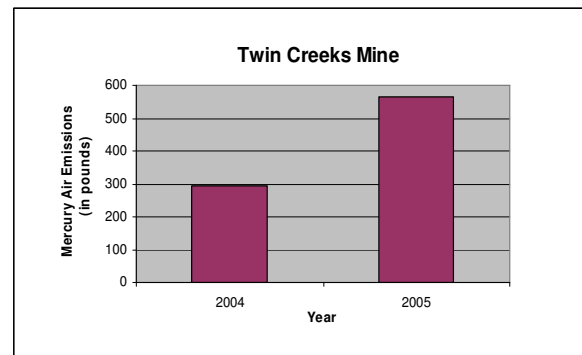
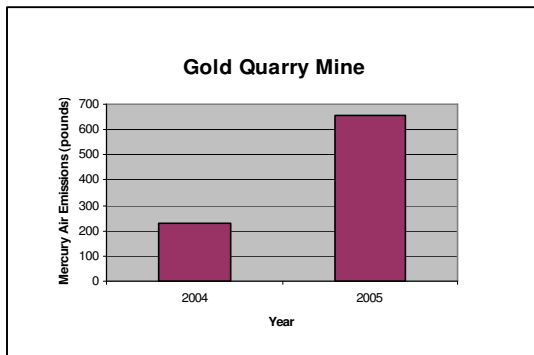


## Dramatic Increases in 2005 Reported Mercury Air Emissions at two Nevada Gold Mines

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Prepared by Great Basin Mine Watch, Earthworks and Idaho Conservation League

According to recent information obtained from NDEP, two major gold mines in northern Nevada have *dramatically increased their reported mercury air emissions* from 2004 to 2005.<sup>1</sup> The Twin Creeks Mine has nearly doubled its reported emissions, and the Gold Quarry mine has more than tripled its reported emissions. Together the two mines reported more than 700 pounds more mercury in 2005 than 2004; the equivalent of nearly 3 average-sized coal fire power plants. Total air emissions for the 2 mines in 2005 top 1,200 pounds.



According to company reports, the increases are, in part, the result of testing mine units that were never previously tested. For example, the Twin Creeks Mine tested its Juniper Mill and Solution Tanks for the first time in 2005, revealing mercury air emissions of 142.79 pounds.

Further increases are the result of replacing outdated stack test results with new stack test data when calculating air emissions. Air emissions are calculated by testing the amount of mercury emitted through the stack of a particular mine unit (pounds per hour); and multiplying it by the numbers of hours the unit is in operation. Prior to 2005, both companies were using 2001 stack test results to calculate emissions each year, rather than conducting new stack tests each year or multiple times a year to account for variations in the mercury content of the ore and other factors. For example, mercury emissions from the carbon kilns and combustion stacks at the Gold Quarry Mine increased six-fold when 2005 stack test results were used to calculate 2005 emissions, and mercury emissions from the roasting circuit doubled when 2005 stack tests were applied (see table below). Similarly, mercury missions from the Twin Creek autoclave more than doubled when

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<sup>1</sup> Newmont Twin Creek and Gold Quarry (South Carlin) Response to NDEP "Precious Metals Mining Mercury Air Emissions Questionnaire, March 2006."

new stack tests were conducted in 2005 and used to calculate 2005 mercury emissions. Considering the dramatic change in emissions data for 2001 and 2005, data for the intervening years (2002-2004) are simply not credible, and likely underestimate emissions.

Although 2005 data is not available for other gold mines in northern Nevada, a number of these mines have also used old stack test results to calculate their emissions. Coeur Rochester used 1995 data for its 2004 smelter furnace emissions calculations, and Glamis Gold used 2002 stack test results for its 2004 carbon kiln calculations.

**Twin Creeks Mine  
Reported Mercury Emissions for 2004 and 2005  
(in pounds)**

	Auto-clave 1 <sup>a</sup>	Auto-clave 2 <sup>b</sup>	Carbon Kiln	Electro-winning <sup>c</sup>	Retorts & Smelting Furnace	Juniper Mill & Solution Tanks <sup>d</sup>	Pinon Mill & Solution Tanks	Total Mercury Emissions
2004	121	60.02	102.86	2.97	7.28	Unknown	0 - NA	294
2005	286	64.93	21.78	42.57	4.13	142.79	0 - NA	563

<sup>a</sup>Approximately the same amount of ore autoclaved each year, but 2004 estimated emissions were based on January 2001 stack test results of 0.0153 pounds per hour with 7878 hours of operation; 2005 estimated emissions were based on October 2005 stack test results of 0.0368 pounds per hour with 7774 hours of operation.

<sup>b</sup>Estimated emissions for both years still based on 2001 stack test results.

<sup>c</sup>2004 estimated emissions based on 2001 stack test results. 2005 estimated emissions based on 2005 stack test results.

<sup>d</sup>Mercury emissions from this source were not evaluated prior to October 2005.

**Gold Quarry Mine (Carlin South)  
Reported Mercury Air Emissions for 2004 and 2005  
(in pounds)**

	Roasting Circuit <sup>a</sup>	Carbon Kiln 1 & Combustion Stack <sup>b</sup>	Carbon Kiln 2 & Combustion Stack <sup>b</sup>	Electro-winning	Smelting Furnace & Retort	Electro-lyte Tank	Total Mercury Emissions
2004	113.46	7.37	54.29	12.89	29.03	Unknown	218
2005	268.43	39.95	316.35	5.16	21.75	6.74	658.8

<sup>a</sup>For 2004, Method 29 testing results from 2001. For 2005, Method 101 A testing results from Nov. 2005.

<sup>b</sup>For 2004, combustion stack emissions based on 2001 stack tests results (0.00587 lbs./hr. with 6886 hrs. operation). For 2005, combustion stack emissions are based on 2005 stack tests results (0.042 lbs./hr. with 7379 hrs. operations).

**Conclusion:** Newmont's Twin Creek and Gold Quarry mines have dramatically increased their reported mercury air emissions from 2004 to 2005. The increases are reportedly the result of testing mine units that were never previously tested, and updating stack test data. The dramatic increase in emissions indicates that these two mines have likely under-reported emissions in previous years. Although other mines did not submit

2005 emissions data in response to the NDEP questionnaire, their 2004 emissions data indicates that a number of mines also used outdated stack test results and similarly did not provide emissions information for all mine units. Consequently, it is likely that emissions from these mines are understated as well. It's clear that citizens and agencies have not been receiving accurate emissions information.

Unfortunately, the new Nevada mining regulations do not address this fundamental problem because they continue to allow mining companies to self-test and self-report, and they require just one stack test a year. Independent testing and reporting are essential if the public is to have confidence in the integrity of the mercury program. Furthermore, emissions tests should be conducted on a monthly, rather than annual basis, to provide data that appropriately reflects changes in mercury ore content and other factors.