

Submit to DKC
Public record
9-13-16
-pbj

Case Narrative

Lab No: 20160291

This report contains the analytical results for the 1 sample(s) received under chain of custody by ESC Lab Sciences on 03/29/16 14:13:45. These samples are associated with your Sludge Gamma Study project.

The analytical results included in this report meet all applicable quality control procedure requirements except as noted below:

The test results in this report meet all NELAC requirements unless noted below:

This report shall not be reproduced, except in full, without the written approval of ESC Lab Sciences.

All radiochemical sample results for solids are reported on a dry weight basis with the exception of tritium, carbon-14 and radon, unless wet weight was requested by the client.

Results have been reviewed by the Director of Radiochemistry or their designees and is approved for release.

Observations / Nonconformances

Client was changed on 4/28/16 per customer request. → lab error, pbj
Sample date was changed 5/10/16 per customer request.

Observations / Nonconformances

Sample for this project was dried, ground, and sealed for 21 days prior to counting.

→ DUE TO TYPO - pbj

Client: [REDACTED]
 Client Project : Sludge Gamma Study
 Lab Number : 20160291
 Date Reported : 05/10/16
 Date Received : 03/29/16
 Page Number : 2 of 3

Analytical Report

Method	Result	DL	Units	Qual	Prep Date	Analysis Date	
Lab ID : 20160291-01							
Client ID : OKC Veolia N Canadian							
Date Sampled : 03/07/16 13:50:00							
Matrix : SCM							
Radiochemical Analyses							
K-40 - Potassium 40	DOE Ga-01-R*	2.69 +/- 1.34	1.87	pCi/g	04/01/16	04/25/16	RE
Tl-208 - Thallium	DOE Ga-01-R*	0.059 +/- 0.186	0.320	pCi/g	04/01/16	04/25/16	RE
Pb-210 - lead	DOE Ga-01-R*	2.18 +/- 1.71	2.76	pCi/g	04/01/16	04/25/16	RE
Bi-212 - Bismuth	DOE Ga-01-R*	0.058 +/- 0.691	1.16	pCi/g	04/01/16	04/25/16	RE
Pb-212 - Lead	DOE Ga-01-R*	0.186 +/- 0.106	0.194	pCi/g	04/01/16	04/25/16	RE
Bi-214 - Bismuth	DOE Ga-01-R*	0.665 +/- 0.217	0.410	pCi/g	04/01/16	04/25/16	RE
Pb-214 - Radium B	DOE Ga-01-R* (Lead)	0.442 +/- 0.119	0.234	pCi/g	04/01/16	04/25/16	RE
Ra-226 Radium	DOE Ga-01-R*	0.554 +/- 0.168	0.322	pCi/g	04/01/16	04/25/16	RE
Ac-228	DOE Ga-01-R*	0.511 +/- 0.220	0.479	pCi/g	04/01/16	04/25/16	RE
Th-234 - Thorium	DOE Ga-01-R*	3.17 +/- 1.02	1.83	pCi/g	04/01/16	04/25/16	RE
U-235 - URANIUM	DOE Ga-01-R*	0.132 +/- 0.366	0.156	pCi/g	04/01/16	04/25/16	RE

(213) Bismuth - used to treat patients with leukemia
 - uranium Bi-213 found in

★ Radium - found in URANIUM
 Ra-226 radium has 33 known isotopes. all of them are radioactive



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EMSL Order:	371605202
CustomerID:	MISC-ACCT
CustomerPO:	cc 08521A
ProjectID:	EMSL-PJF

Attn: [Redacted]

Phone:
 Fax:
 Received: 03/23/16 9:50 AM
 Analysis Date: 4/6/2016
 Collected: 3/7/2016

Project: OKC Sludge

Test Report: Identification and Enumeration of Culturable Bacteria by Bulk (Five Most Prominent Types (EMSL Method M009))

Sample Description	Location	Media	Temp (C)	Sample Measure (g)	Analytical Sensitivity (CFU/g)	Dilution	Bacteria Identification	Colony Count	CFUs (CFU/g)
ABC Composite = Sample #1	Sludge Pitt At Veolia N. Canadian WWTP	TSAB	35	10.0476	100	1000	<i>Bacillus badius</i>	2	199
					100	1000	<i>Bacillus licheniformis</i>	2	199
					100	1000	<i>Bacillus sp.</i>	2	199
					100	1000	<i>Enterococcus mundtii</i>	10	995
					100	1000	<i>Gram positive cocci</i>	42	4,180
					100	1000	<i>Virgibacillus pantothenticus</i>	3	299
Total								61	6,070

371605202-0001

No discernable blank was submitted with this group of samples

*Submit to OKC
 public record
 9-13-16
 pby*

*Viabile
 Staph &
 Strep
 in a sugar cube's
 worth - 1 gram
 from the wastewater
 plant - ready to go
 to the farm sludge*

Analyst(s)

Michael Spears (1)

[Signature]
 Farbod Nekouei, M.S., Laboratory Director
 or other approved signatory

EMSL maintains liability limited to cost of analysis. Interpretation of the data contained in this report is the responsibility of the client. This report relates only to the samples reported above and may not be reproduced, except in full, without written approval by EMSL. The above test report relates only to the items tested. EMSL bears no responsibility for sample collection activities or analytical methods. Samples received in good condition unless otherwise noted.

Samples analyzed by EMSL Analytical, Inc. Cinnaminson, NJ AIHA-LAP, LLC—EMLAP Accredited #100194

Initial report from 04/06/2016 11:26:21