



Water-Data Report 2010

350403089445201 Local number Sh:M-48

Mississippi embayment aquifer system
 Memphis Sand
 Shelby County, TN

LOCATION.--Lat 35°04'02.69", long 89°44'52.48" referenced to North American Datum of 1927, Shelby County, TN, Hydrologic Unit 08010210.

WATER-QUALITY RECORDS

WATER-QUALITY DATA

WATER YEAR OCTOBER 2009 TO SEPTEMBER 2010

Part 1 of 13

[%, percent; ANC, acid neutralizing capacity; CaCO₃, calcium carbonate; N, nitrogen; P, phosphorus; SiO₂, silicon dioxide; mg/L, milligrams per liter; mm Hg, millimeters of mercury; °C, degrees Celsius; μS/cm, microsiemens per centimeter; μg/L, micrograms per liter; <, less than; E, estimated; M, presence verified but not quantified]

Date	Sample start time	Barometric pressure, mm Hg (00025)	Dissolved oxygen, water, unfiltered, mg/L (00300)	Dissolved oxygen, water, unfiltered, % saturation (00301)	pH, water, unfiltered, field, standard units (00400)	Specific conductance, water, unfiltered, μS/cm at 25 °C (00095)	Temperature, water, °C (00010)	Dissolved solids, water, filtered, sum of constituents, milligrams per liter (70301)	Dissolved solids, water, filtered, tons per acre-foot (70303)	Hardness, water, mg/L as CaCO ₃ (00900)
08-02-2010	1540	759	5.6	59	5.6	91	17.1	E 60	E .08	17.8

WATER-QUALITY DATA

WATER YEAR OCTOBER 2009 TO SEPTEMBER 2010

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[%, percent; ANC, acid neutralizing capacity; CaCO₃, calcium carbonate; N, nitrogen; P, phosphorus; SiO₂, silicon dioxide; mg/L, milligrams per liter; mm Hg, millimeters of mercury; °C, degrees Celsius; μS/cm, microsiemens per centimeter; μg/L, micrograms per liter; <, less than; E, estimated; M, presence verified but not quantified]

Date	Calcium, water, filtered, mg/L (00915)	Magnesium, water, filtered, mg/L (00925)	Potassium, water, filtered, mg/L (00935)	Sodium adsorption ratio, water, number (00931)	Sodium fraction of cations, water, percent in equivalents of major cations (00932)	Sodium, water, filtered, mg/L (00930)	ANC, water, unfiltered, inflection-point, incremental titration method, field, mg/L as CaCO ₃ (00419)	Carbon dioxide, water, unfiltered, milligrams per liter (00405)	Chloride, water, filtered, mg/L (00940)	Fluoride, water, filtered, mg/L (00950)
08-02-2010	4.23	1.75	.57	1.13	56	10.9	25	117	9.69	< .08

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WATER-QUALITY DATA
WATER YEAR OCTOBER 2009 TO SEPTEMBER 2010

Part 3 of 13

[%, percent; ANC, acid neutralizing capacity; CaCO₃, calcium carbonate; N, nitrogen; P, phosphorus; SiO₂, silicon dioxide; mg/L, milligrams per liter; mm Hg, millimeters of mercury; °C, degrees Celsius; μS/cm, microsiemens per centimeter; μg/L, micrograms per liter; <, less than; E, estimated; M, presence verified but not quantified]

Date	Silica, water, filtered, mg/L as SiO ₂ (00955)	Sulfate, water, filtered, mg/L (00945)	Ammonia, water, filtered, mg/L as N (00608)	Nitrate plus nitrite, water, filtered, mg/L as N (00631)	Nitrate, water, filtered, mg/L as N (00618)	Nitrite, water, filtered, mg/L as N (00613)	Orthophos- phate, water, filtered, mg/L as P (00671)	Phosphorus, water, filtered, mg/L as P (00666)	Barium, water, filtered, μg/L (01005)	Iron, water, filtered, μg/L (01046)
08-02-2010	12.6	1.40	< .020	.87	< .870	< .002	.011	< .006	17.6	< 6

WATER-QUALITY DATA
WATER YEAR OCTOBER 2009 TO SEPTEMBER 2010

Part 4 of 13

[%, percent; ANC, acid neutralizing capacity; CaCO₃, calcium carbonate; N, nitrogen; P, phosphorus; SiO₂, silicon dioxide; mg/L, milligrams per liter; mm Hg, millimeters of mercury; °C, degrees Celsius; μS/cm, microsiemens per centimeter; μg/L, micrograms per liter; <, less than; E, estimated; M, presence verified but not quantified]

Date	Lead, water, filtered, μg/L (01049)	Lithium, water, filtered, μg/L (01130)	Manga- nese, water, filtered, μg/L (01056)	Strontium, water, filtered, μg/L (01080)	Zinc, water, filtered, μg/L (01090)	Boron, water, filtered, μg/L (01020)	1,2,3-Tri- chloro- propane, water, unfiltered, recover- able, μg/L (77443)	1,2- Dibromo-3- chloro- propane, water, unfiltered, recover- able, μg/L (82625)	1,2- Dibromo- ethane, water, unfiltered, recover- able, μg/L (77651)	1,2-Di- chloro- ethane, water, unfiltered, recover- able, μg/L (32103)
08-02-2010	E .02	M	< .2	11.8	< 5	4.6	< .12	< .3	< .05	< .1

WATER-QUALITY DATA
WATER YEAR OCTOBER 2009 TO SEPTEMBER 2010

Part 5 of 13

[%, percent; ANC, acid neutralizing capacity; CaCO₃, calcium carbonate; N, nitrogen; P, phosphorus; SiO₂, silicon dioxide; mg/L, milligrams per liter; mm Hg, millimeters of mercury; °C, degrees Celsius; μS/cm, microsiemens per centimeter; μg/L, micrograms per liter; <, less than; E, estimated; M, presence verified but not quantified]

Date	1,2- Dichloro- propane, water, unfiltered, recover- able, μg/L (34541)	1,3-Di- chloro- propane, water, unfiltered, recover- able, μg/L (77173)	1,4- Dichloro- benzene, water, unfiltered, recover- able, μg/L (34571)	3-Chloro- propene, water, unfiltered, recover- able, μg/L (78109)	Acrylo- nitrile, water, unfiltered, recover- able, μg/L (34215)	Bromo- methane, water, unfiltered, recover- able, μg/L (34413)	Carbon disulfide, water, unfiltered, μg/L (77041)	cis-1,3-Di- chloro- propene, water, unfiltered, recover- able, μg/L (34704)	Iodo- methane, water, unfiltered, recover- able, μg/L (77424)	trans-1,3- Dichloro- propene, water, unfiltered, recover- able, μg/L (34699)
08-02-2010	< .03	< .1	< .03	< .08	< 0.8	< .2	< .04	< .10	< .26	< .14

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WATER-QUALITY DATA
WATER YEAR OCTOBER 2009 TO SEPTEMBER 2010

Part 6 of 13

[%, percent; ANC, acid neutralizing capacity; CaCO₃, calcium carbonate; N, nitrogen; P, phosphorus; SiO₂, silicon dioxide; mg/L, milligrams per liter; mm Hg, millimeters of mercury; °C, degrees Celsius; μS/cm, microsiemens per centimeter; μg/L, micrograms per liter; <, less than; E, estimated; M, presence verified but not quantified]

Date	1,1,1,2-Tetra-chloro-ethane, water, unfiltered, recoverable, μg/L (77562)	1,1,1-Tri-chloro-ethane, water, unfiltered, recoverable, μg/L (34506)	1,1,2,2-Tetra-chloro-ethane, water, unfiltered, recoverable, μg/L (34516)	1,1,2-Tri-chloro-1,2,2-trifluoro-ethane, water, unfiltered, recoverable, μg/L (77652)	1,1,2-Tri-chloro-ethane, water, unfiltered, recoverable, μg/L (34511)	1,1-Di-chloro-ethane, water, unfiltered, recoverable, μg/L (34496)	1,1-Di-chloro-ethene, water, unfiltered, recoverable, μg/L (34501)	1,1-Di-chloro-propene, water, unfiltered, recoverable, μg/L (77168)	1,2,3,4-Tetra-methyl-benzene, water, unfiltered, recoverable, μg/L (49999)	1,2,3,5-Tetra-methyl-benzene, water, unfiltered, recoverable, μg/L (50000)
08-02-2010	< .04	< .03	< .14	< .03	< .05	< .04	< .02	< .03	< .1	< .1

WATER-QUALITY DATA
WATER YEAR OCTOBER 2009 TO SEPTEMBER 2010

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[%, percent; ANC, acid neutralizing capacity; CaCO₃, calcium carbonate; N, nitrogen; P, phosphorus; SiO₂, silicon dioxide; mg/L, milligrams per liter; mm Hg, millimeters of mercury; °C, degrees Celsius; μS/cm, microsiemens per centimeter; μg/L, micrograms per liter; <, less than; E, estimated; M, presence verified but not quantified]

Date	1,2,3-Tri-chloro-benzene, water, unfiltered, recoverable, μg/L (77613)	1,2,3-Tri-methyl-benzene, water, unfiltered, recoverable, μg/L (77221)	1,2,4-Tri-chloro-benzene, water, unfiltered, recoverable, μg/L (34551)	1,2,4-Tri-methyl-benzene, water, unfiltered, recoverable, μg/L (77222)	1,2-Dichloro-benzene, water, unfiltered, recoverable, μg/L (34536)	1,3,5-Tri-methyl-benzene, water, unfiltered, recoverable, μg/L (77226)	1,3-Dichloro-benzene, water, unfiltered, recoverable, μg/L (34566)	2,2-Di-chloro-propane, water, unfiltered, recoverable, μg/L (77170)	2-Chloro-toluene, water, unfiltered, recoverable, μg/L (77275)	2-Ethyl-toluene, water, unfiltered, recoverable, μg/L (77220)
08-02-2010	< .1	< .1	< .1	< .03	< .03	< .03	< .02	< .06	< .03	< .03

WATER-QUALITY DATA
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[%, percent; ANC, acid neutralizing capacity; CaCO₃, calcium carbonate; N, nitrogen; P, phosphorus; SiO₂, silicon dioxide; mg/L, milligrams per liter; mm Hg, millimeters of mercury; °C, degrees Celsius; μS/cm, microsiemens per centimeter; μg/L, micrograms per liter; <, less than; E, estimated; M, presence verified but not quantified]

Date	4-Chloro-toluene, water, unfiltered, recoverable, μg/L (77277)	4-Iso-propyl-toluene, water, unfiltered, recoverable, μg/L (77356)	Acetone, water, unfiltered, recoverable, μg/L (81552)	Benzene, water, unfiltered, recoverable, μg/L (34030)	Bromo-benzene, water, unfiltered, recoverable, μg/L (81555)	Bromo-chloro-methane, water, unfiltered, recoverable, μg/L (77297)	Bromo-dichloro-methane, water, unfiltered, recoverable, μg/L (32101)	Bromo-ethene, water, unfiltered, recoverable, μg/L (50002)	Chloro-benzene, water, unfiltered, recoverable, μg/L (34301)	Chloro-ethane, water, unfiltered, recoverable, μg/L (34311)
08-02-2010	< .04	< .06	< 3	< .03	< .02	< .06	< .03	< .1	< .02	< .1

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[%, percent; ANC, acid neutralizing capacity; CaCO₃, calcium carbonate; N, nitrogen; P, phosphorus; SiO₂, silicon dioxide; mg/L, milligrams per liter; mm Hg, millimeters of mercury; °C, degrees Celsius; µS/cm, microsiemens per centimeter; µg/L, micrograms per liter; <, less than; E, estimated; M, presence verified but not quantified]

Date	Chloro- methane, water, unfiltered, recover- able, µg/L (34418)	cis-1,2-Di- chloro- ethene, water, unfiltered, recover- able, µg/L (77093)	Dibromo- chloro- methane, water, unfiltered, recover- able, µg/L (32105)	Dibromo- methane, water, unfiltered, recover- able, µg/L (30217)	Dichloro- difluoro- methane, water, unfiltered, recover- able, µg/L (34668)	Dichloro- methane, water, unfiltered, recover- able, µg/L (34423)	Diethyl ether, water, unfiltered, recover- able, µg/L (81576)	Diiso- propyl ether, water, unfiltered, recover- able, µg/L (81577)	Ethyl metha- crylate, water, unfiltered, recover- able, µg/L (73570)	Ethyl methyl ketone, water, unfiltered, recover- able, µg/L (81595)
08-02-2010	< .1	< .02	< .1	< .05	< .10	< 0.038	< .1	< .06	< .1	< 1.6

WATER-QUALITY DATA
WATER YEAR OCTOBER 2009 TO SEPTEMBER 2010

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[%, percent; ANC, acid neutralizing capacity; CaCO₃, calcium carbonate; N, nitrogen; P, phosphorus; SiO₂, silicon dioxide; mg/L, milligrams per liter; mm Hg, millimeters of mercury; °C, degrees Celsius; µS/cm, microsiemens per centimeter; µg/L, micrograms per liter; <, less than; E, estimated; M, presence verified but not quantified]

Date	Ethyl- benzene, water, unfiltered, recover- able, µg/L (34371)	Hexa- chloro- butadiene, water, unfiltered, recover- able, µg/L (39702)	Hexa- chloro- ethane, water, unfiltered, recover- able, µg/L (34396)	Isobutyl methyl ketone, water, unfiltered, recover- able, µg/L (78133)	Isopropyl- benzene, water, unfiltered, recover- able, µg/L (77223)	Methyl acrylate, water, unfiltered, recover- able, µg/L (49991)	Methyl acrylo- nitrile, water, unfiltered, recover- able, µg/L (81593)	Methyl metha- crylate, water, unfiltered, recover- able, µg/L (81597)	Methyl tert-butyl ether, water, unfiltered, recover- able, µg/L (78032)	Methyl tert-pentyl ether, water, unfiltered, recover- able, µg/L (50005)
08-02-2010	< .04	< .1	< .1	< .3	< .04	< .6	< .3	< .2	< .10	< .06

WATER-QUALITY DATA
WATER YEAR OCTOBER 2009 TO SEPTEMBER 2010

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[%, percent; ANC, acid neutralizing capacity; CaCO₃, calcium carbonate; N, nitrogen; P, phosphorus; SiO₂, silicon dioxide; mg/L, milligrams per liter; mm Hg, millimeters of mercury; °C, degrees Celsius; µS/cm, microsiemens per centimeter; µg/L, micrograms per liter; <, less than; E, estimated; M, presence verified but not quantified]

Date	m-Xylene plus p- xylene, water, unfiltered, recover- able, µg/L (85795)	Naphtha- lene, water, unfiltered, recover- able, µg/L (34696)	n-Butyl methyl ketone, water, unfiltered, recover- able, µg/L (77103)	n-Butyl- benzene, water, unfiltered, recover- able, µg/L (77342)	n-Propyl- benzene, water, unfiltered, recover- able, µg/L (77224)	o-Xylene, water, unfiltered, recover- able, µg/L (77135)	sec-Butyl- benzene, water, unfiltered, recover- able, µg/L (77350)	Styrene, water, unfiltered, recover- able, µg/L (77128)	tert-Butyl ethyl ether, water, unfiltered, recover- able, µg/L (50004)	tert- Butylben- zene, water, unfiltered, recover- able, µg/L (77353)
08-02-2010	< .08	< .2	< .5	< .1	< .04	< .03	< .03	< .03	< .03	< .06

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WATER-QUALITY DATA
WATER YEAR OCTOBER 2009 TO SEPTEMBER 2010

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[%, percent; ANC, acid neutralizing capacity; CaCO₃, calcium carbonate; N, nitrogen; P, phosphorus; SiO₂, silicon dioxide; mg/L, milligrams per liter; mm Hg, millimeters of mercury; °C, degrees Celsius; μS/cm, microsiemens per centimeter; μg/L, micrograms per liter; <, less than; E, estimated; M, presence verified but not quantified]

Date	Tetra-chloro-ethene, water, unfiltered, recoverable, μg/L (34475)	Tetra-chloro-methane, water, unfiltered, recoverable, μg/L (32102)	Tetra-hydro-furan, water, unfiltered, recoverable, μg/L (81607)	Toluene, water, unfiltered, recoverable, μg/L (34010)	trans-1,2-Dichloro-ethene, water, unfiltered, recoverable, μg/L (34546)	trans-1,4-Dichloro-2-butene, water, unfiltered, recoverable, μg/L (73547)	Tribromo-methane, water, unfiltered, recoverable, μg/L (32104)	Trichloro-ethene, water, unfiltered, recoverable, μg/L (39180)	Trichloro-fluoro-methane, water, unfiltered, recoverable, μg/L (34488)	Trichloro-methane, water, unfiltered, recoverable, μg/L (32106)
08-02-2010	< .03	< .05	< 1	< .02	< .02	< .4	< .10	< .02	< .08	.09