EPA Region 7 Laboratory Analysis Information

04/05/2019 08:59

ASR: 8209

Analysis Name: TCLP Metals in Water
Analysis Request No 1

Analysis Short Name Met TCLP W.3G **Parameter Class:** Metals
Matrix: Water **Analysis Status:** Current

Analysis Summary:
This analysis is performed following R7 Method 3122.3 and provides analytical data for 7 RCRA regulated elements in water samples. The 7 elements are silver, arsenic, barium, cadmium, chromium, lead, and selenium. Samples taken through the leaching procedure and analyzed for these 7 metals can originate from a variety of different sources, but usually come from the RCRA program. However, this method still satisfies all of the applicable program requirements for Superfund and potentially other programs as well.

The presence and concentrations of these elements are determined by the sample first going through a leaching procedure wherein 100 g of sample is tumbled with acetic acid buffer solution for 18 hours and then filtered. The filtered leachate is then taken through a digestion process followed by analysis of the extract. An aliquot of the leachate, 100 milliliters, of the sample is digested by adding 2 milliliters nitric acid (HNO3) and 3 milliliters of hydrochloric acid (HCl) and then heated in a block digestor at 85 C until the apparent volume is 25 - 50 milliliters. The digested sample is brought up to 100 milliliters with DI water and then an aliquot is centrifuged for analysis. The sample is analyzed by inductively coupled argon plasma (ICAP) atomic emission spectroscopy. The detection limits range from 0.002 ppm (mg/L) for barium to 0.05 ppm for arsenic, lead, and selenium. Matrix interferences sometimes occur and may complicate the analytical process. If there is a matrix interference, dilutions may be performed and higher detection limits reported. Potential other sources of interferences include contaminated laboratory equipment and/or chemicals. However, analytical interferences are typically the result of the sample matrix and not laboratory materials.

Method: RLAB Method 3122.3G TCLP **Date Adopted:** 04/06/2018 **Date Replaced:**

Method Desc:
EPA Region 7 RLAB Method 3122.3G TCLP

Method Title:
Analysis of Metals by Inductively-Coupled Plasma Atomic Emission Spectrometry

Method Summary:
(Not Available)

Base Method	Title	Type
RLAB Method 3122.3G	Analysis of Metals by Inductively-Coupled Plasma Atomic Emission Spectrometry	Analysis

Capable Labs: **EPA (In-House)**
ESAT (In-House)
REST (Out-Source)

Previous Method: RLAB Method 3122.3F TCLP **Date Adopted:** 09/23/2013 **Date Replaced:** 04/06/2018

Sample Holding Time 180 **Days** **Extract Holding Time:** 0 **Days** **No Of Containers:** 1

Container Type: 8 oz glass **Weight Type:** N/A **No Of Tags:** 1

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Preservative: 4 Deg C

Sampling Info:
(Not Available)

Sampling Narative:
(Not Available)

Report Flag			Analyte Name	CAS Number	TRL	Con Of Concern	Units
Default	Requested	EPA					
Yes	Yes	Yes	Arsenic	7440-38-2	0.050		mg/L
Yes	Yes	Yes	Barium	7440-39-3	0.010		mg/L
Yes	Yes	Yes	Cadmium	7440-43-9	0.005		mg/L
Yes	Yes	Yes	Chromium	7440-47-3	0.015		mg/L
Yes	Yes	Yes	Lead	7439-92-1	0.050		mg/L
Yes	Yes	Yes	Selenium	7782-49-2	0.050		mg/L
Yes	Yes	Yes	Silver	7440-22-4	0.025		mg/L

Default Report Flag: Yes Analyte that is routinely reported from in-house analysis.

Requested Report Flag: Yes Result will be stored and reported.

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