

From: Jim Eidem [<mailto:JEidem@barr.com>]

Sent: Wednesday, June 15, 2016 3:23 PM

To: Olson, Edward (MPCA)

Cc: Krueger, Gary (MPCA); Formby, Christopher (MPCA); dalgl006@umn.edu

Subject: RE: University of Minnesota Rosemount Research Center, Follow-up investigation of oiled roads

Ed,

Thanks for your review. Below are responses to your comments and the revised sampling table and map are attached. If you have any further questions, please give me a call. We would like to conduct the sampling on Monday, June 20 if possible.

Thanks,

Jim

From: Olson, Edward (MPCA) [<mailto:edward.olson@state.mn.us>]

Sent: Monday, June 06, 2016 3:05 PM

To: Jim Eidem <JEidem@barr.com>

Cc: Krueger, Gary (MPCA) <gary.krueger@state.mn.us>; Formby, Christopher (MPCA)

<Christopher.Formby@state.mn.us>; Janet Dalgleish (dalgl006@umn.edu) <dalgl006@umn.edu>

Subject: RE: University of Minnesota Rosemount Research Center, Follow-up investigation of oiled roads

Jim,

Thanks for sending this additional proposed instigation.

PCA staff has reviewed, further, this brief follow-up investigation and have these additional items for your review and investigation plan modification.

1. Need Sample location rationale - The rationale for proposed sampling of only four, limited-use, road segments is unclear. It appears the four areas for test trenching and sampling have little traffic; whereas, the single hand-auger sample location may be subjected to more traffic.

This sampling event is targeting unpaved sections of historically oiled roads to follow-up on the new information provided by Dakota County (a historical map showing unpaved, oiled road segments in 1960, referencing the volume of oil to be applied, is included in the Work Plan as Attachment 1). The roads highlighted in Attachment 1 (and shown on Figure 1) were oiled in 1960 due to high use at that time. According to Attachment 1, road oil was uniformly applied to the segments, suggesting that sampling results should be consistent throughout the identified road segment. Current uses/traffic levels are not pertinent because the University discontinued oil applications long ago. Test trenches will be used to evaluate the road base material profile except for the hand auger which will be used to collect a sample on Blaine Avenue due to the relatively higher traffic volume.

Also note that operations at the George's Used Equipment and Porter Electric sites began in 1968 and at US Transformer in 1973 so the 1960 oil application areas shown in Attachment 1 and on Figure 1 pre-dated PCB-related operations at these sites. See the response to #2 regarding the 2012 RI sampling that was conducted to evaluate PCB concentrations in road materials near these sites.

2. Provide for sampling other roadways where dust suppression/potential PCB road oiling has occurred - Other roadways likely with (historic) heavier traffic, may have had more dust suppression application. Either provide sample locations of other roadways, or an explanation as to the technical reasoning for delay/sample later.

With respect to PCBs, sampling of the unpaved roadways around George's Used Equipment and the US Transformer site was conducted during the UMore East RI as described in the prior email correspondence. With respect to dust suppression, the primary exposure pathways of concern for historically oiled roads are direct dermal contact, ingestion and inhalation. These exposures pathways are currently mitigated for paved road surfaces. Other roads that were oiled are currently paved and may be subjected to targeted sampling in the future if appropriate.

3. Include sampling of the currently gravel road segment immediately south of the Porter Electric. Location R-B5-TT1 has been added south of Porter Electric (see the attached table and figure).

4. Provide photographic field record of targeted sample locations. Photographs will be taken of the test pit side walls.

5. Conduct test trench sampling first, such that there may be a correlation established for subsequent hand-auger (i.e. target sampling).
As requested, the test trenches will be conducted first to observe the vertical profile of the road base materials and the observations will be used to inform the hand auger location.

6. Managing road cutting wastes and PCB in soils in accordance with Minn. R. ch. 7045.
If road waste cuttings are oily to the point that contaminant migration as a result of the investigation is a concern, the oil cuttings will be containerized and managed appropriately. If free oil is not present, the cuttings will be returned back to the test trenches and hand auger boring in reverse order (so the upper most road base will be at the surface).

Please submit investigation plan modification within 30 days. Please call me or Christopher if you would like to discuss any of this.

Edward P. Olson, CEP
Project Manager
Superfund Unit 1, Remediation Program
MPCA

The University has reviewed background information and existing data for evidence of a release of polychlorinated biphenyls (PCBs) or other hazardous substances from past dust control practices at delisted University of Minnesota Rosemount Research Center (UMRRC) Superfund Site. As recommended by the Fourth Five-Year Review for the delisted UMRRC Site (and requested by Dakota County staff), a summary of the review and a proposed scope of work to further evaluate road base materials at the site is provided below.

Background

During the Phase I Environmental Site Assessment (Barr, 2011), University employees familiar with past site activities indicated that dust suppression via oil spraying was conducted on the gravel roads near the main shops area at UMore Park (Figure 1). As part of the UMore East Remedial Investigation (Barr, 2012), five road base samples (716A-SS1 through SS5) were collected in the gravel roads near the

George's Used Equipment site and analyzed for PCBs and one sample (101A-SS1) was collected near the former U.S. Transformer site and analyzed for PCBs and semi-volatile organic compounds (SVOCs). The UMore East sample locations are shown on Figure 1 and analytical results are summarized in Table 1. No elevated headspace readings or other indications of soil impacts were observed. Analytes were below Soil Reference Values for unrestricted use (Tier 1 SRVs) except PCBs which were detected slightly above the Tier 1 SRV in one sample (716A-SS2-0.5') collected northeast of the George's Used Equipment site.

Dakota County staff recently provided the University with maps showing roads where oil was applied for dust suppression in 1959 (Attachment 1). Notes on the maps indicate an oil application rate of approximately 0.22 gallons per square yard. No information regarding the type or source of the oil used for dust suppression was identified. Based on this new information, additional sampling of the road base materials is proposed.

Proposed Sampling and Analysis

The roads where oil was applied for dust suppression and the proposed additional investigation locations are shown on Figure 1. The investigation locations focus on unpaved road sections where oil was reportedly applied. These locations may be modified in the field based on accessibility issues, subsurface utilities, and field observations. A sample of the top 6-inches of road base materials will be collected from each investigation location and, if the road base materials are greater than 6-inches thick, at least one additional sample will be collected at depth. The samples will be analyzed for polycyclic aromatic hydrocarbons (PAHs), RCRA metals and PCBs (Table 2). Each investigation location will be documented with a GPS coordinates and a description of road base and underlying materials encountered, field screening results (i.e., organic vapor measurements, odors, staining, etc.), and samples collected.

Methods

The sampling and analysis will be conducted concurrently with the upcoming UMore Park/Gopher Ordnance Works Remedial Investigation using methods consistent with the existing Quality Assurance Project Plan (Barr, 2016).

Reporting

A letter report will be prepared to summarize the results of these investigation activities and will be submitted to the MPCA under separate cover from the UMore Park/Gopher Ordnance Works RI report.

If you have any questions, please contact me or Janet Dalglish.

Thank you,
Jim

Jim Eidem, PG

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Table 1
Previous Road Base Analytical Results
UMore Park
Dakota County, Minnesota

Sys Loc Code	101A-SS1	716A-SS1	716A-SS2	716A-SS3	716A-SS4	716A-SS5
Sample Date	7/7/2011	6/24/2011	10/14/2011	10/14/2011	10/14/2011	10/14/2011
Depth Interval (ft.)	0.5 - 0.5	0.5 - 0.5	0.5 - 0.5	0.5 - 0.5	0.5 - 0.5	0.5 - 0.5
Chemical Name	MN Tier 1 SRV					
Effective Date	06/22/2009					
Exceedance Key	Bold					
PCBs						
Aroclor 1248	< 0.21 mg/kg	< 0.22 mg/kg	< 0.21 mg/kg	< 0.21 mg/kg	< 0.22 mg/kg	< 0.21 mg/kg
Aroclor 1260	< 0.21 mg/kg	1.0 mg/kg	1.3 mg/kg	0.32 mg/kg	< 0.22 mg/kg	< 0.21 mg/kg
Total Polychlorinated Biphenyls	1.2 mg/kg	ND mg/kg	1 mg/kg	1.3 mg/kg	0.32 mg/kg	ND mg/kg
SVOCs						
Benzo(a)anthracene	T	< 0.043 mg/kg	--	--	--	--
Benzo(a)pyrene	T	< 0.044 mg/kg	--	--	--	--
Benzo(b)fluoranthene	T	< 0.045 mg/kg	--	--	--	--
Benzo(k)fluoranthene	T	< 0.050 mg/kg	--	--	--	--
Chrysene	T	< 0.046 mg/kg	--	--	--	--
Dibenz(a,h)anthracene	T	< 0.045 mg/kg	--	--	--	--
Indeno(1,2,3-cd)pyrene	T	< 0.042 mg/kg	--	--	--	--
BaP equivalent, non-detects at zero for the detection limit. ¹	2 T mg/kg	ND mg/kg	--	--	--	--
Benzo(g,h,i)perylene		< 0.045 mg/kg	--	--	--	--
2,4-Dinitrotoluene	50 mg/kg	< 0.036 mg/kg	--	--	--	--
2,6-Dinitrotoluene	25 mg/kg	< 0.041 mg/kg	--	--	--	--
2-Methylnaphthalene	100 mg/kg	< 0.038 mg/kg	--	--	--	--
Acenaphthene	1200 mg/kg	< 0.040 mg/kg	--	--	--	--
Acenaphthylene		< 0.043 mg/kg	--	--	--	--
Acetophenone		--	--	--	--	--
Anthracene	7880 mg/kg	< 0.038 mg/kg	--	--	--	--
Bis(2-ethylhexyl)phthalate	570 mg/kg	< 0.050 mg/kg	--	--	--	--
Butyl benzyl phthalate	580 mg/kg	< 0.044 mg/kg	--	--	--	--
Carbazole	700 mg/kg	< 0.036 mg/kg	--	--	--	--
Dibenzofuran	104 mg/kg	< 0.034 mg/kg	--	--	--	--
Diethyl phthalate		< 0.032 mg/kg	--	--	--	--
Di-n-butyl phthalate	2440 mg/kg	< 0.046 mg/kg	--	--	--	--
Diphenylamine		--	--	--	--	--
Fluoranthene	1080 mg/kg	< 0.041 mg/kg	--	--	--	--
Fluorene	850 mg/kg	< 0.036 mg/kg	--	--	--	--
Isophorone		< 0.032 mg/kg	--	--	--	--
Naphthalene	10 mg/kg	< 0.034 mg/kg	--	--	--	--
N-Nitrosodimethylamine		< 0.023 mg/kg	--	--	--	--
Pentachlorophenol	80 mg/kg	< 0.081 mg/kg	--	--	--	--
Phenanthrene		< 0.038 mg/kg	--	--	--	--
Pyrene	890 mg/kg	< 0.043 mg/kg	--	--	--	--

Notes:
-- Not analyzed
T - Value represents a criteria for the total carcinogenic PAHs as BaP.
mg/kg - milligrams per kilogram

Table 2
Supplemental Road Base Sampling Plan
UMMRC Site
Dakota County, Minnesota

Sampling Location ID	Investigation Location Type	Approximate Investigation Depth (feet bgs)	Location Rationale	Sample Interval (feet bgs) ¹	Parameters (number of samples)		
					PAHs	RCRA Metals	PCBs
R-B5-TT1	Test Trench	3	Release detection sample in formerly oiled road	0-0.5 TBD	2	2	2
R-B6-TT1	Test Trench	3	Release detection sample in formerly oiled road	0-0.5 TBD	2	2	2
R-B7-TT1	Test Trench	3	Release detection sample in formerly oiled road	0-0.5 TBD	2	2	2
R-B8-TT1	Test Trench	3	Release detection sample in formerly oiled road	0-0.5 TBD	2	2	2
R-C7-HA1	Hand Auger	3	Release detection sample in formerly oiled road	0-0.5 TBD	2	2	2

Notes:

PAHs - Polycyclic aromatic hydrocarbons

PCBs - Polychlorinated biphenyls

bgs - below ground surface

TBD - to be determined

¹ Surface samples (i.e., 0-0.5 feet) will be collected at each location. Additional samples will be collected if road base materials are greater than 6-inches thick. Samples collected below 0.5 feet will target intervals with indication of oil application (i.e., staining, sheen, odor, etc.), if observed.

