

Table 5. Reported and interpreted analytical results greater than the method detection limit in samples collected in spring 2006.

[USGS, U.S. Geological Survey; STL, Severn Trent Laboratory, Denver, Colorado; µg/L, micrograms per liter; ADR, U.S. Army Corps of Engineers automatic data review program; --, Not applicable; EPA, U.S. Environmental Protection Agency; NWIS, USGS National Water Information System; QA, Quality assurance]

Well name	Sample type	Depth interval sampled, feet below land surface	Date and time sample collected by USGS	Date sample prepared by STL	Date sample analyzed by STL	Analyte	STL analytical result, µg/L	STL qualifier ¹	STL reporting limit, µg/L	STL method detection limit, µg/L ²	STL method blank result, µg/L	ADR qualifier ³	USGS NWIS reported results and remark code ⁴	USGS NWIS qualifier codes ⁵
Qualified explosive results⁶														
MW90-10	Environmental	85-87	5/16/06 14:00	5/23/06	5/25/06	2-Nitrotoluene	0.047	J,B	0.12	0.022	0.028	UJ	0.05V	b,c,i
MW90-10	Environmental	85-87	5/16/06 14:00	5/23/06	5/25/06	3-Nitrotoluene	.043	J	.12	.025	--	UJ	.04E	b,c,i
MW90-10	Environmental	85-87	5/16/06 14:00	5/23/06	5/25/06	4-Nitrotoluene	.041	J,B	.12	.026	.028	UJ	.04V	b,c,i
MW90-10	QA, field blank	--	5/5/06 14:02	5/23/06	5/25/06	2-Nitrotoluene	.031	J,B	.12	.022	.028	UJ	.03E	b,c,i
MW90-10	QA, field blank	--	5/5/06 14:02	5/23/06	5/25/06	3-Nitrotoluene	.030	J	.12	.025	--	J	.03E	b,c,i
MW90-10	QA, field blank	--	5/5/06 14:02	5/23/06	5/25/06	4-Nitrotoluene	.030	J,B	.12	.026	.028	UJ	.03E	b,c,i
MW94-3	Environmental	56-58	5/23/06 14:00	5/26/06	5/30/06	2-Nitrotoluene	.030	J	.12	.022	--	UJ	.03E	b,c,i
MW94-3	Environmental	56-58	5/23/06 14:00	5/26/06	5/30/06	4-Nitrotoluene	.029	J	.12	.026	--	J	.03E	b,c,i
MW94-3	Environmental	56-58	5/23/06 14:00	5/26/06	5/30/06	Nitrobenzene	.036	J	.12	.033	--	J	.04E	b,c,i
MW94-3	Environmental	80-82	5/23/06 16:00	5/26/06	5/30/06	2-Nitrotoluene	.028	J	.12	.022	--	UJ	.03E	b,c,i
MW94-4	Environmental	80-82	5/18/06 13:00	5/23/06	5/25/06	2-Nitrotoluene	.029	J,B	.12	.022	.028	UJ	.03V	b,c,i
MW94-4	Environmental	80-82	5/18/06 13:00	5/23/06	5/25/06	4-Nitrotoluene	.029	J,B	.12	.026	.028	UJ	.03V	b,c,i
MW94-6	Environmental	49-51	5/22/06 11:00	5/26/06	5/30/06	2-Nitrotoluene	.030	J	.12	.022	--	UJ	.03E	b,c,i
MW94-6	Environmental	49-51	5/22/06 11:00	5/26/06	5/30/06	4-Nitrotoluene	.029	J	.12	.026	--	J	.03E	b,c,i
MW94-6	Environmental	80-82	5/23/06 10:00	5/26/06	5/30/06	2-Nitrotoluene	.043	J	.12	.022	--	UJ	.04E	b,c,i
MW94-6	Environmental	80-82	5/23/06 10:00	5/26/06	5/30/06	3-Nitrotoluene	.039	J	.12	.025	--	J	.04E	b,c,i
MW94-6	Environmental	80-82	5/23/06 10:00	5/26/06	5/30/06	4-Nitrotoluene	.039	J	.12	.026	--	J	.04E	b,c,i
MW94-7	QA, field blank	--	5/24/06 11:02	5/30/06	5/31/06	2-Nitrotoluene	.030	J	.12	.022	--	J	.03E	b,c,i
MW94-7	Environmental	55-57	5/24/06 11:00	5/30/06	5/31/06	Nitrobenzene	.034	J	.12	.033	--	J	.03E	b,c,i
Qualified volatile organic compound results⁶														
MW90-10	QA, equipment blank	--	3/9/06 14:01	3/15/06	3/15/06	Toluene	.19	J	1.0	.17	--	J	.19E	e
MW90-10	QA, trip blank	--	3/9/06 14:03	3/15/06	3/15/06	Methylene chloride	.43	J	5.0	.32	--	J	.43E	e
MW90-10	Environmental	25-27	5/16/06 11:00	5/23/06	5/24/06	Toluene	.18	J	1.0	.17	--	UJ	.18V	e
MW90-10	QA, field blank	--	5/16/06 14:02	5/25/06	5/26/06	Toluene	.38	J	1.0	.17	--	J	.38E	e
MW94-6	Environmental	49-51	5/22/06 11:00	6/2/06	6/2/06	Toluene	.18	J	1.0	.17	--	UJ	.18V	e
MW94-7	QA, field blank	--	5/24/06 11:02	6/6/06	6/6/06	Toluene	.81	J	1.0	.17	--	J	.81E	e

¹ STL qualifiers:

B The associated laboratory method blank contains the analyte at a reportable level.

J The analytical result is an estimate because the value is less than the reporting limit.

² STL method detection limits (K. Kuoppala, STL, written commun., August 2, 2006)

Table 5. Review of analytical results greater than the method detection limit for samples collected in spring 2006 (continued).

³ ADR qualifier definitions:

UJ Analyte was detected at a value greater than the method detection limit and less than the reporting limit. However, the method detection limit value may be inaccurate or imprecise because the analyte also was detected in the associated quality assurance samples (laboratory method and project equipment/field blanks).

J The analytical result is an estimate; the results is less than the reporting limit and greater than the method detection limit.

⁴ USGS NWIS remark codes:

V For qualified explosive results, the analytical result was possibly affected by lab contamination. For qualified VOC results, the analytical result was likely affected by contamination from the sampling equipment.

E The analytical result is an estimate; the results is less than the reporting limit and greater than the method detection limit.

⁵ USGS NWIS qualifier codes (up to 3 qualifiers are allowed):

b The analytical result was extrapolated below the lowest calibration standards.

c See laboratory comment.

The laboratory comment for the qualified explosive results is "According to the EPA data validation report, the data usability and quality of these results are questionable due to not unexpected variations associated with results at concentration close to the method detection limit and baseline noise. False positive are possible at this concentration (Scott Marcus, EPA, written commun., October 2006). This well was resampled for explosives in September 2006 at about the same depth; no explosive analytes were detected in the sample."

e See field comment.

The field comment for the qualified toluene results is "The equipment and field blank samples were collected in a standpipe using similar sampling procedures. When personnel collect the environmental and source solution samples, they do not use the standpipe; however the sampling pump and packers are cleaned in the standpipe. The source of toluene in the equipment and field blanks was likely the standpipe. The source of toluene in the environmental samples may have been the standpipe."

The field comment for the qualified methylene chloride result is "This sample is a trip blank. The sample was prepared by STL and sent to USGS as a sealed VOC vial. USGS sent the sample back to STL in one of the coolers with other samples. The objective of a trip blank sample is to detect contamination during shipping. Methylene chloride was detected in the trip blank at a concentration less than the reporting limit and greater than the method detection limit. Methylene chloride was not detected in the associated environmental and QA samples; the likely source of the methylene chloride was not identified."

i Analytical result may be affected by interference.

⁶ STL preparation method for explosives was "SW846 3535" and for volatile organic compounds was "SW846 5030B/826" where SW846 is "Test method for evaluating solid waste, physical/chemical methods," third edition, November 1986 and its updates.