From:	Lobdell, Danelle
To:	Stein, Greg; Frey, Bob; Rosemarie Bowler (rbowl@sfsu.edu); Colledge, Michelle; Bollweg, George
Subject:	Re: Manganese results shared with health board, community (The Review -- E Liverpool)
Date:	Friday, July 12, 2013 11:26:03 AM
Attachments:	image002.png image003.png image004.png

Thank you Greg

From: Stein, Greg <Greg.Stein@odh.ohio.gov>
Sent: Friday, July 12, 2013 11:22:16 AM
To: Frey, Bob; Rosemarie Bowler (rbowl@sfsu.edu); Colledge, Michelle; Lobdell, Danelle; Bollweg, George
Cc: Stein, Greg
Subject: Manganese results shared with health board, community (The Review -- E Liverpool)

Manganese results shared with health board, community

July 12, 2013

By JO ANN BOBBY-GILBERT - East Liverpool Reporter (jgilbert@reviewonline.com) , The Review

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EAST LIVERPOOL - Results of a health study regarding the effects of airborne manganese on local residents indicate that those exposed to the mineral are showing some health effects.

The results of the study conducted by the San Francisco State University were shared Thursday with the city's board of health and later that evening with the community at a public session at Kent State University's downtown campus.

The local study compared results of a similar study conducted in 2009 in Marietta, located near a smelter that emits manganese, and Mount Vernon, which has no large airborne source of the mineral.

In East Liverpool, prior investigations had determined that the greatest source of manganese in the city is S.H. Bell, a raw products storage and packaging facility in the East End.

According to George Bollweg of the Environmental Protection Agency, Region 5, manganese levels in the city are the highest in Region 5 and probably in the entire country.

These high levels prompted this study, which involved four different universities in three countries, two federal agencies, the Ohio Department of Health and experts from around the globe.

Participants were adults between the ages of 30 and 75 who had lived within two miles of the S.H. Bell facility for 10 years or more, excluding anyone who ever worked at the company.

In addition to blood tests, participants were subjected to a battery of neurological and neuropsychological tests, as well as having their nails and hair tested to measure a multitude of areas.

Among those were cognitive flexibility, information processing, working memory and attention, visual tracking speed, verbal skills, motor dexterity and strength, postural sway and tremors.

What the study ultimately showed, according to Dr. Rosemarie Bowler of San Francisco State

University, is that East Liverpool residents' blood had higher average cadmium levels than Mount Vernon but lower mercury levels than Marietta but were still within normal range of the general population.

As for neurological issues, city residents showed slower movement initiations than Mount Vernon residents but were slightly better than Marietta residents.

More hand tremors were seen in East Liverpool residents than Marietta and they also had more pronounced postural sway (involuntary swaying or inability when standing on both feet) than both Marietta and Mount Vernon.

The scores in all three communities for neuropsychological tests were in normal ranges except for divided memory, visual memory and motor speed, with East Liverpool residents testing lower than those in Marietta for immediate memory, which includes things normally done to care for oneself, such as eating, bathing, dressing, grooming and working.

East Liverpool residents also had lower scores than the other two communities in word reading, motor speed, motor strength and motor tactile.

Bowler reported that living closer to the manganese source resulted in increased tremors and also in lower motor speed and grip strength scores, noting, "We can't say it is caused by manganese but it could be related."

Those with higher manganese levels in their blood did have more symptoms, she added.

"We're learning from your participation," Bowler said, adding that it was determined that blood may not be the ideal biomarker, so evaluations of hair and toenails will be continued in future studies.

And while S.H. Bell has been targeted as the source of the manganese, Bollweg emphasized that the company has drastically reduced its output of the mineral between 2003 and 2012.

Findings against the company and resulting orders were imposed by the USEPA in 2008 and 2010 and Bollweg said decreases were generally seen after that.

"We believe 2013 will be consistent," he said.

According to information provided by Chris Abbruzzese of Ohio EPA, S.H. Bell has paved roads near the facility to reduce dust emissions, implemented dust suppression on unpaved roads; now wets and vacuums paved surfaces; wets affected materials when loading and unloading; implemented a 5-mile-per-hour speed limit near its facilities; is now storing materials that contribute to dust emissions in enclosed buildings; places tarps on trucks leaving the facilities and constructed a truck load-out building with a capture and control system; keeps detailed records of steps taken to reduce dust emissions; and ceased all work resulting in manganese emissions at the Little England facility.

Manganese and chromium are now at acceptable levels and the facility no longer presents an increased risk to residents' health, officials said.

Among the participants in the study was Mayor Jim Swoger, who pointed out he has lived within 500 yards of the S.H. Bell facility for 43 years and his manganese levels are within acceptable parameters.

"Overall, the community should be reassured there are no big time health effects," Bowler concluded.

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