

# Tuba City/Moenkopi Villages Leaking Underground Storage Tank Site

## Sampling Results of Nearby Springs



**OCTOBER 2002**

The U.S. Environmental Protection Agency (USEPA) has developed this fact sheet to provide information to the communities of Tuba City and the Moenkopi Villages about the leaking underground storage tank (LUST) site located at the intersection of Highways 160 and 264. In 1999, EPA directed the operators of two local gas stations to sample four Hopi and two Navajo springs to ensure they are clean of gasoline products. This fact sheet summarizes all sampling since January 1999.

### **Background**

Underground storage tanks (USTs) at the two gas stations at the intersection of Highways 160 and 264 have leaked gasoline underground. One of the stations, Thriftway, has leaked approximately 1300 gallons. It is not known how much the other station, Sunshine-Western, has leaked. The leaking USTs have been removed and replaced with new USTs.

The leaked gasoline has soaked into the soil at the gas stations and some of the gasoline chemicals have entered the ground water. These chemicals have flowed several hundred feet south of the site forming a plume of contamination in the ground water. The main chemicals of concern are benzene, toluene, ethylbenzene, and xylenes (BTEX), as well as methyl tertiary butyl ether (MTBE).

The Thriftway gas station installed an interim cleanup system at the Thriftway station in September 2000. This system removed 3,300 lbs of petroleum in the first six months of operation. EPA, in consultation with Navajo and Hopi environmental agencies, has directed the gas station owners to expand the interim cleanup system to the Superfuels gas station. Installation of this system began in September 2002, with startup anticipated for early this month. A third system is also planned for the area of the Tuba City Truck Stop.



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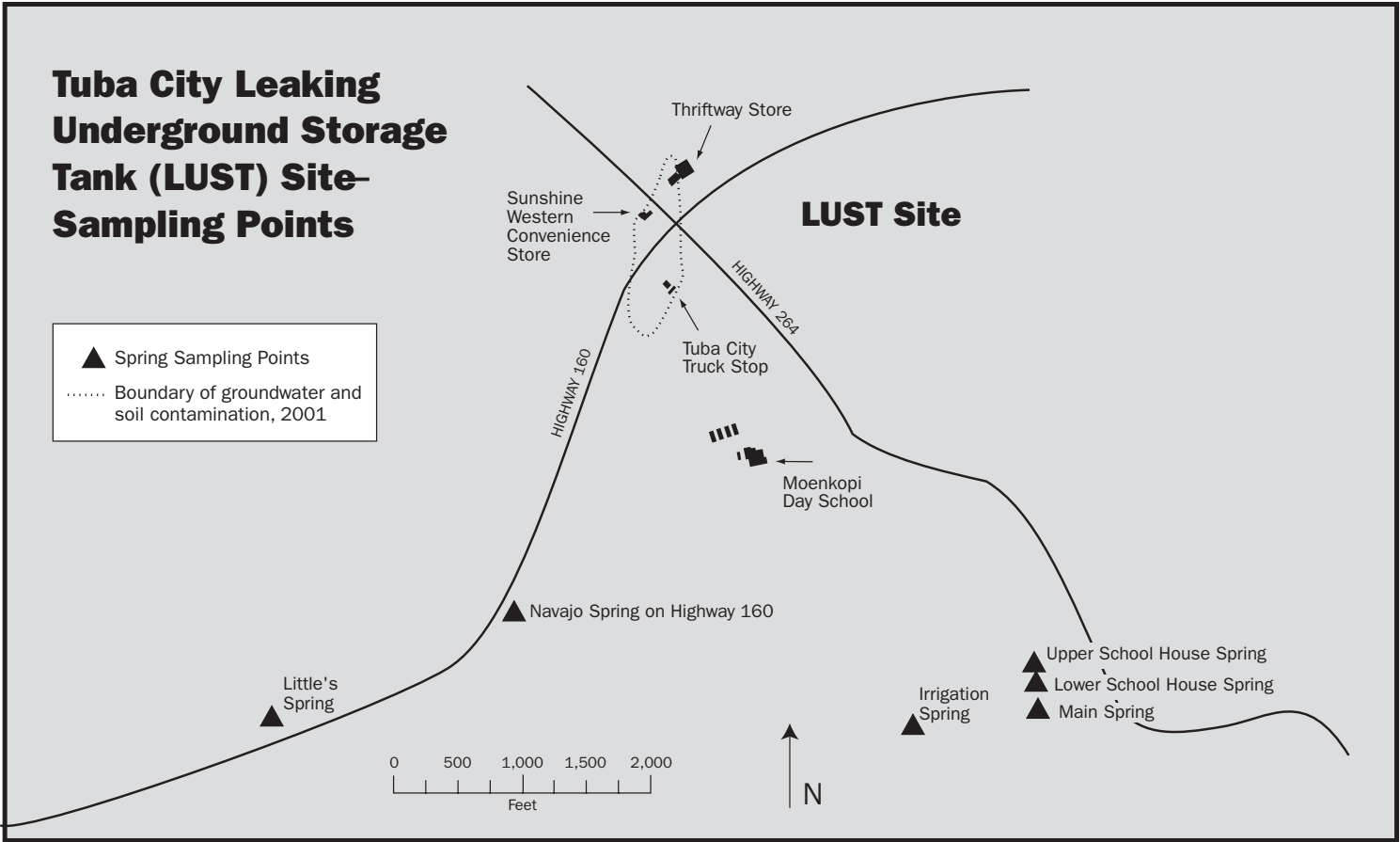
EPA required Thriftway to collect twelve rounds of samples based on the agreement that if no petroleum contamination was found, Thriftway could stop the sampling program. Twelve rounds were completed by Thriftway and petroleum contamination was not found. EPA continues to sample the springs twice a year.

Thriftway tested the following water sources: Upper Schoolhouse, Lower Schoolhouse, Mint Spring, Drinking Spigot-Susungva, Little’s Spring, Pump #3 and the Highway #160 Spring. Testing occurred nearly every month of 1999 and in February and May of 2000. All of the samples came up non-detect for gasoline chemicals (please see table and map below).

Testing of Navajo & Hopi Springs & Pump #3 by Thriftway		
Water sources tested: Upper Schoolhouse, Lower Schoolhouse, Mint Spring, Drinking Spigot-Susungva, Little's Spring, Pump #3, Highway #160 Spring		
Date of Testing	BTEX & MTBE (chemicals in gasoline)	TPH (Total Petroleum Hydrocarbons)
1/28/99**	ND=non detect	ND
2/23/99	ND	ND
3/29/99	ND	ND
4/28/99	ND	ND
5/28/99	ND	ND
6/28/99	ND	ND
7/28/99	ND	ND
9/2/99	ND	ND
10/26/99	ND	ND
12/3/99	ND	ND
2/4/00	ND	ND

\*\*duplicate samples and others were non-applicable.  
ND=non detect, e.g. none of the gasoline chemical was found in the sample at the detection level.

Testing of Navajo & Hopi Springs by U. S. EPA		
Date of Testing	BTEX & MTBE (chemicals in gasoline)	TPH (Total Petroleum Hydrocarbons)
12/98	ND	ND
9/99	ND	ND
5/01	ND	ND
9/01	ND	ND
5/02	ND	ND
ND=non detect, e.g. none of the gasoline chemical was found in the sample at the detection level		



Frequently Asked Questions:

1. Is there any contamination in the springs?
- Yes, however this contamination is bacterial and not caused by gasoline chemicals or the plume of contamination emanating from the gas stations. Coliform bacteria was found in samples taken by the Moencopi Village water operator. Total coliform bacteria is naturally present in the environment and is generally not harmful in itself. However, the detection of coliform bacteria is an indicator that other, potentially-harmful, bacteria may be present.

Usually, coliforms are a sign that there could be a problem with a treatment or distribution system (pipes). Whenever there is a detection of coliform bacteria in any sample, follow-up testing is done to see if other bacteria of greater concern, such as fecal coliform or E. coli, are present. In this case, these types of harmful bacteria were not found and repeat sampling has not found further coliform. If coliform is found again, you will be notified immediately by the Village Water Operator.

2. Is the water from the springs safe to drink?
- Yes, with respect to gasoline chemicals. Concerns about coliforms, as noted above, remain. To date, all water sampled from the Hopi and Navajo springs has been clean of chemicals associated with gasoline. EPA will continue to monitor, sample, and analyze the results of the Hopi and Navajo springs for evidence of petroleum contamination.

3. Will the gasoline contamination ever reach the springs?
- EPA does not believe the gasoline contamination will reach the springs due to its distance from the leaking tanks, geologic barriers and the fact that cleanup work will be expanded later this year. However, EPA, in consultation with the Tribal environmental agencies, has directed the gas station owners to clean up the site. The gas station owners will install a cleanup system and ensure that contamination does not reach the springs currently being used by Hopi or Navajo citizens.

## For More Information

If you have questions or concerns, please contact any of the people listed below:

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