Stantec Analytical Validation Checklist — Report No. SDG#ASX92

Project Name: Amtrak Wilmington	Project Number: 213402048
Stantec Validator: Patrick Vaughan/Steve Alberts	Laboratory: Eurofins/Lancaster
Date Validated: 2/20/2013	Laboratory Project Number: 1337436
Sample Start-End Date: 9/20 - 21/2012	Laboratory Report Date: 10/18/2012

Parameters Validated: Groundwater Samples for 8260B, 8270C, metals (total and dissolved)

Samples Validated: MW-8, MW-8MS, MW-8MSD, MW-8Dup, MW-DUP-2, MW-5, MW-24, MW-6, EB-09202012, MW-17, MW-21, MW-12, EB-09212012, MW-11, Trip and Storage Blanks.

VALIDATION CRITERIA CHECK

Validation Flags Applicable to this Review:

U The analyte was analyzed for, but not detected above the reported sample quantitation limit.

J The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

UJ The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.

NJ The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.

B The analyte was detected in the method, field, and/or trip blank.

R The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

	Yes	No
1. Were all the analyses requested for the samples submitted with each COC completed by the lab?	X	
Comments:		
2. Did the laboratory identify any non-conformances related to the analytical result?		X
Comments:		
3. Were sample Chain-of-Custody forms complete?	X	
Comments:		
4. Were samples received in good condition and at the appropriate temperature?	X	
Comments:		
5. Were sample holding times met?	X	
Comments:		
6. Were correct concentration units reported?	X	
Comments:		

7. Were detections found in laboratory blank samples?		Yes	No **X**
Comments:			
8. Were detections found in field blank, equipment rinse blank, and/or trip blank samples?		Yes	No **X**
Comments:			
9. Were instrument calibrations within method criteria?	NA	Yes **X**	No
Comments:			
10. Were surrogate recoveries within control limits?		Yes **X**	No
Comments:			
11. Were laboratory control (LC/LD) sample recoveries within control limits?		Yes **X**	No
Comments:			
12. Were matrix spike (MS/MD) recoveries within control limits?		Yes **X**	No
Comments:			
13. Were RPDs within control limits?		Yes **X**	No
Comments:			
14. Were dilutions required on any samples?		Yes **X**	No
Comments:			
15. Were Tentatively Identified Compounds (TIC) present?		Yes	No **X**
Comments:			
16. Were organic system performance criteria met?	NA	Yes **X**	No
Comments:			
17. Were GC/MS internal standards within method criteria?	NA	Yes **X**	No
Comments:			
18. Were inorganic system performance criteria met?	NA	Yes **X**	No
Comments:			

19. Were blind field duplicates collected? If so, discuss the precision (RPD) of the results.	Yes	No
	X	

Duplicate Sample ID	Primary Sample No.
MW-Dup-2	MW-8

Comments: Metals Barium, Calcium, Iron, Magnesium, Manganese, Potassium, and Sodium were detected in both samples. The RPDs calculated were within project acceptance criteria of 25%.

Aluminum, and Vanadium were also detected in both samples. The RPDs calculated for these metals were outside project acceptance criteria (42.8% and 34.2%, respectively). All associated results in MW-8 and MW-Dup-2 were qualified as estimated (J).

Reason code: FDUP

20. Were at least 10 percent of the hard copy results compared to the Electronic Data Deliverable Results?	Yes	No	Initials
	X		KEF

Comments:

21. Other?	Yes	No
		X

Comments:

PRECISION, ACCURACY, METHOD COMPLIANCE AND COMPLETENESS ASSESSMENT

	Acceptable	Unacceptable	Initials
Precision:	X		
Comments:			
Sensitivity:	X		
Comments:			
Accuracy:	X		
Comments:			
Representativeness:	X		
Comments:			
Method Compliance:	X		
Comments:			
Completeness:	X		
Comments:			