UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

NOV 23 2010

REPLY TO THE ATTENTION OF:
WG-15J

MEMORANDUM

Subject: Drinking Water Monitoring Trigger Levels

From: Tinka G. Hyde
Director, Water Division

To: Cynthia Dougherty, Director
Office of Ground Water and Drinking Water

In October, 2010, our drinking water program received a request from the Illinois Environmental Protection Agency drinking water primary laboratory to review the Region 5 policy for semivolatile organic contaminant (SOC) trigger levels. The most recent policy was established in July of 2006. We were asked to reevaluate the trigger level for Di(2-ethylhexyl)phthalate in light of the fact that it is a common laboratory contaminant. In general, laboratories are able to achieve a detection limit below the trigger level of 0.0006 mg/L for Di(2-ethylhexyl)phthalate, but often must raise their reporting limit above this level due to laboratory blank contamination.

In response to this request, we consulted the Office of Ground Water and Drinking Water Technical Support Center on reporting levels for laboratory contaminants. They recommended that the reporting level be adjusted by either three times the mean blank concentration or by the mean plus three times the standard deviation of the blank concentration, whichever was greater. Our Lab Certification Officer gathered 350 results from four state drinking water labs. The mean concentration was 0.00033mg/L and the standard deviation was 0.46. Using the above equations, three times the mean equals 0.00099mg/L and the mean plus three times the standard deviation equals 0.0017mg/L.

Taking into account that this information was taken from only a few labs in Region 5, it would be reasonable to establish a new trigger level slightly above the larger of the above calculations. We intend to establish a new trigger level for Di(2-ethylhexyl)phthalate at 0.0018 mg/L. See Enclosure A for a table of the new SOC trigger levels. Enclosure B contains a summary of the blank data used to evaluate the trigger level for Di(2-ethylhexyl)phthalate.

Enclosure A

Revised Region 5 SOC Trigger Levels

November 2, 2010

SOCs	USEPA MCL mg/L	USEPA SOC MDL mg/L	2006 Region 5 Interim Trigger Levels mg/L	**2010 Region 5 Interim Trigger Levels mg/L**	Notes
2,4-D	0.07	0.0001	0.001	0.001	Note 3
Alachlor	0.002	0.0002	0.0002	0.0002	Note 1
Atrazine	0.003	0.0001	0.0005	0.0005	Note 2
Benzo(a)pyrene	0.0002	0.00002	0.0001	0.0001	Note 2
Carbofuran	0.04	0.0009	0.0009	0.0009	Note 1
Chlordane	0.002	0.0002	0.0002	0.0002	Note 1
Dalapon	0.2	0.001	0.005	0.005	Note 2
Di(2-ethylhexyl)adipate	0.4	0.0006	0.0006	0.0006	Note 1
Di(2-ethylhexyl)phthalate	0.006	0.0006	0.0006	**0.0018**	**Note 4**
Dibromochloropropane	0.0002	0.00002	0.00002	0.00002	Note 1
Dinoseb	0.007	0.0002	0.001	0.001	Note 2
Diquat	0.02	0.0004	0.002	0.002	Note 2
Endothall	0.1	0.009	0.009	0.009	Note 1
Endrin	0.002	0.00001	0.0001	0.0001	Note 3
Ethylene dibromide	0.00005	0.00001	0.00001	0.00001	Note 1

Glyphosate	0.7	0.006	0.03	0.03	Note 2
Heptachlor	0.0004	0.00004	0.0002	0.0002	Note 2
Heptachlor epoxide	0.0002	0.00002	0.0001	0.0001	Note 2
Hexachlorocyclopentadiene	0.05	0.0001	0.0005	0.0005	Note 2
Lindane (gamma-BHC)	0.0002	0.00002	0.0001	0.0001	Note 2
Methoxychlor	0.04	0.0001	0.0001	0.0001	Note 1
Oxamyl	0.2	0.002	0.002	0.002	Note 1
PCBs (decachlorobiphenyl)	0.0005	0.0001	0.0001	0.0001	Note 1
Pentachlorophenol	0.001	0.00004	0.0004	0.0004	Note 3
Picloram	0.5	0.0001	0.001	0.001	Note 3
Simazine	0.004	0.00007	0.00035	0.00035	Note 2
2,4,5-TP (Silvex)	0.05	0.0002	0.001	0.001	Note 2
Toxaphene	0.003	0.001	0.001	0.001	Note 1
Hexachlorobenzene	0.001	0.0001	0.0001	0.0001	Note 1

Note 1: 2006 trigger level set at regulatory MDL in 40 CFR 141.24.

Note 2: 2006 trigger level set at 5x the regulatory MDL

Note 3: 2006 trigger level set at 10x the regulatory MDL

Note 4: 2010 trigger level raised for Di(2-ethylhexyl)phthalate to account for common laboratory contamination

All Region 5 interim trigger levels are below the Maximum Contaminant Level.

Enclosure B

Di(2-ethylhexyl)phthalate Blank Results ug/L

0.84	0.3	0.063	0.53	0.23	0	0.105	4.25	0.423
0.33	0.42	0.260	0.36	0.21	0.056	0	0.163	0.504
0.43	0.17	0.254	0.32	0.24	0	0.117	5.39	0.465
0.41	0.21	0.473	0.37	0.56	0.016	0.183	0.245	0.439
0.2	0.37	0.147	0.79	0.27	0.172	0.3	0	0.25
0.37	0.45	0.102	1.11	0.28	1.33	0.048	0	0.123
0.28	0.2	0.201	0.34	0.46	0.271	0.037	0.115	0.074
0.41	0.156	0.193	0.56	0.29	0.197	0.842	0.351	0.425
0.47	0.150	0.143	0.47	0.37	0.224	0	0.209	0.342
0.49	0.153	0.115	0.62	0.35	0.29	0	0.195	0.307
0.34	0.188	0.166	0.53	0.15	0.589	0	0.258	0.303
0.22	0.168	0.000	0.46	0.34	0.369	0.105	0.551	1.47
0.57	0.178	0.102	0.56	0.34	0.027	0.004	0.197	0.339
0.24	0.162	0.089	0.54	0.52	0	0	0.411	0.301
0.68	0.182	0.098	0.62	0.53	0.036	0	0.271	0.391
0.61	0.176	0.001	0.43	0.29	0.132	0.205	0.246	0.503
0.37	0.181	0.000	0.57	0.26	0.119	0.022	1.26	0.582
0.79	0.140	0.019	0.31	0.21	0.321	0.049	0.331	0.971
0.43	0.155	0.001	0.42	0.41	0.207	0	0.213	0.889
0.79	0.149	0.074	0.46	0.32	0.461	0.172	0.149	0.4
0.42	0.093	0.035	0.77	0	0.106	0.154	0.237	0.437
0.138	0.440	0.525	0.52	0.41	0.272	0.153	0.195	0.498
0.175	0.169	0.193	0.4	0.32	0	0	0.308	0.023
0.001	0.099	0.329	0.48	0.28	0.241	0	3.49	0.187
0.001	0.289	0.386	0.34	0.2	0.335	0.057	0.271	0.249
0.001	0.177	0.331	0.47	0.16	0.202	0	0.484	0.238
0.065	0.222	0.689	0.38	0.14	0.816	0	0.258	0.59
0.012	0.266	0.361	0.84	0	0	0	2.48	0.35
0.068	0.181	0.398	0.36	0	0.5	0	0.52	0.27
0.372	0.321	0.316	0.5	0.33	0.479	0	0.402	0.31
0.153	0.210	0.249	0.48	0.17	1.13	0.738	0.379	0.104
0.254	0.224	0.215	0.39	0.2	1.3	0.232	0.44	0.133
0.293	0.255	0.422	0.6	0.26	1.01	0.126	0.319	0.215
0.029	0.184	0.208	0.42	0.21	0.703	0.211	0.301	0.026
0.000	0.225	0.682	0.2	0.27	0.039	0.22	0.336	0.146
0.048	0.207	0.397	0.25	0.224	0.087	0.143	0.195	0.202
0.074	0.237	0.187	0.38	0.034	0.215	0.185	0.178	0.459
0.173	0.189	0.42	0.3	0	0.089	0.343	0.177	0.485
0.075	0.181	0.19	0.39	0.13	0.13	0.156	0.414	

count	350
mean	0.33106
std dev	0.46475425
std dev X 3	1.39426276
mean X 3	0.99318
mean + 3xstd dev	1.72532276