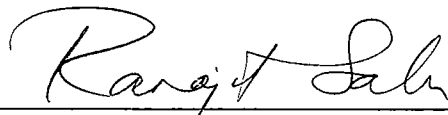




**FINAL SITE RELATED
CHEMICALS LISTS
(SRC)**

March 07, 2006

I hereby certify that I am responsible for the services described in this document and for the preparation of this document. The services described in this document have been provided in a manner consistent with the current standards of the profession and to the best of my knowledge comply with all applicable federal, state and local statutes, regulations and ordinances. I hereby certify that all laboratory analytical data was generated by a laboratory certified by the NDEP for each constituent and media presented herein.



Dr. Ranajit Sahu, C.E.M. (No. EM-1699, Exp. 10/07/2007)
BRC Project Manager

Table 1
Chemicals Known or Suspected to be Associated with Historical Site Operations
Upper and Lower Ponds and Ditches
Former BMI Common Areas

ID	Chemical	CAS Number	Analytical Method	Notes	Media ⁽¹⁾	Company Association ⁽²⁾
1	(2-chlorovinyl)benzene	622-25-3	TIC	potential TIC (8260 or 8270) - originally identified as chemical class "chloroalkylbenzenes"	S, A	M
2	(4-chlorobutyl)benzene	4830-93-7	TIC	potential TIC (8260 or 8270) - originally identified as chemical class "chloroalkylbenzenes"	S, A	M
3	(beta-chloroethyl)benzene	622-24-2	TIC	potential TIC (8260 or 8270) - originally identified as chemical class "chloroalkylbenzenes"	S, A	M
4	1,1,1,2-tetrachloroethane	630-20-6	8260B		S, A	M
5	1,1,1-trichloroethane	71-55-6	8260B		S, A	K, T, M
6	1,1,2,2-tetrachloroethane	79-34-5	8260B		S, A	M
7	1,1,2-trichloro-1,2,2-trifluoroethane	76-13-1	8260B		S, A	
8	1,1,2-trichloroethane	79-00-5	8260B		S, A	T, M
9	1,1-dichloroethane	75-34-3	8260B		S, A	T, M
10	1,1-dichloroethene	75-35-4	8260B		S, A	T, M
11	1,1-dichloropropene	563-58-6	8260B	See cis-1,1- and trans-1,1- isomers	S, A	M
12	1,2,3,4,6,7,8,9-octachlorodibenzofuran	39001-02-0	8290	reported as toxic equivalent (TEQ); Method 1613 was considered as an analytical method, but laboratory research indicates that Method 8290 is appropriate	S, A	T
13	1,2,3,4,6,7,8,9-octachlorodibenzo-p-dioxin	3268-87-9	8290	reported as toxic equivalent (TEQ); Method 1613 was considered as an analytical method, but laboratory research indicates that Method 8290 is appropriate	S, A	T
14	1,2,3,4,6,7,8-heptachlorodibenzofuran	67562-39-4	8290	reported as toxic equivalent (TEQ); Method 1613 was considered as an analytical method, but laboratory research indicates that Method 8290 is appropriate	S, A	T
15	1,2,3,4,6,7,8-heptachlorodibenzo-p-dioxin	35822-46-9	8290	reported as toxic equivalent (TEQ); Method 1613 was considered as an analytical method, but laboratory research indicates that Method 8290 is appropriate	S, A	T
16	1,2,3,4,7,8,9-heptachlorodibenzofuran	55673-89-7	8290	reported as toxic equivalent (TEQ); Method 1613 was considered as an analytical method, but laboratory research indicates that Method 8290 is appropriate	S, A	T
17	1,2,3,4,7,8-hexachlorodibenzofuran	70648-26-9	8290	reported as toxic equivalent (TEQ); Method 1613 was considered as an analytical method, but laboratory research indicates that Method 8290 is appropriate	S, A	T
18	1,2,3,4,7,8-hexachlorodibenzo-p-dioxin	39227-28-6	8290	reported as toxic equivalent (TEQ); Method 1613 was considered as an analytical method, but laboratory research indicates that Method 8290 is appropriate	S, A	T
19	1,2,3,4-tetrachlorobenzene	634-66-2	TIC	Laboratory research suggests this constituent can be reported as 8270 TIC - standard is not commercially available, so method development not an option	S, A	M
20	1,2,3,5-tetrachlorobenzene	634-90-2	TIC	Method 8260 was considered as an option; laboratory research suggests this constituent can be reported as 8270 TIC - standard is not commercially available, so method development is not an option	S, A	M
21	1,2,3,6,7,8-hexachlorodibenzofuran	57117-44-9	8290	reported as toxic equivalent (TEQ); Method 1613 was considered as an analytical method, but laboratory research indicates that Method 8290 is appropriate	S, A	T
22	1,2,3,6,7,8-hexachlorodibenzo-p-dioxin	57653-85-7	8290	reported as toxic equivalent (TEQ); Method 1613 was considered as an analytical method, but laboratory research indicates that Method 8290 is appropriate	S, A	T
23	1,2,3,7,8,9-hexachlorodibenzofuran	72918-21-9	8290	reported as toxic equivalent (TEQ); Method 1613 was considered as an analytical method, but laboratory research indicates that Method 8290 is appropriate	S, A	T
24	1,2,3,7,8,9-hexachlorodibenzo-p-dioxin	19408-74-3	8290	reported as toxic equivalent (TEQ); Method 1613 was considered as an analytical method, but laboratory research indicates that Method 8290 is appropriate	S, A	T

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Upper and Lower Ponds and Ditches
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ID	Chemical	CAS Number	Analytical Method	Notes	Media ⁽¹⁾	Company Association ⁽²⁾
25	1,2,3,7,8-pentachlorodibenzofuran	57117-41-6	8290	reported as toxic equivalent (TEQ); Method 1613 was considered as an analytical method, but laboratory research indicates that Method 8290 is appropriate	S, A	T
26	1,2,3,7,8-pentachlorodibenzo-p-dioxin	40321-76-4	8290	reported as toxic equivalent (TEQ); Method 1613 was considered as an analytical method, but laboratory research indicates that Method 8290 is appropriate	S, A	T
27	1,2,3-trichlorobenzene	87-61-6	8260B		S, A	M
28	1,2,3-trichloropropane	96-18-4	8260B		S, A	M
29	1,2,4,5-tetrachlorobenzene	95-94-3	8270C		S, A	M
30	1,2,4-trichlorobenzene	120-82-1	8260B		S, A	M, PS, M
31	1,2,4-trimethylbenzene	95-63-6	8260B	constituent occasionally listed under 8270 as well as 8260; laboratory research has confirmed that 8260 is appropriate.	S, A	M
32	1,2,4-trithiolane	289-16-7	TIC	laboratory research confirmed that reporting as potential TIC (8260 or 8270) is possible - standard is not commercially available & method development not an option.	S, A	PS
33	1,2-dichlorobenzene	95-50-1	8260B	constituent occasionally listed under 8270 as well as 8260; laboratory research has confirmed that 8260 is appropriate.	S, A	K, M, PS
34	1,2-dichloroethane	107-06-2	8260B		S, A	T
35	1,2-dichloropropane	78-87-5	8260B		S, A	T
36	1,2-diphenylhydrazine	122-66-7	8270C		S, A	M
37	1,3,5-trichlorobenzene	108-70-3	8260B	constituent occasionally listed under 8270 as well as 8260; laboratory research has confirmed that 8260 is appropriate.	S, A	M
38	1,3,5-trimethylbenzene	108-67-8	8260B		S, A	M
39	1,3-dichlorobenzene	541-73-1	8260B	constituent occasionally listed under 8270 as well as 8260; laboratory research has confirmed that 8260 is appropriate.	S, A	M, PS, T
40	1,3-dichloropropene	542-75-6	8260B	as cis- and trans- isomers	S, A	M
41	1,4-dichlorobenzene	106-46-7	8260B	constituent occasionally listed under 8270 as well as 8260; laboratory research has confirmed that 8260 is appropriate.	S, A	K, M, PS
42	1,4-dioxane	123-91-1	8270C		S, A	PS, M
43	1-chloro-4-ethylbenzene	622-98-0	TIC	potential TIC (8260 or 8270) - originally identified as chemical class "chloroalkylbenzenes"	S, A	M
44	1-nitropropane	108-03-2	TIC	standard is not commercially available & method development not an option - TIC reporting is consistent with Montrose's approach for this constituent	S, A	M
45	2,2-dimethylpentane	590-35-2	8260B		S, A	PS
46	2,2,2-Trichloroethanol	115-20-8	TIC	standard is not commercially available & method development not an option	S, A	M
47	2,2'-dichlorobiphenyl	13029-08-8	8082	reporting as aroclors since tox data is based on aroclors; Laboratory research indicates either 8082 or 1668 viable; 8082 consistent with Montrose approach	S,A	M
48	2,2,3-trimethylbutane	464-06-2	8260B		S,A	PS
49	2,2,6,6-Tetrachlorocyclohexanol	56207-45-5	TIC	by 8270C as a breakdown product/surrogate of tetrachlorocyclohexane	S, A	M
50	2,3-dimethylpentane	565-59-3	8260B		S, A	PS
51	2,3,4,6,7,8-hexachlorodibenzofuran	60851-34-5	8290	reported as toxic equivalent (TEQ); Method 1613 was considered as an analytical method, but laboratory research indicates that Method 8290 is appropriate	S, A	T
52	2,3,4,7,8-pentachlorodibenzofuran	57117-31-4	8290	reported as toxic equivalent (TEQ); Method 1613 was considered as an analytical method, but laboratory research indicates that Method 8290 is appropriate	S, A	T

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53	2,3,7,8-tetrachlorodibenzofuran	51207-31-9	8290	reported as toxic equivalent (TEQ); Method 1613 was considered as an analytical method, but laboratory research indicates that Method 8290 is appropriate	S, A	T
54	2,3,7,8-tetrachlorodibenzo-p-dioxin	1746-01-6	8290	reported as toxic equivalent (TEQ); Method 1613 was considered as an analytical method, but laboratory research indicates that Method 8290 is appropriate	S, A	PS, T
55	2,3'-dichlorobiphenyl	25569-80-6	8082	reporting as aroclors since tox data is based on aroclors; Laboratory research indicates either 8082 or 1668 viable; 8082 consistent with Montrose approach	S,A	M
56	2,3-dichlorobiphenyl	16605-91-7	8082	reporting as aroclors since tox data is based on aroclors; Laboratory research indicates either 8082 or 1668 viable; 8082 consistent with Montrose approach	S,A	M
57	2,4-dimethylpentane	108-08-7	8260B		S,A	PS
58	2,4,5-trichlorophenol	95-95-4	8270C		S, A	M
59	2,4,6-trichlorophenol	88-06-2	8270C		S, A	M, PS
60	2,4-D	94-75-7	8151A		S, A	K, T, PS, M
61	2,4 DB	94-82-6	8151A		S, A	K, T, PS, M
62	2,4'-dichlorobenzophenone	85-29-0	TIC	potential TIC (8260 or 8270); if identified as TIC in samples from site, method development will be considered	S, A	PS
63	2,4-dichlorobenzophenone	19811-05-3	TIC	potential TIC (8260 or 8270); - standard is not commercially available	S, A	PS
64	2,4'-dichlorobiphenyl	34883-43-7	8082	Laboratory research indicates either 8082 or 1668 viable; 8082 consistent with Montrose approach	S,A	M
65	2,4-dichlorobiphenyl	33284-50-3	8082	reporting as aroclors since tox data is based on aroclors; Laboratory research indicates either 8082 or 1668 viable; 8082 consistent with Montrose approach	S,A	M
66	2,4-dichlorophenol	120-83-2	8270C		S, A	M
67	2,4-dichlorostyrene	2123-27-5	TIC	identified as dichlorostyrene. Isomers identified: 2,5-, 2,4-, 2,6- and 3,4; potential TIC (8260 or 8270) See all isomers - standard is not commercially available	S, A	M
68	2,4-dimethylphenol	105-67-9	8270C			PS
69	2,4-dinitrotoluene	121-14-2	8270C		S, A	
70	2,5-dichlorobiphenyl	34883-39-1	8082	reporting as aroclors since tox data is based on aroclors; Laboratory research indicates either 8082 or 1668 viable; 8082 consistent with Montrose approach	S, A	M
71	2,5-dichlorostyrene	1123-84-8	TIC	identified as dichlorostyrene. Isomers identified: 2,5-, 2,4-, 2,6- and 3,4; potential TIC (8260 or 8270) See all isomers - standard is not commercially available	S, A	M
72	2,6-dichlorobiphenyl	33146-45-1	8082 or 1668	reporting as aroclors since tox data is based on aroclors; Laboratory research indicates either 8082 or 1668 viable; 8082 consistent with Montrose approach	S, A	M
73	2,6-dichlorostyrene	28469-92-3	TIC	identified as dichlorostyrene. Isomers identified: 2,5-, 2,4-, 2,6- and 3,4; potential TIC (8260 or 8270) See all isomers - standard is not commercially available	S, A	M
74	2-chlorobenzaldehyde	89-98-5	TIC	Standard is not commercially available	S, A	M
75	2-chlorobenzenethiol	6320-03-2	TIC	standard is not commercially available	S, A	PS
76	2-chlorobenzyl chloride	611-19-8	TIC	TIC reporting based on laboratory research & consistent with Montrose approach; Standard is not commercially available	S, A	M
77	2-chloroiodobenzene	615-41-8	TIC	standard is not commercially available & method development not an option - TIC reporting is consistent with Montrose's approach for this constituent	S, A	PS
78	2-chlorophenol	95-57-8	8270C		S, A	M
79	2-chlorotoluene	95-49-8	8260B		S, A	M

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80	2-hexanone	591-78-6	8260B		S, A	K, M
81	2-methylhexane	591-76-4	8260B		S, A	PS
82	2-methylnaphthalene	91-57-6	8270C		S, A	M
83	2-nitropropane	79-46-9	8260B	Laboratory research indicated potential target analyte via 8260; TBD	S, A	M
84	3,3-dimethylpentane	562-49-2	8260B		S, A	PS
85	3,3'-dichlorobiphenyl	2050-67-1	8082	Laboratory research suggested either method 8082 or 1668 viable; 8082 consistent with Montrose approach	S, A	M
86	3,4-dichlorobenzophenone	6284-79-3	TIC	potential TIC (8260 or 8270) - standard is not commercially available.	S, A	PS
87	3,4'-dichlorobiphenyl	2974-90-5	8082	reporting as aroclors since tox data is based on aroclors; Laboratory research indicates either 8082 or 1668 viable; 8082 consistent with Montrose approach	S, A	M
88	3,4-dichlorobiphenyl	2974-92-7	8082	reporting as aroclors since tox data is based on aroclors; Laboratory research indicates either 8082 or 1668 viable; 8082 consistent with Montrose approach	S, A	M
89	3,4-dichlorostyrene	2039-83-0	TIC	identified as dichlorostyrene. Isomers identified: 2,5-, 2,4-, 2,6- and 3,4; potential TIC (8260 or 8270) See all isomers - standard is not commercially available	S, A	M
90	3,5-dichlorobiphenyl	34883-41-5	8082	reporting as aroclors since tox data is based on aroclors; Laboratory research indicates either 8082 or 1668 viable; 8082 consistent with Montrose approach	S, A	M
91	3,5-Heptanedione, 2,6-dimethyl-	18362-64-6	TIC	TIC reporting possible based on laboratory research - standard is not commercially available	S, A	PS
92	3-chlorobenzenethiol	2037-31-2	TIC	standard is not commercially available; TIC reporting consistent with Pioneer/Stauffer approach	S, A	PS
93	3-chlorobenzyl chloride	620-20-2	TIC	Standard is not commercially available; TIC reporting consistent with Montrose approach	S, A	M
94	3-ethylpentane	617-78-7	8260B		S, A	PS
95	3-hexene-2,5-dione	4436-75-3	TIC	potential TIC (8270); historically reported as TIC. Standard is not commercially available	S, A	PS
96	3-methylhexane	589-34-4	8260B		S, A	PS
97	4,4'-DDD	72-54-8	8081A			M, PS, T, K
98	4,4'-DDE	72-55-9	8081A		S, A	M, PS, T, K
99	4,4'-DDT	50-29-3	8081A		S, A	K, M, PS, T
100	4,4'-dichlorobenzophenone	90-98-2	TIC	Laboratory research confirmed that a standard is available. Method development per 8260 or 8270 will be performed if constituent routinely seen as a TIC; TIC reporting consistent with Montrose approach; PS considering 8260 but has not confirmed viability.	S, A	PS, M
101	4,4'-dichlorobiphenyl	2050-68-2	8082	Laboratory research indicates either 8082 or 1668 viable; 8082 consistent with Montrose approach	S, A	M
102	4,4'-dichloromethylbiphenyl	1667-10-3	TIC	Montrose has identified 4,4'-dichloromethylbiphenyl for dichloromethylbiphenyl. Possibly 8082 aroclor analysis as a component of the total PCB concentration, but will not be uniquely identified - standard is not commercially available		M
103	4-bromophenyl phenyl ether	101-55-3	8270C		S, A	K, M, PS, T
104	4-chloro-3-methylphenol	59-50-7	8270C		S, A	M
105	4-chlorobenzenesulfonic acid	98-66-8	TIC	standard is not commercially available	S, A	K, M
106	4-chlorobenzyl chloride	104-83-6	TIC	Standard is not commercially available; TIC reporting consistent with Montrose approach	S, A	M

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107	4-chlorothioanisole	123-09-1	8270C		S, A	PS
108	4-chlorotoluene	106-43-4	8260B		S, A	M
109	4-methyl-2-pentanone	108-10-1	8260B		S, A	K, T
110	4-nitrophenol	100-02-7	8270C		S, A	M
111	acenaphthene	83-32-9	8270C		S, A	T, K
112	acenaphthylene	208-96-8	8270C		S, A	T, K
113	acetaldehyde	75-07-0	8315A		S, A	M
114	acetone	67-64-1	8260B		S, A	K, M, T
115	acetonitrile	75-05-8	8260B		S, A	K, PS, M, T
116	acetophenone	98-86-2	8270C		S, A	K, PS, M, T
117	actinium-227	14952-40-0	Rad - calc	Back-quantitate from Th-227 using 901.1 / HASL GA-01-R		T
118	actinium-228	14331-83-0	901.1 / HASL GA-01-R		S, A	T, K
119	aldrin	309-00-2	8081A		S, A	M
120	alumina	1344-28-1	6010 & 6020	as aluminum	S, A	K, T
121	alumina silicate	1335-30-4	6010 & 6020	as aluminum and as silicon; CAS is for aluminum silicate; laboratories confirm can be run as aluminum and silicon by 6010/6020	S, A	T
122	aluminum (Al)	7429-90-5	6010 & 6020		S, A	K, T, M
123	ammonium chloride	12125-02-9	350.1	as ammonia	S, A	K, M
124	ammonium hydroxide	1336-21-6	350.1	as ammonia	S, A	T
125	ammonium perchlorate	7790-98-9	314	as perchlorate (LC/MS/MS option if interferences)	S, A	K
126	anthracene	120-12-7	8310 / 8270C		S, A	T, K
127	antimony	7440-36-0	6010 & 6020		S, A	K, M, T
128	Aroclor 1016	12674-11-2	8082		S, A	T, K
129	Aroclor 1221	11104-28-2	8082		S, A	T, K
130	Aroclor 1232	11141-16-5	8082		S, A	T, K
131	Aroclor 1242	53469-21-9	8082		S, A	T, K
132	Aroclor 1248	12672-29-6	8082		S, A	T, K
133	Aroclor 1254	11097-69-1	8082		S, A	PS, T, K
134	Aroclor 1260	11096-82-5	8082		S, A	T, K
135	arsenic	7440-38-2	6010 & 6020		S, A	K, M, PS, T
136	arsenic trioxide	1327-53-3	6010 & 6020	as arsenic	S, A	K
137	asbestos	1332-21-4	ISO 10312 TEM		S	K, PS, T
138	barium	7440-39-3	6010 & 6020		S, A	K, M, T
139	barium chloride	10361-37-2	6010 & 6020 / 300.0	as barium/as chloride	S, A	T
140	barium hydroxide	17194-00-2	6010 & 6020	as barium	S, A	K
141	barium oxide	1304-28-5	6010 & 6020	as barium	S, A	K
142	barium sulfate	7727-43-7	6010 & 6020 / 300.0	as barium/as sulfate	S, A	K
143	barium sulfide	21109-95-5	6010 & 6020 / 376.1	as barium/as sulfide	S, A	K
144	benzene	71-43-2	8260B		S, A	K, M, PS, T
145	benzene, (methylsulfinyl)	1193-82-4	TIC	Laboratory research confirmed potential TIC (8260 or 8270) - standard is not commercially available	S, A	PS
146	benzene, 1-chloro-4-(methylsulfonyl)	98-57-7	TIC	potential TIC (8260 or 8270) - standard is not commercially available	S, A	PS
147	benzenesulfonic acid	98-11-3	HPLC		S, A	PS
148	benzenesulfonic acid, phenyl ester	1208-20-4	TIC	Standard is not commercially available - TIC reporting consistent with PS approach		PS
149	benzenethiol	108-98-5	8270C		S, A	PS
150	benzo(a)anthracene	56-55-3	8310 / 8270C	may have been mis-spelled in documents as "benzo(a)abthracene"	S, A	T, K
151	benzo(a)pyrene	50-32-8	8310 / 8270C		S, A	PS, T, K, M
152	benzo(b)fluoranthene	205-99-2	8270C		S, A	PS
153	benzo(g,h,i)perylene	191-24-2	8270C		S, A	T, K
154	benzo(k)fluoranthene	207-08-9	8270C		S, A	PS, M
155	benzoic acid	65-85-0	8270C		S, A	M, PS
156	benzophenone	119-61-9	TIC	potential TIC (8260 or 8270)	S, A	PS

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157	benzoylchloride, 2-chloro	609-65-4	TIC	Standard is not commercially available	S, A	PS
158	benzoylchloride, 3-chloro	618-46-2	TIC	Standard is not commercially available	S, A	PS
159	benzoylchloride, 4-chloro	122-01-0	TIC	Standard is not commercially available	S, A	PS
160	beryllium	7440-41-7	6010 & 6020		S, A	K, M, T
161	BHC, alpha-	319-84-6	8081A		S, A	PS, M
162	BHC, beta-	319-85-7	8081A		S, A	PS, M
163	BHC, delta-	319-86-8	8081A		S, A	PS, M
164	bis para-chlorophenyl disulfide	1142-19-4	8270C		S, A	PS
165	bis para-chlorophenyl sulfone	80-07-9	8270C		S, A	PS
166	bis(2-ethylhexyl)phthalate	117-81-7	8270C		S, A	PS, M
167	bis(chloromethyl)ether	542-88-1	TIC	Laboratory research confirmed potential for TIC reporting - standard is not commercially available; TIC reporting consistent with Montrose approach	S, A	PS
168	bismuth-210	14331-79-4	Rad - calc	Back-quantitate from Pb-210 using 901.1 / HASL GA-01-R	S, A	T
169	bismuth-211	15229-37-5	Rad - calc	Back-quantitate from Th-227 or Pb-211 using 901.1 / HASL GA-01-R		T
170	bismuth-212	14913-49-6	901.1 / HASL GA-01-R		S, A	T, K
171	bismuth-214	14733-03-0	901.1 / HASL GA-01-R		S, A	T
172	borate	11129-12-7	6010 & 6020	as boron	S, A	K
173	borax	1303-96-4	6010 & 6020	as sodium	S, A	K
174	boric acid	10043-35-3	pH	as pH	S, A	K
175	boron	7440-42-8	6010 & 6020		S, A	K
176	boron carbide	12069-32-8	6010 & 6020	as boron	S, A	K
177	boron tribromide	10294-33-4	6010 & 6020	as boron	S, A	K
178	boron trichloride	10294-34-5	6010 & 6020	as boron	S, A	K
179	bromine (Br)	7726-95-6	300	as bromide (soluble in water)	S, A	K
180	bromobenzene	108-86-1	8260B		S, A	M
181	bromodichloromethane	75-27-4	8260B		S, A	T, M
182	bromoform	75-25-2	8260B		S, A	T, M
183	bromomethane	74-83-9	8260B		S, A	T
184	butylbenzyl phthalate	85-68-7	8270C		S, A	K, M, PS, T
185	butylchloral	76-36-8	TIC	potential TIC (8260 or 8270) - standard is not commercially available.	S, A	M
186	cadmium	7440-43-9	6010 & 6020		S, A	K, M, T
187	calcium (Ca)	7440-70-2	6010 & 6020		S, A	K, PS, T, M
188	calcium carbonate (CaCO ₃)	471-34-1	310.1	as alkalinity (also hydrated form)	A	K, M, PS
189	calcium chloride	10035-04-8	6010 & 6020 / 300.0	as calcium/as chloride	S, A	K, T
190	calcium fluoride	7789-75-5	6010 & 6020 / 300.0	as calcium/as fluoride	S, A	T
191	calcium hydroxide	1305-62-0	6010 & 6020	as calcium	S, A	K, PS
192	calcium hypochlorite	7778-54-3	6010 & 6020 / 300.0	as calcium/as chloride	S, A	K
193	calcium orthophosphate	7758-87-4	6010 & 6020 / 365.2	as calcium/as orthophosphate	S, A	K
194	calcium oxide	1305-78-8	6010 & 6020	as calcium	S, A	K, T, PS
195	calcium sulfate (CaSO ₄)	7778-18-9	6010 & 6020 / 300.0	as calcium/as sulfate	S, A	K, T
196	carbamide	57-13-6	TIC	potential TIC (8260 or 8270) - standard is not commercially available	S, A	K, T
197	carbon disulfide	75-15-0	8260B		S, A	T
198	carbon tetrachloride	56-23-5	8260B		S, A	M, PS, T
199	carbonic acid	463-79-6	pH	as pH	S, A	K
200	carbophenothion	786-19-6	8141A		S, A	PS
201	chloral	75-87-6	8315A		S, A	M
202	chloral hydrate	302-17-0	TIC	potential TIC (8260 or 8270); trichloroacetaldehyde will serve as a surrogate	S, A	M
203	chlordane	57-74-9	8081A		S, A	K
204	chlordane, alpha	5103-71-9	8081A		S, A	K
205	chlordane, gamma	5103-74-2	8081A		S, A	K, M, PS, T

Table 1
Chemicals Known or Suspected to be Associated with Historical Site Operations
Upper and Lower Ponds and Ditches
Former BMI Common Areas

ID	Chemical	CAS Number	Analytical Method	Notes	Media ⁽¹⁾	Company Association ⁽²⁾
206	chlorine (Cl)	7782-50-5	300	as chloride; historically present in gas form	S, A	K, M, PS, T
207	chlorite	14998-27-7	300		S, A	K, M, PS, T
208	chloroacetaldehyde	107-20-0	8315A		S, A	M
209	chlorobenzaldehyde	35913-09-8	TIC	potential TIC (8260 or 8270)	S, A	PS
210	chlorobenzene	108-90-7	8260B		S, A	K, M, PS, T
211	chlorodibromomethane	124-48-1	8260B		S, A	M
212	chloroethane	75-00-3	8260B		S, A	M
213	chloroform	67-66-3	8260B		S, A	K, M, PS, T
214	chloromethane	74-87-3	8260B		S, A	T, M
215	chloromethyl phthalimide	17564-64-6	TIC	per Phase I report, an intermediate in trithion process, presumably consumed - not listed as a constituent of the waste stream; compound is in current laboratory MS library and can be reported as a TIC if present; standard is not commercially available	S, A	PS
216	chromic hydroxide (Cr(OH) ₃)	1308-14-1	6010 & 6020	as chromium	S, A	K
217	chromium chloride	39345-92-1	6010 & 6020 / 300.0	as total chromium/as chloride	S, A	T
218	chromium oxide	11118-57-3	6010 & 6020	as chromium	S, A	T
219	chromium sesquioxide	1308-38-9	6010 & 6020	as chromium	S, A	K
220	chromium, hexavalent	18540-29-9	7196A	sample prep method 3060A	S, A	K, M
221	chromium, total (Cr)	7440-47-3	6010 & 6020	as total chromium	S, A	K, M, PS, T
222	chrysene	218-01-9	8270C		S, A	T, K, M
223	cis-1,2-dichloroethene	156-59-2	8260B		S, A	T, M
224	cis-1,3-dichloropropene	10061-01-5	8260B		S, A	M
225	citric acid	77-92-9	pH	as pH	S, A	K, T
226	cobalt (Co)	7440-48-4	6010 & 6020		S, A	K, M, PS, T
227	cobalt sulfide	1317-42-6	6010 & 6020 / 376.1	as cobalt/as sulfide	S, A	K
228	cobaltic oxide	1308-04-9	6010 & 6020	as cobalt	S, A	K
229	copper (Cu)	7440-50-8	6010 & 6020		S, A	K, M, PS, T
230	copper sulfate	7758-98-7	6010 & 6020	as copper	S, A	T
231	copper sulfide	11115-78-9	6010 & 6020 / 376.1	as copper/as sulfide	S, A	K
232	cupric oxide	1317-38-0	6010 & 6020	as copper	S, A	K
233	cyanide	57-12-5	9010/9014	Other possible analyses include 335.1 / 335.2; laboratory research confirmed 9010/9014 appropriate	S, A	K, M, T
234	cyclododecene	1501-82-2	TIC	standard is not commercially available	S, A	M
235	cymene	99-87-6	8260B		S, A	M
236	dibenzo(a,h)anthracene	53-70-3	8310 / 8270C		S, A	T, K
237	dibromochloroethane	73506-94-2	8260B		S, A	M
238	dibromochloropropane	96-12-8	8260B		S, A	M
239	dicamba	1918-00-9	8151A		S, A	K, M, PS, T
240	dichloroacetaldehyde	79-02-7	8315A		S, A	M
241	dichloroanthracene, 9,10-	605-48-1	TIC	Montrose identified dichloroanthracene; potential TIC (8260 or 8270) - standard is not commercially available.	S, A	M
242	dichlorobenzil, 2,2'-	3457-46-3	8270C	Montrose identified dichlorobenzil, analysis is for 2,2'-dichlorobenzil	S, A	M
243	dichlorodifluoromethane	75-71-8	8260B		S, A	M
244	Dichloroprop	120-36-5	8151A		S, A	K
245	Dieldrin	60-57-1	8081A		S, A	M
246	diethyl phthalate	84-66-2	8270C		S, A	PS
247	dimethyl phthalate	131-11-3	8270C		S, A	K, M, PS, T
248	dimethyldisulfide	624-92-0	8260B		S, A	PS
249	di-n-butylphthalate	84-74-2	8270C		S, A	PS, M
250	di-n-octyl phthalate	117-84-0	8270C		S, A	PS
251	Dinoseb (syn: dinitrobutyl phenol)	88-85-7	8151A		S, A	K, M, PS, T
252	diphenyl sulfide	139-66-2	8270C	reported using 8270 for borrow pit sampling	S, A	PS
253	diphenyldisulfide	882-33-7	8270C	reported using 8270 for borrow pit sampling	S, A	PS

Table 1
Chemicals Known or Suspected to be Associated with Historical Site Operations
Upper and Lower Ponds and Ditches
Former BMI Common Areas

ID	Chemical	CAS Number	Analytical Method	Notes	Media ⁽¹⁾	Company Association ⁽²⁾
254	diphenyl sulfone	127-63-9	8270C	reported using 8270 for borrow pit sampling	S, A	PS
255	endosulfan I	959-98-8	8081A	as Endosulfan I and Endosulfan II (CAS 959-98-8 and 33213-65-9, respectively)	S, A	PS, M
256	endosulfan sulfate	1031-07-8	8081A		S, A	M
257	Endrin	72-20-8	8081A		S, A	M
258	Endrin aldehyde	7421-93-4	8081A		S, A	M
259	Endrin ketone	53494-70-5	8081A		S, A	K, M, PS, T
260	ethane	74-84-0	RSK175	water samples only	A	K, M, PS, T
261	ethanol	64-17-5	8260B	Laboratory research indicates that either 8015 or 8260 appropriate	S, A	PS, M
262	ethylbenzene	100-41-4	8260B		S, A	K, M, T
263	ethylene	74-85-1	RSK175	water samples only	A	K, M, PS, T
264	ethylene glycol	107-21-1	8015B		S, A	K
265	ethylene glycol monobutyl ether	111-76-2	TIC		S, A	T
266	ferric chloride	7705-08-0	6010 & 6020 / 300.0	as iron/as chloride	S, A	T, K, M
267	ferric hydroxide	1309-33-7	6010 & 6020	as iron	S, A	M
268	ferric oxide	1309-37-1	6010 & 6020	as iron	S, A	K
269	ferrous iron (Fe)	7439-89-6	6010 & 6020	iron	S, A	K, T, M
270	ferrous oxide	1345-25-1	6010 & 6020/150.1	as iron, as pH	S, A	K
271	fluoranthene	206-44-0	8270C		S, A	T, K, M
272	fluorene	86-73-7	8270C		S, A	T, K
273	formaldehyde	50-00-0	8315A		S, A	K, PS
274	heptachlor	76-44-8	8081A		S, A	K, M, PS, T
275	heptachlor epoxide	1024-57-3	8081A		S, A	PS, M
276	heptane	142-82-5	8260B	also known as n-heptane. MDL study in process	S, A	PS
277	hexachlorobenzene	118-74-1	8270C		S, A	M, PS, T, K
278	hexachlorobutadiene	87-68-3	8270C	Laboratory research indicates 8270 appropriate; 8260 may also be viable option	S, A	M
279	hexachloroethane	67-72-1	8270C		S, A	PS
280	hydrochloric acid	7647-01-0	150.1	as pH	S, A	K, M, PS, T
281	hydrofluoric acid (HF)	7664-39-3	150.1	as pH	S, A	T
282	hydroxymethyl phthalimide	118-29-6	8270C	reported using 8270 for borrow pit sampling.	S, A	PS
283	indeno(1,2,3-cd)pyrene	193-39-5	8270C		S, A	T, K
284	iodine chloride	7790-99-0	345.1 / 300.0/160.1	as iodine, as chloride and TDS per PS	S, A	PS, T
285	iron hydroxide	11113-66-9	6010 & 6020	as iron	S, A	K
286	isoheptane	31394-54-4	TIC	Standard is not commercially available; TIC reporting consistent with PS approach	S, A	PS
287	isopropylbenzene	98-82-8	8260B		S, A	M
288	lead (Pb)	7439-92-1	6010 & 6020		S, A	K, M, PS, T
289	lead mono-oxide	1317-36-8	6010 & 6020	as lead	S, A	K
290	lead sulfide	1314-87-0	6010 & 6020 / 376.1	as lead/as sulfide	S, A	K
291	lead-206	13966-27-3	6010/6020	Stable isotope; analyze as lead by 6010/6020	S, A	T
292	lead-207	14119-29-0	6010/6020	Stable isotope; analyze as lead by 6010/6020	S, A	T
293	lead-208	13966-28-4	6010/6020	Stable isotope; analyze as lead by 6010/6020	S, A	T
294	lead-210	14255-04-0	901.1 / HASL GA-01-R		S, A	K
295	lead-211	015816-77-0	901.1 / HASL GA-01-R			T
296	lead-212	15092-94-1	901.1 / HASL GA-01-R		S, A	T, K
297	lead-214	15067-28-4	901.1 / HASL GA-01-R		S, A	T
298	Lindane	58-89-9	8081A		S, A	PS
299	lithium (Li)	7439-93-2	6010/6020		S, A	T
300	lithium chloride	7447-41-8	6010 & 6020 / 300.0	as lithium/as chloride	S, A	T
301	magnesium (Mg)	7439-95-4	6010 & 6020		S, A	K, PS, T, M
302	magnesium carbonate (from magnesite)	546-93-0	6010 & 6020 / 310.1	as magnesium/as carbonate alkalinity	S, A	K, PS, T
303	magnesium chlorate	10326-21-3	6010 & 6020 / 300.0	as magnesium/as chloride	S, A	K

Table 1
Chemicals Known or Suspected to be Associated with Historical Site Operations
Upper and Lower Ponds and Ditches
Former BMI Common Areas

ID	Chemical	CAS Number	Analytical Method	Notes	Media ⁽¹⁾	Company Association ⁽²⁾
304	magnesium chloride (MgCl ₂)	7786-30-3	6010 & 6020 / 300.0	as magnesium/as chloride	S, A	K, PS, T
305	magnesium hydroxide	12141-11-6	6010 & 6020	as magnesium	S, A	K, PS
306	magnesium oxide (MgO)	1309-48-4	6010 & 6020	as magnesium	S, A	K, PS, T
307	magnesium perchlorate	10034-81-8	6010 & 6020/314	as perchlorate (LC/MS/MS option if interferences)	S, A	K
308	magnesium sulfate (MgSO ₄)	7487-88-9	6010 & 6020 / 300.0	as magnesium/as sulfate	S, A	K
309	manganese (Mn)	7439-96-5	6010 & 6020		S, A	K, T, M
310	manganese dioxide	1313-13-9	6010 & 6020	as manganese	S, A	K
311	manganese oxide	11129-60-5	6010 & 6020	as manganese	S, A	K
312	manganese perchlorate	13770-16-6	314	as perchlorate (LC/MS/MS option if interferences)	S, A	K
313	manganese sulfate	7785-87-7	6010 & 6020 / 300.0	as manganese/as sulfate	S, A	K
314	MCP	93-65-2	8151A		S, A	K, M, PS, T
315	mercury (Hg)	7439-97-6	7471A / 7470A		S, A	K, M, PS, T
316	methane	74-82-8	RSK175	water samples only	A	K, M, PS, T
317	methanol	67-56-1	8015B	consistent with PS and K approach	S, A	K, PS, T
318	methanone, (3-chlorophenyl)(4-chlorophenyl)	7498-66-0	TIC	standard is not commercially available; can be reported as a TIC, if	S, A	PS
319	methoxychlor	72-43-5	8081A		S, A	M
320	methyl carbophenothion	953-17-3	8141A	changed from prior submittal - not total carbophenothion	S, A	PS
321	methyl ethyl ketone	78-93-3	8260B		S, A	K, T
322	methyl mercury	22967-92-6	EPA 1630	Cold Vapor Atomic Fluorescence Spectrometry (CVAFS) method for water samples only	A	K
323	methyl tert-butyl ether	1634-04-4	8260B		S, A	K
324	methylene chloride	75-09-2	8260B		S, A	M, T
325	molybdenum (Mo)	7439-98-7	6010 & 6020		S, A	K, M, T
326	molybdenum trioxide	1313-27-5	6010 & 6020	as molybdenum	S, A	K
327	naphthalene	91-20-3	8270C		S, A	T, K, M
328	n-butylbenzene	104-51-8	8260B		S, A	M
329	nickel (Ni)	7440-02-0	6010 & 6020		S, A	K, M, PS, T
330	nickel mono-oxide	1313-99-1	6010 & 6020	as nickel (nickel monoxide = NiO)	S, A	K
331	nickel sulfide	11113-75-0	6010 & 6020 / 376.1	as nickel/as sulfide	S, A	K
332	niobium	7440-03-1	6010 & 6020		S, A	T
333	niobium chloride	10026-12-7	6010 & 6020 / 300.0	as niobium/as chloride	S, A	T
334	niobium pentoxide (Nb ₂ O ₅)	1313-96-8	6010 & 6020	as niobium	S, A	T
335	nitric acid (HNO ₃)	7697-37-2	300	as pH / as nitrate	S, A	T
336	nitrobenzene	98-95-3	8270C		S, A	K
337	nitrogen chloride (NCl ₃)	10025-85-1	300 / 350.1	as chloride / as ammonia	S, A	PS, M
338	n-nitroso-di-n-propylamine	621-64-7	8270C		S, A	K, M, PS, T
339	nonanal	124-19-6	8260B			PS
340	n-propylbenzene	103-65-1	8260B		S, A	M
341	O,O,S-Trimethylphosphorodithionate	2953-29-9	TIC	standard is not commercially available; TIC approach consistent with PS approach	S, A	PS
342	O,O-diethylphosphorodithioic acid	298-06-6	HPLC		S, A	PS
343	O,O-dimethylphosphorodithioic acid	756-80-9	HPLC		S, A	PS
344	O,P'-DDD	53-19-0	8081A	Based on laboratory research, can add to 8081 list	S, A	PS
345	O,P'-DDE	3424-82-6	8081A	Demonstrated performance by 8081 by STL	S, A	PS
346	o-cresol (syn: 2-methylphenol)	95-48-7	8270C		S, A	K, M, PS, T
347	octachlorostyrene	29082-74-4	8270C		S, A	T, K, M
348	palladium	7440-05-3	6020		S, A	T
349	paraformaldehyde	30525-89-4	TIC	potential TIC (8260 or 8270); standard is not commercially available	S, A	PS
350	PCB-77	32598-13-3	8082	WHO congener (3)	S, A	K, M, PS, T
351	PCB-81	70362-50-4	8082	WHO congener (3)	S, A	K, M, PS, T
352	PCB-105	32598-14-4	8082	WHO congener (3)	S, A	K, M, PS, T
353	PCB-114	74472-37-0	8082	WHO congener (3)	S, A	K, M, PS, T

Table 1
Chemicals Known or Suspected to be Associated with Historical Site Operations
Upper and Lower Ponds and Ditches
Former BMI Common Areas

ID	Chemical	CAS Number	Analytical Method	Notes	Media ⁽¹⁾	Company Association ⁽²⁾
354	PCB-118	31508-00-6	8082	WHO congener (3)	S, A	K, M, PS, T
355	PCB-123	65510-44-3	8082	WHO congener (3)	S, A	K, M, PS, T
356	PCB-126	57465-28-8	8082	WHO congener (3)	S, A	K, M, PS, T
357	PCB-156	38380-08-4	8082	WHO congener (3)	S, A	K, M, PS, T
358	PCB-157	69782-90-7	8082	WHO congener (3)	S, A	K, M, PS, T
359	PCB-167	52663-72-6	8082	WHO congener (3)	S, A	K, M, PS, T
360	PCB-169	32774-16-6	8082	WHO congener (3)	S, A	K, M, PS, T
361	PCB-189	39635-31-9	8082	WHO congener (3)	S, A	K, M, PS, T
362	p-chloroaniline	106-47-8	8270C		S, A	K, M, PS, T
363	p-chlorobenzenethiol	106-54-7	8270C		S, A	PS
364	pentachlorobenzene	608-93-5	8270C		S, A	M
365	pentachlorocyclohexane	319-94-8	TIC	as gamma-pentachlorocyclohexene	S, A	M
366	pentachlorophenol	87-86-5	8270C		S, A	M
367	perchloric acid (HClO ₄)	7601-90-3	pH/314.0	as pH / as perchlorate	S, A	T
368	phenanthrene	85-01-8	8270C		S, A	T, K
369	phenol	108-95-2	8270C		S, A	PS, M
370	Phosmet	732-11-6	8141A		S, A	PS
371	phosphoric acid	7664-38-2	pH	as pH	S, A	K, PS, M
372	phosphorodithioic acid	15834-33-0	TIC	TIC reporting possible; standard is not commercially available. Identified by PS as phosphorodithioic acid ester.		PS
373	phosphorus (P)	7723-14-0	6010 & 6020	as phosphorus	S, A	K, PS, T, M
374	phosphorus pentasulfide	1314-80-3	6010 & 6020	as phosphorus	S, A	PS
375	phosphorus pentoxide	1314-56-3	6010 & 6020	as phosphorus	S, A	K
376	phosphorus trichloride	7719-12-2	6010 & 6020	as phosphorus	S, A	M
377	phthalic acid	88-99-3	8270C		S, A	PS
378	phthalimide	85-41-6	TIC	potential TIC (8260 or 8270) - standard is not commercially available	S, A	PS
379	platinum	7440-06-4	6010 & 6020		S, A	K
380	polonium-210	13981-52-7	Rad - calc	Back-quantitate from Pb-210 using 901.1 / HASL GA-01-R	S, A	T, K
381	polonium-212	15389-34-1	Rad - calc	Back-quantitate from Bi-212 using 901.1 / HASL GA-01-R	S, A	T
382	polonium-214	15735-67-8	Rad - calc	Back-quantitate from Bi-214 using 901.1 / HASL GA-01-R	S, A	T
383	polonium-216	15756-58-8	Rad - calc	Back-quantitate from Pb-212 using 901.1 / HASL GA-01-R	S, A	T
384	polonium-218	15422-74-9	Rad - calc	Back-quantitate from Pb-214 using 901.1 / HASL GA-01-R	S, A	T
385	potassium (K)	7440-09-7	6010 & 6020		S, A	K, T, M
386	potassium chlorate (KClO ₃)	3811-04-9	6010 & 6020 / 300.0	as potassium/as chlorate	S, A	K
387	potassium chloride (KCl)	7447-40-7	6010 & 6020 / 300.0	as potassium/as chloride	S, A	K, T
388	potassium hydroxide	1310-58-3	6010 & 6020 / pH	as potassium and as pH	S, A	T
389	potassium oxide	12136-45-7	6010 & 6020	as potassium	S, A	K
390	potassium perchlorate (KClO ₄)	7778-74-7	6010 & 6020/314.0	as potassium/as perchlorate (LC/MS/MS option if interferences)	S, A	K
391	potassium phosphate	7778-53-2	6010 & 6020/365.3	as potassium, as phosphate	S, A	K
392	potassium-40	13966-00-2	901.1 / HASL GA-01-R		S, A	T
393	propylene glycol	57-55-6	8015B		S, A	K
394	protactinium-231	14331-85-2	Rad - calc	Back-quantitate from U-235 using EPA901.1	S, A	K
395	protactinium-234	15100-28-4	Rad - calc	Back-quantitate from U-238 using HASL A-01-R Mod	S, A	T
396	pyrene	129-00-0	8270C		S, A	T, K
397	pyridine	110-86-1	8270C		S, A	K, M
398	radium-223	15623-45-7	Rad - calc	Isotope is naturally-occurring isotope and member of Uranium-235 decay chain, most of which are not included in the project radionuclide analytical suite; used in cancer treatment and radioimmunotherapy; has relatively short half-life (11.4 days). Back-quantitate from Th-227 using 901.1 / HASL GA-01-R.	S, A	K
399	radium-224	13233-32-4	Rad - calc	Back-quantitate from Th-227 or Pb-211 using 901.1 / HASL GA-01-R	S, A	T
400	radium-226	13982-63-3	Rad - 903.0		S, A	T, K
401	radium-228	15262-20-1	Rad - 904.0		S, A	T, K

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Former BMI Common Areas

ID	Chemical	CAS Number	Analytical Method	Notes	Media ⁽¹⁾	Company Association ⁽²⁾
402	radon-222	14859-67-7	913		A	T, K
403	sec-butylbenzene	135-98-8	8260B		S, A	M
404	selenium (se)	7782-49-2	6010 & 6020		S, A	K, M, T
405	silicon	7440-21-3	6010 & 6020		S, A	T
406	silicon tetrabromide	7789-66-4	6010 & 6020 / 300.0	as silicon/as bromide	S, A	K
407	silicon tetrachloride	10026-04-7	6010 & 6020 / 300.0	as silicon/as chloride	S, A	K
408	silver (Ag)	7440-22-4	6010 & 6020		S, A	K, M, T
409	silver nitrate	7761-88-8	6010 & 6020 / 300.0	as silver/as nitrate	S, A	T
410	Silvex (syn: 2,4,5-TP)	93-72-1	8151A		S, A	K, M, PS, T
411	sodium (Na)	7440-23-5	6010 & 6020		S, A	K, T, M
412	sodium arsenite	7784-46-5	6010 & 6020	as sodium , as arsenic	S, A	K
413	sodium bicarbonate	144-55-8	6010/6020/310.1		S, A	T
414	sodium borate (B ₄ H ₂ O ₇)	1330-43-4	6010 & 6020 /310.1	as sodium	S, A	K
415	sodium borohydride	16940-66-2	6010 & 6020	as sodium and boron	S, A	K
416	sodium carbonate (Na ₂ CO ₃)	497-19-8	6010 & 6020 / 310.1	as sodium/as carbonate alkalinity	S, A	K, PS, T
417	sodium chlorate (NaClO ₃)	7775-09-9	6010 & 6020 / 300.0	as sodium/as chloride	S, A	K
418	sodium chloride (NaCl)	7647-14-5	6010 & 6020 / 300.0	as sodium/as chloride	S, A	K, PS, T
419	sodium chromate	7775-11-3	6010 & 6020	as sodium, chromium	S, A	K
420	sodium dichromate	10588-01-9	6010 & 6020 / 7196A	as sodium and chromium/hexavalent chromium	S, A	K
421	sodium gluconate (C ₆ H ₁₁ NaO ₇)	527-07-1	6010 & 6020	as sodium	S, A	T
422	sodium hexametaphosphate	10124-56-8	6010 & 6020 / 365.3	as sodium/total phosphate	S, A	K
423	sodium hydrosulfide	16721-80-5	6010 & 6020 / 376.1	as sodium/sulfide	S, A	K
424	sodium hydroxide (NaOH)	1310-73-2	6010 & 6020 / pH / 310.1	as sodium/pH/alkalinity	S, A	K, M, PS, T
425	sodium hypochlorite	7681-52-9	6010 & 6020 / 300.0	as sodium/as chloride	S, A	K, M, PS, T
426	sodium oxide	1313-59-3	6010 & 6020	as sodium	S, A	K
427	sodium perchlorate (NaClO ₄)	7601-89-0	6010 & 6020/314	as sodium/perchlorate (LC/MS/MS option if interferences)	S, A	K
428	sodium sulfate	7727-73-3	6010 & 6020 / 300.0	as sodium/as sulfate	S, A	K, PS
429	sodium sulfite	7757-83-7	6010 & 6020 / 377.1	as sodium/as sulfite	S, A	K
430	strontium	7440-24-6	6010 & 6020		S, A	K
431	strontium carbonate	1633-05-2	6010 & 6020 / 310.1	as strontium/as carbonate alkalinity	S, A	K
432	styrene	100-42-5	8260B		S, A	T, M
433	sulfenone	80-00-2	TIC	potential TIC - standard is not commercially available	S, A	PS
434	sulfur	7704-34-9	6010 & 6020		S, A	K, M
435	sulfur trioxide	7446-11-9	300	as sulfate	S, A	K
436	sulfuric acid (H ₂ SO ₄)	7664-93-9	pH	as pH	S, A	K, M, PS, T
437	tert-butylbenzene	98-06-6	8260B			M
438	tetrachloroethene	127-18-4	8260B		S, A	M, K, T
439	tetrachlorothiophene	6012-97-1	TIC	Standard is not commercially available.	S, A	PS
440	tetrasodium EDTA	64-02-8	6010 & 6020	as sodium; because EDTA is non-toxic, it is not included in analytical program	S, A	T
441	thallium (Tl)	7440-28-0	6010 & 6020		S, A	K, M, T
442	thallium-207	14133-67-6	901.1 / HASL GA-01-R			T
443	thallium-208	14913-50-9	901.1 / HASL GA-01-R		S, A	T
444	thorium-227	15623-47-9	901.1 / HASL GA-01-R			T
445	thorium-228	14274-82-9	HASL A-01-R Mod		S, A	T, K
446	thorium-230	14269-63-7	HASL A-01-R Mod		S, A	T, K
447	thorium-231	14932-40-2	Rad - calc	Back-quantitate from U-235 using HASL A-01-R Mod	S, A	T
448	thorium-232	7440-29-1	HASL 300 A-01-R Mod		S, A	T, K
449	thorium-234	15065-10-8	Rad - calc	Back-quantitate from U-238 using HASL A-01-R Mod	S, A	T, K
450	tin (Sb)	7440-31-5	6010 & 6020		S, A	K, PS, T, M
451	tin chloride	7646-78-8	6010 & 6020 / 300.0	as tin/as chloride	S, A	T
452	tin dioxide (SnO ₂)	18282-10-5	6010 & 6020	as tin	S, A	K, T

Table 1
Chemicals Known or Suspected to be Associated with Historical Site Operations
Upper and Lower Ponds and Ditches
Former BMI Common Areas

ID	Chemical	CAS Number	Analytical Method	Notes	Media ⁽¹⁾	Company Association ⁽²⁾
453	titania (TiO ₂)	13463-67-7	6010 & 6020	as titanium	S, A	K, T
454	titanium (Ti)	7440-32-6	6010 & 6020		S, A	K, PS, T
455	titanium chloride	11130-18-0	6010 & 6020 / 300.0	as titanium/as chloride	S, A	T
456	titanium tetrachloride (TiCl ₄)	7550-45-0	6010 & 6020 / 300.0	as titanium/as chloride	S, A	K, T
457	toluene	108-88-3	8260B		S, A	K, M, PS, T
458	toxaphene	8001-35-2	8081A		S, A	PS
459	trans-1,2-dichloroethene	156-60-5	8260B		S, A	T, M
460	trans-1,3-dichloropropene	10061-02-6	8260B		S, A	M
461	trichloroethene	79-01-6	8260B		S, A	M, K, T
462	trichlorofluoromethane	75-69-4	8260B		S, A	T, M
463	trimethylbenzene	25551-13-7	8260B	see 1,2,4- and 1,3,5- isomers	S, A	PS
464	tri-sodium phosphate	7601-54-9	6010 & 6020 / 300.0	as sodium/as orthophosphate	S, A	T
465	tungsten (W)	7440-33-7	6010 & 6020		S, A	K, T
466	tungsten chloride	13283-01-7	6010 & 6020 / 300.0	as tungsten/as chloride	S, A	T
467	tungsten trioxide	1314-35-8	6010 & 6020	as tungsten	S, A	K
468	uranium (U)	7440-61-1	6010 & 6020		S, A	T, K
469	uranium-233/234	13968-55-3/13966-29-5	HASL A-01-R Mod		S, A	T, K
470	uranium-235/236	15117-96-1/13982-70-2	HASL A-01-R Mod		S, A	K
471	uranium-238	7440-61-1	HASL A-01-R Mod		S, A	T, K
472	vanadium (V)	7440-62-2	6010 & 6020		S, A	K, M, T
473	vanadium chloride	7718-98-1	6010 & 6020 / 300.0	as vanadium/as chloride	S, A	T
474	vanadium pentoxide	1314-62-1	6010 & 6020	as vanadium	S, A	K
475	vinyl chloride	75-01-4	8260B		S, A	T, M
476	white phosphorus	12185-10-3	7580M	According to Montrose, white phosphorus has been identified as a potential constituent of phosphorus trichloride, which was used in the 4,4'-dichlorobenzil process; this form of phosphorus readily oxidizes upon exposure to oxygen and undergoes hydrolysis upon exposure to moisture, both of which would be the case if it were present in effluent transported to the Common Areas; therefore, it is not expected to be present in this form in soil or ground water due to historical Common Areas activities. BRC to analyze in subset of samples with NDEP concurrence	S, A	M
477	xylene(s)	1330-20-7	8260B		S, A	M, K, M, T
478	zinc (Zn)	7440-66-6	6010 & 6020		S, A	K, M, PS, T
479	zinc oxide	1314-13-2	6010 & 6020	as zinc	S, A	K
480	zinc sulfide	1314-98-3	6010 & 6020 / 376.1	as zinc/as sulfide	S, A	K
481	zircon	10101-52-7	6010 & 6020	as zirconium and silicon	S, A	T
482	zirconium (Zr)	7440-67-7	6010 & 6020	as zircon	S, A	T
483	zirconium oxide (ZrO)	12036-01-0	6010 & 6020	as zirconium	S, A	T

Footnotes:

(1) Abbreviations used: S =soil sample; A =aqueous sample

(2) Abbreviations used: K = Kerr-McGee; M = Montrose; PS = Pioneer/PStauffer; T = TIMET

Table 2
Site-Related Chemicals Not Included in Analytical Program
Upper and Lower Ponds Ditches
Former BMI Common Areas

Item#	Chemical ⁽¹⁾	CAS Number	Notes
1	2-chlorobenzoic acid	118-91-2	Standard is not commercially available
2	3-chlorobenzoic acid	535-80-8	Standard is not commercially available
3	3-hexene-2,5-dione, (E)- (syn: trans-1,2-diacetylene)	820-69-9	Not reportable as TIC; not in the laboratories' MS libraries; standard is not commercially available. Its isomer (1,2-diacetylene) is in the laboratory's MS library and can be reported as a TIC, if present.
4	4-chlorobenzoic acid	74-11-3	Standard is not commercially available
5	acetylene	74-86-2	Historically present in gas form
6	ammonia (anhydrous) (NH ₃)	7664-41-7	historically present in gas form.
7	argon	7440-37-1	historically present in gas form
8	bis(2-chlorophenyl)methanone (syn: bischlorophenylmethanone)		laboratory research unable to identify this unknown isomer, consistent with Montrose, CAS # and analytical method unknown
9	bis(3-chlorophenyl)methanone (syn: bischlorophenylmethanone)		laboratory research unable to identify this unknown isomer, consistent with Montrose, CAS # and analytical method unknown
10	bromine gas	7726-95-6	Historically present in gas form
11	carbon (syn: graphite)	7782-42-5	NDEP/BRC discussed during 12/06/04 telephone conference - dropped from program due to low toxicity
12	carbon dioxide	124-38-9	historically present in gas form
13	carbon oxide sulfide (syn: carbonyl sulfide)	463-58-1	NDEP/BRC discussed during 12/06/04 telephone conference - dropped from program because compound is a gas
14	cerium	7440-45-1	As noted in TIMET's SRC documentation, small quantities of this compound (less than 2 pounds) are stored in cans at the HTL (TIMET's on-site lab) for use in experiments, and are carefully inventoried. Their presence is therefore not expected in the Common Areas, and they are thus not included in the analytical program.
15	cesium-134	13967-70-9	As discussed during 12/06/04 NDEP/BRC conference call, this nuclide is well-known to be associated with nuclear fallout, and would not be associated with industrial operations at the BMI Complex. Therefore, this isotope is not included in the analytical program
16	cesium-137	10045-97-3	As discussed during 12/06/04 NDEP/BRC conference call, this nuclide is well-known to be associated with nuclear fallout, and would not be associated with industrial operations at the BMI Complex. Therefore, this isotope is not included in the analytical program
17	chlorine gas	7782-50-5	Historically present in gas form
18	cobalt-57	13981-50-5	isotope is not a member of the Uranium-235, Uranium-238 or Thorium-232 decay chains; does not occur naturally; as reported in literature, is produced by cyclotron irradiation of iron and nuclear weapons explosions, and is used as radiolabel in laboratory and medical tests; do not expect to be present in soils or ground water as a result of historical site operations. As discussed during the 12/06/04 NDEP/BRC conference call, this isotope will not be included in the analytical program.
19	cobalt-60	10198-40-0	isotope is not a member of the Uranium-235, Uranium-238 or Thorium-232 decay chains; does not occur naturally; as reported in literature, is produced in structural steels and other alloys of nuclear vessels and from nuclear weapon explosions; is used for sterilization of medical equipment and food industry; do not expect to be present in soils or ground water as a result of historical site operations. As discussed during the 12/06/04 NDEP/BRC conference call, this isotope will not be included in the analytical program.
20	compressed air	NA	historically present in gas form
21	denatonium benzoate	3734-33-6	As discussed during 12/06/04 NDEP/BRC conference call, this constituent not included in analytical program due to low toxicity
22	dimethyldithioic acid		Unable to identify; Probably short-hand for O,O-dimethyl dithiophosphoric acid. Alpha has analyzed O,O-dimethyl dithiophosphoric acid (CAS = 756-80-9) by HPLC/UV. Standard is not commercially available for dimethyldithioic acid

Table 2
Site-Related Chemicals Not Included in Analytical Program
Upper and Lower Ponds Ditches
Former BMI Common Areas

Item#	Chemical ⁽¹⁾	CAS Number	Notes
23	erbium	7440-52-0	As noted in TIMET's SRC documentation, small quantities of this compound (less than 2 pounds) are stored in cans at the HTL (TIMET's on-site lab) for use in experiments, and are carefully inventoried. Their presence is therefore not expected in the Common Areas, and they are thus not included in the analytical program.
24	ether (syn: ethyl ether)	60-29-7	Not included in analytical program due to its historical presence in gas form
25	germanium	7440-56-4	As noted in TIMET's SRC documentation, small quantities of this compound (less than 2 pounds) are stored in cans at the HTL (TIMET's on-site lab) for use in experiments, and are carefully inventoried. Their presence is therefore not expected in the Common Areas, and they are thus not included in the analytical program.
26	gluconate		Cannot identify "gluconate" by itself in online databases - compounds containing gluconate can be found, but gluconate itself is a chemical fraction. Standard is not commercially available for gluconate.
27	helium	7440-59-7	Historically present in gas form
28	hydrogen	1333-74-0	Historically present in gas form
29	hydrogen chloride gas	7647-01-0	Historically present in gas form
30	hydrogen peroxide	7722-84-1	relatively unstable compound that requires stabilization to avoid deterioration over time; no known analysis method
31	hydrogen sulfide	7783-06-4	Historically present in gas form
32	hypochlorite (ClO ⁻)	14380-61-1	hypochlorite combines readily with cations; not expected to be present in ionic form (i.e., sodium hypochlorite) this ion would be expected to follow reduction to the cation and the chloride ion
33	iridium (Ir)	7439-88-5	As noted in TIMET's SRC documentation, small quantities of this compound (less than 2 pounds) are stored in cans at the HTL (TIMET's on-site lab) for use in experiments, and are carefully inventoried. Their presence is therefore not expected in the Common Areas, and they are thus not included in the analytical program.
34	natural gas	8006-14-2	Historically present in gas form
35	nitrogen (N)	7727-37-9	Historically present in gas form
36	phosgene (syn: carbonyl dichloride; carbonic dichloride)	75-44-5	As discussed at 12/06/04 conference call, this constituent not included in analytical program due to its historical presence as a gas
37	polonium-215		Not included in analytical program based on half-life of 0.001 seconds
38	polyethylene glycol	25322-68-3	have been unable to identify appropriate analysis based on laboratory inquiries; standard is not commercially available; based on low toxicity (polyethylene glycol is a compound commonly found in personal care items such as toothpaste and cosmetics) this constituent is not included in analytical program.
39	quartz (syn: silicon dioxide)	14808-60-7	Ubiquitous inert mineral with low associated toxicity [if desired, could be analyzed as silicon by method 6010 & 6020]
40	radon-219	14835-02-0	Not included in analytical program due to half-life of 3.96 seconds
41	radon-220	22481-48-7	Not included in analytical program due to half-life of 55.6 seconds
42	rhenium	7440-15-5	As noted in TIMET's SRC documentation, small quantities of this compound (less than 2 pounds) are stored in cans at the HTL (TIMET's on-site lab) for use in experiments, and are carefully inventoried. Their presence is therefore not expected in the Common Areas, and they are thus not included in the analytical program.
43	ruthenium	7440-18-8	As noted in TIMET's SRC documentation, small quantities of this compound (less than 2 pounds) are stored in cans at the HTL (TIMET's on-site lab) for use in experiments, and are carefully inventoried. Their presence is therefore not expected in the Common Areas, and they are thus not included in the analytical program.
44	silica	7631-86-9	Removed from analytical program per NDEP
45	sodium alpha olefin sulfonate	68439-57-6	per K-M Phase I report, compound was a raw material used in the production of Tumbleleaf defoliant. The production process reportedly consisted of simply dry-mixing ingredients at the Complex, and reportedly produced no waste stream. It seems unlikely that the compound would have been discharged to the Ponds. Also, constituent used in personal care products and found to have very low toxicity. Based on this information, constituent not included in analytical program.
46	sodium hyposulfide		unknown compound; appears to be typo for sodium hydrosulfide

Table 2
Site-Related Chemicals Not Included in Analytical Program
Upper and Lower Ponds Ditches
Former BMI Common Areas

Item#	Chemical ⁽¹⁾	CAS Number	Notes
47	sodium thiophenate	930-69-8	per Phase I, compound is speculated as being potential constituent of pre-1975 waste stream from batch distillation of thiophenol/parachlorothiophenol; that waste stream was not characterized to confirm; compound not reported in post-1975 waste stream; no known SW846 method has been found to be applicable; compound not in lab MS library - standard is not commercially available
48	sulfur dioxide	7446-09-5	Not included in analytical program due to its historical presence in gas form
49	teflon (syn: polytetrafluoroethylene; PFTE)	9002-84-0	Teflon is commonly associated with everyday life, including use in soil and ground water sampling equipment and materials. It is referenced in the Phase I report as a constituent of asbestos filter cake generated as part of an asbestos slurry filtration process (to reduce slurry volume). The filter cake was disposed of off-site. This filtration process was reportedly initiated in 1981, after discontinuation of Pioneer/Stauffer use of the Upper and Lower Ponds and ditches. Therefore, there is little likelihood that this constituent is present in soil or ground water as a result of historical Common Areas activities.
50	tetrachlorocyclohexane		Standard is not commercially available; constituent is metabolite of lindane break-down products; not a separate compound found isolated in the environment - Montrose identifies "from process data review" - not in analytical database.
51	tetrachlorostyrene		Standard is not commercially available; constituent is a photodegradation by-product of octachlorostyrene; not a separate compound found isolated in the environment - Montrose identifies "from process data review" - not in analytical database.
52	trichlorostyrene		Standard is not commercially available; constituent is photodegradation by-product of octachlorostyrene; not a separate compound - Montrose identifies "from process data review" - not in analytical database
52	thorium-229	15594-54-4	Constituent is used as a tracer in laboratory analysis for QA/QC purposes; not a target analyte.
53	Unknown #1 [formula: (C ₆ H ₅ S) ₂ - P - I - I]		Unknown compound
54	Unknown #2 [formula: (C ₆ H ₅ S) ₂ - P = O]		Unknown compound
55	Unknown #3 [formula: (ClC ₆ H ₄ S) - P = O]		Unknown compound
56	Unknown #4 [formula: (ClC ₆ H ₄ S) ₂ - P - I - I]		Unknown compound
57	Unknown #5 [formula: chloro-tris (ClC ₆ H ₄ S) ₃]		Unknown compound
58	Unknown #6 [formula: tris (C ₆ H ₅ S) ₃ -P]		Unknown compound
59	uranium-232	14158-29-3	Constituent is used as a tracer in laboratory analysis for QA/QC purposes; not a target analyte.
60	yttrium	7440-65-5	As noted in TIMET's SRC documentation, small quantities of this compound (less than 2 pounds) are stored in cans at the HTL (TIMET's on-site lab) for use in experiments, and are carefully inventoried. Their presence is therefore not expected in the Common Areas, and they are thus not included in the analytical program.
	Typographical errors		
1	1,4-dichlorophenyldisulphide		Unknown compound (not in online databases); appears to be typo for 4,4-dichlorophenyldisulphide (syn: bis para-chlorophenyl disulfide)
2	hypochloric acid (HClO ₂)		cannot identify in online databases by name or formula; assume hydrochloric (HCl) or hypochlorous acid (HClO)
3	phenlos		Unable to identify in online databases; suspected mis-spelling of "phenols"; to be analyzed as individual phenol compounds
4	silica dioxide		compound not found in online chemical databases; assumed to be typo for silicon dioxide
5	sodium hyposulfide		unknown compound; appears to be typo for sodium hydrosulfide
6	sodium potassium		two separate elements, unknown as a compound; suspect that it was intended to be separated by a comma in document

Table 2
Site-Related Chemicals Not Included in Analytical Program
Upper and Lower Ponds Ditches
Former BMI Common Areas

Item#	Chemical ⁽¹⁾	CAS Number	Notes
	Partial chemical names		
1	bis para-chlorophenyl		unable to identify in online databases; appears to be fragment of chemical name (probably "bis para-chlorophenyl disulfide" or "bis para-chlorophenyl sulfone")
2	bis(4-chlorophenyl)		unable to identify in online databases; appears to be incomplete form of "disulfide, bis(4-chlorophenyl)"
3	bis-chlorophenylmethanone		unable to identify in online databases; appears to be truncated form of bis(4-chlorophenyl)methanone, a synonym for 4,4'-dichlorobenzophenone
4	chloral dichlorobenzil		appears to be a combined listing of two separate compounds (chloral and dichlorobenzil), which are both included in the analytical program separately; assumption confirmed by Montrose
5	chloromethyl intermediate		incomplete form of chemical name
6	dichlorobenzophenone		unable to identify in online databases; appears to be abbreviated form of 4,4'-dichlorobenzophenone
7	dichlorodiphenyldisulfide		unable to identify in online databases; appears to be abbreviated form of 4,4-dichlorodiphenyl disulfide, a synonym for bis para-chlorophenyl disulfide
8	dichlorodiphenylsulfone		appears to be abbreviated form of 4,4-dichlorodiphenyl sulfone, a synonym for bis para-chlorophenyl sulfone
9	disulfide		unable to identify in online databases; appears to be incomplete form of "disulfide, bis(4-chlorophenyl)"
10	dithio acid		per Stauffer, appears to be short-hand for O,O-diethylphosphorodithioic acid
11	dithio acid salt		per Stauffer, appears to be short-hand for O,O-diethylphosphorodithioic acid salts
12	dithio salt		per Stauffer, appears to be short-hand for O,O-diethylphosphorodithioic acid salts
13	hypochlorite		not expected to be present in ion form; may be partial name of compound (i.e., sodium hypochlorite) CAS-14380-61-1
14	soda arsenite		Unable to identify in online databases as written; assume it is short-hand for sodium arsenite; sodium arsenite can be found in Table 1.
15	sulfone		Unable to identify as written; suspected fragment of chemical name (possibly "bis para-chlorophenyl sulfone" or "diphenylsulfone")
16	trans-1,3-dichloroprop		Unable to identify in online databases; suspected truncation of "trans 1,3-dichloropropene"
17	thiol		unknown compound; may be shortened form of p-thiol or thiophenol

Table 3
Constituents Included in Analytical Program as TIC Analyses
Upper and Lower Ponds Ditches
Former BMI Common Areas

Item#	Chemical	CAS #	Notes	Media ⁽¹⁾	Company Association ⁽²⁾
1	(2-chlorovinyl)benzene	622-25-3	potential TIC (8260 or 8270) - originally identified as chemical class "chloroalkylbenzenes"	S, A	M
2	(4-chlorobutyl)benzene	4830-93-7	potential TIC (8260 or 8270) - originally identified as chemical class "chloroalkylbenzenes"	S, A	M
3	(beta-chloroethyl)benzene	622-24-2	potential TIC (8260 or 8270) - originally identified as chemical class "chloroalkylbenzenes"	S, A	M
4	1,2,3,4-tetrachlorobenzene	634-66-2	Laboratory research suggests this constituent can be reported as 8270 TIC - standard is not commercially available, so method development not an option	S, A	M
5	1,2,3,5-tetrachlorobenzene	634-90-2	Method 8260 was considered as an option; laboratory research suggests this constituent can be reported as 8270 TIC - standard is not commercially available, so method development is not an option	S, A	M
6	1,2,4-trithiolane	289-16-7	laboratory research confirmed that reporting as potential TIC (8260 or 8270) is possible - standard is not commercially available & method development not an option.	S, A	PS
7	1-chloro-4-ethylbenzene	622-98-0	potential TIC (8260 or 8270) - originally identified as chemical class "chloroalkylbenzenes"	S, A	M
8	1-nitropropane	108-03-2	TIC reporting is consistent with Montrose's approach for this constituent - standard is not commercially available & method development not an option	S, A	M
9	2,2,2-Trichloroethanol	115-20-8	TIC reporting indicated as option by laboratories & is consistent with Montrose's approach for this constituent - standard is not commercially available & method development not an option	S, A	M
10	2,2,6,6-Tetrachlorocyclohexanol	56207-45-5	by 8270C as a breakdown product/surrogate of tetrachlorocyclohexane	S, A	M
11	2,4'-Dichlorobenzophenone	85-29-0	potential TIC (8260 or 8270); if identified as TIC in samples from site, method development will be considered	S, A	PS
12	2,4-dichlorobenzophenone	19811-05-3	potential TIC (8260 or 8270); - standard is not commercially available	S, A	PS
13	2,4-dichlorostyrene	2123-27-5	identified as dichlorostyrene. Isomers identified: 2,5-, 2,4-, 2,6- and 3,4- ; potential TIC (8260 or 8270) See all isomers - standard is not commercially available	S, A	M
14	2,5-dichlorostyrene	1123-84-8	identified as dichlorostyrene. Isomers identified: 2,5-, 2,4-, 2,6- and 3,4- ; potential TIC (8260 or 8270) See all isomers - standard is not commercially available	S, A	M
15	2,6-dichlorostyrene	28469-92-3	identified as dichlorostyrene. Isomers identified: 2,5-, 2,4-, 2,6- and 3,4- ; potential TIC (8260 or 8270) See all isomers - standard is not commercially available	S, A	M
16	2-chlorobenzaldehyde	89-98-5	Standard is not commercially available	S, A	M
17	2-chlorobenzenethiol	6320-03-02	standard is not commercially available	S, A	M
18	2-chlorobenzyl chloride	611-19-8	TIC reporting based on laboratory research & consistent with Montrose approach; Standard is not commercially available	S, A	M
19	2-chloroiodobenzene	615-41-8	TIC reporting based on laboratory research - standard is not commercially available	S, A	M

Table 3
Constituents Included in Analytical Program as TIC Analyses
Upper and Lower Ponds Ditches
Former BMI Common Areas

Item#	Chemical	CAS #	Notes	Media ⁽¹⁾	Company Association ⁽²⁾
20	3,4-dichlorobenzophenone	6284-79-3	potential TIC (8260 or 8270) - standard is not commercially available.	S, A	PS
21	3,4-dichlorostyrene	2039-83-0	identified as dichlorostyrene. Isomers identified: 2,5-, 2,4-, 2,6- and 3,4- ; potential TIC (8260 or 8270) See all isomers - standard is not commercially available	S, A	M
22	3,5-Heptanedione, 2,6-dimethyl-	18362-64-6	TIC reporting possible based on laboratory research - standard is not commercially available	S, A	M
23	3-chlorobenzenethiol	2037-31-2	standard is not commercially available; TIC reporting consistent with Pioneer/Stauffer approach	S, A	M
24	3-chlorobenzyl chloride	620-20-2	Standard is not commercially available; TIC reporting consistent with Montrose approach	S, A	M
25	3-hexene-2,5-dione	4436-75-3	potential TIC (8270); historically reported as TIC. Standard is not commercially available	S, A	PS
26	4,4'-dichlorobenzophenone	90-98-2	Laboratory research confirmed that a standard is available. Method development per 8260 or 8270 will be performed if constituent routinely seen as a TIC; TIC reporting consistent with Montrose approach; PS considering 8260 but has not confirmed viability.	S, A	PS, M
27	4,4'-Dichloromethylbiphenyl	1667-10-3	Montrose has identified 4,4'-dichloromethylbiphenyl for dichloromethylbiphenyl. Possibly 8082 aroclor analysis as a component of the total PCB concentration, but will not be uniquely identified - standard is not commercially available		M
28	4-chlorobenzenesulfonic acid	98-66-8	standard is not commercially available	S, A	K, M
29	4-chlorobenzyl chloride	104-83-6	Standard is not commercially available; TIC reporting consistent with Montrose approach	S, A	M
30	benzene,(methylsulfinyl)	1193-82-4	Laboratory research confirmed potential TIC (8260 or 8270) - standard is not commercially available	S, A	PS
31	benzene,1-chloro-4-(methylsulfonyl)	98-57-7	potential TIC (8260 or 8270) - standard is not commercially available	S, A	PS
32	benzenesulfonic acid, phenyl ester	1208-20-4	TIC reporting consistent with PS approach; Standard is not commercially available		PS
33	benzophenone	119-61-9	potential TIC (8260 or 8270)	S, A	PS
34	benzoylchloride, 2-chloro	609-65-4	Standard is not commercially available	S, A	PS
35	benzoylchloride, 3-chloro	618-46-2	Standard is not commercially available	S, A	PS
36	benzoylchloride, 4-chloro	122-01-0	Standard is not commercially available	S, A	PS
37	bis(chloromethyl)ether	542-88-1	Laboratory research confirmed potential for TIC reporting - standard is not commercially available; TIC reporting consistent with Montrose approach	S, A	PS
38	butylchloral	76-36-8	potential TIC (8260 or 8270) - standard is not commercially available.	S, A	M
39	carbamide	57-13-6	potential TIC (8260 or 8270) - standard is not commercially available	S, A	K, T
40	cyclododecene	1501-82-2	standard is not commercially available	S, A	M
41	chloral hydrate	302-17-0	potential TIC (8260 or 8270)	S, A	M
42	chlorobenzaldehyde	35913-09-8	potential TIC (8260 or 8270)	S, A	PS
43	chloromethyl phthalimide	175-64-6	potential TIC (8260 or 8270)	S, A	PS

Table 3
Constituents Included in Analytical Program as TIC Analyses
Upper and Lower Ponds Ditches
Former BMI Common Areas

Item#	Chemical	CAS #	Notes	Media ⁽¹⁾	Company Association ⁽²⁾
44	dichloroanthracene, 9, 10-	605-48-1	potential TIC (8260 or 8270) - standard is not commercially available.	S, A	M
45	ethylene glycol monobutyl ether	111-76-2	by 8270C	S, A	T
46	isoheptane	31394-54-4	Standard is not commercially available; TIC reporting consistent with PS approach	S, A	PS
47	methanone, (3-chlorophenyl)(4-chlorophenyl)	7498-66-0	standard is not commercially available; can be reported as a TIC, if present	S, A	PS
48	O,O,S-Trimethylphosphorodithionate	2953-29-9	standard is not commercially available; TIC approach consistent with PS approach	S, A	M
49	paraformaldehyde	30525-89-4	potential TIC (8260 or 8270); standard is not commercially available	S, A	PS
50	pentachlorocyclohexane	319-94-8	as gamma-pentachlorocyclohexene	S, A	M
51	phosphorodithioic acid	15834-33-0	TIC reporting possible; standard is not commercially available.	S, A	PS
52	phthalimide	85-41-6	potential TIC (8260 or 8270) - standard is not commercially available	S, A	PS
53	sulfenone	80-00-2	potential TIC - standard is not commercially available	S,A	PS
54	tetrachlorothiophene	6012-97-1	Standard is not commercially available.	S, A	M

Notes

(1) Abbreviations used: S = Soil sample, A = Aqueous sample

(2) Abbreviations used: K = Kerr-McGee, M = Montrose, PS = Pioneer Stauffer, T = TIMET

Table 4
Chemical Families and Mixtures Associated with Historical Site Operations
Upper and lower Ponds Ditches
Former BMI Common Areas

Chemical Family	Analytical Approach
1 alkyl alkane	to be reported as TICs if present, consistent with Montrose approach
2 alkane	Laboratory research suggests TIC - class of compounds; TIC reporting consistent with Montrose approach
3 benzene family, organic species	to be reported as individual VOCs and SVOCs using 8260B and 8270C (full suite analysis with TICs)
4 beta emitters	to be reported as individual isotopes using radionuclide suite
5 brominated hydrocarbons	several brominated hydrocarbons are included in the analytical program included in the broad-suite 8260 analysis
6 C10 furan	potentially reportable as TIC (8260 or 8270)
7 chelant	Kerr-McGee identified this as Nalco 1745, a class of dithiocarbonates; no analytical method identified
8 chlorates	to be reported as chlorate using 300.0, and as individual metals using 6010 / 6020 (full suite analysis)
9 chlorides	to be reported as chloride using 300.0, and as individual metals using 6010 / 6020 (full suite analysis)
10 chlorobenzoic acid esters	2-chlorobenzoic acid (CAS 118-91-2, 3-chlorobenzoic acid (CAS 535-80-8), 4-chlorobenzoic acid (CAS 74-11-3) Identified by Montrose - "difficult to identify, screen out based on analytical limitations.Remove from analyte list."
11 chlorinated benzene compound	several chlorinated benzene compounds are included in 8260 analysis
12 chlorinated herbicides	Identified by Kerr-McGee as tumbleleaf defoliant; suggest 8151A
13 chlorinated ketones	may have been mis-spelled in documents as "chloronated keytones"; to be analyzed as individual compounds by 8315A / 8260B (full suite analysis with TICs)
14 chlorinated organics	to be reported as individual VOCs and SVOCs using 8260B and 8270C (full suite analysis with TICs) KM
15 chlorinated paraffins	KM - says by 8260
16 chloroalkylbenzene(s)	the following four chloralkylbenzene compounds are potential TICs by 8260B or 8270C: (4-chlorobutyl)benzene, (2-chlorovinyl)benzene, 1-chloro-4-ethylbenzene, and (beta-chloroethyl)benzene
17 coagulants	Kerr-McGee identified analysis as ions and metals and 425.1 for surfactants (ferric sulfide, aluminum sulfate, ferric chloride)
18 DDT and metabolites	in common usage, term generally refers to DDT, DDD, and DDE, all of which are included in the 8081A analysis; term could theoretically include any DDT breakdown product, many of which are potential TICs by 8260B or 8270C
19 DDT, sulfonated metabolites	context in Phase I report indicates that this class of compounds could result from interactions of DDT and metabolites (see above) with sulfuric acid in waste stream; specific compounds cannot be reliably identified based on this hypothesized presumption
20 dichlorobiphenyl	As aroclors with the option to measure as individual congeners.
21 dichlorostyrene	included as 2,5-, 2,4-, 2,6- and 3,4- isomers; potential TIC (8260 or 8270) - standards for these isomers are not commercially available
22 diesel	As TPH
23 dioxin	to be reported as individual congeners using 8290 (full suite analysis)
24 freon	to be reported as dichlorodifluoromethane, trichlorofluoromethane, 1,1,2-trichloro-1,2,2-trifluoroethane using 8260B
25 furans	to be reported as individual furan congeners using 8290 (full suite analysis)

Table 4
Chemical Families and Mixtures Associated with Historical Site Operations
Upper and lower Ponds Ditches
Former BMI Common Areas

Chemical Family (continued)	Constituents (see listings in Table 1 for analytical approach)
26 gasoline	As TPH
27 glycols	The glycols are a large and varied class of compounds used in a variety of industries such as fiber and textile processing, food industry, paper processing, personal care, plastics, water and wastewater treatment, etc.; this term likely refers to ethylene glycol and propylene glycol, which are glycols commonly used in industry, and are used in antifreeze and de-icing solutions; these two compounds are included in the analytical program as individual constituents to be reported using 8015B
28 grease	As TPH
29 gross alpha radiation	to be analyzed and reported by Rad - 900.0 / 9310
30 gross beta radiation	to be analyzed and reported by Rad - 900.0 / 9310
31 heavy metal sulfides	to be reported as individual metals using 6010 / 6020 (full suite analysis); to be reported as sulfide using 376.1
32 heavy metals	to be reported as individual metals using 6010 / 6020 (full suite analysis)
33 heptanes	As n-heptane, 2-methylhexane, 3-methylhexane, 2,2-dimethylpentane, 2,3-dimethylpentane, 2,4-dimethylpentane, 3,3-dimethylpentane, 3-ethylpentane, and 2,2,3-trimethylbutane.
34 inorganics	to be reported as individual metals using 6010 / 6020 (full suite analysis)
35 insecticides	KM - 8081A
36 ketones	May have been mis-spelled in documents as "keytones"; to be reported as individual compounds using 8315A / 8260B (full suite analysis with TICs)
37 magnesium salts	to be reported as magnesium using 6010 / 6020; to be reported as chlorides, sulfides, sulfates using 300.0 / 376.1
38 metal chlorides	to be reported as individual metals using 6010 & 6020 (full suite analysis); to be reported as chloride using 300.0
39 metal oxides	to be reported as individual metals using 6010 & 6020 (full suite analysis)
40 mixed chloride and sulfate salts (Ca, Mg,K)	to be reported as calcium, magnesium, and potassium using 6010 / 6020; to be reported as chlorides, sulfides, sulfates using 300.0 / 376.1
41 O,O-diethylphosphorodithioic acid (DTA), sodium salt(s)	to be reported as O,O-diethylphosphorodithioic acid using HPLC; to be reported as sodium using 6010 & 6020
42 O,O-dimethylphosphorodithioic acid (DMPT), sodium salt(s)	to be reported as O,O-dimethylphosphorodithioic acid using HPLC; to be reported as sodium using 6010 & 6020
43 organic acids	included in analytical program - see Table 6, HPLC method
44 organochlorine pesticides	Identified by Kerr-McGee; method 8081A. Additional constituents listed are "DDT, DDE. Insecticides, and pesticides."
45 organophosphorus pesticides	Identified by Kerr-McGee; method 8141A
46 oxygenated chlorides	to be reported as chloride using 300.0
47 PAHs	to be reported as individual compounds using 8310 / 8270C (full suite analysis with TICs)
48 PCB	As aroclors with the option to measure as individual congeners.
49 pesticides	to be reported as individual organochlorine and organophosphorus compounds using 8081A / 8141A (full suite analysis with TICs)
50 phthalate	document refers to phthalate in generic sense (i.e., "phthalate compounds", "phthalate wastes"); to be analyzed as individual phthalate compounds using 8270C (full suite analysis with TICs)
51 polychlorinated biphenyls (PCBs)	to be reported as individual isomers using 8082 (full suite analysis); may have been mis-spelled in documents as "polychlorinated biphenols"
52 polychlorobenzene	Specific compounds will be identified in the 8260 and 8270 methods and as TICs.

Table 4
Chemical Families and Mixtures Associated with Historical Site Operations
Upper and lower Ponds Ditches
Former BMI Common Areas

Chemical Family (continued)	Constituents (see listings in Table 1 for analytical approach)
53 radionuclides (NORM)	individual isotopes of Uranium-238 and Thorium-232 decay chains and select other radionuclides to be analyzed as noted
54 rare earth elements	propose to omit
55 sulfonated organics	several are included in the analytical program; the remaining to be reported as TICs, for those in MS library
56 sulfonated metabolites of DDT	unable to identify - to be reported as TICs if in MS library.
57 SVOCs	to be reported as individual compounds using 8270C (full suite analysis with TICs)
58 tin oxides	to be reported as tin using 6010 / 6020
59 total petroleum hydrocarbons (TPH)	constituents will be detected by 8260B and/or 8270C (full suite analysis); if desired, TPH can be run as extractable and purgeable ranges (motor oil, kerosene, diesel, gasoline) using 8015B
60 VOCs	to be reported as individual compounds using 8260B (full suite analysis with TICs)
Chemical Mixture	Constituents (see listings in Table 1 for analytical approach)
61 acid effluent, wastes	primarily hydrochloric acid wastes, also sulfuric and other acids
62 anolyte solution	sulfuric acid, manganese sulfate
63 anti-foam agent	wide variety of surfactants containing unknown chemicals and varying formulae from different manufacturers
64 battery acids	metals; pH
65 brass	6010 & 6020 as copper and zinc
66 brine, brine sludge	magnesium and calcium hydroxides and carbonates; sodium carbonate; sodium chloride; sodium chlorate; TDS
67 caustic solution, scrubber solution, scrubber waste, and cell liquor	sodium hydroxide; sodium hypochlorite; chlorine; hydrochloric acid; sodium chloride; sodium hypochlorate; sodium perchlorate; mixed chloride and sulfate salts (Ca, Mg, K); TDS
68 chlorine liquifaction sludge	carbon; chlorine; chloroform; carbon tetrachloride; hexachloroethane
69 coal	PAHs Kerr-McGee proposes TOC analysis
70 coke	PAHs Kerr-McGee proposes TOC analysis
71 copperferron	6010 & 6020 as copper and iron
72 CSD solids, sludge and wastes	metal chlorides and oxides, particularly vanadium and chromium; rutile ore; coke; radionuclides
73 degreaser	VOCs
74 diatomaceous earth (used as filter media)	6010 as silica Kerr-McGee, 310.1 as alkalinity
75 filter aid, cellulose filter aid	6010 as silica Kerr-McGee, 310.1 as alkalinity
76 flammables	to be reported as 1010 for flashpoint
77 flocculent	have been unable to determine chemical constituents of this material historically used in KM manganese dioxide process - KM identified "alum, caustic, ferric chloride, ferric sulfate, ferrous sulfate, lime, sulfides, and polyelectrolytes" - proposed analysis is as ions and metals, EPA 425.1 for surfactants, and TOC for polyelectrolytes
78 fume scrubber waste	organics and heavy metals
79 gear lubricant	SVOCs, metals
80 glass material	silica
81 heavy oils/tars	PAHs, SVOCs
82 hydraulic fluid, hydraulic oil & grease	SVOCs; metals
83 kiln Flue dust	calcium and magnesium oxides and carbonates CaO-MgO, CaCO3-MgCO3
84 lab wastes	caustic and acid solutions; formaldehyde titrant; acetone; nitric and hydrofluoric acids;
85 leach liquor effluent, wastes	magnesium; magnesium chloride; hydrochloric acid; nitric acid; citric acid; urea; sodium gluconate; titanium; nitrate; sulfate; chlorine; titanium; sodium; calcium; magnesium; TDS

Table 4
Chemical Families and Mixtures Associated with Historical Site Operations
Upper and lower Ponds Ditches
Former BMI Common Areas

Chemical Mixture	Constituents (see listings in Table 1 for analytical approach)
86 low pH water	pH
87 manganese ore	manganese and other metals
88 natural gas	not proposing to test for gasses
89 oil, oil & grease, oily sludges or waste, waste oil	SVOCs, metals
90 paint	VOCs; SVOCs - KM says metals as well
91 paint thinner	VOCs
92 paraffin	VOCs; SVOCs - KM says 8015M (C ₁₃ -C ₂₂ range)
93 petroleum hydrocarbons (kerosene, gasoline, diesel, motor oil)	VOCs; SVOCs; metals
94 pickling acids	pH
95 polychlor still bottoms	PCBs; dichlorobenzenes; PAHs
96 rubber hydrocarbon solvent	include aromatic compounds such as benzene and toluene (8260) and mineral spirits (8015)
97 rutile ore	titanium and other metals; radionuclides
98 sewage effluent	COD; VOCs
99 slag	metals
100 sludge	metals, PCBs, pesticides, SVOCs
101 smut	magnesium; magnesium, sodium, fluorspar, and calcium chlorides; sulfuric acid; sodium hydroxide
102 sodium-potassium cooling jacket waste	TIMET reported as a cooling alloy; these metals will be detected as sodium and potassium
103 solvents	VOCs
104 stainless steel	metals
105 steel	metals
106 synthetic detergent	KM says they will analyze as surfactants via EPA 425.1
107 tank mud	referenced as a constituent of the waste streams associated with the sodium chlorate and manganese dioxide production processes; chemical constituents could include any of the raw materials, products or intermediates for those processes, including: sodium chlorate, sodium chloride, sodium dichromate, hydrochloric acid, sodium hydroxide, urea, soda ash, strontium carbonate, silica, graphite, manganese dioxide, manganese sulfate, sulfuric acid, copper, and manganese. KM proposes 6010/6020 for metals, 150.1 for pH, 7196A for hexavalent chromium (?), and ions
108 tar-like materials	PAHs; SVOCs
109 titanium fines dust collector	titanium; magnesium; magnesium chloride
110 Tumbleaf Defoliant	sodium chlorate; soda ash; urea; sodium alpha olefin sulfonate
111 water	generic term; program to analyze for individual constituents

Table 5
Listing of Site-Related Chemicals by CAS# with Synonyms
Upper and Lower Ponds Ditches
Former BMI Common Areas

Item#	Chemical ⁽¹⁾	CAS Number	Analytical Method	Synonyms
1	formaldehyde	50-00-0	8315A	formalin
2	4,4'-DDT	50-29-3	8081A	pp-DDT, DDT
3	benzo(a)pyrene	50-32-8	8310 / 8270C	
4	O,P'-DDD	53-19-0	8081A	2,4-DDD
5	dibenzo(a,h)anthracene	53-70-3	8310 / 8270C	
6	carbon tetrachloride	56-23-5	8260B	
7	benzo(a)anthracene	56-55-3	8310 / 8270C	
8	cyanide	57-12-5	9010/9014	
9	carbamide	57-13-6	TIC	urea
10	propylene glycol	57-55-6	8015B	
11	chlordane	57-74-9	8081A	
12	Lindane	58-89-9	8081A	gamma-BHC; gamma BHC; BHC-gamma; BHC, gamma-; gamma benzene hexachloride
13	4-chloro-3-methylphenol	59-50-7	8270C	
14	Dieldrin	60-57-1	8081A	
15	tetrasodium EDTA	64-02-8	6010 & 6020	
16	ethanol	64-17-5	8260B	ethyl alcohol
17	benzoic acid	65-85-0	8270C	
18	methanol	67-56-1	8015B	methyl alcohol
19	acetone	67-64-1	8260B	
20	chloroform	67-66-3	8260B	ethyl chloride
21	hexachloroethane	67-72-1	8270C	
22	benzene	71-43-2	8260B	
23	1,1,1-trichloroethane	71-55-6	8260B	1,1,1-TCA; methyl chloroform
24	Endrin	72-20-8	8081A	
25	methoxychlor	72-43-5	8081A	
26	4,4'-DDD	72-54-8	8081A	
27	4,4'-DDE	72-55-9	8081A	pp-DDE, DDE
28	methane	74-82-8	RSK175	
29	bromomethane	74-83-9	8260B	
30	ethane	74-84-0	RSK175	
31	ethylene	74-85-1	RSK175	
32	chloromethane	74-87-3	8260B	
33	chloroethane	75-00-3	8260B	
34	vinyl chloride	75-01-4	8260B	
35	acetonitrile	75-05-8	8260B	
36	acetaldehyde	75-07-0	8315A	
37	methylene chloride	75-09-2	8260B	dichloromethane
38	carbon disulfide	75-15-0	8260B	
39	bromoform	75-25-2	8260B	tribromomethane
40	bromodichloromethane	75-27-4	8260B	
41	1,1-dichloroethane	75-34-3	8260B	
42	1,1-dichloroethene	75-35-4	8260B	
43	trichlorofluoromethane	75-69-4	8260B	Freon-11
44	dichlorodifluoromethane	75-71-8	8260B	Freon-12
45	chloral	75-87-6	8315A	trichloroacetaldehyde
46	1,1,2-trichloro-1,2,2-trifluoroethane	76-13-1	8260B	Freon-113
47	butylchloral	76-36-8	TIC	
48	heptachlor	76-44-8	8081A	
49	citric acid	77-92-9	pH	
50	1,2-dichloropropane	78-87-5	8260B	
51	methyl ethyl ketone	78-93-3	8260B	2-butanone
52	1,1,2-trichloroethane	79-00-5	8260B	
53	trichloroethene	79-01-6	8260B	TCE; trichloroethylene
54	dichloroacetaldehyde	79-02-7	8315A	
55	1,1,2,2,-tetrachloroethane	79-34-5	8260B	
56	2-nitropropane	79-46-9	8260B	
57	sulfone	80-00-2	TIC	1-Chloro-4-(phenylsulfonyl)benzene
58	bis para-chlorophenyl sulfone	80-07-9	8270C	4,4'-dichlorodiphenyl sulfone; benzene, 1,1'-sulfonylbis(4-chloro)-; bis(4-chlorophenyl)sulfone; bis(p-chlorophenyl)sulfone
59	acenaphthene	83-32-9	8270C	
60	diethyl phthalate	84-66-2	8270C	

Table 5
Listing of Site-Related Chemicals by CAS# with Synonyms
Upper and Lower Ponds Ditches
Former BMI Common Areas

Item#	Chemical ⁽¹⁾	CAS Number	Analytical Method	Synonyms
61	di-n-butylphthalate	84-74-2	8270C	
62	phenanthrene	85-01-8	8270C	
63	2,4'-dichlorobenzophenone	85-29-0	TIC	
64	phthalimide	85-41-6	TIC	
65	butylbenzyl phthalate	85-68-7	8270C	
66	fluorene	86-73-7	8270C	
67	1,2,3-trichlorobenzene	87-61-6	8260B	
68	hexachlorobutadiene	87-68-3	8270C	
69	pentachlorophenol	87-86-5	8270C	
70	2,4,6-trichlorophenol	88-06-2	8270C	
71	Dinoseb (syn: dinitrobutyl phenol)	88-85-7	8151A	
72	phthalic acid	88-99-3	8270C	
73	2-chlorobenzaldehyde	89-98-5	TIC	
74	4,4'-dichlorobenzophenone	90-98-2	TIC	bis(4-chlorophenyl)methanone; bischlorophenylmethanone; dichlorobenzophenone; methanone, bis(4-chlorophenyl)-
75	naphthalene	91-20-3	8270C	
76	2-methylnaphthalene	91-57-6	8270C	
77	MCPP	93-65-2	8151A	
78	Silvex (syn: 2,4,5-TP)	93-72-1	8151A	
79	2,4-D	94-75-7	8151A	
80	2,4 DB	94-82-6	8151A	
81	o-cresol (syn: 2-methylphenol)	95-48-7	8270C	
82	2-chlorotoluene	95-49-8	8260B	
83	1,2-dichlorobenzene	95-50-1	8260B	1,2-DCB; o-; ortho-dichlorobenzene; o-dichlorobenzene
84	2-chlorophenol	95-57-8	8270C	
85	1,2,4-trimethylbenzene	95-63-6	8260B	
86	1,2,4,5-tetrachlorobenzene	95-94-3	8270C	
87	2,4,5-trichlorophenol	95-95-4	8270C	
88	dibromochloropropane	96-12-8	8260B	DBCP
89	1,2,3-trichloropropane	96-18-4	8260B	
90	tert-butylbenzene	98-06-6	8260B	
91	benzenesulfonic acid	98-11-3	HPLC	BSA; benzene sulfonic acid
92	benzene,1-chloro-4-(methylsulfonyl)	98-57-7	TIC	4-Chlorophenyl methyl sulfone
93	4-chlorobenzenesulfonic acid	98-66-8	TIC	chlorobenzene sulfonic acid; chlorobenzenesulfonic acid; monochlorobenzene sulfonic acid (MCBSA); para- chlorobenzene sulfonic acid
94	isopropylbenzene	98-82-8	8260B	cumene
95	acetophenone	98-86-2	8270C	
96	nitrobenzene	98-95-3	8270C	
97	cymene	99-87-6	8260B	isopropyltoluene
98	4-nitrophenol	100-02-7	8270C	
99	ethylbenzene	100-41-4	8260B	
100	styrene	100-42-5	8260B	
101	4-bromophenyl phenyl ether	101-55-3	8270C	
102	n-propylbenzene	103-65-1	8260B	
103	n-butylbenzene	104-51-8	8260B	
104	4-chlorobenzyl chloride	104-83-6	TIC	references in company documents to non-specific chlorobenzyl chloride
105	2,4-dimethylphenol	105-67-9	8270C	
106	4-chlorotoluene	106-43-4	8260B	
107	1,4-dichlorobenzene	106-46-7	8260B	1,4-DCB; p-; para-dichlorobenzene; p-dichlorobenzene
108	p-chloroaniline	106-47-8	8270C	
109	p-chlorobenzenethiol	106-54-7	8270C	parachlorothiophenol; 4-chlorothiophenol; benzenethiol, 4 chloro-; sometimes abbreviated as p-Thiol or p- thiophenol
110	1,2-dichloroethane	107-06-2	8260B	ethylene dichloride
111	chloroacetaldehyde	107-20-0	8315A	
112	ethylene glycol	107-21-1	8015B	
113	1-nitropropane	108-03-2	TIC	
114	2,4-dimethylpentane	108-08-7	8260B	

Table 5
Listing of Site-Related Chemicals by CAS# with Synonyms
Upper and Lower Ponds Ditches
Former BMI Common Areas

Item#	Chemical ⁽¹⁾	CAS Number	Analytical Method	Synonyms
115	4-methyl-2-pentanone	108-10-1	8260B	methyl isobutyl ketone; MIBK
116	1,3,5-trimethylbenzene	108-67-8	8260B	
117	1,3,5-trichlorobenzene	108-70-3	8260B	
118	bromobenzene	108-86-1	8260B	
119	toluene	108-88-3	8260B	
120	chlorobenzene	108-90-7	8260B	monochlorobenzene, MCB, chlorobenzol
121	phenol	108-95-2	8270C	
122	benzenethiol	108-98-5	8270C	thiophenol
123	pyridine	110-86-1	8270C	
124	ethylene glycol monobutyl ether	111-76-2	TIC	2-Butoxy-1-ethanol
125	2,2,2-Trichloroethanol	115-20-8	TIC	
126	bis(2-ethylhexyl)phthalate	117-81-7	8270C	
127	di-n-octyl phthalate	117-84-0	8270C	
128	hydroxymethyl phthalimide	118-29-6	8270C	HMP; hydroxymethylphthalimide; hydroxy-methyl phthalimide
129	hexachlorobenzene	118-74-1	8270C	
130	benzophenone	119-61-9	TIC	phenyl ketone; diphenyl ketone
131	anthracene	120-12-7	8310 / 8270C	
132	Dichloroprop	120-36-5	8151A	
133	1,2,4-trichlorobenzene	120-82-1	8260B	
134	2,4-dichlorophenol	120-83-2	8270C	
135	2,4-dinitrotoluene	121-14-2	8270C	
136	benzoylchloride, 4-chloro	122-01-0	TIC	
137	1,2-diphenylhydrazine	122-66-7	8270C	
138	4-chlorothioanisole	123-09-1	8270C	chlorothioanisole; p-chlorophenyl methyl sulfide; 4-chlorophenyl methyl sulfide; benzene, 1-chloro-4-(methylthio)-
139	1,4-dioxane	123-91-1	8270C	
140	nonanal	124-19-6	8260B	
141	chlorodibromomethane	124-48-1	8260B	dibromochloromethane
142	tetrachloroethene	127-18-4	8260B	PCE; tetrachloroethylene
143	diphenyl sulfone	127-63-9	8270C	diphenylsulfone; phenyl sulfone; benzene, 1,1'-sulfonylbis-
144	pyrene	129-00-0	8270C	
145	dimethyl phthalate	131-11-3	8270C	
146	sec-butylbenzene	135-98-8	8260B	
147	diphenyl sulfide	139-66-2	8270C	phenyl sulfide
148	heptane	142-82-5	8260B	
149	sodium bicarbonate	144-55-8	6010/6020/310.1	
150	cis-1,2-dichloroethene	156-59-2	8260B	
151	trans-1,2-dichloroethene	156-60-5	8260B	
152	benzo(g,h,i)perylene	191-24-2	8270C	
153	indeno(1,2,3-cd)pyrene	193-39-5	8270C	
154	benzo(b)fluoranthene	205-99-2	8270C	
155	fluoranthene	206-44-0	8270C	
156	benzo(k)fluoranthene	207-08-9	8270C	
157	acenaphthylene	208-96-8	8270C	
158	chrysene	218-01-9	8270C	
159	1,2,4-trithiolane	289-16-7	TIC	
160	O,O-diethylphosphorodithioic acid	298-06-6	HPLC	diethylphosphorodithioic acid; sometimes referred to in company documentation as DTA
161	chloral hydrate	302-17-0	TIC	
162	aldrin	309-00-2	8081A	
163	BHC, alpha-	319-84-6	8081A	alpha benzene hexachloride; BHC-alpha; alpha BHC
164	BHC, beta-	319-85-7	8081A	beta benzene hexachloride; BHC-beta; beta BHC
165	BHC, delta-	319-86-8	8081A	delta benzene hexachloride; BHC-delta; delta BHC
166	pentachlorocyclohexane	319-94-8	TIC	gamma-pentachlorocyclohexene
167	carbonic acid	463-79-6	pH	
168	2,2,3-trimethylbutane	464-06-2	8260B	
169	calcium carbonate (CaCO ₃)	471-34-1	310.1	also, hydrated form
170	sodium carbonate (Na ₂ CO ₃)	497-19-8	6010 & 6020 / 310.1	soda ash
171	sodium gluconate (C ₆ H ₁₁ NaO ₇)	527-07-1	6010 & 6020	
172	1,3-dichlorobenzene	541-73-1	8260B	1,3-DCB; metadichlorobenzene; meta-dichlorobenzene

Table 5
Listing of Site-Related Chemicals by CAS# with Synonyms
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Item#	Chemical ⁽¹⁾	CAS Number	Analytical Method	Synonyms
173	1,3-dichloropropene	542-75-6	8260B	
174	bis(chloromethyl)ether	542-88-1	TIC	dichlorodimethyl ether; oxybis[chloromethane]; sometimes referred to in company documents as BCME
175	magnesium carbonate (from magnesite)	546-93-0	6010 & 6020 / 310.1	magnesite
176	3,3-dimethylpentane	562-49-2	8260B	
177	1,1-dichloropropene	563-58-6	8260B	
178	2,3-dimethylpentane	565-59-3	8260B	
179	3-methylhexane	589-34-4	8260B	
180	2,2-dimethylpentane	590-35-2	8260B	
181	2-methylhexane	591-76-4	8260B	
182	2-hexanone	591-78-6	8260B	
183	dichloroanthracene, 9,10-	605-48-1	TIC	
184	pentachlorobenzene	608-93-5	8270C	
185	benzoylchloride, 2-chloro	609-65-4	TIC	
186	2-chlorobenzyl chloride	611-19-8	TIC	references in company documents to non-specific chlorobenzyl chloride
187	2-chloroiodobenzene	615-41-8	TIC	Benzene, 1-chloro-2-iodo-
188	3-ethylpentane	617-78-7	8260B	
189	benzoylchloride, 3-chloro	618-46-2	TIC	
190	3-chlorobenzyl chloride	620-20-2	TIC	references in company documents to non-specific chlorobenzyl chloride
191	n-nitroso-di-n-propylamine	621-64-7	8270C	
192	(beta-chloroethyl)benzene	622-24-2	TIC	
193	(2-chlorovinyl)benzene	622-25-3	TIC	
194	1-chloro-4-ethylbenzene	622-98-0	TIC	
195	dimethyldisulfide	624-92-0	8260B	DMDS; methyl disulfide
196	1,1,1,2-tetrachloroethane	630-20-6	8260B	
197	1,2,3,4-tetrachlorobenzene	634-66-2	TIC	
198	1,2,3,5-tetrachlorobenzene	634-90-2	TIC	
199	Phosmet	732-11-6	8141A	Imidan
200	O,O-dimethylphosphorodithioic acid	756-80-9	HPLC	dimethyl phosphorodithioic acid; sometimes referred to in company documentation as DMPT
201	carbophenothion	786-19-6	8141A	Trithion, ethyl carbophenothion
202	diphenyldisulfide	882-33-7	8270C	phenyl disulfide; diphenyl disulfide
203	methyl carbophenothion	953-17-3	8141A	methyl Trithion
204	endosulfan I	959-98-8	8081A	
205	heptachlor epoxide	1024-57-3	8081A	
206	endosulfan sulfate	1031-07-8	8081A	
207	2,5-dichlorostyrene	1123-84-8	TIC	
208	bis para-chlorophenyl disulfide	1142-19-4	8270C	dichlorodiphenyl sulfide; bis(p-chlorophenyl)-disulfide; bis(p-chlorophenyl)disulfide; 1,4-dichlorophenyldisulfide; disulfide, bis(4-chlorophenyl)
209	benzene,(methylsulfinyl)	1193-82-4	TIC	methyl phenyl sulfoxide; phenyl methyl sulfoxide
210	benzenesulfonic acid, phenyl ester	1208-20-4	TIC	
211	borax	1303-96-4	6010 & 6020	
212	barium oxide	1304-28-5	6010 & 6020	
213	calcium hydroxide	1305-62-0	6010 & 6020	
214	calcium oxide	1305-78-8	6010 & 6020	lime
215	cobaltic oxide	1308-04-9	6010 & 6020	
216	chromic hydroxide (Cr(OH) ₃)	1308-14-1	6010 & 6020	
217	chromium sesquioxide	1308-38-9	6010 & 6020	chromic oxide
218	ferric hydroxide	1309-33-7	6010 & 6020	
219	ferric oxide	1309-37-1	6010 & 6020	iron oxide
220	magnesium oxide (MgO)	1309-48-4	6010 & 6020	calcined magnesite, magnesia
221	potassium hydroxide	1310-58-3	6010 & 6020 / pH	
222	sodium hydroxide (NaOH)	1310-73-2	6010 & 6020 / pH / 310.1	caustic soda
223	manganese dioxide	1313-13-9	6010 & 6020	
224	molybdenum trioxide	1313-27-5	6010 & 6020	
225	sodium oxide	1313-59-3	6010 & 6020	
226	niobium pentoxide (Nb ₂ O ₅)	1313-96-8	6010 & 6020	
227	nickel mono-oxide	1313-99-1	6010 & 6020	

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Item#	Chemical ⁽¹⁾	CAS Number	Analytical Method	Synonyms
228	zinc oxide	1314-13-2	6010 & 6020	
229	tungsten trioxide	1314-35-8	6010 & 6020	
230	phosphorus pentoxide	1314-56-3	6010 & 6020	
231	vanadium pentoxide	1314-62-1	6010 & 6020	
232	phosphorus pentasulfide	1314-80-3	6010 & 6020	phosphorous pentasulfide; phosphorous sulfide
233	lead sulfide	1314-87-0	6010 & 6020 / 376.1	
234	zinc sulfide	1314-98-3	6010 & 6020 / 376.1	
235	lead mono-oxide	1317-36-8	6010 & 6020	
236	cupric oxide	1317-38-0	6010 & 6020	
237	cobalt sulfide	1317-42-6	6010 & 6020 / 376.1	cobalt (II) sulfide
238	arsenic trioxide	1327-53-3	6010 & 6020	
239	xylene(s)	1330-20-7	8260B	
240	sodium borate (B ₄ H ₂ O ₇)	1330-43-4	6010 & 6020 /310.1	
241	asbestos	1332-21-4	ISO 10312 TEM	
242	alumina silicate	1335-30-4	6010 & 6020	
243	ammonium hydroxide	1336-21-6	350.1	
244	alumina	1344-28-1	6010 & 6020	aluminum oxide
245	ferrous oxide	1345-25-1	6010 & 6020/150.1	iron oxide is generic term
246	cyclododecene	1501-82-2	TIC	sometimes referred to in company documentation as CDEN
247	strontium carbonate	1633-05-2	6010 & 6020 / 310.1	
248	methyl tert-butyl ether	1634-04-4	8260B	MTBE
249	4,4'-Dichloromethylbiphenyl	1667-10-3	TIC	dichloromethylbiphenyl; 4,4'-bis(chloromethyl)-1,1'-biphenyl
250	2,3,7,8-tetrachlorodibenzo-p-dioxin	1746-01-6	8290	
251	dicamba	1918-00-9	8151A	
252	3-chlorobenzenethiol	2037-31-2	TIC	
253	3,4-dichlorostyrene	2039-83-0	TIC	
254	3,3'-dichlorobiphenyl	2050-67-1	8082	
255	4,4'-dichlorobiphenyl	2050-68-2	8082	
256	2,4-dichlorostyrene	2123-27-5	TIC	
257	O,O,S-Trimethylphosphorodithionate	2953-29-9	TIC	
258	3,4'-dichlorobiphenyl	2974-90-5	8082	
259	3,4-dichlorobiphenyl	2974-92-7	8082	
260	1,2,3,4,6,7,8,9-octachlorodibenzo-p-dioxin	3268-87-9	8290	
261	O,P'-DDE	3424-82-6	8081A	2,4-DDE
262	dichlorobenzil, 2,2'-	3457-46-3	8270C	
263	potassium chlorate (KClO ₃)	3811-04-9	6010 & 6020 / 300.0	
264	3-hexene-2,5-dione	4436-75-3	TIC	
265	(4-chlorobutyl)benzene	4830-93-7	TIC	
266	chlordane, alpha	5103-71-9	8081A	
267	chlordane, gamma	5103-74-2	8081A	
268	tetrachlorothiophene	6012-97-1	TIC	
269	3,4-dichlorobenzophenone	6284-79-3	TIC	
270	2-chlorobenzenethiol	6320-03-2	TIC	
271	Endrin aldehyde	7421-93-4	8081A	
272	aluminum (Al)	7429-90-5	6010 & 6020	
273	ferrous iron (Fe)	7439-89-6	6010 & 6020	
274	lead (Pb)	7439-92-1	6010 & 6020	
275	lithium (Li)	7439-93-2	6010/6020	
276	magnesium (Mg)	7439-95-4	6010 & 6020	
277	manganese (Mn)	7439-96-5	6010 & 6020	
278	mercury (Hg)	7439-97-6	7471A / 7470A	
279	molybdenum (Mo)	7439-98-7	6010 & 6020	
280	nickel (Ni)	7440-02-0	6010 & 6020	
281	niobium	7440-03-1	6010 & 6020	
282	palladium	7440-05-3	6020	
283	platinum	7440-06-4	6010 & 6020	
284	potassium (K)	7440-09-7	6010 & 6020	
285	silicon	7440-21-3	6010 & 6020	
286	silver (Ag)	7440-22-4	6010 & 6020	
287	sodium (Na)	7440-23-5	6010 & 6020	

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Item#	Chemical ⁽¹⁾	CAS Number	Analytical Method	Synonyms
288	strontium	7440-24-6	6010 & 6020	
289	thallium (Tl)	7440-28-0	6010 & 6020	
290	thorium-232	7440-29-1	HASL 300 A-01-R Mod	
291	tin (Sb)	7440-31-5	6010 & 6020	
292	titanium (Ti)	7440-32-6	6010 & 6020	
293	tungsten (W)	7440-33-7	6010 & 6020	
294	antimony	7440-36-0	6010 & 6020	
295	arsenic	7440-38-2	6010 & 6020	
296	barium	7440-39-3	6010 & 6020	
297	beryllium	7440-41-7	6010 & 6020	
298	boron	7440-42-8	6010 & 6020	
299	cadmium	7440-43-9	6010 & 6020	
300	chromium, total (Cr)	7440-47-3	6010 & 6020	trivalent Cr; trivalent chrome
301	cobalt (Co)	7440-48-4	6010 & 6020	
302	copper (Cu)	7440-50-8	6010 & 6020	
303	uranium (U)	7440-61-1	6010 & 6020	
304	uranium-238	7440-61-1	HASL A-01-R Mod	
305	vanadium (V)	7440-62-2	6010 & 6020	
306	zinc (Zn)	7440-66-6	6010 & 6020	
307	zirconium (Zr)	7440-67-7	6010 & 6020	
308	calcium (Ca)	7440-70-2	6010 & 6020	
309	sulfur trioxide	7446-11-9	300	
310	potassium chloride (KCl)	7447-40-7	6010 & 6020 / 300.0	
311	lithium chloride	7447-41-8	6010 & 6020 / 300.0	
312	magnesium sulfate (MgSO ₄)	7487-88-9	6010 & 6020 / 300.0	
313	methanone, (3-chlorophenyl)(4-chlorophenyl)	7498-66-0	TIC	
314	titanium tetrachloride (TiCl ₄)	7550-45-0	6010 & 6020 / 300.0	
315	tri-sodium phosphate	7601-54-9	6010 & 6020 / 300.0	
316	sodium perchlorate (NaClO ₄)	7601-89-0	6010 & 6020/314	
317	perchloric acid (HClO ₄)	7601-90-3	pH/314.0	
318	tin chloride	7646-78-8	6010 & 6020 / 300.0	sometimes abbreviated as Sn chloride
319	hydrochloric acid	7647-01-0	150.1	HCl; muriatic acid; hydrogen chloride
320	sodium chloride (NaCl)	7647-14-5	6010 & 6020 / 300.0	rock salt
321	phosphoric acid	7664-38-2	pH	potassium phosphate
322	hydrofluoric acid (HF)	7664-39-3	150.1	
323	sulfuric acid (H ₂ SO ₄)	7664-93-9	pH	sulphuric acid
324	sodium hypochlorite	7681-52-9	6010 & 6020 / 300.0	bleach; sodium hydrochlorite
325	nitric acid (HNO ₃)	7697-37-2	300	
326	sulfur	7704-34-9	6010 & 6020	sulphur, octasulfur
327	ferric chloride	7705-08-0	6010 & 6020 / 300.0	
328	vanadium chloride	7718-98-1	6010 & 6020 / 300.0	sometimes abbreviated as V chloride
329	phosphorus trichloride	7719-12-2	6010 & 6020	
330	phosphorus (P)	7723-14-0	6010 & 6020	phosphorous
331	bromine (Br)	7726-95-6	300	
332	barium sulfate	7727-43-7	6010 & 6020 / 300.0	barite
333	sodium sulfate	7727-73-3	6010 & 6020 / 300.0	
334	sodium sulfite	7757-83-7	6010 & 6020 / 377.1	
335	calcium orthophosphate	7758-87-4	6010 & 6020 / 365.2	tricalcium phosphate
336	copper sulfate	7758-98-7	6010 & 6020	
337	silver nitrate	7761-88-8	6010 & 6020 / 300.0	
338	sodium chlorate (NaClO ₃)	7775-09-9	6010 & 6020 / 300.0	
339	sodium chromate	7775-11-3	6010 & 6020	
340	calcium sulfate (CaSO ₄)	7778-18-9	6010 & 6020 / 300.0	gypsum
341	potassium phosphate	7778-53-2	6010 & 6020/365.3	
342	calcium hypochlorite	7778-54-3	6010 & 6020 / 300.0	
343	potassium perchlorate (KClO ₄)	7778-74-7	6010 & 6020/314.0	
344	selenium (se)	7782-49-2	6010 & 6020	
345	chlorine (Cl)	7782-50-5	300	
346	sodium arsenite	7784-46-5	6010 & 6020	
347	manganese sulfate	7785-87-7	6010 & 6020 / 300.0	
348	magnesium chloride (MgCl ₂)	7786-30-3	6010 & 6020 / 300.0	sometimes abbreviated as Mg chloride

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Item#	Chemical ⁽¹⁾	CAS Number	Analytical Method	Synonyms
349	silicon tetrabromide	7789-66-4	6010 & 6020 / 300.0	
350	calcium fluoride	7789-75-5	6010 & 6020 / 300.0	Fluorspar
351	ammonium perchlorate	7790-98-9	314	perchloric acid, ammonium salt
352	iodine chloride	7790-99-0	345.1 / 300.0/160.1	
353	toxaphene	8001-35-2	8081A	
354	nitrogen chloride (NCl ₃)	10025-85-1	300 / 350.1	nitrogen trichloride
355	silicon tetrachloride	10026-04-7	6010 & 6020 / 300.0	
356	niobium chloride	10026-12-7	6010 & 6020 / 300.0	sometimes abbreviated as Nb chloride
357	magnesium perchlorate	10034-81-8	6010 & 6020/314	perchloric acid, magnesium salt
358	calcium chloride	10035-04-8	6010 & 6020 / 300.0	
359	boric acid	10043-35-3	pH	
360	cis-1,3-dichloropropene	10061-01-5	8260B	
361	trans-1,3-dichloropropene	10061-02-6	8260B	
362	zircon	10101-52-7	6010 & 6020	zirconium silicate
363	sodium hexametaphosphate	10124-56-8	6010 & 6020 / 365.3	
364	boron tribromide	10294-33-4	6010 & 6020	
365	boron trichloride	10294-34-5	6010 & 6020	
366	magnesium chlorate	10326-21-3	6010 & 6020 / 300.0	
367	barium chloride	10361-37-2	6010 & 6020 / 300.0	
368	sodium dichromate	10588-01-9	6010 & 6020 / 7196A	
369	Aroclor 1260	11096-82-5	8082	PCB 1260
370	Aroclor 1254	11097-69-1	8082	
371	Aroclor 1221	11104-28-2	8082	
372	iron hydroxide	11113-66-9	6010 & 6020	
373	nickel sulfide	11113-75-0	6010 & 6020 / 376.1	
374	copper sulfide	11115-78-9	6010 & 6020 / 376.1	
375	chromium oxide	11118-57-3	6010 & 6020	
376	borate	11129-12-7	6010 & 6020	
377	manganese oxide	11129-60-5	6010 & 6020	manganese mono-oxide; manganese monoxide
378	titanium chloride	11130-18-0	6010 & 6020 / 300.0	sometimes abbreviated as Ti chloride
379	Aroclor 1232	11141-16-5	8082	
380	zirconium oxide (ZrO)	12036-01-0	6010 & 6020	
381	boron carbide	12069-32-8	6010 & 6020	
382	ammonium chloride	12125-02-9	350.1	
383	potassium oxide	12136-45-7	6010 & 6020	
384	magnesium hydroxide	12141-11-6	6010 & 6020	
385	white phosphorus	12185-10-3	7580M	
386	Aroclor 1248	12672-29-6	8082	
387	Aroclor 1016	12674-11-2	8082	
388	2,2'-dichlorobiphenyl	13029-08-8	8082	
389	radium-224	13233-32-4	Rad - calc	
390	tungsten chloride	13283-01-7	6010 & 6020 / 300.0	sometimes abbreviated as W chloride
391	titania (TiO ₂)	13463-67-7	6010 & 6020	titanium dioxide
392	manganese perchlorate	13770-16-6	314	
393	potassium-40	13966-00-2	901.1 / HASL GA-01-R	
394	lead-206	13966-27-3	6010/6020	
395	lead-208	13966-28-4	6010/6020	
396	uranium-233/234	13968-55-3/13966-29-5	HASL A-01-R Mod	
397	polonium-210	13981-52-7	Rad - calc	
398	radium-226	13982-63-3	Rad - 903.0	
399	lead-207	14119-29-0	6010/6020	
400	thallium-207	14133-67-6	901.1 / HASL GA-01-R	
401	lead-210	14255-04-0	901.1 / HASL GA-01-R	
402	thorium-230	14269-63-7	HASL A-01-R Mod	
403	thorium-228	14274-82-9	HASL A-01-R Mod	
404	bismuth-210	14331-79-4	Rad - calc	
405	actinium-228	14331-83-0	901.1 / HASL GA-01-R	
406	protactinium-231	14331-85-2	Rad - calc	
407	bismuth-214	14733-03-0	901.1 / HASL GA-01-R	
408	radon-222	14859-67-7	913	
409	bismuth-212	14913-49-6	901.1 / HASL GA-01-R	
410	thallium-208	14913-50-9	901.1 / HASL GA-01-R	

Table 5
Listing of Site-Related Chemicals by CAS# with Synonyms
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Item#	Chemical ⁽¹⁾	CAS Number	Analytical Method	Synonyms
411	thorium-231	14932-40-2	Rad - calc	
412	actinium-227	14952-40-0	Rad - calc	
413	chlorite	14998-27-7	300	
414	thorium-234	15065-10-8	Rad - calc	
415	lead-214	15067-28-4	901.1 / HASL GA-01-R	
416	lead-212	15092-94-1	901.1 / HASL GA-01-R	
417	protactinium-234	15100-28-4	Rad - calc	
418	uranium-235/236	15117-96-1/13982-70-2	HASL A-01-R Mod	
419	bismuth-211	15229-37-5	Rad - calc	
420	radium-228	15262-20-1	Rad - 904.0	
421	polonium-212	15389-34-1	Rad - calc	
422	polonium-218	15422-74-9	Rad - calc	
423	radium-223	15623-45-7	Rad - calc	
424	thorium-227	15623-47-9	901.1 / HASL GA-01-R	
425	polonium-214	15735-67-8	Rad - calc	
426	polonium-216	15756-58-8	Rad - calc	
427	lead-211	15816-77-0	901.1 / HASL GA-01-R	
428	phosphorodithioic acid	15834-33-0	TIC	listed in documents as phosphorodithioic acid ester
429	2,3-dichlorobiphenyl	16605-91-7	8082	
430	sodium hydrosulfide	16721-80-5	6010 & 6020 / 376.1	sodium hydrogen sulfide
431	sodium borohydride	16940-66-2	6010 & 6020	
432	barium hydroxide	17194-00-2	6010 & 6020	
433	chloromethyl phthalimide	17564-64-6	TIC	n-chloromethylphthalimide, CMP used as short-hand in reports
434	tin dioxide (SnO ₂)	18282-10-5	6010 & 6020	
435	3,5-Heptanedione, 2,6-dimethyl-	18362-64-6	TIC	
436	chromium, hexavalent	18540-29-9	7196A	hexavalent chrome
437	1,2,3,7,8,9-hexachlorodibenzo-p-dioxin	19408-74-3	8290	
438	2,4-dichlorobenzophenone	19811-05-3	TIC	
439	barium sulfide	21109-95-5	6010 & 6020 / 376.1	
440	methyl mercury	22967-92-6	EPA 1630	
441	trimethylbenzene	25551-13-7	8260B	
442	2,3'-dichlorobiphenyl	25569-80-6	8082	
443	2,6-dichlorostyrene	28469-92-3	TIC	
444	octachlorostyrene	29082-74-4	8270C	
445	paraformaldehyde	30525-89-4	TIC	paraform
446	isoheptane	31394-54-4	TIC	
447	PCB-118	31508-00-6	8082	
448	PCB-77	32598-13-3	8082	
449	PCB-105	32598-14-4	8082	
450	PCB-169	32774-16-6	8082	
451	2,6-dichlorobiphenyl	33146-45-1	8082 or 1668	
452	2,4-dichlorobiphenyl	33284-50-3	8082	
453	2,5-dichlorobiphenyl	34883-39-1	8082	
454	3,5-dichlorobiphenyl	34883-41-5	8082	
455	2,4'-dichlorobiphenyl	34883-43-7	8082	
456	1,2,3,4,6,7,8-heptachlorodibenzo-p-dioxin	35822-46-9	8290	
457	chlorobenzaldehyde	35913-09-8	TIC	2-chlorobenzaldehyde
458	PCB-156	38380-08-4	8082	
459	1,2,3,4,6,7,8,9-octachlorodibenzofuran	39001-02-0	8290	
460	1,2,3,4,7,8-hexachlorodibenzo-p-dioxin	39227-28-6	8290	
461	chromium chloride	39345-92-1	6010 & 6020 / 300.0	sometimes abbreviated as Cr chloride
462	PCB-189	39635-31-9	8082	
463	1,2,3,7,8-pentachlorodibenzo-p-dioxin	40321-76-4	8290	
464	2,3,7,8-tetrachlorodibenzofuran	51207-31-9	8290	
465	PCB-167	52663-72-6	8082	
466	Aroclor 1242	53469-21-9	8082	
467	Endrin ketone	53494-70-5	8081A	
468	1,2,3,4,7,8,9-heptachlorodibenofuran	55673-89-7	8290	
469	2,2,6,6-Tetrachlorocyclohexanol	56207-45-5	TIC	
470	2,3,4,7,8-pentachlorodibenzofuran	57117-31-4	8290	

Table 5
Listing of Site-Related Chemicals by CAS# with Synonyms
Upper and Lower Ponds Ditches
Former BMI Common Areas

Item#	Chemical ⁽¹⁾	CAS Number	Analytical Method	Synonyms
471	1,2,3,7,8-pentachlorodibenzofuran	57117-41-6	8290	
472	1,2,3,6,7,8-hexachlorodibenzofuran	57117-44-9	8290	
473	PCB-126	57465-28-8	8082	
474	1,2,3,6,7,8-hexachlorodibenzo-p-dioxin	57653-85-7	8290	
475	2,3,4,6,7,8-hexachlorodibenzofuran	60851-34-5	8290	
476	PCB-123	65510-44-3	8082	
477	1,2,3,4,6,7,8-heptachlorodibenzofuran	67562-39-4	8290	
478	PCB-157	69782-90-7	8082	
479	PCB-81	70362-50-4	8082	
480	1,2,3,4,7,8-hexachlorodibenzofuran	70648-26-9	8290	
481	1,2,3,7,8,9-hexachlorodibenzofuran	72918-21-9	8290	
482	dibromochloroethane	73506-94-2	8260B	
483	PCB-114	74472-37-0	8082	

Table 6
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Parameter of Interest	Analytical Method	Compound List	CAS Number	Laboratory Limits			
				Soil		Water	
Ions	EPA 300.0	<i>Bromide</i>	24959-67-9	TBD	mg/kg	TBD	mg/L
		<i>Bromine</i>	7726-95-6	TBD	mg/kg	TBD	mg/L
		<i>Chlorate</i>	14866-68-3	TBD	mg/kg	TBD	mg/L
		<i>Chloride</i>	16887-00-6	2	mg/kg	0.2	mg/L
		<i>Chlorine (soluble)</i>	7782-50-5	TBD	mg/kg	TBD	mg/L
		<i>Chlorite</i>	14998-27-7	TBD	mg/kg	TBD	mg/L
		<i>Fluoride</i>	16984-48-8	1	mg/kg	0.1	mg/L
		<i>Nitrate (as N)</i>	14797-55-8	0.2	mg/kg	0.02	mg/L
		<i>Nitrite (as N)</i>	14797-65-0	0.2	mg/kg	0.02	mg/L
		<i>Orthophosphate</i>	14265-44-2	5	mg/kg	0.5	mg/L
	<i>Sulfate</i>	14808-79-8	5	mg/kg	0.5	mg/L	
		EPA 377.1	<i>Sulfite</i>	14265-45-3	5	mg/kg	0.5
	EPA 314.0	<i>Perchlorate</i>	14797-73-0	40	ug/kg	4	µg/L
Dissolved Gases	RSK 175	<i>Ethane</i>	74-84-0	NA	NA	2	µg/L
		<i>Ethylene</i>	74-85-1	NA	NA	1	µg/L
		<i>Methane</i>	74-82-8	NA	NA	1	µg/L
Chlorinated Compounds	VOCs by GC-ECD	<i>Chloral</i>	75-87-6	70	µg/kg	3	µg/L
		<i>Dichloroacetaldehyde</i>	79-02-7	70	µg/kg	20	µg/L
Polychlorinated Dibenzodioxins/ Dibenzofurans	EPA 8290	<i>1,2,3,4,6,7,8,9-Octachlorodibenzofuran</i>	39001-02-0	10	pg/g	100	pg/L
		<i>1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin</i>	3268-87-9	10	pg/g	100	pg/L
		<i>1,2,3,4,6,7,8-Heptachlorodibenzofuran</i>	67562-39-4	5	pg/g	50	pg/L
		<i>1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin</i>	35822-46-9	5	pg/g	50	pg/L
		<i>1,2,3,4,7,8,9-Heptachlorodibenzofuran</i>	55673-89-7	5	pg/g	50	pg/L
		<i>1,2,3,4,7,8-Hexachlorodibenzofuran</i>	70648-26-9	5	pg/g	50	pg/L
		<i>1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin</i>	39227-28-6	5	pg/g	50	pg/L
		<i>1,2,3,6,7,8-Hexachlorodibenzofuran</i>	57117-44-9	5	pg/g	50	pg/L
		<i>1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin</i>	57653-85-7	5	pg/g	50	pg/L
		<i>1,2,3,7,8,9-Hexachlorodibenzofuran</i>	72918-21-9	5	pg/g	50	pg/L
		<i>1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin</i>	19408-74-3	5	pg/g	50	pg/L
		<i>1,2,3,7,8-Pentachlorodibenzofuran</i>	57117-41-6	5	pg/g	50	pg/L
		<i>1,2,3,7,8-Pentachlorodibenzo-p-dioxin</i>	40321-76-4	5	pg/g	50	pg/L
		<i>2,3,4,6,7,8-Hexachlorodibenzofuran</i>	60851-34-5	5	pg/g	50	pg/L
		<i>2,3,4,7,8-Pentachlorodibenzofuran</i>	57117-31-4	5	pg/g	50	pg/L
		<i>2,3,7,8-Tetrachlorodibenzofuran</i>	51207-31-9	1	pg/g	10	pg/L
<i>2,3,7,8-Tetrachlorodibenzo-p-dioxin</i>	1746-01-6	1	pg/g	10	pg/L		
Asbestos	ISO 10312 TEM	<i>Asbestos</i>	1332-21-4	1	fibers/cm ³	NA	NA

Table 6
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Parameter of Interest	Analytical Method	Compound List	CAS Number	Laboratory Limits			
				Soil		Water	
General Chemistry Parameters	EPA 350.2	<i>Ammonia (as N)</i>	7664-41-7	50	mg/kg	55	µg/L
	EPA 9010/9014	<i>Cyanide (Total)</i>	57-12-5	5	mg/kg	5	µg/L
	EPA 345.1	<i>Iodine</i>	7553-56-2	TBD	mg/kg	TBD	mg/L
	EPA 9045C	<i>pH in soil</i>	pH	NA	pHunits	NA	NA
	EPA 9040B	<i>pH in water</i>	pH	NA	NA	NA	pHunits
	EPA 376.1/376.2	<i>Sulfide</i>	18496-25-8	10	mg/kg	1	mg/L
	Mod. EPA 415.1	<i>Total inorganic carbon</i>	7440-44-0	NA	mg/kg	TBD	mg/L
	EPA 351.2	<i>Total Kjeldahl nitrogen (TKN)</i>	TKN	20	mg/kg	0.2	mg/L
	EPA 415.1	<i>Total organic carbon (TOC)</i>	7440-44-0	10	mg/kg	1	mg/L
Metals	EPA 6020/6010B	<i>Aluminum</i>	7429-90-5	3	mg/kg	30	µg/L
		<i>Antimony</i>	7440-36-0	1	mg/kg	10	µg/L
		<i>Arsenic</i>	7440-38-2	1	mg/kg	10	µg/L
		<i>Barium</i>	7440-39-3	2	mg/kg	20	µg/L
		<i>Beryllium</i>	7440-41-7	0.5	mg/kg	5	µg/L
		<i>Boron</i>	7440-42-8	5	mg/kg	50	µg/L
		<i>Cadmium</i>	7440-43-9	0.5	mg/kg	5	µg/L
		<i>Calcium</i>	7440-70-2	50	mg/kg	500	µg/L
		<i>Chromium</i>	7440-47-3	1	mg/kg	10	µg/L
		<i>Cobalt</i>	7440-48-4	0.5	mg/kg	10	µg/L
		<i>Copper</i>	7440-50-8	1	mg/kg	10	µg/L
		<i>Iron</i>	7439-89-6	10	mg/kg	100	µg/L
		<i>Lead</i>	7439-92-1	0.3	mg/kg	3	µg/L
		<i>Lithium</i>	1313-13-9	5	mg/kg	50	µg/L
		<i>Magnesium</i>	7439-95-4	50	mg/kg	500	µg/L
		<i>Manganese</i>	7439-96-5	1	mg/kg	10	µg/L
		<i>Molybdenum</i>	7439-98-7	1	mg/kg	10	µg/L
		<i>Nickel</i>	7440-02-0	1	mg/kg	10	µg/L
		<i>Niobium</i>	7440-03-1	10	mg/kg	40	µg/L
		<i>Palladium</i>	7440-05-3	0.1	mg/kg	1	µg/L
		<i>Phosphorus</i>	7723-14-0	50	mg/kg	500	µg/L
		<i>Platinum</i>	7440-06-4	0.1	mg/kg	1	µg/L
		<i>Potassium</i>	7440-09-7	50	mg/kg	500	µg/L
<i>Selenium</i>	7782-49-2	0.5	mg/kg	5	µg/L		
<i>Silicon</i>	7440-21-3	50	mg/kg	500	µg/L		
<i>Silver</i>	7440-22-4	1	mg/kg	10	µg/L		
<i>Sodium</i>	7440-23-5	50	mg/kg	500	µg/L		

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Parameter of Interest	Analytical Method	Compound List	CAS Number	Laboratory Limits			
				Soil		Water	
Metals (continued)	EPA 6020/6010B	<i>Strontium</i>	7440-24-6	1.0	mg/kg	10	µg/L
		<i>Sulfur</i>	7704-34-9	TBD	mg/kg	TBD	µg/L
		<i>Thallium</i>	7440-28-0	1	mg/kg	10	µg/L
		<i>Tin</i>	7440-31-5	1.0	mg/kg	10	µg/L
		<i>Titanium</i>	7440-32-6	1.0	mg/kg	10	µg/L
		<i>Tungsten</i>	7440-33-7	2.5	mg/kg	10	µg/L
		<i>Uranium</i>	7440-61-1	1.0	mg/kg	10	µg/L
		<i>Vanadium</i>	7440-62-2	1.0	mg/kg	10	µg/L
		<i>Zinc</i>	7440-66-6	2	mg/kg	20	µg/L
		<i>Zirconium</i>	7440-67-7	10	mg/kg	500	µg/L
		EPA 7196A	<i>Chromium (VI)</i>	18540-29-9	0.4	mg/kg	10
	EPA 7470/7471A	<i>Mercury</i>	7439-97-6	0.0333	mg/kg	0.2	µg/L
Organophosphorous Pesticides	EPA 8141A	<i>Azinphos-ethyl</i>	264-27-19	33	µg/kg	10	µg/L
		<i>Azinphos-methyl</i>	86-50-0	13	µg/kg	2.5	µg/L
		<i>Carbophenothion</i>	786-19-6	33	µg/kg	10	µg/L
		<i>Chlorpyrifos</i>	2921-88-2	13	µg/kg	0.5	µg/L
		<i>Coumaphos</i>	56-72-4	13	µg/kg	0.5	µg/L
		<i>Demeton-O</i>	298-03-3	13	µg/kg	1	µg/L
		<i>Demeton-S</i>	126-75-0	13	µg/kg	1	µg/L
		<i>Diazinon</i>	333-41-5	13	µg/kg	0.5	µg/L
		<i>Dichlorvos</i>	62-73-7	13	µg/kg	0.5	µg/L
		<i>Dimethoate</i>	60-51-5	13	µg/kg	0.5	µg/L
		<i>Disulfoton</i>	298-04-4	13	µg/kg	0.5	µg/L
		<i>EPN</i>	2104-64-5	13	µg/kg	0.5	µg/L
		<i>Ethoprop</i>	13194-48-4	13	µg/kg	0.5	µg/L
		<i>Ethyl parathion</i>	56-38-2	13	µg/kg	0.5	µg/L
		<i>Fampphur</i>	52-85-7	13	µg/kg	1	µg/L
		<i>Fenthion</i>	55-38-9	13	µg/kg	0.5	µg/L
		<i>Malathion</i>	121-75-5	13	µg/kg	1.2	µg/L
		<i>Methyl carbophenothion</i>	953-17-3	33	µg/kg	10	µg/L
		<i>Methyl parathion</i>	298-00-0	13	µg/kg	0.5	µg/L
		<i>Mevinphos</i>	7786-34-7	13	µg/kg	10	µg/L
		<i>Naled</i>	300-76-5	33	µg/kg	10	µg/L
		<i>O,O,O-Triethyl phosphorothioate (TEPP)</i>	297-97-2	13	µg/kg	0.5	µg/L
		<i>Phorate</i>	298-02-2	13	µg/kg	0.5	µg/L

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Parameter of Interest	Analytical Method	Compound List	CAS Number	Laboratory Limits			
				Soil		Water	
Organophosphorous Pesticides (continued)	EPA 8141A	<i>Phosmet</i>	732-11-6	66	µg/kg	10	µg/L
		<i>Ronnel</i>	299-84-3	13	µg/kg	10	µg/L
		<i>Stirophos (Tetrachlorovinphos)</i>	22248-79-9	13	µg/kg	2.5	µg/L
		<i>Sulfotep</i>	3689-24-5	13	µg/kg	0.5	µg/L
Chlorinated Herbicides	EPA 8151A	<i>2,4,5-T</i>	93-76-5	20	µg/kg	1	µg/L
		<i>2,4,5-TP (Silvex)</i>	93-72-1	20	µg/kg	1	µg/L
		<i>2,4-D</i>	94-75-7	80	µg/kg	4	µg/L
		<i>2,4-DB</i>	94-82-6	80	µg/kg	4	µg/L
		<i>Dalapon</i>	75-99-0	40	µg/kg	4	µg/L
		<i>Dicamba</i>	1918-00-9	40	µg/kg	2	µg/L
		<i>Dichloroprop</i>	120-36-5	80	µg/kg	4	µg/L
		<i>Dinoseb</i>	88-85-7	25	µg/kg	0.6	µg/L
		<i>MCPA</i>	94-74-6	8000	µg/kg	400	µg/L
<i>MCPP</i>	93-65-2	8000	µg/kg	400	µg/L		
Organic Acids	HPLC	<i>4-Chlorobenzene sulfonic acid</i>	98-66-8	0.4	mg/Kg	0.4	mg/L
		<i>Benzenesulfonic acid</i>	98-11-3	0.4	mg/Kg	0.4	mg/L
		<i>O,O-Diethylphosphorodithioic acid</i>	298-06-6	0.4	mg/Kg	0.4	mg/L
		<i>O,O-Dimethylphosphorodithioic acid</i>	756-80-9	0.4	mg/Kg	0.1	mg/L
Nonhalogenated Organics	EPA 8015B	<i>Ethylene glycol</i>	107-21-1	50	mg/kg	10	mg/L
		<i>Ethylene glycol monobutyl ether</i>	111-76-2	TBD	mg/kg	TBD	mg/L
		<i>Methanol</i>	67-56-1	50	mg/kg	5	mg/L
		<i>Propylene glycol</i>	57-55-6	50	mg/kg	10	mg/L
Organochlorine Pesticides	EPA 8081A	<i>2,4-DDD</i>	53-19-0	1.7	µg/kg	0.05	µg/L
		<i>2,4-DDE</i>	3424-82-6	1.7	µg/kg	0.05	µg/L
		<i>4,4-DDD</i>	72-54-8	1.7	µg/kg	0.05	µg/L
		<i>4,4-DDE</i>	72-55-9	1.7	µg/kg	0.05	µg/L
		<i>4,4-DDT</i>	50-29-3	1.7	µg/kg	0.05	µg/L
		<i>Aldrin</i>	309-00-2	1.7	µg/kg	0.05	µg/L
		<i>alpha-BHC</i>	319-84-6	1.7	µg/kg	0.05	µg/L
		<i>alpha-Chlordane</i>	5103-71-9	1.7	µg/kg	0.05	µg/L
		<i>beta-BHC</i>	319-85-7	1.7	µg/kg	0.05	µg/L
		<i>Chlordane</i>	57-74-9	17	µg/kg	0.5	µg/L
		<i>delta-BHC</i>	319-86-8	1.7	µg/kg	0.05	µg/L
		<i>Dieldrin</i>	60-57-1	1.7	µg/kg	0.05	µg/L
		<i>Endosulfan I</i>	959-98-8	1.7	µg/kg	0.05	µg/L
<i>Endosulfan II</i>	33213-65-9	1.7	µg/kg	0.05	µg/L		

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Parameter of Interest	Analytical Method	Compound List	CAS Number	Laboratory Limits			
				Soil		Water	
Organochlorine Pesticides (continued)	EPA 8081A	<i>Endosulfan sulfate</i>	1031-07-8	1.7	µg/kg	0.05	µg/L
		<i>Endrin</i>	72-20-8	1.7	µg/kg	0.05	µg/L
		<i>Endrin aldehyde</i>	7421-93-4	1.7	µg/kg	0.05	µg/L
		<i>Endrin ketone</i>	53494-70-5	1.7	µg/kg	0.05	µg/L
		<i>gamma-BHC (Lindane)</i>	58-89-9	1.7	µg/kg	0.05	µg/L
		<i>gamma-Chlordane</i>	5103-74-2	1.7	µg/kg	0.05	µg/L
		<i>Heptachlor</i>	76-44-8	1.7	µg/kg	0.05	µg/L
		<i>Heptachlor epoxide</i>	1024-57-3	1.7	µg/kg	0.05	µg/L
		<i>Methoxychlor</i>	72-43-5	3.3	µg/kg	0.1	µg/L
		<i>Toxaphene</i>	8001-35-2	67	µg/kg	2	µg/L
Polychlorinated Biphenyls	EPA 8082	<i>Aroclor 1016</i>	12674-11-2	33	µg/kg	1	µg/L
		<i>Aroclor 1221</i>	11104-28-2	33	µg/kg	1	µg/L
		<i>Aroclor 1232</i>	11141-16-5	33	µg/kg	1	µg/L
		<i>Aroclor 1242</i>	53469-21-9	33	µg/kg	1	µg/L
		<i>Aroclor 1248</i>	12672-29-6	33	µg/kg	1	µg/L
		<i>Aroclor 1254</i>	11097-69-1	33	µg/kg	1	µg/L
		<i>Aroclor 1260</i>	11096-82-5	33	µg/kg	1	µg/L
		<i>PCB-77</i>	32598-13-3	1	µg/kg	0.01	µg/L
		<i>PCB-81</i>	70362-50-4	1	µg/kg	0.01	µg/L
		<i>PCB-105</i>	32598-14-4	1	µg/kg	0.01	µg/L
		<i>PCB-114</i>	74472-37-0	1	µg/kg	0.01	µg/L
		<i>PCB-118</i>	31508-00-6	1	µg/kg	0.01	µg/L
		<i>PCB-123</i>	65510-44-3	1	µg/kg	0.01	µg/L
		<i>PCB-126</i>	57465-28-8	1	µg/kg	0.02	µg/L
		<i>PCB-156</i>	38380-08-4	1	µg/kg	0.01	µg/L
		<i>PCB-157</i>	69782-90-7	5	µg/kg	0.01	µg/L
		<i>PCB-167</i>	52663-72-6	1	µg/kg	0.01	µg/L
		<i>PCB-169</i>	32774-16-6	1	µg/kg	0.01	µg/L
		<i>PCB-189</i>	39635-31-9	1	µg/kg	0.01	µg/L
		<i>Acenaphthene</i>	83-32-9	50	µg/kg	5	µg/L
		<i>Acenaphthylene</i>	208-96-8	100	µg/kg	5	µg/L
		<i>Anthracene</i>	120-12-7	30	µg/kg	5	µg/L
		<i>Benzo(a)anthracene</i>	56-55-3	15	µg/kg	5	µg/L
		<i>Benzo(a)pyrene</i>	50-32-8	15	µg/kg	5	µg/L
		<i>Benzo(b)fluoranthene</i>	205-99-2	15	µg/kg	5	µg/L
		<i>Benzo(g,h,i)perylene</i>	191-24-2	30	µg/kg	5	µg/L

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				Soil		Water	
Polynuclear Aromatic Hydrocarbons	EPA 8310 ¹	<i>Benzo(k)fluoranthene</i>	207-08-9	15	µg/kg	5	µg/L
		<i>Chrysene</i>	218-01-9	15	µg/kg	5	µg/L
		<i>Dibenzo(a,h)anthracene</i>	53-70-3	30	µg/kg	5	µg/L
		<i>Indeno(1,2,3-cd)pyrene</i>	193-39-5	15	µg/kg	5	µg/L
		<i>Phenanthrene</i>	85-01-8	30	µg/kg	5	µg/L
		<i>Pyrene</i>	129-00-0	30	µg/kg	5	µg/L
Radionuclides	EPA 900.0 or EPA 9310	<i>Gross alpha</i>	G_Alpha	10.0	pCi/g	3.0	pCi/L
		<i>Gross beta</i>	G_Beta	10.0	pCi/g	4.0	pCi/L
	EPA 901.1/ HASL GA-01-R	<i>Actinium-228</i>	14331-83-0	*	pCi/g	*	pCi/L
		<i>Bismuth-212</i>	14913-49-6	*	pCi/g	*	pCi/L
		<i>Bismuth-214</i>	14733-03-0	*	pCi/g	*	pCi/L
		<i>Cobalt-57</i>	13981-50-5	*	pCi/g	*	pCi/L
		<i>Cobalt-60</i>	10198-40-0	0.2	pCi/g	20.0	pCi/L
		<i>Lead-210</i>	14255-04-0	*	pCi/g	*	pCi/L
		<i>Lead-211</i>	015816-77-0	*	pCi/g	*	pCi/L
		<i>Lead-212</i>	15092-94-1	*	pCi/g	*	pCi/L
		<i>Lead-214</i>	15067-28-4	*	pCi/g	*	pCi/L
		<i>Potassium-40</i>	13966-00-2	*	pCi/g	*	pCi/L
		<i>Thallium-208</i>	14913-50-9	*	pCi/g	*	pCi/L
		<i>Thorium-227</i>	15623-47-9	*	pCi/g	*	pCi/L
	<i>Thorium-234</i>	15065-10-8	*	pCi/g	*	pCi/L	
	HASL A-01-R	<i>Thorium-232</i>	7440-29-1	1.0	pCi/g	1.0	pCi/L
		<i>Thorium-228</i>	14274-82-9	1.0	pCi/g	1.0	pCi/L
		<i>Thorium-230</i>	14269-63-7	1.0	pCi/g	1.0	pCi/L
		<i>Uranium-233/234</i>	13966-29-5	1.0	pCi/g	1.0	pCi/L
		<i>Uranium 235/236</i>	15117-96-1	1.0	pCi/g	1.0	pCi/L
	<i>Uranium-238</i>	7440-61-1	1.0	pCi/g	1.0	pCi/L	
	EPA 903.0	<i>Radium-226</i>	13982-63-3	1.0	pCi/g	1.0	pCi/L
	EPA 904.0	<i>Radium-228</i>	15262-20-1	1.0	pCi/g	1.0	pCi/L
	Quantitate from Parent or Daughter Radionuclide	<i>Actinium-227 (from Th-227)</i>	14952-40-0	*	pCi/g	*	pCi/L
<i>Bismuth-210 (from Pb-210)</i>		14331-79-4	*	pCi/g	*	pCi/L	
<i>Bismuth-211 (from Pb-211)</i>		15229-37-5	*	pCi/g	*	pCi/L	
<i>Polonium-210 (from Pb-210)</i>		13981-52-7	*	pCi/g	*	pCi/L	
<i>Polonium-212 (from Bi-212)</i>		13981-52-7	*	pCi/g	*	pCi/L	
<i>Polonium-214 (from Bi-214)</i>		15735-67-8	*	pCi/g	*	pCi/L	
	<i>Polonium-216 (from Pb-212)</i>	15756-58-8	*	pCi/g	*	pCi/L	

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				Soil		Water	
Radionuclides (continued)	Quantitate from Parent or Daughter Radionuclide (continued)	<i>Polonium-218 (from Pb-214)</i>	15422-74-9	*	pCi/g	*	pCi/L
		<i>Protactinium-231 (from U-235)</i>	14331-85-2	*	pCi/g	*	pCi/L
		<i>Protactinium-234 (from Th-234)</i>	15100-28-4	*	pCi/g	*	pCi/L
		<i>Radium-223 (from Th-227)</i>	15623-45-7	*	pCi/g	*	pCi/L
		<i>Radium-224 (from Pb-212)</i>	13233-32-4	*	pCi/g	*	pCi/L
		<i>Thallium-207 (from Pb-211)</i>	14133-67-6	*	pCi/g	*	pCi/L
		<i>Thorium-231 (from U-235)</i>	14932-40-2	*	pCi/g	*	pCi/L
Radon	FLUX	<i>Radon-220</i>	22481-48-7	TBD	pCi/g	TBD	pCi/L
		<i>Radon-222</i>	14859-67-7	TBD	pCi/g	TBD	pCi/L
Aldehydes	EPA 8315A	<i>Acetaldehyde</i>	75-07-0	500	µg/kg	30	µg/L
		<i>Chloroacetaldehyde</i>	107-20-0	1000	µg/kg	10	µg/L
		<i>Dichloroacetaldehyde</i>	79-02-7	1000	µg/kg	10	µg/L
		<i>Formaldehyde</i>	50-00-0	1000	µg/kg	60	µg/L
		<i>Trichloroacetaldehyde</i>	75-87-6	1000	µg/kg	10	µg/L
Semivolatile Organic Compounds	EPA 8270C ²	<i>1,2,4,5-Tetrachlorobenzene</i>	95-94-3	330	µg/kg	10	µg/L
		<i>1,2-Diphenylhydrazine</i>	122-66-7	330	µg/kg	10	µg/L
		<i>1,4-Dioxane</i>	123-91-1	330	µg/kg	10	µg/L
		<i>2,2'-Dichlorobenzil</i>	3457-46-3	330	µg/kg	10	µg/L
		<i>2,4,5-Trichlorophenol</i>	95-95-4	330	µg/kg	10	µg/L
		<i>2,4,6-Trichlorophenol</i>	88-06-2	330	µg/kg	10	µg/L
		<i>2,4-Dichlorophenol</i>	120-83-2	330	µg/kg	10	µg/L
		<i>2,4-Dimethylphenol</i>	105-67-9	330	µg/kg	10	µg/L
		<i>2,4-Dinitrophenol</i>	51-28-5	1600	µg/kg	50	µg/L
		<i>2,4-Dinitrotoluene</i>	121-14-2	330	µg/kg	10	µg/L
		<i>2,6-Dinitrotoluene</i>	606-20-2	330	µg/kg	10	µg/L
		<i>2-Chloronaphthalene</i>	91-58-7	330	µg/kg	10	µg/L
		<i>2-Chlorophenol</i>	95-57-8	330	µg/kg	10	µg/L
		<i>2-Methylnaphthalene</i>	91-57-6	330	µg/kg	10	µg/L
		<i>2-Nitroaniline</i>	88-74-4	1600	µg/kg	10	µg/L
		<i>2-Nitrophenol</i>	88-75-5	330	µg/kg	10	µg/L
		<i>3,3-Dichlorobenzidine</i>	91-94-1	1600	µg/kg	10	µg/L
		<i>3-Nitroaniline</i>	99-09-2	1600	µg/kg	10	µg/L
		<i>4,4'-Dichlorobenzil (as 2,2'-dichlorobenzil)</i>	3457-46-3	330	µg/kg	10	µg/L
		<i>4-Bromophenyl phenyl ether</i>	101-55-3	330	µg/kg	10	µg/L
		<i>4-Chloro-3-methylphenol</i>	59-50-7	330	µg/kg	10	µg/L
		<i>4-Chlorophenyl phenyl ether</i>	7005-72-3	330	µg/kg	10	µg/L
		<i>4-Chlorothiobanisole</i>	123-09-1	TBD	µg/kg	TBD	µg/L
<i>4-Chlorothiophenol</i>	106-54-7	TBD	µg/kg	TBD	µg/L		

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				Soil		Water	
Semivolatile Organic Compounds (continued)	EPA 8270C ²	<i>4-Nitroaniline</i>	100-01-6	1600	µg/kg	50	µg/L
		<i>4-Nitrophenol</i>	100-02-7	1600	µg/kg	50	µg/L
		<i>Acenaphthene</i>	83-32-9	330	µg/kg	10	µg/L
		<i>Acenaphthylene</i>	208-96-8	330	µg/kg	10	µg/L
		<i>Acetophenone</i>	98-86-2	330	µg/kg	10	µg/L
		<i>Aniline</i>	62-53-3	330	µg/kg	10	µg/L
		<i>Anthracene</i>	120-12-7	330	µg/kg	10	µg/L
		<i>Azobenzene</i>	103-33-3	330	µg/kg	10	µg/L
		<i>Benzo(a)anthracene</i>	56-55-3	330	µg/kg	10	µg/L
		<i>Benzo(a)pyrene</i>	50-32-8	330	µg/kg	10	µg/L
		<i>Benzo(b)fluoranthene</i>	205-99-2	330	µg/kg	10	µg/L
		<i>Benzo(g,h,i)perylene</i>	191-24-2	330	µg/kg	10	µg/L
		<i>Benzo(k)fluoranthene</i>	207-08-9	330	µg/kg	10	µg/L
		<i>Benzoic acid</i>	65-85-0	1600	µg/kg	50	µg/L
		<i>Benzyl alcohol</i>	100-51-6	330	µg/kg	10	µg/L
		<i>bis(2-Chloroethoxy)methane</i>	111-91-1	330	µg/kg	10	µg/L
		<i>bis(2-Chloroethyl) ether</i>	111-44-4	330	µg/kg	10	µg/L
		<i>bis(2-Chloroisopropyl) ether</i>	108-60-1	330	µg/kg	10	µg/L
		<i>bis(2-Ethylhexyl) phthalate</i>	117-81-7	330	µg/kg	10	µg/L
		<i>bis(Chloromethyl) ether</i>	542-88-1	330	µg/kg	10	µg/L
		<i>bis(p-Chlorophenyl) sulfone</i>	80-07-9	330	µg/kg	10	µg/L
		<i>bis(p-Chlorophenyl)disulfide</i>	1142-19-4	330	µg/kg	10	µg/L
		<i>Butylbenzyl phthalate</i>	85-68-7	330	µg/kg	10	µg/L
		<i>Carbazole</i>	86-74-8	330	µg/kg	10	µg/L
		<i>Chrysene</i>	218-01-9	330	µg/kg	10	µg/L
		<i>Dibenzo(a,h)anthracene</i>	53-70-3	330	µg/kg	10	µg/L
		<i>Dibenzofuran</i>	132-64-9	330	µg/kg	10	µg/L
		<i>Dichloromethyl ether</i>	542-88-1	330	µg/kg	10	µg/L
		<i>Diethyl phthalate</i>	84-66-2	330	µg/kg	10	µg/L
		<i>Dimethyl phthalate</i>	131-11-3	330	µg/kg	10	µg/L
<i>Di-n-butyl phthalate</i>	84-74-2	330	µg/kg	10	µg/L		
<i>Di-n-octyl phthalate</i>	117-84-0	330	µg/kg	10	µg/L		
<i>Diphenyl disulfide</i>	882-33-7	330	µg/kg	10	µg/L		
<i>Diphenyl sulfide</i>	139-66-2	330	µg/kg	10	µg/L		
<i>Diphenyl sulfone</i>	127-63-9	330	µg/kg	10	µg/L		

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				Soil		Water	
Semivolatile Organic Compounds (continued)	EPA 8270C ²	<i>Fluoranthene</i>	206-44-0	330	µg/kg	10	µg/L
		<i>Fluorene</i>	86-73-7	330	µg/kg	10	µg/L
		<i>Hexachlorobenzene</i>	118-74-1	330	µg/kg	50	µg/L
		<i>Hexachlorobutadiene</i>	87-68-3	330	µg/kg	50	µg/L
		<i>Hexachlorocyclopentadiene</i>	77-47-4	1600	µg/kg	50	µg/L
		<i>Hexachloroethane</i>	67-72-1	330	µg/kg	10	µg/L
		<i>Hydroxymethyl phthalimide</i>	118-29-6	330	µg/kg	10	µg/L
		<i>Indeno(1,2,3-cd)pyrene</i>	193-39-5	330	µg/kg	10	µg/L
		<i>Isophorone</i>	78-59-1	330	µg/kg	10	µg/L
		<i>m,p-Cresol</i>	106-44-5	660	µg/kg	10	µg/L
		<i>Naphthalene</i>	91-20-3	330	µg/kg	10	µg/L
		<i>Nitrobenzene</i>	98-95-3	330	µg/kg	10	µg/L
		<i>N-nitrosodi-n-propylamine</i>	621-64-7	330	µg/kg	10	µg/L
		<i>N-nitrosodiphenylamine</i>	86-30-6	330	µg/kg	10	µg/L
		<i>o-Cresol</i>	95-48-7	330	µg/kg	10	µg/L
		<i>Octachlorostyrene</i>	29082-74-4	330	µg/kg	10	µg/L
		<i>p-Chloroaniline (4-Chloroaniline)</i>	106-47-8	330	µg/kg	10	µg/L
		<i>p-Chlorobenzenethiol</i>	106-54-7	330	µg/kg	10	µg/L
		<i>Pentachlorobenzene</i>	608-93-5	330	µg/kg	10	µg/L
		<i>Pentachlorophenol</i>	87-86-5	1600	µg/kg	50	µg/L
		<i>Phthalic acid</i>	88-99-3	330	mg/Kg	10	µg/L
		<i>Phenanthrene</i>	85-01-8	330	µg/kg	10	µg/L
		<i>Phenol</i>	108-95-2	330	µg/kg	10	µg/L
<i>Pyrene</i>	129-00-0	330	µg/kg	10	µg/L		
<i>Pyridine</i>	110-86-1	660	µg/kg	10	µg/L		
<i>Thiophenol</i>	108-98-5	330	µg/kg	10	µg/L		
		<i>Tentatively Identified Compounds (TICs)</i>		NA	µg/kg	NA	µg/L
Volatile Organic Compounds	EPA 8260B	<i>1,1,1,2-Tetrachloroethane</i>	630-20-6	5	µg/kg	5	µg/L
		<i>1,1,1-Trichloroethane</i>	71-55-6	5	µg/kg	5	µg/L
		<i>1,1,2,2-Tetrachloroethane</i>	79-34-5	5	µg/kg	5	µg/L
		<i>1,1,2-Trichloroethane</i>	79-00-5	5	µg/kg	5	µg/L
		<i>1,1-Dichloroethane</i>	75-34-3	5	µg/kg	5	µg/L
		<i>1,1-Dichloroethene</i>	75-35-4	5	µg/kg	5	µg/L

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				Soil	Water		
Volatile Organic Compounds (continued)	EPA 8260B	<i>1,1-Dichloropropene</i>	563-58-6	5	µg/kg	5	µg/L
		<i>1,2,3-Trichlorobenzene</i>	87-61-6	5	µg/kg	5	µg/L
		<i>1,2,3-Trichloropropane</i>	96-18-4	5	µg/kg	5	µg/L
		<i>1,2,4-Trichlorobenzene</i>	120-82-1	5	µg/kg	5	µg/L
		<i>1,2,4-Trimethylbenzene</i>	95-63-6	5	µg/kg	5	µg/L
		<i>1,2-Dichlorobenzene</i>	95-50-1	5	µg/kg	5	µg/L
		<i>1,2-Dichloroethane</i>	107-06-2	5	µg/kg	5	µg/L
		<i>1,2-Dichloroethene</i>	540-59-0	10	µg/kg	10	µg/L
		<i>1,2-Dichloropropane</i>	78-87-5	5	µg/kg	5	µg/L
		<i>1,3,5-Trichlorobenzene</i>	108-70-3	5	µg/kg	5	µg/L
		<i>1,3,5-Trimethylbenzene</i>	108-67-8	5	µg/kg	5	µg/L
		<i>1,3-Dichlorobenzene</i>	541-73-1	5	µg/kg	5	µg/L
		<i>1,3-Dichloropropene</i>	542-75-6	5	µg/kg	5	µg/L
		<i>1,3-Dichloropropane</i>	142-28-9	5	µg/kg	5	µg/L
		<i>1,4-Dichlorobenzene</i>	106-46-7	5	µg/kg	5	µg/L
		<i>2,2-Dichloropropane</i>	594-20-7	5	µg/kg	5	µg/L
		<i>2,2-Dimethylpentane</i>	590-35-2	TBD	µg/kg	TBD	µg/L
		<i>2,2,3-Trimethylbutane</i>	464-06-2	TBD	µg/kg	TBD	µg/L
		<i>2,3-Dimethylpentane</i>	565-59-3	TBD	µg/kg	TBD	µg/L
		<i>2,4-Dimethylpentane</i>	108-08-7	TBD	µg/kg	TBD	µg/L
		<i>2-Chlorotoluene</i>	95-49-8	5	µg/kg	5	µg/L
		<i>2-Hexanone</i>	591-78-6	20	µg/kg	20	µg/L
		<i>2-Methylhexane</i>	591-76-4	TBD	µg/kg	TBD	µg/L
		<i>2-Nitropropane</i>	79-46-9	10	µg/kg	10	µg/L
		<i>3,3-Dimethylpentane</i>	562-49-2	TBD	µg/kg	TBD	µg/L
		<i>3-Ethylpentane</i>	617-78-7	TBD	µg/kg	TBD	µg/L
		<i>3-Methylhexane</i>	589-34-4	TBD	µg/kg	TBD	µg/L
		<i>4-Chlorobenzene</i>	108-90-7	5	µg/kg	5	µg/L
		<i>4-Chlorotoluene</i>	106-43-4	5	µg/kg	5	µg/L
		<i>4-Methyl-2-pentanone (MIBK)</i>	108-10-1	10	µg/kg	20	µg/L
		<i>Acetone</i>	67-64-1	20	µg/kg	20	µg/L
		<i>Acetonitrile</i>	75-05-8	50	µg/kg	50	µg/L
		<i>Benzene</i>	71-43-2	5	µg/kg	5	µg/L
<i>Bromobenzene</i>	108-86-1	5	µg/kg	5	µg/L		
<i>Bromodichloromethane</i>	75-27-4	5	µg/kg	5	µg/L		
<i>Bromoform</i>	75-25-2	5	µg/kg	5	µg/L		

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				Soil	Water		
Volatile Organic Compounds (continued)	EPA 8260B	<i>Bromomethane</i>	74-83-9	10	µg/kg	10	µg/L
		<i>Carbon disulfide</i>	75-15-0	5	µg/kg	5	µg/L
		<i>Carbon tetrachloride</i>	56-23-5	5	µg/kg	5	µg/L
		<i>Chlorobenzene</i>	108-90-7	5	µg/kg	5	µg/L
		<i>Chlorobromomethane</i>	74-97-5	5	µg/kg	5	µg/L
		<i>Chlorodibromomethane</i>	124-48-1	5	µg/kg	5	µg/L
		<i>Chloroethane</i>	75-00-3	5	µg/kg	5	µg/L
		<i>Chloroform</i>	67-66-3	5	µg/kg	5	µg/L
		<i>Chloromethane</i>	74-87-3	10	µg/kg	10	µg/L
		<i>cis-1,2-Dichloroethene</i>	156-59-2	5	µg/kg	5	µg/L
		<i>cis-1,3-Dichloropropene</i>	10061-01-5	5	µg/kg	5	µg/L
		<i>Cymene (Isopropyltoluene)</i>	99-87-6	10	µg/kg	10	µg/L
		<i>Dibromochloroethane</i>	73506-94-2	5	µg/kg	5	µg/L
		<i>Dibromochloromethane</i>	124-48-1	5	µg/kg	5	µg/L
		<i>Dibromochloropropane</i>	96-12-8	10	µg/kg	5	µg/L
		<i>Dibromomethane</i>	74-95-3	5	µg/kg	5	µg/L
		<i>Dichlorobenzene</i>	25321-22-6	5	µg/kg	5	µg/L
		<i>Dichloromethane (Methylene chloride)</i>	75-09-2	5	µg/kg	5	µg/L
		<i>Dimethylsulfide</i>	624-92-0	5	µg/kg	5	µg/L
		<i>Ethanol</i>	64-17-5	200	µg/kg	200	µg/L
		<i>Ethylbenzene</i>	100-41-4	5	µg/kg	5	µg/L
		<i>Freon-11 (Trichlorofluoromethane)</i>	75-69-4	5	µg/kg	5	µg/L
		<i>Freon-113 (1,1,2-trichloro-1,2,2-trifluoroethane)</i>	76-13-1	5	µg/kg	5	µg/L
		<i>Freon-12 (Dichlorodifluoromethane)</i>	75-71-8	10	µg/kg	5	µg/L
		<i>Heptane</i>	142-82-5	TBD	µg/kg	TBD	µg/L
		<i>Isoheptane</i>	31394-54-4	TBD	µg/kg	TBD	µg/L
		<i>Isopropylbenzene</i>	98-82-8	5	µg/kg	5	µg/L
		<i>m,p-Xylene</i>	mp-XYL	5	µg/kg	5	µg/L
		<i>Methyl ethyl ketone (2-Butanone)</i>	78-93-3	20	µg/kg	5	µg/L
		<i>Methyl iodide</i>	74-88-4	5	µg/kg	5	µg/L
		<i>MTBE (Methyl tert-butyl ether)</i>	1634-04-4	5	µg/kg	5	µg/L
		<i>n-Butyl benzene</i>	104-51-8	5	µg/kg	5	µg/L
		<i>n-Propylbenzene</i>	103-65-1	5	µg/kg	5	µg/L
<i>Nonanal</i>	124-19-6	10	µg/kg	10	µg/L		
<i>o-Xylene</i>	95-47-6	5	µg/kg	5	µg/L		
<i>sec-Butylbenzene</i>	135-98-8	5	µg/kg	5	µg/L		

Table 6
Proposed Analytical Program
Upper and Lower Ponds Ditches
Former BMI Common Areas

Parameter of Interest	Analytical Method	Compound List	CAS Number	Laboratory Limits			
				Soil		Water	
Volatile Organic Compounds (continued)	EPA 8260B	<i>Styrene</i>	100-42-5	5	µg/kg	5	µg/L
		<i>tert-Butyl benzene</i>	98-06-6	5	µg/kg	5	µg/L
		<i>Tetrachloroethene</i>	127-18-4	5	µg/kg	5	µg/L
		<i>Toluene</i>	108-88-3	5	µg/kg	5	µg/L
		<i>trans-1,2-Dichloroethene</i>	156-60-5	5	µg/kg	5	µg/L
		<i>trans-1,3-Dichloropropene</i>	10061-02-6	5	µg/kg	5	µg/L
		<i>Trichloroethane</i>	71-55-6	5	µg/kg	5	µg/L
		<i>Trichloroethene</i>	79-01-6	5	µg/kg	1	µg/L
		<i>Vinyl acetate</i>	108-05-4	5	µg/kg	2	µg/L
		<i>Vinyl chloride</i>	75-01-4	5	µg/kg	2	µg/L
		<i>Xylenes (total)</i>	1330-20-7	10	µg/kg	10	µg/L
				<i>Tentatively Identified Compounds (TICs)</i>		NA	µg/kg
Water Quality Parameters	EPA 120.1	<i>Conductivity</i>	COND	NA	mg/kg	10	µohms/cm
	EPA 130.2	<i>Hardness, total</i>	Hardness	NA	mg/kg	5	mg/L
	EPA 160.1	<i>Total dissolved solids</i>	TDS	NA	mg/kg	5	mg/L
	EPA 160.2	<i>Total suspended solids</i>	TSS	NA	mg/kg	5	mg/L
	EPA 310.1	<i>Alkalinity, total(as calcium carbonate)</i>	ALK	NA	mg/kg	5	mg/L
		<i>Bicarbonate alkalinity</i>	71-52-3	NA	mg/kg	5	mg/L
		<i>Carbonate alkalinity</i>	3812-32-6	NA	mg/kg	5	mg/L
		<i>Hydroxide alkalinity</i>	OH-ALK	NA	mg/kg	5	mg/L
Flashpoint	EPA 1010	<i>Flammables</i>	NA	TBD	mg/kg	TBD	mg/L
Total Petroleum Hydrocarbons	EPA 8015	<i>Diesel</i>	64742-46-7	25	mg/kg	0.5	mg/L
		<i>Gasoline</i>	8006-61-9	25	mg/kg	0.5	mg/L
		<i>Grease</i>	68153-81-1	25	mg/kg	0.5	mg/L
		<i>Mineral Spirits</i>	NA	25	mg/kg	0.5	mg/L
White Phosphorus	EPA 7580M	<i>White phosphorus</i>	12185-10-3	TBD	mg/kg	TBD	mg/L
Methyl Mercury	EPA 1630	<i>Methyl mercury</i>	22967-92-6	TBD	mg/kg	TBD	mg/L

Notes:

Reporting Limits - Based on laboratory limits for primary laboratory (STL).

Laboratory limits are subject to matrix interferences and may not always be achieved in all samples.

TBD = To be determined by the laboratory prior to sample analysis and submitted for approval.

The laboratory will be instructed to report the top 25 Tentatively Identified Compounds (TICs) under method 8260B and 8270C.

* = Reporting limit for specific radionuclide to be set based on the performance of Co-60

NA = Not applicable

¹ = For polynuclear aromatic hydrocarbons, Method 8270C is the primary analytical method, but Method 8310 may be used if necessary

² = Method 3540 for extraction and Method 3640 for cleanup are to be used as appropriate.

Table 7
Analytical Program for Soil and Water Properties
Upper and Lower Ponds Ditches
Former BMI Common Areas

Soil / Water Chemical Property	Analytical Method	Notes	Media
Alkalinity, Total	310.1	as calcium carbonate (CaCO ₃)	A
Ammonia	350.2	as nitrogen (N)	S, A
Bicarbonate alkalinity	310.1		A
Carbonate alkalinity	310.1		A
Chemical oxygen demand (COD)	410.4		A
Chlorate	300		S, A
Chloride	300		S, A
Conductivity	120.1		A
Cyanide (Total)	335.1/335.2		S, A
Fluoride	300		S, A
Hardness, total	130.2		A
Hydroxide alkalinity	310.1		A
Iodine	345.1		S, A
Nitrate (NO ₃)	300.5		S, A
Nitrite (NO ₂)	300		S, A
Perchlorate	314	LCS /MS/ MS an option if interferences are present	S, A
pH	150.1/9045C	150.1 for water; 9045C for soils	S, A
Phosphate(s)	300	as orthophosphate	S, A
Sulfate	300		S, A
Sulfide	376.1		S, A
Sulfite	377.1		S, A
Total dissolved solids (TDS)	160.1		A
Total Kjeldahl nitrogen (TKN)	351.2		S, A
Total organic carbon (TOC)	415.1/9060	415.1 for water; 9060 for soils	S, A
Total suspended solids (TSS)	160.2		A
Atterberg limits	ASTM D4318		S
Cation exchange capacity	9081		S
Grain size	ASTM D422		S
Porosity	ASTM D4404		S
Percent moisture	ASTM D2216-98		S
Dry bulk density	ASTM D1188		S
Bulk density	ASTM D3550		S
Specific gravity (particle density)	ASTM D954-00		S

Notes:

A = Aqueous samples

S = Soil samples

ASTM = American Society for Testing and Materials

All methods are USEPA methods unless otherwise specified.

Table 8
Analytical Program for Flux Chamber Sampling
TO-14 / TO-15 Analyte List
Upper and Lower Ponds Ditches
Former BMI Common Areas

Compound	Reporting Limit	Units	MDL	Units
Acetone	5	ppb(v/v)	0.25	ppb(v/v)
Acetonitrile	1	ppb(v/v)	0.25	ppb(v/v)
Acrolein	0.5	ppb(v/v)	0.13	ppb(v/v)
Acrylonitrile	0.5	ppb(v/v)	0.12	ppb(v/v)
alpha-Methylstyrene	0.2	ppb(v/v)	0.079	ppb(v/v)
Benzene	0.2	ppb(v/v)	0.085	ppb(v/v)
Benzyl chloride	0.2	ppb(v/v)	0.077	ppb(v/v)
Bromodichloromethane	0.2	ppb(v/v)	0.07	ppb(v/v)
Bromoform	0.2	ppb(v/v)	0.073	ppb(v/v)
Bromomethane	0.2	ppb(v/v)	0.066	ppb(v/v)
1,3-Butadiene	0.2	ppb(v/v)	0.06	ppb(v/v)
n-Butane	0.2	ppb(v/v)	0.06	ppb(v/v)
1-Butanol	0.5	ppb(v/v)	0.2	ppb(v/v)
2-Butanone (MEK)	0.5	ppb(v/v)	0.18	ppb(v/v)
Carbon disulfide	0.2	ppb(v/v)	0.065	ppb(v/v)
Carbon tetrachloride	0.2	ppb(v/v)	0.083	ppb(v/v)
Chlorobenzene	0.2	ppb(v/v)	0.071	ppb(v/v)
Dibromochloromethane	0.2	ppb(v/v)	0.072	ppb(v/v)
Chlorodifluoromethane	0.2	ppb(v/v)	0.06	ppb(v/v)
Chloroethane	0.2	ppb(v/v)	0.066	ppb(v/v)
Chloroform	0.2	ppb(v/v)	0.062	ppb(v/v)
Chloromethane	0.5	ppb(v/v)	0.051	ppb(v/v)
3-Chloropropene	0.2	ppb(v/v)	0.059	ppb(v/v)
Cyclohexane	0.5	ppb(v/v)	0.093	ppb(v/v)
n-Decane	0.2	ppb(v/v)	0.11	ppb(v/v)
1,2-Dibromoethane (EDB)	0.2	ppb(v/v)	0.076	ppb(v/v)
Dibromomethane	0.2	ppb(v/v)	0.081	ppb(v/v)
1,2-Dichlorobenzene	0.2	ppb(v/v)	0.083	ppb(v/v)
1,3-Dichlorobenzene	0.2	ppb(v/v)	0.083	ppb(v/v)
1,4-Dichlorobenzene	0.2	ppb(v/v)	0.087	ppb(v/v)
Dichlorodifluoromethane	0.2	ppb(v/v)	0.062	ppb(v/v)
1,1-Dichloroethane	0.2	ppb(v/v)	0.075	ppb(v/v)
1,2-Dichloroethane	0.2	ppb(v/v)	0.062	ppb(v/v)
cis-1,2-Dichloroethene	0.2	ppb(v/v)	0.081	ppb(v/v)
trans-1,2-Dichloroethene	0.2	ppb(v/v)	0.04	ppb(v/v)
1,1-Dichloroethene	0.2	ppb(v/v)	0.06	ppb(v/v)
1,2-Dichloropropane	0.2	ppb(v/v)	0.07	ppb(v/v)
cis-1,3-Dichloropropene	0.2	ppb(v/v)	0.066	ppb(v/v)
trans-1,3-Dichloropropene	0.2	ppb(v/v)	0.065	ppb(v/v)
1,2-Dichloro-1,1,2,2-tetrafluoroethane	0.2	ppb(v/v)	0.069	ppb(v/v)
n-Dodecane	1.0	ppb(v/v)	0.2	ppb(v/v)
Ethylbenzene	0.2	ppb(v/v)	0.081	ppb(v/v)
Ethyl ether	0.5	ppb(v/v)	0.14	ppb(v/v)
n-Heptane	0.2	ppb(v/v)	0.074	ppb(v/v)
Hexachlorobutadiene	1.0	ppb(v/v)	0.088	ppb(v/v)
n-Hexane	0.2	ppb(v/v)	0.048	ppb(v/v)
2-Hexanone	0.5	ppb(v/v)	0.16	ppb(v/v)

Table 8
Analytical Program for Flux Chamber Sampling
TO-14 / TO-15 Analyte List
Upper and Lower Ponds Ditches
Former BMI Common Areas

Compound	Reporting Limit	Units	MDL	Units
Cumene	0.2	ppb(v/v)	0.066	ppb(v/v)
Methanol	10	ppb(v/v)	0.41	ppb(v/v)
Methylene chloride	0.5	ppb(v/v)	0.06	ppb(v/v)
4-Methyl-2-pentanone (MIBK)	0.5	ppb(v/v)	0.16	ppb(v/v)
Methyl tert-butyl ether	0.5	ppb(v/v)	0.13	ppb(v/v)
Naphthalene	0.5	ppb(v/v)	0.13	ppb(v/v)
Nonane	0.2	ppb(v/v)	0.089	ppb(v/v)
n-Octane	0.2	ppb(v/v)	0.062	ppb(v/v)
Pentane	0.5	ppb(v/v)	0.056	ppb(v/v)
n-Propylbenzene	0.2	ppb(v/v)	0.078	ppb(v/v)
Styrene	0.2	ppb(v/v)	0.083	ppb(v/v)
1,1,2,2-Tetrachloroethane	0.2	ppb(v/v)	0.077	ppb(v/v)
Tetrachloroethene	0.2	ppb(v/v)	0.085	ppb(v/v)
Toluene	0.2	ppb(v/v)	0.072	ppb(v/v)
1,2,4-Trichlorobenzene	1.0	ppb(v/v)	0.098	ppb(v/v)
1,1,1-Trichloroethane	0.2	ppb(v/v)	0.062	ppb(v/v)
1,1,2-Trichloroethane	0.2	ppb(v/v)	0.083	ppb(v/v)
Trichloroethene	0.2	ppb(v/v)	0.064	ppb(v/v)
Trichlorofluoromethane	0.2	ppb(v/v)	0.068	ppb(v/v)
1,1,2-Trichloro-1,2,2-trifluoroethane	0.2	ppb(v/v)	0.074	ppb(v/v)
1,2,4-Trimethylbenzene	0.2	ppb(v/v)	0.081	ppb(v/v)
1,3,5-Trimethylbenzene	0.2	ppb(v/v)	0.074	ppb(v/v)
n-Undecane	0.2	ppb(v/v)	0.12	ppb(v/v)
Vinyl acetate	0.5	ppb(v/v)	0.12	ppb(v/v)
Vinyl chloride	0.2	ppb(v/v)	0.048	ppb(v/v)
m-Xylene & p-Xylene	0.2	ppb(v/v)	0.068	ppb(v/v)
o-Xylene	0.2	ppb(v/v)	0.072	ppb(v/v)
Surrogates				
4-Bromofluorobenzene	NA	NA	NA	NA
1,2-Dichloroethane-d4	NA	NA	NA	NA
Toluene-d8	NA	NA	NA	NA

Notes:

ppb(v/v) = Parts per billion, volume to volume

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