAL) in PBN-8902C (645), PBN-9303D (675), and PBN-1404C (792). Total DNT exceeded the PAL in PBM-0002 (368), PBN-9303D (675), and PBN-1404C (792).

Bromodichloromethane exceeded the PAL in PBN-1001C (595), PBN-9301C (669), and PBN-1404C (792).

Carbon tetrachloride exceeded the ES in PBN-8502A (632) and the PAL in 21 wells.

Chloroform exceeded the PAL in five wells.

Nitrate plus nitrite exceeded the PAL in three wells.

Trichloroethene exceeded the PAL in 10 wells.

VOC analysis was performed by CT Laboratories (CT Lab) using method EPA 8260C.

DNT analysis was also performed by CT Lab using method SW 8270D SIM. The following DNT isomers were reported: 2,3-DNT, 2,4-DNT, 2,5-DNT, 2,6-DNT, 3,4-DNT, and 3,5-DNT.

Nitrate plus nitrite analyses were performed by CT Lab using method SW 9056A.

Badger Army Ammunition Plant

SpecPro Professional Services, LLC

GROUNDWATER MONITORING EXCEEDANCE REPORT

April 2023 Report Date: 6/15/2023

Parameter Name	Lic No.	Well No.	Well Name	Date	Dup	Result	Units	PAL	ES
2,4-Dinitrotoluene	2814	360	PBM-9801	4/26/2023	1	0.12	ug/l	0.005	0.05
2,6-Dinitrotoluene	2814	360	PBM-9801	4/26/2023	1	0.1	ug/l	0.005	0.05
Total Dinitrotoluenes	2814	360	PBM-9801	4/26/2023	1	0.857	ug/l	0.005	0.05
2,4-Dinitrotoluene	2814	367	PBM-0001	4/26/2023	1	0.24	ug/l	0.005	0.05
2,6-Dinitrotoluene	2814	367	PBM-0001	4/26/2023	1	0.13	ug/l	0.005	0.05
Nitrate+Nitrite Nitrogen	2814	367	PBM-0001	4/26/2023	1	3	mg/l	2	10
Total Dinitrotoluenes	2814	367	PBM-0001	4/26/2023	1	9.998	ug/l	0.005	0.05
Trichloroethene	2814	367	PBM-0001	4/26/2023	1	0.5	ug/l	0.5	5
Nitrate+Nitrite Nitrogen	2814	368	PBM-0002	4/26/2023	1	3	mg/l	2	10
Total Dinitrotoluenes	2814	368	PBM-0002	4/26/2023	1	0.032	ug/l	0.005	0.05
Trichloroethene	2814	368	PBM-0002	4/26/2023	1	0.6	ug/l	0.5	5
2,4-Dinitrotoluene	2814	372	PBM-0006	4/26/2023	1	0.21	ug/l	0.005	0.05
2,6-Dinitrotoluene	2814	372	PBM-0006	4/26/2023	1	0.098	ug/l	0.005	0.05
Nitrate+Nitrite Nitrogen	2814	372	PBM-0006	4/26/2023	1	2.4	mg/l	2	10
Total Dinitrotoluenes	2814	372	PBM-0006	4/26/2023	1	10.398	ug/l	0.005	0.05
Trichloroethene	2814	372	PBM-0006	4/26/2023	1	0.56	ug/l	0.5	5
2,4-Dinitrotoluene	2814	374	PBM-0008	4/26/2023	1	0.11	ug/l	0.005	0.05
2,6-Dinitrotoluene	2814	374	PBM-0008	4/26/2023	1	0.095	ug/l	0.005	0.05
Total Dinitrotoluenes	2814	374	PBM-0008	4/26/2023	1	0.736	ug/l	0.005	0.05
Trichloroethene	2814	374	PBM-0008	4/26/2023	1	0.61	ug/l	0.5	5
Bromodichloromethane	2814	595	PBN-1001C	4/12/2023	1	0.21	ug/l	0.06	0.6
Carbon tetrachloride	2814	595	PBN-1001C	4/12/2023	1	0.86	ug/l	0.5	5
Chloroform	2814	595	PBN-1001C	4/12/2023	1	1.4	ug/l	0.6	6
2,4-Dinitrotoluene	2814	613	PBN-8202A	4/26/2023	1	0.11	ug/l	0.005	0.05
2,6-Dinitrotoluene	2814	613	PBN-8202A	4/26/2023	1	0.085	ug/l	0.005	0.05
Total Dinitrotoluenes	2814	613	PBN-8202A	4/26/2023	1	1.128	ug/l	0.005	0.05
Trichloroethene	2814	613	PBN-8202A	4/26/2023	1	0.62	ug/l	0.5	5
2,4-Dinitrotoluene	2814	614	PBN-8202B	4/26/2023	1	0.23	ug/l	0.005	0.05
2,6-Dinitrotoluene	2814	614	PBN-8202B	4/26/2023	1	0.15	ug/l	0.005	0.05
Carbon tetrachloride	2814	614	PBN-8202B	4/26/2023	1	0.56	ug/l	0.5	5
Total Dinitrotoluenes	2814	614	PBN-8202B	4/26/2023	1	3.775	ug/l	0.005	0.05
Trichloroethene	2814	614	PBN-8202B	4/26/2023	1	0.87	ug/l	0.5	5
2,4-Dinitrotoluene	2814	615	PBN-8202C	4/26/2023	1	0.2	ug/l	0.005	0.05
2,6-Dinitrotoluene	2814	615	PBN-8202C	4/26/2023	1	0.095	ug/l	0.005	0.05
Total Dinitrotoluenes	2814	615	PBN-8202C	4/26/2023	1	10.77	ug/l	0.005	0.05
2,4-Dinitrotoluene	2814	622	PBN-8205A	4/26/2023	1	0.071	ug/l	0.005	0.05
2,6-Dinitrotoluene	2814	622	PBN-8205A	4/26/2023	1	0.085	ug/l	0.005	0.05
Total Dinitrotoluenes	2814	622	PBN-8205A	4/26/2023	1	0.679	ug/l	0.005	0.05
2,4-Dinitrotoluene	2814	623	PBN-8205B	4/26/2023	1	0.063	ug/l	0.005	0.05
Carbon tetrachloride	2814	623	PBN-8205B	4/26/2023	1	1.7	ug/l	0.5	5
Total Dinitrotoluenes	2814	623	PBN-8205B	4/26/2023	1	0.545	ug/l	0.005	0.05
Trichloroethene	2814	623	PBN-8205B	4/26/2023	1	0.53	ug/l	0.5	5
Carbon tetrachloride	2814	624	PBN-8205C	4/26/2023	1	1.2	ug/l	0.5	5
Total Dinitrotoluenes	2814	624	PBN-8205C	4/26/2023	1	0.319	ug/l	0.005	0.05
Carbon tetrachloride	2814	632	PBN-8502A	4/26/2023	1	6.8	ug/l	0.5	5
Trichloroethene	2814	632	PBN-8502A	4/26/2023	1	0.85	ug/l	0.5	5
Carbon tetrachloride	2814	633	PBN-8503A	4/27/2023	1	1.1	ug/l	0.5	5
2,6-Dinitrotoluene	2814	645	PBN-8902C	4/26/2023	1	0.039	ug/l	0.005	0.05

Parameter Name	Lic No.	Well No.	Well Name	Date	Dup	Result	Units	PAL	ES
Carbon tetrachloride	2814	645	PBN-8902C	4/26/2023	1	1.3	ug/l	0.5	5
Total Dinitrotoluenes	2814	645	PBN-8902C	4/26/2023	1	0.184	ug/l	0.005	0.05
Trichloroethene	2814	645	PBN-8902C	4/26/2023	1	0.57	ug/l	0.5	5
Carbon tetrachloride	2814	646	PBN-8903B	4/27/2023	1	0.88	ug/l	0.5	5
2,4-Dinitrotoluene	2814	655	PBN-8912B	4/13/2023	1	0.076	ug/l	0.005	0.05
Total Dinitrotoluenes	2814	655	PBN-8912B	4/13/2023	1	0.176	ug/l	0.005	0.05
Carbon tetrachloride	2814	668	PBN-9301B	4/13/2023	1	2.5	ug/l	0.5	5
Bromodichloromethane	2814	669	PBN-9301C	4/13/2023	1	0.2	ug/l	0.06	0.6
Carbon tetrachloride	2814	669	PBN-9301C	4/13/2023	1	0.74	ug/l	0.5	5
Chloroform	2814	669	PBN-9301C	4/13/2023	1	1.7	ug/l	0.6	6
Carbon tetrachloride	2814	673	PBN-9303B	4/12/2023	1	3.2	ug/l	0.5	5
Carbon tetrachloride	2814	674	PBN-9303C	4/12/2023	1	1.4	ug/l	0.5	5
Chloroform	2814	674	PBN-9303C	4/12/2023	1	0.78	ug/l	0.6	6
2,6-Dinitrotoluene	2814	675	PBN-9303D	4/12/2023	1	0.023	ug/l	0.005	0.05
Total Dinitrotoluenes	2814	675	PBN-9303D	4/12/2023	1	0.023	ug/l	0.005	0.05
Carbon tetrachloride	2814	770	PBN-1302A	4/12/2023	1	3.6	ug/l	0.5	5
Carbon tetrachloride	2814	771	PBN-1302B	4/12/2023	1	3.5	ug/l	0.5	5
Carbon tetrachloride	2814	771	PBN-1302B	4/12/2023	2	3.7	ug/l	0.5	5
Carbon tetrachloride	2814	772	PBN-1302C	4/12/2023	1	2.4	ug/l	0.5	5
Chloroform	2814	772	PBN-1302C	4/12/2023	1	0.95	ug/l	0.6	6
Carbon tetrachloride	2814	774	PBN-1303A	4/11/2023	1	1.9	ug/l	0.5	5
Carbon tetrachloride	2814	775	PBN-1303B	4/11/2023	1	2	ug/l	0.5	5
Carbon tetrachloride	2814	776	PBN-1303C	4/26/2023	1	0.77	ug/l	0.5	5
Total Dinitrotoluenes	2814	776	PBN-1303C	4/26/2023	1	0.059	ug/l	0.005	0.05
Carbon tetrachloride	2814	779	PBN-1304B	4/11/2023	1	0.77	ug/l	0.5	5
Carbon tetrachloride	2814	780	PBN-1304C	4/11/2023	1	0.83	ug/l	0.5	5
2,4-Dinitrotoluene	2814	782	PBN-1401A	4/26/2023	1	0.12	ug/l	0.005	0.05
2,6-Dinitrotoluene	2814	782	PBN-1401A	4/26/2023	1	0.096	ug/l	0.005	0.05
Total Dinitrotoluenes	2814	782	PBN-1401A	4/26/2023	1	0.954	ug/l	0.005	0.05
2,4-Dinitrotoluene	2814	783	PBN-1401B	4/26/2023	1	0.064	ug/l	0.005	0.05
2,4-Dinitrotoluene	2814	783	PBN-1401B	4/26/2023	2	0.065	ug/l	0.005	0.05
2,6-Dinitrotoluene	2814	783	PBN-1401B	4/26/2023	1	0.08	ug/l	0.005	0.05
2,6-Dinitrotoluene	2814	783	PBN-1401B	4/26/2023	2	0.073	ug/l	0.005	0.05
Total Dinitrotoluenes	2814	783	PBN-1401B	4/26/2023	1	0.513	ug/l	0.005	0.05
Total Dinitrotoluenes	2814	783	PBN-1401B	4/26/2023	2	0.567	ug/l	0.005	0.05
2,4-Dinitrotoluene	2814	784	PBN-1401C	4/26/2023	1	0.066	ug/l	0.005	0.05
2,6-Dinitrotoluene	2814	784	PBN-1401C	4/26/2023	1	0.075	ug/l	0.005	0.05
Total Dinitrotoluenes	2814	784	PBN-1401C	4/26/2023	1	0.573	ug/l	0.005	0.05
Carbon tetrachloride	2814	791	PBN-1404B	4/13/2023	1	3	ug/l	0.5	5
2,6-Dinitrotoluene	2814	792	PBN-1404C	4/13/2023	1	0.024	ug/l	0.005	0.05
Bromodichloromethane	2814	792	PBN-1404C	4/13/2023	1	0.14	ug/l	0.06	0.6
Chloroform	2814	792	PBN-1404C	4/13/2023	1	1.1	ug/l	0.6	6
Total Dinitrotoluenes	2814	792	PBN-1404C	4/13/2023	1	0.024	ug/l	0.005	0.05
Carbon tetrachloride	2814	795	PBN-8902BR	4/26/2023	1	2.3	ug/l	0.5	5
Trichloroethene	2814	795	PBN-8902BR	4/26/2023	1	0.65	ug/l	0.5	5

Badger Army Ammunition Plant

SpecPro Professional Services, LLC

April 2023 GROUNDWATER MONITORING ALL HITS REPORT

License No: 2814 Report Date: 6/15/2023

Parameter Name	Well	Well Name	Date	Dup	Result	LOD	LOQ	Units	PAL	ES
2,3-Dinitrotoluene	360	PBM-9801	4/26/2023	1	0.34	0.0058	0.049	ug/l		
2,4-Dinitrotoluene	360	PBM-9801	4/26/2023	1	0.12	0.0078	0.049	ug/l	0.005	0.05
2,5-Dinitrotoluene	360	PBM-9801	4/26/2023	1	0.057	0.0049	0.049	ug/l		
2,6-Dinitrotoluene	360	PBM-9801	4/26/2023	1	0.1	0.0049	0.049	ug/l	0.005	0.05
3,4-Dinitrotoluene	360	PBM-9801	4/26/2023	1	0.17	0.0049	0.049	ug/l		
3,5-Dinitrotoluene	360	PBM-9801	4/26/2023	1	0.07	0.0049	0.049	ug/l		
Carbon tetrachloride	360	PBM-9801	4/26/2023	1	0.13	0.1	0.2	ug/l	0.5	5
Total Dinitrotoluenes	360	PBM-9801	4/26/2023	1	0.857	0.0078	0.049	ug/l	0.005	0.05
Trichloroethene	360	PBM-9801	4/26/2023	1	0.14	0.1	0.2	ug/l	0.5	5
2,3-Dinitrotoluene	367	PBM-0001	4/26/2023	1	7.6	0.06	0.5	ug/l		
2,4-Dinitrotoluene	367	PBM-0001	4/26/2023	1	0.24	0.008	0.05	ug/l	0.005	0.05
2,5-Dinitrotoluene	367	PBM-0001	4/26/2023	1	0.068	0.005	0.05	ug/l		
2,6-Dinitrotoluene	367	PBM-0001	4/26/2023	1	0.13	0.005	0.05	ug/l	0.005	0.05
3,4-Dinitrotoluene	367	PBM-0001	4/26/2023	1	0.86	0.005	0.05	ug/l		
3,5-Dinitrotoluene	367	PBM-0001	4/26/2023	1	1.1	0.005	0.05	ug/l		
Carbon tetrachloride	367	PBM-0001	4/26/2023	1	0.4	0.1	0.2	ug/l	0.5	5
Nitrate+Nitrite Nitrogen	367	PBM-0001	4/26/2023	1	3	0.05	0.5	mg/l	2	10
Total Dinitrotoluenes	367	PBM-0001	4/26/2023	1	9.998	0.008	0.05	ug/l	0.005	0.05
Trichloroethene	367	PBM-0001	4/26/2023	1	0.5	0.1	0.2	ug/l	0.5	5
2,3-Dinitrotoluene	368	PBM-0002	4/26/2023	1	0.032	0.0059	0.049	ug/l		
Carbon tetrachloride	368	PBM-0002	4/26/2023	1	0.35	0.1	0.2	ug/l	0.5	5
Nitrate+Nitrite Nitrogen	368	PBM-0002	4/26/2023	1	3	0.05	0.5	mg/l	2	10
Total Dinitrotoluenes	368	PBM-0002	4/26/2023	1	0.032	0.0078	0.049	ug/l	0.005	0.05
Trichloroethene	368	PBM-0002	4/26/2023	1	0.6	0.1	0.2	ug/l	0.5	5
2,3-Dinitrotoluene	372	PBM-0006	4/26/2023	1	7.8	0.059	0.49	ug/l		
2,4-Dinitrotoluene	372	PBM-0006	4/26/2023	1	0.21	0.0078	0.049	ug/l	0.005	0.05
2,5-Dinitrotoluene	372	PBM-0006	4/26/2023	1	0.14	0.0049	0.049	ug/l		
2,6-Dinitrotoluene	372	PBM-0006	4/26/2023	1	0.098	0.0049	0.049	ug/l	0.005	0.05
3,4-Dinitrotoluene	372	PBM-0006	4/26/2023	1	1.6	0.0049	0.049	ug/l		
3,5-Dinitrotoluene	372	PBM-0006	4/26/2023	1	0.55	0.0049	0.049	ug/l		
Carbon tetrachloride	372	PBM-0006	4/26/2023	1	0.33	0.1	0.2	ug/l	0.5	5
Nitrate+Nitrite Nitrogen	372	PBM-0006	4/26/2023	1	2.4	0.05	0.5	mg/l	2	10
Total Dinitrotoluenes	372	PBM-0006	4/26/2023	1	10.398	0.0078	0.049	ug/l	0.005	0.05
Trichloroethene	372	PBM-0006	4/26/2023	1	0.56	0.1	0.2	ug/l	0.5	5
2,3-Dinitrotoluene	374	PBM-0008	4/26/2023	1	0.3	0.006	0.05	ug/l		
2,4-Dinitrotoluene	374	PBM-0008	4/26/2023	1	0.11	0.008	0.05	ug/l	0.005	0.05
2,5-Dinitrotoluene	374	PBM-0008	4/26/2023	1	0.065	0.005	0.05	ug/l		
2,6-Dinitrotoluene	374	PBM-0008	4/26/2023	1	0.095	0.005	0.05	ug/l	0.005	0.05
3,4-Dinitrotoluene	374	PBM-0008	4/26/2023	1	0.07	0.005	0.05	ug/l		
3,5-Dinitrotoluene	374	PBM-0008	4/26/2023	1	0.096	0.005	0.05	ug/l		
Carbon tetrachloride	374	PBM-0008	4/26/2023	1	0.44	0.1	0.2	ug/l	0.5	5
Total Dinitrotoluenes	374	PBM-0008	4/26/2023	1	0.736	0.008	0.05	ug/l	0.005	0.05
Trichloroethene	374	PBM-0008	4/26/2023	1	0.61	0.1	0.2	ug/l	0.5	5
1,1,1-Trichloroethane	595	PBN-1001C	4/12/2023	1	0.12	0.1	0.2	ug/l	40	200
Bromodichloromethane	595	PBN-1001C	4/12/2023	1	0.21	0.1	0.2	ug/l	0.06	0.6
Carbon tetrachloride	595	PBN-1001C	4/12/2023	1	0.86	0.1	0.2	ug/l	0.5	5
Chloroform	595	PBN-1001C	4/12/2023	1	1.4	0.1	0.2	ug/l	0.6	6
2,3-Dinitrotoluene	613	PBN-8202A	4/26/2023	1	0.38	0.0061	0.051	ug/l		

Parameter Name	Well	Well Name	Date	Dup	Result	LOD	LOQ	Units	PAL	ES
2,4-Dinitrotoluene	613	PBN-8202A	4/26/2023	1	0.11	0.0082	0.051	ug/l	0.005	0.05
2,5-Dinitrotoluene	613	PBN-8202A	4/26/2023	1	0.06	0.0051	0.051	ug/l		
2,6-Dinitrotoluene	613	PBN-8202A	4/26/2023	1	0.085	0.0051	0.051	ug/l	0.005	0.05
3,4-Dinitrotoluene	613	PBN-8202A	4/26/2023	1	0.4	0.0051	0.051	ug/l		
3,5-Dinitrotoluene	613	PBN-8202A	4/26/2023	1	0.093	0.0051	0.051	ug/l		
Carbon tetrachloride	613	PBN-8202A	4/26/2023	1	0.4	0.1	0.2	ug/l	0.5	5
Total Dinitrotoluenes	613	PBN-8202A	4/26/2023	1	1.128	0.0082	0.051	ug/l	0.005	0.05
Trichloroethene	613	PBN-8202A	4/26/2023	1	0.62	0.1	0.2	ug/l	0.5	5
2,3-Dinitrotoluene	614	PBN-8202B	4/26/2023	1	2.5	0.029	0.25	ug/l		
2,4-Dinitrotoluene	614	PBN-8202B	4/26/2023	1	0.23	0.0078	0.049	ug/l	0.005	0.05
2,5-Dinitrotoluene	614	PBN-8202B	4/26/2023	1	0.055	0.0049	0.049	ug/l		
2,6-Dinitrotoluene	614	PBN-8202B	4/26/2023	1	0.15	0.0049	0.049	ug/l	0.005	0.05
3,4-Dinitrotoluene	614	PBN-8202B	4/26/2023	1	0.38	0.0049	0.049	ug/l		
3,5-Dinitrotoluene	614	PBN-8202B	4/26/2023	1	0.46	0.0049	0.049	ug/l		
Carbon tetrachloride	614	PBN-8202B	4/26/2023	1	0.56	0.1	0.2	ug/l	0.5	5
Total Dinitrotoluenes	614	PBN-8202B	4/26/2023	1	3.775	0.0078	0.049	ug/l	0.005	0.05
Trichloroethene	614	PBN-8202B	4/26/2023	1	0.87	0.1	0.2	ug/l	0.5	5
1,1,1-Trichloroethane	615	PBN-8202C	4/26/2023	1	0.1	0.1	0.2	ug/l	40	200
2,3-Dinitrotoluene	615	PBN-8202C	4/26/2023	1	8.2	0.059	0.49	ug/l		
2,4-Dinitrotoluene	615	PBN-8202C	4/26/2023	1	0.2	0.0078	0.049	ug/l	0.005	0.05
2,5-Dinitrotoluene	615	PBN-8202C	4/26/2023	1	0.075	0.0049	0.049	ug/l		
2,6-Dinitrotoluene	615	PBN-8202C	4/26/2023	1	0.095	0.0049	0.049	ug/l	0.005	0.05
3,4-Dinitrotoluene	615	PBN-8202C	4/26/2023	1	1.2	0.0049	0.049	ug/l		
3,5-Dinitrotoluene	615	PBN-8202C	4/26/2023	1	1	0.0049	0.049	ug/l		
Carbon tetrachloride	615	PBN-8202C	4/26/2023	1	0.13	0.1	0.2	ug/l	0.5	5
Total Dinitrotoluenes	615	PBN-8202C	4/26/2023	1	10.77	0.0078	0.049	ug/l	0.005	0.05
Trichloroethene	615	PBN-8202C	4/26/2023	1	0.38	0.1	0.2	ug/l	0.5	5
2,3-Dinitrotoluene	622	PBN-8205A	4/26/2023	1	0.25	0.006	0.05	ug/l		
2,4-Dinitrotoluene	622	PBN-8205A	4/26/2023	1	0.071	0.008	0.05	ug/l	0.005	0.05
2,5-Dinitrotoluene	622	PBN-8205A	4/26/2023	1	0.056	0.005	0.05	ug/l		
2,6-Dinitrotoluene	622	PBN-8205A	4/26/2023	1	0.085	0.005	0.05	ug/l	0.005	0.05
3,4-Dinitrotoluene	622	PBN-8205A	4/26/2023	1	0.14	0.005	0.05	ug/l		
3,5-Dinitrotoluene	622	PBN-8205A	4/26/2023	1	0.077	0.005	0.05	ug/l		
Carbon tetrachloride	622	PBN-8205A	4/26/2023	1	0.28	0.1	0.2	ug/l	0.5	5
Total Dinitrotoluenes	622	PBN-8205A	4/26/2023	1	0.679	0.008	0.05	ug/l	0.005	0.05
Trichloroethene	622	PBN-8205A	4/26/2023	1	0.1	0.1	0.2	ug/l	0.5	5
1,1,1-Trichloroethane	623	PBN-8205B	4/26/2023	1	0.16	0.1	0.2	ug/l	40	200
2,3-Dinitrotoluene	623	PBN-8205B	4/26/2023	1	0.2	0.0059	0.049	ug/l		
2,4-Dinitrotoluene	623	PBN-8205B	4/26/2023	1	0.063	0.0078	0.049	ug/l	0.005	0.05
2,5-Dinitrotoluene	623	PBN-8205B	4/26/2023	1	0.069	0.0049	0.049	ug/l		
3,4-Dinitrotoluene	623	PBN-8205B	4/26/2023	1	0.13	0.0049	0.049	ug/l		
3,5-Dinitrotoluene	623	PBN-8205B	4/26/2023	1	0.083	0.0049	0.049	ug/l		
Carbon tetrachloride	623	PBN-8205B	4/26/2023	1	1.7	0.1	0.2	ug/l	0.5	5
Chloroform	623	PBN-8205B	4/26/2023	1	0.11	0.1	0.2	ug/l	0.6	6
Total Dinitrotoluenes	623	PBN-8205B	4/26/2023	1	0.545	0.0078	0.049	ug/l	0.005	0.05
Trichloroethene	623	PBN-8205B	4/26/2023	1	0.53	0.1	0.2	ug/l	0.5	5
1,1,1-Trichloroethane	624	PBN-8205C	4/26/2023	1	0.1	0.1	0.2	ug/l	40	200
2,3-Dinitrotoluene	624	PBN-8205C	4/26/2023	1	0.085	0.0061	0.051	ug/l		
2,5-Dinitrotoluene	624	PBN-8205C	4/26/2023	1	0.075	0.0051	0.051	ug/l		
3,4-Dinitrotoluene	624	PBN-8205C	4/26/2023	1	0.084	0.0051	0.051	ug/l		
3,5-Dinitrotoluene	624	PBN-8205C	4/26/2023	1	0.075	0.0051	0.051	ug/l		
Carbon tetrachloride	624	PBN-8205C	4/26/2023	1	1.2	0.1	0.2	ug/l	0.5	5
Total Dinitrotoluenes	624	PBN-8205C	4/26/2023	1	0.319	0.0082	0.051	ug/l	0.005	0.05
Trichloroethene	624	PBN-8205C	4/26/2023	1	0.42	0.1	0.2	ug/l	0.5	5
1,1,1-Trichloroethane	632	PBN-8502A	4/26/2023	1	0.35	0.1	0.2	ug/l	40	200
Carbon tetrachloride	632	PBN-8502A	4/26/2023	1	6.8	0.1	0.2	ug/l	0.5	5
Chloroform	632	PBN-8502A	4/26/2023	1	0.1	0.1	0.2	ug/l	0.6	6

Parameter Name	Well	Well Name	Date	Dup	Result	LOD	LOQ	Units	PAL	ES
Trichloroethene	632	PBN-8502A	4/26/2023	1	0.85	0.1	0.2	ug/l	0.5	5
Carbon tetrachloride	633	PBN-8503A	4/27/2023	1	1.1	0.1	0.2	ug/l	0.5	5
1,1,1-Trichloroethane	645	PBN-8902C	4/26/2023	1	0.11	0.1	0.2	ug/l	40	200
2,3-Dinitrotoluene	645	PBN-8902C	4/26/2023	1	0.091	0.0059	0.05	ug/l		
2,6-Dinitrotoluene	645	PBN-8902C	4/26/2023	1	0.039	0.005	0.05	ug/l	0.005	0.05
3,4-Dinitrotoluene	645	PBN-8902C	4/26/2023	1	0.054	0.005	0.05	ug/l		
Carbon tetrachloride	645	PBN-8902C	4/26/2023	1	1.3	0.1	0.2	ug/l	0.5	5
Total Dinitrotoluenes	645	PBN-8902C	4/26/2023	1	0.184	0.0079	0.05	ug/l	0.005	0.05
Trichloroethene	645	PBN-8902C	4/26/2023	1	0.57	0.1	0.2	ug/l	0.5	5
Carbon tetrachloride	646	PBN-8903B	4/27/2023	1	0.88	0.1	0.2	ug/l	0.5	5
1,2,4-Trimethylbenzene	655	PBN-8912B	4/13/2023	1	0.13	0.1	0.2	ug/l	96	480
2,4-Dinitrotoluene	655	PBN-8912B	4/13/2023	1	0.076	0.008	0.05	ug/l	0.005	0.05
2,5-Dinitrotoluene	655	PBN-8912B	4/13/2023	1	0.054	0.005	0.05	ug/l		
3,5-Dinitrotoluene	655	PBN-8912B	4/13/2023	1	0.046	0.005	0.05	ug/l		
Benzene	655	PBN-8912B	4/13/2023	1	0.17	0.1	0.2	ug/l	0.5	5
Carbon tetrachloride	655	PBN-8912B	4/13/2023	1	0.34	0.1	0.2	ug/l	0.5	5
Ethylbenzene	655	PBN-8912B	4/13/2023	1	0.16	0.1	0.2	ug/l	140	700
m & p-Xylene	655	PBN-8912B	4/13/2023	1	0.54	0.2	0.4	ug/l	400	2000
o-Xylene	655	PBN-8912B	4/13/2023	1	0.35	0.1	0.2	ug/l	400	2000
Tetrachloroethene	655	PBN-8912B	4/13/2023	1	0.15	0.1	0.2	ug/l	0.5	5
Toluene	655	PBN-8912B	4/13/2023	1	3.9	0.1	0.2	ug/l	160	800
Total Dinitrotoluenes	655	PBN-8912B	4/13/2023	1	0.176	0.008	0.05	ug/l	0.005	0.05
Trichloroethene	655	PBN-8912B	4/13/2023	1	0.22	0.1	0.2	ug/l	0.5	5
Chloroform	665	PBN-9112C	4/13/2023	1	0.14	0.1	0.2	ug/l	0.6	6
1,1,1-Trichloroethane	668	PBN-9301B	4/13/2023	1	0.13	0.1	0.2	ug/l	40	200
Carbon tetrachloride	668	PBN-9301B	4/13/2023	1	2.5	0.1	0.2	ug/l	0.5	5
Chloroform	668	PBN-9301B	4/13/2023	1	0.37	0.1	0.2	ug/l	0.6	6
1,1,1-Trichloroethane	669	PBN-9301C	4/13/2023	1	0.43	0.1	0.2	ug/l	40	200
Bromodichloromethane	669	PBN-9301C	4/13/2023	1	0.2	0.1	0.2	ug/l	0.06	0.6
Carbon tetrachloride	669	PBN-9301C	4/13/2023	1	0.74	0.1	0.2	ug/l	0.5	5
Chloroform	669	PBN-9301C	4/13/2023	1	1.7	0.1	0.2	ug/l	0.6	6
1,1,1-Trichloroethane	673	PBN-9303B	4/12/2023	1	0.26	0.1	0.2	ug/l	40	200
Carbon tetrachloride	673	PBN-9303B	4/12/2023	1	3.2	0.1	0.2	ug/l	0.5	5
Chloroform	673	PBN-9303B	4/12/2023	1	0.53	0.1	0.2	ug/l	0.6	6
1,1,1-Trichloroethane	674	PBN-9303C	4/12/2023	1	0.93	0.1	0.2	ug/l	40	200
1,1-Dichloroethene	674	PBN-9303C	4/12/2023	1	0.11	0.1	0.2	ug/l	0.7	7
Carbon tetrachloride	674	PBN-9303C	4/12/2023	1	1.4	0.1	0.2	ug/l	0.5	5
Chloroform	674	PBN-9303C	4/12/2023	1	0.78	0.1	0.2	ug/l	0.6	6
1,1-Dichloroethane	675	PBN-9303D	4/12/2023	1	0.8	0.1	0.2	ug/l	85	850
1,1-Dichloroethene	675	PBN-9303D	4/12/2023	1	0.14	0.1	0.2	ug/l	0.7	7
2,6-Dinitrotoluene	675	PBN-9303D	4/12/2023	1	0.023	0.005	0.05	ug/l	0.005	0.05
Ethyl ether	675	PBN-9303D	4/12/2023	1	34	0.5	1	ug/l	100	1000
Total Dinitrotoluenes	675	PBN-9303D	4/12/2023	1	0.023	0.008	0.05	ug/l	0.005	0.05
1,1,1-Trichloroethane	770	PBN-1302A	4/12/2023	1	0.22	0.1	0.2	ug/l	40	200
Carbon tetrachloride	770	PBN-1302A	4/12/2023	1	3.6	0.1	0.2	ug/l	0.5	5
Chloroform	770	PBN-1302A	4/12/2023	1	0.4	0.1	0.2	ug/l	0.6	6
1,1,1-Trichloroethane	771	PBN-1302B	4/12/2023	2	0.23	0.1	0.2	ug/l	40	200
1,1,1-Trichloroethane	771	PBN-1302B	4/12/2023	1	0.21	0.1	0.2	ug/l	40	200
Carbon tetrachloride	771	PBN-1302B	4/12/2023	2	3.7	0.1	0.2	ug/l	0.5	5
Carbon tetrachloride	771	PBN-1302B	4/12/2023	1	3.5	0.1	0.2	ug/l	0.5	5
Chloroform	771	PBN-1302B	4/12/2023	1	0.44	0.1	0.2	ug/l	0.6	6
Chloroform	771	PBN-1302B	4/12/2023	2	0.47	0.1	0.2	ug/l	0.6	6
Trichloroethene	771	PBN-1302B	4/12/2023	2	0.1	0.1	0.2	ug/l	0.5	5
1,1,1-Trichloroethane	772	PBN-1302C	4/12/2023	1	1	0.1	0.2	ug/l	40	200
1,1-Dichloroethene	772	PBN-1302C	4/12/2023	1	0.14	0.1	0.2	ug/l	0.7	7
Carbon tetrachloride	772	PBN-1302C	4/12/2023	1	2.4	0.1	0.2	ug/l	0.5	5
Chloroform	772	PBN-1302C	4/12/2023	1	0.95	0.1	0.2	ug/l	0.6	6

Parameter Name	Well	Well Name	Date	Dup	Result	LOD	LOQ	Units	PAL	ES
1,1,1-Trichloroethane	774	PBN-1303A	4/11/2023	1	0.43	0.1	0.2	ug/l	40	200
Carbon tetrachloride	774	PBN-1303A	4/11/2023	1	1.9	0.1	0.2	ug/l	0.5	5
Chloroform	774	PBN-1303A	4/11/2023	1	0.28	0.1	0.2	ug/l	0.6	6
1,1,1-Trichloroethane	775	PBN-1303B	4/11/2023	1	0.39	0.1	0.2	ug/l	40	200
Carbon tetrachloride	775	PBN-1303B	4/11/2023	1	2	0.1	0.2	ug/l	0.5	5
Chloroform	775	PBN-1303B	4/11/2023	1	0.3	0.1	0.2	ug/l	0.6	6
1,1,1-Trichloroethane	776	PBN-1303C	4/26/2023	1	0.32	0.1	0.2	ug/l	40	200
2,5-Dinitrotoluene	776	PBN-1303C	4/26/2023	1	0.059	0.0049	0.049	ug/l		
Carbon tetrachloride	776	PBN-1303C	4/26/2023	1	0.77	0.1	0.2	ug/l	0.5	5
Chloroform	776	PBN-1303C	4/26/2023	1	0.37	0.1	0.2	ug/l	0.6	6
Total Dinitrotoluenes	776	PBN-1303C	4/26/2023	1	0.059	0.0078	0.049	ug/l	0.005	0.05
1,1-Dichloroethane	777	PBN-1303D	4/11/2023	1	0.41	0.1	0.2	ug/l	85	850
Ethyl ether	777	PBN-1303D	4/11/2023	1	0.22	0.1	0.2	ug/l	100	1000
1,1,1-Trichloroethane	778	PBN-1304A	4/11/2023	1	0.21	0.1	0.2	ug/l	40	200
Carbon tetrachloride	778	PBN-1304A	4/11/2023	1	0.36	0.1	0.2	ug/l	0.5	5
Chloroform	778	PBN-1304A	4/11/2023	1	0.13	0.1	0.2	ug/l	0.6	6
1,1,1-Trichloroethane	779	PBN-1304B	4/11/2023	1	0.37	0.1	0.2	ug/l	40	200
Carbon tetrachloride	779	PBN-1304B	4/11/2023	1	0.77	0.1	0.2	ug/l	0.5	5
Chloroform	779	PBN-1304B	4/11/2023	1	0.28	0.1	0.2	ug/l	0.6	6
1,1,1-Trichloroethane	780	PBN-1304C	4/11/2023	1	0.43	0.1	0.2	ug/l	40	200
Carbon tetrachloride	780	PBN-1304C	4/11/2023	1	0.83	0.1	0.2	ug/l	0.5	5
Chloroform	780	PBN-1304C	4/11/2023	1	0.24	0.1	0.2	ug/l	0.6	6
1,1-Dichloroethane	781	PBN-1304D	4/11/2023	1	0.23	0.1	0.2	ug/l	85	850
2,3-Dinitrotoluene	782	PBN-1401A	4/26/2023	1	0.34	0.006	0.05	ug/l		
2,4-Dinitrotoluene	782	PBN-1401A	4/26/2023	1	0.12	0.008	0.05	ug/l	0.005	0.05
2,5-Dinitrotoluene	782	PBN-1401A	4/26/2023	1	0.068	0.005	0.05	ug/l		
2,6-Dinitrotoluene	782	PBN-1401A	4/26/2023	1	0.096	0.005	0.05	ug/l	0.005	0.05
3,4-Dinitrotoluene	782	PBN-1401A	4/26/2023	1	0.22	0.005	0.05	ug/l		
3,5-Dinitrotoluene	782	PBN-1401A	4/26/2023	1	0.11	0.005	0.05	ug/l		
Carbon tetrachloride	782	PBN-1401A	4/26/2023	1	0.11	0.1	0.2	ug/l	0.5	5
Total Dinitrotoluenes	782	PBN-1401A	4/26/2023	1	0.954	0.008	0.05	ug/l	0.005	0.05
Trichloroethene	782	PBN-1401A	4/26/2023	1	0.16	0.1	0.2	ug/l	0.5	5
2,3-Dinitrotoluene	783	PBN-1401B	4/26/2023	1	0.17	0.0059	0.049	ug/l		
2,3-Dinitrotoluene	783	PBN-1401B	4/26/2023	2	0.24	0.006	0.05	ug/l		
2,4-Dinitrotoluene	783	PBN-1401B	4/26/2023	1	0.064	0.0078	0.049	ug/l	0.005	0.05
2,4-Dinitrotoluene	783	PBN-1401B	4/26/2023	2	0.065	0.008	0.05	ug/l	0.005	0.05
2,5-Dinitrotoluene	783	PBN-1401B	4/26/2023	2	0.053	0.005	0.05	ug/l		
2,5-Dinitrotoluene	783	PBN-1401B	4/26/2023	1	0.059	0.0049	0.049	ug/l		
2,6-Dinitrotoluene	783	PBN-1401B	4/26/2023	2	0.073	0.005	0.05	ug/l	0.005	0.05
2,6-Dinitrotoluene	783	PBN-1401B	4/26/2023	1	0.08	0.0049	0.049	ug/l	0.005	0.05
3,4-Dinitrotoluene	783	PBN-1401B	4/26/2023	2	0.08	0.005	0.05	ug/l		
3,4-Dinitrotoluene	783	PBN-1401B	4/26/2023	1	0.085	0.0049	0.049	ug/l		
3,5-Dinitrotoluene	783	PBN-1401B	4/26/2023	2	0.056	0.005	0.05	ug/l		
3,5-Dinitrotoluene	783	PBN-1401B	4/26/2023	1	0.055	0.0049	0.049	ug/l		
Total Dinitrotoluenes	783	PBN-1401B	4/26/2023	1	0.513	0.0078	0.049	ug/l	0.005	0.05
Total Dinitrotoluenes	783	PBN-1401B	4/26/2023	2	0.567	0.008	0.05	ug/l	0.005	0.05
Trichloroethene	783	PBN-1401B	4/26/2023	1	0.12	0.1	0.2	ug/l	0.5	5
Trichloroethene	783	PBN-1401B	4/26/2023	2	0.13	0.1	0.2	ug/l	0.5	5
2,3-Dinitrotoluene	784	PBN-1401C	4/26/2023	1	0.25	0.006	0.05	ug/l		
2,4-Dinitrotoluene	784	PBN-1401C	4/26/2023	1	0.066	0.008	0.05	ug/l	0.005	0.05
2,5-Dinitrotoluene	784	PBN-1401C	4/26/2023	1	0.054	0.005	0.05	ug/l		
2,6-Dinitrotoluene	784	PBN-1401C	4/26/2023	1	0.075	0.005	0.05	ug/l	0.005	0.05
3,4-Dinitrotoluene	784	PBN-1401C	4/26/2023	1	0.072	0.005	0.05	ug/l		
3,5-Dinitrotoluene	784	PBN-1401C	4/26/2023	1	0.056	0.005	0.05	ug/l		
Total Dinitrotoluenes	784	PBN-1401C	4/26/2023	1	0.573	0.008	0.05	ug/l	0.005	0.05
1,1,1-Trichloroethane	791	PBN-1404B	4/13/2023	1	0.22	0.1	0.2	ug/l	40	200
Carbon tetrachloride	791	PBN-1404B	4/13/2023	1	3	0.1	0.2	ug/l	0.5	5

Parameter Name	Well	Well Name	Date	Dup	Result	LOD	LOQ	Units	PAL	ES
Chloroform	791	PBN-1404B	4/13/2023	1	0.54	0.1	0.2	ug/l	0.6	6
Trichloroethene	791	PBN-1404B	4/13/2023	1	0.38	0.1	0.2	ug/l	0.5	5
1,1,1-Trichloroethane	792	PBN-1404C	4/13/2023	1	0.12	0.1	0.2	ug/l	40	200
2,6-Dinitrotoluene	792	PBN-1404C	4/13/2023	1	0.024	0.0051	0.051	ug/l	0.005	0.05
Bromodichloromethane	792	PBN-1404C	4/13/2023	1	0.14	0.1	0.2	ug/l	0.06	0.6
Carbon tetrachloride	792	PBN-1404C	4/13/2023	1	0.38	0.1	0.2	ug/l	0.5	5
Chloroform	792	PBN-1404C	4/13/2023	1	1.1	0.1	0.2	ug/l	0.6	6
Total Dinitrotoluenes	792	PBN-1404C	4/13/2023	1	0.024	0.0081	0.051	ug/l	0.005	0.05
Ethyl ether	793	PBN-1404D	4/13/2023	2	79	1	2	ug/l	100	1000
Ethyl ether	793	PBN-1404D	4/13/2023	1	80	1	2	ug/l	100	1000
1,1,1-Trichloroethane	795	PBN-8902BR	4/26/2023	1	0.16	0.1	0.2	ug/l	40	200
Carbon tetrachloride	795	PBN-8902BR	4/26/2023	1	2.3	0.1	0.2	ug/l	0.5	5
Chloroform	795	PBN-8902BR	4/26/2023	1	0.22	0.1	0.2	ug/l	0.6	6
Trichloroethene	795	PBN-8902BR	4/26/2023	1	0.65	0.1	0.2	ug/l	0.5	5

State of Wisconsin
Department of Natural Resources

Environmental Monitoring Data Certification

Form 4400-231(R 1/04)

Notice: Personally identifiable information collected will be used for program administration and enforcement purposes. The Department may also provide this information to requesters as required under Wisconsin's Open Records law, ss. 19.31 to 19.39, Wis. Stats.
When submitting monitoring data, the owner or operator of the facility, practice or activity is required to notify the Department in writing that a groundwater standard or an explosive gas level has been attained or exceeded, as specified in ss. NR 140.24(1)(a); NR 140.26(1)(a); NR 507.30NR 635.14(9)(a); NR 635.18(20) and NR 507.30, Wis. Adm. Code. Failure to report may result in fines, forfeitures or other penalties resulting from enforcement under ss. 289.97, 291.97 or 299.95, Wis. Stats.

Instructions:

- **Prepare one form for each license or monitoring ID.**
- **Please type or print legibly.**
- Attach a notification of any values that attain or exceed groundwater standards (that is, preventive action limits, enforcement standards or alternative concentration limits). The notification must include a preliminary analysis of the cause and significance of each value.
- Attach a notification of any gas values that attain or exceed explosive gas levels.
- Send the original signed form, any notification, and Electronic Data Deliverable [EDD] to: GEMS Data Submittal Contact - WA/5
  Bureau of Waste Management
  Wisconsin Department of Natural Resources
  101 South Webster Street
  Madison WI 53707-7921

Monitoring Data Submittal Information

Name of entity submitting data (laboratory, consultant, facility owner):

SpecPro Professional Services - Badger Army Ammunition Plant

Contact for questions about data formatting. Include data preparer's name, telephone number and E-mail address:

Name: Joel Janssen Phone: (608) 438-1110

E-mail: Joel.Janssen@SpecProSvcs.com

Facility name:	License # / Monitoring ID	Facility ID [FID]	Actual sampling dates (e.g., July 2-6, 2003)
BAAP - Deterrent Burning Grounds	03037	157065260	4/11 & 4/24/23

The enclosed results are for sampling required in the month(s) of: (e.g., June 2003)

April 2023

Type of Data Submitted (Check all that apply)

- [x] Groundwater monitoring data from monitoring wells
- [ ] Groundwater monitoring data from private water supply wells
- [ ] Leachate monitoring data
- [ ] Gas monitoring data
- [ ] Air monitoring data
- [ ] Other (specify) _____

Notification attached?

- [ ] No. No groundwater standards or explosive gas limits were exceeded.
- [x] Yes, a notification of values exceeding a groundwater standard is attached. It includes a list of monitoring points, dates, sample values, groundwater standard and preliminary analysis of the cause and significance of any concentration.
- [ ] Yes, a notification of values exceeding an explosive gas limit is attached. It includes the monitoring points, dates, sample values and explosive gas limits.

Certification

To the best of my knowledge, the information reported and statements made on this data submittal and attachments are true and correct. Furthermore, I have attached complete notification of any sampling values meeting or exceeding groundwater standards or explosive gas levels, and a preliminary analysis of the cause and significance of concentrations exceeding groundwater standards.

Joel Janssen	Project Manager	(608) 438-1110
Facility Representative Name (Print)	Title	(Area Code) Telephone No.

Joel Janssen 6/15/23

Signature Date

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Case Narrative
Groundwater Monitoring
License Number 3037
Deterrent Burning Grounds
April 2023
Badger Army Ammunition Plant

Groundwater is currently being monitored by the facility because of past production activities. Twelve (12) wells were sampled to assist with determining the degree and lateral extent of dinitrotoluene (DNT) in the Deterrent Burning Ground Plume.

2,6-DNT exceeded the Enforcement Standard (ES) in DBM-8201 (301). Total DNT exceeded the ES in DBM-8201 (301), DBM-8202 (302), DBN-1001B (472), and DBN-1002C (476).

2,6-DNT exceeded the Preventive Action Limit (PAL) in DBM-8202 (302), DBN-1001B (472), and DBN-1002C (476).

Volatile organic compounds (VOCs) analysis was performed by CT Laboratories (CT Lab) using method EPA 8260C.

DNT analysis was performed by CT Lab using method SW 8270D SIM. The following DNT isomers were reported: 2,3-DNT, 2,4-DNT, 2,5-DNT, 2,6-DNT, 3,4-DNT, and 3,5-DNT.

Sulfate analyses were performed by CT Lab using method SW 846 9056A.

Badger Army Ammunition Plant

SpecPro Professional Services, LLC

GROUNDWATER MONITORING EXCEEDANCE REPORT

April 2023 Report Date: 6/15/2023

Parameter Name	Lic No.	Well No.	Well Name	Date	Dup	Result	Units	PAL	ES
2,4-Dinitrotoluene	3037	301	DBM-8201	4/24/2023	1	0.088	ug/l	0.005	0.05
2,6-Dinitrotoluene	3037	301	DBM-8201	4/24/2023	1	0.11	ug/l	0.005	0.05
Total Dinitrotoluenes	3037	301	DBM-8201	4/24/2023	1	2.898	ug/l	0.005	0.05
2,6-Dinitrotoluene	3037	302	DBM-8202	4/24/2023	1	0.039	ug/l	0.005	0.05
Total Dinitrotoluenes	3037	302	DBM-8202	4/24/2023	1	0.343	ug/l	0.005	0.05
2,6-Dinitrotoluene	3037	472	DBN-1001B	4/11/2023	1	0.021	ug/l	0.005	0.05
2,6-Dinitrotoluene	3037	472	DBN-1001B	4/11/2023	2	0.021	ug/l	0.005	0.05
Total Dinitrotoluenes	3037	472	DBN-1001B	4/11/2023	1	0.285	ug/l	0.005	0.05
Total Dinitrotoluenes	3037	472	DBN-1001B	4/11/2023	2	0.298	ug/l	0.005	0.05
2,6-Dinitrotoluene	3037	476	DBN-1002C	4/24/2023	1	0.029	ug/l	0.005	0.05
Total Dinitrotoluenes	3037	476	DBN-1002C	4/24/2023	1	0.743	ug/l	0.005	0.05

Badger Army Ammunition Plant

SpecPro Professional Services, LLC

April 2023 GROUNDWATER MONITORING ALL HITS REPORT

License No: 3037 Report Date: 6/15/2023

Parameter Name	Well	Well Name	Date	Dup	Result	LOD	LOQ	Units	PAL	ES
1,1,1-Trichloroethane	301	DBM-8201	4/24/2023	1	0.19	0.1	0.2	ug/l	40	200
2,3-Dinitrotoluene	301	DBM-8201	4/24/2023	1	1.6	0.006	0.05	ug/l		
2,4-Dinitrotoluene	301	DBM-8201	4/24/2023	1	0.088	0.008	0.05	ug/l	0.005	0.05
2,6-Dinitrotoluene	301	DBM-8201	4/24/2023	1	0.11	0.005	0.05	ug/l	0.005	0.05
3,4-Dinitrotoluene	301	DBM-8201	4/24/2023	1	0.42	0.005	0.05	ug/l		
3,5-Dinitrotoluene	301	DBM-8201	4/24/2023	1	0.68	0.005	0.05	ug/l		
Sulfate	301	DBM-8201	4/24/2023	1	18	0.8	3	mg/l	125	250
Total Dinitrotoluenes	301	DBM-8201	4/24/2023	1	2.898	0.008	0.05	ug/l	0.005	0.05
1,1,1-Trichloroethane	302	DBM-8202	4/24/2023	1	0.86	0.1	0.2	ug/l	40	200
2,3-Dinitrotoluene	302	DBM-8202	4/24/2023	1	0.16	0.0059	0.05	ug/l		
2,6-Dinitrotoluene	302	DBM-8202	4/24/2023	1	0.039	0.005	0.05	ug/l	0.005	0.05
3,4-Dinitrotoluene	302	DBM-8202	4/24/2023	1	0.062	0.005	0.05	ug/l		
3,5-Dinitrotoluene	302	DBM-8202	4/24/2023	1	0.082	0.005	0.05	ug/l		
Sulfate	302	DBM-8202	4/24/2023	1	27	4	15	mg/l	125	250
Total Dinitrotoluenes	302	DBM-8202	4/24/2023	1	0.343	0.0079	0.05	ug/l	0.005	0.05
1,1,1-Trichloroethane	472	DBN-1001B	4/11/2023	1	1.1	0.1	0.2	ug/l	40	200
1,1,1-Trichloroethane	472	DBN-1001B	4/11/2023	2	1.1	0.1	0.2	ug/l	40	200
2,3-Dinitrotoluene	472	DBN-1001B	4/11/2023	2	0.097	0.0057	0.048	ug/l		
2,3-Dinitrotoluene	472	DBN-1001B	4/11/2023	1	0.094	0.0059	0.05	ug/l		
2,6-Dinitrotoluene	472	DBN-1001B	4/11/2023	2	0.021	0.0048	0.048	ug/l	0.005	0.05
2,6-Dinitrotoluene	472	DBN-1001B	4/11/2023	1	0.021	0.005	0.05	ug/l	0.005	0.05
3,4-Dinitrotoluene	472	DBN-1001B	4/11/2023	2	0.18	0.0048	0.048	ug/l		
3,4-Dinitrotoluene	472	DBN-1001B	4/11/2023	1	0.17	0.005	0.05	ug/l		
Total Dinitrotoluenes	472	DBN-1001B	4/11/2023	1	0.285	0.0079	0.05	ug/l	0.005	0.05
Total Dinitrotoluenes	472	DBN-1001B	4/11/2023	2	0.298	0.0076	0.048	ug/l	0.005	0.05
2,3-Dinitrotoluene	476	DBN-1002C	4/24/2023	1	0.31	0.0059	0.049	ug/l		
2,6-Dinitrotoluene	476	DBN-1002C	4/24/2023	1	0.029	0.0049	0.049	ug/l	0.005	0.05
3,4-Dinitrotoluene	476	DBN-1002C	4/24/2023	1	0.34	0.0049	0.049	ug/l		
3,5-Dinitrotoluene	476	DBN-1002C	4/24/2023	1	0.064	0.0049	0.049	ug/l		
Sulfate	476	DBN-1002C	4/24/2023	1	16	0.8	3	mg/l	125	250
Total Dinitrotoluenes	476	DBN-1002C	4/24/2023	1	0.743	0.0078	0.049	ug/l	0.005	0.05
Sulfate	477	DBN-1002E	4/24/2023	1	18	0.8	3	mg/l	125	250

State of Wisconsin
Department of Natural Resources

Environmental Monitoring Data Certification

Form 4400-231(R 1/04)

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When submitting monitoring data, the owner or operator of the facility, practice or activity is required to notify the Department in writing that a groundwater standard or an explosive gas level has been attained or exceeded, as specified in ss. NR 140.24(1)(a); NR 140.26(1)(a); NR 507.30NR 635.14(9)(a); NR 635.18(20) and NR 507.30, Wis. Adm. Code. Failure to report may result in fines, forfeitures or other penalties resulting from enforcement under ss. 289.97, 291.97 or 299.95, Wis. Stats.

Instructions:

- **Prepare one form for each license or monitoring ID.**
- **Please type or print legibly.**
- Attach a notification of any values that attain or exceed groundwater standards (that is, preventive action limits, enforcement standards or alternative concentration limits). The notification must include a preliminary analysis of the cause and significance of each value.
- Attach a notification of any gas values that attain or exceed explosive gas levels.
- Send the original signed form, any notification, and Electronic Data Deliverable [EDD] to: GEMS Data Submittal Contact - WA/5
  Bureau of Waste Management
  Wisconsin Department of Natural Resources
  101 South Webster Street
  Madison WI 53707-7921

Monitoring Data Submittal Information

Name of entity submitting data (laboratory, consultant, facility owner):

SpecPro Professional Services - Badger Army Ammunition Plant

Contact for questions about data formatting. Include data preparer's name, telephone number and E-mail address:

Name: Joel Janssen Phone: (608) 438-1110

E-mail: Joel.Janssen@SpecProSvcs.com

Facility name:	License # / Monitoring ID	Facility ID [FID]	Actual sampling dates (e.g., July 2-6, 2003)
BAAP - Southeast Boundary	03038	157005530	4/10/23

The enclosed results are for sampling required in the month(s) of: (e.g., June 2003)

April 2023

Type of Data Submitted (Check all that apply)

- [x] Groundwater monitoring data from monitoring wells
- [ ] Groundwater monitoring data from private water supply wells
- [ ] Leachate monitoring data
- [ ] Gas monitoring data
- [ ] Air monitoring data
- [ ] Other (specify) _____

Notification attached?

- [x] No. No groundwater standards or explosive gas limits were exceeded.
- [ ] Yes, a notification of values exceeding a groundwater standard is attached. It includes a list of monitoring points, dates, sample values, groundwater standard and preliminary analysis of the cause and significance of any concentration.
- [ ] Yes, a notification of values exceeding an explosive gas limit is attached. It includes the monitoring points, dates, sample values and explosive gas limits.

Certification

To the best of my knowledge, the information reported and statements made on this data submittal and attachments are true and correct. Furthermore, I have attached complete notification of any sampling values meeting or exceeding groundwater standards or explosive gas levels, and a preliminary analysis of the cause and significance of concentrations exceeding groundwater standards.

Joel Janssen	Project Manager	(608) 438-1110
Facility Representative Name (Print)	Title	(Area Code) Telephone No.

Joel Janssen — 6/15/23

Signature — Date

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Case Narrative
Groundwater Monitoring
License Number 3038
Southeast Boundary
April 2023
Badger Army Ammunition Plant

Groundwater is currently being monitored by the facility because of past production activities. One well, S1121 (755), was sampled to assist with determining the degree and lateral extent of dinitrotoluene (DNT) in the Deterrent Burning Ground Plume.

No compounds were detected in S1121.

Volatile organic compounds (VOCs) analysis was performed by CT Laboratories (CT Lab) using method EPA 8260C.

DNT analysis was performed by CT Lab using method SW 8270D SIM. The following DNT isomers were reported: 2,3-DNT, 2,4-DNT, 2,5-DNT, 2,6-DNT, 3,4-DNT, and 3,5-DNT.

State of Wisconsin
Department of Natural Resources

Environmental Monitoring Data Certification

Form 4400-231(R 1/04)

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When submitting monitoring data, the owner or operator of the facility, practice or activity is required to notify the Department in writing that a groundwater standard or an explosive gas level has been attained or exceeded, as specified in ss. NR 140.24(1)(a); NR 140.26(1)(a); NR 507.30NR 635.14(9)(a); NR 635.18(20) and NR 507.30, Wis. Adm. Code. Failure to report may result in fines, forfeitures or other penalties resulting from enforcement under ss. 289.97, 291.97 or 299.95, Wis. Stats.

Instructions:

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- **Please type or print legibly.**
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- Attach a notification of any gas values that attain or exceed explosive gas levels.
- Send the original signed form, any notification, and Electronic Data Deliverable [EDD] to: GEMS Data Submittal Contact - WA/5
  Bureau of Waste Management
  Wisconsin Department of Natural Resources
  101 South Webster Street
  Madison WI 53707-7921

Monitoring Data Submittal Information

Name of entity submitting data (laboratory, consultant, facility owner):

SpecPro Professional Services - Badger Army Ammunition Plant

Contact for questions about data formatting. Include data preparer's name, telephone number and E-mail address:

Name: Joel Janssen Phone: (608) 438-1110

E-mail: Joel.Janssen@SpecProSvcs.com

Facility name:	License # / Monitoring ID	Facility ID [FID]	Actual sampling dates (e.g., July 2-6, 2003)
BAAP - Off-Site Plume Wells	03485 & 03493	157005530	4/27/23

The enclosed results are for sampling required in the month(s) of: (e.g., June 2003)

April 2023

Type of Data Submitted (Check all that apply)

- [x] Groundwater monitoring data from monitoring wells
- [ ] Groundwater monitoring data from private water supply wells
- [ ] Leachate monitoring data
- [ ] Gas monitoring data
- [ ] Air monitoring data
- [ ] Other (specify)

Notification attached?

- [ ] No. No groundwater standards or explosive gas limits were exceeded.
- [x] Yes, a notification of values exceeding a groundwater standard is attached. It includes a list of monitoring points, dates, sample values, groundwater standard and preliminary analysis of the cause and significance of any concentration.
- [ ] Yes, a notification of values exceeding an explosive gas limit is attached. It includes the monitoring points, dates, sample values and explosive gas limits.

Certification

To the best of my knowledge, the information reported and statements made on this data submittal and attachments are true and correct. Furthermore, I have attached complete notification of any sampling values meeting or exceeding groundwater standards or explosive gas levels, and a preliminary analysis of the cause and significance of concentrations exceeding groundwater standards.

Joel Janssen	Project Manager	(608) 438-1110
Facility Representative Name (Print)	Title	(Area Code) Telephone No.

Joel Janssen 6/15/23

Signature Date

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EDD format(s): [ ] **Diskette** [ ] **CD (initial submittal and follow-up)** [ ] **E-mail (follow-up only)** [ ] **Other**

Case Narrative
Groundwater Monitoring
License Number 3485 & 3493
Off-Site Plume Wells
April 2023
Badger Army Ammunition Plant

Groundwater is currently being monitored by the facility because of past production activities. Contamination from the Propellant Burning Ground (PBG) impacts groundwater quality in wells associated with these licenses. Eight (8) wells were sampled to assist with determining the degree and lateral extent of dinitrotoluene (DNT) and volatile organic compounds (VOCs) in the PBG Plume.

2,6-DNT and total DNT exceeded the Preventive Action Limit (PAL) in PBN-9101C (561).

Carbon tetrachloride exceeded the Enforcement Standard (ES) in PBN-9101C (561) and PBM-9001D (981). Carbon tetrachloride exceeded the PAL in SWN-9103B (571), SWN-9103D (573), SWN-9104C (575), and SWN-9104D (576).

Chloroform exceeded the PAL in PBN-9101C (561).

Ethyl ether exceeded the ES in SWN-9103D (573). This is the first time ethyl ether has exceeded the ES in SWN-9103D.

Trichloroethene exceeded the PAL in PBN-9101C (561) and PBM-9001D (981).

VOC analysis was performed by CT Laboratories (CT Lab) using method EPA 8260C.

DNT analysis was also performed by CT Lab using method SW 8270D SIM. The following DNT isomers were reported: 2,3-DNT, 2,4-DNT, 2,5-DNT, 2,6-DNT, 3,4-DNT, and 3,5-DNT.

Badger Army Ammunition Plant

SpecPro Professional Services, LLC

GROUNDWATER MONITORING EXCEEDANCE REPORT

April 2023 Report Date: 6/15/2023

Parameter Name	Lic No.	Well No.	Well Name	Date	Dup	Result	Units	PAL	ES
Carbon tetrachloride	3485	981	PBM-9001D	4/27/2023	1	8.6	ug/l	0.5	5
Trichloroethene	3485	981	PBM-9001D	4/27/2023	1	2	ug/l	0.5	5

Badger Army Ammunition Plant

SpecPro Professional Services, LLC

April 2023 GROUNDWATER MONITORING ALL HITS REPORT

License No: 3485 Report Date: 6/15/2023

Parameter Name	Well	Well Name	Date	Dup	Result	LOD	LOQ	Units	PAL	ES
1,1,1-Trichloroethane	981	PBM-9001D	4/27/2023	1	0.19	0.1	0.2	ug/l	40	200
Carbon tetrachloride	981	PBM-9001D	4/27/2023	1	8.6	0.1	0.2	ug/l	0.5	5
Chloroform	981	PBM-9001D	4/27/2023	1	0.51	0.1	0.2	ug/l	0.6	6
Toluene	981	PBM-9001D	4/27/2023	1	0.12	0.1	0.2	ug/l	160	800
Trichloroethene	981	PBM-9001D	4/27/2023	1	2	0.1	0.2	ug/l	0.5	5

Badger Army Ammunition Plant

SpecPro Professional Services, LLC

GROUNDWATER MONITORING EXCEEDANCE REPORT

April 2023 Report Date: 6/15/2023

Parameter Name	Lic No.	Well No.	Well Name	Date	Dup	Result	Units	PAL	ES
2,6-Dinitrotoluene	3493	561	PBN-9101C	4/27/2023	1	0.038	ug/l	0.005	0.05
Carbon tetrachloride	3493	561	PBN-9101C	4/27/2023	1	14	ug/l	0.5	5
Chloroform	3493	561	PBN-9101C	4/27/2023	1	0.88	ug/l	0.6	6
Total Dinitrotoluenes	3493	561	PBN-9101C	4/27/2023	1	0.038	ug/l	0.005	0.05
Trichloroethene	3493	561	PBN-9101C	4/27/2023	1	1.3	ug/l	0.5	5
Carbon tetrachloride	3493	571	SWN-9103B	4/27/2023	1	1.2	ug/l	0.5	5
Carbon tetrachloride	3493	573	SWN-9103D	4/27/2023	1	0.69	ug/l	0.5	5
Ethyl ether	3493	573	SWN-9103D	4/27/2023	1	1200	ug/l	100	1000
Carbon tetrachloride	3493	575	SWN-9104C	4/27/2023	1	4.1	ug/l	0.5	5
Carbon tetrachloride	3493	576	SWN-9104D	4/27/2023	1	3.1	ug/l	0.5	5

Badger Army Ammunition Plant

SpecPro Professional Services, LLC

April 2023 GROUNDWATER MONITORING ALL HITS REPORT

License No: 3493 Report Date: 6/15/2023

Parameter Name	Well	Well Name	Date	Dup	Result	LOD	LOQ	Units	PAL	ES
2,6-Dinitrotoluene	561	PBN-9101C	4/27/2023	1	0.038	0.0049	0.049	ug/l	0.005	0.05
Carbon tetrachloride	561	PBN-9101C	4/27/2023	1	14	0.2	0.4	ug/l	0.5	5
Chloroform	561	PBN-9101C	4/27/2023	1	0.88	0.1	0.2	ug/l	0.6	6
Total Dinitrotoluenes	561	PBN-9101C	4/27/2023	1	0.038	0.0078	0.049	ug/l	0.005	0.05
Trichloroethene	561	PBN-9101C	4/27/2023	1	1.3	0.1	0.2	ug/l	0.5	5
1,1,1-Trichloroethane	571	SWN-9103B	4/27/2023	1	0.18	0.1	0.2	ug/l	40	200
Carbon tetrachloride	571	SWN-9103B	4/27/2023	1	1.2	0.1	0.2	ug/l	0.5	5
Trichloroethene	571	SWN-9103B	4/27/2023	1	0.16	0.1	0.2	ug/l	0.5	5
Carbon tetrachloride	572	SWN-9103C	4/27/2023	1	0.25	0.1	0.2	ug/l	0.5	5
Carbon tetrachloride	573	SWN-9103D	4/27/2023	1	0.69	0.1	0.2	ug/l	0.5	5
Chloroform	573	SWN-9103D	4/27/2023	1	0.29	0.1	0.2	ug/l	0.6	6
Ethyl ether	573	SWN-9103D	4/27/2023	1	1200	20	40	ug/l	100	1000
Trichloroethene	573	SWN-9103D	4/27/2023	1	0.17	0.1	0.2	ug/l	0.5	5
Ethyl ether	574	SWN-9103E	4/27/2023	1	14	0.1	0.2	ug/l	100	1000
1,1,1-Trichloroethane	575	SWN-9104C	4/27/2023	1	0.33	0.1	0.2	ug/l	40	200
Carbon tetrachloride	575	SWN-9104C	4/27/2023	1	4.1	0.1	0.2	ug/l	0.5	5
Chloroform	575	SWN-9104C	4/27/2023	1	0.51	0.1	0.2	ug/l	0.6	6
1,1,1-Trichloroethane	576	SWN-9104D	4/27/2023	1	0.14	0.1	0.2	ug/l	40	200
Carbon tetrachloride	576	SWN-9104D	4/27/2023	1	3.1	0.1	0.2	ug/l	0.5	5
Chloroform	576	SWN-9104D	4/27/2023	1	0.42	0.1	0.2	ug/l	0.6	6

State of Wisconsin
Department of Natural Resources

Environmental Monitoring Data Certification

Form 4400-231(R 1/04)

Notice: Personally identifiable information collected will be used for program administration and enforcement purposes. The Department may also provide this information to requesters as required under Wisconsin's Open Records law, ss. 19.31 to 19.39, Wis. Stats.
When submitting monitoring data, the owner or operator of the facility, practice or activity is required to notify the Department in writing that a groundwater standard or an explosive gas level has been attained or exceeded, as specified in ss. NR 140.24(1)(a); NR 140.26(1)(a); NR 507.30NR 635.14(9)(a); NR 635.18(20) and NR 507.30, Wis. Adm. Code. Failure to report may result in fines, forfeitures or other penalties resulting from enforcement under ss. 289.97, 291.97 or 299.95, Wis. Stats.

Instructions:

- **Prepare one form for each license or monitoring ID.**
- **Please type or print legibly.**
- Attach a notification of any values that attain or exceed groundwater standards (that is, preventive action limits, enforcement standards or alternative concentration limits). The notification must include a preliminary analysis of the cause and significance of each value.
- Attach a notification of any gas values that attain or exceed explosive gas levels.
- Send the original signed form, any notification, and Electronic Data Deliverable [EDD] to: GEMS Data Submittal Contact - WA/5
  Bureau of Waste Management
  Wisconsin Department of Natural Resources
  101 South Webster Street
  Madison WI 53707-7921

Monitoring Data Submittal Information

Name of entity submitting data (laboratory, consultant, facility owner):

SpecPro Professional Services - Badger Army Ammunition Plant

Contact for questions about data formatting. Include data preparer's name, telephone number and E-mail address:

Name: Joel Janssen Phone: (608) 438-1110

E-mail: Joel.Janssen@SpecProSvcs.com

Facility name:	License # / Monitoring ID	Facility ID [FID]	Actual sampling dates (e.g., July 2-6, 2003)
BAAP - Nitroglycerine Pond/Rocket Paste Area	03487	157005530	4/11/23

The enclosed results are for sampling required in the month(s) of: (e.g., June 2003)

April 2023

Type of Data Submitted (Check all that apply)

- [x] Groundwater monitoring data from monitoring wells
- [ ] Groundwater monitoring data from private water supply wells
- [ ] Leachate monitoring data
- [ ] Gas monitoring data
- [ ] Air monitoring data
- [ ] Other (specify)

Notification attached?

- [ ] No. No groundwater standards or explosive gas limits were exceeded.
- [x] Yes, a notification of values exceeding a groundwater standard is attached. It includes a list of monitoring points, dates, sample values, groundwater standard and preliminary analysis of the cause and significance of any concentration.
- [ ] Yes, a notification of values exceeding an explosive gas limit is attached. It includes the monitoring points, dates, sample values and explosive gas limits.

Certification

To the best of my knowledge, the information reported and statements made on this data submittal and attachments are true and correct. Furthermore, I have attached complete notification of any sampling values meeting or exceeding groundwater standards or explosive gas levels, and a preliminary analysis of the cause and significance of concentrations exceeding groundwater standards.

Joel Janssen	Project Manager	(608) 438-1110
Facility Representative Name (Print)	Title	(Area Code) Telephone No.

Joel Janssen 6/15/23

Signature Date

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Case Narrative
Groundwater Monitoring
License Number 3487
Nitroglycerine Pond/Rocket Paste Area
April 2023
Badger Army Ammunition Plant

Groundwater is currently being monitored by the facility because of past production activities. Three (3) wells were sampled to assist with determining the degree and lateral extent of dinitrotoluene (DNT) in the Nitrocellulose Production Area Plume. No water was present in RIM-1002; therefore, it could not be sampled.

2,6-DNT and Total DNT exceeded the Enforcement Standard (ES) in RIM-0705 (442) and RIN-1001A (480).

2,6-DNT and Total DNT exceeded the Preventive Action Limit (PAL) in S1125 (504).

DNT analysis was performed by CT Laboratories using method SW 8270D SIM. The following DNT isomers were reported: 2,3-DNT, 2,4-DNT, 2,5-DNT, 2,6-DNT, 3,4-DNT, and 3,5-DNT.

Badger Army Ammunition Plant

SpecPro Professional Services, LLC

GROUNDWATER MONITORING EXCEEDANCE REPORT

April 2023 Report Date: 6/15/2023

Parameter Name	Lic No.	Well No.	Well Name	Date	Dup	Result	Units	PAL	ES
2,6-Dinitrotoluene	3487	442	RIM-0705	4/11/2023	1	0.066	ug/l	0.005	0.05
Total Dinitrotoluenes	3487	442	RIM-0705	4/11/2023	1	0.066	ug/l	0.005	0.05
2,6-Dinitrotoluene	3487	480	RIN-1001A	4/11/2023	1	0.055	ug/l	0.005	0.05
Total Dinitrotoluenes	3487	480	RIN-1001A	4/11/2023	1	0.055	ug/l	0.005	0.05
2,6-Dinitrotoluene	3487	504	S1125	4/11/2023	1	0.035	ug/l	0.005	0.05
Total Dinitrotoluenes	3487	504	S1125	4/11/2023	1	0.035	ug/l	0.005	0.05

Badger Army Ammunition Plant

SpecPro Professional Services, LLC

April 2023 GROUNDWATER MONITORING ALL HITS REPORT

License No: 3487 Report Date: 6/15/2023

Parameter Name	Well	Well Name	Date	Dup	Result	LOD	LOQ	Units	PAL	ES
2,6-Dinitrotoluene	442	RIM-0705	4/11/2023	1	0.066	0.005	0.05	ug/l	0.005	0.05
Total Dinitrotoluenes	442	RIM-0705	4/11/2023	1	0.066	0.008	0.05	ug/l	0.005	0.05
2,6-Dinitrotoluene	480	RIN-1001A	4/11/2023	1	0.055	0.0049	0.049	ug/l	0.005	0.05
Total Dinitrotoluenes	480	RIN-1001A	4/11/2023	1	0.055	0.0078	0.049	ug/l	0.005	0.05
2,6-Dinitrotoluene	504	S1125	4/11/2023	1	0.035	0.0051	0.051	ug/l	0.005	0.05
Total Dinitrotoluenes	504	S1125	4/11/2023	1	0.035	0.0082	0.051	ug/l	0.005	0.05

State of Wisconsin
Department of Natural Resources

Environmental Monitoring Data Certification

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Instructions:

- **Prepare one form for each license or monitoring ID.**
- **Please type or print legibly.**
- Attach a notification of any values that attain or exceed groundwater standards (that is, preventive action limits, enforcement standards or alternative concentration limits). The notification must include a preliminary analysis of the cause and significance of each value.
- Attach a notification of any gas values that attain or exceed explosive gas levels.
- Send the original signed form, any notification, and Electronic Data Deliverable [EDD] to: GEMS Data Submittal Contact - WA/5
  Bureau of Waste Management
  Wisconsin Department of Natural Resources
  101 South Webster Street
  Madison WI 53707-7921

Monitoring Data Submittal Information

Name of entity submitting data (laboratory, consultant, facility owner):

SpecPro Professional Services - Badger Army Ammunition Plant

Contact for questions about data formatting. Include data preparer's name, telephone number and E-mail address:

Name: Joel Janssen Phone: (608) 438-1110

E-mail: Joel.Janssen@SpecProSvcs.com

Facility name:	License # / Monitoring ID	Facility ID [FID]	Actual sampling dates (e.g., July 2-6, 2003)
BAAP - Off-Site Residential Wells	03497	157005530	4/25/2023

The enclosed results are for sampling required in the month(s) of: (e.g., June 2003)

April 2023

Type of Data Submitted (Check all that apply)

- ☐ Groundwater monitoring data from monitoring wells
- ☒ Groundwater monitoring data from private water supply wells
- ☐ Leachate monitoring data
- ☐ Gas monitoring data
- ☐ Air monitoring data
- ☐ Other (specify) _____

Notification attached?

- ☒ No. No groundwater standards or explosive gas limits were exceeded.
- ☐ Yes, a notification of values exceeding a groundwater standard is attached. It includes a list of monitoring points, dates, sample values, groundwater standard and preliminary analysis of the cause and significance of any concentration.
- ☐ Yes, a notification of values exceeding an explosive gas limit is attached. It includes the monitoring points, dates, sample values and explosive gas limits.

Certification

To the best of my knowledge, the information reported and statements made on this data submittal and attachments are true and correct. Furthermore, I have attached complete notification of any sampling values meeting or exceeding groundwater standards or explosive gas levels, and a preliminary analysis of the cause and significance of concentrations exceeding groundwater standards.

Joel Janssen	Project Manager	(608) 438-1110
Facility Representative Name (Print)	Title	(Area Code) Telephone No.

Joel Janssen 6/15/23

Signature Date

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EDD format(s): ☐ **Diskette** ☐ **CD (initial submittal and follow-up)** ☐ **E-mail (follow-up only)** ☐ **Other**

Case Narrative
Groundwater Monitoring
License Number 3497
Off-Site Residential Wells
April 2023
Badger Army Ammunition Plant

Groundwater is currently being monitored by the facility because of past production activities. One residential well located in the Central Plume and one residential well located east of the Deterrent Burning Ground Plume were sampled during this round.

No compounds were detected above the Preventive Action Limit (PAL) in either WE-XK342 (435) or Spear (803).

Volatile organic compounds (VOCs) analysis was performed by CT Laboratories (CT Lab) using method EPA 8260C.

DNT analysis was also performed by CT Lab using method SW 8270D SIM. The following DNT isomers were reported: 2,3-DNT, 2,4-DNT, 2,5-DNT, 2,6-DNT, 3,4-DNT, and 3,5-DNT.

Badger Army Ammunition Plant

SpecPro Professional Services, LLC

April 2023 GROUNDWATER MONITORING ALL HITS REPORT

License No: 3497 Report Date: 6/15/2023

Parameter Name	Well	Well Name	Date	Dup	Result	LOD	LOQ	Units	PAL	ES
Chloroform	435	WE-XK342	4/25/2023	1	0.14	0.1	0.2	ug/l	0.6	6
Chloroform	435	WE-XK342	4/25/2023	2	0.12	0.1	0.2	ug/l	0.6	6

State of Wisconsin
Department of Natural Resources

Environmental Monitoring Data Certification

Form 4400-231(R 1/04)

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When submitting monitoring data, the owner or operator of the facility, practice or activity is required to notify the Department in writing that a groundwater standard or an explosive gas level has been attained or exceeded, as specified in ss. NR 140.24(1)(a); NR 140.26(1)(a); NR 507.30NR 635.14(9)(a); NR 635.18(20) and NR 507.30, Wis. Adm. Code. Failure to report may result in fines, forfeitures or other penalties resulting from enforcement under ss. 289.97, 291.97 or 299.95, Wis. Stats.

Instructions:

- **Prepare one form for each license or monitoring ID.**
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- Attach a notification of any gas values that attain or exceed explosive gas levels.
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  Bureau of Waste Management
  Wisconsin Department of Natural Resources
  101 South Webster Street
  Madison WI 53707-7921

Monitoring Data Submittal Information

Name of entity submitting data (laboratory, consultant, facility owner):

SpecPro Professional Services - Badger Army Ammunition Plant

Contact for questions about data formatting. Include data preparer's name, telephone number and E-mail address:

Name: Joel Janssen Phone: (608) 438-1110

E-mail: Joel.Janssen@SpecProSvcs.com

Facility name:	License # / Monitoring ID	Facility ID [FID]	Actual sampling dates (e.g., July 2-6, 2003)
BAAP - Settling Ponds	03499	157005530	4/12 - 4/13/23

The enclosed results are for sampling required in the month(s) of: (e.g., June 2003)

April 2023

Type of Data Submitted (Check all that apply)

- [x] Groundwater monitoring data from monitoring wells
- [ ] Groundwater monitoring data from private water supply wells
- [ ] Leachate monitoring data
- [ ] Gas monitoring data
- [ ] Air monitoring data
- [ ] Other (specify)

Notification attached?

- [ ] No. No groundwater standards or explosive gas limits were exceeded.
- [x] Yes, a notification of values exceeding a groundwater standard is attached. It includes a list of monitoring points, dates, sample values, groundwater standard and preliminary analysis of the cause and significance of any concentration.
- [ ] Yes, a notification of values exceeding an explosive gas limit is attached. It includes the monitoring points, dates, sample values and explosive gas limits.

Certification

To the best of my knowledge, the information reported and statements made on this data submittal and attachments are true and correct. Furthermore, I have attached complete notification of any sampling values meeting or exceeding groundwater standards or explosive gas levels, and a preliminary analysis of the cause and significance of concentrations exceeding groundwater standards.

Joel Janssen	Project Manager	(608) 438-1110
Facility Representative Name (Print)	Title	(Area Code) Telephone No.

Joel Janss — 6/15/23

Signature — Date

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EDD format(s): [ ] **Diskette** [ ] **CD (initial submittal and follow-up)** [ ] **E-mail (follow-up only)** [ ] **Other**

Case Narrative
Groundwater Monitoring
License Number 3499
Settling Ponds
April 2023
Badger Army Ammunition Plant

Groundwater is currently being monitored by the facility because of past production activities. Contamination from the Propellant Burning Ground (PBG) largely impacts groundwater quality in wells associated with this license. Eight (8) wells were sampled to assist with determining the degree and lateral extent of dinitrotoluene (DNT) and volatile organic compounds (VOCs) in the PBG Plume.

Total DNT exceeded the Enforcement Standard (ES) in SPN-8904B (720) and SPN-8904C (721). 2,6-DNT exceeded the Preventive Action Limit (PAL) in SPN-8904B (720) and SPN-8904C (721).

Carbon tetrachloride exceeded the PAL in SPN-8903B (718), SPN-8903C (719), SPN-8904B (720), and SPN-8904C (721).

Ethyl ether exceeded the PAL in SPN-9104D (726).

Trichloroethene exceeded the PAL in SPN-8904C (721).

VOC analysis was performed by CT Laboratories (CT Lab) using method EPA 8260C.

DNT analysis was also performed by CT Lab using method SW 8270D SIM. The following DNT isomers were reported: 2,3-DNT, 2,4-DNT, 2,5-DNT, 2,6-DNT, 3,4-DNT, and 3,5-DNT.

Badger Army Ammunition Plant

SpecPro Professional Services, LLC

GROUNDWATER MONITORING EXCEEDANCE REPORT

April 2023 Report Date: 6/15/2023

Parameter Name	Lic No.	Well No.	Well Name	Date	Dup	Result	Units	PAL	ES
Carbon tetrachloride	3499	718	SPN-8903B	4/13/2023	1	0.72	ug/l	0.5	5
Carbon tetrachloride	3499	719	SPN-8903C	4/13/2023	1	0.52	ug/l	0.5	5
2,6-Dinitrotoluene	3499	720	SPN-8904B	4/12/2023	1	0.03	ug/l	0.005	0.05
Carbon tetrachloride	3499	720	SPN-8904B	4/12/2023	1	1.5	ug/l	0.5	5
Total Dinitrotoluenes	3499	720	SPN-8904B	4/12/2023	1	0.15	ug/l	0.005	0.05
2,6-Dinitrotoluene	3499	721	SPN-8904C	4/12/2023	1	0.036	ug/l	0.005	0.05
Carbon tetrachloride	3499	721	SPN-8904C	4/12/2023	1	2.8	ug/l	0.5	5
Total Dinitrotoluenes	3499	721	SPN-8904C	4/12/2023	1	0.076	ug/l	0.005	0.05
Trichloroethene	3499	721	SPN-8904C	4/12/2023	1	0.97	ug/l	0.5	5
Ethyl ether	3499	726	SPN-9104D	4/12/2023	1	450	ug/l	100	1000

Badger Army Ammunition Plant

SpecPro Professional Services, LLC

April 2023 GROUNDWATER MONITORING ALL HITS REPORT

License No: 3499 Report Date: 6/15/2023

Parameter Name	Well	Well Name	Date	Dup	Result	LOD	LOQ	Units	PAL	ES
Carbon tetrachloride	718	SPN-8903B	4/13/2023	1	0.72	0.1	0.2	ug/l	0.5	5
Chloroform	718	SPN-8903B	4/13/2023	1	0.13	0.1	0.2	ug/l	0.6	6
1,1,1-Trichloroethane	719	SPN-8903C	4/13/2023	1	0.1	0.1	0.2	ug/l	40	200
Carbon tetrachloride	719	SPN-8903C	4/13/2023	1	0.52	0.1	0.2	ug/l	0.5	5
Chloroform	719	SPN-8903C	4/13/2023	1	0.42	0.1	0.2	ug/l	0.6	6
1,1,1-Trichloroethane	720	SPN-8904B	4/12/2023	1	0.13	0.1	0.2	ug/l	40	200
2,3-Dinitrotoluene	720	SPN-8904B	4/12/2023	1	0.072	0.0058	0.049	ug/l		
2,6-Dinitrotoluene	720	SPN-8904B	4/12/2023	1	0.03	0.0049	0.049	ug/l	0.005	0.05
3,4-Dinitrotoluene	720	SPN-8904B	4/12/2023	1	0.048	0.0049	0.049	ug/l		
Carbon tetrachloride	720	SPN-8904B	4/12/2023	1	1.5	0.1	0.2	ug/l	0.5	5
Chloroform	720	SPN-8904B	4/12/2023	1	0.21	0.1	0.2	ug/l	0.6	6
Total Dinitrotoluenes	720	SPN-8904B	4/12/2023	1	0.15	0.0078	0.049	ug/l	0.005	0.05
Trichloroethene	720	SPN-8904B	4/12/2023	1	0.34	0.1	0.2	ug/l	0.5	5
1,1,1-Trichloroethane	721	SPN-8904C	4/12/2023	1	0.21	0.1	0.2	ug/l	40	200
2,3-Dinitrotoluene	721	SPN-8904C	4/12/2023	1	0.04	0.006	0.05	ug/l		
2,6-Dinitrotoluene	721	SPN-8904C	4/12/2023	1	0.036	0.005	0.05	ug/l	0.005	0.05
Carbon tetrachloride	721	SPN-8904C	4/12/2023	1	2.8	0.1	0.2	ug/l	0.5	5
Chloroform	721	SPN-8904C	4/12/2023	1	0.37	0.1	0.2	ug/l	0.6	6
Total Dinitrotoluenes	721	SPN-8904C	4/12/2023	1	0.076	0.008	0.05	ug/l	0.005	0.05
Trichloroethene	721	SPN-8904C	4/12/2023	1	0.97	0.1	0.2	ug/l	0.5	5
Carbon disulfide	726	SPN-9104D	4/12/2023	1	0.4	0.2	0.4	ug/l	200	1000
Ethyl ether	726	SPN-9104D	4/12/2023	1	450	10	20	ug/l	100	1000

April 2023
Badger Army Ammunition Plant
Sampled Wells List

License Area	Well ID	Reporting Name	Date	Sample Frequency	Plume
3497	435	WE-XK342	4/25/2023	Quarterly	Central Plume
3497	803	Spear	4/25/2023	Quarterly	Deterrent Burning Ground
2813	210	ELN-8203A	4/25/2023	Semiannual	Deterrent Burning Ground
2813	211	ELN-8203B	4/25/2023	Semiannual	Deterrent Burning Ground
2813	212	ELN-8203C	4/25/2023	Semiannual	Deterrent Burning Ground
2813	216	ELM-8901	4/24/2023	Semiannual	Deterrent Burning Ground
2813	220	ELM-8907	4/24/2023	Semiannual	Deterrent Burning Ground
2813	221	ELM-8908	4/24/2023	Semiannual	Deterrent Burning Ground
2813	222	ELM-8909	4/24/2023	Semiannual	Deterrent Burning Ground
2813	224	ELN-8902B	4/24/2023	Semiannual	Deterrent Burning Ground
2813	227	ELN-9107A	4/24/2023	Semiannual	Deterrent Burning Ground
2813	228	ELN-9107B	4/24/2023	Semiannual	Deterrent Burning Ground
2813	234	ELM-9501	4/10/2023	Semiannual	Deterrent Burning Ground
2813	236	S1134R	4/25/2023	Semiannual	Deterrent Burning Ground
3037	301	DBM-8201	4/24/2023	Semiannual	Deterrent Burning Ground
3037	302	DBM-8202	4/24/2023	Semiannual	Deterrent Burning Ground
3037	306	DBM-8903	4/11/2023	Semiannual	Deterrent Burning Ground
3037	314	DBN-9501A	4/11/2023	Semiannual	Deterrent Burning Ground
3037	315	DBN-9501B	4/11/2023	Semiannual	Deterrent Burning Ground
3037	316	DBN-9501C	4/11/2023	Semiannual	Deterrent Burning Ground
3037	317	DBN-9501E	4/11/2023	Semiannual	Deterrent Burning Ground
2813	455	ELN-0801B	4/10/2023	Semiannual	Deterrent Burning Ground
2813	456	ELN-0801C	4/10/2023	Semiannual	Deterrent Burning Ground
2813	457	ELN-0801E	4/10/2023	Semiannual	Deterrent Burning Ground
2813	460	ELN-1001B	4/10/2023	Semiannual	Deterrent Burning Ground
2813	461	ELN-1001C	4/10/2023	Semiannual	Deterrent Burning Ground
2813	462	ELN-1001E	4/10/2023	Semiannual	Deterrent Burning Ground
2813	463	ELN-1002A	4/25/2023	Semiannual	Deterrent Burning Ground
2813	464	ELN-1002B	4/25/2023	Semiannual	Deterrent Burning Ground
2813	465	ELN-1002C	4/25/2023	Semiannual	Deterrent Burning Ground
2813	466	ELN-1002E	4/25/2023	Semiannual	Deterrent Burning Ground
2813	467	ELN-1003A	4/25/2023	Quarterly	Deterrent Burning Ground
2813	468	ELN-1003B	4/25/2023	Quarterly	Deterrent Burning Ground
2813	469	ELN-1003C	4/25/2023	Quarterly	Deterrent Burning Ground
2813	470	ELN-1003E	4/25/2023	Quarterly	Deterrent Burning Ground
3037	472	DBN-1001B	4/11/2023	Semiannual	Deterrent Burning Ground
3037	473	DBN-1001C	4/11/2023	Semiannual	Deterrent Burning Ground
3037	474	DBN-1001E	4/11/2023	Semiannual	Deterrent Burning Ground
3037	476	DBN-1002C	4/24/2023	Semiannual	Deterrent Burning Ground
3037	477	DBN-1002E	4/24/2023	Semiannual	Deterrent Burning Ground
2813	533	ELN-1502A	4/10/2023	Semiannual	Deterrent Burning Ground
2813	534	ELN-1502C	4/10/2023	Semiannual	Deterrent Burning Ground
2813	535	ELN-1503A	4/27/2023	Quarterly	Deterrent Burning Ground
2813	536	ELN-1503C	4/27/2023	Quarterly	Deterrent Burning Ground
3038	755	S1121	4/10/2023	Semiannual	Deterrent Burning Ground
3487	442	RIM-0705	4/11/2023	Semiannual	Nitrocellulose Production Area
3487	480	RIN-1001A	4/11/2023	Semiannual	Nitrocellulose Production Area

April 2023
Badger Army Ammunition Plant
Sampled Wells List

License Area	Well ID	Reporting Name	Date	Sample Frequency	Plume
3487	504	S1125	4/11/2023	Semiannual	Nitrocellulose Production Area
2814	360	PBM-9801	4/26/2023	Semiannual	Propellant Burning Ground
2814	367	PBM-0001	4/26/2023	Semiannual	Propellant Burning Ground
2814	368	PBM-0002	4/26/2023	Semiannual	Propellant Burning Ground
2814	372	PBM-0006	4/26/2023	Semiannual	Propellant Burning Ground
2814	374	PBM-0008	4/26/2023	Semiannual	Propellant Burning Ground
3493	561	PBN-9101C	4/27/2023	Semiannual	Propellant Burning Ground
3493	571	SWN-9103B	4/27/2023	Semiannual	Propellant Burning Ground
3493	572	SWN-9103C	4/27/2023	Semiannual	Propellant Burning Ground
3493	573	SWN-9103D	4/27/2023	Semiannual	Propellant Burning Ground
3493	574	SWN-9103E	4/27/2023	Semiannual	Propellant Burning Ground
3493	575	SWN-9104C	4/27/2023	Semiannual	Propellant Burning Ground
3493	576	SWN-9104D	4/27/2023	Semiannual	Propellant Burning Ground
2814	595	PBN-1001C	4/12/2023	Semiannual	Propellant Burning Ground
2814	613	PBN-8202A	4/26/2023	Semiannual	Propellant Burning Ground
2814	614	PBN-8202B	4/26/2023	Semiannual	Propellant Burning Ground
2814	615	PBN-8202C	4/26/2023	Semiannual	Propellant Burning Ground
2814	622	PBN-8205A	4/26/2023	Semiannual	Propellant Burning Ground
2814	623	PBN-8205B	4/26/2023	Semiannual	Propellant Burning Ground
2814	624	PBN-8205C	4/26/2023	Semiannual	Propellant Burning Ground
2814	632	PBN-8502A	4/26/2023	Semiannual	Propellant Burning Ground
2814	633	PBN-8503A	4/27/2023	Semiannual	Propellant Burning Ground
2814	645	PBN-8902C	4/26/2023	Semiannual	Propellant Burning Ground
2814	646	PBN-8903B	4/27/2023	Semiannual	Propellant Burning Ground
2814	647	PBN-8903C	4/27/2023	Semiannual	Propellant Burning Ground
2814	654	PBN-8912A	4/13/2023	Semiannual	Propellant Burning Ground
2814	655	PBN-8912B	4/13/2023	Semiannual	Propellant Burning Ground
2814	665	PBN-9112C	4/13/2023	Semiannual	Propellant Burning Ground
2814	666	PBN-9112D	4/13/2023	Semiannual	Propellant Burning Ground
2814	668	PBN-9301B	4/13/2023	Semiannual	Propellant Burning Ground
2814	669	PBN-9301C	4/13/2023	Semiannual	Propellant Burning Ground
2814	673	PBN-9303B	4/12/2023	Semiannual	Propellant Burning Ground
2814	674	PBN-9303C	4/12/2023	Semiannual	Propellant Burning Ground
2814	675	PBN-9303D	4/12/2023	Semiannual	Propellant Burning Ground
2814	687	PBN-9304D	4/27/2023	Semiannual	Propellant Burning Ground
2814	691	PBN-9902D	4/13/2023	Semiannual	Propellant Burning Ground
3499	709	S1147	4/13/2023	Semiannual	Propellant Burning Ground
3499	710	S1148	4/12/2023	Semiannual	Propellant Burning Ground
3499	718	SPN-8903B	4/13/2023	Semiannual	Propellant Burning Ground
3499	719	SPN-8903C	4/13/2023	Semiannual	Propellant Burning Ground
3499	720	SPN-8904B	4/12/2023	Semiannual	Propellant Burning Ground
3499	721	SPN-8904C	4/12/2023	Semiannual	Propellant Burning Ground
3499	725	SPN-9103D	4/13/2023	Semiannual	Propellant Burning Ground
3499	726	SPN-9104D	4/12/2023	Semiannual	Propellant Burning Ground
2814	770	PBN-1302A	4/12/2023	Semiannual	Propellant Burning Ground
2814	771	PBN-1302B	4/12/2023	Semiannual	Propellant Burning Ground
2814	772	PBN-1302C	4/12/2023	Semiannual	Propellant Burning Ground

April 2023
Badger Army Ammunition Plant
Sampled Wells List

License Area	Well ID	Reporting Name	Date	Sample Frequency	Plume
2814	773	PBN-1302D	4/12/2023	Semiannual	Propellant Burning Ground
2814	774	PBN-1303A	4/11/2023	Semiannual	Propellant Burning Ground
2814	775	PBN-1303B	4/11/2023	Semiannual	Propellant Burning Ground
2814	776	PBN-1303C	4/26/2023	Semiannual	Propellant Burning Ground
2814	777	PBN-1303D	4/11/2023	Semiannual	Propellant Burning Ground
2814	778	PBN-1304A	4/11/2023	Semiannual	Propellant Burning Ground
2814	779	PBN-1304B	4/11/2023	Semiannual	Propellant Burning Ground
2814	780	PBN-1304C	4/11/2023	Semiannual	Propellant Burning Ground
2814	781	PBN-1304D	4/11/2023	Semiannual	Propellant Burning Ground
2814	782	PBN-1401A	4/26/2023	Semiannual	Propellant Burning Ground
2814	783	PBN-1401B	4/26/2023	Semiannual	Propellant Burning Ground
2814	784	PBN-1401C	4/26/2023	Semiannual	Propellant Burning Ground
2814	791	PBN-1404B	4/13/2023	Semiannual	Propellant Burning Ground
2814	792	PBN-1404C	4/13/2023	Semiannual	Propellant Burning Ground
2814	793	PBN-1404D	4/13/2023	Semiannual	Propellant Burning Ground
2814	795	PBN-8902BR	4/26/2023	Semiannual	Propellant Burning Ground
3485	981	PBM-9001D	4/27/2023	Semiannual	Propellant Burning Ground

Badger Army Ammunition Plant

Landfill #5
S1134R
Deterrent Burning Ground
ELM-8909
DBM-8202
ELN-8203A
ELN-8203B
ELN-8203C
ELM-8901
DBN-1001B
DBN-1001C
DBN-1001E
DBM-8201
ELN-8902B
ELM-8907
DBN-1002C
DBN-1002E
ELN-9107A
ELN-9107B
DBM-8903
ELM-8908
DBN-9501A
DBN-9501B
DBN-9501C
DBN-9501E
Deterrent Burning Ground Plume
Spear
ELN-1503A
ELN-1503C
ELN-1502A
ELN-1502C
ELM-9501
ELN-0801B
ELN-0801C
ELN-0801E
ELN-1003A
ELN-1003B
ELN-1003C
ELN-1003E
ELN-1001B
ELN-1001C
ELN-1001E
S1121
ELN-1002A
ELN-1002B
ELN-1002C
ELN-1002E
Weigand's Bay
Nitrocellulose Production Area Plume
RIM-0705
RIN-1001A
S1125
12
Propellant Burning Ground (1949 Pit Area/Waste Pits)
PBM-9801
Landfill #1
PBM-0002
PBM-0001
PBM-0006
PBM-0008
PBN-8202A
PBN-8202B
PBN-8202C
Racetrack Area
PBN-1401A
PBN-1401B
PBN-1401C
PBN-8205A
PBN-8205B
PBN-8205C
PBN-8503A
PBN-8903B
PBN-8903C
PBN-8502A
PBN-8902BR
PBN-8902C
PBN-9301B
PBN-9301C
PBN-1404B
PBN-1404C
PBN-1404D
PBN-8912A
PBN-8912B
PBN-9112C
PBN-9112D
PBN-9303B
PBN-9303C
PBN-9303D
PBN-1001C
S1147
SPN-8903B
SPN-8903C
SPN-9103D
PBN-9304D
PBN-9902D
PBN-1302A
PBN-1302B
PBN-1302C
PBN-1302D
PBN-1304A
PBN-1304B
PBN-1304C
PBN-1304D
S1148
SPN-8904B
SPN-8904C
SPN-9104D
PBN-1303A
PBN-1303B
PBN-1303C
PBN-1303D
Central Plume
(Scheduled for sampling during June 2023)
WE-XK342
Gruber's Grove Bay
Propellant Burning Ground Plume
SWN-9103B
SWN-9103C
SWN-9103D
SWN-9103E
SWN-9104C
SWN-9104D
PBN-9101C
PBM-9001D
Wisconsin River
Dam

April 2023 Sampled Wells
Badger Army Ammunition Plant

Legend

- Sampled Monitoring Well
- Sampled Residential Well
- Groundwater Plume
- Groundwater Flow Direction
- Source Area
- Road
- BAAP Boundary

Map Scale 1:10,000

0 875 1,750 3,500 5,250 7,000 Feet

SPS
SPECPRO PROFESSIONAL SERVICES

Plot Date: 6/14/23