# The Sources of Your Water

Huntsville Utilities Water Department is supplied by both surface and groundwater sources. Surface water from the Tennessee River is processed through two conventional surface water treatment plants, the South Parkway facility and the Southwest Treatment Plant. Groundwater is supplied from the Lincoln and Dallas Well Treatment Plant, the Hampton Cove Well Treatment



Plant, Lowe Mill Well, and Williams Well. All groundwater sources are located in limestone aquifers. Huntsville Utilities has established a Wellhead Protection Plan.

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land through the ground, it dissolves naturally occurring minerals and radioactive material, and it can pick up substances resulting from the presence of animals or from human activity.

## **IMPORTANT NOTICES** concerning water and your health

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. EPA/CDC quidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbial contaminants are available from the Safe Drinking Water Hotline (800-426-4791).

All drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline (800-426-4791).

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. Huntsville Utilities is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline or at http://www.epa.gov/safewater/lead. You can also visit Huntsville Utilities website (www.hsvutil.org) for additional unregulated test results for pharmaceuticals, personal care products, endocrine disruptors and perchlorate.

wy. ALABAMA

## **Gallons Pumped** per Source in 2009

2009 Total Pumped = 13,562,974,000 Gallons



## Definitions

Amount Detected: The highest level detected of a contaminant for comparison against the acceptable level for each parameter. These levels could be the highest single measurement, or an average of values depending on the contaminant.

Maximum Contaminant Level (MCL): The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.

Maximum Contaminant Level Goal (MCLG): The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.

Action Level (AL): The concentration of a contaminant, which if exceeded, triggers treatment requirements that a water system must follow.

Range: The lowest to the highest values for all samples tested for each contaminant. If only one sample is tested, no range is listed for that contaminant in the table.

Treatment Technique (TT): A required process intended to reduce the level of a contaminant in drinking water.

**DIOXIN & ASBESTOS MONITORING STATEMENT:** Based on a study conducted by ADEM with the approval of the EPA a statewide waiver for the monitoring of asbestos and dioxin was issued. Thus, monitoring for these contaminants was not required.

Without continual growth and progress, such words as im-provement, achievement, and success have no meaning.

Benjamin Franklin



Huntsville Utilities P.O. Box 2048 Huntsville, AL 35804

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# Quality Report Water 2010 Utilities Huntsville

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**Plant** Treatment Water Proposed of Site

## Water for Your Future

customers are therefore forced to ration water and source water assessments may also be obtained from restrict commercial growth. The Huntsville area has continued to grow even in the midst of a severe recession. With the continued growth, plans must be established to ensure that an adequate supply of safe drinking water is available for our customers and potential industry. Huntsville Utilities continues to plan for the future to guarantee a sufficient supply of water for our area.

The expansion project of the South Parkway Treatment Plant broke ground in 2008 in order to add much needed water capacity to the Huntsville area. The expansion is now

complete and provides an additional 12 million gallons of water a day for our customers. The project has given our area some leeway until long-range plans are put into place, which include a new treatment plant located above the Guntersville Dam. Because a treatment plant takes several years to become operational. Huntsville Utilities is preparing for future water demands that continual population growth brings. Once completed, the Guntersville Treatment Plant will help provide an ample supply of safe drinking water for our customers as well as help attract more industry to our area.

The Water Department works diligently to keep the cost as low as possible and the quality high. The careful consideration and work of the entire department has been recognized numerous times by various monitoring agencies. In 2009, the South Parkway and Southwest Water Treatment Plants were recognized by the Alabama Department of Environmental Management (ADEM) for their excellence in operational practices with the "Plant Optimization Award". In addition to this honor, the Water board members include Mr. Stanley Statum. Southwest Plant was awarded the "Best Operated Mr. William M. Johnson, and Dr. James S. Wall, Jr. Plant" honors in its size category by the Alabama Water Pollution Control Association (AWPCA). The plants have received 23 "Best Operated Plant" awards out of the last 21 years from the AWPCA. Additionally, the Environmental Protection Agency (EPA), ADEM, and the governor of the State of Alabama, Bob Riley, have all recognized Huntsville Utilities Water Department for it's outstanding service and water quality.

Huntsville Utilities has completed monitoring for the Unregulated Contaminant Monitoring Regulations and

Water is one of our most precious resources and must is in full compliance. Both our ground and source be protected and used wisely. Areas of our country water assessments are available for review to the are currently experiencing the problem of water general public by contacting the Water Quality Lab at demand exceeding available supply and utilities (256) 650-6374. Additional information regarding our



The view of Guntersville Lake and the Tennessee River from near the water intake location. *Pictured below is the* expanded South Parkway Water Treatment Plant.

#### Huntsville Utilities' Water Department or Alabama Department of Environmental Management.

Public interest and participation in decisions affecting drinking water or other utility issues is encouraged. Questions and concerns may be addressed to Jim Reynolds in the Water Quality Lab at 256-650-6374 or by email at waterlab@hsvutil.org.

Regular monthly water board meetings, which are open to the public, are held at Huntsville Utilities located at 112 Spragins Street, usually on the last Tuesday of every month, at 8:00 a.m. The meeting schedule is posted on our website (www.hsvutil.org).

"Water is life's mater and matrix,
mother and medium.
There is no life without water."

Albert Szent-Gyorgyi (Hungarian Biochemist, 1937 Nobel Prize for Medicine, 1893-1986)



Huntsville Utilities has chosen to provide their water customers a table of all contaminants for which the											
Environmental Protection Agency and Alabama Department of Environmental Management require testing.											
		AMOUNT	DATE					AMOUNT	DATE		
CONTAMINANTS	MCL I	AMOUNT DETECTED	DATE TESTED	RANGE	LIKELY SOURCE	CONTAMINANTS	MCL	DETECTED	UALE TESTED	RANGE	LIKELY SOURCE
Bacteriological						Di - (2-ethylhexyl) adipate (ppb)	400	N.D.	2008	N.D.	Leaching from PVC plumbing systems: discharge from
Total Coliform Bacteria	>5%	0	2009	0-0	Human and animal fecal waste	2. ( <u>2</u> oilijiloilji) aulpato (pp2)			2000		chemical factories
(1) Turdidity-Surface Water (NTU)	TT	0.39	2009	.3139	Soil runoff	Di- (2-ethylhexyl) phthlates (ppb)	6	N.D.	2008	N.D.	Discharge from rubber and chemical factories
Turbidity- Ground Water (NTU)	5.0	1.46	2008	.07 - 1.46	Soil runoff	Dinoseb (ppb)	7	N.D.	2008	N.D.	Runoff from herbicide used on soybeans and vegetables
Fecal Coliform and E. Coli	0.0	0	2009	0.0	Human and animal fecal waste	Diquat (ppb)	20	N.D.	2008	N.D.	Runoff from herbicide use
Radiological						Endothall (ppb)	100	N.D.	2008	N.D.	Runoff from herbicide use
Beta/photon emitter (mrem/yr)	4	N.D.	2003	N.D.	Decay of natural and man-made deposits	Endrin (ppb)	2	N.D.	2008	N.D.	Residue of banned insecticide
Gross Alpha emitters (pci/l)	15	2.8	2003	0 - 2.8	Erosion of natural deposits	Epichlorohydrin	Π	N.D.	2008	N.D.	Discharge from industrial chemical factories; added to
Combined radium (pci/i)	5	0.5	2002	05	Erosion of natural deposits						water during treatment process
Inorganic Antimony (anh)	6	ND	2007 2000	ND	Discharge from notroloum refineries, fire reterdents, es	Glyphosate (ppb)	700	N.D.	2008	N.D.	Runoff from herbicide use
Anumony (ppb)	0	N.D.	2007-2009	N.D.	Discharge from petroleum renneries; nre retaruants; ce-	Heptachior (ppt)	400	N.D.	2008	N.D.	Residue of banned termiticide
Aroonia (nnh)	50	ND	2007 2000	ND	Dunoff from orchordo, natural donasito, runoff from glass	Heptachior epoxide (ppt)	200	N.D.	2008	N.D.	Breakdown of neptachior
Arsenic (ppb)	00	N.D.	2007-2009	N.D.	Autori Ironi orcharus; natural deposits; runon ironi glass	Hexachiorobenzene (ppb)	1	N.D.	2008	N.D.	Discharge from metal refineries and agricultural chemi-
Barium (nnm)	2	ND	2007-2000	ND	Discharge of drilling wastes: discharge from metal refiner-	Hove chlore portedione (nam)	50	ND	2000	ND	cal lactories
Danum (ppm)	2	N.D.	2007-2005	N.D.	ice: erosion of natural denosite	nexacilioropentaulene (ppili)	200	N.D.	2000	N.D.	Discillarge from incontinide used on pattle lumber
Beryllium (nnh)	4	ND	2007-2000	ND	Discharge from metal refineries and coal-hurning factories:	gamma-Bhc (Linualie) (ppt)	200	N.D.	2008	N.D.	Runon/leaching from insecticide used on cattle, lumber,
Derymani (ppb)	-	N.D.	2007-2005	N.D.	discharge from electrical aerosnace and defense industries	Mathavyahalar (nnh)	40	ND	2000	ND	ydiuciis Dunoff/loophing from incosticido usod on fruito vogoto
Cadmium (nnh)	5	ND	2007-2000	ND	Correction of asluanized nines: erosion of natural denosits:	memoxycholor (ppb)	40	N.D.	2008	N.D.	Runon/leaching from insecticide used on fruits, vegeta-
oadinidin (ppb)	3	N.D.	2007-2005	N.D.	discharge from metal refineries: runoff from waste batteries	Ovamul [Vudato] (nnh)	200	ND	2008	ND	Duroff/leaching from incecticide used on apples nota-
					and naints	ovanihi [aluare] (hhn)	200	N.D.	2000	N.D.	tops and tomatops
Chromium (nnh)	100	ND	2007-2009	ND	Discharge from steel and pulp mills: erosion of natural de-	PCBe (nnt)	500	ND	2008	ND	Runoff from landfille: discharge of waste chemicals
chi	100	nibi	2007 2000	nibi	nosits	Pentachloronhenol (nnh)	1	N D	2000	N.D.	Discharge from wood preserving factories
Copper (ppm)	A.L.=1.3	N.D.	2007-2009	N.D.	Corrosion of household plumbing systems: erosion of natu-	Picloram (nnh)	500	N D	2000	N D	Herbicide runoff
					ral deposits: leaching from wood preservativesa	Simazine (nnh)	4	N D	2008	N D	Herbicide runoff
Cvanide (ppb)	200	N.D.	2007-2009	N.D.	Discharge from steel/metal factories: discharge from plas-	Toxaphene (ppb)	3	N.D.	2008	N.D.	Runoff/leaching from insecticide used on cotton and cat-
					tic and fertilizer factories	ionaphione (pp2)	•		2000		tle
Fluoride (ppm)	4	1.36	2009	.03 - 1.36	Water additive which promotes strong teeth; erosion of nat-	Benzene (ppb)	5	N.D.	2009	N.D.	Discharge from factories: leaching from gas storage
u. ,					ural deposits; discharge from fertilizer and aluminum fac-		-				tanks and landfills
					tories	Carbon Tetrachloride (ppb)	5	N.D.	2009	N.D.	Discharge from chemical plants and other industrial ac-
Lead (ppb)	A.L.=15	N.D.	2007-2009	N.D.	Corrosion of household plumbing systems; erosion of natu-						tivities
					ral deposits	Chlorobenzene (ppb)	100	N.D.	2009	N.D.	Discharge from chemical and agricultural chemical fac-
Mercury (ppb)	2	N.D.	2007-2009	N.D.	Erosion of natural deposits; discharge from refineries and						tories
					factories; runoff from landfills; runoff from cropland	Dibromochloropropane (ppt)	200	N.D.	2009	N.D.	Runoff/leaching from soil fumigant used on soybeans,
Nitrate (ppm)	10	3.7	2007-2009	.65 - 3.7	Runoff from fertilizer use; leaching from septic tanks,						cotton, pineapples, and orchards
					sewage; erosion of natural deposits	o-Dichlorobenzene (ppb)	600	N.D.	2009	N.D.	Discharge from industrial chemical factories
Nitrite (ppm)	1	N.D.	2007-2009	N.D.	Runoff from fertilizer use; leaching from septic tanks,	p-Dichlorobenzene (ppb)	75	N.D.	2009	N.D.	Discharge from industrial chemical factories
					sewage; erosion of natural deposits	1, 2- Dichloroethane (ppb)	5	N.D.	2009	N.D.	Discharge from industrial chemical factories
Total Nitrate/Nitrite (ppm)	10	3.7	2007-2009	.65 - 3.7	Runoff from fertilizer use; leaching from septic tanks,	1,1- Dichloroehthene (ppb)	7	N.D.	2009	N.D.	Discharge from industrial chemical factories
			0007 0000		sewage; erosion of natural deposits	Cis- 1, 2,-Dichloroethene (ppb)	70	N.D.	2009	N.D.	Discharge from industrial chemical factories
Selenium (ppb)	50	N.D.	2007-2009	N.D.	Discharge from petroleum and metal refineries; erosion of	Trans- 1, 2- Dichloroethylene (ppb)	100	N.D.	2009	N.D.	Discharge from industrial chemical factories
California (anna)	500	00.0	0007 0000	0.00 00.0	natural deposits; discharge from mines	Dichloromethane (ppb)	5	N.D.	2009	N.D.	Discharge from pharmaceutical and chemical factories
Suitate (ppm)	500	32.3	2007-2009	3.09 - 32.3	Naturally present from the environment	1, 2 Dichloropropane (ppb)	5	N.D.	2009	N.D.	Discharge from industrial chemical factories
manum	2	N.D.	2007-2009	N.D.	tranice glass and drug factories	Ethylpenzene (ppb)	/00	N.D.	2009	N.D.	Discharge from petroleum refineries
Organic Chemicals					li onics, glass, and ulug lactories	Ethylene dibromide (ppt)	100	N.D.	2009	N.D.	Discharge from petroleum refineries
2-4D (nnh)	70	ND	2008	ND	Runoff from herbicide used on row crons	Stryrene (ppb)	100	N.D.	2009	N.D.	from landfills
2.4.5TP (Silvex) (nnh)	50	N.D	2008	N.D	Residue of banned herbicide	Tetrachloroethylene (nnh)	5	76	2000	0.76	Leaching from BVC nines: discharge from factories and
Acrylamide	TT	N.D.	2008	N.D.	Added to water during sewage/wastewater treatment	iengenioroentkiene (hhn)	5	.70	2005	570	dry cleaners
Alachlor (ppb)	2	N.D.	2008	N.D.	Runoff from herbicide used on row crops	1 2 4- Trichlorobenzene (nnb)	70	ND	2009	ND	Discharge from textile-finishing factories
Atrazine (ppb)	3	N.D.	2008	N.D.	Runoff from herbicide used on row crops	1 1 1- Trichloroethane (nnh)	200	N D	2003	N D	Discharge from metal degreasing sites and other factories
Benzo (a) pyrene [PAHs] (ppt)	200	N.D.	2008	N.D.	Leaching from linings of water storage tanks and distribu-	1.1.2- Trichloroethane (nnh)	5	N.D.	2009	N.D.	Discharge from industrial chemical factories
					tion lines	Trichloroethylene (ppb)	5	N.D.	2009	N.D.	Discharge from petroleum refineries
Carbofuran (ppb)	40	N.D.	2008	N.D.	Leaching of soil fumigant used on rice and alfalfa	Toluene (ppb)	1	N.D.	2009	N.D.	Discharge from petroleum factories
Chlordane (ppb)	2	N.D.	2008	N.D.	Residue of banned termiticide	Vinyl Chloride (ppb)	2	N.D.	2009	N.D.	Leaching from PVC piping; discharge from plastics fac-
Dalapon (ppb)	200	N.D.	2008	N.D.	Runoff from herbicide used on rights of way						tories
1,2-Dibromo-3-chloropropane (pp	i) 200	N.D.	2008	N.D.	Runoff/leaching from insecticide used on cotton and cattle	Xylenes (ppm)	10	N.D.	2009	N.D.	Discharge from petroleum factories; discharge from chemical factories

Chlorine residuals ranged from 0.3 ppm to 2.6 ppm free residual chlorine. The average concentration was 1.4 ppm. Residuals are monitored continuously. The MCL is 4.0 ppm.

Total Trihalomethane concentrations as Disinfection By-Products ranged from 0.0 to 77 ppb. The annual running average in 2009 was 37.2 ppb monitored quarterly. The MCL for these compounds is a running average of 80 ppb.

Haloacetic Acids (HAA) concentrations ranged from 0.0 to 54.0 ppb. The running annual quarterly average for 2009 was 30.2 ppb. The MCL for these compounds is 60 ppb.

TTHMs and HAAs are by-products of the chlorination process.

Total Lead concentrations ranged from 0.0 to .017 ppm with the 90th percentile equal to 0.0 ppm and one site exceeded the action level.

Total Copper concentrations ranged from 0.0 to .196 ppm with the 90th percentile equal to .105 ppm and zero sites exceeded the action level.

Fluoride averaged 0.86 ppm with a range from 0.03 to 1.36 ppm, with MCL at 4 ppm.

## Water Testing Data Zables **Table of Primary Contaminants**

follow	in
List	0
Dime	etl
Terb	uf
2,2,4	1,4
2,2,4	1,4
2.2.4	.4

#### UCMR2: Unregulated Contaminant **Monitoring 2**

In addition to the primary water contaminants, Huntsville Utilities also monitors for some of the ted contaminants as required by ADEM and EPA. During 2009 there were no detected amounts of the following contamin

List One	2,2,4,4,5,5-hexabromobiphenyl	Alachlor	Metolachlor OA
Dimethoate	2,4,6-trinitrotoluene (TNT)	Metolachlor	N-nitrosodiethylamine
Terbufos sulfone	1,3-dinitrobenzene	Acetochlor ethane sulfonic acid	N-nitrosodimethylamine
2,2,4,4-tetrabromodiphenyl	Hexahydro-1,3,5-triazine (RDX)	Acetochlor oxanilic acid	N-nitroso-di-n-butylamine
2,2,4,45-pentabromodiphenyl		Alachlor ESA	N-nitroso-di-n-probylamine
2,2,4,4,5,5-hexabromodiphenyl	List Two	Alachlor OA	N-nitrosomethylethylamine
2,2,4,4,6-pentabromodiphenyl	Acetochlor	Metolachlor ESA	N-nitrosopyrrolidine

## **Unregulated Contaminants**

In addition to the primary water contaminants, Huntsville Utilities also monitors for some of the following unregulated contaminants as required by ADEM and EPA.

	AMOUNT		AMOUNT
CONTAMINANT	DETECTED	CONTAMINANT	DETECTED
Aldicarb	N.D.	2,2-Dichloropropane	N.D.
Aldicarb Sulfone	N.D.	1,1-Dichloropropene	N.D.
Aldicarb Sulfoxide	N.D.	1,3-Dichloropropene	N.D.
Aldrin	N.D.	Trichlorofluomethane	N.D.
Butachlor	N.D.	Hexachlorobutadiene	N.D.
Carbaryl	N.D.	Isopropylbenzene	N.D.
Dicamba	N.D.	p-lsopropyltoluene	N.D.
Dieldrin	N.D.	Chloroethane	N.D.
3-Hydroxycarbofuran	N.D.	Chloroform	9.86 ppb
Methomyl	N.D.	Chloromethane	N.D.
Metolachlor	N.D.	o-Chlorotoluene	N.D.
Metribuzin	N.D.	p-Chlorotoluene	N.D.
Propachlor	N.D.	Dibromomethane	N.D.
Bromobenzene	N.D.	m-Dichlorobenzene	N.D.
Bromochloromethane	N.D.	1,1-Dichloroethane	N.D.
Bromodichloromethane	5.41 ppb	Methyl Tertiary Butyl Ether	N.D.
Bromoform	N.D.	Naphthalene	N.D.
Bromomethane	N.D.	n-Propylbenzene	N.D.
n-Butylbenzene	N.D.	1,1,2,2-Tetrachloroethane	N.D.
sec-Butylbenzene	N.D.	1,2,3-Trichlorobenzene	N.D.
tert-Butylbenzene	N.D.	1,2,4-Trichlorobenzene	N.D.
Dibromochloromethane	.630 ppb	1,2,3-Trichloropropane	N.D.
Dichlorodifluoromethane	N.D	1,2,4- Trimethylbenzene	N.D.
1,3-Dichloropropane	N.D.	1,3,5-Trimethylbenzene	N.D.
	RANGES OF DETECTED L	INREGULATED CONTAMINANTS	
Bromodichloromethane	0.0 - 5.41 ppb	Chloroform	.850 - 9.86 ppb
Dibromochloromethane	0.0630 ppb		

#### Secondary Contaminants

	DATE	MCL,		AVERAGE	
ANALYTE	TESTED	mg/L	RANGE	CONCENTRATION	
Alkalinity, Total	2007-2009	N/A	21.1 - 153	96.4 ppm	
Aluminum, as Al	2007-2009	0.2	0095	.016 ppm	
Calcium, as Ca	2007-2009	N/A	22.3 - 61.6	47 ppm	
Carbon Dioxide	2007-2009	N/A	8.5 - 114	36 ppm	
Chloride, as Cl	2007-2009	250	7.41 - 11.4	9.2 ppm	
Color	2007-2009	15	N.D.	N.D.	
Copper, as Cu	2007-2009	1	N.D.	N.D.	
MBAS	2007-2009	0.5	007	0.01 mg/L	
Hardness	2007-2009	N/A	72.4 - 177	140.3 ppm	
Iron	2007-2009	0.3	N.D.	N.D.	
Magnesium	2007-2009	N/A	4.03 - 6.68	5.40 ppm	
Manganese	2007-2009	0.05	N.D.	N.D.	
Odor	2007-2009	3	N.D.	N.D.	
pН	2007-2009	N/A	7.16 - 7.95	7.62	
Silver	2007-2009	0.1	N.D.	N.D.	
Sodium	2007-2009	N/A	2.03 - 5.38	3.56 ppm	
Specific Conductance	2007-2009	N/A	186 - 288	252 umho/cm	
Total Dissolved Solids	2007-2009	500	124 - 240	187 ppm	
Zinc	2007-2009	5	N.D.	N.D.	
Total Organic Carbon	2009	N/A	1.3 - 1.7	1.3 ppm	

## Key to the Tables

AL - Action Level

- MCL Maximum Contaminant Level
- MCLG Maximum Contaminant Level Goal
- NTU Nephelometric Turbidity Units
- pCi/L picocuries per liter (a measure of radioactivity)
- ppb parts per billion, or micrograms per liter (ug/L)
- ppm parts per million, or milligrams per liter (mg/L)
- TT Treatment Technique

- µmho/cm micromhos per centimeter
- N/A not applicable
- N.D. none detected

#### Footnotes

(1) 100% of samples were below turbidity limits.

(Turbidity has no health effects. However, contaminants in water that cause turbidity can provide a medium for bacterial growth.)