



State of Utah
Department of Environmental Quality

Utah Toxic Release Inventory
Reporting Year 2011
Data Summary Report

Division of Environmental Response and Remediation
December 2012

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EXECUTIVE SUMMARY

Introduction

Under Section 313 of the federal Emergency Planning and Community Right-to-Know Act (ECPRA) 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 for 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 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 reporting year 2011. 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 RY 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 RY2006 SDX is the exclusive source of TRI data to the State of Utah. Data is transmitted electronically to a state server where it is permanently retained.

It is traditionally the practice of EPA to “freeze”¹ TRI data several months after 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. These data are then transmitted in real-time to the Utah data-server. Utah does not freeze the Utah data set. Information offered in this report reflects the presentation of all data and the statistical analyses reflects a compilation of all data within the DEQ data management system received at the time the statistical tables and charts are produced. For reporting year 2011, EPA transmitted a total of 840 chemical submission forms, 745 Form R submissions and 58 Form A submissions, from 185 facilities. Thirty-seven Form R submissions from eight facilities could not be uploaded to our system for compilation. Explanation is provided below under Excluded Data.

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 The Utah system was modified to perform a similar correction calculation beginning in reporting year 2010 data 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 logistical issues remain that prevent the Utah system from matching the EPA data exactly. At the present time there are eight facility data files that cannot be loaded into the Utah system. These facilities exist as four pairs where each facility of a pair is related. Each facility of the pair submits TRI separately, however, each paired facility submits under the same TRI Facility Identification number. The Utah system does not currently accommodate this circumstance and as a result of this conflict, the data submitted by these facilities cannot be loaded into the DEQ data management system. Based on a comparison of EPA and Utah data, EPA received a total of 840 chemical submission from a total of 185 facilities. Utah was able to load 745 out of the 840 chemical submissions (Form R) from 177 facilities.

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

2011 TRI Summary

This report presents data submitted from facilities that are subject to the TRI reporting criteria for releases that occurred for the current report year of January 1 to December 31, 2011 (RY 2011). The deadline for reporting these data was July 1, 2012.

Totals provided in the Executive Summary section narrative of this report are an approximation of the actual release values that have been rounded to simplify presentation. Significant figures are used only when necessary to distinguish a difference that would not be apparent in whole number values. Specific amounts are presented in the tables in the detail summary portion of this report following the Executive Summary.

Data summarized in this report is representative of form uploaded to the Utah system. For the current reporting year, 177 facilities filed a total of 803 chemical submissions under the federal TRI program. Seven hundred forty-five of the total 803 submissions received are Form R forms. A total of 150 unique chemicals or chemical categories were reported.

The Wasatch Front is defined to include Weber, Davis, Salt Lake and Utah counties. The distribution of facilities in these counties is: Davis 21; Salt Lake, 66; Utah, 18; and Weber, 19. The Wasatch Front accounts for slightly more than 70% of all facilities reporting under the TRI program and about 58% of all chemical submissions. While Tooele County has ten facilities

² 2006 State Fact Sheet (see end notes).

participating in the TRI program, these facilities submitted a total of 161 chemical reports or about 20% of all chemical reports submissions statewide.

Total Releases

Total on-site and off-site release amounts reported by all facilities reporting TRI in Utah for the current reporting year increased from 176 million pounds (RY2010) to 198 million pounds showing a net increase of 22 million pounds.

Releases to Air (on-site)

Total TRI releases to air reported by Utah facilities in the current report year increased from 8.5 million pounds to 11.4 million pounds showing an increase of about 2.9 million pounds.

Releases to Land (on-site)

For the current report year, total chemical releases to land increased by 11.1%. Total releases to land increased from 165 million pounds to 183 million pounds resulting in a net increase of 18 million pounds.

Kennecott facilities comprise the largest single-source quantity reported for releases to land. The combined release reported by Kennecott facilities for releases to land increased from 148 million pounds to 169 million pounds. This is an increase of 21 million pounds.

Releases to Surface Water (on-site)

Total releases to surface water increased from 102,000 pounds to 492,000 pounds showing an increase of 390,000 pounds.

For the current report year E.A. Miller (food processing industry) reported a total release of nitrate compounds of slightly less than of 384,000 pounds to surface water which represents approximately 78% of all releases to surface water statewide. Chevron Products Company reported a release of approximately 93,700 pounds contributing about 19% of the total release statewide. Kennecott facilities reported slightly over 13,200 pounds for a variety of TRI chemicals representing about 3% of the statewide release total. The aggregate amounts reported from these three facilities comprise about 99% 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 increased from 1.5 million pounds to 1.8 million pounds showing an increase of about 328,000 pounds. Nitrates constitute about 84% of the total chemicals transferred to POTWs. The remaining percentages are comprised of nitric acid (about 7.5%), ammonia (about 4.2%), glycol ethers (about 2.7%). The remaining amounts are comprised primarily of organic chemicals and metals compounds.

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 increased from 17.7 million pounds to 17.9 million pounds.

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

The total amount of PBT dioxin & dioxin-like compounds reported showed a decrease from 8,212.04 grams last year down to 7,291.26 grams for the current reporting year. This is a reduction of 920.78 grams. The total release amount on-site reported by all facilities was 7,270.06 grams. The distribution of releases onsite by media are 7238.70 grams to land, 31.25 grams to air; and 0.10 grams to water. The total release off-site amount was 21.21 grams.

The total release amount reported by U.S. Magnesium for dioxin and dioxin-like chemicals on-site and off-site is 7,239.14 grams. The total amount reported by U.S. Magnesium comprises 99.3% of the total amount released by all facilities.

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 Emergency Planning and Community Right to Know Act (EPCRA) Section 313 chemicals. Nationally, a facility subject to 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 §63K-3-301. 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 Reporting Year (RY) 2011.

Who Must Report to TRI?

A facility must report to TRI if it:

- Conducts operations within specified Standard Industrial Classification (SIC) Codes or North American Industrial Classification System (NAICS) 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:

- 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?

There are over 600 chemicals and chemical categories subject to reporting under TRI based on acute or chronic human health or environmental effects. 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 as described below:

- 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.
- Data may be reviewed and downloaded from <http://www.epa.gov/tri/tridata/index.html>

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. Conversely a small release could have a relatively high concentration and be more toxic than a larger release.
- *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 are several changes to be announced for reporting under the Toxic Release Inventory program beginning for RY 2012.
- On Monday October 17, 2011 the Environmental Protection Agency (EPA) announced (Federal Register / Vol. 76, No. 200 p. 64023) that EPA is lifting the Administrative Stay of Emergency Planning and Community Right to Know Act (EPCRA) section 313 toxic chemical release reporting requirements for hydrogen sulfide (Chemical Abstracts Service Number (CAS No.) 7783-06-4. This action is effective on October 17, 2011 such that the first reports on hydrogen sulfide will be due on July 1, 2013 for RY 2012.
- The EPA has revised the manner for applying the threshold planning quantities (TPQ) for extremely hazardous substances (EHS) that are non-reactive solid chemicals in solution. The revision allows a facility to apply a 0.2 factor to the amount of solid chemical on site and in solution before determining if the quantity equals or exceeds the lower published TPQ. This rule became effective on April 23, 2012.
- TRI regulations can be reviewed on-line at the following websites:
<http://www.epa.gov/lawsregs/laws/epcra.html> or here <http://www.epa.gov/fedrgstr>.

How Can the Public Obtain TRI Information?

Extracts of TRI information can be obtained from several sources:

- Computer summaries of Utah TRI information or copies of original TRI submissions can be obtained by submitting a written request to:

Utah Division of Environmental Response and Remediation
195 North 1950 West, 1st Floor
P.O. Box 144840
Salt Lake City, Utah 84114-4840
Or email the request to eqderrtier2@utah.gov

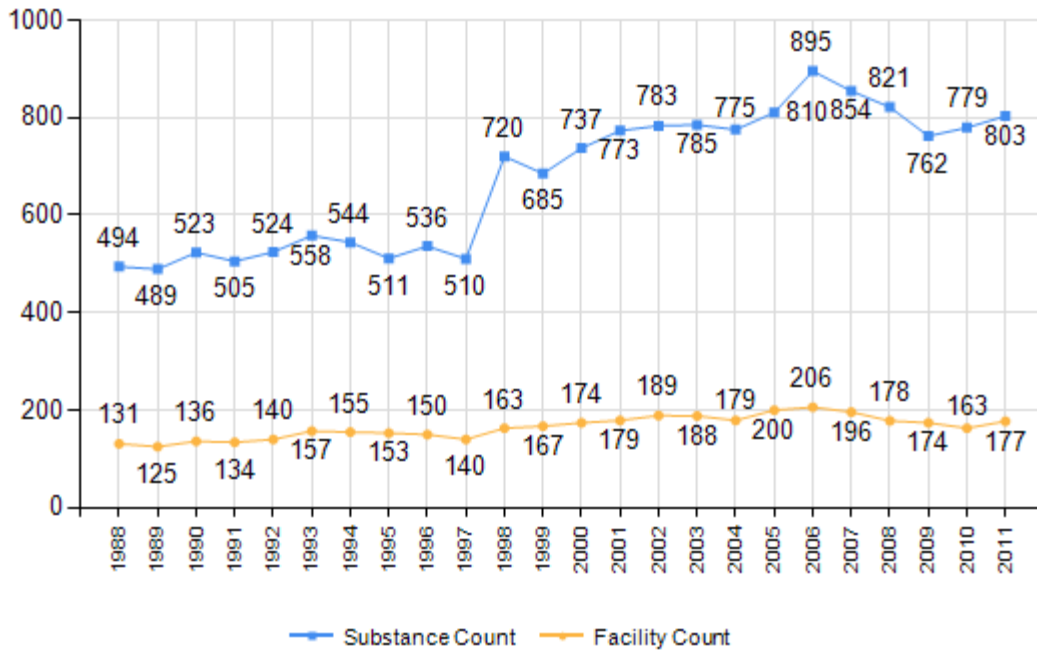
A customer may choose to have pages copied by a DERR employee at a cost of \$0.25 per single-sided page. Pages copied by the customer are \$0.05 per single-sided page with the first 10 pages free. Specialized computer summaries are available for a fee charged at an hourly rate. Most specialized reports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

RELEASE DETAILS: FIGURES AND TABLES ILLUSTRATING RY 2011 TRI DATA

The following pages contain the relevant figures and tables that summarize the TRI data for RY2011. These graphics and tables are compilations made from the data submitted by various facilities in Utah. Data are presented under headings that describe general categories discussed in this report.

GENERAL STATISTICS

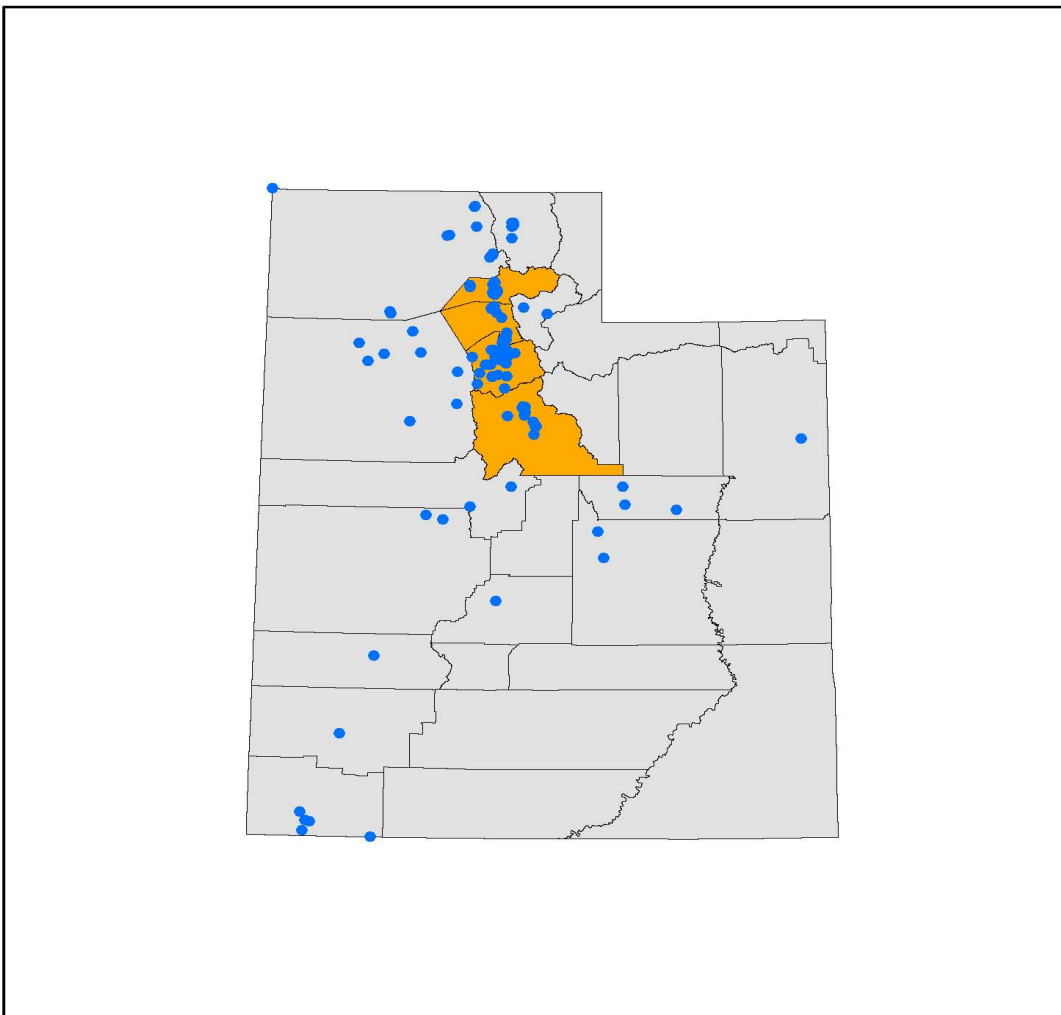
FIGURE 1
Quantity of Utah TRI Submissions
1988 - 2011



Facility Locations

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. In RY 2011 facilities along the Wasatch Front comprise 67% of all facilities in the state.

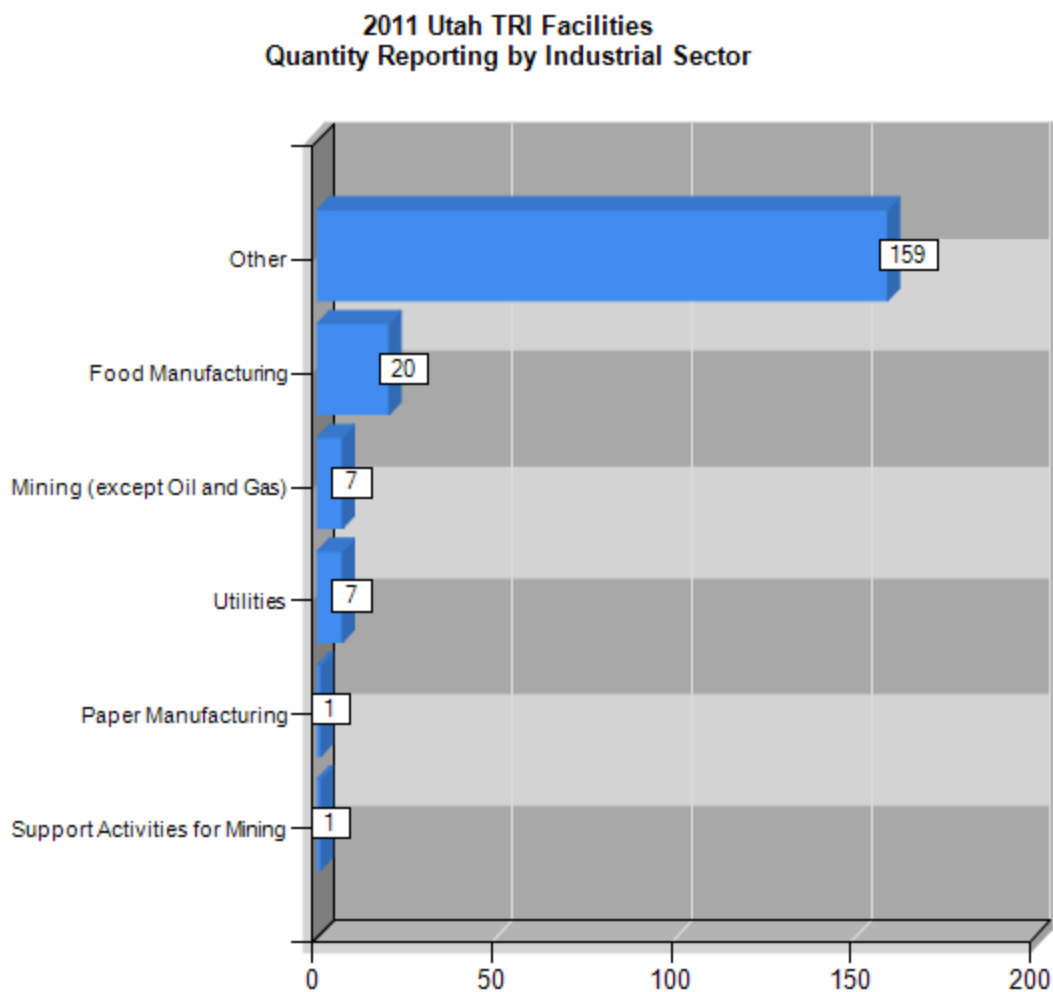
FIGURE 2
Utah 2011 TRI Facility Locations & Wasatch Front



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 TRI total releases in Utah.

FIGURE 4

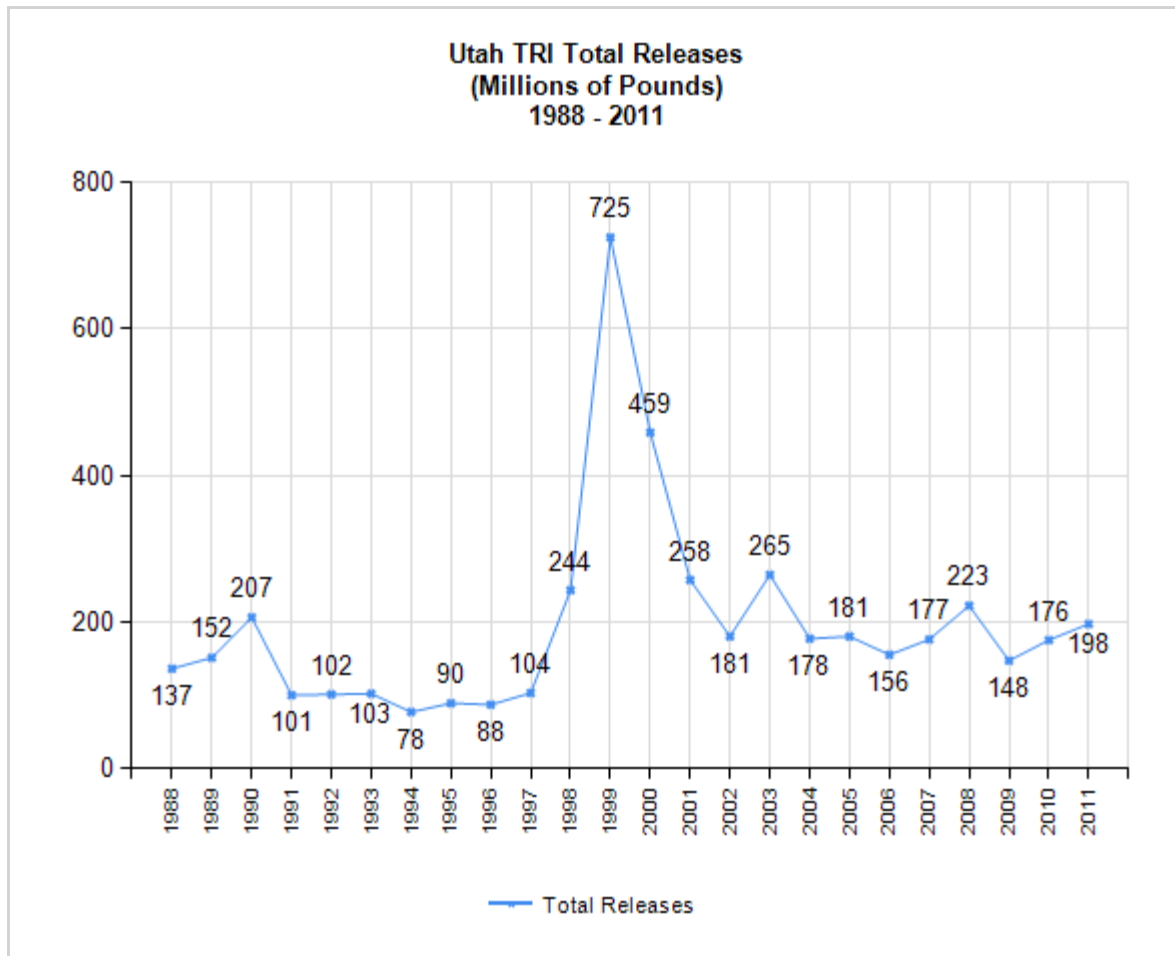


TABLE 1
TOP FACILITIES
 Total On-site and Off-site Releases
 (Reporting equal to or greater than 1 million pounds)

<u>Facility Name</u>	<u>Pounds/Year</u>
1 KENNECOTT UTAH COPPER MINE, CONCENTRATORS, & POWER PLANT	145,338,774
2 KENNECOTT UTAH COPPER SMELTER & REFINERY	23,445,562
3 US MAGNESIUM, LLC	8,660,645
4 CLEAN HARBORS GRASSY MOUNTAIN, LLC	2,784,725
5 ENERGY SOLUTIONS LLC	2,495,933
6 INTERMOUNTAIN POWER GENERATING STATION	2,102,237
7 BONANZA POWER PLANT	1,703,706
8 NUCOR STEEL -A DIVISION OF NUCOR CORPORATION	1,520,888
9 PACIFICORP - HUNTINGTON PLANT	1,385,871
10 CLEAN HARBORS ARAGONITE, LLC.	1,316,620
11 BRUSH RESOURCES INC, MILL	1,219,371
12 PACIFICORP HUNTER PLANT	1,087,798

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	Pounds/Year
1 Copper Compounds	94,399,158
2 Lead Compounds	65,949,920
3 Chlorine	7,472,197
4 Zinc Compounds	7,279,890
5 Barium Compounds	4,460,760
6 Arsenic Compounds	2,738,853
7 Hydrochloric acid	2,301,495
8 Chromium Compounds	1,732,996
9 Ammonia	1,634,423
10 Nitrate compounds	1,563,179
11 Nickel Compounds	1,451,680
12 Manganese Compounds	1,331,414

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	145,317,602
2 KENNECOTT UTAH COPPER SMELTER & REFINERY	23,444,818
3 US MAGNESIUM, LLC	8,660,620
4 CLEAN HARBORS GRASSY MOUNTAIN, LLC	2,784,725
5 ENERGY SOLUTIONS LLC	2,495,933
6 INTERMOUNTAIN POWER GENERATING STATION	2,102,237
7 BONANZA POWER PLANT	1,703,706
8 PACIFICORP - HUNTINGTON PLANT	1,385,860
9 BRUSH RESOURCES INC, MILL	1,219,371
10 PACIFICORP HUNTER PLANT	1,087,700

TABLE 4

Top Chemicals - Total On-site Chemical Releases

Chemical Name	Lbs/Year
1 Copper Compounds	94,306,922
2 Lead Compounds	65,559,533
3 Chlorine	7,472,197
4 Zinc Compounds	6,314,891
5 Barium Compounds	4,380,989
6 Arsenic Compounds	2,738,524
7 Hydrochloric acid	2,301,485
8 Ammonia	1,634,420
9 Chromium Compounds	1,503,753
10 Nickel Compounds	1,450,452
11 Manganese Compounds	1,231,553
12 Nitrate compounds	1,028,044

RELEASES TO AIR

FIGURE 5

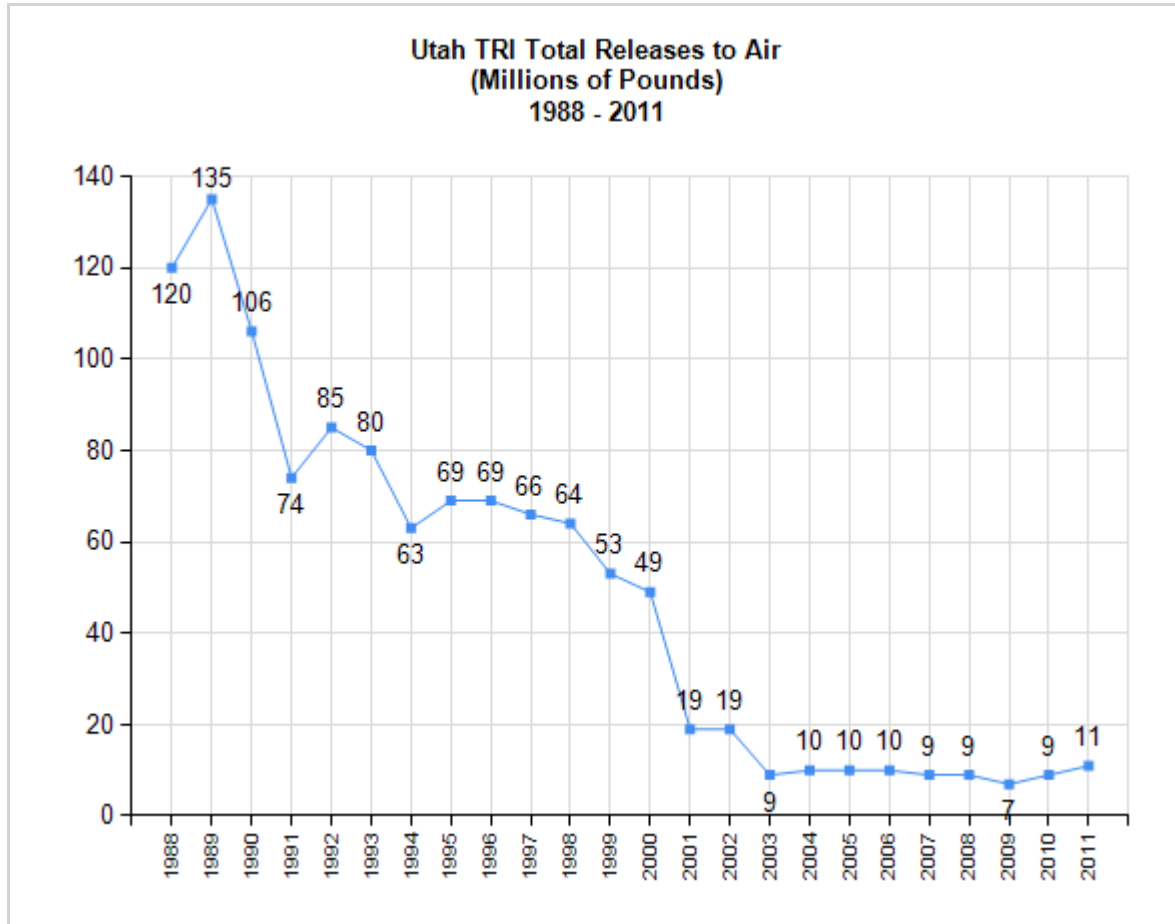


TABLE 5

Top 10 Facilities - Total Releases to Air

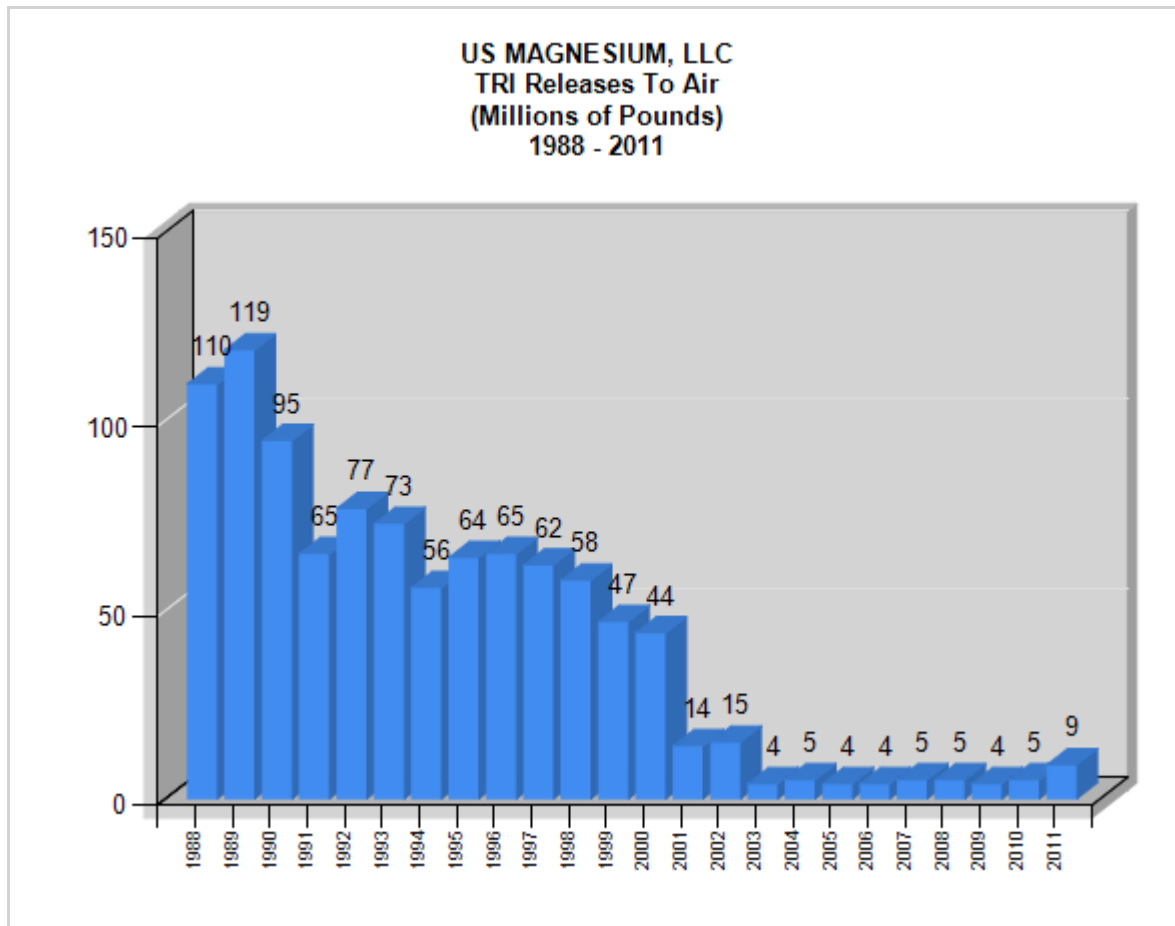
Facility Name	Lbs/Year
1 US MAGNESIUM, LLC	8,658,915
2 ATK THIOKOL, PROMONTORY	507,618
3 PACIFICORP - CARBON PLANT	422,730
4 BRUSH RESOURCES INC, MILL	217,863
5 HEXCEL CORPORATION	171,596
6 INTERMOUNTAIN POWER GENERATING STATION	155,318
7 U.S. DOD USAF OGDEN AIR LOGISTICS CENTER	143,340
8 PACIFICORP HUNTER PLANT	134,398
9 TESORO REFINING AND MARKETING COMPANY	126,516
10 KENNECOTT UTAH COPPER SMELTER & REFINERY	99,957

TABLE 6

Top 10 Chemicals - Total Releases to Air

Chemical Name	Lbs/Year
1 Chlorine	7,472,197
2 Hydrochloric acid	2,300,487
3 Ammonia	436,386
4 Sulfuric acid	222,323
5 Hydrofluoric acid	202,625
6 Methylene chloride	94,190
7 Hydrogen cyanide	94,077
8 Hexane	77,886
9 Toluene	65,4735
10 Styrene	54,644

FIGURE 6



U.S. Magnesium reported that an increase in emissions reported by the facility this year was the result of a major preventative maintenance activity on the chlorine reduction burner (CRB). The CRB was off-line for a period of approximately one month while the work was being performed.³

³ Agency communication with the facility (Dec. 20, 2012)

RELEASES TO LAND

TABLE 7

Top 10 Facilities - Total Releases to Land

Facility Name	Lbs/Year
1 KENNECOTT UTAH COPPER MINE, CONCENTRATORS, & POWER PLANT	145,303,212
2 KENNECOTT UTAH COPPER SMELTER & REFINERY	23,338,310
3 CLEAN HARBORS GRASSY MOUNTAIN, LLC	2,784,646
4 ENERGY SOLUTIONS LLC	2,495,933
5 INTERMOUNTAIN POWER GENERATING STATION	1,946,918
6 BONANZA POWER PLANT	1,660,825
7 PACIFICORP - HUNTINGTON PLANT	1,292,304
8 BRUSH RESOURCES INC, MILL	1,001,507
9 PACIFICORP HUNTER PLANT	953,302
10 WESTERN ZIRCONIUM	886,608

TABLE 8

Top 10 Chemicals - Total Releases to Land

Chemical Name	Lbs/Year
1 Copper Compounds	94,277,768
2 Lead Compounds	65,552,132
3 Zinc Compounds	6,300,626
4 Barium Compounds	4,377,335
5 Arsenic Compounds	2,735,319
6 Chromium Compounds	1,500,244
7 Nickel Compounds	1,447,200
8 Manganese Compounds	1,226,120
9 Ammonia	1,196,070
10 Aluminum oxide	783,252

Mining

Five mining facilities reported under the TRI program for reporting year 2011:

- Brush Resources, Inc., Mill

- Kennecott Barneys Canyon Mining Company
- Kennecott Utah Copper Mine, Concentrators & Power Plant
- Kennecott Utah Copper Smelter & Refinery
- Lisbon Valley Mining Company

Kennecott Facilities

Kennecott Utah Copper (KUC) operates through three facilities:

- Barney’s Canyon Mine (Barney’s);
- Mine, Concentrators & Power Plant (MCP); and
- Smelter & Refinery (S&R).

Primary operations for these facilities include gold ore mining, copper ore and nickel ore mining, and smelting and refining. The MCP is one of the world’s largest open pit mines. KUC conducts extensive mining, milling, smelting, and refining operations in western Salt Lake County. The MCP facility 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.

FIGURE 7

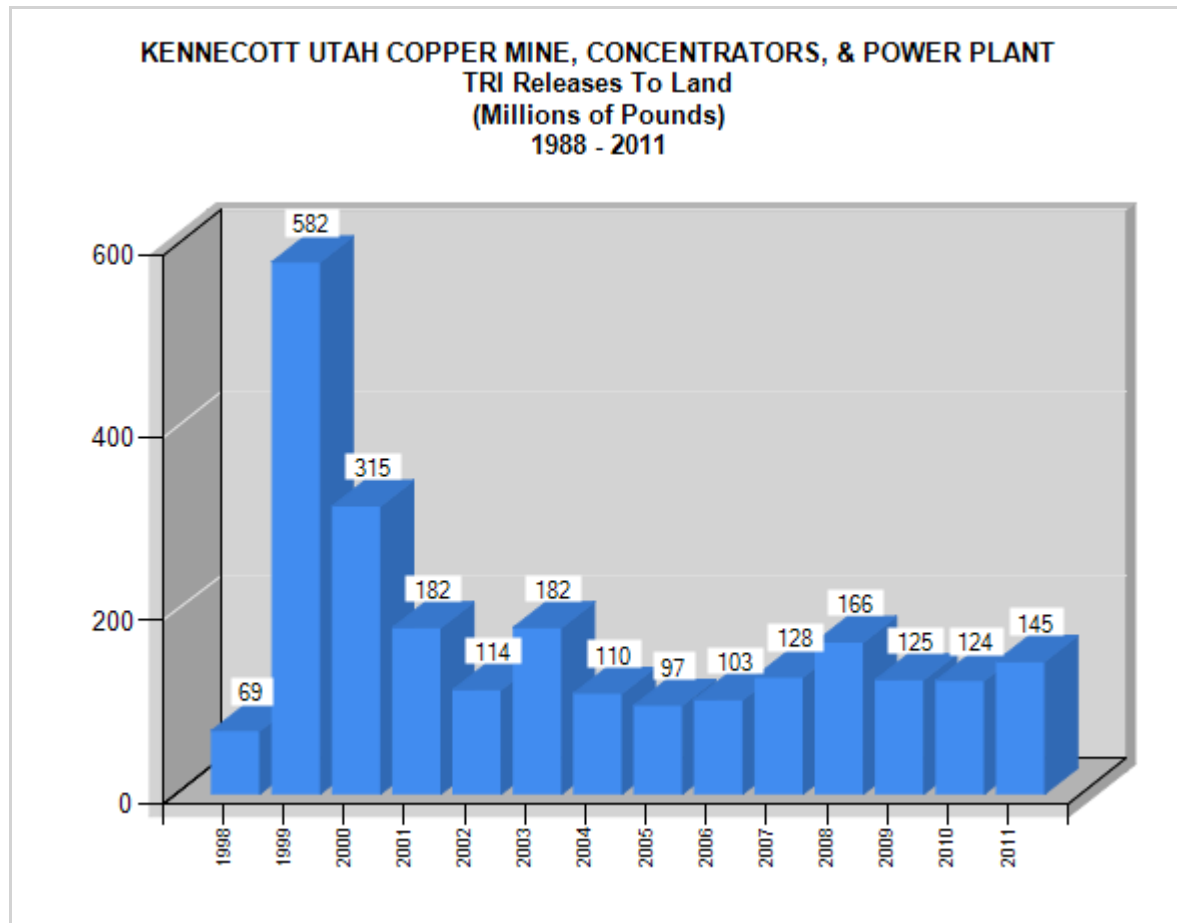
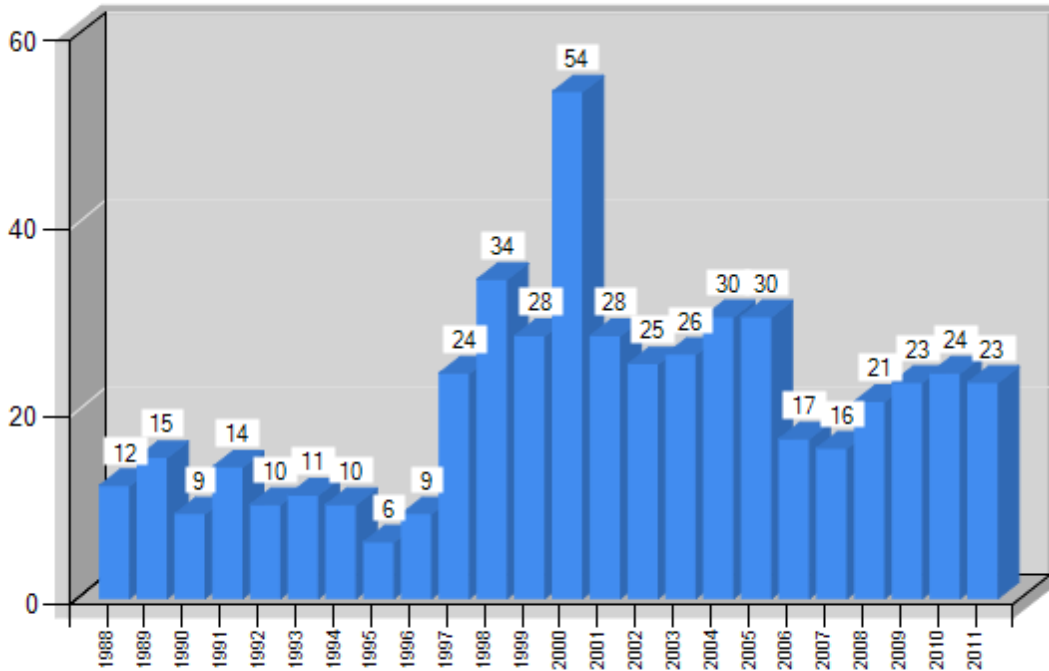


FIGURE 8

**KENNECOTT UTAH COPPER SMELTER & REFINERY
TRI Releases To Land
(Millions of Pounds)
1988 - 2011**



The initial amount of manganese reported by Kennecott Utah Copper MCPP in RY2010 was 38.2 million pounds. After inquiry for explanation in the sharp drop of manganese for this reporting year, Kennecott investigated and discovered that an erroneous concentration calculation had been made. The error shows in several tables and figures presented in the RY2010 report. MCPP filed a revision for manganese to correct the data.⁴

Waste Disposal Facilities

TABLE 9

Waste Disposal Facility Releases to Land

Facility Name	Lbs/Year
1 CLEAN HARBORS GRASSY MOUNTAIN, LLC	2,784,646
2 ENERGY SOLUTIONS LLC	2,495,933

⁴ Agency communication with the facility (Dec. 20, 2012)

TABLE 10

**Top 10 Chemicals - Releases to Land
From Waste Disposal Facilities**

Chemical Name	Lbs/Year
1 Aluminum oxide	783,252
2 Asbestos	708,677
3 Lead Compounds	666,099
4 Chromium Compounds	653,882
5 Polychlorinated Biphenyls (PCBs)	638,799
6 Copper Compounds	348,984
7 Nickel Compounds	304,900
8 Lead	207,766
9 Zinc Compounds	169,172
10 Copper	101,869

FIGURE 9

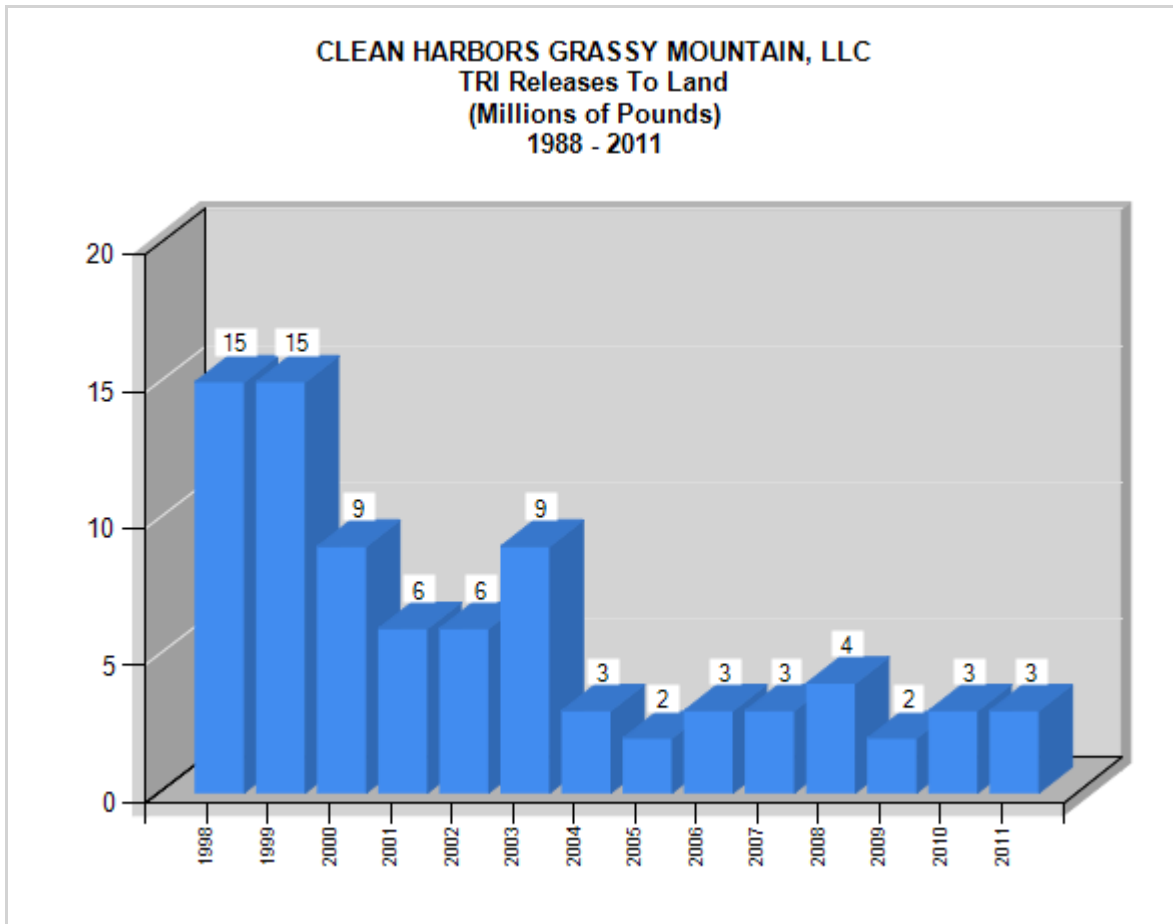
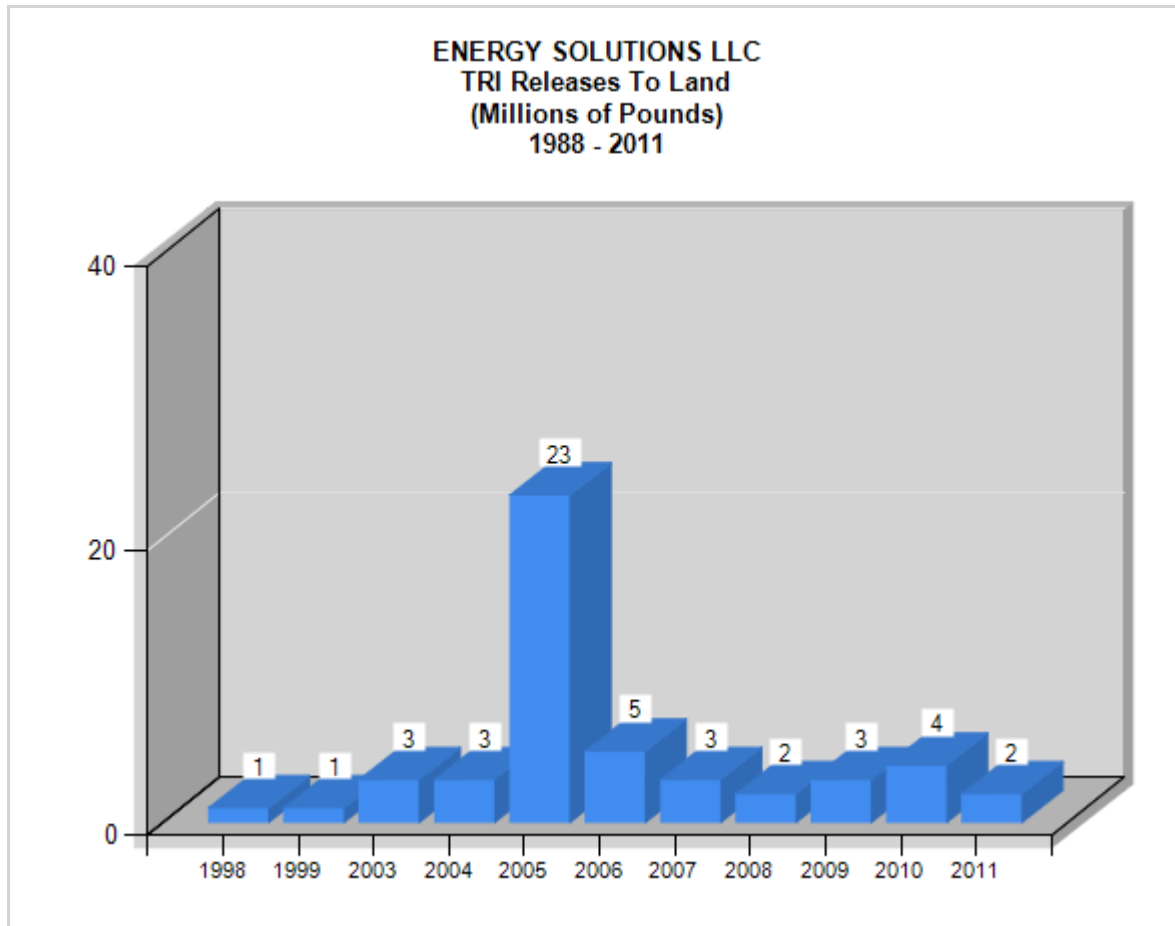


FIGURE 10



Electric Utilities

TABLE 11

Coal-Fired Electric Utility Releases to Land by Facility

Facility Name	Lbs/Year
1 INTERMOUNTAIN POWER GENERATING STATION	1,946,918
2 BONANZA POWER PLANT	1,660,825
3 PACIFICORP - HUNTINGTON PLANT	1,292,304
4 PACIFICORP HUNTER PLANT	953,302
5 PACIFICORP - CARBON PLANT	111,403
6 SUNNYSIDE COGENERATION ASSOCIATES	15,103

TABLE 12

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

Chemical Name	Lbs/Year
1 Barium Compounds	4,046,579
2 Manganese Compounds	530,319
3 Chromium Compounds	370,912
4 Zinc Compounds	208,847
5 Vanadium Compounds	196,090
6 Copper Compounds	189,651
7 Nickel Compounds	134,904
8 Lead Compounds	129,684
9 Arsenic Compounds	85,000
10 Antimony Compounds	27,300

RELEASES TO SURFACE WATER**TABLE 13**

Top 4 Facility Releases to Surface Water

Facility Name	Lbs/Year
1 E.A. MILLER INC.	383,970
2 CHEVRON PRODUCTS COMPANY- SALT LAKE REFINERY	93,694
3 KENNECOTT UTAH COPPER MINE, CONCENTRATORS, & POWER PLANT	6,662
4 KENNECOTT UTAH COPPER SMELTER & REFINERY	6,551

TABLE 14

Top 10 Chemical Releases to Surface Water

Chemical Name	Lbs/Year
1 Nitrate compounds	476,440.00
2 Ammonia	1,964
3 Zinc Compounds	1,456
4 Nickel Compounds	1,441
5 Xylene (mixed)	1,400
6 Copper Compounds	1,099
7 Chromium Compounds	1,029
8 Manganese Compounds	1,008
9 Antimony Compounds	1,000
10 Vanadium Compounds	1,000

TRANSFERS TO PUBLICLY OWNED TREATMENT WORKS**TABLE 15**

Top 10 Facility Transfers to POTWs

Facility Name	Lbs/Year
1 JOHNSON MATTHEY	348,520
2 DANNON COMPANY, THE	230,794
3 SCHREIBER FOODS, INC.	193,531
4 TYCO PRINTED CIRCUIT GROUP, LP ., LOGAN DIVISION	181,273
5 MICRON TECHNOLOGY, INC. - LEHI DIVISION	155,000
6 EASTON TECHNICAL PRODUCTS	147,155
7 GENEVA NITROGEN LLC	108,100
8 NESTLE USA - PREPARED FOODS DIVISION, INC.	107,187
9 FAIRCHILD SEMICONDUCTOR	53,723
10 PILKINGTON METAL FINISHING LLC 2	52,000

TABLE 16

Top 10 Chemicals Transferred to POTWs

Chemical Name	Lbs/Year
1 Nitrate compounds	1,500,394
2 Nitric acid	134,442
3 Ammonia	75,089
4 Glycol Ethers	49,419
5 Toluene	8,053
6 Xylene (mixed)	7,359
7 Benzene	5,373
8 Nickel	3,332
9 1,2,4-Trimethylbenzene	1,250
10 Zinc Compounds	1,034

UTAH FACILITY TRANSFERS TO OTHER OFF-SITE LOCATIONS**TABLE 17**

Top 10 Facilities Transferring Chemicals Off-site

Facility Name	Lbs/Year
1 NUCOR STEEL -A DIVISION OF NUCOR CORPORATION	7,017,243
2 CLEAN HARBORS ARAGONITE, LLC.	1,804,979
3 CERROWIRE & CABLE CO.	1,230,558
4 E.A. MILLER INC.	620,611
5 ELKAY WEST	595,153
6 THATCHER COMPANY	499,674
7 JOHNSON MATTHEY	439,765
8 UNIVERSAL INDUSTRIAL SALES INC	436,268
9 PACIFICORP HUNTER PLANT	398,639
10 HEXCEL CORPORATION	381,861

TABLE 18

Top 10 Chemicals Transferred to Off-site Facilities

Chemical Name	Lbs/Year
1 Zinc Compounds	7,139,528
2 Nitrate compounds	2,862,699
3 Copper	1,315,275
4 Lead Compounds	797,110
5 Manganese Compounds	681,629
6 Copper Compounds	642,030
7 Chromium	555,871
8 Nickel	539,123
9 Chromium Compounds	334,595
10 Manganese	243,257

FIGURE 11

Utah 2011 TRI Chemical Transfers
by Final Disposition Type

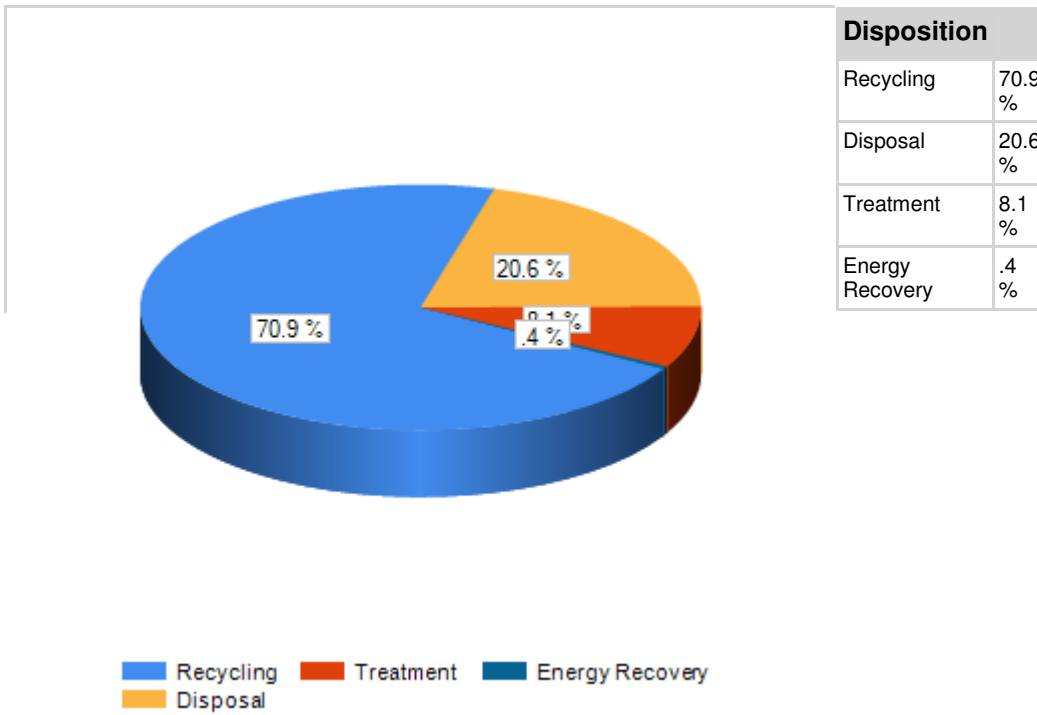


Figure 12

Utah 2011 TRI Chemicals Transferred
to Other States

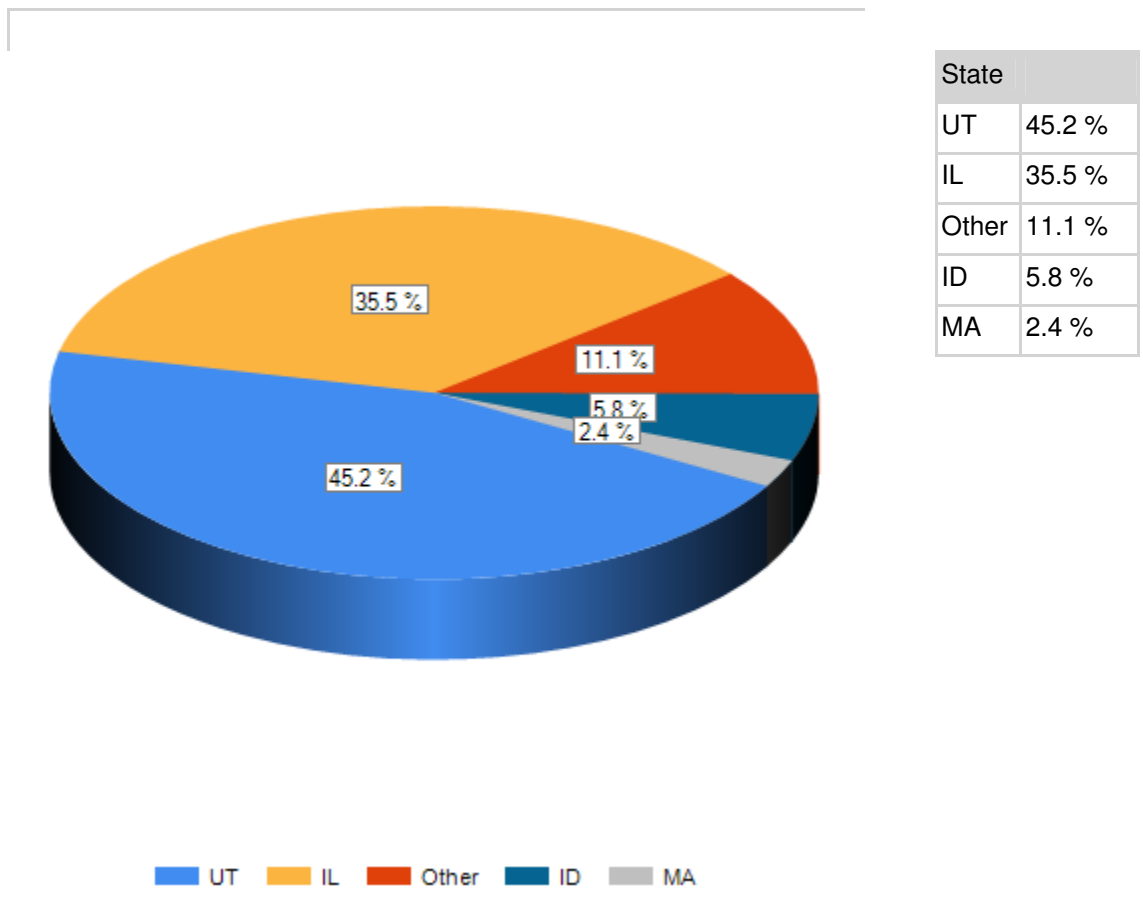
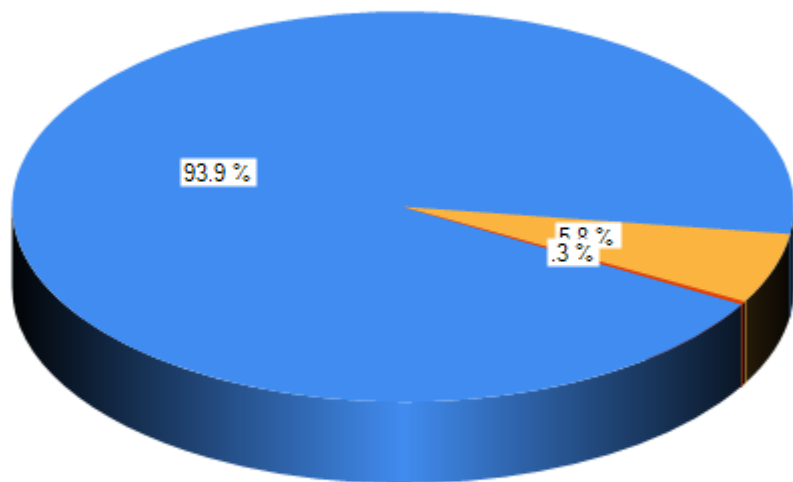


Figure 13

Utah 2011 TRI Total On-site Releases By Media



Media	
Land	93.9 %
Air	5.8 %
Water	.3 %

■ Land ■ Air ■ Water

PERSISTENT BIOACCUMULATIVE TOXIC (PBT) CHEMICALS

TABLE 19

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

	Facility	Water On- site	Air On- site	Land On-site	Total On-site	Total Off-site	TOTAL
1	US MAGNESIUM, LLC	0.00	6.06	7231.84	7,237.90	1.24	7239.14
2	CLEAN HARBORS ARAGONITE, LLC.	0.00	20.43	0.00	20.43	0.00	20.43
3	WESTERN ZIRCONIUM	0.00	0.00	0.13	0.13	19.97	20.09
4	INTERMOUNTAIN POWER GENERATING STATION	0.00	1.95	6.74	8.70	0.00	8.70
5	PACIFICORP HUNTER PLANT	0.00	0.60	0.00	0.60	0.00	0.60
6	ASH GROVE CEMENT COMPANY	0.00	0.59	0.00	0.59	0.00	0.59
7	SUNNYSIDE COGENERATION ASSOCIATES	0.00	0.58	0.00	0.58	0.00	0.58
8	PACIFICORP - HUNTINGTON PLANT	0.00	0.39	0.00	0.39	0.00	0.39
9	KENNECOTT UTAH COPPER MINE, CONCENTRATORS, & POWER PLANT	0.00	0.38	0.00	0.38	0.00	0.38
10	CHEVRON PRODUCTS COMPANY- SALT LAKE REFINERY	0.10	0.10	0.00	0.20	0.00	0.20
11	PACIFICORP - CARBON PLANT	0.00	0.10	0.00	0.10	0.00	0.10
12	TESORO REFINING AND MARKETING COMPANY	0.00	0.05	0.00	0.05	0.00	0.05
13	THE PROCTER & GAMBLE PAPER PRODUCTS COMPANY	0.00	0.00	0.00	0.00	0.00	0.00
14	BONANZA POWER PLANT	0.00	0.00	0.00	0.00	0.00	0.00
15	KENNECOTT UTAH COPPER SMELTER & REFINERY	0.00	0.00	0.00	0.00	0.00	0.00
	Totals	0.10	31.25	7238.70	7,270.06	21.21	7291.26

SUMMARY

Trends recognized in the Toxic Release Inventory data for reporting year 2011 may be summarized as follows:

- *Total On-site and Off-site Releases* increased by 12.8% from 176 million pounds to 198 million pounds showing an increase of about 22 million pounds.
- *Total Releases to Air* increased by about 33.7% from 8.5 million pounds to 11.4 million pounds showing an increase of 2.9 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* increased by 11% from 165 million pounds to 183 million pounds showing an increase by 18 million pounds. Kennecott releases to land increased by 21 million pounds. They represent about 92% of total releases to land reported statewide.
- *Total Releases to Surfaces Water* increased by 480% from about 102,500 pounds to just over 492,000 pounds in the current report year. Nitrate compounds comprise almost 97% of the total release to surface waters statewide.
- *Total Transfers to Publicly Owned Treatment Works* increased by about 22% (328,000 pounds) from 1.5 million pounds to 1.8 million pounds in the current report year.
- *Transfers Off-site* to treatment, storage & disposal facilities, which typically include chemical recyclers and waste disposal facilities, increased by 1.4% from 17.7 million pounds to 17.9 million pounds.
- 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 a decrease of 11.2% from 8,212.04 grams to 7,291.26 grams in the current report year.
 - The total release amount reported by U.S. Magnesium for dioxin and dioxin-like chemicals on-site and off-site is 7,239.14 grams. This amount comprises 99.3% of the total amount released by all facilities.
 - Total on-site releases to land, water, and air were 7238.70 grams, 31.25 grams and 0.10 grams respectively for a total on-site release amount of 7270.06 grams. The total release off-site reported was 21.21 grams. On-site releases to land constitute 99.9% of the total on-site and off-site amounts released.