

# Salton Sea Ambient Air and Meteorological Monitoring



## Imperial Irrigation District

Summary Period: 03-01-2016 through 03-31-2016

Report Date: 10-25-2016

## Data Summary - Particulate Concentration

PM10

	Bombay Beach	Naval Test Base	Salton City	Salton Sea Park	Sonny Bono	Torres-Martinez
<b>Data Capture</b>	1.00	1.00	0.92	1.00	1.00	0.93
<b>Monthly Mean</b>	37.6	312.9	231.1	21.3	68.0	35.3
<b>Max Hour</b>	1537.9	24535.0	7671.7	240.8	2533.0	1791.7
<b>Min Hour</b>	-20.3	-39.8	-46.0	-21.5	-15.7	-377.9

PM25

	Bombay Beach	Naval Test Base	Salton City	Salton Sea Park	Sonny Bono	Torres-Martinez
<b>Data Capture</b>	1.00	1.00	0.92	1.00	1.00	0.93
<b>Monthly Mean</b>	4.2	21.9	18.5	3.9	8.0	3.4
<b>Max Hour</b>	78.7	1343.9	501.4	26.2	284.0	64.9
<b>Min Hour</b>	-29.6	-13.2	-13.6	-25.1	-18.1	-323.3

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## Data Summary - Meteorological Data

Naval Test Base

	at_2m	delta_temp_diff	net_rad	rh_2m	wd_sonic	ws_10m
<b>Data Capture</b>	1	1	1	1	1	1
<b>Monthly Mean</b>	21.3	0.4	71.7	28.2	217.6	5.2
<b>Max Hour</b>	32.5	4.9	689.1	78.6	336.4	18.4
<b>Min Hour</b>	9.2	-1.1	-80.0	6.3	31.5	0.4

Sonny Bono

<b>Data Capture</b>	1	1	1	1	1	1
<b>Monthly Mean</b>	20.3	0.5	80.6	46.4	227.1	4.5
<b>Max Hour</b>	33.5	6.0	519.2	86.9	324.8	19.1
<b>Min Hour</b>	8.2	-2.3	-85.5	8.1	43.3	0.7

Salton Sea Park

<b>Data Capture</b>	1	1	1	1	1	1
<b>Monthly Mean</b>	21.5	0.9	80.7	35.2	193.9	2.3
<b>Max Hour</b>	32.8	6.1	536.1	68.5	332.6	11.8
<b>Min Hour</b>	10.1	-1.7	-120.0	7.3	30.8	0.1

Torres-Martinez

<b>Data Capture</b>	0.93	0.93	0.93	0.93	0.93	0.93
<b>Monthly Mean</b>	19.5	1.0	81.2	43.3	239.5	3.2
<b>Max Hour</b>	32.2	7.4	467.5	86.0	343.7	9.2
<b>Min Hour</b>	5.9	-1.4	-95.4	11.7	35.4	0.4

Salton City

<b>Data Capture</b>	0.35	0.35	0.35	0.35	0.35	0.35
<b>Monthly Mean</b>	20.7	0.3	40.4	34.8	225.3	4.5
<b>Max Hour</b>	31.5	5.4	351.1	65.5	332.0	15.5
<b>Min Hour</b>	9.7	-1.5	-69.2	7.6	37.0	0.8

Bombay Beach

<b>Data Capture</b>	1	1	1	1	1	1
<b>Monthly Mean</b>	20.4	0.8	77.7	40.3	187.7	3.7
<b>Max Hour</b>	31.6	4.8	508.2	72.5	342.5	16.9
<b>Min Hour</b>	8.0	-1.3	-89.6	9.4	4.9	0.2

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### Data Review - Data Flags

deployment	start.date	start.hour	end.date	end.hour	flag	flag_note	reviewed	invalidate
Bombay Beach	2016-03-18	11:00:00	2016-03-18	12:00:00	Revalidated 3D WDV (ASI)	3D vector-averaged wind direction (calculated) was manually revalidated by Air Sciences.	TRUE	FALSE
Salton Sea Park	2016-03-21	12:00:00	2016-03-23	00:00:00	TEOM Status Error	TEOM returned a status error.	TRUE	TRUE
Naval Test Base	2016-03-08	14:00:00	2016-03-08	15:00:00	TEOM Op Mode Error	TEOM returned an operation mode error.	TRUE	TRUE
Naval Test Base	2016-03-14	09:00:00	2016-03-14	11:00:00	TEOM Op Mode Error	TEOM returned an operation mode error.	TRUE	TRUE
Salton City	2016-03-08	13:00:00	2016-03-08	14:00:00	TEOM Op Mode Error	TEOM returned an operation mode error.	TRUE	TRUE
Salton City	2016-03-14	08:00:00	2016-03-14	10:00:00	TEOM Op Mode Error	TEOM returned an operation mode error.	TRUE	TRUE
Salton Sea Park	2016-03-03	09:00:00	2016-03-03	10:00:00	TEOM Op Mode Error	TEOM returned an operation mode error.	TRUE	TRUE
Salton Sea Park	2016-03-10	10:00:00	2016-03-10	11:00:00	TEOM Op Mode Error	TEOM returned an operation mode error.	TRUE	TRUE
Salton Sea Park	2016-03-17	09:00:00	2016-03-17	10:00:00	TEOM Op Mode Error	TEOM returned an operation mode error.	TRUE	TRUE
Sonny Bono	2016-03-09	09:00:00	2016-03-09	10:00:00	TEOM Op Mode Error	TEOM returned an operation mode error.	TRUE	TRUE
Torres-Martinez	2016-03-21	10:00:00	2016-03-21	11:00:00	TEOM Op Mode Error	TEOM returned an operation mode error.	TRUE	TRUE
Bombay Beach	2016-03-18	14:00:00	2016-03-18	15:00:00	Revalidated 3D WDV (ASI)	3D vector-averaged wind direction (calculated) was manually revalidated by Air Sciences.	TRUE	FALSE
Bombay Beach	2016-03-19	08:00:00	2016-03-19	10:00:00	Validated 3D WDV (ASI)	3D vector-averaged wind direction (calculated) was manually validated by Air Sciences.	TRUE	FALSE
Bombay Beach	2016-03-19	13:00:00	2016-03-19	14:00:00	Validated 3D WDV (ASI)	3D vector-averaged wind direction (calculated) was manually validated by Air Sciences.	TRUE	FALSE
Bombay Beach	2016-03-22	13:00:00	2016-03-22	14:00:00	Validated 3D WDV (ASI)	3D vector-averaged wind direction (calculated) was manually validated by Air Sciences.	TRUE	FALSE
Bombay Beach	2016-03-21	13:00:00	2016-03-21	14:00:00	TEOM Op Mode Error	TEOM returned an operation mode error.	TRUE	TRUE
Salton Sea Park	2016-03-24	07:00:00	2016-03-25	07:00:00	TEOM Status Error	TEOM returned a status error.	TRUE	TRUE
Salton Sea Park	2016-03-25	07:00:00	2016-03-26	07:00:00	TEOM Status Error	TEOM returned a status error.	TRUE	TRUE
Salton Sea Park	2016-03-26	07:00:00	2016-03-27	07:00:00	TEOM Status Error	TEOM returned a status error.	TRUE	TRUE
Salton Sea Park	2016-03-27	06:00:00	2016-03-28	07:00:00	TEOM Status Error	TEOM returned a status error.	FALSE	TRUE
Bombay Beach	2016-03-04	11:00:00	2016-03-04	12:00:00	Revalidated 3D WDV (ASI)	3D vector-averaged wind direction (calculated) was manually revalidated by Air Sciences.	TRUE	FALSE
Bombay Beach	2016-03-05	12:00:00	2016-03-05	13:00:00	Revalidated 3D WDV (ASI)	3D vector-averaged wind direction (calculated) was manually revalidated by Air Sciences.	TRUE	FALSE
Bombay Beach	2016-03-02	09:00:00	2016-03-02	10:00:00	Validated 3D WDV (ASI)	3D vector-averaged wind direction (calculated) was manually validated by Air Sciences.	TRUE	FALSE
Bombay Beach	2016-03-02	11:00:00	2016-03-02	12:00:00	Validated 3D WDV (ASI)	3D vector-averaged wind direction (calculated) was manually validated by Air Sciences.	TRUE	FALSE
Bombay Beach	2016-03-10	09:00:00	2016-03-10	11:00:00	TEOM Op Mode Error	TEOM returned an operation mode error.	TRUE	TRUE
Bombay Beach	2016-03-17	12:00:00	2016-03-17	13:00:00	Validated 3D WDV (ASI)	3D vector-averaged wind direction (calculated) was manually validated by Air Sciences.	TRUE	FALSE
Torres-Martinez	2016-03-10	11:00:00	2016-03-10	12:00:00	TEOM Op Mode Error	TEOM returned an operation mode error.	TRUE	TRUE
Salton Sea Park	2016-03-28	23:00:00	2016-04-06	07:00:00	TEOM Status Error	TEOM returned a status error.	FALSE	TRUE
Bombay Beach	2016-03-30	09:00:00	2016-03-30	11:00:00	TEOM Op Mode Error	TEOM returned an operation mode error.	FALSE	TRUE
Bombay Beach	2016-03-30	09:00:00	2016-03-30	11:00:00	TEOM Status Error	TEOM returned a status error.	FALSE	TRUE
Naval Test Base	2016-03-29	08:00:00	2016-03-29	09:00:00	TEOM Op Mode Error	TEOM returned an operation mode error.	FALSE	TRUE
Sonny Bono	2016-03-29	06:00:00	2016-03-29	08:00:00	TEOM Op Mode Error	TEOM returned an operation mode error.	FALSE	TRUE
Torres-Martinez	2016-03-31	09:00:00	2016-03-31	10:00:00	TEOM Op Mode Error	TEOM returned an operation mode error.	FALSE	TRUE
Torres-Martinez	2016-03-31	12:00:00	2016-03-31	13:00:00	TEOM Op Mode Error	TEOM returned an operation mode error.	FALSE	TRUE
Torres-Martinez	2016-03-31	09:00:00	2016-03-31	11:00:00	TEOM Status Error	TEOM returned a status error.	FALSE	TRUE
Salton City	2016-03-29	09:00:00	2016-03-29	11:00:00	TEOM Op Mode Error	TEOM returned an operation mode error.	FALSE	TRUE
Salton City	2016-03-30	07:00:00	2016-03-30	08:00:00	TEOM Op Mode Error	TEOM returned an operation mode error.	FALSE	TRUE
Bombay Beach	2016-03-30	10:00:00	2016-03-30	12:00:00	Site Visit	Site visit maintenance. The TEOM filters were replaced.	TRUE	TRUE
Bombay Beach	2016-03-14	12:00:00	2016-03-14	13:00:00	Site Visit	MET Site Visit/Maintenance: No internet connection upon arrival. Restarted logger computer and downloaded 41 updates before it would connect - Invalidated.	TRUE	TRUE
Bombay Beach	2016-03-14	20:00:00	2016-03-14	22:00:00	Invalidated Data	MET Ultrasonic Young Error & Data Gap - Invalidated.	TRUE	TRUE
Bombay Beach	2016-03-21	12:00:00	2016-03-21	15:00:00	Site Visit	MET Site Visit/Maintenance - Invalidated.	TRUE	TRUE
Bombay Beach	2016-03-10	10:00:00	2016-03-10	11:00:00	Site Visit	TEOM Site Visit/Maintenance: Replaced TEOM filters. Adjusted time on TEOM +3 mins - Invalidated.	TRUE	TRUE
Bombay Beach	2016-03-14	12:00:00	2016-03-14	13:00:00	Site Visit	TEOM Site Visit/Maintenance: No internet connection upon arrival. Restarted logger	TRUE	TRUE

						computer and downloaded 41 updates before it would connect - Invalidated.		
Bombay Beach	2016-03-21	12:00:00	2016-03-21	15:00:00	Site Audit	TEOM Site Visit/Maintenance: Leak Check, Flow Audit, Leak Check, replaced TEOM Filters - Invalidated.	TRUE	TRUE
Bombay Beach	2016-03-30	10:00:00	2016-03-30	12:00:00	Site Visit	TEOM Site Visit/Maintenance: TEOM filters replaced - Invalidated.	TRUE	TRUE
Naval Test Base	2016-03-08	14:00:00	2016-03-08	16:00:00	Site Visit	MET Site Visit - Invalidated.	TRUE	TRUE
Naval Test Base	2016-03-08	14:00:00	2016-03-08	16:00:00	Site Visit	TEOM Site Visit/Maintenance: replaced TEOM filters - Invalidated.	TRUE	TRUE
Naval Test Base	2016-03-14	10:00:00	2016-03-14	12:00:00	Site Visit	TEOM Site Visit?Maintenance: replaced TEOM filters - Invalidated.	TRUE	TRUE
Naval Test Base	2016-03-15	00:00:00	2016-03-24	06:00:00	Invalidated Data	MET Noticing 2m bearings failing - Invalidated.	TRUE	TRUE
Naval Test Base	2016-03-24	06:00:00	2016-03-24	08:00:00	Site Visit	MET Site Visit/Maintenance: changed bearings on 2m anemometer - Invalidated.	TRUE	TRUE
1001	2016-03-30	07:45:00	2016-03-30	12:15:00	Site Audit	MET - ASI on site for install/audit/calibration.	TRUE	TRUE
Naval Test Base	2016-03-24	06:00:00	2016-03-24	08:00:00	Site Audit	TEOM Site Visit/Audit/Maintenance: leak check, flow audit, leak check, replaced TEOM filters - Invalidated.	TRUE	TRUE
Naval Test Base	2016-03-28	19:00:00	2016-03-28	22:00:00	Invalidated Data	MET Too low of values for 1m ws - Invalidated.	TRUE	TRUE
Naval Test Base	2016-03-29	09:00:00	2016-03-29	10:00:00	Site Visit	TEOM Site Visit/Maintenance: replaced TEOM filters - Invalidated.	TRUE	TRUE
Salton City	2016-03-02	02:00:00	2016-03-04	14:00:00	General Information	MET + PM data gap.	TRUE	FALSE
Salton City	2016-03-08	14:00:00	2016-03-08	15:00:00	Site Visit	TEOM Site Visit/Maintenance: replaced TEOM filters - Invalidated.	TRUE	TRUE
Salton City	2016-03-08	14:00:00	2016-03-09	23:00:00	Invalidated Data	MET Sonic anemometer error - Invalidated.	TRUE	TRUE
Salton City	2016-03-13	18:00:00	2016-03-14	02:00:00	General Information	MET Sonic anemometer error/data gap.	TRUE	FALSE
Salton City	2016-03-14	08:00:00	2016-04-01	00:00:00	General Information	MET Sonic anemometer error/data gap.	TRUE	FALSE
Salton City	2016-03-14	09:00:00	2016-03-14	11:00:00	Site Visit	TEOM Site Visit/Maintenance: Replaced TEOM filters, time adjustment on TEOM +2 mins - Invalidated.	TRUE	TRUE
Salton City	2016-03-16	12:00:00	2016-03-16	13:00:00	Site Visit	MET + TEOM Maintenance - Worked on Ultrasonic - Invalidated.	TRUE	TRUE
Salton City	2016-03-14	08:00:00	2016-04-01	00:00:00	General Information	MET Sonic anemometer data gap.	TRUE	FALSE
Salton City	2016-03-17	05:00:00	2016-03-17	07:00:00	General Information	Worked on Ultrasonic with success temporarily, but issue not resolved.	TRUE	FALSE
Salton City	2016-03-24	08:00:00	2016-03-24	10:00:00	Site Audit	MET Site Visit/Maintenance: changed bearings at 1m ws - Invalidated.	TRUE	TRUE
Salton City	2016-03-24	08:00:00	2016-03-24	10:00:00	Site Audit	TEOM Site Visit/Maintenance: Leak check, flow audit, leak check, replaced TEOM filters - Invalidated.	TRUE	TRUE
Salton City	2016-03-29	10:00:00	2016-03-29	12:00:00	Site Visit	TEOM Site Visit/Maintenance: replaced TEOM filters - Invalidated.	TRUE	TRUE
Salton City	2016-03-30	08:00:00	2016-03-30	09:00:00	Site Visit	TEOM Site Visit/Maintenance: replaced TEOM filters - Invalidated.	TRUE	TRUE
Salton Sea Park	2016-03-07	00:00:00	2016-03-07	23:00:00	Invalidated Data	MET Sonic anemometer error - Invalidated.	TRUE	TRUE
Salton Sea Park	2016-03-10	10:00:00	2016-03-10	11:00:00	Site Visit	MET + TEOM Site Visit/Maintenance: Replaced TEOM filters, time adjustment on TEOM +2 mins - Invalidated.	TRUE	TRUE
Salton Sea Park	2016-03-21	11:00:00	2016-03-21	13:00:00	Site Audit	MET + TEOM Site Visit/Maintenance: Leak Check, Flow Audit, Leak Check, replaced TEOM Filters, adjusted time on TEOM +1 min - Invalidated.	TRUE	TRUE
Sonny Bono	2016-03-09	08:00:00	2016-03-09	10:00:00	Site Visit	MET + TEOM Site Visit/Maintenance: Replace TEOM filters, adjusted TEOM +1 min - Invalidated.	TRUE	TRUE
Sonny Bono	2016-03-23	06:00:00	2016-03-23	08:00:00	Site Audit	MET + TEOM Site Visit/Maintenance: Leak Check, Flow Audit, Leak Check, replace TEOM filters, adjusted TEOM time +1 min - Invalidated.	TRUE	TRUE
Sonny Bono	2016-03-29	07:00:00	2016-03-29	09:00:00	Site Visit	TEOM Site Visit/Maintenance: Replace TEOM filters - Invalidated.	TRUE	TRUE
Torres-Martinez	2016-03-03	00:00:00	2016-03-04	23:00:00	Invalidated Data	MET Sonic anemometer error - Invalidated.	TRUE	TRUE
Torres-Martinez	2016-03-10	12:00:00	2016-03-10	13:00:00	Site Visit	TEOM Site Visit/Maintenance: TEOM filter change, adjusted time on TEOM +2 mins - Invalidated.	TRUE	TRUE
Torres-Martinez	2016-03-13	00:00:00	2016-03-15	23:00:00	Invalidated Data	MET Sonic anemometer error - Invalidated.	TRUE	TRUE
Torres-Martinez	2016-03-21	00:00:00	2016-03-21	10:00:00	Invalidated Data	MET Sonic anemometer error - Invalidated.	TRUE	TRUE
Torres-Martinez	2016-03-21	10:00:00	2016-03-21	12:00:00	Site Audit	MET + TEOM Site Visit/Maintenance: Leak Check, flow audit, leak check, replaced TEOM filters - Invalidated.	TRUE	TRUE
Torres-Martinez	2016-03-29	00:00:00	2016-03-31	23:00:00	Invalidated Data	MET Sonic anemometer error - Invalidated.	TRUE	TRUE
Torres-Martinez	2016-03-29	08:00:00	2016-03-31	10:00:00	General Information	MET + TEOM data gap - Power outage due to line accidentally being cut by trencher project at wetlands - Invalidated.	TRUE	FALSE
Torres-Martinez	2016-03-31	10:00:00	2016-03-31	13:00:00	Site Visit	MET + TEOM Site Visit/Maintenance: Power has been restored, replaced Teom Filters - Invalidated.	TRUE	TRUE
1001	2016-03-30	07:45:00	2016-03-30	12:15:00	Site Audit	MET - ASI on site for install/audit/calibration.	TRUE	TRUE
1002	2016-03-30	13:35:00	2016-03-30	16:10:00	Site Audit	MET - ASI on site for install/audit/calibration.	TRUE	TRUE
1002	2016-03-30	13:35:00	2016-03-30	16:10:00	Site Audit	MET - ASI on site for install/audit/calibration.	TRUE	TRUE
1003	2016-03-31	08:20:00	2016-03-31	14:57:00	Site Audit	MET - ASI on site for close out audit.	TRUE	TRUE

1003	2016-03-31	08:20:00	2016-03-31	14:57:00	Site Audit	MET - ASI on site for close out audit.	TRUE	TRUE
1001	2016-03-02	10:32:00	2016-03-02	10:54:00	Site Visit	Site Visit.	TRUE	TRUE
1001	2016-03-02	10:32:00	2016-03-02	10:54:00	Site Visit	Site Visit.	TRUE	TRUE
1002	2016-03-02	11:44:00	2016-03-02	11:59:00	Site Visit	Site Visit.	TRUE	TRUE
1002	2016-03-02	11:44:00	2016-03-02	11:59:00	Site Visit	Site Visit.	TRUE	TRUE
1003	2016-03-02	13:24:00	2016-03-02	13:38:00	Site Visit	Site Visit.	TRUE	TRUE
1003	2016-03-02	13:24:00	2016-03-02	13:38:00	Site Visit	Site Visit.	TRUE	TRUE
1004	2016-03-02	13:04:00	2016-03-02	13:16:00	Site Visit	Site Visit.	TRUE	TRUE
1004	2016-03-02	13:04:00	2016-03-02	13:16:00	Site Visit	Site Visit.	TRUE	TRUE
1003	2016-03-10	10:34:00	2016-03-10	11:23:00	Site Visit	Site Visit.	TRUE	TRUE
1003	2016-03-10	10:34:00	2016-03-10	11:23:00	Site Visit	Site Visit.	TRUE	TRUE
1004	2016-03-29	07:30:00	2016-03-29	11:08:00	Site Visit	Site Visit.	TRUE	TRUE
1004	2016-03-29	07:30:00	2016-03-29	11:08:00	Site Visit	Site Visit.	TRUE	TRUE
1002	2016-03-29	14:20:00	2016-03-29	15:46:00	Site Visit	Site Visit.	TRUE	TRUE
1002	2016-03-29	14:20:00	2016-03-29	15:46:00	Site Visit	Site Visit.	TRUE	TRUE
1001	2016-03-30	07:45:00	2016-03-30	12:15:00	Site Visit	Site Visit.	TRUE	TRUE
1001	2016-03-30	07:45:00	2016-03-30	12:15:00	Site Visit	Site Visit.	TRUE	TRUE
1002	2016-03-30	13:35:00	2016-03-30	15:10:00	Site Visit	Site Visit.	TRUE	TRUE
1002	2016-03-30	13:35:00	2016-03-30	15:10:00	Site Visit	Site Visit.	TRUE	TRUE

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## Site Exceedance Days

deployment	date	daily.pm10.avg	daily.pm25.avg
Naval Test Base	2016-03-04	152.6	14.8
Naval Test Base	2016-03-05	310.6	20.8
Naval Test Base	2016-03-06	1722.1	110.5
Salton City	2016-03-06	875.3	55.6
Sonny Bono	2016-03-06	224.0	17.0
Salton City	2016-03-07	181.7	10.6
Naval Test Base	2016-03-11	769.6	45.7
Salton City	2016-03-11	771.2	55.2
Sonny Bono	2016-03-11	154.1	14.5
Naval Test Base	2016-03-21	310.7	25.3
Salton City	2016-03-21	306.6	27.3
Naval Test Base	2016-03-22	294.9	28.5
Salton City	2016-03-22	661.1	57.4
Bombay Beach	2016-03-28	352.0	20.3
Naval Test Base	2016-03-28	5055.7	312.7
Salton City	2016-03-28	2398.3	178.6
Sonny Bono	2016-03-28	539.6	58.3
Salton City	2016-03-29	493.7	40.9



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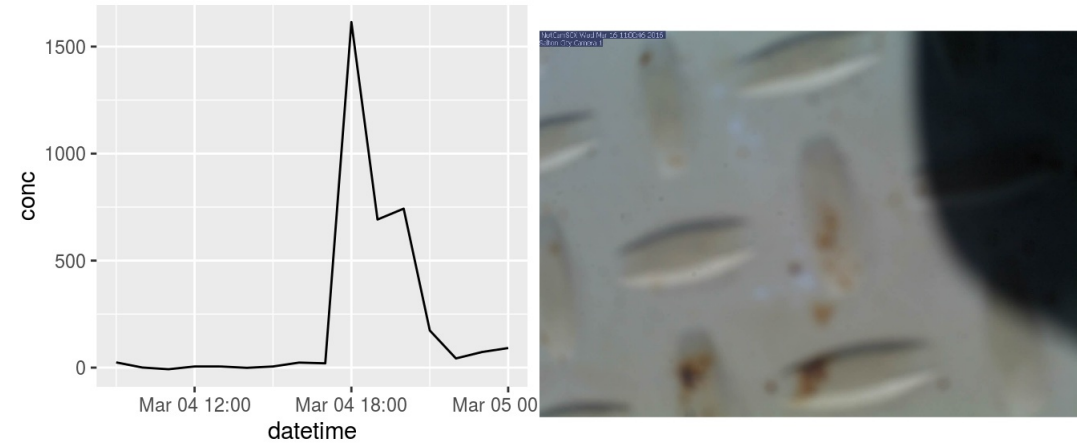
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Dust Event - 2016-03-04

Sites in Exceedance

deployment	date	daily.pm10.avg	daily.pm25.avg
Naval Test Base	2016-03-04	152.6	14.8



PM10 Roses

