

**PRINCE ALBERT ENVIRONMENTAL MONITORING
QUESTIONS AND ANSWERS
JUNE 25, 2004
General**

What is creosote?

Creosote is the name used for a variety of products: wood creosote, coal tar creosote, coal tar, coal tar pitch, and coal tar pitch volatiles.

Wood creosote is a colorless to yellowish greasy liquid with a smoky odour and burned taste. Coal tar creosote is a thick, oily liquid that is typically amber to black in color. Coal tar and coal tar pitch are usually thick, black, or dark-brown liquids or semisolids with a smoky odour.

Wood creosote has been used as a disinfectant, a laxative, and a cough treatment, but is rarely used these ways today. Coal tar products are used in medicines to treat skin diseases such as psoriasis, and are also used as animal and bird repellents, insecticides, restricted pesticides, animal dips, and fungicides. Coal tar creosote is the most widely used wood preservative in the United States.

Health

How does creosote enter the body?

Creosote can enter the body by direct skin contact, by inhalation and by ingestion. Acute poisoning has followed the swallowing of large amounts of creosote. Studies among workers in wood-treatment facilities have found that very little creosote enters the body through inhalation. Almost all of the creosote found in workers was found to have entered through the skin.

Can creosote be harmful to your health?

Occupational exposure large amounts to creosote can result in rashes, sensitization of the skin to the sun, burns to skin and eyes, convulsions, coma, kidney and liver damage and even death. Long term occupational exposure to coal tar and its byproducts (including creosote) may cause cancer.

How much creosote does it take to harm your health?

No one knows for sure, but almost all ill effects from creosote have been in workers who have had direct contact with large amounts of creosote over long periods of time or who had an accidental spill of creosote over a large proportion of their bodies.

Does creosote have any medicinal use?

Yes. Creosote is an element of some shampoos used to treat psoriasis. Chapparal tea contains wood creosote as do a number of herbal preparations.

SIAST

Why wasn't this site cleaned up before the government allowed construction?

Presently there is no reason to believe that there is any creosote contamination directly underneath the building. During construction of the SIAST Technical Centre, a one metre deep excavation was dug below what was to become the building's foundation, and back-filled with compacted clay. This type of barrier was commonly used and was felt to be more than adequate to ensure a safe separation should there be any potential contaminants at that location.

Who is responsible for ensuring that the health and safety of people at SIAST is not affected by the contamination?

The SIAST buildings are owned and maintained by Saskatchewan Property Management Corporation, they are involved with this on-going monitoring plan and have their own regular groundwater and indoor air monitoring programs. The Occupational Health and Safety Division of Saskatchewan Labour has also been involved in previous monitoring of air quality in the building. No air quality concerns were identified.

Is there contamination under SIAST?

There is no reason to believe that there is creosote contamination beneath the SIAST buildings. Contamination appears from historical aerial photos to be restricted to two main areas: The former "sludge pit", which was located in the north end of the exhibition grounds seasonal parking lot and remediated in 1994 and 2003; and the former drainage channel which crosses the south boundary of the Campus property, but does not travel beneath the buildings themselves.

Is it safe to attend school at SIAST?

Human health risk assessments based on soils in the channel and groundwater beneath the building show extremely low probabilities of increased health risks to occupants of the school. There is no significant risk of increased health problems for anyone occupying the building. Results of indoor air quality testing performed by Saskatchewan Property Management Corporation in 1998 and 2000 are generally below detection; those results above detection are more than two orders of magnitude below the applicable Occupational Health and Safety criteria for a safe workplace.

Who will pay for any clean up that might be done at SIAST?

All of the government agencies and concerned stakeholders are developing a strategy for dealing with the contaminated soils south of the building, and part of this strategy will be developing a budget, and negotiating percentages of costs.

When will the soils in front of SIAST be cleaned up?

It is not yet clear what extent of clean-up is required or what the costs would be. A comprehensive air and groundwater-monitoring program has been initiated to provide more information that would allow a clean-up plan to be developed and to monitor any changes in conditions and subsequent levels of risk.

Why remove contamination from all around SIAST, but not in front?

To date all remedial work has been undertaken at previously known areas of contamination. The limits of the various areas of excavation are deemed acceptable as they are within current guideline limits for commercial property. The only suspected area remaining with contamination in the area of SIAST, is in the channel which crosses the south boundary of the Campus property.

Why perform air sampling in the School in the summer, when nobody is there?

The summer is the best time to perform sampling as the warmer temperatures would provide the highest vapour readings if any and also, the monitoring devices will have minimal disturbance and not be affected by other activities.

Why hasn't Domtar come forward to pay for the cost of remediating their own contamination, and why must Saskatchewan and city taxpayers pay for Domtar's environmental negligence?

This is a complex issue as there were previous legal contracts between Domtar and the City of Prince Albert when the property was sold to the city. Previous environmental legislation would have made it difficult to pursue compensation from Domtar and would have been very time consuming. *The Environmental Management and Protection Act, 2002* may give some additional options to pursue with Domtar. However, this process may also be very time-consuming and pursuing this option would have delayed the remedial and monitoring work undertaken to date. Once an action plan is in place for addressing the new areas of contamination, the department and the city will review options available for recouping costs associated with remediation.

Residential Area (McCraney Cres.)

Is it safe to eat vegetables from my garden?

Yes, at present there is no confirmation of any creosote on private residential property. If any is found it would be at the 17 foot depth where the suspected channel is located. Any creosote at that depth will not have an impact on vegetable gardens.

Is it safe for my children to play in my yard or the park?

It is safe to play in yards and the park. At present there is no confirmation of any creosote on residential property or the park. If any is found it would be at the depth of the suspected channel, which is approximately 17 feet.

Why wasn't this cleaned up before the subdivision was developed?

At the time of this subdivision development, government bodies involved in the subdivision approval did not know that contamination might exist in this location. We are still not certain how much, if any contamination exists in the residential area.

Is there likely to be more creosote in other areas than the area identified?

Since the only significant potential for creosote to be this far off site is due to the former drainage channel and the areas of contamination identified at the former wood treatment facilities have been remediated it is unlikely that there will be other areas.

Will this affect my property values?

Through the test drilling and monitoring program, government hopes to be able to show that no environmental concerns exist that would negatively affect property values.

Is my basement safe?

Any residual contamination in the residential area would be associated with the former drainage channel, and would be approximately 17 feet below the surface. This is well below the level of residential basements, and would not likely have any impact.

Will SE do testing in our homes to ensure they are safe?

Once our drilling investigation is complete we will review the information and determine what if any additional action is required.

Will the test drilling cause much damage to my yard/lawn?

At this time, all test drilling is expected to occur on unoccupied city property, such as in alleys and green spaces. Should the results of the drilling indicate more information is required, all efforts will be made to minimize any damage to landscaping caused by any additional drilling undertaken on private property.

Who will pay for any damage to my lawn, if repairs are needed?

If any damage is unavoidable, homeowners will be compensated for reasonable repairs to their yard.

Will disturbing the contamination beneath this area mobilize it or make it more dangerous?

The drilling method used is very non-invasive, and thus does not promote much volatilization (quick evaporation) or mobilization of contaminants at depth. Any contaminants brought to the surface will evaporate and potentially create noticeable odours, but these soils will be removed and the hole grouted (backfilled with clay), or a monitoring well installed. Also, the soil concentrations found beneath the alley between McRaney Crescent and 15th Avenue are not high enough to be of great concern for mobilization though disturbance.

Will having wells in our neighbourhood add some risk for injury to a child from falling in, or breathing vapours coming from the wells?

These wells will be small diameter wells (2.5 inches) and will be permanently capped and sealed with locked caps that will contain any vapours within the well itself and therefore pose no risk of injury to a child.

Residential Area (8th Street)**Is it safe to eat vegetables from my garden?**

Yes, at present there is no confirmation of any creosote on private residential property. If any is found it would be at sufficient depth to be far removed from root zones of vegetable gardens. Any creosote at that depth will not have an impact on any gardens.

How was the berm created, and is it contaminated?

The berm was created during three separate events: the decommissioning of SFP and Domtar sites (site leveling), the construction of 15th street, when the road-bed was excavated and filled with compactable material, and the construction of SIAST Woodland Campus, when the foundation soils were excavated and replaced with clay as a barrier to potential vapours. The soils within the berm are a layered mixture of clean soils and scattered pockets of contaminated soils.

What is being done to address contamination from the berm?

As part of the Centenary Funded cleanup of city properties affected by the former Domtar site, a detailed analysis of the berm was undertaken. While there are pockets of contaminated soils within the berm, they are isolated from each other by great amounts of clean soils also contained by the berm, and are further isolated from the water table by the height of the berm. Due to the extensive grass cover and the shape of the berm, precipitation does not penetrate the berm to any great extent; therefore there is no motive force to cause the contamination to migrate anywhere. Put simply, the berm is probably the safest place for the contamination to be.

Why not just remove the berm, and be rid of it for good?

The small amounts of contamination within the berm are intermingled with large volumes of clean soils. Because of this, in order to remove all contamination from the berm, we would have to completely remove the berm, which could potentially cost four to six million dollars. This kind of expense cannot be justified, given the very limited risk the berm poses.

Is it safe for my kids to play on the berm?

The berm is city property, and sitting, walking or biking on the berm should not pose any risk to the public. Digging into the berm could reduce the ability of the berm to keep any contaminants within it isolated from the environment but even this would pose a very minimal health risk.

Will SE do testing in our homes to ensure they are safe?

Once the results of soils and water tests are in, the involved agencies will determine the next steps needed to ensure the ongoing safety of Prince Albert residents. It is not anticipated that testing in homes will be required, because the impacts at all three sites appears to be limited to localized soils and groundwater, far below the depth of common basements.

I live on the 10 hundred block of 8th St. E. and there is a big berm behind my house. I heard that this ground is from the Domtar sight. Also, sometimes it smells like diesel fuel in my basement. Am I safe to live here?

The berm contains soils from many locations; some of the soils are contaminated with creosote and/or pentachlorophenol (PCP) and possibly other things such as diesel fuel, etc. The berm also contains large volumes of clean soils. We believe that the contaminants are effectively sealed within the berm and our testing shows they are not migrating out into the surrounding environment.

Diesel exhaust fumes in your house could be caused by the exhaust from idling heavy trucks or equipment in the area. If you have diesel fuel fumes or any vapours in your basement, you need to contact your Public Health Officer, the City Engineering Department and Saskatchewan Environment immediately to discover the cause of the odours and to ensure the safety of your family. Hydrocarbon vapours in basements could sometimes be caused by an old underground heating fuel tank that is leaking, or household chemical storage.

There are some types of pipes in the ground in our neighbourhood and once in a while I see somebody doing something there. What is going on?

This is part of an ongoing monitoring program that has been in place since the 1994 remediation to monitor the groundwater for impacts from contaminant migration from both the berm and the former sludge pit located on the Domtar site south of the berm. So far monitoring of wells immediately north of the berm has found some elevated constituents in groundwater in one particular well. The location of this well is thought to be associated with the disturbance of the former sludge pit removed in 1994. The Department of Community Resources and Employment also have monitoring wells located a few meters north of the berm and along 8th street itself. These wells have shown no groundwater impacts to date, indicating that the impacted groundwater is confined to the one location, close to the berm.

What is being done about the impacted groundwater north of the berm?

As part of the Centenary Funded clean-up of the former Domtar site, a groundwater treatment system will be installed to treat and remediate groundwater in this area. This treatment system will operate until such time as all water samples from the monitoring network meet the applicable remediation criteria. It is anticipated that this should take approximately 3 years.

Can this treatment system be used to treat the soils in the former drainage channel?

This option will be evaluated depending on the results of the proposed drilling program near McRaney Crescent. The soils south of SIAST contain concentrations of contaminants too high for this technology to work effectively.

If there is leaching contamination from the Domtar site, how do I know its not leaching into my weeping tile around my house?

Contamination at the Domtar site has been removed from the site, therefore we do not anticipate the potential for any leachate migration from the site. However, if isolated pockets of contamination were to leach into groundwater and migrate off the site, they would be at a depth far below the level of the weeping tile installed around a house, and should therefore not impact such a weeping tile system.

When will the drilling program begin and when will we (the public) be advised of the results?

We anticipate the drilling program to begin within a few weeks of this announcement, and that results will be available within the weeks to follow. Once all information has been compiled, we will be presenting this information to the public in an additional open house in late summer or early fall.