2019 Storm Water Monitoring Year and Results for the Individual Permit

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2019 Monitoring Year

Precipitation (inches)

- 90th percentile
- 75th percentile
- Mean
- 25th percentile
- 10th percentile

January 2019

85th percentile

25th percentile
2019 Compared to Past Years

Total Annual Precipitation (inches)

- **drought**
- **average**
- **dry**
- **wet**
- **looking dry**

Year-by-Year Analysis:
- 2000: Dry
- 2001: Average
- 2002: Dry
- 2003: Drought
- 2004: Dry
- 2005: Average
- 2006: Average
- 2007: Average
- 2008: Average
- 2009: Average
- 2010: Average
- 2011: Average
- 2012: Dry
- 2013: Wet
- 2014: Wet
- 2015: Wet
- 2016: Wet
- 2017: Wet
- 2018: Wet
- 2019: Wet
2010-2019 Results
Summary of IP Results from 2019

• Aluminum, radium-226/228, and selenium – geology
• Gross alpha – geology & Site-related
• Copper and zinc – urban areas & Site-related
• Mercury and arsenic – Site-related
• Total PCBs – associated with humans (in atmosphere, precipitation, and storm water runoff) & Site-related
Storm Water

Corrective Action

Composite BTV = 

Long-Term Stewardship

where:

Removal from Permit

Target Action Limit

where:

Composite BTV = 

NBG = natural background BTV

DBG = developed background BTV

Note both are 90th Percentile background threshold values

NBG * % Pervious + 

DBG * % Impervious
Tiered Approach from Draft IP

**Storm Water**
- Corrective Action
- Long-Term Stewardship
- Removal from Permit

**Soil**
- Monitoring
- No Monitoring

10% Soil Screening Level
Tiered Approach from Draft IP

Composite BTV

Target Action

Limit

Storm Water

Corrective Action

Long-Term Stewardship

Removal from Permit

Soil

Monitoring

No Monitoring

10% Soil Screening Level

Site History

Storm Water

Corrective Action

Long-Term Stewardship

Removal from Permit

Soil

Monitoring

No Monitoring

10% Soil Screening Level

Site History
• Aluminum = 902 µg/L
  • NBG 90\textsuperscript{th} Percentile BTV = 3200 µg/L
  • DBG 90\textsuperscript{th} Percentile BTV = 210 µg/L
  • Composite BTV = 3200*0.961 + 210*0.039 = 3084 µg/L
  • 902 < 3084, thus Long-Term Stewardship
Example LA-SMA-6.3

- **Aluminum = 902 µg/L**
  - NBG 90th Percentile BTV = 3200 µg/L
  - DBG 90th Percentile BTV = 210 µg/L
  - Composite BTV = 3200*0.961 + 210*0.039 = 3084 µg/L
  - 902 < 3084, thus Long-Term Stewardship

- **Gross Alpha = 857 pCi/L & SSC = 60,800 mg/L**
  - Normalized GA = (857 / 60,800)*1000 = 14.10 pCi/g
  - NBG 90th Percentile BTV = 66 pCi/g
  - DBG 90th Percentile BTV = 47 pCi/g
  - Composite BTV = 66*0.961 + 47*0.039 = 65 pCi/g
  - 14.10 < 65, thus Long-Term Stewardship

%Impervious = 3.9%
%Pervious = 96.1%
• Aluminum = 902 µg/L
  • NBG 90th Percentile BTV = 3200 µg/L
  • DBG 90th Percentile BTV = 210 µg/L
  • Composite BTV = 3200*0.961 + 210*0.039 = 3084 µg/L
  • 902 < 3084, thus Long-Term Stewardship

• Gross Alpha = 857 pCi/L & SSC = 60,800 mg/L
  • Normalized GA = (857 / 60,800)*1000 = 14.10 pCi/g
  • NBG 90th Percentile BTV = 66 pCi/g
  • DBG 90th Percentile BTV = 47 pCi/g
  • Composite BTV = 66*0.961 + 47*0.039 = 65 pCi/g
  • 14.10 < 65, thus Long-Term Stewardship

• Selenium = 5.66 µg/L
  • NBG 90th Percentile BTV = 4.8 µg/L
  • DBG 90th Percentile BTV = none (too many non-detects)
  • Composite BTV = 4.8 µg/L (mostly pervious, or 96.1%)
  • 5.66 > 4.8 thus Corrective Action

%Impervious = 3.9%
%Pervious = 96.1%
• Summary:
  • Storm water
    • Long-term stewardship for aluminum and gross alpha
    • Corrective action for selenium
  • Soil
    • No monitoring for aluminum, gross alpha, or selenium
    • Selenium not detected
  • Site history
    • No historical use of aluminum, radionuclides, or selenium
  • Therefore long-term stewardship is most likely outcome
Current ENSO Conditions

ENSO-neutral is favored during the Northern Hemisphere winter 2019-2020 (~70% chance), continuing through spring 2020 (60 to 65% chance)

Mid-November 2019 IRI/CPC Model-Based Probabilistic ENSO Forecasts

ENSO state based on Niño3.4 SST Anomaly
Neutral ENSO: −0.5 °C to 0.5 °C
U.S. Seasonal Outlooks for June, July, August 2020

**Precipitation**
- Normal
- 50 to 60% chance above normal

**Temperature**
- 50 to 60% chance above normal
Questions?