Table 1: State Groundwater Monitoring Requirements: Coal Combustion Waste Landfills

State	Regulation date	Monitoring required at landfills	Grandfathering of old landfills	Monitoring location	Minimum number of wells	Sampling parameters	Monitoring frequency	Post-closure monitoring period	Monofill exemption	Onsite exemption	Exemption based on TCLP results
Alabama	5-5-11. 2011 AL H.B. 50 (NS)/Alabama Code §22-27-3(h). Coal ash regulated as solid waste.	**Yes**. AL ADC 335-13-4-.27.	**Yes**. Alabama Code §22-27-3(h).	Within 150 meters of waste management unit boundary. AL ADC 335-13-4-.27	**One background** upgradient and **two downgradient**. AL ADC 335-13-4-.14; AL ADC 335-13-4-.27.	Antimony, arsenic, barium, beryllium, cadmium, chromium, cobalt, copper, lead, nickel, selenium, silver, thallium, vanadium, zinc, and various organics. AL ADC 335-13 App. I	**Semi-annual**. AL ADC 335-13-4-.27	**30 years**. AL ADC 335-13-4-.20	No.	No.	No.
Arizona	No regs.	No.	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Colorado	10/9/1991	**Yes.** 6 CO ADC 1007-2:1-2.2. / **on-site exempt**	**No.** 6 CO ADC 1007-2:1-2.2.	Within **150 meters** of waste management unit boundary. 6 CO ADC 1007-2:1 Appx. B.B2(A)(2).	Class III: at least **one background**/upgradient and **one downgradient** well. SC ADC 61-107.19 Prt V.E.258.51(a), (d).	Indicators: magnesium, sodium, potassium, calcium, carbonate, bicarbonate, chloride, sulfate, nitrate, nitrate, pH, specific conductivity, temp, TOC. 6 CO ADC 1007-2:1 Appx. IA. / W**aiver available**	**Semi-annual.** 6 CO ADC 1007-2.1: Appx. B.B4(B).	**30 years.** 6 CO ADC 1007-2:1-2.6.	No.	**Yes.** 6 CO ADC 1007-2:1-1.4.	No.
Florida	Adopted 1-6-1993. Amended 1-6-2010.	**Yes.** 62 FL ADC 62-701.510. CCW classified as Class I waste. 62 FL ADC 62-701.200(13). / **on-site exempt**	**Yes.** Applies to all permit applicants. 62 FL ADC 62-701.510.	Within zone of discharge, within **50 feet** of edge of solid waste disposal unit. 62 FL ADC 62-701.510(3)(a). Wells to be no more than **500 feet apart.** (3)(d)(3).	At least **one background** and **two downgradient** well. 62 FL ADC 62-701.510(3)(a).	Ammonia, chlorides, iron, mercury, nitrate, sodium, TDS, antimony, arsenic, barium, beryllium, cadmium, chromium, cobalt, copper, lead, nickel, selenium, silver, thallium, vanadium, zinc, and various organics. 62 FL ADC 62-701.510(8)(a) (40 CFR 258 Appx I)	**Semi-annual**. 62 FL ADC 62-701.510(6)()	**30 years**. 62 FL ADC 62-701.620(1).	No.	**Yes.**	No.
Georgia	Adopted 1989. Amended 6-27-1993.	**Possibly.** Required at MSWLFs (which may receive industrial waste). GA ADC 391-3-4-.14(1). / **Variance** available	**No.** GA ADC 391-3-4-.14(1).	Within **150 meters** of waste management unit boundary. GA ADC 391-3-4-.14(8).	At least **one background/upgradient** and **one downgradient** well. GA ADC 391-3-4-.14(8).	Antimony, arsenic, barium, beryllium, cadmium, chromium, cobalt, copper, lead, nickel, selenium, silver, thallium, vanadium, zinc, and various organics. GA ADC 391-3-4-.14(21).; Appx. I. / **Waiver available.**	**Semi-annual**. GA ADC 391-3-4-.14(22).	**30 years.** GA ADC 391-3-4-.12(2).	**Discretionary variance available**. GA ADC 391-3-4-.07(4)(a).	No.	No.
Illinois	Section 811 adopted in 1990; section 816 adopted in 1996. Subsections 811.318; 811.319; 811.320 amended in 2007.	**Yes.** GW monitoring for putrescible and chemical waste landfills. 35 IL ADC 811.318; 811.319; 812.317.	**No.** 35 IL ADC 811.301.	**Property boundary or 100 ft** from edge of waste unit, whichever is closer, 35 IL 811.320, 35 IL ADC 811.318.	**At least one** well; multiple implied: network of monitoring points "at sufficient locations downgradient." No upgradient wells required. 35 IL ADC 811.318.	**Per agency discretion**: sample for ammonia-N, arsenic, boron, cadmium, chloride, chromium, cyanide, lead, magnesium, mercury, nitrate, sulfate, TDS, zinc if they that appears/expected to appear in leachate; additional indicator parameters based upon leachate characteristic and waste content. 35 IL ADC 811.319(a)(2).	**Quarterly** for first 5 years; then semi-annual; then annual; then no monitoring. 35 IL ADC 811.319; 811.320.	**5 years** for on-site units; **15 years** for other landfills. 35 IL ADC 811.319(C). May be reduced.	No.	**Yes:** 5 years post-closure monitoring. 35 IL ADC 811.319. *No permit required. / annual monitoring*	No.
Indiana	Adpoted 1996. Amended 1998, 2004. Readopted 2001, 2007.	**Possibly**. Required for Type I and II Restricted Waste Sites**,** but not for Type III or IV. 329 IAC 10-29-1. CCW may be disposed of at restricted waste site Type I without testing or at Type II, III, or IV after waste characterization. 329 IAC 10-9-4(d).	**No.** 329 IAC 10-29-1.	Within **50 feet** of solid waste boundary or property line**.** 329 IAC 10-29-1(g).	At least one **upgradient** and **three downgradient** wells. 329 IAC 10-29-1(b).	Phase I parameters: pH, specific conductance, chloride, boron, ammonia, sodium, COD, phenolics, methylene chloride, 1,1-dichloroethane, toluene, benzene, 1,2-dichloroethene, ethyl benzene, 2-butanone, methyl ethyl ketone. 329 IAC 10-29-6(b). (Type I and II landfills only; no GW mtg required at Type III)	**Quarterly** for first year to establish background. 329 IAC 10-29-4(a)(4). **Semi-annual**. 329 IAC 10-29-2(f).	**30 years.** 329 IAC 10-29-3; 329 10-31-2(b).	Exemption based on volume. Site receiving less than 100 cubic yards of CCW per year from generators who produce less than 100 cubic yards a year. 329 IAC 10-3-1(10).	No.	**Yes.** CCW classified as Type IV waste exempt from landfill regs. 329 IAC 10-3-4. Type III sites exempt from groundwater monitoring regs.
Iowa	Adopted 1971. Amended 2007.	**Possibly.** IA ADC 567-103.1. / **Variances** available.	**No.** IA ADC 567-103.1.	Within **50 feet** of waste boundary. IA ADC 567-103.1(4)(C).	**Three background** locations. IA ADC 567-103.1(2)(f) At least **one downgradient** well. IA ADC 567-103.1(4)(c).	Arsenic, barium, beryllium, cobalt, copper, iron, lead, magnesium, manganese, selenium, zinc, chlorides, and sulfate. IA ADC 567-103.1(2)(f).	**Quarterly** for first year to establish baseline. Then, **annually**. IA ADC 567-103.1(4)(d).	**Ten years**. 567-103.1(5)(e),(f).	No.	No.	No.

Kansas	Regulated on permit-by-permit basis. KS ADC 28-29-6.	**Discretionary.** KS ADC 28-29-19.	Not specified.	**Discretionary.** KS ADC 28-29-19.	**Discretionary.** KS ADC 28-29-19.	**Discretionary.** KS ADC 28-29-19.	**Discretionary.** KS ADC 28-29-19.	**Discretionary.** KS ADC 28-29-19.	N/A	N/A	N/A
Kentucky	6/24/1992	**Possibly.** 401 KAR 45:160. / CCW regulated as special waste. / **Variances** available.	**Yes.** 401 KAR 45:020(sec.4)(1).	Located to provide **early detection** of GW contamination. 401 KAR 45:160(sec.2).	At least **one upgradient** and **two downgradient** wells. 401 KAR 45:160(sec.2)(1),(2).	For monofills: chloride, chemical oxygen demand, total dissolved solids, total organic carbon, specific conductance, pH, copper (additional parameters may be required based on significant increases from baseline). 401 KAR 45:160(sec.8)(2).	**Semi-annual** monitoring for monofills. 401 KAR 45:160(sec.8)(2). **Quarterly** monitoring for other landfills. 401 KAR 45:160(sec.8)(3).	**5 years**. 401 KAR 45:110(sec.5)(5).	Specific sampling parameters and monitoring frequency requirements for monofills. 401 KAR 45:160(sec.8)(2).	No.	No.
Louisiana	Adopted Feb. 1993. Amended Apr. 2008.	**Yes.** LAC 33:VII.805.A.	**Yes.** LAC 33:VII.403	Within **150 meters** downgradient of unit.; no more than 800 feet apart LAC 33:VII.805.A.1.b.	At least **one upgradient** and **two downgradient** wells per zone. LAC 33:VII.805.A.2.	Permit-specific. Type I landfill sample for 10 indicators (may be reduced per agency discretion); Type II landfills sample for antimony, arsenic, barium, beryllium, cadmium, chromium, cobalt, copper, lead, nickel, selenium, silver, thallium, vanadium, zinc, and various organics. LAC 33:VII.805.C.7.	**Quarterly** in first year; then **semi-annual**. LAC 33:VII.805.C.	**30 years**, if operating after 10/9/93; **3 years** if stopped receiving waste before 10/9/93. LAC 33:VII.711.F.2.	No.	No.	No.
Maryland	1987	**Discretionary.** COMAR 26.04.07.20(D)(2).	**Discretionary.** COMAR 26.04.10.04,	**Discretionary.** COMAR 26.04.07.20(D)(2)(a).	**Discretionary.** COMAR 26.04.07.20(D)(2)(a).	**Discretionary.** COMAR 26.04.07.20(D)(2)(d).	**Discretionary**. COMAR 26.04.07.20(D)(2)(b).	**5 years**. COMAR 26.04.07.22(A).	No.	No.	No.
Michigan	1982, 1993. Amended 2005.	**Possibly.** Required for Type II/MSWLFs (which may accept industrial waste). MI ADC R.229.4439. Not required for Type III/industrial waste landfills. MI ADC R.299.4306.	**No.** MI ADC R.299.4302; 299.4318.	No requirement.	At least **one background/upgradient** and **one downgradient** well. MI ADC R.299.4318.8.	Primary inorganic indicators: chlorides, iron, sulfates, total inorganic nitrogen, TDS, magnesium, manganese, potassium, sodium, bicarbonate alkalinity, carbonate alkalinity, conductivity, phenolics, cyanide, TOC, COD, boron. Antimony, arsenic, barium, beryllium, cadmium, chromium, cobalt, copper, lead, nickel, selenium, silver, thallium, vanadium, zinc. MI ADC R.299.4318.5.	**Quarterly**, during operation. **Biannually** post-closure. (Type III.) MI ADC R.299.4315(15).	**30 years.** MI ADC R.299.4318(4).	No.	No.	No.
Minnesota	Adopted 1988.	**Yes.** MN ADC 7035.1700(S); 7035.2815.3. / **Variances** available	Regs do not include grandfathering provision, but State's report on landfills indicates that 14% of existing facilities were grandfathered.	Within **200 feet** from waste unit boundary. MN ADC 7035.2815.4.c.2.	At least **one upgradient** and **one downgradient** well. MN ADC 7035.2815.10.C.1.	**Discretionary**. MN ADC 7035.2565.2; 7035.1700(S).	**Discretionary**. MN ADC 7035.2565.2; 7036.1700(S).	**20 years.** MN ADC 7035.2655.1.A.	No.	No.	No.
Mississippi	Effective 10/1/1993. Amended 4/3/1996.	**Yes.** MS ADC 11-2-4:IV.D. / **on-site exempt**	**No.** MS ADC 11-2-4:IV.D.1.	Within **150 meters** from unit boundary. MS ADC 11-2-4:IV.C.3.	"Sufficient number" (**at least two**), including background/upgradient and downgradient wells. MS ADC 11-2-4:IV.D.2.	Antimony, arsenic, barium, beryllium, cadmium, chromium, cobalt, copper, lead, nickel, selenium, silver, thallium, vanadium, zinc; parameters may be excluded/indicators added per department discretion. MS ADC 11-2-4:IV.D.4.a. (Does **NOT** include: aluminum, boron, chloride, flouride, iron, manganese, mercury, molybdenum, pH, sulfate, sulfide, or TDS.) / **agnecy may waive required parameters**	**Semi-annual. Annual** per department discretion. MS ADC 11-2-4:IV.D.4.b.	**30 years**, may be adjusted per department discretion. MS ADC 11-2-4:IV.E.3.a.	No.	**Yes**, if wastes do not pose endangerment. MS ADC 11-2-4:I.B.7.	No.

Missouri	7/30/1997	**Yes.** 10 CSR 80-11.010(11)(A). / CCW classified as "utility waste".	**Discretionary.** 10 CSR 80-11.010(11)(B)(2).	**Discretionary.** 10 CSR 80-11.010(11)(C)(1)(A).	At least **one upgradient** and **three downgradient** wells. 10 CSR 80-11.010 (11)(B)(4)(A), (B).	COD, chlorides, iron, pH, specific conductance, TDS, chemicals in Appendix I (arsenic, aluminum, antimony, barium, beryllium, boron, cadmium, calcium, COD, chloride, chromium, cobalt, copper, fluoride, hardness, iron, lead, magnesium, manganese, mercury, nickel, pH, selenium, silver, sodium, specific conductance, sulfate, thallium, TDS, TOC, TOX). 10 CSR 80-11.010 (11)(C)(4). / **Variances/waiver available**	**Semi-annual.** 10 CSR 80-11.010 (11)(C)(4)(A).	**30 years.** 10 CSR 80-2.030(4)(A)(2)(B).	No.	No.	No.
Montana	Adopted 1991. Amended 1997.	**Yes.** MT ADC 17.50.701. GW monitoring required for Class II sites. / Coal ash classified as Group 2 waste MT ADC 17.50.503(1)(a)(ii) / **on-site exempt**	**No.** MT ADC 17.50.701.	Within **150 meters** of waste management unit boundary. MT ADC 17.50.710(1)(f).	At least **one background/upgradient** and **two downgradient** wells. MT ADC17.50.706.	Antimony, arsenic, barium, beryllium, cadmium, chloride, chromium, cobalt, copper, cyanide, iron, lead, mercury, nitrate, nickel, selenium, silver, sulfate, thallium, vanadium, zinc, COD, pH, specific conductance, and certain VOCs. MT ADC 17.50.708(8); Table 1 / Variance **available**	**Semi-annual.** MT ADC 17.50.708(4)(a).	**30 years.** MT ADC 17.50.721(b).	No.	No.	No.
Nevada	11/8/1993	**Yes.** NAC 444.683; 444.741; 444.7483. / Class III sites accept only industrial solid waste. NAC 444.5715.	**No.** NAC 444.6835; 444.7482; 444.7483.	As close as possible to **waste boundary unit**. NAC 444.7438(1).	At least **one background/upgradient** and **one downgradient** well. NAC 444.7438(1); (5).	Antimony, arsenic, barium, beryllium, cadmium, chromium, cobalt, copper, lead, nickel, selenium, silver, thallium, vanadium, zinc, and various organics. NAC 444.7487 (40 CFR Part 258, Appx. I) / **Variance avaiable**	**Semi-annual.** NAC 444.7488(1).	**30 years.** NAC 444.6894.	No.	No.	No.
New Hampshire	Adopted 7-1-1991. Amended 10-28-2005.	**Very limited.** Only if required under NH Groundwater Protection Act. NH ADC ENV-SW 806.04 (NH Rev. Stat. 485-C).	N/A	Not specified.	*If required* : At least **one upgradient** and **three downgradient** wells. NH ADC ENV-SW 805.08(a).	Not specified.	Not specified.	Not specified.	No.	No.	No.
New Jersey	1996	**Possibly.** For all sanitary landfills. NJ ADC 7:26-2A.4(n), (p); NJ ADC 7:14A-9.2. Ash may be disposed of in Class I or II sanitary landfill. NJ ADC 7:26-1.4. / **Waiver** available.	**No.** NJ ADC 7:26-2A.4(n), (p); NJ ADC 7:14A-9.2.	Within **150 meters** of disposal area, on land owned by landfill owner. NJ ADC 7:14A-9.3(a).	At least **one background/upgradient** and **three downgradient** well. NJ ADC 7:14A-9.3(e).	Antimony, arsenic, barium, beryllium, cadmium, chromium, cobalt, copper, lead, nickel, selenium, silver, thallium, vanadium, zinc, and various organics. NJ ADC 7:14A-9, Appx. A.	**Semi-annual**. NJ ADC 7:14A-9.7(b).	**30 years**. NJ ADC 7:26-2A.9(c)(5).	No.	No.	No.
New Mexico	No regs. CCW excluded from defintion of solid waste. NM ADC 20.9.3.7(S)(9)	No.	N/A	N/A	N/A	N/A	N/A	N/A	No.	No.	No.
New York	Adopted 1988. Amended 2006.	**Possibly.** 6 NY ADC 360-2.11. / **Variances** available.	**No.** 6 NY ADC 360-2.1.	Within **50 feet** downgradient of waste boundary; no more than 500 feet apart. 6 NY ADC 360-2.11(c)(1)(i)(e).	At least **one upgradient** and **three downgradient** wells. 6 NY ADC 360-2.11(c)(1)(i)(b).	Routine parameters (indicators): kjeldahl nitrogen, ammonia, nitrate, COD, BOD, TOC, TDS, sulfate, alkalinity, phenols, chloride, bromide, hardness, cadmium, calcium, iron, lead, magnesium, manganese, potassium, sodium. Baseline parameters: (routine plus:) color, boron, aluminum, antimony, arsenic, barium, beryllium, chromium, cobalt, copper, cyanide, lead, selenium, thallium, vanadium, zinc, various organics. Expanded parameters: (routine, baseline, plus:) mercury, nickel, silver, sulfide, tin. (Does **NOT** include flouride or molybdenum.) 6 NY ADC 360-2.11(d)(6).	**Quarterly.** First year: sample for expanded parameters once; for baseline parameters thrice. 6 NY ADC 360-2.11(c)(5)(i)(b). Ongoing monitoring: **annual** sample for baseline parameters once a year; for routine parameters thrice. 6 NY ADC 360-2.11(c)(5)(ii).	**30 years.** 6 NY ADC 360-2.15(k)(4).	**Discretionary:** DEC may impose additional or less stringent requirements for monofills. 6 NY ADC 360-2.14(a).	No.	No.

North Carolina	10/9/1993	**Discretionary**. 15A NC ADC 13B.0503(2)(d).	**Yes.** 15A NCAC 13B.0503(2)(d).	Within **250 feet** from waste boundary and at least **50 feet** within facility property boundary. 15A NCAC 13B.1631(a)(2).	At least **one background/upgradient** and **one downgradient** well. 15A NCAC 13B.1631(a).	Antimony, arsenic, barium, beryllium, cadmium, chromium, cobalt, copper, lead, nickel, selenium, silver, thallium, vanadium, zinc, and various organics. 15A NCAC 13B.1633(a).	**Semi-annual**. 15A NCAC 13B.1633(b).	**30 years.** 15A NCAC 13B.1627(d)(1) .	No.	**Yes.** N.C.G.S.A. § 130A-295.4.	No.
North Dakota	12/1/1992	**Possibly.** ND ADC 33-20-13-02. / **Variances** available.	**No.** ND ADC 33-20-13-02(1).	Within **500 feet** from unit. ND ADC 33-20-13-02; 33-20-13-03.	**One upgradient** and at least **two downgradient** wells. ND ADC 33-20-13-02(2)(a).	Permit-specific. Include indicators. ND ADC 33-20-13-03, Table 1.	**Semi-annual.** ND ADC 33-20-13-02.	**30 years.** ND ADC 33-20-04.1-09(5)(b).	**Yes.** ND ADC 33-20-05.1-02.	No.	No.
Ohio	Adopted 6-1-1994. Amended 2009.	**Possibly.** Sanitary, industrial, and residual LFs all require GW monitoring. OH ADC 3745-30-08. / nontoxic ash excluded from DSW. OH ADC 3745-27-01(S)(23)	**No.** OH ADC 3745-30-08(2).	**Site-specific**; as close as possible to limits of solid waste placement. OH ADC 3745-30-08(B)(4).	At least **one background/upgradient** and **one downgradient** well. OH ADC 3745-30-08(B)(3).	Calcium, chloride, potasium, sodium, sulfate, arsenic, barium, cadmium, chromium, iron, lead, magnesium, manganese, selenium, TDS. OH ADC 3745-30-08(D)(5); Appx.III.	**Annual**; **semi-annual** for indicators. OH ADC 3745-30-08 Appx.III.	**30 years** (industrial). OH ADC 3745-29-14. **30 years** (class I); **20 years** (class II); **15 years** (class III)**.** OH ADC 3745-30-10(A).	**Yes.** For "non-toxic" CCW.	No.	**Yes.**
Oklahoma	6/1/2003	**Possibly.** Requirements apply to all land disposal facilities. OK ADC 252: 515-9-1. / Non-hazardous industrial waste may be disposed of at MSWLF. / **Variances** available.	**Yes.** OK ADC 252: 515-9-1.	Within **150 meters** from unit boundary. OK ADC 252: 515-9-4(a).	At least **one upgradient** and **three downgradient** wells., one upgradient. But "additional monitoring weels may be required to adequately monitor groundwater in areas of complex hydrogeology." Can use alternative to an upgradient well under certain conditions. 252: 515-9-5(b)(1).	pH, chemical oxygen demand, specific conductivity, chloride, sulfate, calcium, magnesium, nitrates, sodium, carbonates, potassium; and "other parameters specified in the permit, based on the types of wastes to be disposed." OK ADC 252: 515-9-31(d).	**Semi-annual.** OK ADC 252: 515-9-73(a). **Annual** on case-by-case determination. OK ADC 252: 515-9-73(b). **Quarterly** sampling for background water quality. OK ADC 252: 515-9-31.	**8 years** for new/existing on-site NHIW landfills. OK ADC 252: 515-25-51.	**Partial.** Less stringent requirements for NHIW landfills.	**Yes**, reduced post-closure monitoring period for on-site NHIW landfills. OK ADC 252: 515-25-51(a).	No.
Pennsylvania	Mar. 2001	**Yes.** 25 PA ADC § 288.251. / **Monofills exempt**	**No.** 25 PA ADC § 288.251.	Within **200 feet** of disposal area. 25 PA ADC § 288.252(b)(3).	At least **one upgradient** and **three downgradient** wells. 25 PA ADC § 288.252(a),(b).	Ammonia-nitrogen, bicarbonate, calcium, chloride, fluoride, chemical oxygen demand, nitrate-nitrogen, pH, specific conductance, sulfate, total alkalinity, total organic carbon, total dissolved solids, turbidity, iron, manganese, magnesium, potassium, and sodium (quarterly); arsenic, barium, cadmium, chromium, copper, lead, mercury, selenium, silver, zinc, and VOCs (annually); and parameters detected in leachate collection, other constituents in the waste. 25 PA ADC § 288.254.	**Quarterly or annually**, based on sampling parameters. 25 PA ADC § 288.254(1)--(4).	Not specified. 25 PA ADC § 288.182.	**Yes.** Regs allow modification of groundwater monitoring sampling parameters and frequencies. 25 PA ADC § 288.254(5)(b).	No.	No.
South Carolina	5/23/2008	**Possibly.** SC ADC 61-107.19 Part V.E.258.50. / **Waiver** available.	**No.** SC ADC 61-107.19 Part V.E.258.50(a), (c)	Within **150 meters** of waste management unit boundary. SC ADC 61-107.19 Part V.E.258.51(a)(2).	At least **one background/upgradient** and **one downgradient** well. SC ADC 61-107.19 Prt V.E.258.51(a), (d).	pH, specific conductance, antimony, arsenic, barium, beryllium, cadmium, chromium, cobalt, copper, lead, nickel, selenium, silver, thallium, vanadium, zinc, and certain organics. **SC ADC 61-107.19 Appx IV.**	**Quarterly** for first year to establish baseline, SC ADC 61-107.19 Part V.E.258.53(e); **semi-annual**. SC ADC 61-107.19 Part V.E.258.54(b).	**30 years.** SC ADC 61-107.19 Part V.F.258.61(a).	No.	No.	TCLP determines if waste goes to a Class II or Class III facility. SC ADC 61-107.19 Part I.C.
South Dakota	Adopted 7-26-1990. Amended 10-4-1993.	**Possibly.** SD ADC 74:27:19. / **Variances** available	**No.** SD ADC 74:27:19:02.	Within **150 meters** of waste management unit boundary. 40 CFR 258.51(a)(2).	At least **one upgradient** and **three downgradient** wells. SD ADC 74:27:19:03.	Antimony, arsenic, barium, beryllium, cadmium, chromium, cobalt, copper, lead, nickel, selenium, silver, thallium, vanadium, zinc, and various organics. SD ADC 74:27:19:04 (40 CFR Part 258 Appx. I).	**Semi-annual**. SD ADC 74:27:19:05.	**30 years**. SD ADC 74:27:15:08.	No.	No.	No.

Tennessee	TN ADC 1200-01-07-.01--.04 adopted in 1974; amended in 2008. / CCR usually Class II	**Possibly.** Class I and II. TN ADC 1200-01-07-.04(7). / **Variances/waiver** available.	**No.** TN ADC 1200-01-07-.04(1)(b).	Within **150 meters** of waste management unit boundary. TN ADC 1200-01-07-.04(7)(a)(2).	At least **one upgradient** and **two downgradient** wells. TN ADC 1200-01-07-.04(7)(a)(3).	Regs require sampling for antimony, arsenic, barium, beryllium, cadmium, chromium, cobalt, copper, fluoride, lead, mercury, nickel, selenium, silver, thallium, vanadium, zinc, and various organics. TN ADC 1200-01-07-.04 Appendix I.	**Semi-annual or annual**, per discretion of Commissioner. TN ADC 1200-01-07-.04(7)(b)(3).	**30 years** unless alternative is approved in post-closure care plan. TN ADC 1200-01-07-.04(8)(d).	No.	No.	No.
Texas	2004 (Chap 335); 2006 (Chap 330); 2009 amendments.	**Yes.** 30 TX ADC 335.592. / **on-site exempt**	**Yes.** 30 TX ADC 330.401.	Within **500 ft** downgradient of waste unit boundary; no more than 600 feet apart. 30 TX ADC 330.403(a)(2).	**At least one**; "sufficient number." 30 TX ADC 330.403(a)(1).	Antimony, arsenic, barium, beryllium, cadmium, chromium, cobalt, copper, lead, nickel, selenium, silver, thallium, vanadium, zinc, and various organics. 30 TX ADC 330.419.	**Semi-annual.** 30 TX ADC 335.590(24)(D); 330.407.	**30 years.** 30 TX ADC 330.463.	No.	**Yes.**	No.
Utah	CCW excluded from definition of solid waste. UCA 1953 §19-6-102(18)	No.	N/A	N/A	N/A	N/A	N/A	N/A	**Yes.** Excluded from definition of solid waste.	N/A	N/A
Virginia	9/24/2003	**Possibly.** Monitoring required for "all landfills". 9 VA ADC 20-80-300; 20-80-250(C)(16); 20-80-270(12). / **Waiver** available.	**No.** 9 VA ADC 20-80-240; 20-80-60(C)(5).	Waste management unit boundary. 9 VA ADC 20-80-300(A)(3)(a)(2).	At least **one upgradient** and **three downgradient** wells. 9 VA ADC 20-80-300(A)(3)(f)(2).	Phase I: Indicators (specific conductance, pH, TOC, TOX); Phase II -- Table 5.5 parameters. 9 VA ADC 20-80-30(C)(3), (4).	**Semi-annual**. 9 VA ADC 20-80-300(C)(3).	**10 years**. 9 VA ADC 20-80-270(F)(1).	No.	No.	No.
Washington	9/8/2000	**Possibly.** WAC 173-304-490(1). / **Variances** available.	**No.** WAC 173-304-400(3)(a).	Locations/depths from uppermost and all hydraulically connected aquifers. WAC 173-304-490(2)(a).	At least **one upgradient** and **three downgradient** wells. WAC 173-304-490(2)(a).	Temperature, conductivity, pH, chloride, nitrate, nitrite, ammonia as nitrogen, sulfate, dissolved iron, dissolved zinc and manganese, COD, TOC, and total coliform. WAC 173-304-490(2)(d)(i)(A)-(K).	**Quarterly.** WAC 173-304-490(2)(g).	**20 years.** WAC 173-304-407(7)(a).	No.	No.	No.
West Virginia	1-Jun-06	**Yes.** WV ADC s 33-1-3.8.d.	**Yes.** WV ADC s 33-1-1(1.1.a.2).	Within **150 meters** of waste unit boundary. WV ADC s 33-1-4(4.5.d.1.G).	At least **one upgradient** and **three downgradient** wells. WV ADC s 33-1-3(3.8.d).	Alkalinity, arsenic, barium, bicarbonate, hardness, boron, cadmium, calcium, chloride, total and hexavalent chromium, iron, lead, manganese, magnesium, sulfate, TDSs, TOC, specific conductance, zinc. WV ADC s 33-1-5(5.5.b.3.A).	**Semi-annual.** WV ADC s 33-1-5(5.5.b.3.A).	**30 years.** WV ADC s 33-1-6(6.3).	No.	No.	No.
Wisconsin	Jul-96	**Discretionary.** WI ADC s NR 507.04.	**Discretionary.** WI ADC s NR 507.04.	**Discretionary**. WI ADC s NR 141.065(1); s NR 507.06.	**Discretionary.** WI ADC s NR 507.19(1).	Alkalinity, boron, COD, conductivity, pH, temp, GW elevation, hardness, sulfate. WI ADC s NR 507 Appx 1, Table 2. BOD5, conductivity, pH, alkalinity, boron, cadmium, chloride, COD, hardness, iron, lead, manganese, mercury, selenium, sulfate, TSS. Table 4.	**Semi-annual.** WI ADC s NR 507.19(3); Appx 1, Table 2.	Not specified. WI ADC s NR 514.06(11).	**Yes**, exempt from GW monitorig of VOCs. WI ADC s NR 507.18(3)(a).	No.	No.
Wyoming	Effective Date: November 28, 1990 AMENDED: May 25, 1995 October 15, 1998	**Possibly.** WY ADC ENV SW Ch. 3 s. 6. / **Waiver** available.	**No.** WY ADC ENV SW Ch. 3 s. 6(b)(i)(A)(VI).	Within **150 meters** of facility waste boundary. WY ADC ENV SW Ch. 3 s. 6(b)(i)(B)(I).	**At least one**; "sufficient number." WY ADC ENV SW Ch. 3 s. 6(b)(i)(B)(I).	Antimony, arsenic, barium, beryllium, cadmium, chromium, cobalt, copper, lead, nickel, selenium, silver, thallium, vanadium, zinc, and numerous VOCs. WY ADC ENV SW Ch. 3 s. 6(b)(i)(D)(I); Appx A.	**Semi-annual.** WY ADC ENV SW Ch. 3 s. 6(b)(i)(D)(I).	**30 years.** WY ADC ENV SW Ch. 3 s. 7(q)(i).	No.	No.	No.