

From: "Oscar Paulson" <paulson@tribcsp.com>
To: "Stephen Cohen" <SJC7@nrc.gov>
Date: 12/21/2006 3:49:42 PM
Subject: Catchment Basin Excavation

Stephen Cohen:

The following:

1. Additional Deep Soil Background Samples

The diesel contaminated soil excavation West of the Mill Building is still open. This area was excavated to a depth of approximately 6554 above mean sea level (approximately 76 feet below ground surface) to remove diesel contaminated soils. The excavation walls provide a profile of the geology near the Mill. Four (4) samples were collected in the walls of the Western portion of this excavation approximately 1,000 feet Northwest of the Catchment Basin. The results are tabulated below:

Location	Sample Type	Total Extractable Hydrocarbons	pH	Sulphate	Natural Uranium	Natural Uranium
Thorium-230	Thorium-230 - Uncertainty	FINAL	Radium-226			
Result	Uncertainty	(milligrams per kilogram)	(Standard units)	(milligrams per kilogram)	(milligrams per kilogram)	(picocuries per gram)
		(picocuries per gram)	(picocuries per gram)	(picocuries per gram)	(picocuries per gram)	(picocuries per gram)
Diesel Pit North Wall West end bottom	Redox - #2	ND	8.45	94	17.50	11.85 5.9 1.3 4.6 1.1
Diesel Pit South Wall Center/Bottom	- #4	ND	8.56	81	16.40	11.10 0.7 0.5 6 1.3
Diesel Pit South Wall Bottom	- #3	ND	8.1	321	9.85	6.67 1.7 0.7 20.2 1.9
Diesel Pit SW Corner Bench	- #1	ND	8.93	63	43.30	29.31 6.4 1.2 18.3 1.4

Clearly background radium-226 and natural uranium can be elevated at depth which is to be expected given that the area is mineralized. The sample Bench #1 was collected approximately 35 feet below surface in the depth range of the Catchment basin excavation

2. Catchment Basin Excavation CB-21 Area

Borehole CB-21 exhibited an elevated natural uranium concentration as was discussed in the submittal related to the contamination. In the submittal, a commitment was made to excavate additional material around the CB-21 borehole and sample it. This bore hole involves two (2) grids that have been sampled to date, Grids G12 and H12. The pertinent results for these two grids area below:

RADIUM-226

Location	Sample Type	Total Extractable Hydrocarbons	pH	Sulphate	Natural Uranium	Natural Uranium
Uranium-238	Thorium-230	Thorium-230 - Uncertainty	FINAL			
Result	Uncertainty	(milligrams per kilogram)	(Standard units)	(milligrams per kilogram)	(milligrams per kilogram)	(picocuries per gram)
		(picocuries per gram)	(picocuries per gram)	(picocuries per gram)	(picocuries per gram)	(picocuries per gram)
G12 Composite	186	8.81	220	9.76	6.61	3.29 0.0 0.0 3.5 1.1
H12 Composite	61	8.02	2100	34.00	23.02	11.48 3.1 1.0 10.4 1.2

These two (2) grids clearly meet release standards. Several spot samples in the area did not meet release standards however but as discussed in our telephone conversation on December 13, 2006 as long as the grid met the release standard some spot samples within the grid could exceed the limit since the grid sample is a nine (9) point composite sample.

Spot sample data for the cut around CB-21 is included below:

RADIUM-226
 Location Total Extractable Hydrocarbons pH Sulphate Natural Uranium Natural Uranium Uranium-238
 Thorium-230 Thorium-230 - Uncertainty FINAL
 Result Uncertainty
 (milligrams per kilogram) (Standard units) (milligrams per kilogram) (milligrams per kilogram)
 (picocuries per gram) (picocuries per gram) (picocuries per gram) (picocuries per gram) (picocuries per
 gram) (picocuries per gram)
 CB-21 Hole ND 4.74 252 4.90 3.32 1.65 0.0 0.0 2 0.9
 CB-21 Hole ND 5.05 227 4.51 3.05 1.52 0.0 0.0 3.4 1.2
 CB-21 Hole 53 5.91 333 6.08 4.12 2.05 0.0 0.0 2.4 1.1
 CB-21 Hole ND 4.66 405 5.87 3.97 1.98 0.4 0.3 2.7 1.1
 CB-21-V ND 7.94 314 43.20 29.25 14.58 6.6 1.4 17.5 1.5
 CB-21-W 29 7.7 449 36.20 24.51 12.22 2.6 1.0 6 1.1
 CB-21-X 145 7.07 573 16.40 11.10 5.54 0.0 0.0 3.3 0.9
 CB-21-Y 110 7.46 322 6.77 4.58 2.29 0.5 0.4 2.8 1
 CB-21-Z ND 8.35 309 58.10 39.33 19.61 7.6 1.6 18.3 1.7

3. Grid I minus 3

The results for this grid are as follows:

Location Sample Type Total Extractable Hydrocarbons pH Sulphate Natural Uranium Natural Uranium
 Uranium-238 Thorium-230 Thorium-230 - Uncertainty FINAL
 Result Uncertainty
 (milligrams per kilogram) (Standard units) (milligrams per kilogram) (milligrams per kilogram)
 (picocuries per gram) (picocuries per gram) (picocuries per gram) (picocuries per gram) (picocuries per
 gram) (picocuries per gram)
 I-3 Composite ND 7.43 18 60.10 40.69 20.29 24.0 2.8 20.9 1.6

This grid was discussed in our telephone conversation on December 13, 2006. Given the fact that the sulphate concentration for this grid is very low (18 milligrams per kilogram) and elevated sulphate is one indicator of contamination by process fluids, no hydrocarbon contamination is present and that uranium-238, thorium-230 and radium-226 are all roughly in equilibrium (20.29 picocuries per gram/24.0 picocuries per gram/20.9 picocuries per gram) it is believed that the radium-226 present in this grid is natural it was decided that no further excavation work be performed on this grid. In addition, the main power line for the facility lies immediately North of this grid making it difficult to extend excavation activities further to the North at this time.

This e-mail is being sent to document our discussion on December 13, 2006 as well as to provide newly received information regarding naturally occurring elevated radium-226 concentrations in the walls of the diesel contaminated soil excavation.

If you have any questions please do not hesitate to contact me.

Oscar Paulson
 Facility Supervisor
 Kennecott Uranium Company
 Sweetwater Uranium Project
 P.O. Box 1500
 42 Miles Northwest of Rawlins
 Rawlins, Wyoming 82301-1500

Telephone: (307)-324-4924
Fax: (307)-324-4925
Cellular: (307)-320-8758

E-mail: paulson@tribcsp.com

CC: <shelley@tribcsp.com>

Mail Envelope Properties (458AF359.234 : 14 : 62004)

Subject: Catchment Basin Excavation
Creation Date 12/21/2006 3:57:23 PM
From: "Oscar Paulson" <paulson@tribcsp.com>
Created By: paulson@tribcsp.com

Recipients

nrc.gov
OWGWPO03.HQGWDO01
SJC7 (Stephen Cohen)

tribcsp.com
shelley CC

Post Office

OWGWPO03.HQGWDO01

Route

nrc.gov
tribcsp.com

Files	Size	Date & Time
MESSAGE	5916	12/21/2006 3:57:23 PM
TEXT.htm	78769	
Mime.822	93034	

Options

Expiration Date: None
Priority: Standard
ReplyRequested: No
Return Notification: None

Concealed Subject: No
Security: Standard