

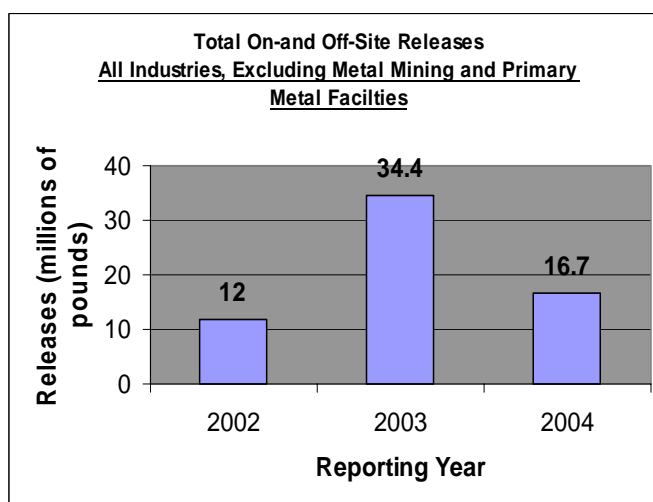
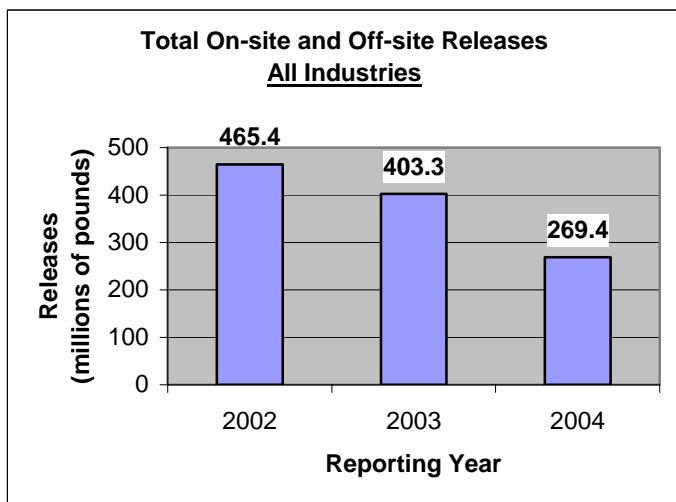


# Nevada Report: 2004 Toxics Release Inventory

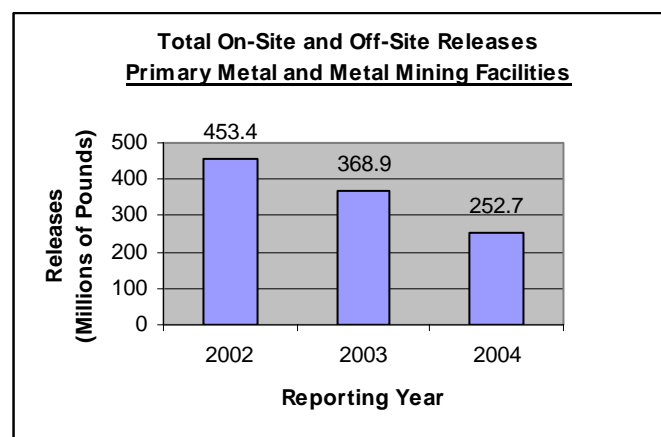
**U.S. EPA Region 9**  
Arizona, California,  
Hawaii, Nevada, the  
Pacific Islands, and  
Tribal Nations

April 2006

## Toxic Chemical Releases: 2002 - 2004\*



Total Releases for Reporting Years 2002-2004					
Year	Air	Land	Under-ground Injection	Water	Off-Site
2002	2,069,929	461,285,788	2	92,931	1,949,232
2003	1,841,532	400,650,496	2.8	102,551	707,748
2004	1,787,297	266,197,204	4.5	107,890	1,315,547



### The 2004 Public Data Release

EPA has made public the 2004 data on toxic chemicals that were released to Nevada's air, water and land. This information comes from the Toxics Release Inventory (TRI), a federal community right-to-know program. In Nevada, 119 facilities reported a total of 269.4 million pounds of toxic chemical releases.

Facilities that meet certain criteria must report the amounts of toxic chemicals disposed of or otherwise released on-site to air, water, land and injected

underground and the amounts of chemicals transferred off-site for disposal or release. Off-site disposal or release can include land disposal at permitted hazardous waste facilities.\*\*

The data does not indicate whether a facility is violating environmental laws. Many of the facilities reporting through this program are subject to state and federal regulations designed to protect human health and the environment. For instance, Resource Conservation and Recovery Act (RCRA) Subtitle C Landfills, a type of permitted hazardous waste facility,

\* Year to year data comparisons do not reflect changes in reporting requirements.

\*\* No adjustments were made to account for double counting that could occur as a result of off-site transfers of some TRI facilities also being reported as on-site releases at permitted hazardous waste landfills and other TRI facilities that receive the on-site transfers.

must comply with stringent requirements for liners, leak detection systems, and groundwater monitoring. Disposal in underground injection wells is regulated by EPA's Underground Injection Control Program to provide safeguards so that injection wells do not endanger current and future underground sources of drinking water.

### **Releases and Risk**

It is important to note that a release should not be directly equated with risk. To evaluate risk, release data must be combined with information about site-specific conditions, exposure, and chemical toxicity. TRI chemicals vary widely in toxicity. High volume releases of less toxic chemicals may pose less environmental risk than lower volume releases of highly toxic chemicals. Increases in on-site releases at permitted hazardous waste facilities may indicate a reduction in risk.

### **Industries**

A facility is subject to TRI reporting requirements if it: has 10 or more full-time employees; is classified under a reportable Standard Industrial Classification (SIC) code; and manufactures, processes, or otherwise uses any of the listed toxic chemicals in amounts greater than the threshold quantities. For most chemicals (excluding Persistent, Bioaccumulative and Toxic (PBT) chemicals) the thresholds are 25,000 pounds for manufactured or processed and 10,000 pounds for otherwise used.

Manufacturing industries have been reporting their releases since 1987, and federal facilities started reporting in 1994. In 1998, an additional seven industry sectors began reporting their toxic chemical releases for the first time. These sectors are metal and coal mining, electricity generation, commercial hazardous waste treatment, solvent recovery, petroleum bulk terminals, and wholesale chemical distributors.

### **Nevada's Releases**

On April 2, 2003 the District Court for the District of Columbia issued a decision in Barrick Goldstrike

Mines, Inc. v. Whitman, (Civ. Action No. 99-958 (TPJ)), regarding the TRI reporting obligations of mining facilities. The court determined that non-PBT chemicals present in waste rock are eligible for the de minimis exemption. The de minimis exemption states that a facility is not required to consider the quantity of a toxic chemical present in a mixture if it is below 1% of the mixture, or 0.1% of the mixture in the case of a toxic chemical which is a carcinogen. Prior to the decision, mining facilities were required to consider all concentrations of toxic chemicals in waste rock.

Many mines extract, move, store, process, and dispose of large amounts of waste rock and ore, materials which often contain low concentrations of naturally occurring metals. The vast majority of this material is placed in surface impoundments or on the land, and the metals are reported as on-site releases to land.

Nevada industries as a whole reported decreases, from 2003 levels, in releases to air and land. Leading the trend was a decrease of 133.9 million pounds in reported releases to land, a 33% change. The majority of the decreases in on-site land disposal came from a combined 195.7 million pound decrease at two gold mines, Barrick Goldstrike Mine and Newmont Twin Creeks Mine.

The state experienced an increase in off-site releases. Off-site releases increased by 86%, approximately 608 thousand pounds. The main contributors to the off-site releases were two facilities, Kerr-McGee Chemical LLC and 21 Century Environmental Management. Kerr-McGee, a producer of specialty chemicals like manganese dioxide, reported a 494 thousand pound increase in off-site transfers. These releases were transferred to US Ecology, a permitted hazardous waste facility. 21 Century Environmental Management Inc. reported a 116 thousand pound increase in off-site releases. 74% of 21 Century's off-site releases were transferred to US Ecology as well.

Non-mining facilities saw decreases in releases to air, water, and land. There was a 57 % decrease in land releases from reporting year 2003. Land releases from non-mining facilities decreased over 18.3 million pounds. This was due to an 18.5 million pound

decrease in releases from U.S. Ecology, a hazardous disposal facility.

### **Persistent, Bioaccumulative, and Toxic Chemicals**

In the year 2000, TRI was expanded to include additional Persistent Bioaccumulative and Toxic (PBT) chemicals and to require reporting for these chemicals at lower thresholds, ranging from 0.1 grams to 100 pounds. PBT pollutants are toxic chemicals that persist in the environment and bioaccumulate in food chains, posing risks to human health and ecosystems.

In Nevada, nearly 109.8 million pounds of total on-site and off-site releases of PBT chemicals were reported. There was an 86% (51 million pound) increase in PBT releases. This change was driven by the increase in lead and lead compound releases.

In determining release quantities for metal compounds, facilities only consider the primary metal portion of the compound. For instance, a facility reporting for lead compounds only reports the lead portion of the lead compounds released. Hence, the table below gives combined values for lead and lead compound releases and mercury and mercury compound releases. The PBT chemicals are ranked by 2004 total releases. The data is in pounds for all chemicals except dioxin and dioxin compounds, which is in grams.

### **Table of PBT Chemical Releases in Nevada**

*Releases of Persistent, Bioaccumulative and Toxic (PBT) chemicals in pounds. Dioxin and dioxin-like compounds data not in Toxicity Equivalence (TEQ).*

Chemical Name	Total On- and Off-Site Releases		Percent Change
	2003	2004	
Lead and Lead Compounds (in pounds)	37,657,181.42	105,777,987.69	181 %
Mercury and Mercury Compounds (in pounds)	5,014,335.33	3,943,281.22	- 21 %
Polychlorinated Biphenyls (PCBs) (in pounds)	16,204,234.02	26,917.03	- 100 %
Hexachlorobenzene (in pounds)	4,178.09	2,586.84	- 38 %
Trifluralin (in pounds)	2,438.05	3,212.04	32 %
Chlordane (in pounds)	242.01	399	64%
Polycyclic Aromatic Compounds (PACs) (in pounds)	4,291.45	172.52	- 96 %
Heptachlor (in pounds)	161	162	1 %
Benzo(g,h,i)perylene (in pounds)	26.29	.98	- 96 %
Toxaphene (in pounds)	.41	--	--
Dioxin and Dioxin-like Compounds (in grams)	8.9749	9.8429	10 %

### **Lead and Lead Compounds**

Starting in the year 2001, lead and lead compounds were reported as Persistent Bioaccumulative and Toxic (PBT) chemicals. While lead and lead compounds have been on the list of reportable chemicals since 1987, for the year 2001 the reporting threshold was drastically lowered (from 25,000 pounds manufactured or processed, and 10,000 pounds otherwise used to 100 pounds manufactured, processed or otherwise used). As a result, additional facilities are required to report releases of lead and lead compounds.

Nearly 105.8 million pounds of total on-site and off-site releases of lead and lead compounds were reported in Nevada. 81% of these releases were land releases from silver ore metal mining industries.

The 68 million pound increase in lead and lead compounds was driven by a 79.3 million pound increase of on-site land releases at one silver mine, Coeur Rochester Inc.

There was also a 1,928 pound (41%) increase in lead and lead compound air releases. The facility with the largest increase (1,790 pounds) was U.S. Department of Energy Sandia National Laboratories/Nevada, a government research facility.

### **Mercury and Mercury Compounds**

The reported 21% (1.2 million pound) decrease in mercury and mercury compounds was driven by decreases of on-site land releases at two gold mines, Newmont Twin Creeks and Barrick Goldstrike. Newmont Twin Creeks reported a 975 thousand pound decrease in on-site land mercury compound releases and Barrick Goldstrike reported a 243 thousand pound decrease in on-site land mercury compound releases.

There was also a reported 4% (219 pound) decrease in mercury compound air releases. Two gold mines reported the largest decreases in mercury compound air releases. Jerritt Canyon Mine reported a 329 pound decrease in mercury compound air releases and the Newmont Carlin South Area Mine reported a 303 pound decrease in mercury compound air releases.

### **Polychlorinated Biphenyls (PCBs)**

Releases of PCBs decreased more than 16.2 million pounds from 2003. All of the releases in 2003 and 2004 were on-site land releases in a RCRA Subtitle C Landfill at US Ecology Nevada Inc., in Beatty.

### **Top Facilities for Releases**

The top 10 facilities for total on-site and off-site releases, of all chemicals, in Nevada are:

- ① Coeur Rochester, Inc. (Lovelock, Pershing County) with 85.3 million pounds.
- ② Barrick Goldstrike Mines Inc. (Elko, Elko County) with 52.1 million pounds.
- ③ Newmont Mining Corp. Twin Creeks Mine (Golconda, Humboldt County) with 49.1 million pounds.

- ④ Newmont Mining Corp. Carlin South Area (Carlin, Eureka County) with 30 million pounds.
- ⑤ Newmont Mining Corp. Lone Tree Mine (Valmy, Humboldt County) with 25.8 million pounds.
- ⑥ US Ecology (Beatty, Nye County) with 11.3 million pounds.
- ⑦ Jerrit Canyon Mine (Elko, Elko County) with 2.9 million pounds.
- ⑧ Mohave Generating Station (Laughlin, Clark County) with 1.6 million pounds.
- ⑨ Glamis Marigold Mining Co. (Valmy, Humboldt County) with 1.5 million pounds..
- ⑩ Cortez Gold Mines (Crescent Valley, Lander County) with 1.4 million pounds.

The top 10 facilities for total on-site and off-site releases, of PBT chemicals, in Nevada are:

- ① Coeur Rochester, Inc. (Lovelock, Pershing County) with 85.3 million pounds.
- ② Barrick Goldstrike Mines Inc. (Elko, Elko County) with 8.7 million pounds.
- ③ US Ecology Nevada, Inc. (Beatty, Nye County) with 4.4 million pounds.
- ④ Newmont Mining Corp Carlin South Area (Carlin, Eureka County) with 4 million pounds.
- ⑤ Newmont Mining Corp. Lone Tree Mine (Valmy, Humboldt County) with 1.5 million pounds.
- ⑥ Glamis Marigold Mining Co. (Valmy, Humboldt County) with 1.4 million pounds.
- ⑦ Newmont Mining Corp. Twin Creeks Mine (Golconda, Humboldt County) with 1.3 million pounds.
- ⑧ Cortez Gold Mines (Crescent Valley, Lander County) with 874 thousand pounds.
- ⑨ Bald Mountain Mine (Elko, White Pine County) with 870 thousand pounds.
- ⑩ Smoky Valley Common Operation (Round Mountain, Nye County) with 597 thousand pounds.

### **On-line Access**

For national information on data releases, see: <http://www.epa.gov/tri>

The TRI data is available through Envirofacts Warehouse, EPA's premier internet site for distributing environmental information at: <http://www.epa.gov/enviro>

or the TRI Explorer tool:

<http://www.epa.gov/triexplorer>

For general information on the Toxics Release Inventory, including reporting requirements for businesses, go to:

<http://www.epa.gov/region09/toxic/tri>

For more information on the EPA's PBT Chemicals Program, go to:

<http://www.epa.gov/opptintr/pbt/>

### **Information and Assistance**

We are happy to answer your questions and assist you in learning more about the TRI Program in Region 9.

#### **U.S. EPA Region 9, TRI Program**

**Bonnie Barkett, (415) 947-4175**

**Mariela Lopez, (415) 972-3771**