

STATE OF
COLORADO

02144397

Fischer - DNR, Alex <alex.fischer@state.co.us>

FW: Walden (13081206)

1 message

James Hix <jhix@olssonassociates.com>

Thu, Aug 29, 2013 at 1:58 PM

To: "Fischer, Alex (Alex.Fischer@state.co.us)" <Alex.Fischer@state.co.us>

Here is the Accutest laboratory director's response about the 8015 methods.

From: Jason Myers [mailto:jasonm@accutest.com]**Sent:** Friday, August 23, 2013 5:23 PM**To:** James Hix**Cc:** Renea Jackson**Subject:** RE: Walden (13081206)

Hi James,

I'm going to copy our lab director's (Scott Heideman) response below. If you have any follow up questions he would be happy to discuss directly. Please let us know if we can do anything else in the meantime. Thanks and have a great weekend,

Jason

"Analytically speaking, there is not a significant difference between revision B and revision D for SW846 8015.

Our NELAC accrediting agency, the State of Utah, does certify for the specific method revisions and Accutest Mountain States (AMS) is certified for SW846 8015B for DRO and GRO. The method revisions are listed on our client reports.

A summary of our procedure is listed below:

AMS analyzes DRO using a diesel standard for calibration with minimum of 5 calibration points and quantitate from C10 to C28 (if no other specific range is requested) using C8 through C40 n-alkane retention markers as per method 8015B.

AMS analyzes GRO using a gasoline standard for calibration with minimum of 5 calibration points and quantitate from C6 to C10 using the retention markers 2-methylpentane to 1,2,4-trimethylbenzene as per method 8015B.

AMS extracts DRO soils using methylene chloride with 30 gram of sample following microwave extraction method 3546. The extract is analyzed by GC, FID, capillary column and is directly injected into the instrument. GRO soils are analyzed using the purge and trap method SW846 5035A.

We agree with Mr. Leftwich's discussion on results variability between laboratories. As we see it, the differences in measured results between the 2 laboratories could be due to one, or a combination of any/all of the following factors; 1. Non-homogenous sample and/or sample splitting; 2. The difference in sample preparation techniques. There is a likely difference in the extraction efficiency between sonication and microwave extraction. Microwave has proven to be more efficient as a soil extraction method, although each extraction procedure is acceptable; 3. The amount of sample used for extraction and the solvent used for extraction. and finally; 4. Whether the result is based on wet or dry weight. AMS's results are reported on a dry weight basis, unless otherwise requested."

From: Jason Myers
Sent: Thursday, August 22, 2013 7:11 PM
To: 'James Hix'
Subject: RE: Walden (13081206)

Hi James,

I know our QA/QC officer and our lab director are putting a response together now. We will get it over to you ASAP. I'll let their response get into the technicalities of the method but what I could say is that 8015B is most certainly certifiable from NELAP and is what is referenced on our NELAP certification (which is through UT for our region). I've attached that for documentation in the meantime.

We'll get back to you ASAP. Thanks for bringing to my attention.

Jason

From: James Hix [mailto:jhix@olssonassociates.com]
Sent: Thursday, August 22, 2013 4:56 PM
To: Jason Myers
Cc: Renea Jackson; Shea Greiner
Subject: FW: Walden (13081206)

Hi Jason,

Could you run this by the laboratory director and see if they agree with what Mr. Leftwich is saying about the difference between 8015B and 8015D? TP Environmental is treating the soil by shredding it and spraying it with a peroxide solution. It looks like it is working to reduce the GRO and BTEX concentrations to below the COGCC Table 910-1 levels, but it isn't working on the DRO range.

James

James W. Hix, PG | **Olsson Associates**

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From: Mike Holder [<mailto:mholder@tpenviro.com>]
Sent: Thursday, August 22, 2013 2:12 PM
To: James Hix; George Rooney; Damon Wright; tmccormack@tpenviro.com
Subject: Fwd: Walden (13081206)

FYI

[Www.tpenviro.com](http://www.tpenviro.com)

Begin forwarded message:

From: Blair Leftwich <bleftwich@traceanalysis.com>
Date: August 22, 2013, 3:10:09 PM CDT
To: Mike Holder <mholder@tpenviro.com>, Damon Wright <dwright@tpenviro.com>
Cc: Liz Givens <lgivens@traceanalysis.com>, Dan Lokey <dlokey@traceanalysis.com>, Sheryl Spore <sspore@traceanalysis.com>, Mike Abel <mabel@traceanalysis.com>, James Taylor <jtaylor@traceanalysis.com>, James Ratcliff <jratcliff@traceanalysis.com>, Chase leftwich <chase.leftwich@traceanalysis.com>
Subject: Re: Walden (13081206)

The main difference between 8015 B and D is that D actually formalized GRO and DRO by adding GRO and DRO standards and by pushing purge and trap for GRO. B is an earlier version where it was up to the labs to modify the method by using gasoline and diesel as standards and using the total are count between the first peak and last peak of each peak for quanitation. B also left it up to the lab whether to use purge and trap for GRO or not. Labs not using purge and trap are basically running TX1005 and reporting C6-12 as GRO and >C12-28 as DRO. Labs reporting 8015B are supposed to show 8015 Mod if they modified the method using gasoline and diesel standards or do not use purge and trap for GRO. I do not think

modified methods are certifiable. NELAP only certifies the Method number 8015 and not the version B or D, so if a lab is NELAP certified for 8015 GRO and DRO, it does not actually define how the lab is running the tests. The biggest differences between labs is how the samples are extracted, analyzed, standardized, and quantified. TraceAnalysis is NELAP accredited for GRO and DRO by 8015. We actually run version D and show it on the reports. We run purge and trap for GRO, like BTEX. DRO samples are extracted with pentane using sonication and analyzed by GC, FID, capillary column, and direct injection, basically the same extraction and analysis as TX1005. We use gasoline and diesel as standards. Labs using a different extraction, standards, quantitation, or analysis may have different results. Often the biggest difference between labs is because soil samples are difficult to split so each lab has the same sample. To give you an idea of what is acceptable variability: NELAP allowed 30%-165% recovery for DRO soil on the last unknown (theoretical value = 500 ppm, acceptable range 155-869 ppm, $869/155 \times 100 = 600\%$ variability); TCEQ allows a 50% variability in field duplicates; and in general NELAP allows labs $\pm 20\%$ standardization, $\pm 20\%$ extraction, and $\pm 20\%$ precision, which means that if a lab was at the bottom of those and the other lab was at the top of those, the labs could be 60% different and both meet QC requirements. Throw in sample variability of 50% and that would be 110% acceptable difference. One lab could have 100 ppm DRO and the other 1,100 ppm DRO.



Dr. Blair Leftwich, MPH, DSc
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From: "Liz Givens" <lgivens@traceanalysis.com>
To: "Blair Leftwich" <bleftwich@traceanalysis.com>
Sent: Thursday, August 22, 2013 12:28:47 PM

Sent: Thursday, August 22, 2013 12:20:41 PM

Subject: Fwd: Walden (13081206)

From: "Mike Holder" <mholder@tpenviro.com>
To: "Liz Givens" <lgivens@traceanalysis.com>, "Damon Wright" <dwright@tpenviro.com>
Sent: Thursday, August 22, 2013 9:36:53 AM
Subject: Fwd: Walden (13081206)

Liz,

Can we get info below.

Mike

Www.tpenviro.com

Begin forwarded message:

From: James Hix <jhix@olssonassociates.com>
Date: August 22, 2013, 9:24:59 AM CDT
To: Mike Holder <mholder@tpenviro.com>
Subject: RE: Walden (13081206)

Mike,

Is it possible to get the chromatograms for the DRO analyses from Trace Analysis, Inc.? I will request them from Accutest as well so that we can compare them. It looks like Trace Analysis was running an 8015D and Accutest ran the DRO by 8015B. I wouldn't think that there would be much difference in the methods, but depending on the extraction methods used it could make a big difference. Could you give me a call at (303) 237-2072.

I called and left a message for Alex Fischer – COGCC West Environmental Supervisor, but he is out this week.

James

James W. Hix, PG | **Olsson Associates**

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TEL 303.237.2072 | DIR 303.374.3139 | CELL 303.589.1572 | FAX 303.237.2659



From: Mike Holder [mailto:mholder@tpenviro.com]
Sent: Thursday, August 15, 2013 2:54 PM
To: James Hix; George Rooney; Damon Wright; tmccormack@tpenviro.com

Subject: Fwd: Walden (13081206)

Www.tpenviro.com

Begin forwarded message:

From: "reports@traceanalysis.com" <reports@traceanalysis.com>
To: "mholder@tpenviro.com" <mholder@tpenviro.com>
Subject: Walden (13081206)

TraceAnalysis, Inc.

(attachments enclosed)

Work Order: 13081206
Contact Person: Mike Holder

Project Location: Walden, Colorado
Project Name: Walden
Project Number: 57-001

Note: To ensure you receive email, please add reports@traceanalysis.com to your address book.

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