

**DEPARTMENT OF  
ENVIRONMENTAL CONSERVATION**



**18 AAC 75**

**Oil and Other Hazardous Substances  
Pollution Control**

**Public Comment Draft**

**October 1, 2018**

**Comment Period Ends  
5:00 p.m Monday, November 5, 2018**

**Bill Walker  
Governor**

**Larry Hartig**  
**Commissioner**

18 AAC 75.325(g) is amended to read:

(g) If using method two or method three for determining the applicable soil cleanup levels as described in 18 AAC 75.340 and 18 AAC 75.341, or if applying the groundwater cleanup levels at Table C in 18 AAC 75.345, a responsible person shall ensure that, after completing site cleanup, the risk from hazardous substances does not exceed a cumulative carcinogenic risk standard of 1 in 100,000 across all exposure pathways and does not exceed a cumulative noncarcinogenic risk standard at a hazard index of one, reported to one significant figure, across all exposure pathways. Instructions for determining cumulative risk are provided in the department's *Procedures for Calculating Cumulative Risk*, dated **September 25, 2018**, [FEBRUARY 1, 2018] and adopted by reference. (Eff. 1/22/99, Register 149; am 8/27/2000, Register 155; am 1/30/2003, Register 165; am 10/9/2008, Register 188; am 6/17/2015, Register 214; am 1/1/2016, Register 217; am 11/6/2016, Register 220; am 9/29/2018, Register 227; am \_\_/\_\_/\_\_\_\_, Register \_\_)

|                   |              |              |              |
|-------------------|--------------|--------------|--------------|
| <b>Authority:</b> | AS 46.03.020 | AS 46.03.740 | AS 46.04.020 |
|                   | AS 46.03.050 | AS 46.03.745 | AS 46.04.070 |
|                   | AS 46.03.710 | AS 46.03.822 | AS 46.09.020 |

18 AAC 75.330 is amended by adding a new subsection to read:

(f) As an interim removal action, where groundwater contamination exceeds the cleanup levels established under 18 AAC 75.345(b)(2), (3), or (4), the department may require a responsible person to provide an alternative source of drinking water for the affected parties or

implement other institutional controls under 18 AAC 75.375. (Eff. 1/22/99, Register 149; am  
 \_\_/\_\_/\_\_\_\_, Register \_\_)

**Authority:** AS 46.03.020 AS 46.03.740 AS 46.04.070  
 AS 46.03.050 AS 46.03.745 AS 46.09.020  
 AS 46.03.710 AS 46.04.020

18 AAC 75.340(e)(1) is amended to read:

(1) migration to groundwater or human health pathway in Table B1 or migration to groundwater or inhalation pathway in Table B2, based on the use of approved site-specific soil data, and the equations set out in the department's *Procedures for Calculating Cleanup Levels*, dated **September 25, 2018** [FEBRUARY 1, 2018], and adopted by reference; (Eff. 1/22/99, Register 149; am 8/27/2000, Register 155; am 1/30/2003, Register 165; am 10/9/2008, Register 188; am 1/1/2016, Register 217; am 11/6/2016, Register 220; am 9/29/2018, Register 227; am \_\_/\_\_/\_\_\_\_, Register \_\_)

**Authority:** AS 46.03.020 AS 46.03.740 AS 46.04.070  
 AS 46.03.050 AS 46.03.745 AS 46.09.020  
 AS 46.03.710 AS 46.04.020

18 AAC 75.341(c) is repealed and readopted to read:

(c) If a responsible person uses method two for chemicals other than petroleum hydrocarbons under 18 AAC 75.340, the soil cleanup levels must be based on Table B1 in this subsection.

TABLE B1. METHOD TWO – SOIL CLEANUP LEVELS TABLE (See notes for additional requirements)

| Hazardous Substance              | CAS<br>Number <sup>1</sup> | health effect that<br>drives risk:<br>carcinogen (ca);<br>noncarcinogen (nc);<br>mutagen (m) | Arctic<br>Zone <sup>2</sup>             | Under 40<br>Inch<br>Zone <sup>3</sup>   | Over 40<br>Inch<br>Zone <sup>4</sup>    | Migration to<br>Groundwater <sup>6</sup><br><br>(mg/kg) |
|----------------------------------|----------------------------|--|---|---|---|---|
|                                  |                            |  | Human<br>Health <sup>5</sup><br>(mg/kg) | Human<br>Health <sup>5</sup><br>(mg/kg) | Human<br>Health <sup>5</sup><br>(mg/kg) |   |
| Acenaphthene <sup>7</sup>        | 83-32-9                    | nc   | 6300                                    | 4600                                    | 3800                                    | 37  |
| Acenaphthylene <sup>7,8</sup>    | 208-96-8                   | nc   | 3100                                    | 2300                                    | 1900                                    | 18  |
| Acetone                          | 67-64-1                    | nc   | 1.0 x 10 <sup>5</sup> ; <sup>9</sup>    | 81000                                   | 65000                                   | 38  |
| Aldrin                           | 309-00-2                   | ca   | 0.67                                    | 0.49                                    | 0.40                                    | 0.0099  |
| Anthracene <sup>7</sup>          | 120-12-7                   | nc   | 31000                                   | 23000                                   | 19000                                   | 390   |
| Antimony (metallic)              | 7440-36-0                  | nc   | 55                                      | 41                                      | 33                                      | 4.6   |
| Arsenic, Inorganic <sup>11</sup> | 7440-38-2                  | ca   | 12                                      | 8.8                                     | 7.2                                     | 0.20  |
| Barium                           | 7440-39-3                  | nc   | 25000                                   | 20000                                   | 17000                                   | 2100  |
| Benz[a]anthracene <sup>7</sup>   | 56-55-3                    | m  | 20                                      | 14                                      | 12                                      | 0.70  |
| Benzaldehyde                     | 100-52-7                   | nc   | 770<br>(3000) <sup>10</sup>             | 770 (2300)<br>10                        | 770 (1800)<br>10                        | 0.52  |
| Benzene <sup>7</sup>             | 71-43-2                    | ca   | 16                                      | 11                                      | 8.1                                     | 0.022   |

TABLE B1. METHOD TWO – SOIL CLEANUP LEVELS TABLE (See notes for additional requirements)

| Hazardous Substance                 | CAS<br>Number <sup>1</sup> | health effect that<br>drives risk:<br>carcinogen (ca);<br>noncarcinogen (nc);<br>mutagen (m) | Arctic<br>Zone <sup>2</sup>             | Under 40<br>Inch<br>Zone <sup>3</sup>   | Over 40<br>Inch<br>Zone <sup>4</sup>    | Migration to<br>Groundwater <sup>6</sup><br><br>(mg/kg) |
|-------------------------------------|----------------------------|--|---|---|---|---|
|                                     |                            |  | Human<br>Health <sup>5</sup><br>(mg/kg) | Human<br>Health <sup>5</sup><br>(mg/kg) | Human<br>Health <sup>5</sup><br>(mg/kg) |   |
| Benzo[a]pyrene <sup>7</sup>         | 50-32-8                    | m  | 2.0                                     | 1.5                                     | 1.2                                     | 1.9   |
| Benzo[b]fluoranthene <sup>7</sup>   | 205-99-2                   | m  | 20                                      | 15                                      | 12                                      | 20  |
| Benzo[g,h,i]perylene <sup>7,8</sup> | 191-24-2                   | nc   | 3100                                    | 2300                                    | 1900                                    | 15000   |
| Benzo[k]fluoranthene <sup>7</sup>   | 207-08-9                   | m  | 200                                     | 150                                     | 120                                     | 190   |
| Benzoic Acid                        | 65-85-0                    | nc   | 1.0 x 10 <sup>5</sup> ; <sup>9</sup>    | 1.0 x 10 <sup>5</sup> ; <sup>9</sup>    | 1.0 x 10 <sup>5</sup> ; <sup>9</sup>    | 200   |
| Benzyl Alcohol                      | 100-51-6                   | nc   | 11000                                   | 8200                                    | 6700                                    | 5.7   |
| Beryllium and compounds             | 7440-41-7                  | nc   | 270                                     | 200                                     | 170                                     | 260   |
| Bis(2-chloroethyl)ether             | 111-44-4                   | ca   | 4.0                                     | 2.8                                     | 2.1                                     | 0.00042   |
| Bis(2-ethylhexyl)phthalate          | 117-81-7                   | ca   | 680                                     | 500                                     | 410                                     | 88  |
| Bromobenzene                        | 108-86-1                   | nc   | 160 (410) <sup>10</sup>                 | 160 (290) <sup>10</sup>                 | 160 (215) <sup>10</sup>                 | 0.36  |
| Bromodichloromethane                | 75-27-4                    | ca   | 5.3                                     | 3.6                                     | 2.6                                     | 0.0043  |
| Bromoform                           | 75-25-2                    | ca   | 340                                     | 240                                     | 170                                     | 0.10  |

**TABLE B1. METHOD TWO – SOIL CLEANUP LEVELS TABLE (See notes for additional requirements)**

| Hazardous Substance    | CAS Number <sup>1</sup> | health effect that drives risk: carcinogen (ca); noncarcinogen (nc); mutagen (m) | Arctic Zone <sup>2</sup>          | Under 40 Inch Zone <sup>3</sup>   | Over 40 Inch Zone <sup>4</sup>    | Migration to Groundwater <sup>6</sup> (mg/kg) |
|------------------------|-------------------------|--|-----------------------------------|-----------------------------------|-----------------------------------|---|
|                        |                         |  | Human Health <sup>5</sup> (mg/kg) | Human Health <sup>5</sup> (mg/kg) | Human Health <sup>5</sup> (mg/kg) |   |
| Bromomethane           | 74-83-9                 | nc   | 15                                | 10                                | 7.4                               | 0.024   |
| Butadiene, 1,3-        | 106-99-0                | ca   | 1.2                               | 0.86                              | 0.64                              | 0.0012  |
| Butanol, N-            | 71-36-3                 | nc   | 6500<br>(14000) <sup>10</sup>     | 6500<br>(10000) <sup>10</sup>     | 6500<br>(8300) <sup>10</sup>      | 5.3   |
| Butyl Benzyl Phthalate | 85-68-7                 | ca   | 5000                              | 3700                              | 3000                              | 16  |
| Butylbenzene, n-       | 104-51-8                | nc   | 20 (6800) <sup>10</sup>           | 20 (5000) <sup>10</sup>           | 20 (4150) <sup>10</sup>           | 23  |
| Butylbenzene, sec-     | 135-98-8                | nc   | 28<br>(14000) <sup>10</sup>       | 28<br>(10000) <sup>10</sup>       | 28 (8300) <sup>10</sup>           | 42  |
| Butylbenzene, tert-    | 98-06-6                 | nc   | 36<br>(14000) <sup>10</sup>       | 36<br>(10000) <sup>10</sup>       | 36<br>(10000) <sup>10</sup>       | 11  |
| Cadmium                | 7440-43-9               | nc   | 120                               | 92                                | 76                                | 9.1   |
| Carbon Disulfide       | 75-15-0                 | nc   | 500                               | 500                               | 500 (800) <sup>10</sup>           | 2.9   |

**TABLE B1. METHOD TWO – SOIL CLEANUP LEVELS TABLE (See notes for additional requirements)**

| Hazardous Substance                          | CAS Number <sup>1</sup> | health effect that drives risk: carcinogen (ca); noncarcinogen (nc); mutagen (m) | Arctic Zone <sup>2</sup>             | Under 40 Inch Zone <sup>3</sup>      | Over 40 Inch Zone <sup>4</sup>       | Migration to Groundwater <sup>6</sup> (mg/kg) |
|--|-------------------------|--|--------------------------------------|--------------------------------------|--------------------------------------|---|
|  |                         |  | Human Health <sup>5</sup> (mg/kg)    | Human Health <sup>5</sup> (mg/kg)    | Human Health <sup>5</sup> (mg/kg)    |   |
|  |                         |  | (1600) <sup>10</sup>                 | (1100) <sup>10</sup>                 |                                      |   |
| Carbon Tetrachloride                         | 56-23-5                 | ca   | 13                                   | 9.1                                  | 6.6                                  | 0.021   |
| Chlordane                                    | 12789-03-6              | ca   | 29                                   | 22                                   | 17                                   | 0.18  |
| Chlordecone (Kepone)                         | 143-50-0                | ca   | 0.95                                 | 0.70                                 | 0.58                                 | 0.0083  |
| Chloroaniline, p-                            | 106-47-8                | ca   | 47                                   | 35                                   | 29                                   | 0.015   |
| Chlorobenzene                                | 108-90-7                | nc   | 180 (370) <sup>10</sup>              | 180 (250) <sup>10</sup>              | 180 (180) <sup>10</sup>              | 0.46  |
| Chloroform                                   | 67-66-3                 | ca   | 5.8                                  | 4.0                                  | 2.9                                  | 0.0071  |
| Chloromethane                                | 74-87-3                 | nc   | 250                                  | 170                                  | 120                                  | 0.61  |
| Chloronaphthalene, Beta-                     | 91-58-7                 | nc   | 8400                                 | 6200                                 | 5100                                 | 26  |
| Chlorophenol, 2-                             | 95-57-8                 | nc   | 680                                  | 510                                  | 410                                  | 0.71  |
| Chromium(III), Insoluble Salts <sup>12</sup> | 16065-83-1              | nc   | 1.0 x 10 <sup>5</sup> ; <sup>9</sup> | 1.0 x 10 <sup>5</sup> ; <sup>9</sup> | 1.0 x 10 <sup>5</sup> ; <sup>9</sup> | 1.0 x 10 <sup>5</sup> ; <sup>9</sup>          |
| Chromium(VI) <sup>12</sup>                   | 18540-29-9              | m  | 4.9                                  | 3.9                                  | 3.2                                  | 0.089   |

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|-----------------------------|-------------------------|--|-----------------------------------|-----------------------------------|-----------------------------------|---|
|                             |                         |  | Human Health <sup>5</sup> (mg/kg) | Human Health <sup>5</sup> (mg/kg) | Human Health <sup>5</sup> (mg/kg) |   |
| Chrysene <sup>7</sup>       | 218-01-9                | m  | 2000                              | 1500                              | 1200                              | 600   |
| Copper                      | 7440-50-8               | nc   | 5500                              | 4100                              | 3300                              | 370   |
| Cresol, m-                  | 108-39-4                | nc   | 5500                              | 4100                              | 3400                              | 6.1   |
| Cresol, o-                  | 95-48-7                 | nc   | 5500                              | 4100                              | 3400                              | 6.2   |
| Cresol, p-                  | 106-44-5                | nc   | 11000                             | 8200                              | 6700                              | 12  |
| Cumene                      | 98-82-8                 | nc   | 54 (2500) <sup>10</sup>           | 54 (1700) <sup>10</sup>           | 54 (1300) <sup>10</sup>           | 5.6   |
| Cyanide (CN-) <sup>13</sup> | 57-12-5                 | nc   | 48                                | 34                                | 26                                | 0.20  |
| Cyclohexane                 | 110-82-7                | nc   | 77 (14000) <sup>10</sup>          | 77 (9400) <sup>10</sup>           | 77 (6700) <sup>10</sup>           | 150   |
| DDD                         | 72-54-8                 | ca   | 3.3                               | 2.5                               | 2.0                               | 0.098   |
| DDE, p,p'-                  | 72-55-9                 | ca   | 34                                | 25                                | 20                                | 0.72  |
| DDT                         | 50-29-3                 | ca   | 33                                | 24                                | 20                                | 5.1   |



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|--|----------------------------|--|---|---|---|---|
|  |                            |  | Human<br>Health <sup>5</sup><br>(mg/kg) | Human<br>Health <sup>5</sup><br>(mg/kg) | Human<br>Health <sup>5</sup><br>(mg/kg) |   |
| Dibenz[a,h]anthracene <sup>7</sup>       | 53-70-3                    | m  | 2.0                                     | 1.5                                     | 1.2                                     | 6.3   |
| Dibenzofuran                             | 132-64-9                   | nc   | 130                                     | 95                                      | 77                                      | 0.97  |
| Dibromochloromethane                     | 124-48-1                   | ca   | 140                                     | 110                                     | 88                                      | 0.0027  |
| Dibromoethane, 1,2- (Ethylene Dibromide) | 106-93-4                   | ca   | 0.62                                    | 0.42                                    | 0.31                                    | 0.00024   |
| Dibromomethane (Methylene Bromide)       | 74-95-3                    | nc   | 45                                      | 31                                      | 22                                      | 0.025   |
| Dibutyl Phthalate                        | 84-74-2                    | nc   | 11000                                   | 8200                                    | 6700                                    | 16  |
| Dichlorobenzene, 1,2-                    | 95-50-1                    | nc   | 78 (2300) <sup>10</sup>                 | 78 (1600) <sup>10</sup>                 | 78 (1200) <sup>10</sup>                 | 2.4   |
| Dichlorobenzene, 1,3- <sup>8</sup>       | 541-73-1                   | nc   | 62 (2000) <sup>10</sup>                 | 62 (1400) <sup>10</sup>                 | 62 (1000) <sup>10</sup>                 | 2.3   |
| Dichlorobenzene, 1,4-                    | 106-46-7                   | ca   | 31                                      | 21                                      | 15                                      | 0.037   |
| Dichlorobenzidine, 3,3'-                 | 91-94-1                    | ca   | 21                                      | 16                                      | 13                                      | 0.056   |
| Dichlorodifluoromethane                  | 75-71-8                    | nc   | 220                                     | 150                                     | 110                                     | 3.9   |
| Dichloroethane, 1,1-                     | 75-34-3                    | ca   | 67                                      | 46                                      | 33                                      | 0.092   |

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|-----------------------------------|-------------------------|--|-----------------------------------|-----------------------------------|-----------------------------------|---|
|                                   |                         |  | Human Health <sup>5</sup> (mg/kg) | Human Health <sup>5</sup> (mg/kg) | Human Health <sup>5</sup> (mg/kg) |   |
| Dichloroethane, 1,2-              | 107-06-2                | ca   | 8.0                               | 5.5                               | 3.9                               | 0.0055  |
| Dichloroethylene, 1,1-            | 75-35-4                 | nc   | 480                               | 330                               | 240                               | 1.2   |
| Dichloroethylene, 1,2-cis-        | 156-59-2                | nc   | 270                               | 200                               | 170                               | 0.12  |
| Dichloroethylene, 1,2-trans-      | 156-60-5                | nc   | 960<br>(2700) <sup>10</sup>       | 960<br>(2000) <sup>10</sup>       | 960<br>(1700) <sup>10</sup>       | 1.3   |
| Dichlorophenol, 2,4-              | 120-83-2                | nc   | 330                               | 250                               | 200                               | 0.21  |
| Dichlorophenoxy Acetic Acid, 2,4- | 94-75-7                 | nc   | 1200                              | 910                               | 740                               | 0.53  |
| Dichloropropane, 1,2-             | 78-87-5                 | nc   | 25                                | 17                                | 12                                | 0.030   |
| Dichloropropene, 1,3-             | 542-75-6                | ca   | 30                                | 21                                | 15                                | 0.018   |
| Dieldrin                          | 60-57-1                 | ca   | 0.59                              | 0.44                              | 0.36                              | 0.0047  |
| Diethyl Phthalate                 | 84-66-2                 | nc   | 88000                             | 66000                             | 54000                             | 60  |
| Dimethylphenol, 2,4-              | 105-67-9                | nc   | 2200                              | 1600                              | 1300                              | 3.2   |

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|---|----------------------------|--|---|---|---|---|
|   |                            |  | Human<br>Health <sup>5</sup><br>(mg/kg) | Human<br>Health <sup>5</sup><br>(mg/kg) | Human<br>Health <sup>5</sup><br>(mg/kg) |   |
| Dimethylphthalate <sup>8</sup>            | 131-11-3                   | nc   | 88000                                   | 66000                                   | 54000                                   | 48  |
| Dinitrobenzene, 1,2-                      | 528-29-0                   | nc   | 11                                      | 8.2                                     | 6.7                                     | 0.014   |
| Dinitrobenzene, 1,3-                      | 99-65-0                    | nc   | 11                                      | 8.2                                     | 6.7                                     | 0.014   |
| Dinitrobenzene, 1,4-                      | 100-25-4                   | nc   | 11                                      | 8.2                                     | 6.7                                     | 0.014   |
| Dinitrophenol, 2,4-                       | 51-28-5                    | nc   | 220                                     | 160                                     | 130                                     | 0.34  |
| Dinitrotoluene, 2,4-                      | 121-14-2                   | ca   | 30                                      | 23                                      | 18                                      | 0.024   |
| Dinitrotoluene, 2,6-                      | 606-20-2                   | ca   | 6.3                                     | 4.7                                     | 3.8                                     | 0.0050  |
| Dinitrotoluene, 2-Amino-4,6-              | 35572-78-2                 | nc   | 270                                     | 200                                     | 160                                     | 0.25  |
| Dinitrotoluene, 4-Amino-2,6-              | 19406-51-0                 | nc   | 270                                     | 200                                     | 160                                     | 0.25  |
| Dioxane, 1,4-                             | 123-91-1                   | ca   | 100                                     | 73                                      | 58                                      | 0.012   |
| Diphenylamine                             | 122-39-4                   | nc   | 11000                                   | 8200                                    | 6700                                    | 17  |
| Endosulfan (Endosulfan I + Endosulfan II) | 115-29-7                   | nc   | 820                                     | 610                                     | 500                                     | 9.3   |

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|---------------------------|-------------------------|--|--------------------------------------|--------------------------------------|--------------------------------------|---|
|                           |                         |  | Human Health <sup>5</sup> (mg/kg)    | Human Health <sup>5</sup> (mg/kg)    | Human Health <sup>5</sup> (mg/kg)    |   |
| Endrin                    | 72-20-8                 | nc   | 33                                   | 25                                   | 20                                   | 0.61  |
| Ethyl Chloride            | 75-00-3                 | nc   | 1400<br>(29000) <sup>10</sup>        | 1400<br>(20000) <sup>10</sup>        | 1400<br>(14000) <sup>10</sup>        | 72  |
| Ethylbenzene <sup>7</sup> | 100-41-4                | ca   | 72                                   | 49                                   | 35                                   | 0.13  |
| Ethylene Glycol           | 107-21-1                | nc   | 1.0 x 10 <sup>5</sup> ; <sup>9</sup> | 1.0 x 10 <sup>5</sup> ; <sup>9</sup> | 1.0 x 10 <sup>5</sup> ; <sup>9</sup> | 110   |
| Fluoranthene <sup>7</sup> | 206-44-0                | nc   | 4200                                 | 3100                                 | 2500                                 | 590   |
| Fluorene <sup>7</sup>     | 86-73-7                 | nc   | 4200                                 | 3100                                 | 2500                                 | 36  |
| Formaldehyde              | 50-00-0                 | ca   | 430                                  | 290                                  | 210                                  | 0.011   |
| Heptachlor                | 76-44-8                 | ca   | 2.2                                  | 1.6                                  | 1.3                                  | 0.0076  |
| Heptachlor Epoxide        | 1024-57-3               | ca   | 1.2                                  | 0.86                                 | 0.69                                 | 0.0019  |
| Hexachlorobenzene         | 118-74-1                | ca   | 2.8                                  | 2.0                                  | 1.5                                  | 0.0082  |
| Hexachlorobutadiene       | 87-68-3                 | nc   | 3.3 (14) <sup>10</sup>               | 3.3 (10) <sup>10</sup>               | 3.3 (7.2) <sup>10</sup>              | 0.020   |

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|---|-------------------------|--|-----------------------------------|-----------------------------------|-----------------------------------|---|
|   |                         |  | Human Health <sup>5</sup> (mg/kg) | Human Health <sup>5</sup> (mg/kg) | Human Health <sup>5</sup> (mg/kg) |   |
| Hexachlorocyclohexane, Alpha-                 | 319-84-6                | ca   | 1.5                               | 1.1                               | 0.91                              | 0.0029  |
| Hexachlorocyclohexane, Beta-                  | 319-85-7                | ca   | 5.3                               | 3.9                               | 3.2                               | 0.010   |
| Hexachlorocyclohexane, Gamma- (Lindane)       | 58-89-9                 | ca   | 9.9                               | 7.4                               | 6.0                               | 0.016   |
| Hexachlorocyclopentadiene                     | 77-47-4                 | nc   | 2.0                               | 1.4                               | 1.0                               | 0.0093  |
| Hexachloroethane                              | 67-72-1                 | ca   | 25                                | 17                                | 12                                | 0.018   |
| Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX) | 121-82-4                | ca   | 110                               | 79                                | 64                                | 0.027   |
| Hexane, N-                                    | 110-54-3                | nc   | 140<br>(1600) <sup>10</sup>       | 140<br>(1100) <sup>10</sup>       | 140 (750) <sup>10</sup>           | 130 <sup>10</sup>                             |
| Hexanone, 2-                                  | 591-78-6                | nc   | 380                               | 270                               | 210                               | 0.11  |
| Hydrazine                                     | 302-01-2                | ca   | 0.76                              | 0.55                              | 0.40                              | 3.1 x 10 <sup>-5</sup>                        |
| Indeno[1,2,3-cd]pyrene <sup>7</sup>           | 193-39-5                | m  | 20                                | 15                                | 12                                | 65  |
| Isophorone                                    | 78-59-1                 | ca   | 10000                             | 7400                              | 6100                              | 2.7   |

**TABLE B1. METHOD TWO – SOIL CLEANUP LEVELS TABLE (See notes for additional requirements)**

| Hazardous Substance                           | CAS Number <sup>1</sup> | health effect that drives risk: carcinogen (ca); noncarcinogen (nc); mutagen (m) | Arctic Zone <sup>2</sup>             | Under 40 Inch Zone <sup>3</sup>      | Over 40 Inch Zone <sup>4</sup>       | Migration to Groundwater <sup>6</sup> (mg/kg) |
|---|-------------------------|--|--------------------------------------|--------------------------------------|--------------------------------------|---|
|   |                         |  | Human Health <sup>5</sup> (mg/kg)    | Human Health <sup>5</sup> (mg/kg)    | Human Health <sup>5</sup> (mg/kg)    |   |
| Isopropanol                                   | 67-63-0                 | nc   | 14000                                | 9500                                 | 6800                                 | 1.1   |
| Lead and Compounds <sup>14</sup>              | 7439-92-1               | nc   | 400                                  | 400                                  | 400                                  | n/a   |
| Manganese                                     | 7439-96-5               | nc   | 2900                                 | 2700                                 | 2000                                 | 370   |
| Mercuric Chloride <sup>8</sup>                | 7487-94-7               | nc   | 41                                   | 30                                   | 25                                   | 3.9   |
| Mercury (elemental)                           | 7439-97-6               | nc   | 3.1 (28) <sup>10</sup>               | 3.1 (19) <sup>10</sup>               | 3.1 (14) <sup>10</sup>               | 0.36  |
| Methanol                                      | 67-56-1                 | nc   | 1.0 x 10 <sup>5</sup> ; <sup>9</sup> | 1.0 x 10 <sup>5</sup> ; <sup>9</sup> | 1.0 x 10 <sup>5</sup> ; <sup>9</sup> | 54  |
| Methoxychlor                                  | 72-43-5                 | nc   | 550                                  | 410                                  | 340                                  | 13  |
| Methyl Ethyl Ketone (2-Butanone)              | 78-93-3                 | nc   | 23000<br>(53000) <sup>10</sup>       | 23000<br>(38000) <sup>10</sup>       | 23000<br>(30000) <sup>10</sup>       | 15  |
| Methyl Isobutyl Ketone (4-methyl-2-pentanone) | 108-10-1                | nc   | 2200<br>(69000) <sup>10</sup>        | 2200<br>(47000) <sup>10</sup>        | 2200<br>(34000) <sup>10</sup>        | 18  |
| Methyl Mercury                                | 22967-92-6              | nc   | 14                                   | 10                                   | 8.3                                  | 180   |

TABLE B1. METHOD TWO – SOIL CLEANUP LEVELS TABLE (See notes for additional requirements)

| Hazardous Substance            | CAS<br>Number <sup>1</sup> | health effect that<br>drives risk:<br>carcinogen (ca);<br>noncarcinogen (nc);<br>mutagen (m) | Arctic<br>Zone <sup>2</sup>             | Under 40<br>Inch<br>Zone <sup>3</sup>   | Over 40<br>Inch<br>Zone <sup>4</sup>    | Migration to<br>Groundwater <sup>6</sup><br><br>(mg/kg) |
|--------------------------------|----------------------------|--|---|---|---|---|
|                                |                            |  | Human<br>Health <sup>5</sup><br>(mg/kg) | Human<br>Health <sup>5</sup><br>(mg/kg) | Human<br>Health <sup>5</sup><br>(mg/kg) |   |
| Methyl tert-Butyl Ether (MTBE) | 1634-04-4                  | ca   | 970                                     | 670                                     | 480                                     | 0.40  |
| Methylene Chloride             | 75-09-2                    | nc   | 630                                     | 460                                     | 360                                     | 0.33  |
| Methylnaphthalene, 1-          | 90-12-0                    | ca   | 68 (310) <sup>10</sup>                  | 68 (230) <sup>10</sup>                  | 68 (190) <sup>10</sup>                  | 0.41  |
| Methylnaphthalene, 2-          | 91-57-6                    | nc   | 420                                     | 310                                     | 250                                     | 1.3   |
| Naphthalene <sup>7</sup>       | 91-20-3                    | ca   | 42                                      | 29                                      | 20                                      | 0.038   |
| Nickel Soluble Salts           | 7440-02-0                  | nc   | 2600                                    | 2000                                    | 1700                                    | 340   |
| Nitrobenzene                   | 98-95-3                    | ca   | 64                                      | 43                                      | 31                                      | 0.0079  |
| Nitroglycerin                  | 55-63-0                    | nc   | 11                                      | 8.2                                     | 6.7                                     | 0.0082  |
| Nitroguanidine                 | 556-88-7                   | nc   | 11000                                   | 8200                                    | 6700                                    | 5.8   |
| Nitrosodimethylamine, N-       | 62-75-9                    | m  | 0.036                                   | 0.026                                   | 0.020                                   | 3.3 x 10 <sup>-6</sup>                                  |
| Nitroso-di-N-propylamine, N-   | 621-64-7                   | ca   | 1.4                                     | 1.00                                    | 0.82                                    | 0.00068   |
| Nitrosodiphenylamine, N-       | 86-30-6                    | ca   | 1900                                    | 1400                                    | 1200                                    | 4.6   |

TABLE B1. METHOD TWO – SOIL CLEANUP LEVELS TABLE (See notes for additional requirements)

| Hazardous Substance                                    | CAS<br>Number <sup>1</sup> | health effect that<br>drives risk:<br>carcinogen (ca);<br>noncarcinogen (nc);<br>mutagen (m) | Arctic<br>Zone <sup>2</sup>             | Under 40<br>Inch<br>Zone <sup>3</sup>   | Over 40<br>Inch<br>Zone <sup>4</sup>    | Migration to<br>Groundwater <sup>6</sup><br><br>(mg/kg) |
|--|----------------------------|--|---|---|---|---|
|  |                            |  | Human<br>Health <sup>5</sup><br>(mg/kg) | Human<br>Health <sup>5</sup><br>(mg/kg) | Human<br>Health <sup>5</sup><br>(mg/kg) |   |
| Nitrotoluene, m-                                       | 99-08-1                    | nc   | 11                                      | 8.2                                     | 6.7                                     | 0.013   |
| Nitrotoluene, o-                                       | 88-72-2                    | ca   | 55                                      | 41                                      | 34                                      | 0.024   |
| Nitrotoluene, p-                                       | 99-99-0                    | nc   | 440                                     | 330                                     | 270                                     | 0.32  |
| Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX) | 2691-41-0                  | nc   | 6700                                    | 5000                                    | 4100                                    | 9.7   |
| Octyl Phthalate, di-N-                                 | 117-84-0                   | nc   | 1100                                    | 820                                     | 670                                     | 370   |
| Pentachlorophenol                                      | 87-86-5                    | ca   | 18                                      | 13                                      | 11                                      | 0.0043  |
| Pentaerythritol tetranitrate (PETN)                    | 78-11-5                    | nc   | 220                                     | 160                                     | 130                                     | 0.43  |
| Perchlorate and Perchlorate salts                      | 14797-73-0                 | nc   | 96                                      | 71                                      | 58                                      | 0.037   |
| Perfluorobutane Sulfonic Acid (PFBS) <sup>8</sup>      | 375-73-5                   | nc   | 2200                                    | 1600                                    | 1300                                    | 1.4   |
| Perfluoroheptanoic Acid (PFHpA) <sup>8</sup>           | 375-85-9                   | nc   | 2.2                                     | 1.6                                     | 1.3                                     | 0.00024   |
| Perfluorohexane Sulfonic Acid (PFHxS) <sup>8</sup>     | 355-46-4                   | nc   | 2.2                                     | 1.6                                     | 1.3                                     | 0.00029   |
| Perfluorononanoic Acid (PFNA) <sup>8</sup>             | 375-95-1                   | nc   | 2.2                                     | 1.6                                     | 1.3                                     | 0.00041   |



**TABLE B1. METHOD TWO – SOIL CLEANUP LEVELS TABLE (See notes for additional requirements)**

| Hazardous Substance                               | CAS Number <sup>1</sup> | health effect that drives risk: carcinogen (ca); noncarcinogen (nc); mutagen (m) | Arctic Zone <sup>2</sup>          | Under 40 Inch Zone <sup>3</sup>   | Over 40 Inch Zone <sup>4</sup>    | Migration to Groundwater <sup>6</sup> (mg/kg) |
|---|-------------------------|--|-----------------------------------|-----------------------------------|-----------------------------------|---|
|   |                         |  | Human Health <sup>5</sup> (mg/kg) | Human Health <sup>5</sup> (mg/kg) | Human Health <sup>5</sup> (mg/kg) |   |
| Perfluorooctane Sulfonic Acid (PFOS) <sup>8</sup> | 1763-23-1               | nc   | 2.2                               | 1.6                               | 1.3                               | 0.00053                                       |
| Perfluorooctanoic Acid (PFOA) <sup>8</sup>        | 335-67-1                | nc   | 2.2                               | 1.6                               | 1.3                               | 0.00029                                       |
| Phenanthrene <sup>7,8</sup>                       | 85-01-8                 | nc   | 3100                              | 2300                              | 1900                              | 39  |
| Phenol  | 108-95-2                | nc   | 33000                             | 25000                             | 20000                             | 29  |
| Phosphorus, White                                 | 7723-14-0               | nc   | 2.7                               | 2.0                               | 1.7                               | 0.020   |
| Polychlorinated Biphenyls (total) <sup>15</sup>   | 1336-36-3               | ca   | 1.0                               | 1.0                               | 1.0                               | n/a   |
| Propyl benzene                                    | 103-65-1                | nc   | 52 (5200) <sup>10</sup>           | 52 (3700) <sup>10</sup>           | 52 (2800) <sup>10</sup>           | 9.1   |
| Pyrene <sup>7</sup>                               | 129-00-0                | nc   | 3100                              | 2300                              | 1900                              | 87  |
| Selenium  | 7782-49-2               | nc   | 680                               | 510                               | 410                               | 6.9   |
| Silver  | 7440-22-4               | nc   | 680                               | 510                               | 410                               | 11  |
| Strontium   | 7440-24-6               | nc   | 82000                             | 61000                             | 50000                             | 5600  |
| Styrene   | 100-42-5                | nc   | 180                               | 180                               | 180                               | 10  |

TABLE B1. METHOD TWO – SOIL CLEANUP LEVELS TABLE (See notes for additional requirements)

| Hazardous Substance                     | CAS Number <sup>1</sup> | health effect that drives risk: carcinogen (ca); noncarcinogen (nc); mutagen (m) | Arctic Zone <sup>2</sup>          | Under 40 Inch Zone <sup>3</sup>   | Over 40 Inch Zone <sup>4</sup>    | Migration to Groundwater <sup>6</sup> (mg/kg) |
|---|-------------------------|--|-----------------------------------|-----------------------------------|-----------------------------------|---|
|   |                         |  | Human Health <sup>5</sup> (mg/kg) | Human Health <sup>5</sup> (mg/kg) | Human Health <sup>5</sup> (mg/kg) |   |
|   |                         |  | (8100) <sup>10</sup>              | (5700) <sup>10</sup>              | (4200) <sup>10</sup>              |   |
| TCDD, 2,3,7,8- <sup>16</sup>            | 1746-01-6               | ca   | 8.2 x 10 <sup>-5</sup>            | 6.0 x 10 <sup>-5</sup>            | 4.9 x 10 <sup>-5</sup>            | 3.9 x 10 <sup>-6</sup>                        |
| Tetrachloroethane, 1,1,1,2-             | 630-20-6                | ca   | 30                                | 21                                | 15                                | 0.022   |
| Tetrachloroethane, 1,1,2,2-             | 79-34-5                 | ca   | 8.8                               | 6.1                               | 4.4                               | 0.0030  |
| Tetrachloroethylene                     | 127-18-4                | nc   | 68 (140) <sup>10</sup>            | 68 (95) <sup>10</sup>             | 68 (69) <sup>10</sup>             | 0.19  |
| Tetryl (Trinitrophenylmethylnitramine)  | 479-45-8                | nc   | 270                               | 200                               | 170                               | 2.5   |
| Thallium (Soluble Salts)                | 7440-28-0               | nc   | 1.4                               | 1.00                              | 0.83                              | 0.19  |
| Toluene <sup>7</sup>                    | 108-88-3                | nc   | 200<br>(8000) <sup>10</sup>       | 200<br>(5800) <sup>10</sup>       | 200<br>(4500) <sup>10</sup>       | 6.7   |
| Toxaphene                               | 8001-35-2               | ca   | 8.6                               | 6.4                               | 5.2                               | 0.72  |
| Trichloro-1,2,2-trifluoroethane, 1,1,2- | 76-13-1                 | nc   | 740<br>(16000) <sup>10</sup>      | 740<br>(11000) <sup>10</sup>      | 740<br>(7700) <sup>10</sup>       | 310   |

TABLE B1. METHOD TWO – SOIL CLEANUP LEVELS TABLE (See notes for additional requirements)

| Hazardous Substance                    | CAS Number <sup>1</sup> | health effect that drives risk: carcinogen (ca); noncarcinogen (nc); mutagen (m) | Arctic Zone <sup>2</sup>          | Under 40 Inch Zone <sup>3</sup>   | Over 40 Inch Zone <sup>4</sup>    | Migration to Groundwater <sup>6</sup> (mg/kg) |
|--|-------------------------|--|-----------------------------------|-----------------------------------|-----------------------------------|---|
|  |                         |  | Human Health <sup>5</sup> (mg/kg) | Human Health <sup>5</sup> (mg/kg) | Human Health <sup>5</sup> (mg/kg) |   |
| Trichlorobenzene, 1,2,3-               | 87-61-6                 | nc   | 110                               | 81                                | 66                                | 0.15  |
| Trichlorobenzene, 1,2,4-               | 120-82-1                | nc   | 66                                | 45                                | 32                                | 0.082   |
| Trichloroethane, 1,1,1-                | 71-55-6                 | nc   | 360<br>(160000) <sup>10</sup>     | 360<br>(11000) <sup>10</sup>      | 360<br>(7800) <sup>10</sup>       | 32  |
| Trichloroethane, 1,1,2-                | 79-00-5                 | nc   | 2.3                               | 1.6                               | 1.1                               | 0.0014  |
| Trichloroethylene                      | 79-01-6                 | nc   | 7.1                               | 4.9                               | 3.5                               | 0.011   |
| Trichlorofluoromethane                 | 75-69-4                 | nc   | 980<br>(41000) <sup>10</sup>      | 980<br>(30000) <sup>10</sup>      | 980<br>(25000) <sup>10</sup>      | 41  |
| Trichlorophenol, 2,4,5-                | 95-95-4                 | nc   | 11000                             | 8200                              | 6700                              | 28  |
| Trichlorophenol, 2,4,6-                | 88-06-2                 | nc   | 110                               | 82                                | 67                                | 0.092   |
| Trichlorophenoxyacetic Acid, 2,4,5-    | 93-76-5                 | nc   | 1100                              | 820                               | 670                               | 0.66  |
| Trichlorophenoxypropionic acid, -2,4,5 | 93-72-1                 | nc   | 880                               | 660                               | 540                               | 0.55  |

**TABLE B1. METHOD TWO – SOIL CLEANUP LEVELS TABLE (See notes for additional requirements)**

| Hazardous Substance      | CAS Number <sup>1</sup> | health effect that drives risk: carcinogen (ca); noncarcinogen (nc); mutagen (m) | Arctic Zone <sup>2</sup>          | Under 40 Inch Zone <sup>3</sup>   | Over 40 Inch Zone <sup>4</sup>    | Migration to Groundwater <sup>6</sup> (mg/kg) |
|--------------------------|-------------------------|--|-----------------------------------|-----------------------------------|-----------------------------------|---|
|                          |                         |  | Human Health <sup>5</sup> (mg/kg) | Human Health <sup>5</sup> (mg/kg) | Human Health <sup>5</sup> (mg/kg) |   |
| Trichloropropane, 1,2,3- | 96-18-4                 | m  | 0.089                             | 0.066                             | 0.054                             | 3.1 x 10 <sup>-5</sup>                        |
| Trimethylbenzene, 1,2,4- | 95-63-6                 | nc   | 43 (400) <sup>10</sup>            | 43 (280) <sup>10</sup>            | 43 (210) <sup>10</sup>            | 0.61  |
| Trimethylbenzene, 1,3,5- | 108-67-8                | nc   | 37 (360) <sup>10</sup>            | 37 (250) <sup>10</sup>            | 37 (180) <sup>10</sup>            | 0.66  |
| Tri-n-butyltin           | 688-73-3                | nc   | 41                                | 30                                | 25                                | 0.68  |
| Trinitrobenzene, 1,3,5-  | 99-35-4                 | nc   | 3900                              | 2900                              | 2400                              | 15  |
| Trinitrotoluene, 2,4,6-  | 118-96-7                | nc   | 64                                | 47                                | 39                                | 0.39  |
| Vanadium and Compounds   | 7440-62-2               | nc   | 680                               | 510                               | 420                               | 1100  |
| Vinyl Acetate            | 108-05-4                | nc   | 2100                              | 1400                              | 1000                              | 1.1   |
| Vinyl Chloride           | 75-01-4                 | ca   | 0.69                              | 0.65                              | 0.61                              | 0.00080                                       |
| Xylenes <sup>7</sup>     | 1330-20-7               | nc   | 57 (710) <sup>10</sup>            | 57 (490) <sup>10</sup>            | 57 (350) <sup>10</sup>            | 1.5   |
| Zinc and Compounds       | 7440-66-6               | nc   | 41000                             | 30000                             | 25000                             | 4900  |

See notes to table for further requirements. "n/a" means not applicable.

**NOTES TO TABLE B1 FOLLOW TABLE B2 IN (d) OF THIS SECTION**

18 AAC 75.341(d) is repealed and readopted to read:

(d) If a responsible person uses method two for petroleum hydrocarbons under 18 AAC 75.340, the soil cleanup levels must be based on Table B2 in this subsection.

**TABLE B2. METHOD TWO - PETROLEUM HYDROCARBON SOIL CLEANUP LEVELS**

| Petroleum Hydrocarbon Range   | Arctic Zone <sup>2</sup><br>mg/kg |                                  |   | Under 40 Inch Zone <sup>3</sup> |                                  |   | Over 40 Inch Zone <sup>4</sup>  |                                  |   | Maximum Allowable Concentrations <sup>17</sup><br>mg/kg |
|---|-----------------------------------|----------------------------------|---|---------------------------------|----------------------------------|---|---------------------------------|----------------------------------|---|---|
|   | Ingestion (mg/kg) <sup>18</sup>   | Inhalation (mg/kg) <sup>19</sup> | Migration to Groundwater (mg/kg) <sup>6</sup> | Ingestion (mg/kg) <sup>18</sup> | Inhalation (mg/kg) <sup>19</sup> | Migration to groundwater (mg/kg) <sup>6</sup> | Ingestion (mg/kg) <sup>18</sup> | Inhalation (mg/kg) <sup>19</sup> | Migration to Groundwater (mg/kg) <sup>6</sup> |   |
| <b>For Laboratory Analysis using AK Methods 101, 102, and 103</b>                                       |                                   |                                  |   |                                 |                                  |   |                                 |                                  |   |   |
| C <sub>6</sub> -C <sub>10</sub> GRO using AK 101  | 1400                              | 1400                             | n/a   | 1400                            | 1400                             | 300   | 1400                            | 1400                             | 260   | 1400  |
| C <sub>10</sub> -C <sub>25</sub> DRO using AK 102   | 12500                             | 12500                            | n/a   | 10250                           | 12500                            | 250   | 8250                            | 12500                            | 230   | 12500   |
| C <sub>25</sub> -C <sub>36</sub> RRO using AK 103   | 13700                             | 22000                            | n/a   | 10000                           | 22000                            | 11000   | 8300                            | 22000                            | 9700  | 22000   |
| <b>For Laboratory Analysis using AK Aliphatic and Aromatic Fraction Methods 101AA, 102AA, and 103AA</b> |                                   |                                  |   |                                 |                                  |   |                                 |                                  |   |   |
| C <sub>6</sub> -C <sub>10</sub> Aliphatics  | 1000                              | 1000                             | n/a   | 1000                            | 1000                             | 270   | 1000                            | 1000                             | 240   | 1000  |
| C <sub>6</sub> -C <sub>10</sub> Aromatics   | 1000                              | 1000                             | n/a   | 1000                            | 1000                             | 150   | 1000                            | 1000                             | 130   | 1000  |
| C <sub>10</sub> -C <sub>25</sub> Aliphatics   | 10000                             | 10000                            | n/a   | 10000                           | 10000                            | 7200  | 8300                            | 10000                            | 6400  | 10000   |
| C <sub>10</sub> -C <sub>25</sub> Aromatics  | 5000                              | 5000                             | n/a   | 4100                            | 5000                             | 100   | 3300                            | 5000                             | 90  | 5000  |
| C <sub>25</sub> -C <sub>36</sub> Aliphatics   | 20000                             | 20000                            | n/a   | 20000                           | 20000                            | 20000   | 20000                           | 20000                            | 20000   | 20000   |
| C <sub>25</sub> -C <sub>36</sub> Aromatics  | 4100                              | 10000                            | n/a   | 3000                            | 10000                            | 3300  | 2500                            | 10000                            | 2900  | 10000   |

See notes to table for further requirements. "n/a" means not applicable.

**Notes to Tables B1 and B2:**

If applicable, alternative cleanup levels must be protective of migration to surface water.

Concentrations of hazardous substances in soil must be calculated and presented on a per dry weight basis. For volatile organic hazardous substances for which toxicity data are not currently available or calculated levels exceed the calculated saturation concentration, the cleanup level that applies at a site is the calculated saturation concentration determined using the equations set out in the *Procedures for Calculating Cleanup Levels*, adopted by reference in 18 AAC 75.340.

The cleanup level from Table B1 or B2 that applies at a site is the most stringent of the applicable exposure pathway-specific cleanup levels based on human health, ingestion, inhalation, or migration to groundwater. Where the superscript figure “9” follows the exponent “10<sup>5</sup>”, separated by a semicolon, the figure “9” refers to Note 9.

1. “CAS Number” means the Chemical Abstract Service (CAS) registry number uniquely assigned to chemicals by the American Chemical Society and recorded in the CAS Registry System.

2. “Arctic zone” is defined at 18 AAC 75.990.

3. “Under 40 inch zone” means a site that receives mean annual precipitation of less than 40 inches each year.

4. “Over 40 inch zone” means a site that receives mean annual precipitation of 40 or more inches each year.

5. The “Human Health” exposure pathway is the cumulative exposure pathway through dermal contact, ingestion, and inhalation of volatile and particulate compounds from hazardous substances in the soil but excludes the vapor intrusion pathway of indoor air inhalation.

6. The “Migration to Groundwater” exposure pathway is the potential for hazardous

substances to leach to groundwater where they may result in a completed human health exposure pathway through dermal contact, ingestion, or inhalation of contaminants at or above levels listed in Table C at 18 AAC 75.345(b)(1); soil cleanup levels protective of migration to surface water must be determined on a site-specific basis.

7. If using method two or method three, the applicable petroleum hydrocarbon cleanup levels must be met in addition to the applicable chemical-specific cleanup levels for benzene, ethylbenzene, toluene, and total xylenes; the chemical-specific cleanup levels for the polynuclear aromatic hydrocarbons acenaphthene, acenaphthylene, anthracene, benz[a]anthracene, benzo[a]pyrene, benzo[b]fluoranthene, benzo[k]fluoranthene, benzo[g,h,i]pyrene, chrysene, dibenz[a,h]anthracene, fluoranthene, fluorene, indeno[1,2,3-c,d]pyrene, naphthalene, phenanthrene, and pyrene must also be met unless the department determines that those cleanup levels need not be met to protect human health, safety, and welfare, and the environment.

8. Where one or more toxicological values were unavailable, toxicity values from surrogate compounds or other sources were used as presented in Table 6 in the *Procedures for Calculating Cleanup Levels*, adopted by reference in 18 AAC 75.340.

9. The ceiling limit of 100,000 mg/kg is equivalent to a chemical representing 10 percent by weight of the soil sample. At this contaminant concentration and higher, the assumptions for soil contact may be violated (for example, soil adherence and wind-borne dispersion assumptions) due to the presence of the foreign substance itself.

10. This level is based on a soil saturation concentration (C<sub>sat</sub>) using the equations set out in *Procedures for Calculating Cleanup Levels*, adopted by reference in 18 AAC 75.340. The C<sub>sat</sub> value is listed first, followed by the human health risk-based cleanup level in parentheses. The human health risk-based cleanup level assumptions do not take free product into



consideration. In accordance with 18 AAC 75.325(f), free product must be recovered to the maximum extent practicable. Contaminant concentrations above the Csat value trigger the need to assess the practicability of product recovery; if the department determines product recovery is impracticable, the risk-based cleanup level may be applied as long as the cumulative risk standards are met.

11. Due to the prevalence of naturally occurring arsenic throughout the state, arsenic at a site will be considered background arsenic unless anthropogenic contribution from a source, activity, or mobilization by means of another introduced contaminant is known or suspected.

12. Due to the prevalence of naturally occurring chromium III throughout the state, sample results reported for total chromium detected at a site will be considered background chromium III unless anthropogenic contribution of chromium III or VI from a source, activity, or mobilization by means of another introduced contaminant is known or suspected. The calculated chromium III migration to groundwater cleanup level exceeds 1,000,000 parts per million.

13. Cyanide expressed as free, or physiologically available cyanide.

14. Lead cleanup levels are based on land use; for residential land use, the soil cleanup level is 400 mg/kg. For commercial or industrial land use, as applied in 18 AAC 75.340(e)(3), the soil cleanup level is 800 mg/kg; through an approved site-specific risk assessment, conducted according to the *Risk Assessment Procedures Manual*, adopted by reference in 18 AAC 75.340, approved exposure models may be used to evaluate exposure to a child resident or an adult worker; a responsible person may also propose an alternative cleanup level, through a site-specific risk assessment conducted according to the *Risk Assessment Procedures Manual*, and based on a chemical speciation of the lead present at the site. For soils contaminated with lead more than 15 feet below ground surface, lead cleanup levels will be determined on a site-specific

basis.

15. The applicable EPA regulation governing disposal and cleanup of polychlorinated biphenyl (PCB) contaminated facilities under 40 C.F.R. 761.61 (PCB remediation waste) may apply to PCB cleanup at a contaminated site. The PCB cleanup levels listed in Table B1 are based on cleanup levels referred to in 40 C.F.R. 761.61 for high occupancy areas with no cap. For unrestricted land use, polychlorinated biphenyls (PCBs) in soil shall be cleaned up to the listed value, unless the department determines that a different cleanup level is necessary as provided in 18 AAC 75.340(i); with the prior approval of the department, PCBs in soil may be cleaned up to

(A) between 1 and 10 mg/kg if the responsible person

(i) caps each area containing PCBs in soil at levels between 1 and 10 mg/kg; for purposes of this Note 15, “caps” means covering an area of PCB contaminated soil with an appropriate material to prevent exposure of humans and the environment to PCBs; to be approved, a cap must be designed and constructed of a material acceptable to the department and of sufficient strength and durability to withstand the use of the surface that is exposed to the environment; within 72 hours after discovery of a breach to the integrity of a cap, the responsible person or the landowner shall initiate repairs to that breach; and

(ii) provides the department within 60 days after completing the cleanup, documentation that the responsible person has recorded a deed notation in the appropriate land records, or on another instrument that is normally examined during a title search, documenting that PCBs remain in the soil, that the contaminated soil has been capped, and that subsequent interest holders may have legal obligations with respect to the cap

and the contaminated soil; or

(B) an alternative PCB soil cleanup level developed through an approved site-specific risk assessment, conducted according to the *Risk Assessment Procedures Manual*, adopted by reference at 18 AAC 75.340.

16. This cleanup level is for 2,3,7,8-Tetrachlorodibenzo-*p*-Dioxin (TCDD) only; all cleanup levels for polychlorinated dibenzo-*p*-dioxin (PCDD) and polychlorinated dibenzofuran (PCDF) congeners must be determined on a site-specific basis using the TCDD toxicity equivalent (TEQ) approach described in the *Procedures for Calculating Cumulative Risk*, adopted by reference in 18 AAC 75.325.

17. This level is the concentration of C<sub>6</sub> - C<sub>10</sub>, C<sub>10</sub> - C<sub>25</sub>, or C<sub>25</sub> - C<sub>36</sub> petroleum hydrocarbon range in surface and subsurface soil that if exceeded, indicates an increased potential for hazardous substance migration or for risk to human health, safety, or welfare, or to the environment; the level of a petroleum hydrocarbon may not remain at a concentration above the maximum allowable concentration unless a responsible person demonstrates that the petroleum hydrocarbon will not migrate and will not pose a significant risk to human health, safety, or welfare, or to the environment; free product must be recovered as required by 18 AAC 75.325(f).

18. “Ingestion” means a potential pathway of exposure to hazardous substances through direct consumption of the soil.

19. “Inhalation” means a potential pathway to volatile organic hazardous substances in the soil through volatilization, but excludes the vapor intrusion pathway of indoor air inhalation. (Eff. 1/22/99, Register 149; am 8/27/2000, Register 155; am 1/30/2003, Register 165; am 10/9/2008, Register 188; am 11/6/2016, Register 220; am 9/29/2018, Register 227; am

\_\_/\_\_/\_\_\_\_, Register \_\_)

**Authority:** AS 46.03.020 AS 46.03.740 AS 46.04.070  
 AS 46.03.050 AS 46.03.745 AS 46.09.020  
 AS 46.03.710 AS 46.04.020

18 AAC 75.345(b)(1) is repealed and readopted to read:

(1) the cleanup levels in Table C if the current use or the reasonably expected potential future use of the groundwater, determined under 18 AAC 75.350, is a drinking water source;

| <b>TABLE C. GROUNDWATER CLEANUP LEVELS</b> |                               |   |   |
|--|-------------------------------|---|---|
| <b>Hazardous Substance</b>                 | <b>CAS Number<sup>1</sup></b> | <b>Health effect that drives risk: carcinogen (ca); noncarcinogen (nc); mutagen (m)</b> | <b>Groundwater Human Health Cleanup Level<sup>2</sup> (micrograms /liter)</b> |
| Acenaphthene                               | 83-32-9                       | nc  | 530   |
| Acenaphthylene <sup>3</sup>                | 208-96-8                      | nc  | 260   |
| Acetone                                    | 67-64-1                       | nc  | 14000   |
| Aldrin                                     | 309-00-2                      | ca  | 0.0092  |
| Anthracene                                 | 120-12-7                      | nc  | 43 (1800) <sup>4</sup>  |
| Antimony (metallic)                        | 7440-36-0                     | nc  | 7.8   |
| Arsenic, Inorganic <sup>5</sup>            | 7440-38-2                     | ca  | 0.52  |
| Barium                                     | 7440-39-3                     | nc  | 3800  |
| Benz[a]anthracene                          | 56-55-3                       | m   | 0.30  |
| Benzaldehyde                               | 100-52-7                      | nc  | 190   |

TABLE C. GROUNDWATER CLEANUP LEVELS

| Hazardous Substance               | CAS Number <sup>1</sup> | Health effect that drives risk: carcinogen (ca); noncarcinogen (nc); mutagen (m) | Groundwater Human Health Cleanup Level <sup>2</sup> (micrograms /liter) |
|-----------------------------------|-------------------------|--|---|
| Benzene                           | 71-43-2                 | ca   | 4.6   |
| Benzo[a]pyrene                    | 50-32-8                 | m  | 0.25  |
| Benzo[b]fluoranthene              | 205-99-2                | m  | 2.5   |
| Benzo[g,h,i]perylene <sup>3</sup> | 191-24-2                | nc   | 0.26 (600) <sup>4</sup>   |
| Benzo[k]fluoranthene              | 207-08-9                | m  | 0.80 (25) <sup>4</sup>  |
| Benzoic Acid                      | 65-85-0                 | nc   | 75000   |
| Benzyl Alcohol                    | 100-51-6                | nc   | 2000  |
| Beryllium and compounds           | 7440-41-7               | nc   | 25  |
| Bis(2-chloroethyl)ether           | 111-44-4                | ca   | 0.14  |
| Bis(2-ethylhexyl)phthalate        | 117-81-7                | ca   | 56  |
| Bromobenzene                      | 108-86-1                | nc   | 62  |
| Bromodichloromethane              | 75-27-4                 | ca   | 1.3   |
| Bromoform                         | 75-25-2                 | ca   | 33  |
| Bromomethane                      | 74-83-9                 | nc   | 7.5   |
| Butadiene, 1,3-                   | 106-99-0                | ca   | 0.18  |
| Butanol, N-                       | 71-36-3                 | nc   | 2000  |
| Butyl Benzyl Phthalate            | 85-68-7                 | ca   | 160   |
| Butylbenzene, n-                  | 104-51-8                | nc   | 1000  |
| Butylbenzene, sec-                | 135-98-8                | nc   | 2000  |
| Butylbenzene, tert-               | 98-06-6                 | nc   | 690   |
| Cadmium (Diet)                    | 7440-43-9               | nc   | 9.2   |

TABLE C. GROUNDWATER CLEANUP LEVELS

| Hazardous Substance                         | CAS Number <sup>1</sup> | Health effect that drives risk: carcinogen (ca); noncarcinogen (nc); mutagen (m) | Groundwater Human Health Cleanup Level <sup>2</sup> (micrograms /liter) |
|---|-------------------------|--|---|
| Carbon Disulfide                            | 75-15-0                 | nc   | 810   |
| Carbon Tetrachloride                        | 56-23-5                 | ca   | 4.6   |
| Chlordane                                   | 12789-03-6              | ca   | 0.20  |
| Chlordecone (Kepone)                        | 143-50-0                | ca   | 0.035   |
| Chloroaniline, p-                           | 106-47-8                | ca   | 3.7   |
| Chlorobenzene                               | 108-90-7                | nc   | 78  |
| Chloroform                                  | 67-66-3                 | ca   | 2.2   |
| Chloromethane                               | 74-87-3                 | nc   | 190   |
| Chloronaphthalene, Beta-                    | 91-58-7                 | nc   | 750   |
| Chlorophenol, 2-                            | 95-57-8                 | nc   | 91  |
| Chromium(III), Insoluble Salts <sup>6</sup> | 16065-83-1              | nc   | 22000   |
| Chromium(VI) <sup>6</sup>                   | 18540-29-9              | m  | 0.35  |
| Chrysene                                    | 218-01-9                | m  | 2.0 (250) <sup>4</sup>  |
| Copper                                      | 7440-50-8               | nc   | 800   |
| Cresol, m-                                  | 108-39-4                | nc   | 930   |
| Cresol, o-                                  | 95-48-7                 | nc   | 930   |
| Cresol, p-                                  | 106-44-5                | nc   | 1900  |
| Cumene                                      | 98-82-8                 | nc   | 450   |
| Cyanide (CN-)                               | 57-12-5                 | nc   | 1.5   |
| Cyclohexane                                 | 110-82-7                | nc   | 13000   |
| DDD   | 72-54-8                 | ca   | 0.060   |

TABLE C. GROUNDWATER CLEANUP LEVELS

| Hazardous Substance                      | CAS Number <sup>1</sup> | Health effect that drives risk: carcinogen (ca); noncarcinogen (nc); mutagen (m) | Groundwater Human Health Cleanup Level <sup>2</sup> (micrograms /liter) |
|--|-------------------------|--|---|
| DDE, p,p'-                               | 72-55-9                 | ca   | 0.46  |
| DDT                                      | 50-29-3                 | ca   | 2.3   |
| Dibenz[a,h]anthracene                    | 53-70-3                 | m  | 0.25  |
| Dibenzofuran                             | 132-64-9                | nc   | 7.9   |
| Dibromochloromethane                     | 124-48-1                | ca   | 8.7   |
| Dibromoethane, 1,2- (Ethylene Dibromide) | 106-93-4                | ca   | 0.075   |
| Dibromomethane (Methylene Bromide)       | 74-95-3                 | nc   | 8.3   |
| Dibutyl Phthalate                        | 84-74-2                 | nc   | 900   |
| Dichlorobenzene, 1,2-                    | 95-50-1                 | nc   | 300   |
| Dichlorobenzene, 1,3- <sup>3</sup>       | 541-73-1                | nc   | 300   |
| Dichlorobenzene, 1,4-                    | 106-46-7                | ca   | 4.8   |
| Dichlorobenzidine, 3,3'-                 | 91-94-1                 | ca   | 1.3   |
| Dichlorodifluoromethane                  | 75-71-8                 | nc   | 200   |
| Dichloroethane, 1,1-                     | 75-34-3                 | ca   | 28  |
| Dichloroethane, 1,2-                     | 107-06-2                | ca   | 1.7   |
| Dichloroethylene, 1,1-                   | 75-35-4                 | nc   | 280   |
| Dichloroethylene, 1,2-cis-               | 156-59-2                | nc   | 36  |
| Dichloroethylene, 1,2-trans-             | 156-60-5                | nc   | 360   |
| Dichlorophenol, 2,4-                     | 120-83-2                | nc   | 46  |
| Dichlorophenoxy Acetic Acid, 2,4-        | 94-75-7                 | nc   | 170   |
| Dichloropropane, 1,2-                    | 78-87-5                 | nc   | 8.2   |

TABLE C. GROUNDWATER CLEANUP LEVELS

| Hazardous Substance            | CAS Number <sup>1</sup> | Health effect that drives risk: carcinogen (ca); noncarcinogen (nc); mutagen (m) | Groundwater Human Health Cleanup Level <sup>2</sup> (micrograms /liter) |
|--------------------------------|-------------------------|--|---|
| Dichloropropene, 1,3-          | 542-75-6                | ca   | 4.7   |
| Dieldrin                       | 60-57-1                 | ca   | 0.018   |
| Diethyl Phthalate              | 84-66-2                 | nc   | 15000   |
| Dimethylphenol, 2,4-           | 105-67-9                | nc   | 360   |
| Dimethylphthalate <sup>3</sup> | 131-11-3                | nc   | 16000   |
| Dinitrobenzene, 1,2-           | 528-29-0                | nc   | 1.9   |
| Dinitrobenzene, 1,3-           | 99-65-0                 | nc   | 2.0   |
| Dinitrobenzene, 1,4-           | 100-25-4                | nc   | 2.0   |
| Dinitrophenol, 2,4-            | 51-28-5                 | nc   | 39  |
| Dinitrotoluene, 2,4-           | 121-14-2                | ca   | 2.4   |
| Dinitrotoluene, 2,6-           | 606-20-2                | ca   | 0.49  |
| Dinitrotoluene, 2-Amino-4,6-   | 35572-78-2              | nc   | 39  |
| Dinitrotoluene, 4-Amino-2,6-   | 19406-51-0              | nc   | 39  |
| Dioxane, 1,4-                  | 123-91-1                | ca   | 4.6   |
| Diphenylamine                  | 122-39-4                | nc   | 1300  |
| Endosulfan                     | 115-29-7                | nc   | 100   |
| Endrin                         | 72-20-8                 | nc   | 2.3   |
| Ethyl Chloride                 | 75-00-3                 | nc   | 21000   |
| Ethylbenzene                   | 100-41-4                | ca   | 15  |
| Ethylene Glycol                | 107-21-1                | nc   | 40000   |
| Fluoranthene                   | 206-44-0                | nc   | 260 (800) <sup>4</sup>  |



TABLE C. GROUNDWATER CLEANUP LEVELS

| Hazardous Substance                           | CAS Number <sup>1</sup> | Health effect that drives risk: carcinogen (ca); noncarcinogen (nc); mutagen (m) | Groundwater Human Health Cleanup Level <sup>2</sup> (micrograms /liter) |
|---|-------------------------|--|---|
| Fluorene                                      | 86-73-7                 | nc   | 290   |
| Formaldehyde                                  | 50-00-0                 | ca   | 4.3   |
| Heptachlor                                    | 76-44-8                 | ca   | 0.014   |
| Heptachlor Epoxide                            | 1024-57-3               | ca   | 0.014   |
| Hexachlorobenzene                             | 118-74-1                | ca   | 0.098   |
| Hexachlorobutadiene                           | 87-68-3                 | nc   | 1.4   |
| Hexachlorocyclohexane, Alpha-                 | 319-84-6                | ca   | 0.072   |
| Hexachlorocyclohexane, Beta-                  | 319-85-7                | ca   | 0.25  |
| Hexachlorocyclohexane, Gamma- (Lindane)       | 58-89-9                 | ca   | 0.42  |
| Hexachlorocyclopentadiene                     | 77-47-4                 | nc   | 0.41  |
| Hexachloroethane                              | 67-72-1                 | ca   | 3.3   |
| Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX) | 121-82-4                | ca   | 7.0   |
| Hexane, N-                                    | 110-54-3                | nc   | 1500  |
| Hexanone, 2-                                  | 591-78-6                | nc   | 38  |
| Hydrazine                                     | 302-01-2                | ca   | 0.011   |
| Indeno[1,2,3-cd]pyrene                        | 193-39-5                | m  | 0.19 (2.5) <sup>4</sup>   |
| Isophorone                                    | 78-59-1                 | ca   | 780   |
| Isopropanol                                   | 67-63-0                 | nc   | 410   |
| Lead and Compounds <sup>7</sup>               | 7439-92-1               | nc   | 15  |
| Manganese                                     | 7439-96-5               | nc   | 430   |
| Mercuric Chloride <sup>3</sup>                | 7487-94-7               | nc   | 5.7   |

TABLE C. GROUNDWATER CLEANUP LEVELS

| Hazardous Substance                           | CAS Number <sup>1</sup> | Health effect that drives risk: carcinogen (ca); noncarcinogen (nc); mutagen (m) | Groundwater Human Health Cleanup Level <sup>2</sup> (micrograms /liter) |
|---|-------------------------|--|---|
| Mercury (elemental)                           | 7439-97-6               | nc   | 0.52  |
| Methanol                                      | 67-56-1                 | nc   | 20000   |
| Methoxychlor                                  | 72-43-5                 | nc   | 37  |
| Methyl Ethyl Ketone (2-Butanone)              | 78-93-3                 | nc   | 5600  |
| Methyl Isobutyl Ketone (4-methyl-2-pentanone) | 108-10-1                | nc   | 6300  |
| Methyl Mercury                                | 22967-92-6              | nc   | 2.0   |
| Methyl tert-Butyl Ether (MTBE)                | 1634-04-4               | ca   | 140   |
| Methylene Chloride                            | 75-09-2                 | nc   | 110   |
| Methylnaphthalene, 1-                         | 90-12-0                 | ca   | 11  |
| Methylnaphthalene, 2-                         | 91-57-6                 | nc   | 36  |
| Naphthalene                                   | 91-20-3                 | ca   | 1.7   |
| Nickel Soluble Salts                          | 7440-02-0               | nc   | 390   |
| Nitrobenzene                                  | 98-95-3                 | ca   | 1.4   |
| Nitroglycerin                                 | 55-63-0                 | nc   | 2.0   |
| Nitroguanidine                                | 556-88-7                | nc   | 2000  |
| Nitrosodimethylamine, N-                      | 62-75-9                 | m  | 0.0011  |
| Nitroso-di-N-propylamine, N-                  | 621-64-7                | ca   | 0.11  |
| Nitrosodiphenylamine, N-                      | 86-30-6                 | ca   | 120   |
| Nitrotoluene, m-                              | 99-08-1                 | nc   | 1.7   |
| Nitrotoluene, o-                              | 88-72-2                 | ca   | 3.1   |
| Nitrotoluene, p-                              | 99-99-0                 | nc   | 43  |

TABLE C. GROUNDWATER CLEANUP LEVELS

| Hazardous Substance                                    | CAS Number <sup>1</sup> | Health effect that drives risk: carcinogen (ca); noncarcinogen (nc); mutagen (m) | Groundwater Human Health Cleanup Level <sup>2</sup> (micrograms /liter) |
|--|-------------------------|--|---|
| Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX) | 2691-41-0               | nc   | 1000  |
| Octyl Phthalate, di-N-                                 | 117-84-0                | nc   | 22 (200) <sup>4</sup>   |
| Pentachlorophenol                                      | 87-86-5                 | ca   | 0.41  |
| Pentaerythritol tetranitrate (PETN)                    | 78-11-5                 | nc   | 39  |
| Perchlorate and Perchlorate Salts                      | 14797-73-0              | nc   | 14  |
| Perfluorobutane Sulfonic Acid (PFBS) <sup>3</sup>      | 375-73-5                | nc   | 400   |
| Perfluoroheptanoic Acid (PFHpA)                        | 375-85-9                | nc   | 0.070 <sup>9</sup>  |
| Perfluorohexane Sulfonic Acid (PFHxS)                  | 355-46-4                | nc   | 0.070 <sup>9</sup>  |
| Perfluorononanoic Acid (PFNA)                          | 375-95-1                | nc   | 0.070 <sup>9</sup>  |
| Perfluorooctane Sulfonic Acid (PFOS)                   | 1763-23-1               | nc   | 0.070 <sup>9</sup>  |
| Perfluorooctanoic Acid (PFOA)                          | 335-67-1                | nc   | 0.070 <sup>9</sup>  |
| Phenanthrene <sup>3</sup>                              | 85-01-8                 | nc   | 170   |
| Phenol   | 108-95-2                | nc   | 5800  |
| Phosphorus, White                                      | 7723-14-0               | nc   | 0.40  |
| Polychlorinated Biphenyls (PCBs)                       | 1336-36-3               | ca   | 0.44  |
| Propyl benzene   | 103-65-1                | nc   | 660   |
| Pyrene   | 129-00-0                | nc   | 120   |
| Selenium   | 7782-49-2               | nc   | 100   |
| Silver   | 7440-22-4               | nc   | 94  |
| Styrene  | 100-42-5                | nc   | 1200  |
| Strontium  | 7440-24-6               | nc   | 12000   |

TABLE C. GROUNDWATER CLEANUP LEVELS

| Hazardous Substance                     | CAS Number <sup>1</sup> | Health effect that drives risk: carcinogen (ca); noncarcinogen (nc); mutagen (m) | Groundwater Human Health Cleanup Level <sup>2</sup> (micrograms /liter) |
|---|-------------------------|--|---|
| TCDD, 2,3,7,8- <sup>8</sup>             | 1746-01-6               | ca   | 1.2 x 10 <sup>-6</sup>  |
| Tetrachloroethane, 1,1,1,2-             | 630-20-6                | ca   | 5.7   |
| Tetrachloroethane, 1,1,2,2-             | 79-34-5                 | ca   | 0.76  |
| Tetrachloroethylene                     | 127-18-4                | nc   | 41  |
| Tetryl (Trinitrophenylmethylnitramine)  | 479-45-8                | nc   | 39  |
| Thallium (Soluble Salts)                | 7440-28-0               | nc   | 0.20  |
| Toluene                                 | 108-88-3                | nc   | 1100  |
| Toxaphene                               | 8001-35-2               | ca   | 0.71  |
| Trichloro-1,2,2-trifluoroethane, 1,1,2- | 76-13-1                 | nc   | 10000   |
| Trichlorobenzene, 1,2,3-                | 87-61-6                 | nc   | 7.0   |
| Trichlorobenzene, 1,2,4-                | 120-82-1                | nc   | 4.0   |
| Trichloroethane, 1,1,1-                 | 71-55-6                 | nc   | 8000  |
| Trichloroethane, 1,1,2-                 | 79-00-5                 | nc   | 0.41  |
| Trichloroethylene                       | 79-01-6                 | nc   | 2.8   |
| Trichlorofluoromethane                  | 75-69-4                 | nc   | 5200  |
| Trichlorophenol, 2,4,5-                 | 95-95-4                 | nc   | 1200  |
| Trichlorophenol, 2,4,6-                 | 88-06-2                 | nc   | 12  |
| Trichlorophenoxyacetic Acid, 2,4,5-     | 93-76-5                 | nc   | 160   |
| Trichlorophenoxypropionic acid, -2,4,5  | 93-72-1                 | nc   | 110   |
| Trichloropropane, 1,2,3-                | 96-18-4                 | m  | 0.0075  |
| Trimethylbenzene, 1,2,4-                | 95-63-6                 | nc   | 56  |

**TABLE C. GROUNDWATER CLEANUP LEVELS**

| <b>Hazardous Substance</b>           | <b>CAS Number<sup>1</sup></b> | <b>Health effect that drives risk: carcinogen (ca); noncarcinogen (nc); mutagen (m)</b> | <b>Groundwater Human Health Cleanup Level<sup>2</sup> (micrograms /liter)</b> |
|--------------------------------------|-------------------------------|---|---|
| Trimethylbenzene, 1,3,5-             | 108-67-8                      | nc  | 60  |
| Tri-n-butyltin                       | 688-73-3                      | nc  | 3.7   |
| Trinitrobenzene, 1,3,5-              | 99-35-4                       | nc  | 590   |
| Trinitrotoluene, 2,4,6-              | 118-96-7                      | nc  | 9.8   |
| Vanadium and Compounds               | 7440-62-2                     | nc  | 86  |
| Vinyl Acetate                        | 108-05-4                      | nc  | 410   |
| Vinyl Chloride                       | 75-01-4                       | ca  | 0.19  |
| Xylenes                              | 1330-20-7                     | nc  | 190   |
| Zinc and Compounds                   | 7440-66-6                     | nc  | 6000  |
| <b>PETROLEUM HYDROCARBONS</b>        |                               |   |   |
| C <sub>6</sub> -C <sub>10</sub> GRO  |                               | nc  | 2200  |
| C <sub>10</sub> -C <sub>25</sub> DRO |                               | nc  | 1500  |
| C <sub>25</sub> -C <sub>36</sub> RRO |                               | nc  | 1100  |

**Notes to Table C:**

1. “CAS Number” means the Chemical Abstract Service (CAS) registry number uniquely assigned to chemicals by the American Chemical Society and recorded in the CAS Registry System.

2. The “Human Health” exposure pathway is the cumulative exposure pathway through dermal contact, ingestion, and inhalation of volatile compounds from hazardous substances in the

water.

3. Where one or more toxicological values were unavailable, toxicity values from surrogate compounds or other sources were used as presented in Table 6 from the Procedures for Calculating Cleanup Levels, adopted by reference in 18 AAC 75.340.

4. This level is set at the compound's solubility concentration using the equations set out in the *Procedures for Calculating Cleanup Levels*, adopted by reference in 18 AAC 75.340. The solubility value is listed first, followed by the human health risk-based cleanup level in parentheses. The human health risk-based cleanup level assumptions do not take free product into consideration. In accordance with 18 AAC 75.325(f), free product must be recovered to the maximum extent practicable. Contaminant concentrations above the solubility value trigger the need to assess the practicability of product recovery; if the department determines product recovery is impracticable, the risk-based cleanup level may be applied as long as the cumulative risk standards are met.

5. Due to the prevalence of naturally occurring arsenic throughout the state, arsenic at a site will be considered background arsenic unless anthropogenic contribution from a source, activity, or mobilization by means of another introduced contaminant is known or suspected.

6. Due to the prevalence of naturally occurring chromium III throughout the state, sample results reported for total chromium detected at a site will be considered background chromium III unless anthropogenic contribution of chromium III or VI from a source, activity, or mobilization by means of another introduced contaminant is known or suspected.

7. The lead cleanup level is taken from EPA's action level for lead in water.

8. This cleanup level is for 2,3,7,8-Tetrachlorodibenzo-*p*-Dioxin (TCDD) only; all cleanup levels for polychlorinated dibenzo-*p*-dioxin (PCDD) and polychlorinated dibenzofuran

(PCDF) congeners must be determined on a site-specific basis using the TCDD toxicity equivalent (TEQ) approach described in the *Procedures for Calculating Cumulative Risk*, adopted by reference in 18 AAC 75.325.

9. The value is based off EPA health advisories values for drinking water for PFOS and PFOA. The sum of five per- and poly-fluoroalkyl substances (PFAS) (Perfluorooctane Sulfonic Acid (PFOS), Perfluorooctanoic Acid (PFOA), Perfluorononanoic acid (PFNA), Perfluorohexane Sulfonic Acid (PFHxS), and Perfluoroheptanoic Acid (PFHpA) may not exceed the limit of 0.07 µg/L. (Eff. 1/22/99, Register 149; am 8/27/2000, Register 155; am 1/30/2003, Register 165; am 10/9/2008, Register 188; am 6/17/2015, Register 214; am 11/6/2016, Register 220; am 9/29/2018, Register 227; am \_\_/\_\_/\_\_\_\_, Register \_\_\_\_)

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|-------------------|--------------|--------------|--------------|
| <b>Authority:</b> | AS 46.03.020 | AS 46.03.740 | AS 46.04.070 |
|                   | AS 46.03.050 | AS 46.03.745 | AS 46.09.010 |
|                   | AS 46.03.710 | AS 46.04.020 | AS 46.09.020 |