

## **Lake Superior Barrels Timeline**

This is a brief summary of the secret dumping of approximately 1,400 barrels into Lake Superior, their discovery, and subsequent efforts to resolve the question of their threat to the drinking water supply of cities that take their water from Lake Superior, and to the integrity of Lake Superior. It is necessarily incomplete, and will be subject to revisions and updates as possible. A more detailed timeline will be available on Save Lake Superior Association's website. This version was compiled by Dan Rau, Vice President of SLSA, in April 2017 from original documents dating back to 1976, and from copies of primary documents dating back to the first dumping of barrels into Lake Superior in 1959. The investigation has produced four efforts to recover barrels to examine their contents, even though over half of the barrels have never been located. A total of 36 of the 600 located barrels have been recovered, 25 of these in 2012 by the most thorough effort to date by the Red Cliff Band of Lake Superior Chippewa, who were not satisfied with their results and have received funding for another attempt.

### **Origin of the barrels 1959 – 1962**

Between 1959 October 26 and 1962 September 25 six shipments of barrels and other containers totaling approximately 200 tons were shipped from Honeywell's operations at Twin Cities Army Ammunition Plant (TCAAP) in Arden Hills, Minnesota to the Corps of Engineers Duluth, Minnesota vessel yard and secretly dumped along the North Shore of Lake Superior between the Lester River and somewhere in the vicinity of Knife River, Minnesota. No exact weights or number of barrels is available publicly, only a combination of total weights and approximate numbers of barrels, producing an estimate of roughly 1,400 barrels dumped. Although the dump sites were documented in the tug log books, these have not been provided, in fact the Army claimed that the tugs either sunk or burned, and their log books lost. Neither is true, all the tugs involved were eventually retired from Corps service after the intensive effort to recover barrels began in 1976.

### **1968 – First barrels discovered**

Stanley Sivertson and Hjalmer Mattson, trawling for smelt with the fishing vessel *Hiawatha*, catch a total of six barrels on two separate occasions near the Duluth municipal water intake. They subsequently avoid trawling in that area, but do not tell anyone of their discovery until 1976.

### **1975 -- League of Women Voters makes first public inquiry into barrels**

1975 June 12 Col Noah letter to US Representative Philip K Ruppe referring to an inquiry from the Saulte Ste Marie Chapter of League of Women Voters concerning a report by retired Corps of Engineers tug captain Danforth Andersen reporting atomic waste dumped in Lake Superior. Captain Andersen ran one of the tugs that dumped the first shipment of barrels into the lake. Apparently this inquiry ended with Col Noah's response to Representative Ruppe's inquiry. Captain Andersen in a 1976 August 27 article in The Evening News of Sault Ste Marie, Michigan, said that he was told by some officials who accompanied the barrel shipment that the barrels contained atomic waste from a plant outside St Paul.

**1976 -- Save Lake Superior Association learns of barrels and begins an investigation that continues today.**

In May of 1976 Stanley Sivertson described his barrel catches to Dan Rau, Vice President of the Save Lake Superior Association (SLSA). Dan interviewed Corps Duluth Area Engineer Court Mueller on May 13, 1976 about the barrels and informed John Pegors of Minnesota Pollution Control Agency (MPCA) and Twin Cities reporters, beginning an investigation that has stretched to over forty three years, and has led to four attempts to recover barrels.

**1976 December -- Corps makes first attempt to locate barrels**

Working aboard the Corps tug *Lake Superior*, one of the tugs that dumped the barrels, Stanley Sivertson directs Dr Tom Johnson, University of Minnesota geologist, to the area where Sivertson caught the six barrels in 1968. Using Sivertson's ranges on shoreline landmarks, Dr Johnson is able to find about 100 possible barrel contacts with his towed magnetometer, but no attempt is made to recover any of the contacts.

**1977 June 7-10 -- Army's first attempt to recover barrels**

In response to continued public concern, the Army attempted to relocate and recover barrels in 1977 using an Army hard-hat dive team. The dive team, with the help of Dr Johnson, was unable to relocate any barrels, but did observe the tracks of the trawl doors from the *Hiawatha* in the bottom sediment.

**1977 July 8 -- Army's "Final Report on Classified Scrap in Lake Superior"**

An Army report describing the 1977 recovery effort, claiming no harmful contents in the barrels, and recommending that the search for barrels should be abandoned.

**1978 October -- "Installation Assessment of Twin Cities Army Ammunition Plant, Report NO. 129", US Army Toxic and Hazardous Materials Agency, Aberdeen Proving Ground, MD 21010**

An Army report detailing extensive pollution of TCAAP, where the barrels originated, including contamination with several radioactive elements, cyanide and heavy metals at several sites within the grounds. This document also establishes that Honeywell was fabricating depleted uranium parts in the building where the barrels originated at the time of the report (1978). Even though a copy of this document was acquired from the MPCA library in St Paul, the MPCA website that describes the remediation of TCAAP, now an EPA Superfund Site, makes no mention of remediation of any of these serious contaminants, including the discovery of depleted uranium and several other radioactive elements in the sewer sludge of the building where the barrels originated. This document also describes the discharge of sewer sludge from TCAAP into the Twin Cities Metro Sewer System, which MPCA also fails to mention on their Superfund website.

**1990 May 4 -- "Characterization and Evaluation of Contaminated Soil and Sewer Sludge at Twin Cities Army Ammunition Plant" International Technology Corporation, St Paul, MN, produced for Honeywell Inc, New Brighton, MN.**

A contractor's report to Honeywell of the discovery and cleanup of depleted uranium and several other radioactive elements in the sewer sludge of Building 502 at TCAAP, where the Lake Superior barrels had

originated. Over one thousand 55 gallon barrels of sludge were removed from the sewers of Building 502. The Army's 1978 report NO. 129 describes in detail how sewer sludge from TCAAP was discharged untreated into the Twin Cities Metro Sewer System. This report is available online.

#### **1990 October 30 – Two barrels recovered**

A Twin Cities private contractor working for MPCA and the Corps located approximately 105 barrels of the approximately 1,400 barrels dumped and recovered two barrels, in spite of Corps efforts to prevent recovery of any barrels. The two barrels were opened by the Corps of Engineers at their Duluth vessel yard, and found to contain timing devices and detonators for BLU-3 or BLU-4 cluster bombs. The small explosive charges in the detonators were later tested and found to be inert. The official version of the recovery was described in a Corps "Report of Findings, Lake Superior Classified Barrel Disposal Site" dated 1991 August.

#### **1991 August 6 -- letter to John Pegors, MPCA Region 1 Director from 1990 dive contractor.**

The contractor who recovered two barrels in 1990 wrote a letter to John Pegors detailing his concerns about the Corps of Engineers obstruction of the 1990 search and attempt to recover barrels, including repressing the sub operator's report of detecting a strong geiger counter response near one of the barrels, and threatening the contractor with legal prosecution for recovering the two barrels on his own after his contract had expired.

#### **1993 – MPCA identifies new barrel dump sites**

After ten days of surveying, three new dump sites were identified: 6.6 miles from Duluth and east of the mouth of the Lester River at a depth of 130 feet, about 2.5 miles due south of Stony Point at a depth of 250 feet, and about three miles east of Knife Island at a depth of 400 feet. Approximately 600 barrels are located, leaving approximately 800 still missing.

#### **1994 June – Seven barrels recovered**

A flotilla of contractors and Navy divers aboard Corps vessels recover seven barrels from the three sites identified in 1993 - three barrels from the Lester River site; two barrels from the Talmadge River site; and two barrels from the Stony Point site. No barrels were found at the Knife Island site. This team has made, as of 2017, by far the most technically capable effort to recover barrels thru 2017, yet they recover only 7 barrels, and fail to find over half of the barrels dumped.

The team included 17 members of the US Naval Mobil Salvage Unit, 4 members of Navy Sea Systems Command with a Remotely Operated Vehicle capable of finding and recovering barrels, a 7 man Corps of engineers crew with the tug *Lake Superior* and a crane barge, 3 contractors, and an additional 6 people from MPCA and the Corps.

No online documentation of this recovery effort has been found by the author to date, but a copy of the report is available in the Duluth Public Library.

#### **2008 Red Cliff Band of Lake Superior Chippewa acquires Department of Defense money to recover more barrels**

Under the Native American Lands Environmental Mitigation Program (NALEMP), Red Cliff begins the process of searching for and recovering more barrels.

**2008 October -- UMD Large Lakes Observatory resurveys barrel dump sites under Red Cliff contract**

UMD's research vessel *Blue Heron* resurveys the barrel fields surveyed by MPCA in 1993, and confirms the location of the previously located barrels, but does not find any additional barrels. Approximately 800 barrels are still missing.

**2012 July 30 - August 13 Red Cliff recovers 25 barrels**

A contractor working for the Red Cliff Band recovers 25 barrels in the most extensive sampling effort to date. Twenty-two of the twenty-five recovered barrels contain ejection cup assemblies for BLU-4 cluster bombs, with very small live ejection charges still in the assemblies. The live charges are approximately 5 grams, a little less than two tenths of an ounce. Red Cliff had intended to recover 70 barrels, but the discovery of the live ejection charges required considerable red tape to be unravelled before the ejection cup assemblies could be brought ashore and transported. The ejection cup assemblies were repacked in six 85 gallon overpack barrels and returned to the bottom of the lake until necessary permits could be obtained. They were recovered in the summer of 2013 and disposed of without public examination.

**2016 -- Red Cliff acquires additional funds from DoD to continue the barrel sampling**

Red Cliff's most recent effort will apparently expand the search area to attempt to find some of the approximately 800 missing barrels that have never been sampled. A Request for Proposals was published early in 2017, but additional details are not currently available.