

0010

*Outgoing
C/007/0041
Q*

From: Priscilla Burton
To: OGMCOAL; Shaver, Dave
CC: Haddock, Daron; Smith, Jim; Steve Christensen
Date: 2/12/2009 9:34 AM
Subject: Re: FW: 007041 West Ridge lab analysis of C Canyon accumulations
Place: OGMCOAL

Dave,
Karla indicates that she used three different labs, but you have provided results only from ACZ labs. Are there more laboratory results to review?
Priscilla.

>>> "Shaver, Dave" <dshaver@coalsource.com> Wednesday, February 11, 2009 10:48 AM >>>
Priscilla....FYI

-----Original Message-----

From: Karla Knoop [<mailto:kknoop@jbrenv.com>]
Sent: Wednesday, February 11, 2009 10:37 AM
To: Shaver, Dave
Subject: RE: 007041 West Ridge lab analysis of C Canyon accumulations

Dave,

I will try today to determine the information necessary to meet the Division's requirements outlined below. But, I thought it would be helpful to clarify our original sampling intentions, to put those requests in context.

JBR recommended to you that we collect and analyze a sample that would allow a rapid, general, initial characterization of the material as the first phase in this investigative process. With that goal in mind, we selected a parameter set (pH, TOC, TPH, and acid/base accounting), chose an appropriate lab for the analysis, and collected more than the required sample volume.

It was key to our plan that an accelerated turnaround time could met with the initial analysis so that we could -- based upon the initial results -- request additional analyses using the extra material already in the lab's possession. As you know, when we found out about the Division's request for the Table 3 & 7 parameters, the samples had already been taken to the lab.

Although there was some overlap in JBR's and the Division's list, the additional analyses resulted in a longer turnaround time and use of the 'extra' sample material we had collected.

In the end, we used three different labs in order to get all of the parameters analyzed. At the time I made the request for the additional analyses, I discussed the Division's recommended methods with the labs and they informed us that they did not have the capability to use those methods, but could use EPA methods instead. Rather than retrieving the samples back from the lab, researching another lab, and further delaying result reporting, I made the decision to go with the EPA methods. I did not take the time to research their equivalency with the other methods. In my mind, we were not analyzing the sample to determine its suitability for topsoil substitute or growth medium, we knew it was not overburden, and we knew that there was no intent to use the material as fill or for surface placement, so I did not focus on that part of the analysis as much as I did on the original parameters and the ability to get rapid results for a general characterization.

I will know more specifics later today, hopefully. But we will most likely need to collect more samples to do the additional analysis that the Division has required and to replace our previously collected sample volume for our 2nd phase of analysis. Let me know if you have any questions about this.

Karla

-----Original Message-----

From: Shaver, Dave [<mailto:dshaver@coalsource.com>]
Sent: Tuesday, February 10, 2009 2:08 PM
To: Karla Knoop
Subject: FW: 007041 West Ridge lab analysis of C Canyon accumulations

-----Original Message-----

From: Priscilla Burton [<mailto:priscillaburton@utah.gov>]
Sent: Tuesday, February 10, 2009 11:02 AM
To: Shaver, Dave; OGMCOAL@utah.gov
Cc: Daron Haddock; Steve Christensen; Steve Demczak
Subject: Fwd: 007041 West Ridge lab analysis of C Canyon accumulations

Dave,

The lab sheets indicate that Selenium was analyzed using EPA SW-846 Method 6020. Boron and other salts were analyzed using EPA SW-846 Method 6010B. I can not locate a description of the SW 846 methods used

by ACZ laboratories in the on line edition of SW 846 <http://www.epa.gov/SW-846> , but it is likely that the SW-846 method used by the laboratory was run on an acid digest of the sludge. The values listed for selenium and boron as tested by these methods far exceed acceptable limits defined by the Utah Soil and Overburden Guidelines. However, the Division guidelines for selenium and boron limitations are based upon a water extract. The method suggested is described in Table 7 of the Utah Guidelines (a copy of Table 7 was emailed to you on January 28, 2009).

For selenium the recommended method is Hydride Generation Atomic Absorption -spectrometry and Fluorimetry of Water Extractable Selenium. Soil Science Society of America. Methods of Soil Analysis: Part 3 Chemical Methods. Series No. 5, 1996. Chapter 30. pp 805 - 811.

For boron, the recommended method is run on a saturation extract using Soil Science Society of America. Methods of Soil Analysis: Part 3 - Chemical Methods. Series No. 5, 1996. Chapter 21. p 611.

Please have the laboratory re-run the sample they are holding using the recommended methods for Se and B. And/or have the laboratory provide a citation for the method they are using. And, please have your consultant provide a comparison of the laboratory method with the one recommended by the Utah Guidelines for the Se and B parameters.

In addition, the Sodium Adsorption Ratio (SAR) is calculated from a saturation extract. The values for sodium, magnesium and calcium must be provided in either milli-equivalents per liter or in milli-moles per liter.

Please have the laboratory re-run the sodium, magnesium and calcium analysis on a saturation extract as described in Table 3 of the Utah Soil Guidelines (a copy of which was emailed to you on January 28, 2009). Soluble Na, K, Mg, Ca should be run using spectroscopic methods on a saturation extract following the USDA-NRCS. 1996. Soil Survey Laboratory Methods Manual. (SSIR No. 42 ver. 3.),Chap 14 pp 420 - 422, Chap. 19 pp 555 - 557, Chap 20 pp 586-590. The SAR ratio was first described in 1954 (USDA Handbook #60, pg. 72) and the calculation is a well accepted indication of sodium hazard.

Thank you,

Priscilla Burton, CPSSc
Division Oil Gas & Mining
319 Carbonville Rd., Ste. C
Price UT 84501
(435) 613-3733

State of Utah office hours are Mon. through Thurs.,
7 a.m. to 6 p.m.

>>> "Shaver, Dave" <dshaver@coalsource.com> Tuesday, February 10, 2009
8:35 AM >>>

Priscilla...Attached are the lab sheets you requested. Let me know if
there is anything else you need.

Dave

-----Original Message-----

From: Karla Knoop [<mailto:kknoop@jbrenv.com>]
Sent: Tuesday, February 10, 2009 8:28 AM
To: Shaver, Dave
Subject: RE: lab analysis of C Canyon accumulations

Attached.

-----Original Message-----

From: Shaver, Dave [<mailto:dshaver@coalsource.com>]
Sent: Tuesday, February 10, 2009 8:25 AM
To: Karla Knoop
Subject: FW: lab analysis of C Canyon accumulations

Good morning Karla...do you have the back up data from the lab that we
can give to Priscilla? Thanks

Dave

-----Original Message-----

From: Priscilla Burton [<mailto:priscillaburton@utah.gov>]
Sent: Monday, February 09, 2009 3:24 PM
To: Shaver, Dave
Cc: Daron Haddock; Steve Demczak
Subject: Re: lab analysis of C Canyon accumulations

Dave,

The reported values for selenium and boron are extraordinarily high. Please provide the original analysis sheets from the laboratory, perhaps there was an error made during retyping the results. The original analysis sheets would also confirm for the purposes of SAR calculation whether sodium, magnesium and calcium were reported on a milliequivalent per Liter basis or on a mg/Kg basis.

Thank you,
Priscilla.

>>> "Shaver, Dave" <dshaver@coalsource.com> Monday, February 09, 2009
>>> 2:40 PM >>>

Gentlemen.....As per your request, attached is the lab analysis of the coal fines material which has accumulated in the drainage below the West Ridge Mine.