State of Utah
Department of Environmental Quality

# Utah Toxic Release Inventory Reporting Year 2010 Executive Summary Report

Division of Environmental Response and Remediation
December 2011

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## EXECUTIVE SUMMARY

### Introduction

Under Section 313 of the federal Emergency Planning and Community Right-to-Know Act (EPCRA) the Toxic Release Inventory (TRI) is a compilation of data submitted by certain facilities subject to the reporting requirements of EPCRA. TRI data provides select information of a finite list of chemicals defined by the statute concerning releases and transfers into the environment, and the transfers of chemicals to other off-site facilities for final disposition. Section 313 requires a facility to submit TRI data to the U.S. Environmental Protection Agency (EPA) and the State Hazardous Chemical Emergency Response Commission (SERC). This report is a summary of the data submitted to the Utah Department of Environmental Quality (DEQ) for calendar year 2010. TRI information includes only selected industrial sectors using larger volumes of certain listed chemicals. Therefore, TRI data may only include a relatively small portion of all chemical releases of environmental significance. TRI data can be used to provide basic information on the types and volumes of waste and emissions at a facility, but the data must be used with other concentration, migration, environmental target, and exposure information to assess the relative level of human health or environmental risk.

Beginning in 2002, EPA made preliminary TRI data available via the internet. Persons interested may query data using a variety of query tools to retrieve multiple facility data across multiple years of reporting. In 2002, EPA began publishing state fact sheets which provide a summary of TRI data for each state.

Beginning with Reporting Year 2006, Utah started participating in the State Data Exchange Network-National Environment Information Exchange Network (SDX). This partnership provides DEQ the mechanism to receive TRI data directly from EPA, and beginning with the RY2006 data, it is now the exclusive source of TRI data to the State of Utah where it is retained in the Utah Data Management System (Utah DMS).

It is traditionally the practice of EPA to "freeze"[1] TRI data several months after the data are received on or before the annual July 1 submission deadline. TRI data, including revision data, may be submitted by a facility at any time during the calendar year. These data are processed dynamically at the EPA Data Processing Center and are transmitted virtually in real-time to the Utah data-server. Utah does not freeze the Utah data set received from EPA. Information offered in this report reflects the presentation of all data and the statistical analyses reflects a compilation of all data within the Utah DMS received at the time the statistical tables and charts are produced.

[1] Freeze – TRI data submissions or revisions submitted after the date on which EPA sets a freeze on the dataset are not used in the final statistical calculations published in the annual EPA TRI report.

## Duplicate Amounts Reduction Calculation

EPA incorporates a correction calculation for data that has been "double-counted." Double counting is the term applied by EPA to amounts of waste that have effectively been reported two times.[2] In the last year the Utah system has been modified to perform a similar correction calculation and for this reason totals related to select categories (e.g. total off-site transfers) show more consistent values with those reported by EPA.

## Excluded Data

Several issues remain that prevent the Utah system from matching the EPA data exactly. At the present time there are six facilities that cannot be loaded into the Utah system. These six facilities exist as 3 pairs of two, related facilities. Each facility submits TRI separately, however, each paired facility submits under the same TRI Facility Identification number. The Utah system does not currently accommodate this circumstance, so these facilities and other data could not be loaded. The paired facilities are as follows: pair 1 - U.S. Army Tooele Army Depot and U.S. Army Tooele Army Depot Munition Treatment; pair 2 – Gossner Foods Inc. (Cheese) and Gossner Foods Inc. (Grade A); and pair 3 – Graymont Western U.S., Inc. Cricket Mountain Lime Production, and Graymont Western U.S., Inc. Cricket Mountain Quarry.

EPA makes TRI data available on the internet for past report years with the exception of the current dataset reported. These datasets serve as an independent source to cross-check past years. The current report year data set is made available to the public after it is announced by EPA via the TRI National Analysis.

## 2010 TRI Summary

For RY2010, 175 facilities filed a total of 769 chemical forms under the federal TRI program. A total of 154 unique chemicals or chemical categories were also reported.

## Total Releases

Total on-site and off-site release amounts reported by all facilities reporting TRI in Utah for RY2010 increased 24.6%. The amount of total releases reported in RY2009 was 171.6 million pounds. Total releases reported in RY2010 were 213.6 million pounds showing a net increase of about 42 million pounds.

## Releases to Air (on-site)

The total TRI release to air reported by Utah facilities in 2010 increased by 23.9%. The total release to air amount reported in 2009 was 6.9 million pounds. Total amount released to air reported in 2010 is 8.5 million pounds showing an increase of approximately 1.6 million pounds.

[2] 2010 State Fact Sheet (see end notes, weblink: http://iaspub.epa.gov/triexplorer/tri_broker_statefs.broker?p_view=STCO&trilib=TRIQ1&state=UT&SFS=YES&year=2010).

**Releases to Land (on-site)**

In RY2010 total chemical releases to land increased by approximately 24.9%. Total releases to land in report year 2009 were 161.6 million pounds. Releases for RY2010 totaled 201.9 million pounds resulting in a net increase of 40.3 million pounds.

Kennecott facilities comprise the largest single-source quantity of amount reported for releases to land in Utah. The combined release reported by Kennecott facilities for releases to land in 2009 totaled 147.9 million pounds. The combined release reported by Kennecott facilities for releases to land in 2010 totaled 184.7 million pounds. This is an increase of 36.8 million pounds representing a 24.9 % increase for Kennecott facilities. The increase in tonnage is attributable to an increase in the amount of material placed and an increase in the constituent concentrations primarily for copper and lead.

**Releases to Surface Water (on-site)**

Total releases to surface water in 2009 were reported at 101,109 pounds. In RY2010 releases to surface water were reported at 102,145 pounds showing an increase by approximately 1%.

For RY2010 Chevron Products Company reported a release of approximately 90,500 pounds contributing 88.7% of the total. Almost 98 percent of the total poundage released to surface water by Chevron is comprised of nitrate compounds. Kennecott facilities reported 10,620 pounds for various TRI chemicals. The combined amounts reported from these two facilities comprise 99.1% of the total quantities released to surface waters statewide.

**Transfers to POTWs**

Publicly Owned Treatment Works (POTWs) are wastewater treatment plants. Transfers reported to POTWs in RY2010 decreased by 1.6%. Transfers to POTWs reported in 2009 totaled 1.48 million pounds. Transfers reported in 2010 were 1.46 million pounds showing a decrease of about 24,100 pounds. Nitrates constitute about 79.7% of the total chemicals transferred to POTWs. The remaining percentage consists of ammonia and nitric acid and smaller amounts of volatile organic chemicals and a variety of other chemicals in small percentages.

TRI-reported releases to POTWs do not include information concerning the rate of release or concentrations of chemicals in the release. However, state and federal law requires industrial facilities with wastewater flows exceeding federally established chemical concentrations to operate industrial pretreatment equipment to reduce such concentrations below harmful levels before discharging to the POTWs.

**Total Off-site Transfers**

Transfers of TRI chemicals to “other off-site” locations are transfers to facilities other than POTWs. Often these facilities include chemical recyclers and waste disposal sites. The amount of chemicals reported transferred off-site in 2010 decreased by 3.6%. The amount of other off-site transfers reported in 2009 was 16.7 million pounds. Total off-site transfers reported in 2010 were 16.1 million pounds.

**Persistent Bioaccumulative Toxic (PBT) Chemicals – Dioxin & Dioxin-Like Compounds**

For 2010, the amount of PBT Dioxin & dioxin-like compounds released increased by 87.3%. Dioxin and dioxin-like compounds were reported at 4,372 grams in 2009, and 8,190 grams in 2010. The total release amount reported to land comprises greater than 99% of the total release amount.

In 2010 US Magnesium reported approximately 8,158 grams of dioxin and dioxin-like chemicals. This amount constitutes greater than 99% of the total quantity reported.

## ABOUT THE TRI PROGRAM

### What is the Toxic Release Inventory?

The Toxic Release Inventory (TRI) is a database providing information about releases of certain TRI program specific chemicals and chemical categories into the environment, and transfers to off-site facilities by facilities that manufacture, process, or otherwise use Section 313 chemicals. Nationally, a facility subject to the Emergency Planning and Community Right to Know Act (EPCRA) reports TRI information annually to the U.S. Environmental Protection Agency (EPA) and to the state in which it is located. The Utah Hazardous Chemical Emergency Response Commission (more commonly known as the State Emergency Response Commission - SERC) was established under Utah Code Ann. §63-5-5. The Utah Department of Environmental Quality (UDEQ) acts on behalf of the SERC to administer the EPCRA program in Utah and manage all associated data submitted by facilities subject to the reporting requirements of EPCRA. TRI data must be submitted annually by July 1 for the previous calendar year. This report is a summary of data submitted to the UDEQ for EPCRA RY2010.

### Who Must Report to TRI?

A facility must report to TRI if it:

- Conducts operations within specified Standard Industrial Classification (SIC) Codes;
- Has 10 or more full-time employees (or equivalent); and,
- Manufactures or processes more than 25,000 pounds or uses more than 10,000 pounds of any TRI listed chemical during the calendar year.

TRI data only includes reports from manufacturing facilities, federally owned facilities, coal mining, metal mining, electrical generation facilities combusting coal or oil, hazardous waste disposal, wholesale bulk petroleum distribution, chemical wholesale distribution, and solvent recycling.

### What Type of Information Must Be Reported?

A facility must report the following information:

- Amount of each listed chemical released to the air, water, or soil;
- Amount of each listed chemical transferred off-site or sent to a wastewater treatment plant;
- Amount of each listed chemical recycled, treated, or disposed; and,
- Facility's pollution reduction activities.

### What Types of Chemicals are Subject to Reporting?

Over 600 chemicals and chemical categories were included in the reporting list for 2009, based on acute or chronic human health or environmental effects. Pursuant to the federal EPA TRI program, no new chemicals were added to the list for RY2010. TRI program specific chemicals are listed under Title 40 of the Code of Federal Regulations Part 372. For additional information on chemicals subject to reporting under TRI, visit EPA's website at

http://www.epa.gov/tri/trichemicals/index.htm. Changes promulgated by EPA to the TRI program, (i.e., additions or deletions of TRI program chemicals or chemical categories) are published in the Federal Register and updated annually in the Code of Federal Regulations.

**What Are the Benefits and Uses of TRI Data?**

TRI data can be used in a variety of ways:

- The public can use TRI data to identify potential concerns.
- Government can use TRI data to evaluate environmental programs and establish regulatory priorities.
- The data can be used to provide basic information on the types and volumes of waste being generated or managed at a facility and, in conjunction with other data, can be utilized to study and identify potential hazards to public health or the environment.
- Industry can use TRI data to establish release reduction targets and document release reduction progress.

**What Are the Limitations of the Data?**

- *Not All Toxic Releases/Transfers Are Reported.* Only a few sectors of industry are currently required to submit TRI reports. Thus, only a portion of all chemical releases or transfers is included in the inventory. Additionally, the list of chemicals for which reporting is required is not inclusive of all chemicals known to have significant public health or environmental impact.

- *Reported Release/Transfer Totals Usually Are Based on Estimations Only.* No special monitoring is required to calculate emission or transfer totals. Reported data is often based on estimations.

- *Smaller Release Totals Are Reported as Ranges, Not Exact Numbers.* If a chemical release or transfer estimate was below 1,000 pounds, companies were allowed to report ranges of 1-10, 11-499, and 500-999 pounds. In such cases, the mid-point of the range was entered into Utah's database. These estimations may, therefore, be above or below the actual figure.

- *TRI Statewide Totals Cannot Be Compared Easily From Year to Year.* The TRI list of chemicals requiring reporting and methods requiring the estimating of emissions have changed significantly through the history of the TRI reporting program. Facilities may meet the TRI reporting requirements and submit TRI reports for some years and not others. These changes make accurate multi-year comparisons of statewide release or transfer totals very difficult.

**What Cautions Should Be Used in Interpreting TRI Data?**

- *TRI Reports Releases, Not Exposures.* Release estimates alone are not sufficient to determine exposure, risk of exposure, or calculate potential adverse human health or environmental affects.

- *TRI Does Not Report Concentrations.* TRI emission totals do not include information on the concentration of chemicals in air, water, or wastes placed on land. A large release may be a large volume at low concentration.

- *TRI Releases Are Often Permitted by State or Federal Law*. TRI releases are often permitted by state or federal environmental agencies after an evaluation has concluded the release will not adversely affect human health or the environment.

**Changes to the Regulations**

- There were no significant changes in the TRI reporting rules for RY2010.
- Announcement - there is a change pending in the TRI reporting of hydrogen sulfide. This change is scheduled to take effect beginning with RY2011. The summary follows:
    - EPA has lifted the Administrative Stay of the Emergency Planning and Community Right-to-Know Act (EPCRA) section 313 toxic chemical release reporting requirements for hydrogen sulfide. This action is effective on October 17, 2011. First reports on hydrogen sulfide will be due on July 1, 2013 for reporting year 2012.
- This announcement was published by EPA in the Federal Register / Vol. 76, No. 200 / Monday, October 17, 2011. This notice is presented on the F.R. beginning on p. 64022, and ends on p. 64037. It can be viewed beginning from the federal government printing office website at http://www.gpoaccess.gov/fr/retrieve.html. After navigating to this page, select Federal Register Volume 2011 Federal Register, Vol. 76. via radio button. At the bottom of the radio-button list enter page number: *64022* and click **Submit** (quotes are not necessary).

**How Can the Public Obtain TRI Information?**

The EPA offers access to downloadable TRI data through a variety of links beginning on the EPA website at:

- www.epa.gov/tri

TRI data for a single facility may be obtained from Utah by submitting a written request via the Utah Government Records Access Management Act (GRAMA) to:

Attention: GRAMA Coordinator
Utah Division of Environmental Response and Remediation
195 North 1950 West, 1st Floor
P.O. Box 144840
Salt Lake City, Utah 84114-4840

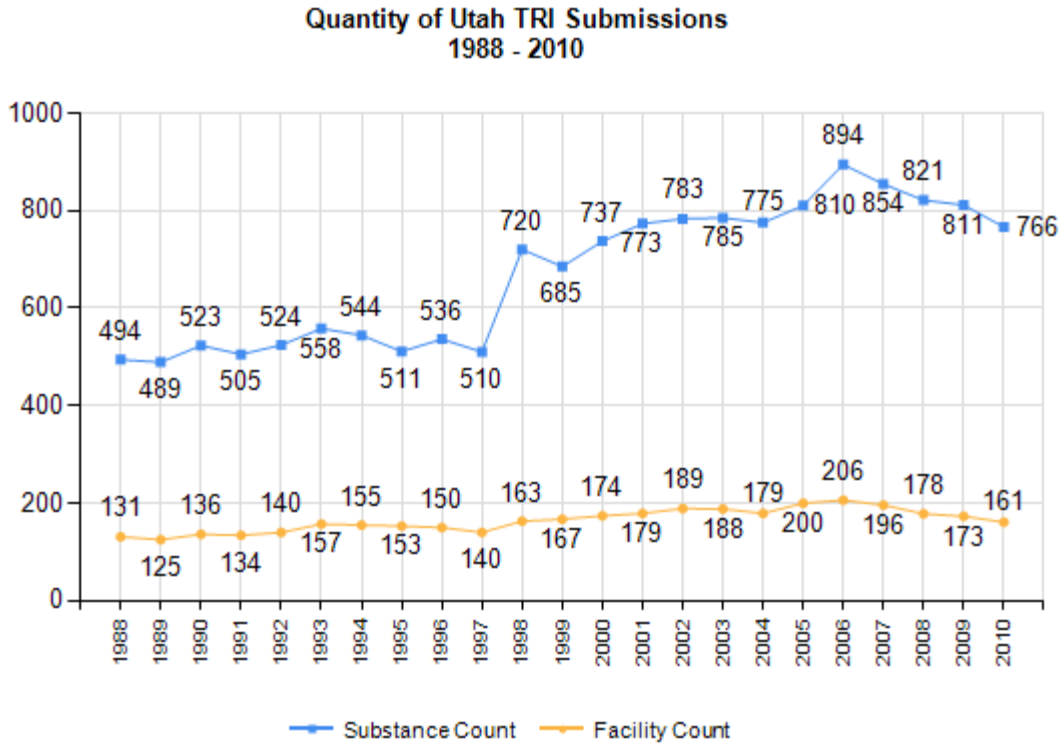
Data is now received by Utah via electronic transmission. A customer may choose to have pages copied by a DERR employee at a cost of $0.25 per single-sided page. Pages copied by the customer are $0.05 per single-sided page with the first 10 pages free. Specialized computer summaries are available for a fee charged at an hourly rate. Most specialized reports require less than one hour's time to create. Please call UDEQ (801-536-4100) for current hourly rates.

## FIGURES AND TABLES ILLUSTRATING TRI DATA FOR RY2010

The following pages contain the relevant figures and tables that summarize the TRI data for RY2010 submitted by various facilities required to report releases in Utah. Data are presented under headings that describe general categories for discussion.

## GENERAL STATISTICS

**FIGURE 1**

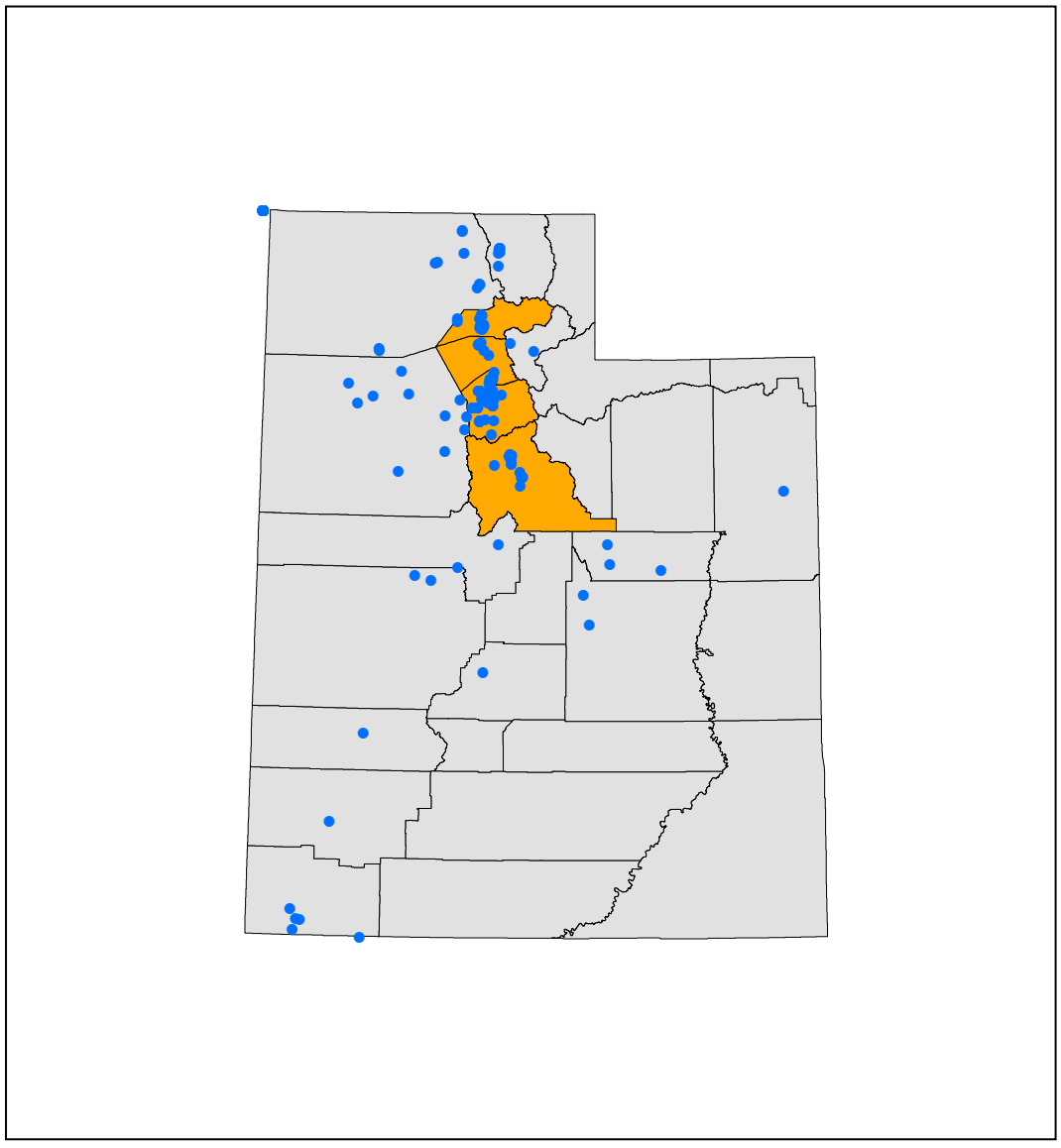


## FACILITY LOCATION

Each facility reports its latitude and longitude as part of the TRI submission. Figure 2 shows the geographic distribution of TRI sites across Utah. For purposes of reporting, the Wasatch Front is comprised of Weber, Davis, Salt Lake and Utah Counties. Facilities along the Wasatch Front comprise 62 % of all facilities (109 of 175) reporting in Utah in RY2010 while the Wasatch Front contributes 56% of all chemical forms (426 of 766) submitted.

**FIGURE 2**

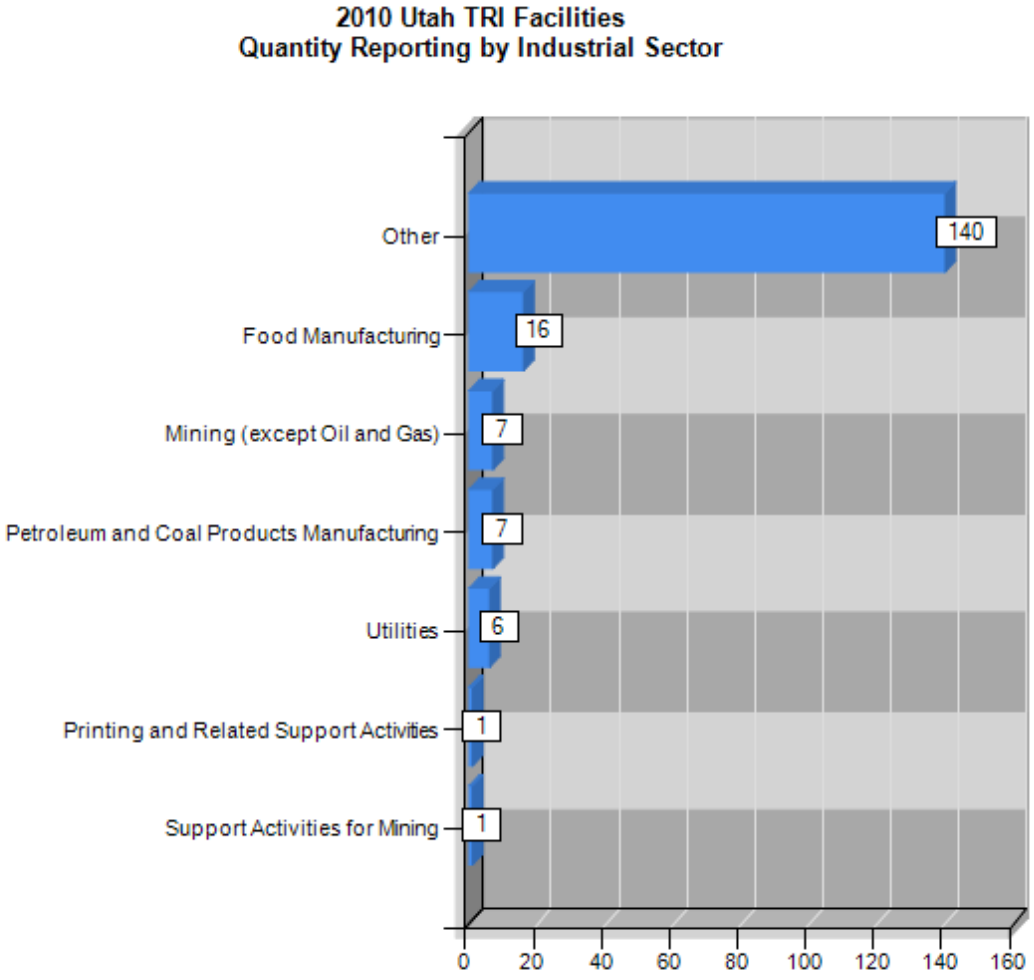
**Utah 2010 TRI FACILITY LOCATIONS & WASATCH FRONT**



## INDUSTRIAL SECTORS

This figure shows a breakdown of industrial sectors reporting TRI data.

**FIGURE 3**



## TOTAL RELEASES

The following section shows figures and tables related to total releases reported in Utah.

**FIGURE 4**

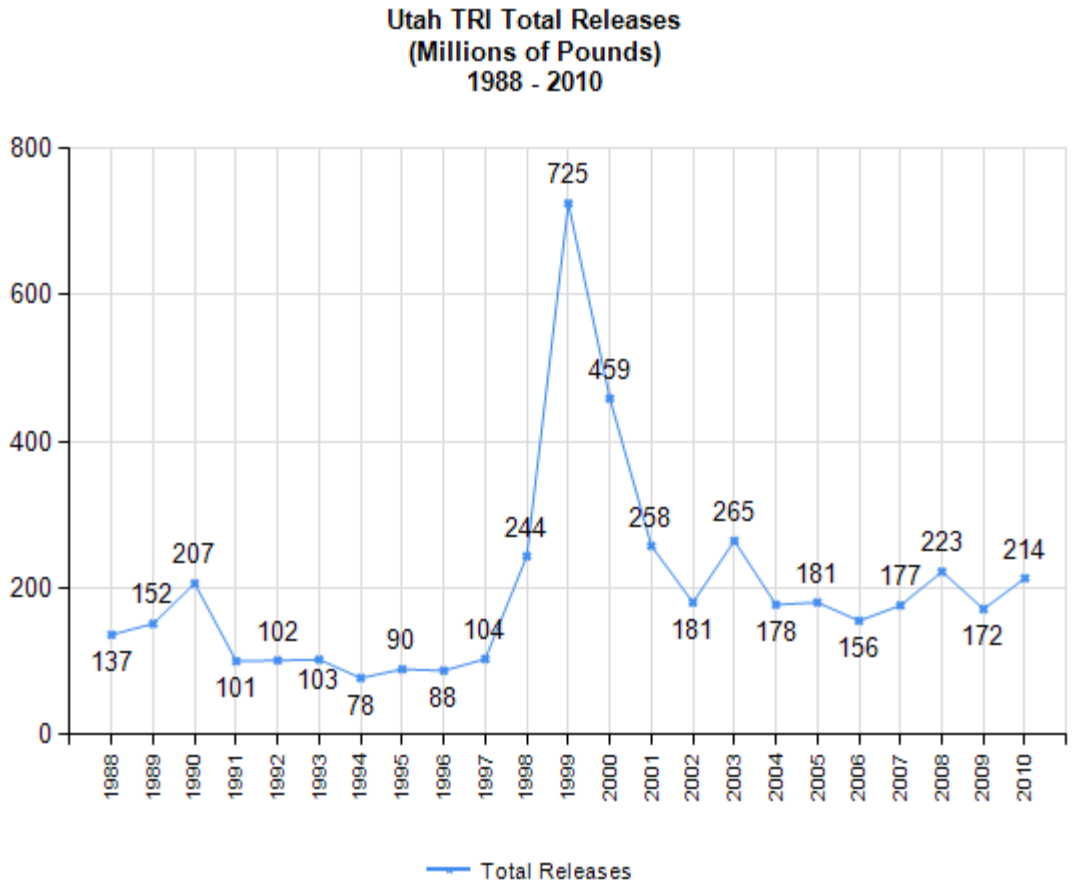


**TABLE 1**

TOP FACILITIES
Total On-site and Off-site Releases
(Reporting equal to or greater than 1 million pounds)

| | Facility Name | Pounds/Year |
|---|---|---|
| 1 | KENNECOTT UTAH COPPER MINE, CONCENTRATORS, & POWER PLANT | 160,841,553 |
| 2 | KENNECOTT UTAH COPPER SMELTER & REFINERY | 23,993,522 |
| 3 | US MAGNESIUM, LLC | 5,456,428 |
| 4 | ENERGY SOLUTIONS LLC | 3,703,824 |
| 5 | NUCOR STEEL - A DIVISION OF NUCOR CORPORATION | 3,307,908 |
| 6 | CLEAN HARBORS GRASSY MOUNTAIN, LLC | 3,161,602 |
| 7 | INTERMOUNTAIN POWER GENERATING STATION | 1,973,690 |
| 8 | BONANZA POWER PLANT | 1,858,120 |
| 9 | PACIFICORP - HUNTINGTON PLANT | 1,270,084 |
| 10 | PACIFICORP HUNTER PLANT | 1,111,228 |
| 11 | CLEAN HARBORS ARAGONITE, LLC. | 1,064,274 |

**TABLE 2**

Top Chemicals - Total On-site and Off-site Chemical Releases
(Reported in an amount equal to or greater than 1 million pounds)

| | Chemical Name | Lbs/Year |
|---|---|---|
| 1 | Lead Compounds | 66,669,999 |
| 2 | Copper Compounds | 58,028,371 |
| 3 | Manganese Compounds | 38,348,471 |
| 4 | Chromium Compounds | 15,521,577 |
| 5 | Zinc Compounds | 6,622,552 |
| 6 | Barium Compounds | 4,646,310 |
| 7 | Chlorine | 4,122,933 |
| 8 | Arsenic Compounds | 3,734,268 |
| 9 | Nickel Compounds | 3,482,904 |
| 10 | Hydrochloric acid | 2,782,847 |
| 11 | Polychlorinated Biphenyls (PCBs) | 1,492,302 |
| 12 | Ammonia | 1,460,558 |

**TABLE 3**

Top Facilities - Total On-site Releases
(Equal to or greater than 1 million pounds)

| | Facility Name | Lbs/Year |
|---|---|---|
| 1 | KENNECOTT UTAH COPPER MINE, CONCENTRATORS, & POWER PLANT | 160,821,285 |
| 2 | KENNECOTT UTAH COPPER SMELTER & REFINERY | 23,981,811 |
| 3 | US MAGNESIUM, LLC | 5,456,406 |
| 4 | ENERGY SOLUTIONS LLC | 3,703,824 |
| 5 | CLEAN HARBORS GRASSY MOUNTAIN, LLC | 3,161,602 |
| 6 | NUCOR STEEL - A DIVISION OF NUCOR CORPORATION | 2,010,485 |
| 7 | INTERMOUNTAIN POWER GENERATING STATION | 1,973,690 |
| 8 | BONANZA POWER PLANT | 1,858,120 |
| 9 | PACIFICORP - HUNTINGTON PLANT | 1,270,045 |
| 10 | PACIFICORP HUNTER PLANT | 1,110,581 |

**TABLE 4**

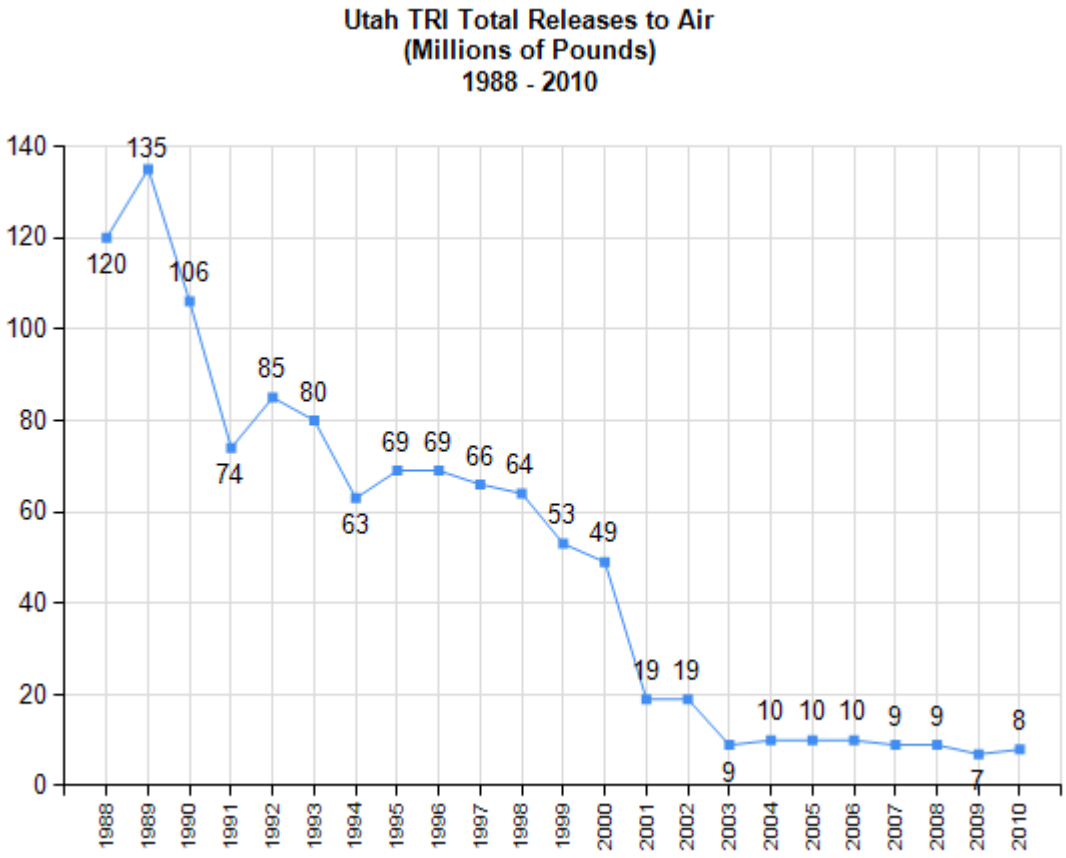
Top Chemicals - Total On-site Chemical Releases

| | Chemical Name | Lbs/Year |
|---|---|---|
| 1 | Lead Compounds | 66,312,211 |
| 2 | Copper Compounds | 57,921,145 |
| 3 | Manganese Compounds | 38,208,092 |
| 4 | Chromium Compounds | 15,334,260 |
| 5 | Zinc Compounds | 5,440,847 |
| 6 | Barium Compounds | 4,623,130 |
| 7 | Chlorine | 4,122,933 |
| 8 | Arsenic Compounds | 3,733,816 |
| 9 | Nickel Compounds | 3,480,580 |
| 10 | Hydrochloric acid | 2,782,838 |
| 11 | Polychlorinated Biphenyls (PCBs) | 1,492,302 |
| 12 | Ammonia | 1,460,555 |

## RELEASES TO AIR

This section provides information related to overall releases to air, and additional information about primary facilities contributing to releases to air.

**FIGURE 5**



## TABLE 5

Top 10 Facilities - Total Releases to Air

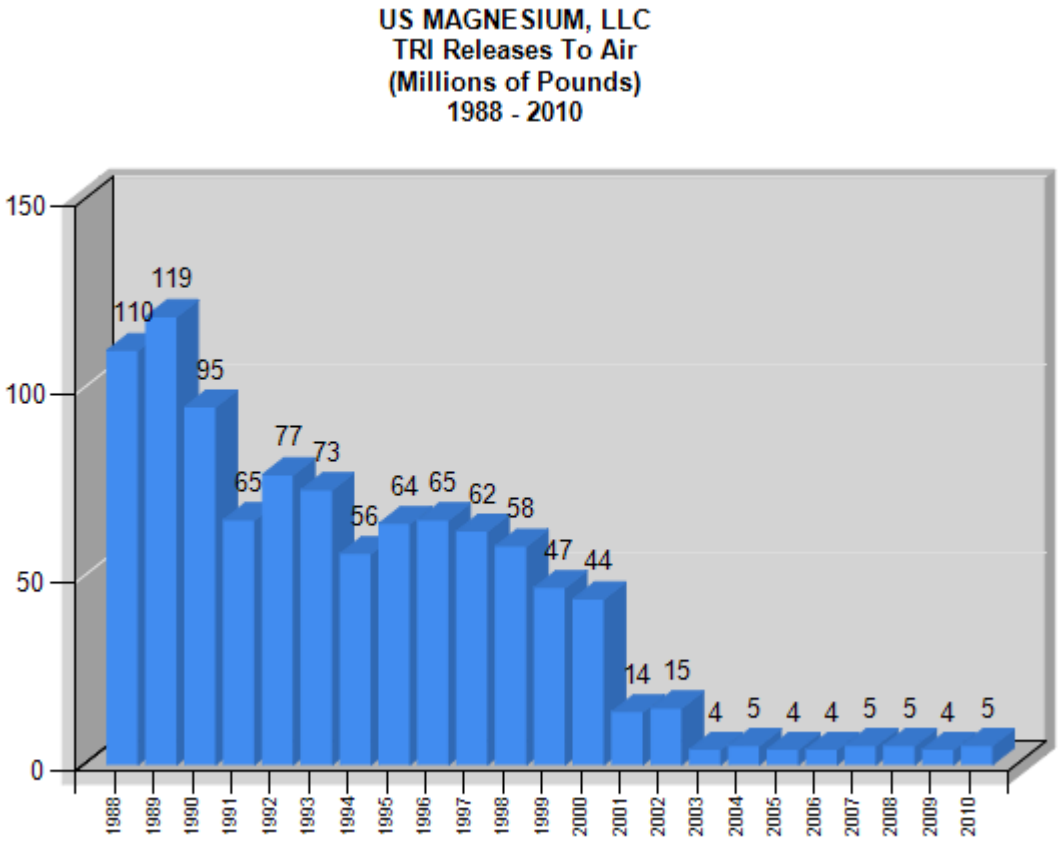
| | Facility Name | Lbs/Year |
|---|---|---|
| 1 | US MAGNESIUM, LLC | 5,454,562 |
| 2 | ATK THIOKOL, PROMONTORY | 781,602 |
| 3 | PACIFICORP - CARBON PLANT | 431,185 |
| 4 | BRUSH RESOURCES INC, MILL | 167,844 |
| 5 | PACIFICORP - HUNTINGTON PLANT | 153,820 |
| 6 | INTERMOUNTAIN POWER GENERATING STATION | 143,294 |
| 7 | HEXCEL CORPORATION | 142,194 |
| 8 | TESORO REFINING AND MARKETING COMPANY | 140,630 |
| 9 | U.S. DOD USAF OGDEN AIR LOGIST ICS CENTER | 136,808 |
| 10 | PACIFICORP HUNTER PLANT | 108,256 |
| 11 | KENNECOTT UTAH COPPER SMELTER & REFINERY | 106,773 |

## TABLE 6

Top 10 Chemicals - Total Releases to Air

| | Chemical Name | Lbs/Year |
|---|---|---|
| 1 | Chlorine | 4,122,933 |
| 2 | Hydrochloric acid | 2,781,840 |
| 3 | Ammonia | 399,428 |
| 4 | Hydrofluoric acid | 236,105 |
| 5 | Sulfuric acid | 172,062 |
| 6 | Methylene chloride | 90,961 |
| 7 | Hexane | 82,271 |
| 8 | Hydrogen cyanide | 74,349 |
| 9 | Toluene | 70,594 |
| 10 | Xylene (mixed) | 60,518 |

**FIGURE 6**




## RELEASES TO LAND

This section presents data related to releases to land and additional information about facilities contributing to releases to land.

Total releases to land reported by all Utah facilities increased by 40.3 million pounds, from 161.6 million pounds in RY2009 to 201.9 million pounds in RY2010. This represents an increase of 24.9 percent.

**TABLE 7**

Top 10 Facilities - Total Releases to Land

| | Facility Name | Lbs/Year |
|---|---|---|
| 1 | KENNECOTT UTAH COPPER MINE, CONCENTRATORS, & POWER PLANT | 160,803,131 |
| 2 | KENNECOTT UTAH COPPER SMELTER & REFINERY | 23,869,510 |
| 3 | ENERGY SOLUTIONS LLC | 3,703,824 |
| 4 | CLEAN HARBORS GRASSY MOUNTAIN, LLC | 3,161,551 |
| 5 | NUCOR STEEL - A DIVISION OF NUCOR CORPORATION | 2,003,752 |

| | | |
|---|---|---|
| 6 | INTERMOUNTAIN POWER GENERATING STATION | 1,830,397 |
| 7 | BONANZA POWER PLANT | 1,807,791 |
| 8 | PACIFICORP - HUNTINGTON PLANT | 1,116,225 |
| 9 | PACIFICORP HUNTER PLANT | 1,002,325 |
| 10 | WESTERN ZIRCONIUM | 833,538 |

**TABLE 8**

Top 10 Chemicals - Total Releases to Land

| | Chemical Name | Lbs/Year |
|---|---|---|
| 1 | Lead Compounds | 66,303,648 |
| 2 | Copper Compounds | 57,882,736 |
| 3 | Manganese Compounds | 38,194,571 |
| 4 | Chromium Compounds | 15,330,718 |
| 5 | Zinc Compounds | 5,428,542 |
| 6 | Barium Compounds | 4,618,987 |
| 7 | Arsenic Compounds | 3,728,967 |
| 8 | Nickel Compounds | 3,478,222 |
| 9 | Polychlorinated Biphenyls (PCBs) | 1,492,300 |
| 10 | Ammonia | 1,059,511 |

## Mining

Four mining facilities reported under the TRI program for RY2010:

1. Kennecott Utah Copper Mine, Concentrators & Power Plant
2. Brush Resources, Inc., Mill
3. Kennecott Barneys Canyon Mining Company
4. Lisbon Valley Mining Company

## Kennecott Facilities

Kennecott Utah Copper (KUC) operates through three facilities:

1. Barney's Canyon Mine (Barney's);
2. Mine, Concentrators & Power Plant (MCPP); and
3. Smelter & Refinery (S&R).

Primary operations for each facility, respectively, are gold ore mining, copper ore and nickel ore mining, and smelting and refining. The MCPP facility is one of the world's largest open pit mines. KUC conducts extensive mining, milling, smelting, and refining operations in western Salt Lake County. MCPP extracts millions of tons of overburden, waste rock, and ore during

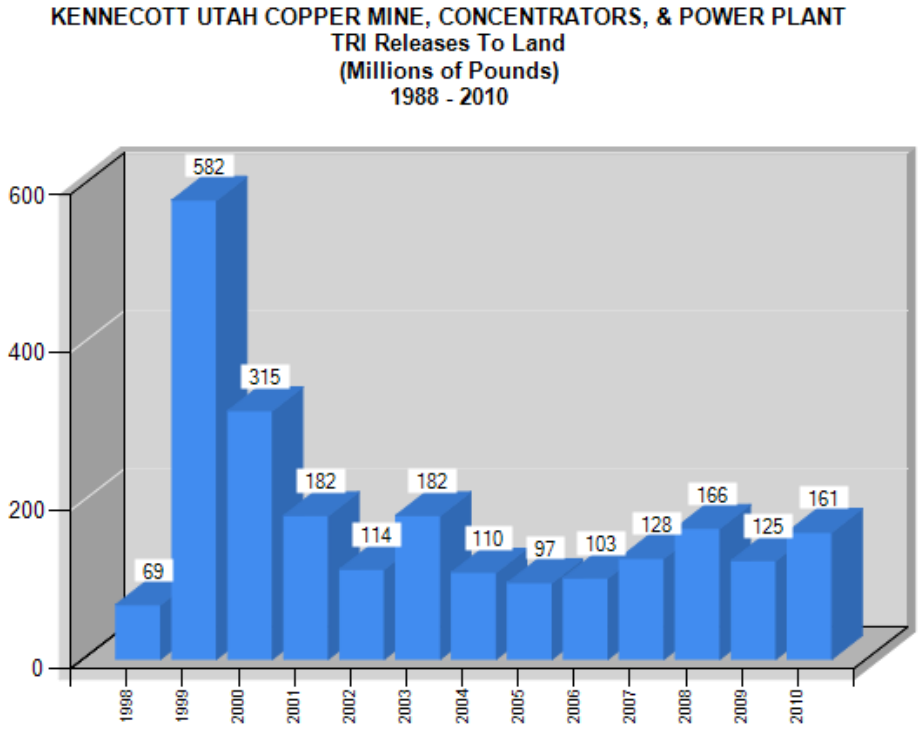
annual operations. Ore is concentrated and transported by pipeline to the smelter, which produces copper and gold. Sulfuric acid is also produced during the process.

Two of the three KUC facilities, the MCPP, and the S&R contribute 79.7 percent and 11.8 percent respectively, for a total combined contribution of 91.5 percent of all reported releases to land by all Utah facilities.

Total releases to land reported by Kennecott facilities increased by 36.8 million pounds. Kennecott reported that the percentage increases or decreases are directly attributable to the changes in the concentration of constituents in the mined material along with the volumetric amount of material mined.[3] As the natural composition of materials being mined changes so do the total pounds reported in TRI data.

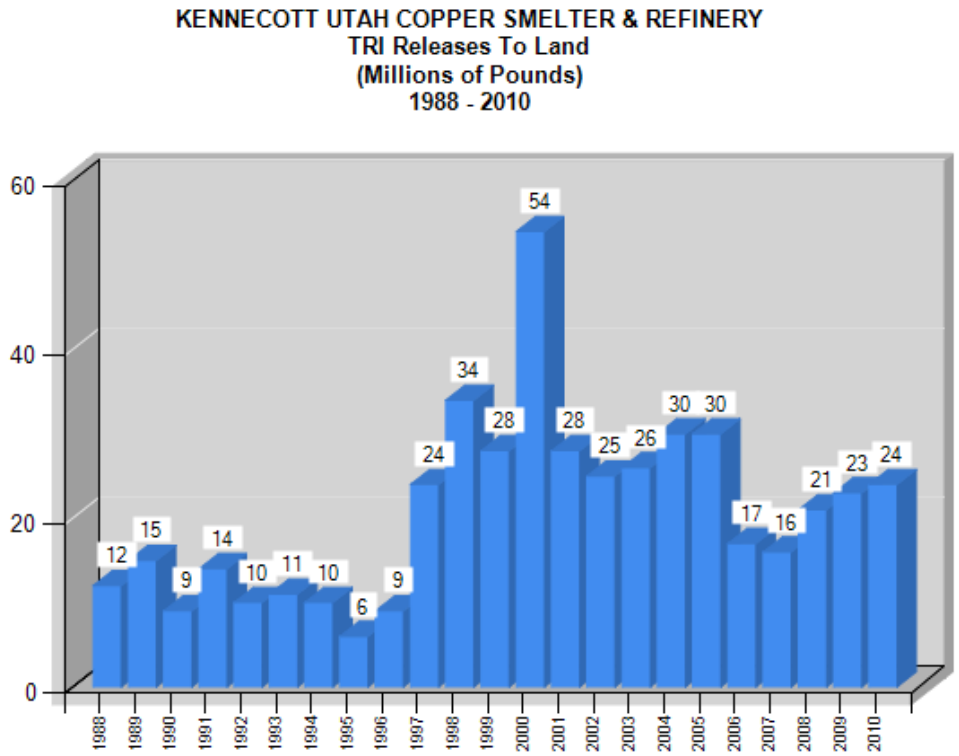
Figures 7 and 8 below show the trend of annual release amounts to land reported by the Kennecott MCPP, and S&R facilities.

**FIGURE 7**




[3] Electronic correspondence from Kennecott Utah Copper (Nov. 17, 2011)

## FIGURE 8




### Waste Disposal Facilities

This subsection presents data related to Treatment, Storage and Disposal facilities in Utah.

## TABLE 9

Waste Disposal Facility Releases to Land

| | Facility Name | Lbs/Year |
|---|---|---|
| 1 | ENERGY SOLUTIONS LLC | 3,703,824 |
| 2 | CLEAN HARBORS GRASSY MOUNTAIN, LLC | 3,161,551 |

## TABLE 10

Top 10 Chemicals - Releases to Land
From Waste Disposal Facilities

| | Chemical Name | Lbs/Year |
|---|---|---|
| 1 | Polychlorinated Biphenyls (PCBs) | 1,489,983 |
| 2 | Lead Compounds | 1,150,862 |
| 3 | Asbestos | 861,967 |
| 4 | Copper Compounds | 701,015 |
| 5 | Chromium Compounds | 668,019 |
| 6 | Lead | 435,292 |
| 7 | Aluminum oxide | 350,249 |
| 8 | Nickel Compounds | 310,618 |
| 9 | Zinc Compounds | 186,172 |
| 10 | Ethylene glycol | 124,327 |

## FIGURE 9

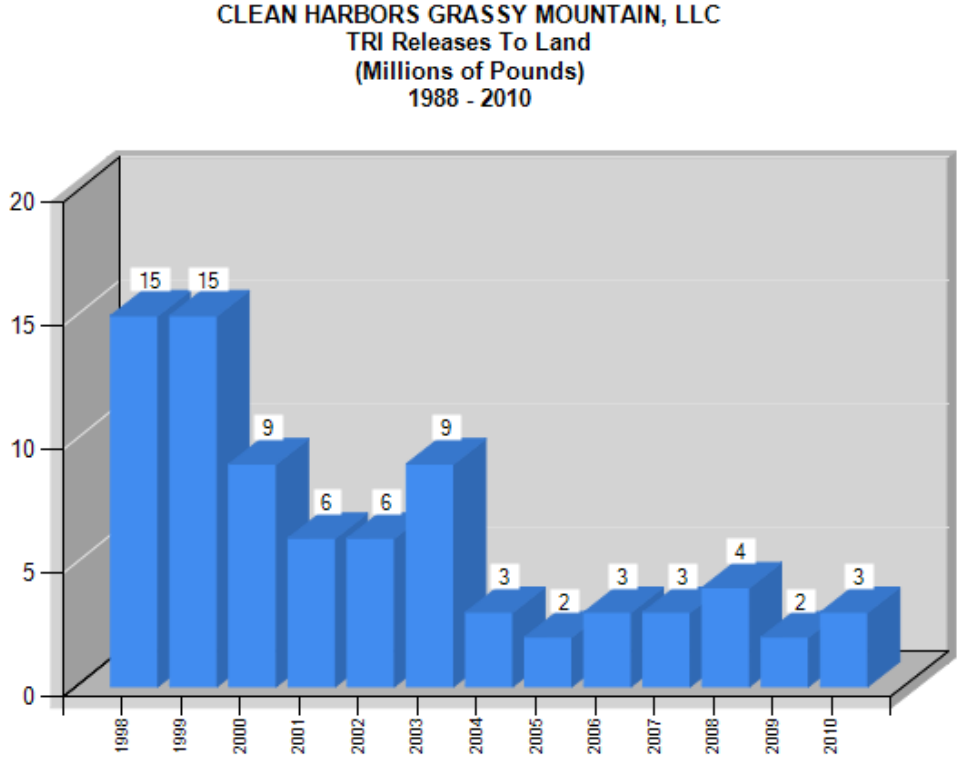
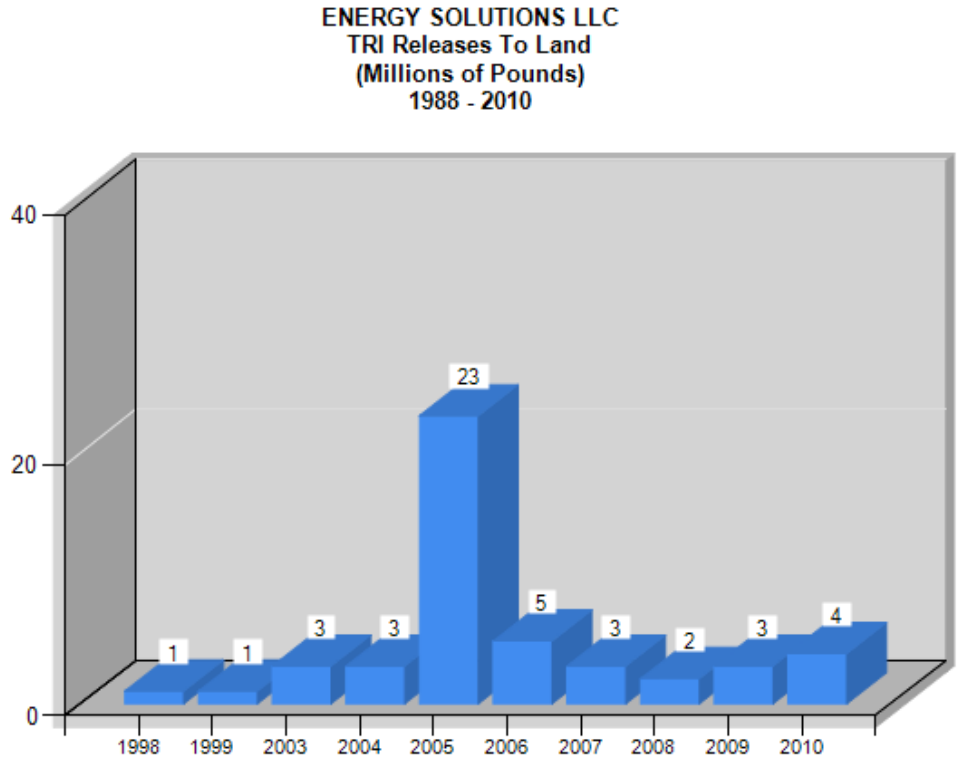


**FIGURE 10**




**Electric Utilities**

This subsection presents the TRI data related to coal-fired utilities.

**TABLE 11**

Coal-Fired Electric Utility Releases to Land by Facility

| | Facility Name | Lbs/Year |
|---|---|---|
| 1 | INTERMOUNTAIN POWER GENERATING STATION | 1,830,397 |
| 2 | BONANZA POWER PLANT | 1,807,791 |
| 3 | PACIFICORP - HUNTINGTON PLANT | 1,116,225 |
| 4 | PACIFICORP HUNTER PLANT | 1,002,325 |
| 5 | PACIFICORP - CARBON PLANT | 126,132 |
| 6 | SUNNYSIDE COGENERATION ASSOCIATES | 13,414 |

**TABLE 12**

Top 10 Chemical Releases to Land
From Coal-Fired Electric Utilities

| | Chemical Name | Lbs/Year |
|---|---|---|
| 1 | Polychlorinated Biphenyls (PCBs) | 1,489,983 |
| 2 | Lead Compounds | 1,150,862 |
| 3 | Asbestos | 861,967 |
| 4 | Copper Compounds | 701,015 |
| 5 | Chromium Compounds | 668,019 |
| 6 | Lead | 435,292 |
| 7 | Aluminum oxide | 350,249 |
| 8 | Nickel Compounds | 310,618 |
| 9 | Zinc Compounds | 186,1720 |
| 10 | Ethylene glycol | 124,327 |

## RELEASES TO SURFACE WATER

This section shows the TRI data related to discharges to surface waters.

**TABLE 13**

Top 3 Facility Releases to Surface Water

| | Facility Name | Lbs/Year |
|---|---|---|
| 1 | CHEVRON PRODUCTS COMPANY- SALT LAKE REFINERY | 90,594 |
| 2 | KENNECOTT UTAH COPPER SMELTER & REFINERY | 5,528 |
| 3 | KENNECOTT UTAH COPPER MINE, CONCENTRATORS, & POWER PLANT | 5,092 |

## TABLE 14

Top 10 Chemical Releases to Surface Water

| | Chemical Name | Lbs/Year |
|---|---|---|
| 1 | Nitrate compounds | 89,927 |
| 2 | Ammonia | 1,616 |
| 3 | Xylene (mixed) | 1,300 |
| 4 | Chromium Compounds | 1,020 |
| 5 | Manganese Compounds | 1,006 |
| 6 | Antimony Compounds | 1,000 |
| 7 | Silver Compounds | 1,000 |
| 8 | Thallium Compounds | 1,000 |
| 9 | Vanadium Compounds | 1,000 |
| 10 | Zinc Compounds | 972 |

## TRANSFERS TO PUBLICLY OWNED TREATMENT WORKS

This section shows data related to Public Owned Treatment Works (POTW).

## TABLE 15

Top 10 Facility Transfers to POTWs

| | Facility Name | Lbs/Year |
|---|---|---|
| 1 | DANNON COMPANY, THE | 214,305 |
| 2 | JOHNSON MATTHEY | 199,698 |
| 3 | MICRON TECHNOLOGY, INC. - LEHI DIVISION | 185,000 |
| 4 | TYCO PRINTED CIRCUIT GROUP, LP ., LOGAN DIVISION | 181,378 |
| 5 | EASTON TECHNICAL PRODUCTS | 152,652 |
| 6 | NESTLE USA - PREPARED FOODS DIVISION, INC. | 108,420 |
| 7 | SCHREIBER FOODS, INC. | 66,359 |
| 8 | FAIRCHILD SEMICONDUCTOR | 59,575 |
| 9 | SMITHS FOOD & DRUG DAIRY DIVISION OF KROGER CORPORATION | 49,867 |
| 10 | GENEVA NITROGEN LLC | 41,250 |

## TABLE 16

Top 10 Chemicals Transferred to POTWs

| | Chemical Name | Lbs/Year |
|---|---|---|
| 1 | Nitrate compounds | 1,164,889 |
| 2 | Nitric acid | 141,206 |
| 3 | Ammonia | 83,579 |
| 4 | Glycol Ethers | 42,957 |
| 5 | Xylene (mixed) | 8,057 |
| 6 | Toluene | 7,169 |
| 7 | Benzene | 4,622 |
| 8 | 1,2,4-Trimethylbenzene | 2,250 |
| 9 | Hexane | 1,000 |
| 10 | Zinc Compounds | 805 |

## UTAH FACILITY TRANSFERS TO OTHER OFF-SITE LOCATIONS

This section presents data showing facilities and chemicals transferred off-site.

## TABLE 17

Top 10 Facilities Transferring Chemicals Off-site

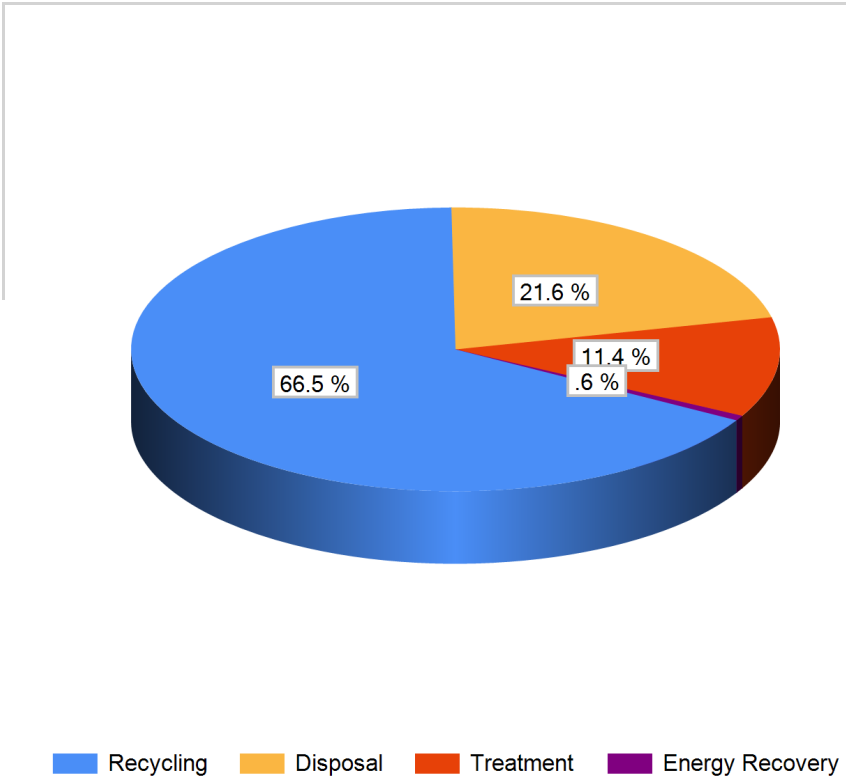
| | Facility Name | Lbs/Year |
|---|---|---|
| 1 | NUCOR STEEL - A DIVISION OF NUCOR CORPORATION | 4,770,730 |
| 2 | CLEAN HARBORS ARAGONITE, LLC. | 2,559,912 |
| 3 | CERROWIRE & CABLE CO. | 1,248,608 |
| 4 | AMICO KLEMP | 1,018,527 |
| 5 | ELKAY WEST | 680,006 |
| 6 | PACIFICORP HUNTER PLANT | 495,510 |
| 7 | THATCHER COMPANY | 416,328 |
| 8 | UNIVERSAL INDUSTRIAL SALES INC | 400,065 |
| 9 | HEXCEL CORPORATION | 342,517 |
| 10 | LIFETIME PRODUCTS INC. | 311,697 |

## TABLE 18

Top 10 Chemicals Transferred to Off-site Facilities

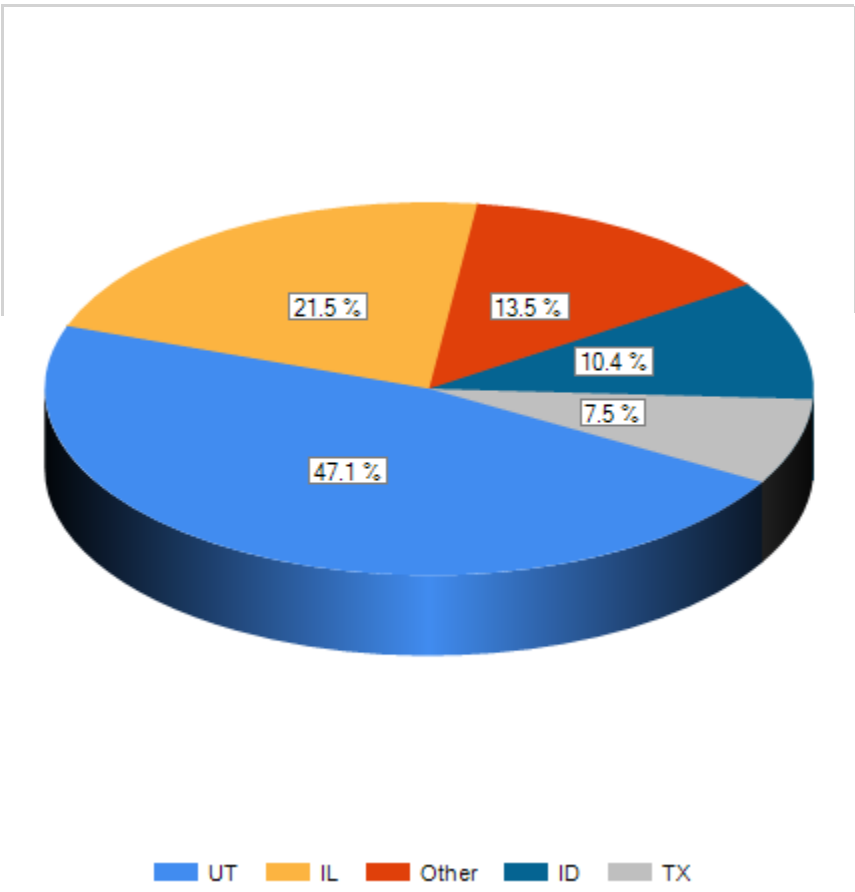
| | Chemical Name | Lbs/Year |
|---|---|---|
| 1 | Zinc Compounds | 4,973,749 |
| 2 | Copper | 1,863,346 |
| 3 | Nitrate compounds | 1,690,212 |
| 4 | Chromium | 930,128 |
| 5 | Copper Compounds | 754,539 |
| 6 | Lead Compounds | 619,655 |
| 7 | Nickel | 507,720 |
| 8 | Manganese | 471,685 |
| 9 | Manganese Compounds | 456,352 |
| 10 | 2,4-D, salts and esters | 370,400 |

**FIGURE 11**
Utah 2010 TRI Chemical Transfers
by Final Disposition Type



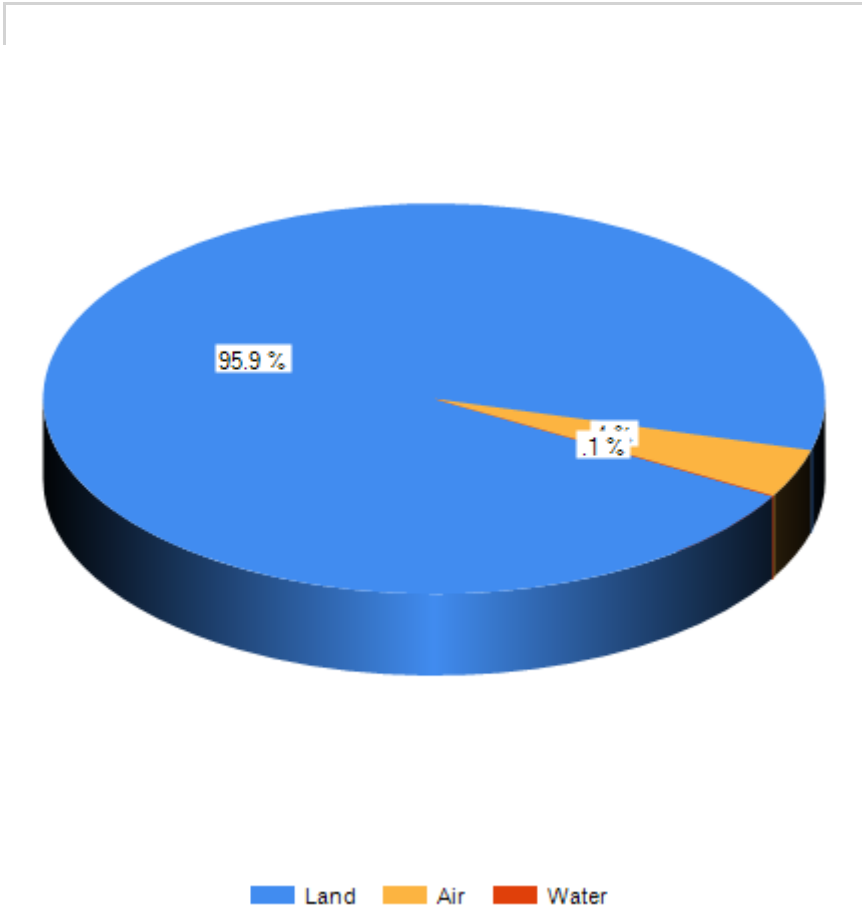

| Disposition | |
|---|---|
| Recycling | 66.5 % |
| Disposal | 21.6 % |
| Treatment | 11.4 % |
| Energy Recovery | 0.6 % |

**FIGURE 12**
2010 Utah TRI Chemicals Transferred
in Utah and to Other States




| State | |
|---|---|
| UT | 47.1 % |
| IL | 21.5 % |
| Other | 13.5 % |
| ID | 10.4 % |
| TX | 7.5 % |

**FIGURE 13**
Utah 2010 TRI Total On-site Releases By Media




| Media | |
|---|---|
| Land | 95.9 % |
| Air | 4 % |
| Water | .1 % |

## PERSISENT BIOACCUMULATIVE TOXIC (PBT) CHEMICALS

The PBT section presents data related to Dioxin and dioxin-like compounds. Dioxins and dioxin-like compounds are reported in grams.

### TABLE 19

Facilities Reporting PBT
Dioxin and Dioxin-Like Compound Releases
(Units in Grams)

| | Facility Name | Water Onsite | Air Onsite | Land Onsite | Total Onsite | Total Offsite | Total Releases |
|---|---|---|---|---|---|---|---|
| 1 | US MAGNESIUM, LLC | 0.00 | 6.45 | 8151.69 | 8,158.14 | 2.04 | 8160.18 |
| 2 | CLEAN HARBORS ARAGONITE, LLC. | 0.00 | 20.64 | 0.00 | 20.64 | 0.00 | 20.64 |
| 3 | WESTERN ZIRCONIUM | 0.00 | 0.00 | 0.13 | 0.13 | 20.20 | 20.33 |
| 4 | INTERMOUNTAIN POWER GENERATING STATION | 0.00 | 1.91 | 6.59 | 8.50 | 0.00 | 8.50 |
| 5 | PACIFICORP HUNTER PLANT | 0.00 | 0.62 | 0.00 | 0.62 | 0.00 | 0.62 |
| 6 | KENNECOTT UTAH COPPER MINE, CONCENTRATORS, & POWER PLANT | 0.00 | 0.52 | 0.00 | 0.52 | 0.00 | 0.52 |
| 7 | SUNNYSIDE COGENERATION ASSOCIATES | 0.00 | 0.51 | 0.00 | 0.51 | 0.00 | 0.51 |
| 8 | PACIFICORP - HUNTINGTON PLANT | 0.00 | 0.43 | 0.00 | 0.43 | 0.00 | 0.43 |
| 9 | CHEVRON PRODUCTS COMPANY- SALT LAKE REFINERY | 0.10 | 0.10 | 0.00 | 0.20 | 0.00 | 0.20 |
| 10 | PACIFICORP - CARBON PLANT | 0.00 | 0.10 | 0.00 | 0.10 | 0.00 | 0.10 |
| 11 | TESORO REFINING AND MARKETING COMPANY | 0.00 | 0.03 | 0.00 | 0.03 | 0.00 | 0.03 |
| 12 | BONANZA POWER PLANT | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 13 | KENNECOTT UTAH COPPER SMELTER & REFINERY | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | **Totals** | **0.10** | **31.31** | **8158.40** | **8,189.81** | **22.24** | **8212.04** |

## SUMMARY

Trends recognized in the Toxic Release Inventory data for RY2010 may be summarized as follows:

- *Total On-site and Off-site Releases* increased by 24.6%. Total releases reported for 2010 were 213.6 million pounds. Total releases reported for 2009 in Utah were 171.6 million pounds. The trend shows an increase of approximately 42 million pounds.

- *Total Releases to Air* increased by 23.2% in 2010. The total amount of releases to air reported was 8.5 million pounds. Chemicals ranked first and second for quantities released to air were chlorine and hydrochloric acid (aerosol forms only), respectively.

- *Total Releases to Land* reported by all Utah facilities increased 40.3 million pounds representing a 24.9% from 161.6 million pounds in 2009 to 201.9 million pounds in 2010. Releases to land reported by Kennecott facilities increased by 36.8 million pounds from 147.9 million pounds in 2009 to 184.7 million pounds in 2010. Kennecott releases comprise 91.5% of all releases to land in RY2010. Kennecott releases to land increased by 24.9%. The increase reported by Kennecott facilities is attributable to an increase in the amount of material placed and an increase in the constituent concentrations primarily for copper and lead.

- *Total Releases to Surfaces Water* increased by 1% from 101,109 pounds in 2009 to 102,145 pounds in 2010. Nitrate compounds comprise 88% of the total release to surface waters statewide.

- *Total Transfers to Publicly Owned Treatment Works* decreased by 1.6% from 1.48 million pounds in 2009 to 1.46 million pounds in 2010.

- *Transfers Off-site* to treatment, storage & disposal facilities, which typically include chemical recyclers and waste disposal facilities, decreased by 3.8% from 16.7 million pounds in 2009 to 16.1 million pounds in 2010.

- The most notable Persistent Bioaccumulative Toxic (PBT) chemical category is dioxin and dioxin-like compounds. Dioxin and dioxin-like compounds are unique in that they comprise the only chemical/chemical category throughout the TRI program in which the releases are reported in grams. Releases of PBT chemicals, dioxin and dioxin-like compounds, showed an increase of 87.3% from 4,372 grams in 2009 to 8,190 grams in 2010. PBT releases to land constitute 99.6% of the total while releases to air make up the remaining 0.4% of all dioxin and dioxin-like chemicals released.