



## Alaska Cleanup Standards for Hydrocarbon Contaminated Groundwater

Product	Parameter/ Constituent	Lab Test Protocol & Number	Detection Level	Notification Level	Action Level	Cleanup Level
Gasoline	GRO (C6-C10)	AK 101	10.0µg/L	any amount	1.3mg/L	1.3 mg/L
	GRO (C6-C10) Aliphatic Hydrocarbons	AK 101AA	2.0µg/L	any amount	1.3mg/L	1.3mg/L
	GRO (C6-C10) Aromatic Hydrocarbons	AK 101AA	0.2µg/L	any amount	7.3mg/L	7.3mg/L
	Benzene	AK 101 or EPA 8021B or 8260B	0.7µg/L	any amount	0.005mg/L	0.005mg/L
	Toluene	AK 101 or EPA 8021B or 8268B	0.7µg/L	any amount	1.0mg/L	1.0mg/L
	Ethylbenzene	AK 101 or EPA 8021B or 8260B	0.7µg/L	any amount	0.7mg/L	0.7mg/L
	Xylenes	AK 101 or EPA 8021B or 8260B	0.7µg/L	any amount	10mg/L	10mg/L

	Naphthalene	EPA 8270C or 8310	1.0µg/L	>500mg/L total PAHs	0.7mg/L	0.7 mg/L
Diesel	GRO (C6-C10)	AK 101	10.0µg/L	any amount	1.3mg/L	1.3mg/L
	GRO (C6-C10) Aliphatic Hydrocarbons	AK 101AA	2.0µg/L	any amount	1.3mg/L	1.3mg/L
	GRO (C6-C10) Aromatic Hydrocarbons	AK 101AA	0.2µg/L	any amount	7.3mg/L	7.3mg/L
	Benzene	AK 101 or EPA 8021B or 8260B	0.7µg/L	any amount	0.005mg/L	0.005mg/L
	Toluene	AK 101 or EPA 8021B or 8260B	0.7µg/L	any amount	1.0mg/L	1.0mg/L
	Ethylbenzene	AK 101 or EPA 8021B or 8260B	0.7µg/L	any amount	0.7mg/L	0.7mg/L
	Xylenes	AK 101 or EPA 8021B or 8260B	0.7µg/L	any amount	10.0mg/L	10.0mg/L
	DRO (C10-C25)	AK 102	80µg/L	any amount	1.5mg/L	1.5mg/L
	DRO (C10-C25) Aliphatic Hydrocarbons	AK 102AA	20.0µg/L	any amount	0.1mg/L	0.1mg/L

	DRO (C10-C25) Aromatic Hydrocarbons	AK 102AA	20.0µg/L	any amount	1.5mg/L	1.5mg/L
	PAHs*	EPA 8270C or 8310	1.0mg/L	>500mg/L total PAHs	Naphthalene 0.7mg/L	Naphthalene 0.7mg/L
Fluorene 1.46mg/L					Fluorene 1.46mg/L	
Anthracene 11.0mg/L					Anthracene 11.0mg/L	
Pyrene 1.1mg/L					Pyrene 1.1mg/L	
Benzo(a)anthracene 0.001mg/L					Benzo(a)anthracene 0.001mg/L	
Acenaphthene 2.2mg/L					Acenaphthene 2.2mg/L	
Chrysene 0.1mg/L					Chrysene 0.1mg/L	
Benzo(a)pyrene 0.0002mg/L					Benzo(a)pyrene 0.0002mg/L	
Dibenzo(a,h)anthracene 0.0001mg/L					Dibenzo(a,h)anthracene 0.0001mg/L	
Benzo(b)fluoranthene 0.001mg/L					Benzo(b)fluoranthene 0.001mg/L	

					Benzo(k)fluoranthene 0.01mg/L	Benzo(k)fluoranthene 0.01mg/L
					Indeno(1,2,3-c,d)pyrene 0.001mg/L	Indeno(1,2,3-c,d)pyrene 0.001mg/L
Waste Oil	GRO (C6-C10)	AK 101	10.0µg/L	any amount	1.3mg/L	1.3mg/L
	GRO (C6-C10) Aliphatic Hydrocarbons	AK 101AA	2.0µg/L	any amount	1.3mg/L	1.3mg/L
	GRO (C6-C10) Aromatic Hydrocarbons	AK 101AA	0.2µg/L	any amount	7.3mg/L	7.3mg/L
	Benzene	AK 101 or EPA 8021B or 8260B	0.7µg/L	any amount	0.005mg/L	0.005mg/L
	Toluene	AK 101 or EPA 8021B or 8260B	0.7µg/L	any amount	1.0mg/L	1.0mg/L
	Ethylbenzene	AK 101 or EPA 8021B or 8260B	0.7µg/L	any amount	0.7mg/L	0.7mg/L
	Xylenes	AK 101 or EPA 8021B or 8260B	0.7µg/L	any amount	10.0mg/L	10.0mg/L
	DRO (C10-C25)	AK 102	80µg/L	any amount	1.5mg/L	1.5mg/L

	DRO (C10-C25) Aliphatic Hydrocarbons	AK 102AA	20µg/L	any amount	0.1mg/L	0.1mg/L
	DRO (C10-C25) Aromatic Hydrocarbons	AK 102AA	20µg/L	any amount	1.5mg/L	1.5mg/L
	RRO (C25-C36)	AK 103	50µg/L	any amount	1.1mg/L	1.1mg/L
	RRO (C25-C36) Aliphatic Hydrocarbons	NA	NA	NA	NA (insoluble)	NA (insoluble)
	RRO (C25-C36) Aromatic Hydrocarbons	AK 103AA	50µg/L	any amount	1.1mg/L	1.1mg/L
	PAHs	EPA 8270C or 8310	1.0µg/L	any amount	Naphthalene 0.7mg/L	Naphthalene 0.7mg/L
Fluorene 1.46mg/L					Fluorene 1.46mg/L	
Anthracene 11.0mg/L					Anthracene 11.0mg/L	
Pyrene 1.1mg/L					Pyrene 1.1mg/L	
Benzo(a)anthracene 0.001mg/L					Benzo(a)anthracene 0.001mg/L	
Acenaphthene 2.2mg/L					Acenaphthene 2.2mg/L	

					Chrysene 0.1mg/L	Chrysene 0.1mg/L
					Benzo(a)pyrene 0.0002mg/L	Benzo(a)pyrene 0.0002mg/L
					Dibenzo(a,h)anthracene 0.0001mg/L	Dibenzo(a,h)anthracene 0.0001mg/L
					Benzo(b)fluoranthene 0.001mg/L	Benzo(b)fluoranthene 0.001mg/L
					Benzo(k)fluoranthene 0.01mg/L	Benzo(k)fluoranthene 0.01mg/L
					Indeno(1,2,3-c,d)pyrene 0.001mg/L	Indeno(1,2,3-c,d)pyrene 0.001mg/L
	Metals	Dependent on Specific Metal	Arsenic 0.5µg/L	any amount	Arsenic 0.05mg/L	Arsenic 0.05mg/L
			Barium 1.0mg/L		Barium 2.0mg/L	Barium 2.0mg/L
			Cadmium 10µg/L		Cadmium 0.005mg/ L	Cadmium 0.005mg/ L
			Chromium 100µg/L		Chromium 0.1mg/L	Chromium 0.1mg/L
					Chromium(III) 55mg/L	Chromium(III) 55mg/L

					Chromium(VI) 0.1mg/L	Chromium(VI) 0.1mg/L
			Lead 1.5µg/L		Lead 0.015mg/L	Lead 0.015mg/L
			Nickel 0.05mg/L		Nickel 0.1mg/L	Nickel 0.1mg/L
			Vanadium 0.01mg/L		Vanadium 0.26mg/L	Vanadium 0.26mg/L

Groundwater standards come from the Oil and Hazardous Substances Pollution Control Regulations, 18AAC 75, Articles 3 and 9. Electronic versions can be found at <http://www.state.ak.us/dec/title18/wpfiles/18aac75.doc>

**Contact:** Jill Taylor, Alaska Department of Environmental Conservation - Contaminated Sites Program, 907-465-5209

**E-mail:** [Jill\\_Taylor@dec.state.ak.us](mailto:Jill_Taylor@dec.state.ak.us)

**Web Site:** [http://www.state.ak.us/dec/dspar/stp\\_home.htm](http://www.state.ak.us/dec/dspar/stp_home.htm)

## Alaska Cleanup Standards for Hydrocarbon Contaminated Soil

Product	Parameter/ Constituent***	Lab Test Protocol & Number	Detection Level	Notification Level	Action Level	Cleanup Level
Gasoline	GRO (C6-C10)	AK 101*	2.0mg/kg	any amount	Site specific	Site specific
					Method 1: 50-1000mg/kg	Method 1: 50-1000mg/kg
					Method 2: 260-1400mg/kg	Method 2: 260-1400mg/kg
	(C6-C10) Aliphatic Hydrocarbons	AK 101AA	2.0mg/kg	any amount	Site Specific	Site Specific
					240-1000mg/kg	240-1000mg/kg
	(C6-C10) Aromatic Hydrocarbons	AK 101AA	2.0mg/kg	any amount	Site Specific	Site Specific
					130-1000mg/kg	130-1000mg/kg
	Benzene	AK 101* or EPA 8021B or 8260B	0.007mg/kg	any amount	Site Specific	Site Specific
					0.02mg/kg	0.02mg/kg
	Toluene	AK 101* or EPA 8021B or 8260B	0.007mg/kg	any amount	Site Specific	Site Specific
					4.8-5.4mg/kg	4.8-5.4mg/kg
	Ethylbenzene	AK 101* or EPA 8021B or 8260B	0.007mg/kg	any amount	Site Specific	Site Specific
5.0-5.5mg/kg					5.0-5.5mg/kg	
Xylenes	AK 101* or EPA 8021B or 8260B	0.007mg/kg	any amount	Site Specific	Site Specific	
				69-78mg/kg	69-78mg/kg	
Naphthalene	EPA 8270C or	0.1mg/kg	any amount	Site Specific	Site Specific	



		8310			19-21mg/kg	19-21mg/kg
Diesel	GRO (C6-C10)	AK 101*	2.0mg/kg	any amount	Site specific	Site specific
					Method 1: 50-1000mg/kg	Method 1: 50-1000mg/kg
					Method 2: 260-1400mg/kg	Method 2: 260-1400mg/kg
	(C6-C10) Aliphatic Hydrocarbons	AK 101AA	2.0mg/kg	any amount	Site Specific	Site Specific
					240-1000mg/kg	240-1000mg/kg
	(C6-C10) Aromatic Hydrocarbons	AK 101AA	2.0mg/kg	any amount	Site Specific	Site Specific
					130-1000mg/kg	130-1000mg/kg
	DRO C10-C25	AK 102	2.0mg/kg**	any amount	Site Specific	Site Specific
					Method1: 100-200mg/kg	Method1: 100-200mg/kg
					Method 2: 230-12500mg/kg	Method 2: 230-12500mg/kg
	C10-C25 Aliphatic Hydrocarbons	AK 102AA	2.0mg/kg	any amount	Site Specific	Site Specific
					6400-10000mg/kg	6400-10000mg/kg
C10-C25 Aromatic Hydrocarbons	AK 102AA	2.0mg/kg**	any amount	Site Specific	Site Specific	
				90-5000mg/kg	90-5000mg/kg	

	Benzene	AK 101* or EPA 8021B or 8260B	0.007mg/kg	any amount	Site Specific	Site Specific
					0.02mg/kg	0.02mg/kg
	Toluene	AK 101* or EPA 8021B or 8260B	0.007mg/kg	any amount	Site Specific	Site Specific
					4.8-5.4mg/kg	4.8-5.4mg/kg
	Ethylbenzene	AK 101* or EPA 8021B or 8260B	0.007mg/kg	any amount	Site Specific	Site Specific
					5.0-5.5mg/kg	5.0-5.5mg/kg
	Xylenes	AK 101* or EPA 8021B or 8260B	0.007mg/kg	any amount	Site Specific	Site Specific
					69-78mg/kg	69-78mg/kg
	PAHs	EPA 8270C or 8310	1.0mg/kg	any amount	Site Specific	Site Specific
					Naphthalene 19- 21mg/kg	Naphthalene 19- 21mg/kg
					Fluorene 240- 270mg/kg	Fluorene 240- 270mg/kg
					Anthracene 3900- 4300mg/kg	Anthracene 3900- 4300mg/kg
					Pyrene 1400- 1500mg/kg	Pyrene 1400- 1500mg/kg
					Benzo(a)anthracene 5.5-6mg/kg	Benzo(a)anthracene 5.5-6mg/kg
					Acenaphthene 190- 210mg/kg	Acenaphthene 190- 210mg/kg
					Chrysene 550- 620mg/kg	Chrysene 550- 620mg/kg
					Benzo(a)pyrene 2.4- 3mg/kg	Benzo(a)pyrene 2.4- 3mg/kg
					Dibenzo(a,h)anthracen e 5-6mg/kg	Dibenzo(a,h)anthracen e 5-6mg/kg

					Benzo(b)fluoranthene 17-20mg/kg	Benzo(b)fluoranthene 17-20mg/kg
					Benzo(k)fluoranthene 170-200mg/kg	Benzo(k)fluoranthene 170-200mg/kg
					Indeno(1,2,3- c,d)pyrene 50-54mg/kg	Indeno(1,2,3- c,d)pyrene 50-54mg/kg
Waste Oil	GRO (C6-C10)	AK 101*	2.0mg/kg	any amount	Site specific	Site specific
					Method 1: 50- 1000mg/kg	Method 1: 50- 1000mg/kg
					Method 2: 260- 1400mg/kg	Method 2: 260- 1400mg/kg
	(C6-C10) Aliphatic Hydrocarbons	AK 101AA	2.0mg/kg	any amount	Site Specific	Site Specific
					240-1000mg/kg	240-1000mg/kg
	(C6-C10) Aromatic Hydrocarbons	AK 101AA	2.0mg/kg	any amount	Site Specific	Site Specific
					130-1000mg/kg	130-1000mg/kg
	DRO C10-C25	AK 102	2.0mg/kg**	any amount	Site Specific	Site Specific
					Method1: 100- 200mg/kg	Method1: 100- 200mg/kg
					Method 2: 230- 12500mg/kg	Method 2: 230- 12500mg/kg
	C10-C25 Aliphatic Hydrocarbons	AK 102AA	2.0mg/kg**	any amount	Site Specific	Site Specific
					6400-10000mg/kg	6400-10000mg/kg
	C10-C25 Aromatic Hydrocarbons	AK 102AA	2.0mg/kg**	any amount	Site Specific	Site Specific
					90-5000mg/kg	90-5000mg/kg
RRO C25-C36	AK 103	10mg/kg	any amount	Site Specific	Site Specific	
				Method1: 2000mg/kg	Method1: 2000mg/kg	

					Method 2: 9700-22000mg/kg	Method 2: 9700-22000mg/kg
C25-C36 Aliphatic Hydrocarbons	AK 103AA	10mg/kg	any amount		20000mg/kg	20000mg/kg
C25-C36 Aromatic Hydrocarbons	AK 103AA	10mg/kg	any amount		Site Specific	Site Specific
					2900-10000mg/kg	2900-10000mg/kg
Benzene	AK 101* or EPA 8021B or 8260B	0.007mg/kg	any amount		Site Specific	Site Specific
					0.02mg/kg	0.02mg/kg
Toluene	AK 101* or EPA 8021B or 8260B	0.007mg/kg	any amount		Site Specific	Site Specific
					4.8-5.4mg/kg	4.8-5.4mg/kg
Ethylbenzene	AK 101* or EPA 8021B or 8260B	0.007mg/kg	any amount		Site Specific	Site Specific
					5.0-5.5mg/kg	5.0-5.5mg/kg
Xylenes	AK 101* or EPA 8021B or 8260B	0.007mg/kg	any amount		Site Specific	Site Specific
					69-78mg/kg	69-78mg/kg
PAHs	EPA 8270C or 8310	1.0mg/kg	>500mg/kg total PAHs		Site Specific	Site Specific
					Naphthalene 19-21mg/kg	Naphthalene 19-21mg/kg
					Fluorene 240-270mg/kg	Fluorene 240-270mg/kg
					Anthracene 3900-4300mg/kg	Anthracene 3900-4300mg/kg
					Pyrene 1400-1500mg/kg	Pyrene 1400-1500mg/kg

					Benzo(a)anthracene 5.5-6mg/kg	Benzo(a)anthracene 5.5-6mg/kg
					Acenaphthene 190- 210mg/kg	Acenaphthene 190- 210mg/kg
					Chrysene 550- 620mg/kg	Chrysene 550- 620mg/kg
					Benzo(a)pyrene 2.4- 3mg/kg	Benzo(a)pyrene 2.4- 3mg/kg
					Dibenzo(a,h)anthracen e 5-6mg/kg	Dibenzo(a,h)anthracen e 5-6mg/kg
					Benzo(b)fluoranthene 17-20mg/kg	Benzo(b)fluoranthene 17-20mg/kg
					Benzo(k)fluoranthene 170-200mg/kg	Benzo(k)fluoranthene 170-200mg/kg
					Indeno(1,2,3- c,d)pyrene 50-54mg/kg	Indeno(1,2,3- c,d)pyrene 50-54mg/kg
	Metals**	Dependent on Specific Metal	1mg/kg	any amount	Site Specific	Site Specific
					Arsenic 1.8-2.0mg/kg	Arsenic 1.8-2.0mg/kg
					Barium 982-1100mg/kg	Barium 982-1100mg/kg
					Cadmium 4.5-5mg/kg	Cadmium 4.5-5mg/kg
					Chromium 23-26mg/kg	Chromium 23-26mg/kg
					Chromium(III) >1,000,000mg/kg	Chromium(III) >1,000,000mg/kg
					Chromium(VI) 23- 25mg/kg	Chromium(VI) 23- 25mg/kg
					Lead: residential 400mg/kg	Lead: residential 400mg/kg

					Lead: industrial 1000mg/kg	Lead: industrial 1000mg/kg
					Nickel 78-87mg/kg	Nickel 78-87mg/kg
					Vanadium 3050- 3400mg/kg	Vanadium 3050- 3400mg/kg

All soil Cleanup Standards come from the Oil and Hazardous Substances Pollution Control Regulations, 18AAC 75, Articles 3 and 9. Electronic versions can be found at <http://www.state.ak.us/dec/title18/wpfiles/18aac75.doc>

\*Samples are preserved immediately with Methanol in the field.

\*\*Metals analyses required on a site-by-site basis

\*\*\* Either the Alaska aliphatic and aromatic (AK101-103AA) or non-aliphatic and aromatic (AK101-103) methods may be used for analysis along with the corresponding soil cleanup levels for each method.

**Contact:** Jill Taylor, Alaska Department of Environmental Conservation - Contaminated Sites Program, 907-465-5209

**E-mail:** [Jill\\_Taylor@dec.state.ak.us](mailto:Jill_Taylor@dec.state.ak.us)

**Web Site:** [http://www.state.ak.us/dec/dspar/stp\\_home.htm](http://www.state.ak.us/dec/dspar/stp_home.htm)