Table 3. Method detection limits (MDL's) and references for analytical techniques for selected pesticides and pesticide metabolites analyzed in water samples collected from alluvial aquifers in eastern Iowa and southern Minnesota, June–July 1998

[--, not available; µg/L, micrograms per liter; *, constituent not registered in the State of Iowa (Jim Ellerhof, Iowa Department of Agriculture and Land Stewardship, Pesticide Bureau, written commun., 1998)]

Constituent	Common trade names or other information	Chemical Abstract Service (CAS) registry number	MDL (µg/L)	References for analytical technique
		Pesticides (schedule 2010)		
2,6-Diethylaniline	--	579–66–8	0.003	Zaugg and others, 1995
Acetochlor	Harness, Surpass	34256–82–1	.002	Do.
Alachlor	Lasso	15972–60–8	.002	Do.
Atrazine	atrazine, AAtrex	1912–24–9	.001	Do.
Azinphos-methyl	Guthion	86–50–0	.001	Do.
Benfluralin	Balan, Benefen	1861–40–1	.002	Do.
Butylate	Sutan, Genate	2008–41–5	.002	Do.
Carbaryl	Sevin, Savit	63–25–2	.003	Do.
Carbofuran	Furadan	1563–66–2	.003	Do.
Chlorpyrifos	Dursban, Lorsban	2921–88–2	.004	Do.
Cyanazine	Bladex	21725–46–2	.004	Do.
DCPA	Dacthal	1861–32–1	.002	Do.
p, p'-DDE	metabolite of DDT	72–55–9	.006	Do.
Deethylatrazine	metabolite of atrazine	6190–65–4	.002	Do.
Diazinon	several	333–41–5	.002	Do.
Dieldrin	--	60–57–1	.001	Do.
Disulfoton	Di-Syston	298–04–4	.017	Do.
EPTC	Eradicane, Eptam	759–94–4	.002	Do.
Ethalfluralin	Sonalan, Curbit	55283–68–6	.004	Do.
Ethoprophos	Mocap	13194–48–4	.003	Do.
Fonofos	Dyfonate	944–22–9	.003	Do.
alpha-HCH	Lindane (impurity)	319–84–6	.002	Do.
Lindane	Gammasan	58–89–9	.004	Do.
Linuron	Lorox, Linex	330–55–2	.002	Do.
Malathion	several	121–75–5	.005	Do.
Metolachlor	Dual	51218–45–2	.002	Do.
Metribuzin	Sencor, Lexone	21087–64–9	.004	Do.
Molinate*	Ordram	2212–67–1	.004	Do.
Napropamide	Devrinol	15299–99–7	.003	Do.
Parathion	Parathion 15 percent wettable	56–38–2	.004	Do.
Parathion-methyl	Penncap-M	298–00–0	.006	Do.
Pebulate	Tillam	1114–71–2	.004	Do.
Pendimethalin	Prowl	40487–42–1	.004	Do.
cis-Permethrin	--	54774–45–7	.005	Do.
Phorate	Thimet	298–02–2	.002	Do.
Prometon	Pramitol	1610–18–0	.018	Do.

Table 3. Method detection limits (MDL's) and references for analytical techniques for selected pesticides and pesticide metabolites analyzed in water samples collected from alluvial aquifers in eastern Iowa and southern Minnesota, June–July 1998—Continued

Constituent	Common trade names or other information	Chemical Abstract Service (CAS) registry number	MDL (µg/L)	References for analytical technique
		Pesticides (schedule 2010)—Continued		
Propachlor	Ramrod	1918–16–7	0.007	Zaugg and others, 1995
Propanil*	Stampede	709–98–8	.004	Do.
Propargite	Omite, Comite	2312–35–8	.013	Do.
Propyzamide	Kerb	23950–58–5	.003	Do.
Simazine	Princep	122–34–9	.005	Do.
Tebuthiuron	Spike	34014–18–1	.010	Do.
Terbacil	Sinbar	5902–51–2	.007	Do.
Terbufos	Counter	13071–79–9	.013	Do.
Thiobencarb*	Bolero	28249–77–6	.002	Do.
Tri-allate*	Far-Go	2303–17–5	.001	Do.
Trifluralin	Treflan, Trilin, Trific	1582–09–8	.002	Do.
		Pesticides (schedule 2050)		
2,4,5-T	Line Rider and others	93–76–5	.035	Werner and others, 1996
2,4-D	2,4-D and others	94–75–7	.15	Do.
2,4-DB	Butoxone	94–82–6	.24	Do.
3-Hydroxycarbofuran	--	16655–82–6	.014	Do.
Acifluorfen	Blazer, Tackle	50594–66–6	.035	Do.
Aldicarb	Temik	116–06–3	.55	Do.
Aldicarb sulfone	metabolite of aldicarb	1646–88–4	.10	Do.
Aldicarb sulfoxide	metabolite of aldicarb	1646–87–3	.021	Do.
Bentazon	Basagran	25057–89–0	.014	Do.
Bromacil	Bromax 90, Urox B	314–40–9	.035	Do.
Bromoxynil	Buctril, Brominal	1689–84–5	.035	Do.
Carbaryl	Sevin	63–25–2	.008	Do.
Carbofuran	Furadan	1563–66–2	.12	Do.
Chloramben	Amiben	133–90–4	.42	Do.
Chlorothalonil	Chlorochem and others	1897–45–6	.48	Do.
Clopyralid	Lontrel	1702–17–6	.23	Do.
Dacthal monoacid	--	887–54–7	.017	Do.
Dicamba	Banvel	1918–00–9	.035	Do.
Dichlobenil	Casoron	1194–65–6	1.2	Do.
Dichlorprop	2,4-DP	120–36–5	.032	Do.
Dinoseb	Basanite and others	88–85–7	.035	Do.
Diuron	Diurex and others	330–54–1	.020	Do.
Fenuron	Beet-Kleen	101–42–8	.013	Do.
Fluometuron	Cotoran	2164–17–2	.035	Do.
Linuron	Lorox	330–55–2	.018	Do.
MCPA	MCPA and others	94–74–6	.17	Do.
MCPB	Thistrol	94–81–5	.14	Do.

Table 3. Method detection limits (MDL's) and references for analytical techniques for selected pesticides and pesticide metabolites analyzed in water samples collected from alluvial aquifers in eastern Iowa and southern Minnesota, June–July 1998—Continued

Constituent	Common trade names or other information	Chemical Abstract Service (CAS) registry number	MDL (µg/L)	References for analytical technique
		Pesticides (schedule 2050)—Continued		
Methiocarb	Mesurol	2032–65–7	0.026	Werner and others, 1996
Methomyl	Lannate and others	16752–77–5	.017	Do.
Neburon	Neburex, Neburon	555–37–3	.015	Do.
Norflurazon	Evital, Zorial	27314–13–2	0.024 – 0.150	Do.
Oryzalin	Surflan	19044–88–3	0.31 – 1.06	Do.
Oxamyl	Vydate	23135–22–0	0.018 – 0.210	Do.
Picloram	Tordon	1918–02–1	.05	Do.
Propham	IPC	122–42–9	.035	Do.
Propoxur	Propagon and others	114–26–1	.035	Do.
Triclopyr	Garlon	55335–06–3	.25	Do.
		Pesticide metabolites		
Acetochlor ESA	metabolite of acetochlor	--	.20	Zimmerman and Thurman, 1999
Acetochlor OA	metabolite of acetochlor	--	.20	Do.
Alachlor ESA	metabolite of alachlor	--	.20	Do.
Alachlor OA	metabolite of alachlor	--	.20	Do.
Cyanazine amide	metabolite of cyanazine	--	.05	Do.
Deethylatrazine	metabolite of atrazine	--	.05	Do.
Deisopropylatrazine	metabolite of atrazine	--	.05	Do.
Metolachlor ESA	metabolite of metolachlor	--	.20	Do.
Metolachlor OA	metabolite of metolachlor	--	.20	Do.