

7/28/2021

Attention: Compliance Manager
Ms. Hanna Valenzuela
Maricopa County Air Quality Department
3800 N Central Ave, Suite 1400
Phoenix, AZ 85012

Subject: Intel Ocotillo Semi-Annual Monitoring Report - Reporting Period: 1/1/2021 to 6/30/2021

Dear Ms. Valenzuela,

Intel Corporation is submitting this Semi-Annual Monitoring Report for the Intel Ocotillo Campus, located at 4500 South Dobson Road in Chandler, Arizona 85248. The Intel Ocotillo Campus operates under the Maricopa County Air Quality Title V Permit #P0007815, Facility ID F000701.

Semi-Annual Monitoring Reports are required to be submitted in accordance with the requirements contained within Intel Ocotillo's permit #P0007815, Facility ID F000701 Conditions 3.h.i, 3.h.ii, and 40.b. This semi-annual monitoring report reflects a reporting period from January 1st 2021 to June 30th 2021.

This report includes the following:

1. Section 1: Emissions Calculations as required by Condition 3.h.i.2 and 40.b.i
 - Results of all the required rolling 12-month emissions calculations for each month in the six-month reporting period.
2. Section 2: Deviation Reporting as required by Condition 3.h.i.5, 3.h.ii, and 40.b.ii
 - All instances of deviations from permit requirements that occurred during the reporting period are shown in this section. The probable cause of deviations, and any corrective actions or preventative measures taken are included.
 - All deviations listed in this report did not result in an exceedance of any applicable emission limitation and were thus documented and promptly logged in the facility records within 2 working days as per condition 57.c.ii
3. Section 3: Data relied upon in calculating the monthly and annual PAL pollutant emissions as required by Condition 3.h.i.3.

Please contact Klaudja Taragjini, Site Environmental Engineer, at 480-859-8451 or via email at klaudja.taragjini@intel.com if you have any questions. Please include the mailstop, OC4-005, on any postal correspondence.

As required by Condition 40.b.iii.

Responsible Official Certification Statement: I certify, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

Sincerely,



Jim Evers
Vice President, Manufacturing and Operations
Factory Manager, Ocotillo Technology Fabrication

Attachment: Intel Corporation, Ocotillo Campus: Semi-Annual Monitoring Report

INTEL CORPORATION, OCOTILLO CAMPUS: SEMI-ANNUAL MONITORING REPORT

REPORTING PERIOD January 1st 2021 to June 30th 2021

SECTION 1. EMISSIONS CALCULATIONS

Below are the emissions results of all the required rolling 12-month emissions calculations for each month in this reporting period

INTEL OCOTILLO EMISSION SUMMARY								
12-Month		Table 1: 12 Month Period for PAL Pollutants						PAL Limit
Pollutant	Units	Jan-2021	Feb-2021	Mar-2021	Apr-2021	May-2021	Jun-2021	
VOCs	Tons	79.57	81.61	84.00	86.19	87.82	89.34	175
NOx	Tons	86.99	94.75	100.92	106.97	112.31	115.87	198
CO	Tons	119.40	125.86	130.21	134.45	138.03	140.02	388
PM10	Tons	33.29	34.57	35.30	36.13	36.91	37.41	125
PM2.5	Tons	26.98	28.25	28.97	29.78	30.54	31.03	119
PM TOT	Tons	53.57	54.92	55.69	56.62	57.48	58.05	159
SO2	Tons	4.00	4.35	4.67	4.70	4.75	4.81	61
Fluorides	Tons	4.49	4.68	4.83	4.90	5.05	5.19	24
Table 2: 12 Month Period for HAPs								Limit
HF	Tons	4.79	4.91	4.92	4.94	4.95	4.91	9
HCl	Tons	1.58	1.69	1.75	1.82	1.88	1.92	9
HAPs	Tons	7.62	7.86	7.93	8.03	8.11	8.12	22

INTEL CORPORATION, OCOTILLO CAMPUS: SEMI-ANNUAL MONITORING REPORT

REPORTING PERIOD January 1st 2021 to June 30th 2021

SECTION 2. DEVIATION REPORTING

Below are the deviations from permit requirements that occurred during this reporting period.

S.No	Condition	Description	Cause	Corrective Action	Preventative Measures	Date of identification	Report/Log Date
1	P0006213 Permit Condition 47.a	New contractor began a removal of insulated duct work greater than 160 ft ² prior to performing a thorough inspection (asbestos sampling and analysis).	There was not an identified gate in the design and construction process to ensure the asbestos inspection requirements were met therefore relying on human retention of training and processes.	Work was stopped when issue was identified, and sampling was performed. Sampling results indicate no asbestos was present.	<ol style="list-style-type: none"> 1. Title V refresher related to asbestos added to contractor's monthly training courses rotation. 2. Standing agenda item added to all Contractor/Intel meetings to review projects for environmental impacts. 3. Environmental checklist added to all Contractor Pre-task Plans which are completed prior to starting scope of work. 	2/18/2021	2/19/2021
2	P0006213 Permit Condition 8.f	Maintenance on FSB RCTO units was not performed within timeframe specified in O&M document for Q4 2020	Lack of clarity regarding PM periodicity: Annual has 10-14 month window and PM was performed within that window, but quarterly is performed each calendar quarter	Annual PMs had already been performed when deviation was discovered therefore no additional actions taken to bring equipment into compliance.	<ol style="list-style-type: none"> 1. Added statement to meeting minutes agenda of expectation of Annual to be performed within calendar quarter it is scheduled and deviation from this requires EHS buyoff and scheduling a quarterly during that calendar quarter 2. Reset PM dates for FSB RCTO Units – Annual for Q1 and three Quarterlies (Q2, Q3, Q4) 3. Evaluated all PMs for EXSCs and RCTOs to identify PMs currently scheduled during 	4/22/2021	4/23/2021

INTEL CORPORATION, OCOTILLO CAMPUS: SEMI-ANNUAL MONITORING REPORT

REPORTING PERIOD January 1st 2021 to June 30th 2021

					traditionally lower tech resource times (ie. Holidays) 4. MPS completed Title V WBT 5. Reiterated expectation for SOs attend monthly PM compliance meeting		
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INTEL CORPORATION, OCOTILLO CAMPUS: SEMI-ANNUAL MONITORING REPORT

REPORTING PERIOD January 1st 2021 to June 30th 2021

SECTION 3. DATA RELIED UPON FOR PAL POLLUTANT EMISSION CALCULATIONS

Below are the data relied upon in calculating the monthly and annual PAL pollutant emissions during the reporting period

2.1 Emergency Engines and Fire Pumps

A. *NO_x, CO, PM, PM₁₀, PM_{2.5} and VOC Emissions*

Table 1. Emission Factors for Emergency Generator Engines and Fire Pump Engines

Emissions Unit	Location of Emissions Unit	NO _x lb/hr	CO lb/hr	PM/PM10/PM2.5 lb/hr	VOC lb/hr
3516 D1TA / #11147-01 (gen 1)	Fab 12	58.40	7.83	0.45	0.22
3516 D1TA / #11147-02 (gen 2)	Fab 12	58.40	7.83	0.45	0.22
3516 D1TA / #11147-03 (gen 3)	Fab 12	58.40	7.83	0.45	0.22
3516 D1TA / #11976 (gen 4)	Fab 12	58.40	7.83	0.45	0.22
3516 D1TA / #16894 (gen 5)	Fab 12	58.40	7.83	0.45	0.22
3412C D1TA / #3FZ08267 (Litho)	Fab 12	12.22	0.30	0.56	0.07
F12 Litho Gen 1A 3516 - HD (Litho)	Fab 12	34.89	1.91	0.17	0.69
F12 Litho Gen 2A 3516 - HD (Litho)	Fab 12	34.89	1.91	0.17	0.69
F12 Litho Gen 3A 3516 - HD (Litho)	Fab 12	34.89	1.91	0.17	0.69
3516 D1TA / 24Z09816 (DPS gen 1)	Fab 32S	58.40	7.83	0.45	0.22
3516 D1TA / 24Z09825 (CPS gen 2)	Fab 32S	58.40	7.83	0.45	0.22
3516 D1TA / 24Z09820 (CPS gen 3)	Fab 32S	58.40	7.83	0.45	0.22
3516 D1TA / 24Z09814 (CPS Gen 4)	Fab 32S	58.40	7.83	0.45	0.22
DQKB / I000148784 (Gen 1 regular)	Fab 32S	45.09	5.80	0.67	1.29
DQKB / I000148786 (Gen 2 regular)	Fab 32S	45.09	5.80	0.67	1.29
DQKB / I000148785 (Gen 3 regular)	Fab 32S	45.09	5.80	0.67	1.29

INTEL CORPORATION, OCOTILLO CAMPUS: SEMI-ANNUAL MONITORING REPORT

REPORTING PERIOD January 1st 2021 to June 30th 2021

Emissions Unit	Location of Emissions Unit	NOx	CO	PM/PM10/PM2.5	VOC
		lb/hr	lb/hr	lb/hr	lb/hr
DQKB / I000146278 (Gen 4 regular)	Fab 32S	45.09	5.80	0.67	1.29
DQKC / E060920878 (gen 1)	Fab 32	45.09	5.80	0.67	1.29
DQKC / E060920879 (gen 2)	Fab 32	45.09	5.80	0.67	1.29
DQKC / E060920877 (gen 3)	Fab 32	45.09	5.80	0.67	1.29
DQKAB / I080208703 (gen 4)	Fab 32	34.11	1.35	0.27	1.48
3516C D1TA / G5J00197	Fab 32	34.89	1.91	0.17	0.69
3516C D1TA / G5J00191	Fab 32	34.89	1.91	0.17	0.69
2000-XC6DT2 / New - Litho 3	Fab 32S	35.53	4.04	0.42	1.28
2000-XC6DT2 / New - Litho 4	Fab 32S	35.53	4.04	0.42	1.28
C15-D1TA BRW Tank	Whole Site	4.01	0.64	0.06	0.05
DQLE-1 (1A)	Fab 42	46.41	1.54	0.76	1.05
DQLE-2 (1B)	Fab 42	46.41	1.54	0.76	1.05
DQLE-3 (1C)	Fab 42	46.41	1.54	0.76	1.05
DQLE-4 (2A)	Fab 42	46.41	1.54	0.76	1.05
DQLE-5 (2B)	Fab 42	46.41	1.54	0.76	1.05
DQLE-6 (2C)	Fab 42	46.41	1.54	0.76	1.05
DQLE-7	Fab 42	46.41	1.54	0.76	1.05
DQLE-8	Fab 42	46.41	1.54	0.76	1.05
DQLE-9	Fab 42	46.41	1.54	0.76	1.05
DQLE-10	Fab 42	46.41	1.54	0.76	1.05
DQLE-11	Fab 42	46.41	1.54	0.76	1.05
DQLE-12	Fab 42	46.41	1.54	0.76	1.05
750 KVA CAP Water Engine	Whole Site (new)	12.08	0.56	0.14	0.48
3000 EKW	Fab 42/WATR	46.36	1.86	0.42	0.62
Fire Pump 1	Whole Site	8.53	1.84	0.61	0.68
Fire Pump 2	Whole Site	8.53	1.84	0.61	0.68
3000 EKW	Fab 42 /WATR (new)	46.36	1.86	0.41	0.62
ASU Emergency Generator 1	ASU (new)	25.98	7.83	0.57	1.21

INTEL CORPORATION, OCOTILLO CAMPUS: SEMI-ANNUAL MONITORING REPORT

REPORTING PERIOD January 1st 2021 to June 30th 2021

Table 2. Hours of Operation for Emergency Generator Engines and Fire Pump Engines

Emissions Unit	Hours of Operation in Jan 2021	Hours of Operation in Feb 2021	Hours of Operation in March 2021	Hours of Operation in April 2021	Hours of Operation in May 2021	Hours of Operation in June 2021
	Hours	Hours	Hours	Hours	Hours	Hours
3516 D1TA / #11147-01 (gen 1)	0.2	1.6	0.0	1.1	0.8	0.5
3516 D1TA / #11147-02 (gen 2)	0.2	1.1	0.0	1.2	0.7	0.6
3516 D1TA / #11147-03 (gen 3)	0.2	1.1	0.0	1.1	0.0	0.7
3516 D1TA / #11976 (gen 4)	0.1	1.3	0.0	1.1	0.8	0.5
3516 D1TA / #16894 (gen 5)	1.0	1.0	0.0	1.0	1.0	0.0
3412C D1TA / #3FZ08267 (Litho)	0.0	1.0	1.0	1.0	1.0	0.0
F12 Litho Gen 1A 3516 - HD (Litho)	0.3	1.0	0.1	0.7	0.1	0.9
F12 Litho Gen 2A 3516 - HD (Litho)	0.4	0.8	0.3	0.7	0.1	1.4
F12 Litho Gen 3A 3516 - HD (Litho)	0.2	0.9	0.3	0.7	0.7	1.7
3516 D1TA / 24Z09816 (DPS gen 1)	0.2	0.0	0.5	0.4	0.0	0.0
3516 D1TA / 24Z09825 (CPS gen 2)	0.6	0.0	0.5	0.3	0.0	0.0
3516 D1TA / 24Z09820 (CPS gen 3)	0.2	0.0	0.7	0.3	0.0	0.0
3516 D1TA / 24Z09814 (CPS Gen 4)	0.2	0.0	0.5	0.1	0.2	1.0
DQKB / I000148784 (Gen 1 regular)	0.5	0.0	0.6	0.6	0.2	0.6
DQKB / I000148786 (Gen 2 regular)	1.0	0.0	0.0	1.0	0.0	1.0
DQKB / I000148785 (Gen 3 regular)	1.0	0.0	1.0	0.0	0.0	0.0
DQKB / I000146278 (Gen 4 regular)	0.6	0.0	0.5	0.7	0.0	0.1

INTEL CORPORATION, OCOTILLO CAMPUS: SEMI-ANNUAL MONITORING REPORT

REPORTING PERIOD January 1st 2021 to June 30th 2021

Emissions Unit	Hours of Operation in Jan 2021	Hours of Operation in Feb 2021	Hours of Operation in March 2021	Hours of Operation in April 2021	Hours of Operation in May 2021	Hours of Operation in June 2021
	Hours	Hours	Hours	Hours	Hours	Hours
DQKC / E060920878 (gen 1)	0.0	0.0	0.0	1.0	0.0	0.0
DQKC / E060920879 (gen 2)	0.0	0.0	1.0	0.0	1.0	0.0
DQKC / E060920877 (gen 3)	0.0	1.0	0.0	1.0	0.0	0.0
DQKAB / I080208703 (gen 4)	0.0	1.0	0.0	0.0	0.0	0.0
3516C D1TA / G5J00197	14.5	0.0	0.0	0.0	0.1	0.0
3516C D1TA / G5J00191	0.4	0.0	0.0	0.0	0.0	0.0
2000-XC6DT2 / New - Litho 3	0.0	0.3	0.0	0.3	0.4	0.0
2000-XC6DT2 / New - Litho 4	0.0	0.7	0.0	0.3	0.0	0.0
C15-D1TA BRW Tank	0.5	0.5	0.4	0.4	0.5	0.0
DQLE-1 (1A)	0.8	0.4	0.0	0.6	0.0	0.6
DQLE-2 (1B)	0.8	0.4	0.0	0.5	0.0	0.7
DQLE-3 (1C)	0.8	0.4	0.0	0.6	0.0	0.6
DQLE-4 (2A)	0.0	0.4	0.0	0.5	0.1	0.6
DQLE-5 (2B)	0.7	0.5	0.0	0.5	0.0	0.7
DQLE-6 (2C)	0.8	0.4	0.0	0.6	0.0	0.6
DQLE-7	0.0	0.4	0.0	0.1	0.0	0.6
DQLE-8	0.7	0.5	0.0	0.5	0.0	0.9
DQLE-9	0.7	0.5	0.0	0.5	0.0	0.6
DQLE-10	0.0	0.1	0.0	0.5	0.1	0.6
DQLE-11	0.8	0.4	0.0	0.5	0.0	0.7
DQLE-12	0.7	0.5	0.0	0.5	0.0	0.6
750 KVA CAP Water Engine	0.8	0.4	0.6	0.5	0.7	0.8
3000 EKW (WATR)	0.0	0.0	0.6	0.0	0.0	0.6
Fire Pump 1	2.0	2.3	5.8	7.2	6.0	2.4
Fire Pump 2	4.5	0.9	1.6	5.5	1.2	5.5
3000 EKW (WATR)	NA	NA	NA	NA	NA	NA

INTEL CORPORATION, OCOTILLO CAMPUS: SEMI-ANNUAL MONITORING REPORT

REPORTING PERIOD January 1st 2021 to June 30th 2021

Emissions Unit	Hours of Operation in Jan 2021	Hours of Operation in Feb 2021	Hours of Operation in March 2021	Hours of Operation in April 2021	Hours of Operation in May 2021	Hours of Operation in June 2021
	Hours	Hours	Hours	Hours	Hours	Hours
ASU Emergency Generator 1	NA	NA	NA	NA	NA	NA

B. SO₂ Emissions

Table 3. SO₂ Emission Factors for Emergency Generator Engines and Fire Pump Engines

Emissions Unit	Location of Emissions Unit	SO ₂
		lb/hr
3516 D1TA / #11147-01 (gen 1)	Fab 12	0.03
3516 D1TA / #11147-02 (gen 2)	Fab 12	0.03
3516 D1TA / #11147-03 (gen 3)	Fab 12	0.03
3516 D1TA / #11976 (gen 4)	Fab 12	0.03
3516 D1TA / #16894 (gen 5)	Fab 12	0.03
3412C D1TA / #3FZ08267 (Litho)	Fab 12	0.01
F12 Litho Gen 1A 3516 - HD (Litho)	Fab 12	0.04
F12 Litho Gen 2A 3516 - HD (Litho)	Fab 12	0.04
F12 Litho Gen 3A 3516 - HD (Litho)	Fab 12	0.04
3516 D1TA / 24Z09816 (DPS gen 1)	Fab 32S	0.03
3516 D1TA / 24Z09825 (CPS gen 2)	Fab 32S	0.03
3516 D1TA / 24Z09820 (CPS gen 3)	Fab 32S	0.03
3516 D1TA / 24Z09814 (CPS Gen 4)	Fab 32S	0.03
DQKB / I000148784 (Gen 1 regular)	Fab 32S	0.04
DQKB / I000148786 (Gen 2 regular)	Fab 32S	0.04
DQKB / I000148785 (Gen 3 regular)	Fab 32S	0.04
DQKB / I000146278 (Gen 3 regular)	Fab 32S	0.04
DQKC / E060920878 (gen 1)	Fab 32	0.04
DQKC / E060920879 (gen 2)	Fab 32	0.04
DQKC / E060920877 (gen 3)	Fab 32	0.04
DQKAB / I080208703 (gen 4)	Fab 32	0.04
3516C D1TA / G5J00197	Fab 32	0.04
3516C D1TA / G5J00191	Fab 32	0.04
2000-XC6DT2 / New - Litho 3	Fab 32S	0.04
2000-XC6DT2 / New - Litho 4	Fab 32S	0.04
C15-D1TA BRW Tank	Whole Site	0.01
750 KVA CAP Water Engine	Whole Site (new)	0.01

INTEL CORPORATION, OCOTILLO CAMPUS: SEMI-ANNUAL MONITORING REPORT

REPORTING PERIOD January 1st 2021 to June 30th 2021

Emissions Unit	Location of Emissions Unit	SO ₂
		lb/hr
DQLE-1 (1A)	Fab 42	0.04
DQLE-2 (1B)	Fab 42	0.04
DQLE-3 (1C)	Fab 42	0.04
DQLE-4 (2A)	Fab 42	0.04
DQLE-5 (2B)	Fab 42	0.04
DQLE-6 (2C)	Fab 42	0.04
DQLE-7	Fab 42	0.04
DQLE-8	Fab 42	0.04
DQLE-9	Fab 42	0.04
DQLE-10	Fab 42	0.04
DQLE-11	Fab 42	0.04
DQLE-12	Fab 42	0.04
3000 EKW	Fab 42/WATR	0.05
Fire Pump 1	Whole Site	0.56
Fire Pump 2	Whole Site	0.56
3000 EKW	Fab 42 /WATR (new)	0.04
ASU Emergency Generator 1	ASU (new)	0.02

2.2 Monitoring System for Boilers

A. NO_x and CO Emissions

Table 4. NO_x and CO Emission Factors for Boilers

Boiler	Location of Emissions Unit	NO _x	CO
		lb/mmscf	lb/mmscf
F12 Boiler 1	Fab 12	8.33	0.00
F12 Boiler 2	Fab 12	11.05	0.00
F12 Boiler 3	Fab 12	3.38	0.71
F12 Boiler 4	Fab 12	7.50	0.53
F32S Boiler 1	Fab 32S	5.88	0.43
F32S Boiler 2	Fab 32S	8.60	0.49
F32S Boiler 3	Fab 32S	7.90	0.57
F32S Boiler 4	Fab 32S	8.40	0.52
F32S Boiler 5	Fab 32S	6.50	0.20
F32S Boiler 6	Fab 32S (new)	4.22	4.62
F32S Boiler 7	Fab 32S (new)	11.00	4.90
F32 Boiler 2	Fab 32	11.00	4.90
F42 Boiler 1	Fab 42	12.46	0.06
F42 Boiler 2	Fab 42	8.87	0.07
F42 Boiler 3	Fab 42	8.87	0.07

INTEL CORPORATION, OCOTILLO CAMPUS: SEMI-ANNUAL MONITORING REPORT

REPORTING PERIOD January 1st 2021 to June 30th 2021

Boiler	Location of Emissions Unit	NO _x	CO
		lb/mmscf	lb/mmscf
F42 Boiler 4	Fab 42	8.87	0.07
Vaporizer Fired Heater 1	ASU	11.36	84.00
Vaporizer Fired Heater 2	ASU	11.36	84.00

The Quality Assurance/Quality Control (QA/QC) data for the boiler's emission factors are outlined in the compliance test reports submitted to MCAQD on the dates listed below; Since these reports were previously submitted to MCAQD Intel will not be resubmitting the QA/QC data in an effort to keep this semi-annual monitoring report concise.

- F12 and F32S (Boilers 1-4): February 8th, 2019
- F32S Boiler 5: April 7th, 2017
- F32 Boiler 2: January 16th, 2014; the boiler was decommissioned on January 30, 2019 as outlined in the decommissioning notice submitted to MCAQD on January 31, 2019
- F42 Boilers 1-2: January 26, 2018
- F42 Boiler 3: March 8, 2013
- F42 Boiler 4: April 7, 2017

Table 5. Natural Gas Usage for Boilers

Boiler	Natural Gas Usage in Jan 2021	Natural Gas Usage in Feb 2021	Natural Gas Usage in March 2021	Natural Gas Usage in April 2021	Natural Gas Usage in May 2021	Natural Gas Usage in June 2021
	mmscf	mmscf	mmscf	mmscf	mmscf	mmscf
F12 Boiler 1	14.692	20.392	3.369	0.000	0.000	0.000
F12 Boiler 2	12.018	1.665	14.468	31.011	30.038	21.772
F12 Boiler 3	1.969	0.451	12.932	5.750	7.792	4.042
F12 Boiler 4	30.168	26.820	23.445	5.165	0.779	4.115
F32S Boiler 1	8.884	9.555	2.118	4.944	5.195	5.841
F32S Boiler 2	8.830	5.192	2.808	5.145	5.484	6.589
F32S Boiler 3	8.270	9.008	0.000	0.000	0.000	0.000
F32S Boiler 4	7.150	0.870	4.073	1.752	0.869	0.057
F32S Boiler 5	0.000	0.000	0.000	0.000	0.000	0.000
F32S Boiler 6	0.000	0.000	0.000	0.000	0.000	0.000
F32S Boiler 7	0.000	0.000	0.000	0.000	0.000	0.000
F32 Boiler 2	0.000	0.000	0.000	0.000	0.000	0.000
F42 Boiler 1	0.000	0.000	0.000	0.000	0.000	0.000
F42 Boiler 2	0.109	0.115	0.011	0.047	0.020	0.013
F42 Boiler 3	1.992	2.540	3.140	2.827	0.430	0.014
F42 Boiler 4	0.645	0.040	0.010	0.397	2.675	2.003
Vaporizer Fired Heater 1	NA	NA	NA	NA	NA	NA

INTEL CORPORATION, OCOTILLO CAMPUS: SEMI-ANNUAL MONITORING REPORT

REPORTING PERIOD January 1st 2021 to June 30th 2021

Boiler	Natural Gas Usage in Jan 2021	Natural Gas Usage in Feb 2021	Natural Gas Usage in March 2021	Natural Gas Usage in April 2021	Natural Gas Usage in May 2021	Natural Gas Usage in June 2021
	mmscf	mmscf	mmscf	mmscf	mmscf	mmscf
Vaporizer Fired Heater 2	NA	NA	NA	NA	NA	NA

B. PM, PM₁₀, PM_{2.5}, SO₂ and VOC Emissions

Table 6. Emission Factors for Boilers

Boiler	Location of Emissions Unit	PM/PM ₁₀ / PM _{2.5}	VOC	SO ₂
		lb/mmscf	lb/mmscf	lb/mmscf
F12 Boiler 1	Fab 12	7.60	5.50	0.60
F12 Boiler 2	Fab 12	7.60	5.50	0.60
F12 Boiler 3	Fab 12	7.60	5.50	0.60
F12 Boiler 4	Fab 12	7.60	5.50	0.60
F32S Boiler 1	Fab 32S	7.60	5.50	0.60
F32S Boiler 2	Fab 32S	7.60	5.50	0.60
F32S Boiler 3	Fab 32S	7.60	5.50	0.60
F32S Boiler 4	Fab 32S	7.60	5.50	0.60
F32S Boiler 5	Fab 32S	7.60	5.50	0.60
F32S Boiler 6	Fab 32S (new)	7.60	5.50	0.60
F32S Boiler 7	Fab 32S (new)	7.60	5.50	0.60
F32 Boiler 2	Fab 32	7.60	5.50	0.60
F42 Boiler 1	Fab 42	7.60	5.50	0.60
F42 Boiler 2	Fab 42	7.60	5.50	0.60
F42 Boiler 3	Fab 42	7.60	5.50	0.60
F42 Boiler 4	Fab 42	7.60	5.50	0.60
Vaporizer Fired Heater 1	ASU (new)	7.60	5.50	0.60
Vaporizer Fired Heater 2	ASU (new)	7.60	5.50	0.60

2.3 Monitoring System for Cooling Towers

A. PM, PM₁₀, and PM_{2.5} Emissions

Table 7. TDS data for Cooling Towers

Cooling Tower	TDS in Jan 2021	TDS in Feb 2021	TDS in March 2021	TDS in April 2021	TDS in May 2021	TDS in June 2021
	ppm	ppm	ppm	ppm	ppm	ppm
F12	3664.40	3401.93	3188.08	3158.16	3087.70	3222.33
F32S	3474.20	3250.84	3883.54	4488.18	4240.26	4195.02

INTEL CORPORATION, OCOTILLO CAMPUS: SEMI-ANNUAL MONITORING REPORT

REPORTING PERIOD January 1st 2021 to June 30th 2021

Cooling Tower	TDS in Jan 2021	TDS in Feb 2021	TDS in March 2021	TDS in April 2021	TDS in May 2021	TDS in June 2021
	ppm	ppm	ppm	ppm	ppm	ppm
F32	3444.05	3170.11	2879.88	2770.45	2918.94	2825.61
F42	3445.81	2935.02	2580.32	2578.76	2722.38	2900.80
MSB	1311.46	1637.48	1670.31	1747.19	1782.87	2188.89
ASU	NA	NA	NA	NA	NA	NA

All cooling towers, except for the ASU cooling towers, operated 24 hours per day all days of the certification period, January 1, 2021 through June 30, 2021.

B. VOC Emissions (from chemicals used in cooling towers)

Table 8. VOC Chemical Usage data for Cooling Towers

Cooling Tower	Chem Usage in Jan 2021	Chem Usage in Feb 2021	Chem Usage in March 2021	Chem Usage in April 2021	Chem Usage in May 2021	Chem Usage in June 2021
	lbs	lbs	lbs	lbs	lbs	lbs
Site	0.74	4.82	4.89	1.76	1.48	4.89

INTEL CORPORATION, OCOTILLO CAMPUS: SEMI-ANNUAL MONITORING REPORT

REPORTING PERIOD January 1st 2021 to June 30th 2021

2.4 Monitoring System for Lime Silos

A. PM, PM₁₀ and PM_{2.5} Emissions

Table 9. Emission Factors for Lime Silos

Lime Silo	Location of Emissions Unit	PM/PM ₁₀ /PM _{2.5}
		lb PM ₁₀ /ton of material
F12 Lime Silos	Fab 12	0.0049
F32S Lime Silos	Fab 32S	0.0049
F32 Lime Silos	Fab 32	0.0049
F42 Lime Silos	Fab 42	0.0049
IWW Sodium Bicarbonate Silo	Fab 42/WATR	0.0049

Table 10. Lime Silo Loading Frequency

Lime Silo	Loading Frequency in Jan 2021	Loading Frequency in Feb 2021	Loading Frequency in March 2021	Loading Frequency in April 2021	Loading Frequency in May 2021	Loading Frequency in June 2021
	loads	loads	loads	loads	loads	loads
F12 Lime Silos	1	1	1	1	3	2
F32S Lime Silos	4	4	4	3	5	4
F32 Lime Silos	4	4	7	3	4	5
F42 Lime Silos	5	2	4	2	5	2
IWW Sodium Bicarbonate Silo	NA	NA	NA	NA	NA	NA

2.5 Monitoring System for Control Devices (Natural Gas Combustion Emissions Only)

A. NO_x and CO Emissions

Table 11. NO_x and CO Emission Factors for Control Devices

Control Device	Location of Emissions Unit	NO _x	CO
		lb/mmscf	lb/mmscf
RCTO 1	Fab 12	96.25	109.17
RCTO 2	Fab 12	100.26	492.35
RCTO 3	Fab 12	107.30	55.28
RCTO 4	Fab 12	136.22	17.31
LCE RCTO 1	Fab 12	181.40	18.73
LCE RCTO 2	Fab 12	126.96	13.80
RCTO 3	Fab 32S	253.59	226.75

INTEL CORPORATION, OCOTILLO CAMPUS: SEMI-ANNUAL MONITORING REPORT

REPORTING PERIOD January 1st 2021 to June 30th 2021

Control Device	Location of Emissions Unit	NO _x	CO
		lb/mmscf	lb/mmscf
RCTO 4	Fab 32S	145.28	47.57
RCTO 5	Fab 32S	138.43	5.89
RCTO 1	Fab 32	75.82	369.72
RCTO 2	Fab 32	117.32	381.07
RCTO 3	Fab 32	81.96	442.26
Trimix A Catalytic Oxidizer	Fab 32S/32	0.14	0.27
Trimix B Catalytic Oxidizer	Fab 32S/32	0.00	0.01
RCTO 5	Fab 12	0.34 lbs/hr	0.24 lbs/hr
LCE RCTO 3	Fab 12	0.34 lbs/hr	0.24 lbs/hr
RCTO 6	Fab 32S	0.20 lbs/hr	0.14 lbs/hr
RCTO 7	Fab 32S	0.20 lbs/hr	0.14 lbs/hr
RCTO 4	Fab 32	0.78 lbs/hr	0.54 lbs/hr
RCTO 5	Fab 32	0.78 lbs/hr	0.54 lbs/hr
RCTO 6	Fab 32	0.78 lbs/hr	0.54 lbs/hr
FSB RCTO 1	Fab 42	126.92	32.69
FSB RCTO 2	Fab 42	102.09	83.81
RCTO 1	Fab 42	0.78 lbs/hr	0.54 lbs/hr
RCTO 2	Fab 42	0.78 lbs/hr	0.54 lbs/hr
RCTO 3	Fab 42	0.78 lbs/hr	0.54 lbs/hr
RCTO 4	Fab 42	0.78 lbs/hr	0.54 lbs/hr
RCTO 5	Fab 42	0.78 lbs/hr	0.54 lbs/hr
Trimix 1 Catalytic Oxidizer	Fab 42	0.34 lbs/hr	0.27 lbs/hr

The Quality Assurance/Quality Control (QA/QC) data for the control equipment's emission factors are outlined in the compliance test reports submitted to MCAQD on the dates listed below. Since these reports were previously submitted to MCAQD Intel will not be resubmitting the QA/QC data in an effort to keep this semi-annual monitoring report concise.

F12 RCTO 1-4 and F12 LCE RCTO 1-2: June 8, 2020

F32S RCTO 3-5: June 5, 2020

F32 RCTO 1-3: May 8, 2020

F32S/32 Trimix A: June 10, 2016

F32S/32 Trimix B: September 26, 2013

FSB RCTO 1-2: May 30, 2020

INTEL CORPORATION, OCOTILLO CAMPUS: SEMI-ANNUAL MONITORING REPORT

REPORTING PERIOD January 1st 2021 to June 30th 2021

Table 12. Natural Gas Usage for Control Devices

Control Device	Location of Emissions Unit	Natural Gas Usage in Jan 2021	Natural Gas Usage in Feb 2021	Natural Gas Usage in March 2021	Natural Gas Usage in April 2021	Natural Gas Usage in May 2021	Natural Gas Usage in June 2021
		mmscf	mmscf	mmscf	mmscf	mmscf	mmscf
RCTO 1	Fab 12	0.640	0.468	0.676	0.741	0.837	0.830
RCTO 2	Fab 12	0.629	0.538	0.589	0.582	0.602	0.600
RCTO 3	Fab 12	0.826	0.632	0.819	0.823	0.842	0.804
RCTO 4	Fab 12	0.810	0.769	0.853	0.750	0.995	0.964
LCE RCTO 1	Fab 12	1.079	1.235	1.282	1.266	1.350	1.328
LCE RCTO 2	Fab 12	1.408	1.288	1.411	1.313	1.390	1.378
RCTO 3	Fab 32S	0.628	0.587	0.746	0.730	0.742	0.739
RCTO 4	Fab 32S	0.883	0.817	0.909	0.866	0.909	0.883
RCTO 5	Fab 32S	0.000	0.000	0.000	0.100	0.612	0.608
RCTO 1	Fab 32	0.910	0.845	0.938	0.896	0.887	0.864
RCTO 2	Fab 32	0.839	0.645	0.764	0.796	0.792	0.770
RCTO 3	Fab 32	0.474	0.436	0.536	0.530	0.535	0.515
Trimix A Catalytic Oxidizer	Fab 32S/32	0.636	0.625	0.642	0.654	0.654	0.558
Trimix B Catalytic Oxidizer	Fab 32S/32	0.564	0.462	0.530	0.553	0.577	0.542
RCTO 5	Fab 12	N/A	N/A	N/A	N/A	N/A	N/A
LCE RCTO 3	Fab 12	N/A	N/A	N/A	N/A	N/A	N/A
RCTO 6	Fab 32S	0.454	0.334	0.368	0.299	0.005	0.128
RCTO 7	Fab 32S	N/A	N/A	N/A	N/A	N/A	N/A
RCTO 4	Fab 32	N/A	N/A	N/A	0.743	0.372	0.681
RCTO 5	Fab 32	N/A	N/A	N/A	1.163	1.166	1.094
RCTO 6	Fab 32	N/A	N/A	N/A	N/A	N/A	N/A
FSB RCTO 1	Fab 42	0.072	0.068	0.078	0.053	0.029	0.021
FSB RCTO 2	Fab 42	0.374	0.335	0.362	0.351	0.355	0.336
RCTO 1	Fab 42	0.741	0.673	0.669	0.652	0.584	0.672
RCTO 2	Fab 42	0.739	0.666	0.673	0.561	0.929	0.950
RCTO 3	Fab 42	0.775	0.693	0.694	0.088	0.418	0.591
RCTO 4	Fab 42	N/A	N/A	N/A	N/A	N/A	N/A
RCTO 5	Fab 42	N/A	N/A	N/A	N/A	N/A	N/A
TriMix 1 Catalytic Oxidizer	Fab 42	N/A	N/A	N/A	N/A	N/A	N/A

INTEL CORPORATION, OCOTILLO CAMPUS: SEMI-ANNUAL MONITORING REPORT

REPORTING PERIOD January 1st 2021 to June 30th 2021

A. PM, PM₁₀, PM_{2.5}, SO₂ and VOC Emissions

Table 13. Emission Factors for Control Devices

Control Device	Location of Emissions Unit	PM/PM ₁₀ /PM _{2.5}	VOC	SO ₂
		lb/mmscf	lb/mmscf	lb/mmscf
RCTO 1	Fab 12	7.60	5.50	0.60
RCTO 2	Fab 12	7.60	5.50	0.60
RCTO 3	Fab 12	7.60	5.50	0.60
RCTO 4	Fab 12	7.60	5.50	0.60
LCE RCTO 1	Fab 12	7.60	5.50	0.60
LCE RCTO 2	Fab 12	7.60	5.50	0.60
RCTO 3	Fab 32S	7.60	5.50	0.60
RCTO 4	Fab 32S	7.60	5.50	0.60
RCTO 5	Fab 32S	7.60	5.50	0.60
RCTO 1	Fab 32	7.60	5.50	0.60
RCTO 2	Fab 32	7.60	5.50	0.60
RCTO 3	Fab 32	7.60	5.50	0.60
Trimix A Catalytic Oxidizer	Fab 32S/32	7.60	5.50	0.60
Trimix B Catalytic Oxidizer	Fab 32S/32	7.60	5.50	0.60
RCTO 5	Fab 12 (new)	7.60	5.50	0.60
LCE RCTO 3	Fab 12 (new)	7.60	5.50	0.60
RCTO 6	Fab 32S (new)	7.60	5.50	0.60
RCTO 7	Fab 32S (new)	7.60	5.50	0.60
RCTO 4	Fab 32 (new)	7.60	5.50	0.60
RCTO 5	Fab 32 (new)	7.60	5.50	0.60
RCTO 6	Fab 32 (new)	7.60	5.50	0.60
FSB RCTO 1	Fab 42 (new)	7.60	5.50	0.60
FSB RCTO 2	Fab 42 (new)	7.60	5.50	0.60
RCTO 1	Fab 42 (new)	7.60	5.50	0.60
RCTO 2	Fab 42 (new)	7.60	5.50	0.60
RCTO 3	Fab 42 (new)	7.60	5.50	0.60
RCTO 4	Fab 42 (new)	7.60	5.50	0.60
RCTO 5	Fab 42 (new)	7.60	5.50	0.60
TriMix 1 Catalytic Oxidizer	Fab 42 (new)	7.60	5.50	0.60

INTEL CORPORATION, OCOTILLO CAMPUS: SEMI-ANNUAL MONITORING REPORT

REPORTING PERIOD January 1st 2021 to June 30th 2021

2.6 Monitoring System for General Fab Natural Gas Combustion Units

A. *NO_x, CO, PM, PM₁₀, PM_{2.5}, VOC and SO₂ Emissions*

Table 14. Emission Factors for General Fab Natural Gas Combustion Units

Emission Units	Location of Emissions Unit	NO _x	CO	PM/PM ₁₀ / PM _{2.5}	VOC	SO ₂
		lb/mmscf	lb/mmscf	lb/mmscf	lb/mmscf	lb/mmscf
General Fab Natural Gas Combustion Units	Site-Wide	100.00	84.00	7.60	5.50	0.60

*From Section 1.4 AP-42 EPA Emission Factor Reference

Table 15. General Fab Natural Gas Usage

Emission Units	Jan-21	Feb-21	Mar-21	Apr-21	May-21	Jun-21
	mmscf	mmscf	mmscf	mmscf	mmscf	mmscf
General Fab Natural Gas Combustion Units	45.927	49.351	67.711	52.075	48.885	41.801

2.7 Monitoring System for Fab Emission Units (Process Emissions Only)

A. *Quality Assurance/Quality Control Data for Process Emission Factors*

All Quality Assurance/Quality Control (QA/QC) data for the process emission factors that were determined via performance testing are located in the performance test reports submitted to MCAQD on the following dates. Since these reports were previously submitted to MCAQD Intel will not be resubmitting the QA/QC data in an effort to keep this semi-annual monitoring report concise.

Wet Acid Scrubbers: May 19, 2020

RCTO VOC Abatement Units: June 8, 2020

INTEL CORPORATION, OCOTILLO CAMPUS: SEMI-ANNUAL MONITORING REPORT

REPORTING PERIOD January 1st 2021 to June 30th 2021

B. VOC Emissions

Table 16. Site Wide VOC Stack Testing Results and Monthly Production Index (PI)

Stack Type	Testing Result VOC	Jan 2021 PI	Feb 2021 PI	March 2021 PI	April 2021 PI	May 2021 PI	June 2021 PI
	lb/hr						
RCTO VOC Abatement Units	2.08	1.21	1.23	1.00	1.06	1.07	0.94
Wet Acid Scrubbers	2.692	1.21	1.23	1.00	1.06	1.07	0.94
Ammonia Scrubbers	2.765	1.10	1.10	1.37	1.14	1.21	1.52

C. CO, NO_x, PM, PM₁₀, and PM_{2.5} Emissions

Table 17. Site Wide Stack Testing Results and Monthly Production Index (PI)

PAL Pollutant	Stack Type	Testing Result	Jan 2021 PI	Feb 2021 PI	March 2021 PI	April 2021 PI	May 2021 PI	June 2021 PI
		lb/hr						
CO	Wet Acid Scrubber	27.194	0.92	0.95	1.02	1.04	1.10	1.07
NO _x	Wet Acid Scrubber	22.738	0.92	0.95	1.02	1.04	1.10	1.07
PM, PM ₁₀ , PM _{2.5}	Wet Acid Scrubber	6.225	0.92	0.95	1.02	1.04	1.10	1.07
PM, PM ₁₀ , PM _{2.5}	RCTO VOC Abatement	1.8433	0.92	0.95	1.02	1.04	1.09	1.07

D. SO₂ Emissions

Table 18. Emission Factors and Weighting Factors for SO₂ Process Emissions and Monthly Chemical Usage

Compound ^{d1}	Tech A	Tech B	Tech C	Tech A	Tech B	Tech C	Jan 2021 Chem Usage	Feb 2021 Chem Usage	March 2021 Chem Usage	April 2021 Chem Usage	May 2021C hem Usage	June 2021 Chem Usage
	Emission Factor			Weighting Factor								
	lb/lb			%								
Chem 1	0.319	0.247	0.083	0.018	0.032	0.093	1410. 8	3705. 0	3197. 7	3009. 6	3573. 9	4044. 2

INTEL CORPORATION, OCOTILLO CAMPUS: SEMI-ANNUAL MONITORING REPORT

REPORTING PERIOD January 1st 2021 to June 30th 2021

Compound ¹	Tech A	Tech B	Tech C	Tech A	Tech B	Tech C	Jan 2021 Chem Usage	Feb 2021 Chem Usage	March 2021 Chem Usage	April 2021 Chem Usage	May 2021 Chem Usage	June 2021 Chem Usage
	Emission Factor			Weighting Factor								
	lb/lb			%			lb	lb	lb	lb	lb	lb
Chem 2	0.869	0.775	0.305	1E-10	0.003	0.011	209.4	335.1	502.7	418.9	586.4	670.2

¹ These emission factors, by chemical, are based on actual tool testing from Intel's Research and Development facility in Oregon and would provide a competitor with specific trade secret recipe information to cause harm to Intel's competitive advantage if released to the public. The confidentiality claim meets the requirements of Arizona Revised Statute (ARS) §49-487 and Maricopa County Air Quality Department Rule 200 and Intel will submit a confidential list of these Emission Factors.

E. Fluoride Emissions

Table 19. Emission Factors and Weighting Factors for Fluoride Process Emissions and Monthly Chemical Usage

Compound ^{1,2}	Tech A	Tech B	Tech C	Tech A	Tech B	Tech C	Jan 2021 Chem Usage	Feb 2021 Chem Usage	March 2021 Chem Usage	April 2021 Chem Usage	May 2021 Chem Usage	June 2021 Chem Usage
	Emission Factor			Weighting Factor								
	lb/lb			%			lb	lb	lb	lb	lb	lb
Chem 1	0.00122	0.00122	0.00122	1E-10	0.0247	0.0399	2470.00	1950.00	2340.00	2080.00	2470.00	2990.00
Chem 2	0.0128	0.0128	0.0762	0.0179	0.0216	0.0545	2375.00	2375.00	2470.00	2470.00	2565.00	3515.00
Chem 3	0.00837	0.00837	0.0243	0.25	0.343	0.555	8800.00	26400.00	17600.00	26400.00	17600.00	17600.00
Chem 4	0.0114	0.0114	0.000246	0.00101	0.000893	0.00172	192.00	96.00	168.00	96.00	156.00	168.00
Chem 5	0.0177	0.0177	0.186	0.0292	0.0415	0.154	3527.40	2821.92	3527.40	4232.88	4232.88	4938.36
Chem 6	0.0632	0.0632	0.0531	0.0039	0.00967	0.0175	942.48	942.48	538.56	1211.76	673.20	1077.12
Chem 7	0.00174	0.00174	0.0151	0.000652	0.000631	0.00729	50.00	0.00	200.00	50.00	50.00	100.00
Chem 8	0.0235	0.0235	0.0235	1E-10	1E-10	0.0000937	84525.67	78217.78	73171.47	69386.74	74433.05	74433.05
Chem 9	0.0242	0.0242	0.104	0.0108	0.0262	0.031	2025.00	1875.00	1800.00	1800.00	2025.00	2325.00
Chem 10	0.006	0.006	0.206	0.000892	0.000885	0.00877	384.00	400.00	464.00	384.00	512.00	656.00
Chem 11	1	1	0.0048	1E-10	0.00013	0.00182	26.59	25.74	26.87	42.32	37.89	50.46
Compound ^{1,2}	Tech A	Tech B	Tech C	Tech A	Tech B	Tech C	Jan 2021	Feb 2021	March	April	May	June

INTEL CORPORATION, OCOTILLO CAMPUS: SEMI-ANNUAL MONITORING REPORT

REPORTING PERIOD January 1st 2021 to June 30th 2021

	Emission Factor			Weighting Factor			Chem Usage	Chem Usage	2021 Chem Usage	Chem Usage	Chem Usage	Chem Usage
	lb/lb			%			lb	lb	lb	lb	lb	lb
Chem 12	NA	NA	NA	NA	NA	NA	0	0	0	0	0	0
Chem 19	0.00003	0.00003	0.00003	1E-10	0.0247	0.0399	2470.00	1950.00	2340.00	2080.00	2470.00	564.38
Chem 20	0.73	0.73	0.36	1E-10	0.000321	0.000396	0.14	0.07	0.46	0.20	0.07	17600.00
Chem 21	0.298	0.298	0.148	0.0179	0.0216	0.545	2375.00	2375.00	2470.00	2470.00	2565.00	2325.00
Chem 22	6.27E-09	6.27E-09	0.00013	1E-10	0.000109	0.00806	599.66	599.66	458.56	564.38	458.56	656.00
Chem 23	0.00426	0.00426	0.00542	0.25	0.343	0.555	8800.00	26400.00	17600.00	26400.00	17600.00	168.00
Chem 24	0.0357	0.0357	0.0541	0.0108	0.0262	0.031	2025.00	1875.00	1800.00	1800.00	2025.00	4938.36
Chem 25	0.057	0.057	0.0432	0.000892	0.000885	0.00877	384.00	400.00	464.00	384.00	512.00	1077.12
Chem 26	0.128	0.128	0.00984	0.00101	0.000893	0.00172	192.00	96.00	168.00	96.00	156.00	100.00
Chem 27	0.0412	0.0412	0.0833	0.0292	0.0415	0.154	3527.40	2821.92	3527.40	4232.88	4232.88	143.30
Chem 28	0.00536	0.00536	0.181	0.0039	0.00967	0.0175	942.48	942.48	538.56	1211.76	673.20	3515.00
Chem 29	0.0106	0.0106	0.0382	0.000652	0.000631	0.00729	50.00	0.00	200.00	50.00	50.00	2990.00
Chem 31	NA	NA	0.000906	0.0179	0.0216	0.0545	2375.00	2375.00	2470.00	2470.00	2565.00	2990.00
Chem 32	0.0017	0.0017	0.00168	1E-10	0.0247	0.0399	2470.00	1950.00	2340.00	2080.00	2470.00	3515.00
Chem 33	0.000351	0.000351	0.000011	0.25	0.343	0.555	8800.00	26400.00	17600.00	26400.00	17600.00	17600.00

¹ These emission factors, by chemical, are based on actual tool testing from Intel's Research and Development facility in Oregon and would provide a competitor with specific trade secret recipe information to cause harm to Intel's competitive advantage if released to the public. The confidentiality claim meets the requirements of Arizona Revised Statute (ARS) §49-487 and Maricopa County Air Quality Department Rule 200 and Intel will submit a confidential list of these Emission Factors.

² Revised data has indicated CAS numbers for Chems 13 through 18, and Chem 30 are no longer applicable at the OC site. These chems have been removed. To keep consistency with previous naming conventions the chem numbers have remained unchanged.

2.8 Monitoring System for Fab Emission Units (Uncontrolled Evaporative Processes)

A. VOC Emissions (from tanks)

INTEL CORPORATION, OCOTILLO CAMPUS: SEMI-ANNUAL MONITORING REPORT

REPORTING PERIOD January 1st 2021 to June 30th 2021

Table 20. Tank Throughput Data

Tank ID	Jan 2021 Throughput	Feb 2021 Throughput	March 2021 Throughput	April 2021 Throughput	May 2021 Throughput	June 2021 Throughput
	Gal	Gal	Gal	Gal	Gal	Gal
F12-TK-266-1-00	5832000	5832000	5832000	5832000	5832000	5832000
F12-TK-266-1-01	10800000	10800000	10800000	10800000	10800000	10800000
F12-TK-266-1-15	10800000	10800000	10800000	5832000	5832000	5832000
F12-TK-266-1-60	5832000	5832000	5832000	2592000	2592000	2592000
F12-TK-266-1-75	2592000	2592000	2592000	5832000	5832000	5832000
F12-TK-266-1-90	5832000	5832000	5832000	5832000	5832000	5832000
F12-TK-266-2-00	5832000	5832000	5832000	10800000	10800000	10800000
F12-TK-266-2-15	10800000	10800000	10800000	5832000	5832000	5832000
F12-TK-266-2-60	5832000	5832000	5832000	2592000	2592000	2592000
F12-TK-266-2-75	2592000	2592000	2592000	6480000	6480000	6480000
F12-TK-76-GH1-1	41049	41049	38201	40467	40632	34598
F12-TK-76-GH1-2	41049	41049	38201	40467	40632	34598
F12-TK-76-GH4-1	41049	41049	38201	40467	40632	34598
F12-TK-76-GH4-2	41049	41049	38201	40467	40632	34598
F12-TK-76-GH6-1	160026	160026	155504	153702	162859	144115
F12-TK-79-GH10-1	80013	80013	77752	76851	81429	72057
F12-TK-79-GH10-2	80013	80013	77752	76851	81429	72057
F12-TK-79-GH10-3	160026	160026	155504	153702	162859	144115
F12-TK-79-GH1-1	1033	1033	1159	0	1321	399
F12-TK-79-GH1-2	1033	1033	1159	0	1321	399
F12-TK-79-GH4-1	1033	1033	1159	0	1321	399
F12-TK-79-GH4-2	1033	1033	1159	0	1321	399
F12-TK-79-GH7-1	80013	80013	77752	76851	81429	72057
F12-TK-79-GH7-2	80013	80013	77752	76851	81429	72057
F12-TK-80-GH1-1	590	590	920	678	1266	0
F12-TK-80-GH1-2	0	0	0	0	0	0
F22-OCB2A-TK-269-1-00	82097	82097	76402	80935	81263	69197
F22-OCB2A-TK-269-1-30	82097	82097	76402	80935	81263	69197
F22-OCB2A-TK-270-1-00	160026	160026	155504	153702	162859	144115
F22-OCB2-TK-293-1-00	1918940	1918940	1697268	1644175	1570864	1511011
F22-OCB2-TK-293-2-00	1918940	1918940	1697268	1644175	1570864	1511011
F22-PWB2-TK-293-0-92	955541	955541	856639	808356	775423	746533
F22-PWB2-TK-293-1-15	912045	912045	805371	778077	746822	719073
F22-PWB2-TK-293-2-15	912045	912045	805371	778077	746822	719073
F22-PWB2-TK-293-3-15	912045	912045	805371	778077	746822	719073
F22-TK-251-1-200	666	666	744	686	1063	194

INTEL CORPORATION, OCOTILLO CAMPUS: SEMI-ANNUAL MONITORING REPORT

REPORTING PERIOD January 1st 2021 to June 30th 2021

Tank ID	Jan 2021 Throughput	Feb 2021 Throughput	March 2021 Throughput	April 2021 Throughput	May 2021 Throughput	June 2021 Throughput
	Gal	Gal	Gal	Gal	Gal	Gal
F22-TK-296-1-05	310	310	1242	766	0	2144
F22-TK-296-1-15	807	807	3229	1990	0	5572
F22-TK-296-2-05	310	310	1242	766	0	2144
F32-OCB2B-TK-269-1-00	82097	82097	76402	80935	81263	69197
F32-OCB2B-TK-270-1-00	160026	160026	155504	153702	162859	144115
F32-OCB2B-TK-286-1-50A	2065	2065	2319	0	2642	797
F32-PWB2B-TK-293-0-92	955541	955541	856639	808356	775423	746533
OC11-TK-266-1-00	6480000	6480000	6480000	6480000	6480000	6480000
OC11-TK-266-2-00	6480000	6480000	6480000	10800000	10800000	10800000
OC9-TK-266-1-15	10800000	10800000	10800000	4320000	4320000	4320000
OC9-TK-266-1-60	4320000	4320000	4320000	2592000	2592000	2592000
OC9-TK-266-1-75	2592000	2592000	2592000	4320000	4320000	4320000
OC9-TK-266-1-90	4320000	4320000	4320000	10800000	10800000	10800000
OC9-TK-266-2-15	10800000	10800000	10800000	4320000	4320000	4320000
OC9-TK-266-2-60	4320000	4320000	4320000	2592000	2592000	2592000
OC9-TK-266-2-75	2592000	2592000	2592000	10800000	10800000	10800000
OC9-TK-266-3-15	10800000	10800000	10800000	10800000	10800000	10800000
OC9-TK-266-4-15	10800000	10800000	10800000	4320000	4320000	4320000
OCPB1A-TK251-1-00	1313	1313	1256	915	884	1626
PWB2-TK-266-1-60	4320000	4320000	4320000	2592000	2592000	2592000
PWB2-TK-266-1-75	2592000	2592000	2592000	4320000	4320000	4320000
PWB2-TK-266-1-90	4320000	4320000	4320000	4320000	4320000	4320000
PWB2-TK-266-2-60	4320000	4320000	4320000	2592000	2592000	2592000
PWB2-TK-266-2-75	2592000	2592000	2592000	2592000	2592000	2592000

Throughput of some tanks is conservatively determined using maximum pump flowrate and all hours of the month when flowmeter data is unavailable.

INTEL CORPORATION, OCOTILLO CAMPUS: SEMI-ANNUAL MONITORING REPORT

REPORTING PERIOD January 1st 2021 to June 30th 2021

B. VOC Emissions (from wipers, sinks, and bottles)

Table 21. Solvent usage for wipers, sinks, and bottles

Evaporative Process Emission Source	Jan 2021 Usage	Feb 2021 Usage	March 2021 Usage	April 2021 Usage	May 2021 Usage	June 2021 Usage
	lbs	lbs	lbs	lbs	lbs	lbs
Bottles	537.22	351.54	248.48	458.61	1694.59	1995.95
Sinks	1282.31	1100.36	1093.69	1117.89	1086.60	974.34
Wipers	482.02	3720.24	3720.24	3720.24	148.06	183.22

2.9 Monitoring System for Chemical Delivery Module (CDM) Units (Uncontrolled Evaporative Processes)

Table 22. Emission Factors for Chemical Delivery Module

Chemical Delivery Module	Emission Factor	Jan 2021 Purchase Data	Feb 2021 Purchase Data	March 2021 Purchase Data	April 2021 Purchase Data	May 2021 Purchase Data	June 2021 Purchase Data
		lb/lb	lb	lb	lb	lb	lb
LNDBA (Gen 3/4/5)	0.000302	187111.10	167173.03	182510.01	180976.31	186205.91	170816.99
PGMEA (Gen 3/4/5)	0.005756	205029.93	185188.32	186511.09	179456.30	186951.78	172401.28
POS F42 (Gen 5)	0.000074	594531.00	741258.00	627963.00	890001.00	676320.00	642740.00
POS Trio (Gen 3/4)	0.000062	389715.67	349400.25	295646.37	288927.13	278040.40	236443.80
IPA F42 (Gen 5)	0.003753	227890.80	112749.57	5124.98	0.00	0.00	0.00
IPA Trio (Gen 3/4)	0.000499	0.00	1373.01	0.00	203577.55	296112.80	251216.07

2.10 Monitoring System for Fugitive Dust Emissions from Vehicular Traffic

A. PM, PM₁₀ and PM_{2.5}

Table 23. Emission Factors for Vehicular Traffic

Vehicular Traffic Area	PM _{2.5} Emission Factor	PM ₁₀ Emission Factor	PM Emission Factor	Jan-21	Feb-21	Mar-21	Apr-21	May-21	Jun-21
	lb/Vehicle Miles Traveled (VMT)			Vehicle Miles Traveled (VMT)					
Industrial Unpaved Roads	0.046	0.460	1.598	2149.850	1941.800	2149.850	2080.500	2149.850	2080.500

**INTEL CORPORATION, OCOTILLO CAMPUS: SEMI-ANNUAL
MONITORING REPORT**

REPORTING PERIOD January 1st 2021 to June 30th 2021

Vehicular Traffic Area	PM _{2.5} Emission Factor	PM ₁₀ Emission Factor	PM Emission Factor	Jan-21	Feb-21	Mar-21	Apr-21	May-21	Jun-21
	lb/Vehicle Miles Travelled (VMT)			Vehicle Miles Traveled (VMT)					
Paved Roads and Parking Lot Areas	0.00005	0.00020	0.00099	33331.20 0	30105.60 0	33331.20 0	32256.00 0	90197.60 0	87288.00 0
Paved Roads in Manufacturing Areas	0.00005	0.00020	0.00099	24250.81 2	24250.80 8	20392.72 5	20392.72 8	20392.72 8	20392.72 8