

# Citizens for a Clean Columbia

Our mission: to advocate for a clean Columbia River ecosystem  
NEWSLETTER JANUARY 2016

## Who are we?

Citizens for a Clean Columbia (CCC) is a volunteer organization focused on advocating for the health of the Upper Columbia River (UCR) and Lake Roosevelt. Visit us at [www.cleancolumbia.org](http://www.cleancolumbia.org).

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## News in Brief

### EPA October 2015 Meeting in Northport, WA

- EPA discussed the residential and upland soil studies that found some elevated levels of lead and arsenic in soils on UCR properties.
- Information was presented on the soil cleanup currently underway, the Upland soil study, and the residential soil sampling planned for 2016.

### Lead Screening in Northport

- Northeast Tri County Health District conducted free blood lead level screening which raised technical questions for one concerned citizen.

### CCC September River Clean-up Event

- As part of the General Member Meeting, a clean-up event, lead by Matt Wolohan, was conducted at Black Sand beach and Northport beach.
- A truck-load of trash was removed. The most interesting item was an old saloon token.

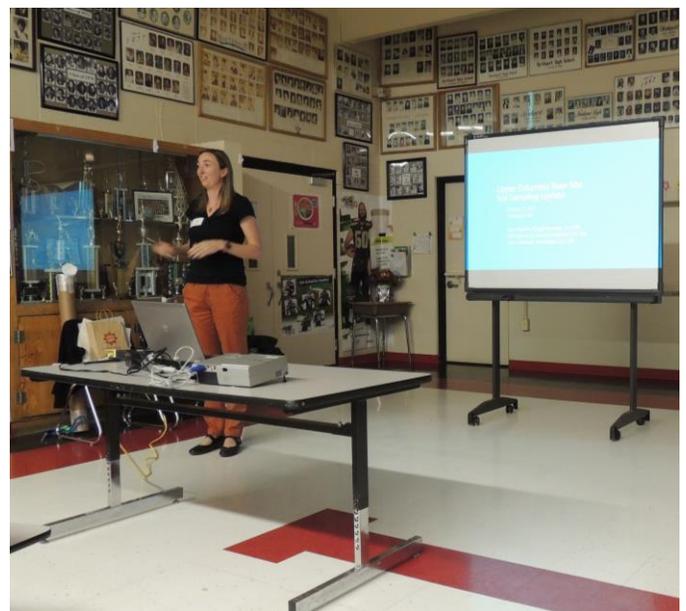
### Technical Advisor Update

- Joe observed time-critical removal and remediation activities on Northport properties.
- He also reviewed and provided comments on split sample data summary reports, the draft UCR Residential Soil Study Field Sampling and Data

Summary Report and Bossburg Flat Beach report, and the 2016 residential soil sampling quality assurance project plan.

## October 2015 EPA Northport Meeting on Residential Soil Clean-up and Additional Sampling Plans in 2016

EPA held a public meeting in Northport, WA to discuss results of the residential and upland soil studies, property clean-up already in progress, and plans for additional sampling. The event was well attended. EPA representatives (Laura Buelow below) began with history of the Residential Soil Study sampling and the time-critical removal action already underway for 15 or the 74 tested properties that met action levels of 700 ppm lead or 90 ppm arsenic.

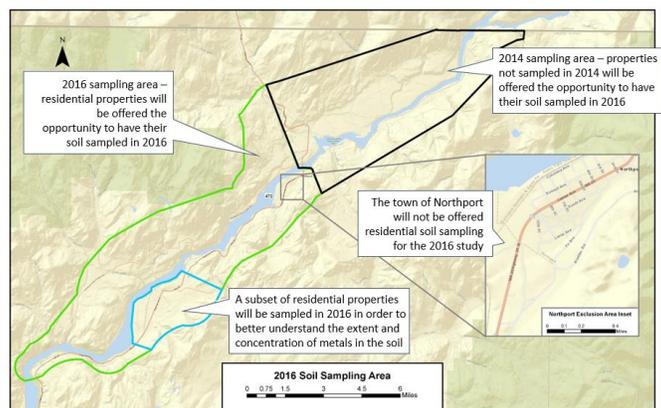


The clean-up involves removing the contaminated soil and trucking it to a licensed disposal facility. The contaminated soil is then replaced with clean soil from a nearby location. After backfilling, areas are

restored with sod lawn or a hydroseeded grass mixture.



An expanded sampling is planned for 2016 for those residential properties in the original study area that declined or did not respond to the first request. In addition, EPA is expanding the sampling area downstream to China Bend (see map on next page). A subset of the Marble community will also be identified for sampling. The immediate town of Northport is excluded from this round of sampling since it was sampled for an EPA soil removal in 2004. The soil results will also be used for the Upper Columbia River remedial investigation and feasibility study human health risk assessment. The sampling work is being performed by Teck American Incorporated (TAI), under EPA oversight.



Eligible properties will receive an Access Agreement this winter from TAI. Property owners who do not get an Access Agreement in the mail and would like their property tested can call or email the EPA, or check with their landlord if applicable, to see if he or she has signed an Access Agreement.

Information was also presented on the Upland Soil Study results – the Final Data Summary Report can be found on Teck’s website at <http://www.ucr-rifs.com/home/documents-plans/>. A number of questions were generated including Teck’s organization, air monitoring, property values, additional contaminants, irritable bowel disease links, options for properties above screening levels but not at critical removal action level, differences between EPA and WA Dept of Ecology lead screening levels, and risk from road dust. Kay Morrison from EPA will seek answers to these questions and provide them to CCC and the community soon. To contact her email [morrison.kay@epa.gov](mailto:morrison.kay@epa.gov), or call 206-553-8321 or 1-800-424-4372 ext. 8321.

EPA has produced fact sheets on the Residential Soil Sampling results or the reader can refer to past newsletters for additional information.

Mindy Smith, CCC secretary

## Lead Screening in Northport

Northeast Tri County Health District (NETCHD) conducted a free blood lead level screening at the Northport school cafeteria on October 28, 2015. The event was extremely well attended, with approximately 50 children and 20 adults undergoing blood lead level screening. Exact numbers are not available from NETCHD due to Health Insurance Portability and Accountability Act (HIPAA) concerns.

The screening procedure used finger stick capillary tube blood collection and lead level determination using a LeadCare II blood lead analyzer on loan from Washington State Department of Health (DOH). It is estimated by attendees that 35 to 40 percent of the results were greater than screening levels, which is 5 micrograms per deciliter ( $\mu\text{g}/\text{dL}$ ) for children and 10  $\mu\text{g}/\text{dL}$  for adults. All adults and parents of children with results above screening levels were encouraged by NETCHD to have their doctors perform a confirmatory venous blood draw lead level determination. Approximately one third of the individuals with lead levels above the screening level had venous blood lead determinations performed. None of the venous blood lead levels were above screening levels. It is not known if any of the other two thirds of individuals with LeadCare II results above screening levels actually have blood lead levels of concern.

Why was there such a discrepancy between the screening test and venous sampling? NETCHD issued a news release on January 7, 2016 concerning the lead screening (the full release is available on the CCC web site). The release stated: "It is not uncommon for environmental contamination, especially in areas where lead may be endemic in the environment, to yield false positives. For this reason, elevated lead levels detected by capillary finger stick testing should always be followed up by confirmation testing through a physician." This begs the question "Why was a method that could yield false positive results used to screen residents in an area that had just had fourteen residences undergo a time critical removal action by the EPA due to high soil lead levels?" The answer may be that the method was the only affordable screening procedure that NETCHD could offer. The venous blood method is significantly more expensive and the LeadCare II instrument was available from DOH at no expense to

NETCHD. A great deal of anguish may have been eliminated if the suggestion for confirmatory testing was accompanied with disclosure of the relatively high incidence of false positives in lead contaminated areas. All anguish would have been avoided if the screening was done using a method that does not result in false positives.

Discussions with representatives of Magellen Diagnostics, the manufacturer of the LeadCare II analyzer, revealed that lead on skin surfaces from environmental sources is by far the most common cause of false positive results. The analyzer uses an electrochemical process that is very specific for lead. Alcohol wipes used to sanitize the skin prior to obtaining capillary blood samples do not remove lead contamination. Patients should thoroughly wash their hands with soap and water prior to screening. Recycled paper and cloth towels may contain enough lead to interfere with the test, so hands should be air dried. At the Northport screening, only alcohol wipes were used to clean and sanitize skin surfaces.

The presence of lead on so many people's hands raises the question of where the lead came from. It is unlikely that everyone was working in soil prior to testing. This is particularly troublesome with recent news about lead contamination from water in Flint, Michigan, which was ignored for months by state officials who insisted that repeat testing of Flint's water treatment plant and in private homes had detected no lead

[\(http://www.usatoday.com/story/news/nation-now/2015/10/11/flint-water-doctor/73777352/\)](http://www.usatoday.com/story/news/nation-now/2015/10/11/flint-water-doctor/73777352/).

One possible cause in our area is airborne lead contamination of surfaces touched by the patients prior to testing. This is one reason that CCC is pushing for an air monitoring study in the Northport area. This author would also like to see some agency

or organization step up and offer free venous blood lead testing for local residents.

A concerned citizen

\*\*As a physician as well as CCC secretary, I wanted to provide a bit of information on lead and lead screening in follow-up to the above article.

First, no threshold for the toxic effects of lead has been identified, and lead exposure in young children at 10 µg/dL has a negative influence on cognition (acquiring knowledge). The effect of blood lead on intelligence quotient (IQ) in young children is estimated at an average loss of two to three points for blood lead levels of 20 µg/dL. Other effects of high lead levels include damage to the nervous system, kidneys, and/or hearing, developmental delay, behavior problems, poor muscle coordination, and decreased bone and muscle growth.

According to the Centers for Disease Control and Prevention, approximately half a million U.S. children ages 1-5 years have blood lead levels above 5 µg/dL, the reference level at which CDC recommends public health actions be initiated (<http://www.cdc.gov/nceh/lead/>). Children are mostly exposed to lead through skin contamination from dust, paint and soil. Hand-to-mouth activity is the most common pathway for children to develop lead poisoning by ingestion of leaded dust in the home environment. Newborns can be exposed through breast milk when lead contained in the mother's bones is mobilized.

There are a number of problems with blood lead measurement. Aside from equipment and contamination problems, lead levels in young children can rise or fall relatively quickly depending on the degree of ongoing exposure and the amount of lead already in their bones, which are constantly being remodeled. Genetics can also affect how lead is bound in blood.

The good news is that controlling lead exposure works. In Trail BC, mean blood lead levels fell at an

average rate of 1.8 microg/dL per year, from 11.5 microg/dL in 1996 to 5.9 microg/dL in 1999, likely due to the start-up of a new lead smelter using modern flash-smelting technology in May of 1997.

## CCC September River Clean-up Event

Under the leadership of our board member Matt Wolohan, the CCC board and members conducted what we hope will be the first annual beach clean-up event at Black Sand and Northport Beaches.



We removed about a truck load of trash, cans for recycling, and other odd bits. The most interesting item was an old token from a local saloon. Following the cleanup was a potluck lunch and General Member Meeting held in the Northport park.



Special thanks to Art and Nina Grobбен.

Mindy Smith, CCC secretary

## **Technical Advisor Report**

My efforts over the past six months focused on the 2014 residential soil study time-critical removal action, the 2016 residential soil study, the Bossburg refined sediment and soil study data summary report, and review of split sample results from two recent studies. CCC used my reviews as the basis for their comments to EPA.

I observed time-critical removal and remediation activities at several properties on Mitchel Road, near Sheep Creek and on Waneta Road. The project was well planned and all activities were performed professionally and carefully. Even though this was one of the driest summers on record, I did not observe any dust escaping from soil removal, stockpiling or disposal activities. Great care was taken in excavating near buildings and established trees and shrubs. A lot of hand excavation was performed to avoid damage to established plantings. Soil removal was performed in two steps. The top 6 inches was removed and the underlying soil was analyzed for lead levels in a grid pattern. Areas with lead levels above 250 micrograms per kilogram ( $\mu\text{g}/\text{kg}$ ) were then excavated to a depth of 12 inches. These areas were analyzed for lead levels again. Areas with lead levels above 250  $\mu\text{g}/\text{kg}$  were covered with landscape fabric to serve as a warning for future digging activities. Excavated areas were replaced with clean soil and replanted or covered with any other material that the property owner requested. All property owners I spoke with were very happy with the entire process.

I reviewed split sample data summary reports for the 2013 sediment toxicity study and the 2014

residential soil study. Split samples are collected to compare sample analyses by the contractor and EPA analytical laboratories. The sediment samples were obtained using a grab sampling device that retrieved approximately five gallons at a time. A single five-gallon sample was used for each split sample analysis. The five-gallon sample was homogenized (thoroughly mixed) at the contractor laboratory and two samples were removed for analysis, one for each laboratory. The residential soil study used incremental composite sampling (ICS) for most study samples. This procedure collected 30 small samples from each sampling area (decision unit). The 30 samples were combined in one container in the field. The ICS method specifies a rigorous and lengthy procedure for mechanically preparing the sample prior to the standard analytical procedure. Only the contractor laboratory performed the mechanical sample processing, which included homogenization, drying, sieving and subsampling the processed sample for analysis at each laboratory. CCC believes the sediment split sample results accurately reflect the variability in results obtained at two independent laboratories. Due to the importance of the ICS sample preparation procedure and the use of only one laboratory to perform this step, CCC believes that the residential soil split sample results can only be used to compare the performance of the analytical method at the two laboratories, and not the actual levels of metals determined in each sample.

I reviewed the draft UCR Residential Soil Study Field Sampling and Data Summary Report and provided my comments to CCC. CCC requested that maps giving the spatial distribution of metals concentrations for all metals with levels above action levels be included in the report. CCC requested that a section be added to document the collection of the nine split samples for CCC. CCC also

requested that the large number of estimated results for antimony and beryllium be addressed in the Human Health Risk Assessment.

I reviewed the draft Bossburg Flat Beach Refined Sediment and Soil Study Data Summary Report and provided my comments to CCC. The major concern with the report was the large number of procedural and record keeping errors that occurred at the analytical laboratory. These included missing laboratory notebook entries, procedural errors that resulted in biased results, *in vitro* bioaccessibility assay (IVBA) lead results that were greater than total lead results, all antimony results being estimated, and triplicate sample results being out of compliance. CCC requested that a formal review of the laboratory be performed to determine the cause of these issues to eliminate a reoccurrence in the future.

I also reviewed the 2016 residential soil sampling quality assurance project plan (QAPP). This QAPP is basically a repeat of the 2014 residential soil study QAPP. The major difference is the change from EPA to Teck American, Incorporated (TAI) as the entity performing the study. Minor study changes included collecting discrete samples at two depths, 0 to 1 inch and 1 to 6 inches, and decreasing the number of triplicate incremental composite samples. CCC also requested that a more detailed map of the study area be included.

Joe Wichmann, PhD; CCC Technical Advisor

## **Want to be More Involved?**

CCC welcomes new members; you can join on our website ([www.cleancolumbia.org](http://www.cleancolumbia.org)). You can also find meeting minutes and links to other organizations involved in protecting the environment.

Our next General Member Meeting will be in the fall. We will post updated information on the website. Please join us.

You can also write to our EPA project managers Laura Buelow ([buelow.laura@epa.gov](mailto:buelow.laura@epa.gov)), Dustan Bott ([bott.dustan@epa.gov](mailto:bott.dustan@epa.gov)) or the EPA region 10 administrator Dennis McLerran ([McLerran.Dennis@epa.gov](mailto:McLerran.Dennis@epa.gov)).