Enforcement of Landfill integrated surface emissions standard

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Overview

- Example of integrated surface emission permit condition in San Diego County Air District
- Grid requirements for integrated surface emission standard
- Equipment for grid setup and setup process
- Equipment for grid monitoring and monitoring process
- Monitoring data download and integrated surface emission calculation
- Visual representation of monitoring data

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Example of integrated surface emission permit condition in San Diego County Air District

49. Except as provided in sections 95464(d), 95464(e), and 95466, no location on the landfill surface may exceed either of the following concentrations of methane:
a. 500 ppmv, other than non-repeatable, momentary readings, as determined by instantaneous surface emissions monitoring, measured at a distance of 3 inches above surface as required by § 95471(c)(1)(A);
b. An average of 25 ppmv as determined by integrated surface emissions monitoring.
[17 CCR § 95465]

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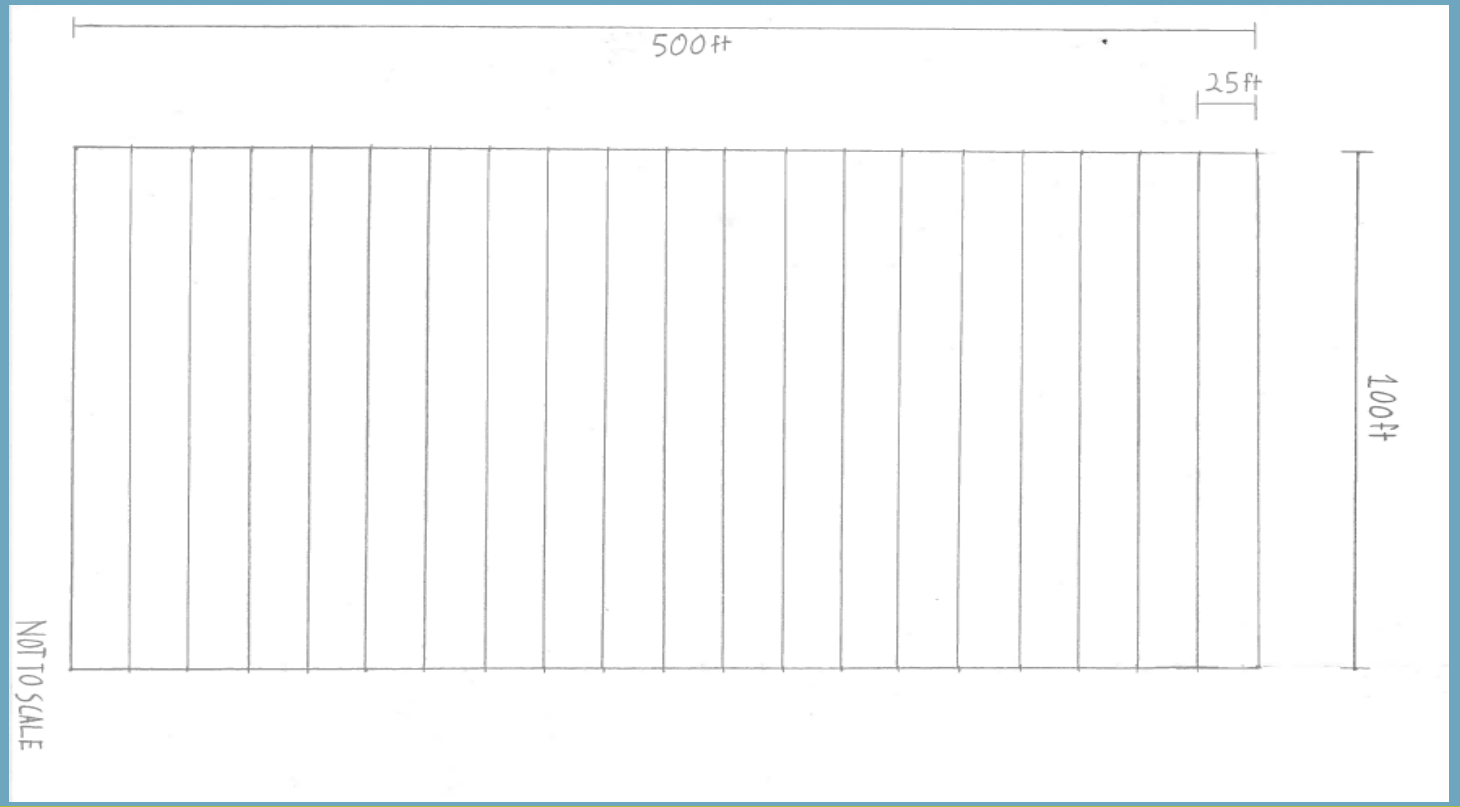
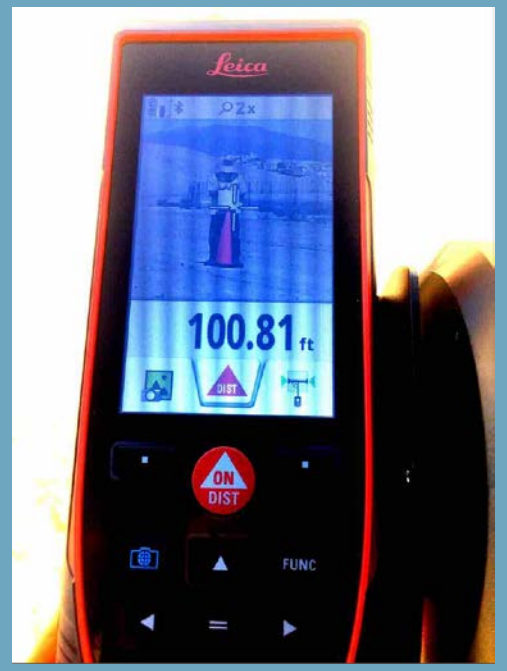
Grid requirements for integrated surface emission standard

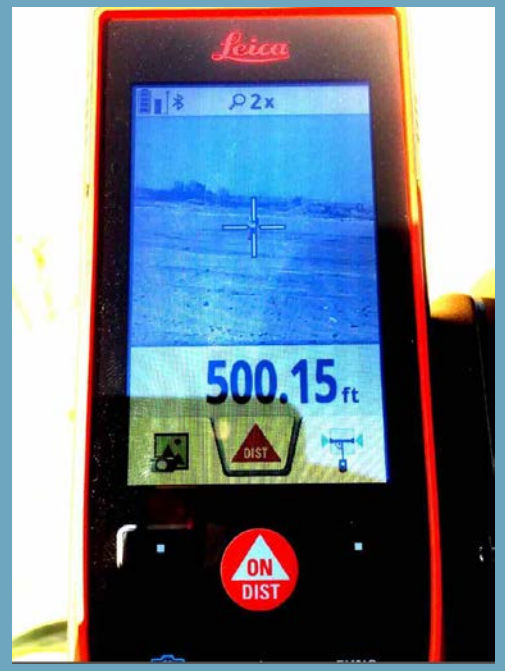
- 50,000 sq. ft. with 25 ft. transects
- Recommended monitoring time is 20 minutes
- Ideal setup is rectangular grid 100 ft. x 500 ft.



Equipment for grid setup

- Rope stands/reals (optional – gloves)
- Orange cones and white targets to measure distance
- Laser distance meter
- Personal Protective Equipment (PPE)





Personal Protective Equipment (PPE) required/recommended for San Diego landfills

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Setting corners and laying out perimeter

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Setting twenty five foot intervals

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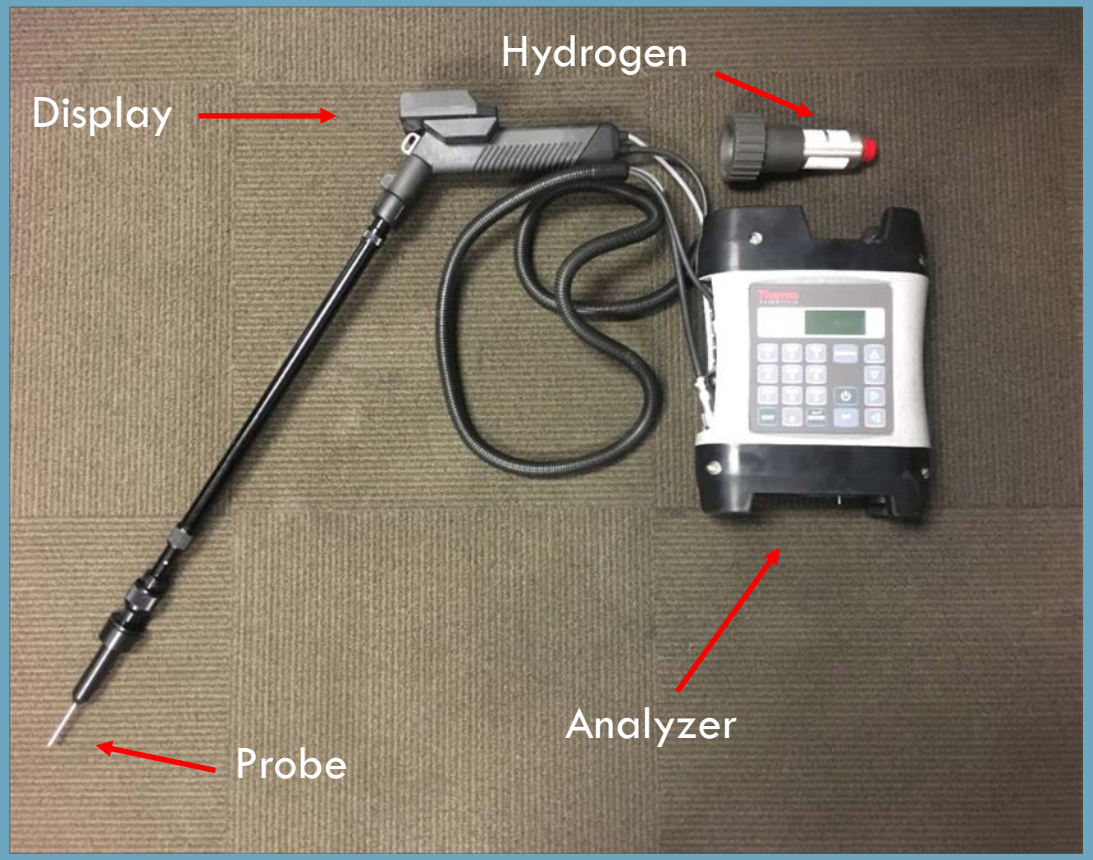
Grid with perimeters and 25 ft. transects

Equipment for grid monitoring

- Stopwatch
- Anemometer
- Red bean bags/marking paint
- TVA2020 – Toxic Vapor Analyzer
  - Calibration

TVA2020 – Toxic Vapor Analyzer



San Diego Air Pollution Control District

TVA 2020 Calibration Log & Field Conditions Report

Site Name:_____ Site ID No.: _____

Address: _____ APCD Permit No.: _____

Contact: _____ Phone No.: _____

APCD Inspector: _____ Inspection Date: _____

Model: TVA 2020- A2E4B1 Serial No.: 202016081520

Factory Calibration: 08/30/2016

Battery : Full Charge Hydrogen Pressure: 2100 psi

Ignition Time: (40 min. warm up)_____ Time of Calibration: _____

Calibration Gas No. 1: 25.24 ppmv methane 90% of Calibration Gas: 22.72 ppmv methane

Reading 1:	25.4 ppm	Time to read 90% of cal gas:	3.93 seconds
Reading 2:	25.4 ppm	Time to read 90% of cal gas:	4.08 seconds
Reading 3:	25.4 ppm	Time to read 90% of cal gas:	4.10 seconds
Average Reading:	25.4 ppm	Average Response Time:	4.04 seconds
Percent Accuracy:	99.4		

Calibration Gas No. 1: 507 ppmv methane 90% of Calibration Gas: 456.3 ppmv methane

Reading 1:	514 ppm	Time to read 90% of cal gas:	2.88 seconds
Reading 2:	507 ppm	Time to read 90% of cal gas:	3.66 seconds
Reading 3:	505 ppm	Time to read 90% of cal gas:	3.08 seconds
Average Reading:	509 ppm	Average Response Time:	3.21 seconds
Percent Accuracy:	99.6		

Monitoring the grid for the integrated surface emissions standard

Downloaded the data and perform the integrate surface emission time average

LOGGED DATA
VER= 2.00

AUTO DATA DATE	MIRAMAR1 TIME	PID BACKGROUND	PID CONCENTRATION	FID BACKGROUND	FID CONCENTRATION	GPS DATA
23 MAY 17	10:55:14	0.0 PPM OK	----- --- DET_OFF	0.0 PPM OK	45.9 PPM OK	32.85173 -117.16939 125 4 10
23 MAY 17	10:55:19	0.0 PPM OK	----- --- DET_OFF	0.0 PPM OK	19.8 PPM OK	32.85173 -117.16939 125 4 10
23 MAY 17	10:55:24	0.0 PPM OK	----- --- DET_OFF	0.0 PPM OK	19.7 PPM OK	32.85173 -117.16939 125 6 8
23 MAY 17	10:55:29	0.0 PPM OK	----- --- DET_OFF	0.0 PPM OK	34.4 PPM OK	32.85173 -117.16939 125 4 10
23 MAY 17	10:55:34	0.0 PPM OK	----- --- DET_OFF	0.0 PPM OK	50.4 PPM OK	32.85173 -117.16939 125 4 10
23 MAY 17	10:55:39	0.0 PPM OK	----- --- DET_OFF	0.0 PPM OK	42.0 PPM OK	32.85173 -117.16939 125 4 10
23 MAY 17	10:55:44	0.0 PPM OK	----- --- DET_OFF	0.0 PPM OK	29.3 PPM OK	32.85173 -117.16939 125 4 10
23 MAY 17	10:55:49	0.0 PPM OK	----- --- DET_OFF	0.0 PPM OK	21.5 PPM OK	32.85173 -117.16939 125 4 10
23 MAY 17	10:55:54	0.0 PPM OK	----- --- DET_OFF	0.0 PPM OK	38.1 PPM OK	32.85171 -117.16938 125 4 10
23 MAY 17	10:55:59	0.0 PPM OK	----- --- DET_OFF	0.0 PPM OK	34.5 PPM OK	32.85169 -117.16934 126 4 10
23 MAY 17	10:56:04	0.0 PPM OK	----- --- DET_OFF	0.0 PPM OK	21.8 PPM OK	32.85166 -117.16928 126 4 10
23 MAY 17	10:56:09	0.0 PPM OK	----- --- DET_OFF	0.0 PPM OK	16.3 PPM OK	32.85162 -117.16922 125 4 10
23 MAY 17	10:56:14	0.0 PPM OK	----- --- DET_OFF	0.0 PPM OK	26.4 PPM OK	32.85158 -117.16918 125 4 10
23 MAY 17	10:56:19	0.0 PPM OK	----- --- DET_OFF	0.0 PPM OK	15.1 PPM OK	32.85157 -117.16912 125 4 10
23 MAY 17	10:56:24	0.0 PPM OK	----- --- DET_OFF	0.0 PPM OK	12.7 PPM OK	32.85157 -117.16908 125 4 10
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23 MAY 17	10:56:34	0.0 PPM OK	----- --- DET_OFF	0.0 PPM OK	15.7 PPM OK	32.85157 -117.16908 125 4 10
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23 MAY 17	10:56:44	0.0 PPM OK	----- --- DET_OFF	0.0 PPM OK	11.9 PPM OK	32.85157 -117.16908 125 4 10
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Visual representation of the data with ArcGIS online

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Questions?

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