

Salton Sea Baseline Air Quality Monitoring
Recommendations for PM Monitoring

1. Continuous Monitoring of PM₁₀ and PM_{2.5}

Recommended Instrument: Thermo Scientific Model 1405-D Dual-Flow TEOM

Capabilities: Continuous monitoring of PM Coarse and PM_{2.5} simultaneously

Minimum Recommended Averaging Time: 10 minutes

EPA Certification Status: Not certified by EPA, no proposal to submit application

Cost: Approximately \$22,500 not including tax and shipping

Limitations: Accuracy for monitoring of volatiles and semi-volatiles is low

2. Portable Short-Term Monitoring of PM₁₀ and PM_{2.5}

Recommended Instrument: Met One E-BAM Mass Monitor

Capabilities: Continuous monitoring of either PM₁₀ or PM_{2.5}

Minimum Recommended Averaging Time: 4 minutes

EPA Certification Status: Application pending at EPA for PM₁₀ and PM_{2.5}

Cost: Approximately \$11,000 not including tax and shipping

Limitations: Accuracy and precision are not as good as for other continuous monitors; pumps need more frequent replacement

3. ARB Reference Continuous Monitoring of PM₁₀

Recommended Instrument: Met One BAM Mass Monitor

Capabilities: Continuous monitoring of either PM₁₀ or PM_{2.5}

Minimum Recommended Averaging Time: 1 hour

EPA Certification Status: Certified as FEM in 1998 for PM₁₀

Cost: Approximately \$18,200 not including tax and shipping

Limitations: Design prohibits the use of averaging periods shorter than about 20 minutes

4. Filter Collection of PM for Speciation Analysis

Recommended Instrument: Thermo Scientific Dichotomous Partisol-Plus 2025 Sequential Air Sampler

Capabilities: Simultaneous collection of PM_{2.5} and PM Coarse onto 47-mm filters for subsequent speciation analysis, collection period is programmable (e.g., fixed day schedule, high wind event, etc.)

Certification Status: FRM-certified by EPA for PM_{2.5}

Cost: Approximately \$18,300 not including tax and shipping

Limitations: Different filter media required for analysis of elements and ions.