



DENSO MANUFACTURING ATHENS TENNESSEE, INC.
2400 Denso Drive
Athens, Tennessee 37303
Tel: (423) 746-0000 Fax: (423) 746-1090

March 27, 2019

TDEC Chattanooga Field Office
Division of Air Pollution Control
Attn: Stephanie Dyer
1301 Riverfront Parkway, Suite 206
Chattanooga, TN 37402

RE: Annual Compliance Certification Reports Emissions Source Nos. 54-0158 and 54-0158-46

Dear Mrs. Dyer:

DENSO Manufacturing Athens Tennessee, Inc., located at 2400 DENSO Drive, Athens, TN is submitting our Annual Compliance Certification Report as specified in our permit.

DENSO Manufacturing Athens Tennessee, Inc., for the year 2018, was in compliance for the terms outlined in permit # 464514P and construction permit #969182P (Amendment #3).

Please contact Eddie Franks, Safety, Health, and Environment Department at (423) 746-0000 ext. 7542 if you have any questions concerning any information in this report.

Sincerely,

Eddie Franks
Manager, Safety, Health and Environment

Enclosures

cc: apc.chattEFO@tn.gov
tawanna.reid@tn.gov

ANNUAL CERTIFICATION OF COMPLIANCE

Facility Owner/Company Name: DENSO Manufacturing Athens Tennessee, Inc. (DMAT)

Site Name: 2400 DENSO Drive, Athens, TN

Emission Source Reference Number: 54-0158

Permit Number	Reporting Period	Report Deadline
464514P	1/1/2018 to 12/31/2018	3/31/2018

COMPLIANCE STATEMENT

ITEM #1: Identification of each term or condition of the permit	ITEM #2: Identification of the method(s) for assurance of compliance and whether such method(s) provide continuous or intermittent data. If necessary, the permittee also shall identify any other material information that must be included in the certification to comply with section 113(c) (2) of the Federal Act, which prohibits knowingly making a false certification or omitting material information.	ITEM #3: The status of compliance with the terms and conditions of the permit for the period covered by the certification. The certification shall identify each deviation and take it into account in the compliance certification. The certification shall also identify as possible exceptions to compliance any periods during which compliance is required and in which an excursion or exceedance occurred.
Condition # 2, 5, 7	Method specified in Conditions #8, 22, 25, 46, 52, 55 Operating Permit	Continuous compliance – see deviations for 25 and 55
Condition # 8	Analysis specified in Condition # 8	Analysis submitted with this report.
Condition # 15	Reporting Requirement(s): Annual Compliance Certification	In Compliance – submitted report on-time

ANNUAL CERTIFICATION OF COMPLIANCE

Facility Owner/Company Name: DENSO Manufacturing Athens Tennessee, Inc. (DMAT)

Site Name: 2400 DENSO Drive, Athens, TN

Deviations, Exceedances, AND Excursion between calendar year 2018 (1/1/2018 – 12/31/2018)

Condition 25

DMAT placed the Thermal Oxidizers (TO) in temporary bypass mode during the 2018 calendar year. The summation of these events added 6.91 tons to the annual emissions; however none of these events resulted in emissions over the permit limit.

	May	June	July	September	October	Total
Bypass (hours)	118.25	104.90	77.95	11.90	23.25	336.25
Uncontrolled VOC (tons)	2.55	2.15	1.56	0.25	0.40	6.91
Reference	RTO/TO log					

Condition 55:

DMAT did not operate Kiln 1 during the 2018 calendar year.

DMAT operated Kiln 2 during the 2018 calendar year.

Kiln #2 Thermal Oxidizer		
Condition	Start	Stop
Temperature	12/15/2018 21:55	12:29/18 16:49
Kiln system shutdown for annual scheduled holiday shutdown		

RESPONSIBLE OFFICIAL CERTIFICATION

I, the undersigned, am the responsible official as defined in TAPCR 1200-3-9-.02 (11) (b) 21 of the Conditional Major Source for which this document is being submitted. I hereby certify, with the possible exception of those permit terms and conditions identified above (referring to a list of deviations, exceedances, and excursions), that the emission sources described in this report were in compliance with all permit terms and conditions over the previous year as determined by all required testing and monitoring in the permit and other material information.

Eddie Franks
(Signature)

3/27/19
(Date)

Name: Eddie Franks

Title: Manager Safety, Health, and Environment

ANNUAL CERTIFICATION OF COMPLIANCE

Facility Owner/Company Name: DENSO Manufacturing Athens Tennessee, Inc. (DMAT)

Site Name: 2400 DENSO Drive, Athens, TN

Emission Source Reference Number: **54-0158-46 Construction Permit (Amendment 3)**

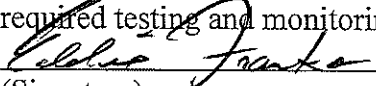
Permit Number	Reporting Period	Report Deadline
969182P	1/1/2018 to 12/31/2018	3/31/2018

COMPLIANCE STATEMENT

ITEM #1: Identification of each term or condition of the permit	ITEM #2: Identification of the method(s) for assurance of compliance and whether such method(s) provide continuous or intermittent data. If necessary, the permittee also shall identify any other material information that must be included in the certification to comply with section 113(c) (2) of the Federal Act, which prohibits knowingly making a false certification or omitting material information.	ITEM #3: The status of compliance with the terms and conditions of the permit for the period covered by the certification. The certification shall identify each deviation and take it into account in the compliance certification. The certification shall also identify as possible exceptions to compliance any periods during which compliance is required and in which an excursion or exceedance occurred.
Condition # 2,5,7	Method specified in Conditions # 6, 8, 12,	Continuous Compliance
Condition # 8	Analysis specified in condition # 8	Analysis submitted with this report.
Condition # 15	Reporting Requirement(s): Annual Compliance Certification	In compliance-submitted report on-time

RESPONSIBLE OFFICIAL CERTIFICATION

I, the undersigned, am the responsible official as defined in TAPCR 1200-3-9-.02 (11) (b) 21 of the Conditional Major Source for which this document is being submitted. I hereby certify, with the possible exception of those permit terms and conditions identified above (referring to a list of deviations, exceedances, and excursions), that the emission sources described in this report were in compliance with all permit terms and conditions over the previous year as determined by all required testing and monitoring in the permit and other material information.


(Signature)

3/27/19
(Date)

Name: Eddie Franks

Title: Manager, Safety, Health, and Environment

DENSO Manufacturing Athens Tennessee, Inc.

Operating Permit (Conditional Major)

2018 Annual Air Report

Permit Number: 464514P

Operating Permit – 464514P
General Conditions #2, #5, #6, #7
Applies to All Sources
Summary of All VOCs & HAPs

Month/ Year	Insignificant & Exempt VOC	701 54-0158-29	801 54-0158-38	601 54-0158-30 HA	701 54-0158-46 PUMP	VOC Emissions Tons/month	VOC Emissions Tons/12 months	HAP 1 Toluene Emissions Tons/month	1 ton single HAP Cond 7 from Air Permit	HAP 1 Toluene Emissions Tons/12 months	HAP 2 Methanol Emissions Tons/month	HAP 2 Methanol Emissions Tons/12 months	HAP 3 MIBK Emissions Tons/month	HAP 3 MIBK Emissions Tons/12 months	HAP 4 HCL Emissions Tons/month	HAP 4 HCL Emissions Tons/12 months	Total HAP Emissions Tons/ month	3 tons Total HAP Cond 7 from Air Permit	Total HAP Emissions Tons/12 months
Jan-18	2.083	2.920	0.183	2.100	0.661	7.9473	73.18	0.1161		0.6676	0.0529	0.1657	0.0145	0.0846	0.0375	0.4500	0.2211		5.3678
Feb-18	2.083	1.883	0.171	2.066	0.593	6.7969	75.00	0.1161		0.7837	0.0529	0.2155	0.0145	0.0989	0.0375	0.4500	0.2211		5.5482
Mar-18	2.083	2.507	0.230	2.030	0.276	7.1262	76.24	0.1161		0.8998	0.0528	0.2652	0.0145	0.1133	0.0375	0.4500	0.2209		5.7283
Apr-18	2.083	2.359	0.198	1.698	0.241	6.5788	75.62	0.0871		0.9434	0.0396	0.2847	0.0109	0.1187	0.0375	0.4500	0.1750		5.7968
May-18	2.083	2.467	0.269	1.455	1.168	9.9924	78.63	0.0726		1.0159	0.0332	0.3161	0.0091	0.1277	0.0375	0.4500	0.1523		5.9097
Jun-18	2.083	2.006	0.233	0.565	0.635	7.6734	82.53	0.0000		1.0159	0.0008	0.3154	0.0000	0.1276	0.0375	0.4500	0.0383		5.9089
Jul-18	2.083	2.082	0.237	1.437	0.365	7.7635	86.60	0.0726		1.0885	0.0338	0.3460	0.0091	0.1366	0.0375	0.4500	0.1529		6.0211
Aug-18	2.083	1.810	0.245	0.669	0.965	5.7724	86.63	0.0000		1.0885	0.0004	0.3426	0.0000	0.1364	0.0375	0.4500	0.0379		6.0175
Sep-18	2.083	2.111	0.208	0.717	1.715	7.0844	86.45	0.0145		0.9869	0.0045	0.2738	0.0010	0.1228	0.0375	0.4500	0.0575		5.8335
Oct-18	2.083	1.790	0.222	1.463	1.441	6.9987	84.81	0.1016		0.8708	0.0238	0.2958	0.0066	0.1021	0.0375	0.4500	0.1695		5.7187
Nov-18	2.083	1.547	0.155	1.108	0.870	5.7637	84.56	0.0000		0.7837	0.0004	0.2957	0.0047	0.0959	0.0375	0.4500	0.0426		5.6253
Dec-18	2.083	1.585	0.107	1.083	1.189	6.4471	85.94	0.0726	1.0000	0.7692	0.0174	0.3125	0.0000	0.0850	0.0375	0.4500	1.1275	3	5.6167

Source 54-0158-46

VOCs Shipped Offsite

PUMP Viscor		
	Waste Shipped Offsite (gallons)	VOC in Collected (tons)
Jan-18	55	0.165
Feb-18	110	0.329
Mar-18	0	0.000
Apr-18	0	0.000
May-18	55	0.165
Jun-18	0	0.000
Jul-18	0	0.000
Aug-18	55	0.165
Sep-18	55	0.165
Oct-18	55	0.165
Nov-18	55	0.165
Dec-18	0	0.000

Source 54-0158-29

VOCs Shipped Offsite

GDI Fuel Injector			
	Viscor Collected for Reuse / Resale	Waste Shipped Offsite (gallons)	VOC in Collected (tons)
Jan-18	0	165	0.494
Feb-18	0	0	0.000
Mar-18	0	165	0.494
Apr-18	0	165	0.494
May-18	0	55	0.165
Jun-18	0	165	0.494
Jul-18	0	110	0.329
Aug-18	0	110	0.329
Sep-18	0	55	0.165
Oct-18	0	55	0.165
Nov-18	0	110	0.329
Dec-18	0	55	0.165

GD-P4CALIBRATION & HEAT TREAT & PARTS ARRANGING														GD-P4 Plunger										Total VOC Emission Rolling 12
	Viscor Purchased (gal)	Pounds per gallon	Viscor Purchased (tons)	Pumps Produced	Viscor in Finished Pumps (lbs/ton)	Waste Viscor (tons)	Total Uncont'd VOC emissions (tons/month) w/ waste	Calumet Used (gal)	Calumet (lb VOC/gal)	VOC Calumet (T/mth)	Exxsol Used (liter)	Exxsol Used (gal)	Exxsol (lb VOC/gal)	VOC Exxsol (T/mth)	Total Cal & HT VOC Emissions (T/mth)	Z71 Used (gal)	Z71 (lb VOC/gal)	VOC Z71 (T/mth)	G71 Used (gal)	G71 (lb VOC/gal)	VOC G71 (T/mth)	Plunger/ Parts washing VOC Emissions (T/mth)	Total VOC Emissions (T/mth)	VOC Emission Rolling 12
Jan-18	182.0	6.58	0.599	61459	0.220	0.148	0	53.0	6.51	0.173	0.0	0.0	6.59	0.000	0.551	11.000	6.180	0.034	24.5	6.18	0.076	0.110	0.661	0.750
Feb-18	188.5	6.58	0.620	54138	0.194	0.295	0	28.0	6.51	0.091	0.0	0.0	6.59	0.000	0.517	10.500	6.180	0.032	14.0	6.18	0.043	0.076	0.593	1.254
Mar-18	94.0	6.58	0.309	63510	0.227	0.000	0	28.0	6.51	0.091	30.0	7.9	6.59	0.026	0.199	0.000	6.180	0.000	25.0	6.18	0.077	0.077	0.276	0.870
Apr-18	76.8	6.58	0.253	68043	0.244	0.000	0	25.5	6.51	0.083	52.5	13.9	6.59	0.046	0.138	11.500	6.180	0.036	22.0	6.18	0.068	0.104	0.241	0.518
May-18	356.0	6.58	1.171	73509	0.263	0.148	0	28.1	6.51	0.091	55.0	14.5	6.59	0.048	1.047	8.000	6.180	0.025	31.0	6.18	0.096	0.121	1.168	1.409
Jun-18	197.0	6.58	0.648	73167	0.282	0.000	0	30.0	6.51	0.098	57.5	15.2	6.59	0.050	0.534	12.000	6.180	0.037	20.8	6.18	0.064	0.101	0.635	1.803
Jul-18	115.5	6.58	0.380	62622	0.224	0.000	0	23.0	6.51	0.075	37.5	9.9	6.59	0.033	0.263	10.000	6.180	0.031	23.0	6.18	0.071	0.102	0.365	1.000
Aug-18	290.0	6.58	0.954	77244	0.277	0.148	0	35.0	6.51	0.114	50.0	13.2	6.59	0.043	0.835	14.000	6.180	0.043	28.0	6.18	0.087	0.130	0.965	1.330
Sep-18	500.0	6.58	1.645	59952	0.215	0.148	0	40.0	6.51	0.130	42.5	11.2	6.59	0.037	1.598	16.500	6.180	0.051	21.5	6.18	0.068	0.117	1.715	2.680
Oct-18	391.0	6.58	1.286	64773	0.232	0.148	0	65.0	6.51	0.212	50.0	13.2	6.59	0.043	1.310	12.000	6.180	0.037	30.5	6.18	0.094	0.131	1.441	3.156
Nov-18	309.0	6.58	1.017	126903	0.454	0.148	0	37.4	6.51	0.122	77.5	20.5	6.59	0.067	0.751	11.000	6.180	0.034	27.5	6.18	0.085	0.119	0.870	2.311
Dec-18	400.0	6.58	1.316	93741	0.336	0.000	0	32.3	6.51	0.105	50.0	13.2	6.59	0.043	1.129	7.500	6.180	0.023	12.0	6.18	0.037	0.060	1.189	2.060

Source 54-0158-29

Operating Permit – 464514P, Conditions #8

	CALIBRATION & FUEL RAIL						GDI				Total VOC Emissions (tons/month)	Total VOC Emitted Rolling 12 month
	Viscor Purchased (gal)	Pounds per gallon	Viscor Purchased (tons)	Residual Viscor in Finished Injectors (tons)	Waste Viscor (tons) 53 g/drum	Total Cal and Rail VOC Emissions (T/mth)	VOC Oil Mist (T/mth)	VOC Vertrel XE (T/mth)	VOC Ethanol (T/mth)	Total GDI VOC Emissions (T/mth)		
Jan-18	6450	6.58	21.221	2.064	0.443	2.844	0.025	0.025	0.025	0.076	2.920	22.178
Feb-18	3668	6.58	12.068	0.179	0.000	1.807	0.025	0.025	0.025	0.076	1.883	21.916
Mar-18	5002	6.58	16.457	0.022	0.443	2.431	0.025	0.025	0.025	0.076	2.507	22.245
Apr-18	4710	6.58	15.496	0.034	0.443	2.283	0.025	0.025	0.025	0.076	2.359	22.448
May-18	4871	6.58	16.026	0.148	0.148	2.391	0.025	0.025	0.025	0.076	2.467	22.780
Jun-18	4487	6.58	14.762	1.618	0.443	1.931	0.025	0.025	0.025	0.076	2.006	24.466
Jul-18	4536	6.58	14.923	1.431	0.295	2.006	0.025	0.025	0.025	0.076	2.082	25.884
Aug-18	4063	6.58	13.367	1.663	0.295	1.734	0.025	0.025	0.025	0.076	1.810	25.180
Sep-18	4516	6.58	14.858	1.323	0.148	2.035	0.025	0.025	0.025	0.076	2.111	25.617
Oct-18	3930	6.58	12.930	1.507	0.148	1.714	0.025	0.025	0.025	0.076	1.790	25.285
Nov-18	3395	6.58	11.170	1.196	0.295	1.471	0.025	0.025	0.025	0.076	1.547	24.934
Dec-18	3326	6.58	10.943	0.868	0.148	1.509	0.025	0.025	0.025	0.076	1.585	25.066

Source 54-0158-29

Operating Permit – 464514P, Conditions #5, #7, #8, #25

Calibration RTO Control

701 RTO - 2018

Condition	Start	Stop	Record (hours)	Deviation Temp Alarms	Temp Alarms	No Data	Backup Data	Comment
roll	12/31/17 11:59	3/13/18 13:30	1729:31:00					
	3/13/18 13:30	3/13/18 23:00			9:30:00			
roll	3/13/18 23:00	4/1/18 12:15	445:15:00					
	4/1/18 12:15	4/1/18 13:45			1:30:00			
roll	4/1/18 13:45	4/13/18 18:30	292:45:00					
	4/13/18 18:30	4/13/18 21:00			2:30:00			
roll	4/13/18 21:00	4/14/18 13:11	16:11:00					
	4/14/18 13:11	4/14/18 16:45			3:34:00			
roll	4/14/18 16:45	4/29/18 18:30	361:45:00					
	4/29/18 18:30	4/29/18 19:30			1:00:00			
roll	4/29/18 19:30	5/1/18 14:16	42:46:00					
	5/1/18 14:16	5/1/18 19:52			5:36:00			
roll	5/1/18 19:52	5/2/18 9:50	13:58:00					
	5/2/18 9:50	5/2/18 12:50			3:00:00			
roll	5/2/18 12:50	5/2/18 14:30	1:40:00					
	5/2/18 14:30	5/2/18 20:13			5:43:00			
roll	5/2/18 20:13	5/2/18 23:45	3:32:00					
	5/2/18 23:45	5/3/18 1:22			1:37:00			
roll	5/3/18 1:22	5/3/18 11:24	10:02:00					
	5/3/18 11:24	5/3/18 20:00			8:36:00			
roll	5/3/18 20:00	5/4/18 9:10	13:10:00					
	5/4/18 9:10	5/4/18 17:45			8:35:00			
roll	5/4/18 17:45	5/5/18 8:45	15:00:00					
	5/5/18 8:45	5/5/18 17:30			8:45:00			
roll	5/5/18 17:30	5/8/18 16:00	70:30:00					
	5/8/18 16:00	5/8/18 19:43			3:43:00			
roll	5/8/18 19:43	5/9/18 13:23	17:40:00					
	5/9/18 13:23	5/9/18 16:25			3:02:00			
roll	5/9/18 16:25	5/10/18 16:25	24:00:00					

Source 54-0158-29

Operating Permit – 464514P, Conditions #5, #7, #8, #25

Calibration RTO Control (*continued*)

701 RTO - 2018

Condition	Start	Stop	Record (hours)	Deviation Temp Alarms	Temp Alarms	No Data	Backup Data	Comment
	5/10/18 16:25	5/10/18 19:35			3:10:00			
roll	5/10/18 19:35	5/11/18 9:45	14:10:00					
	5/11/18 9:45	5/11/18 19:30			9:45:00			
roll	5/11/18 19:30	5/12/18 4:30	9:00:00					
	5/12/18 4:30	5/13/18 20:45			40:15:00			
roll	5/13/18 20:45	5/14/18 13:10	16:25:00					
	5/14/18 13:10	5/14/18 19:58			6:48:00			
roll	5/14/18 19:58	5/15/18 12:25	16:27:00					
	5/15/18 12:25	5/15/18 15:28			3:03:00			
roll	5/15/18 15:28	5/16/18 12:20	20:52:00					
	5/16/18 12:20	5/16/18 16:35			4:15:00			
roll	5/16/18 16:35	5/18/18 13:00	44:25:00					
	5/18/18 13:00	5/18/18 14:35			1:35:00			
roll	5/18/18 14:35	5/19/18 18:10	27:35:00					
	5/19/18 18:10	5/19/18 20:00			1:50:00			
roll	5/19/18 20:00	5/20/18 14:10	18:10:00					
	5/20/18 14:10	5/20/18 15:26			1:16:00			
roll	5/20/18 15:26	5/21/18 18:15	26:49:00					
	5/21/18 18:15	5/21/18 19:15			1:00:00			
roll	5/21/18 19:15	5/23/18 16:20	45:05:00					
	5/23/18 16:20	5/23/18 19:10			2:50:00			
roll	5/23/18 19:10	5/24/18 11:24	16:14:00					
	5/24/18 11:24	5/24/18 13:21			1:57:00			
roll	5/24/18 13:21	5/24/18 17:20	3:59:00					
	5/24/18 17:20	5/24/18 20:00			2:40:00			
roll	5/24/18 20:00	5/25/18 10:35	14:35:00					
	5/25/18 10:35	5/25/18 12:30			1:55:00			
roll	5/25/18 12:30	5/27/18 8:45	44:15:00					
	5/27/18 8:45	5/27/18 11:15			2:30:00			
roll	5/27/18 11:15	5/27/18 16:30	5:15:00					

Source 54-0158-29

Operating Permit – 464514P, Conditions #5, #7, #8, #25

Calibration RTO Control (*continued*)

701 RTO - 2018								
Condition	Start	Stop	Record (hours)	Deviation Temp Alarms	Temp Alarms	No Data	Backup Data	Comment
	5/27/18 16:30	5/27/18 18:20			1:50:00			
roll	5/27/18 18:20	5/29/18 14:15	43:55:00					
	5/29/18 14:15	5/30/18 0:30			10:15:00			
roll	5/30/18 0:30	5/30/18 12:40	12:10:00					
	5/30/18 12:40	5/30/18 17:38			4:58:00			
roll	5/30/18 17:38	5/31/18 10:10	16:32:00					
	5/31/18 10:10	5/31/18 13:15			3:05:00			
roll	5/31/18 13:15	6/1/18 13:00	23:45:00					
	6/1/18 13:00	6/1/18 16:37			3:37:00			
roll	6/1/18 16:37	6/2/18 17:30	24:53:00					
	6/2/18 17:30	6/2/18 20:00			2:30:00			
roll	6/2/18 20:00	6/3/18 9:20	13:20:00					
	6/3/18 9:20	6/3/18 10:45			1:25:00			
roll	6/3/18 10:45	6/5/18 16:45	54:00:00					
	6/5/18 16:45	6/5/18 20:00			3:15:00			
roll	6/5/18 20:00	6/6/18 8:55	12:55:00					
	6/6/18 8:55	6/6/18 10:10			1:15:00			
roll	6/6/18 10:10	6/6/18 13:50	3:40:00					
	6/6/18 13:50	6/6/18 20:25			6:35:00			
roll	6/6/18 20:25	6/7/18 14:20	17:55:00					
	6/7/18 14:20	6/7/18 20:10			5:50:00			
roll	6/7/18 20:10	6/8/18 9:15	13:05:00					
	6/8/18 9:15	6/8/18 20:10			10:55:00			
roll	6/8/18 20:10	6/9/18 9:00	12:50:00					
	6/9/18 9:00	6/9/18 20:00			11:00:00			
roll	6/9/18 20:00	6/10/18 12:00	16:00:00					
	6/10/18 12:00	6/10/18 13:14			1:14:00			
roll	6/10/18 13:14	6/11/18 10:30	21:16:00					
	6/11/18 10:30	6/11/18 14:20			3:50:00			
roll	6/11/18 14:20	6/12/18 16:30	26:10:00					
	6/12/18 16:30	6/12/18 20:48			4:18:00			

Source 54-0158-29

Operating Permit – 464514P, Conditions #5, #7, #8, #25

Calibration RTO Control (*continued*)

701 RTO - 2018

Condition	Start	Stop	Record (hours)	Deviation Temp Alarms	Temp Alarms	No Data	Backup Data	Comment
roll	6/12/18 20:48	6/13/18 13:40	16:52:00					
	6/13/18 13:40	6/13/18 16:30			2:50:00			
roll	6/13/18 16:30	6/14/18 9:30	17:00:00					
	6/14/18 9:30	6/14/18 12:30			3:00:00			
roll	6/14/18 12:30	6/15/18 17:30	29:00:00					
	6/15/18 17:30	6/15/18 20:00			2:30:00			
roll	6/15/18 20:00	6/16/18 10:15	14:15:00					
	6/16/18 10:15	6/16/18 20:15			10:00:00			
roll	6/16/18 20:15	6/17/18 8:30	12:15:00					
	6/17/18 8:30	6/17/18 19:10			10:40:00			
roll	6/17/18 19:10	6/18/18 8:15	13:05:00					
	6/18/18 8:15	6/18/18 19:45			11:30:00			
roll	6/18/18 19:45	6/19/18 17:45	22:00:00					
	6/19/18 17:45	6/19/18 20:00			2:15:00			
roll	6/19/18 20:00	6/23/18 9:30	85:30:00					
	6/23/18 9:30	6/23/18 11:00			1:30:00			
roll	6/23/18 11:00	6/25/18 10:45	47:45:00					
	6/25/18 10:45	6/25/18 13:40			2:55:00			
roll	6/25/18 13:40	6/26/18 12:45	23:05:00					
	6/26/18 12:45	6/26/18 17:40			4:55:00			
roll	6/26/18 17:40	6/29/18 17:30	71:50:00					
	6/29/18 17:30	6/29/18 20:45			3:15:00			
roll	6/29/18 20:45	6/30/18 8:00	11:15:00					
	6/30/18 8:00	6/30/18 20:15			12:15:00			
roll	6/30/18 20:15	7/1/18 8:30	12:15:00					
	7/1/18 8:30	7/1/18 13:50			5:20:00			
roll	7/1/18 13:50	7/1/18 17:15	3:25:00					
	7/1/18 17:15	7/1/18 20:27			3:12:00			
roll	7/1/18 20:27	7/2/18 9:15	12:48:00					
	7/2/18 9:15	7/2/18 16:21			7:06:00			
roll	7/2/18 16:21	7/3/18 11:45	19:24:00					

Source 54-0158-29

Operating Permit – 464514P, Conditions #5, #7, #8, #25

Calibration RTO Control (*continued*)

701 RTO - 2018

Condition	Start	Stop	Record (hours)	Deviation Temp Alarms	Temp Alarms	No Data	Backup Data	Comment
	7/3/18 11:45	7/3/18 21:00			9:15:00			
roll	7/3/18 21:00	7/4/18 18:00	21:00:00					
	7/4/18 18:00	7/4/18 20:00			2:00:00			
roll	7/4/18 20:00	7/5/18 8:30	12:30:00					
	7/5/18 8:30	7/5/18 12:10			3:40:00			
roll	7/5/18 12:10	7/5/18 15:45	3:35:00					
	7/5/18 15:45	7/5/18 19:30			3:45:00			
roll	7/5/18 19:30	7/6/18 8:45	13:15:00					
	7/6/18 8:45	7/6/18 15:15			6:30:00			
roll	7/6/18 15:15	7/8/18 9:20	42:05:00					
	7/8/18 9:20	7/8/18 14:00			4:40:00			
roll	7/8/18 14:00	7/8/18 17:30	3:30:00					
	7/8/18 17:30	7/8/18 20:15			2:45:00			
roll	7/8/18 20:15	7/9/18 16:00	19:45:00					
	7/9/18 16:00	7/9/18 20:15			4:15:00			
roll	7/9/18 20:15	7/10/18 8:30	12:15:00					
	7/10/18 8:30	7/10/18 9:30			1:00:00			
roll	7/10/18 9:30	7/10/18 13:00	3:30:00					
	7/10/18 13:00	7/10/18 17:20			4:20:00			
roll	7/10/18 17:20	7/11/18 8:30	15:10:00					
	7/11/18 8:30	7/11/18 17:00			8:30:00			
roll	7/11/18 17:00	7/12/18 16:30	23:30:00					
	7/12/18 16:30	7/12/18 19:30			3:00:00			
roll	7/12/18 19:30	7/13/18 14:45	19:15:00					
	7/13/18 14:45	7/13/18 20:30			5:45:00			
roll	7/13/18 20:30	7/14/18 8:45	12:15:00					
	7/14/18 8:45	7/14/18 12:15			3:30:00			
roll	7/14/18 12:15	7/14/18 14:15	2:00:00					
	7/14/18 14:15	7/14/18 19:45			5:30:00			
roll	7/14/18 19:45	7/15/18 9:15	13:30:00					
	7/15/18 9:15	7/15/18 10:45			1:30:00			

Source 54-0158-29

Operating Permit – 464514P, Conditions #5, #7, #8, #25

Calibration RTO Control (*continued*)

701 RTO - 2018

Condition	Start	Stop	Record (hours)	Deviation Temp Alarms	Temp Alarms	No Data	Backup Data	Comment
roll	7/15/18 10:45	7/16/18 10:40	23:55:00					
	7/16/18 10:40	7/16/18 13:05			2:25:00			
roll	7/16/18 13:05	7/16/18 17:00	3:55:00					
	7/16/18 17:00	7/16/18 20:00			3:00:00			
roll	7/16/18 20:00	7/17/18 10:15	14:15:00					
	7/17/18 10:15	7/17/18 15:00			4:45:00			
roll	7/17/18 15:00	7/19/18 10:45	43:45:00					
	7/19/18 10:45	7/19/18 13:45			3:00:00			
roll	7/19/18 13:45	7/19/18 15:30	1:45:00					
	7/19/18 15:30	7/19/18 20:00			4:30:00			
roll	7/19/18 20:00	7/20/18 9:00	13:00:00					
	7/20/18 9:00	7/20/18 14:15			5:15:00			
roll	7/20/18 14:15	7/20/18 15:00	0:45:00					
	7/20/18 15:00	7/20/18 20:10			5:10:00			
roll	7/20/18 20:10	7/26/18 12:15	136:05:00					
	7/26/18 12:15	7/26/18 17:10			4:55:00			
roll	7/26/18 17:10	7/27/18 10:00	16:50:00					
	7/27/18 10:00	7/27/18 12:30			2:30:00			
roll	7/27/18 12:30	7/29/18 17:55	53:25:00					
	7/29/18 17:55	7/29/18 20:05			2:10:00			
roll	7/29/18 20:05	7/30/18 9:25	13:20:00					
	7/30/18 9:25	7/30/18 14:55			5:30:00			
roll	7/30/18 14:55	7/30/18 16:50	1:55:00					
	7/30/18 16:50	7/30/18 19:50			3:00:00			
roll	7/30/18 19:50	7/31/18 9:40	13:50:00					
	7/31/18 9:40	7/31/18 13:45			4:05:00			
roll	7/31/18 13:45	9/4/18 11:38	837:53:00					
	9/4/18 11:38	9/4/18 16:30			4:52:00			
roll	9/4/18 16:30	9/5/18 10:15	17:45:00					
	9/5/18 10:15	9/5/18 15:10			4:55:00			
roll	9/5/18 15:10	9/7/18 16:55	49:45:00					

Source 54-0158-29

Operating Permit – 464514P, Conditions #5, #7, #8, #25

Calibration RTO Control (*continued*)

701 RTO - 2018

Condition	Start	Stop	Record (hours)	Deviation Temp Alarms	Temp Alarms	No Data	Backup Data	Comment
	9/7/18 16:55	9/7/18 19:00			2:05:00			
roll	9/7/18 19:00	9/19/18 13:55	282:55:00					
	9/19/18 13:55	9/19/18 19:00			5:05:00			
roll	9/19/18 19:00	9/20/18 13:15	18:15:00					
	9/20/18 13:15	9/20/18 18:20			5:05:00			
roll	9/20/18 18:20	9/21/18 10:00	15:40:00					
	9/21/18 10:00	9/21/18 19:00			9:00:00			
roll	9/21/18 19:00	9/22/18 11:20	16:20:00					
	9/22/18 11:20	9/22/18 18:30			7:10:00			
roll	9/22/18 18:30	9/23/18 12:30	18:00:00					
	9/23/18 12:30	9/23/18 15:15			2:45:00			
roll	9/23/18 15:15	9/25/18 11:30	44:15:00					
	9/25/18 11:30	9/25/18 18:30			7:00:00			
roll	9/25/18 18:30	10/3/18 14:45	188:15:00					
	10/3/18 14:45	10/3/18 16:45			2:00:00			
roll	10/3/18 16:45	10/4/18 14:55	22:10:00					
	10/4/18 14:55	10/4/18 18:05			3:10:00			
roll	10/4/18 18:05	10/5/18 11:00	16:55:00					
	10/5/18 11:00	10/5/18 18:30			7:30:00			
roll	10/5/18 18:30	10/6/18 10:30	16:00:00					
	10/6/18 10:30	10/6/18 18:20			7:50:00			
roll	10/6/18 18:20	10/7/18 10:30	16:10:00					
	10/7/18 10:30	10/7/18 18:25			7:55:00			
roll	10/7/18 18:25	10/8/18 11:00	16:35:00					
	10/8/18 11:00	10/9/18 0:00			13:00:00			
roll	10/9/18 0:00	10/9/18 11:35	11:35:00					
	10/9/18 11:35	10/9/18 16:55			5:20:00			
roll	10/9/18 16:55	10/10/18 9:55	17:00:00					
	10/10/18 9:55	10/10/18 18:00			8:05:00			
roll	10/10/18 18:00	10/14/18 15:00	93:00:00					
	10/14/18 15:00	10/14/18 17:00			2:00:00			

Source 54-0158-29

Operating Permit – 464514P, Conditions #5, #7, #8, #25

Calibration RTO Control (*continued*)

701 RTO - 2018

Condition	Start	Stop	Record (hours)	Deviation Temp Alarms	Temp Alarms	No Data	Backup Data	Comment
roll	10/14/18 17:00	10/15/18 12:30	19:30:00					
	10/15/18 12:30	10/15/18 18:25			5:55:00			
roll	10/15/18 18:25	10/31/18 16:25	382:00:00					
	10/31/18 16:25	10/31/18 18:00			1:35:00			
roll	10/31/18 18:00	10/31/18 23:30	5:30:00					
	10/31/18 23:30	11/1/18 1:00			1:30:00			
roll	11/1/18 1:00	12/31/18 23:59	1462:59:00					holiday shutdown - no production
	Data Check:		0:00:00	0:00:00	32:23:00	0:00:00	0:00:00	
Permitted minimum operating temperature = 1544° F			8784:00:00					
	365 =		8784:00:00					

All 3-hour block averages (starting at midnight) of operation in which the average combustion temperature was more than 28°C (50°F) below the combustion temperature specified above shall be considered deviations. – 1544°F

Source 54-0158-30

Operating Permit – 464514P, Conditions #45 and #46

Four (4) Heater Assembly Operations

Date	Description	Usage (gal/month)	VOC Content (lb/gal)	VOC Emitted (ton/month)	VOC Emitted (tons per rolling 12 months)	HAP 2 - Methanol Emitted (ton/month)	HAP 2 - Methanol Emitted (tons per rolling 12 months)	HAP 3 - MIBK Emitted (ton/month)	HAP 3 - MIBK Emitted (tons per rolling 12 months)
Jan-18	Ethyl Alcohol	0.85	6.59	0.0028	0.121	0.000	0.020	0.0000	0.0012
Feb-18	Ethyl Alcohol	0.85	6.59	0.0028	0.106	0.000	0.018	0.0000	0.0011
Mar-18	Ethyl Alcohol	0.85	6.59	0.0028	0.091	0.000	0.016	0.0000	0.0009
Apr-18	Ethyl Alcohol	0.42	6.59	0.0014	0.090	0.000	0.015	0.0000	0.0009
May-18	Ethyl Alcohol	0.42	6.59	0.0014	0.082	0.000	0.014	0.0000	0.0008
Jun-18	Ethyl Alcohol	0.85	6.59	0.0028	0.076	0.000	0.013	0.0000	0.0008
Jul-18	Ethyl Alcohol	1.36	6.59	0.0045	0.063	0.001	0.011	0.0000	0.0006
Aug-18	Ethyl Alcohol	0.29	6.59	0.0010	0.044	0.000	0.008	0.0000	0.0004
Sep-18	Ethyl Alcohol	2.00	6.59	0.0066	0.044	0.001	0.007	0.0001	0.0004
Oct-18	Ethyl Alcohol	0.25	6.59	0.0008	0.033	0.000	0.006	0.0000	0.0003
Nov-18	Ethyl Alcohol	0.74	6.59	0.0024	0.033	0.000	0.006	0.0000	0.0003
Dec-18	Ethyl Alcohol	0.95	6.59	0.0031	0.032	0.001	0.006	0.0000	0.0003

Operating Permit – 464514P, Conditions #5, #7, #52 Monolithic Carrier Operations

Date	Monolithic Carrier Part Number	Liters used per mth	Lb VOC per Gal	Processed (parts/month)	VOC Content (lb/part)	Uncontrolled VOC Emitted (tpm)	Overall Control Efficiency (%)	Controlled VOC Emitted (tpm)	VOC Emitted (tons per rolling 12 months)	
Jan-18	069810-2200			115725	0.0186	1.076	99%	0.011		
	069810-2260		0	0.0126	0.000	99%	0.000			
	069810-2290		34791	0.0124	0.216	99%	0.002			
	069810-4030		44689	0.0156	0.349	99%	0.003			
	069810-5800		31293	0.20000	3.129	99%	0.031			
	069810-5810		4929	0.20000	0.493	99%	0.005			
	069810-5820/5870		36454	0.20000	3.645	99%	0.036			
	069810-5830		0	0.20000	0.000	99%	0.000			
	069810-5610		8906	0.20000	0.891	99%	0.009			
	069810-2950		0	0.20000	0.000	99%	0.000			
	069810-5600		7128	0.20000	0.713	99%	0.007			
	069810-5500		0	0.02232	0.000	99%	0.000			
	069800-2930		0	0.20000	0.000	99%	0.000			
	5153 MEK		16	6.75			0.014			
	5191 MEK		72	5.89			0.056			
	CL-TKE Cleaner		0	6.69			0.000			
	UVWS-010 Ceraprime Ink		8	6.81			0.007			
				Baseline Total				0.183		
					Adjustment Total				0.000	
					Total				0.183	0.483
Feb-18	069810-2200			64547	0.0186	0.600	99%	0.006		
	069810-2260		0	0.0126	0.000	99%	0.000			
	069810-2290		27789	0.0124	0.172	99%	0.002			
	069810-4030		16696	0.0156	0.130	99%	0.001			
	069810-5800		64580	0.20000	6.458	99%	0.065			
	069810-5810		6578	0.20000	0.658	99%	0.007			
	069810-5820/5870/5890		67470	0.20000	6.747	99%	0.067			
	069810-5830		12233	0.20000	1.223	99%	0.012			
	069810-5610		4245	0.20000	0.425	99%	0.004			
	069810-2950		0	0.20000	0.000	99%	0.000			
	069810-5600		6193	0.20000	0.619	99%	0.006			
	069810-5500		6246	0.02232	0.070	99%	0.001			
	069800-2930		0	0.20000	0.000	99%	0.000			
	5153 MEK		0	6.75			0.000			
	5191 MEK		0	5.89			0.000			
	CL-TKE Cleaner		0	6.69			0.000			
	UVWS-010 Ceraprime Ink		0	6.81			0.000			
				Baseline Total				0.171		
					Adjustment Total				0.000	
					Total				0.171	0.614

Operating Permit – 464514P, Conditions #5, #7, #52
Monolithic Carrier Operations (*continued*)

Date	Monolithic Carrier Part Number	Liters used per mth	Lb VOC per Gal	Processed (parts/month)	VOC Content (lb/part)	Uncontrolled VOC Emitted (tpm)	Overall Control Efficiency (%)	Controlled VOC Emitted (tpm)	VOC Emitted (tons per rolling 12 months)
Mar-18	069810-2200			90391	0.0186	0.841	99%	0.008	
	069810-2260		0	0.0126	0.000	99%	0.000		
	069810-2290		46022	0.0124	0.285	99%	0.003		
	069810-4030		32128	0.0156	0.251	99%	0.003		
	069810-5800		60178	0.20000	6.018	99%	0.060		
	069810-5810		27141	0.20000	2.714	99%	0.027		
	069810-5820/5870/5890		51314	0.20000	5.131	99%	0.051		
	069810-5830		0	0.20000	0.000	99%	0.000		
	069810-5610		18881	0.20000	1.888	99%	0.019		
	069810-2950		0	0.20000	0.000	99%	0.000		
	069810-5600		11889	0.20000	1.189	99%	0.012		
	069810-5500		0	0.02232	0.000	99%	0.000		
	069800-2930		0	0.20000	0.000	99%	0.000		
	5153 MEK		0	6.75				0.000	
	5191 MEK	45	5.89				0.035		
	CL-TKE Cleaner	5	6.69				0.004		
	UVWS-010 Ceraprime Ink	8	6.81				0.007		
				Baseline Total				0.230	
				Adjustment Total				0.000	
				Total				0.230	0.621
Apr-18	069810-2200			90391	0.0186	0.841	99%	0.008	
	069810-2260		0	0.0126	0.000	99%	0.000		
	069810-2290		46022	0.0124	0.285	99%	0.003		
	069810-4030		32128	0.0156	0.251	99%	0.003		
	069810-5800		60178	0.20000	6.018	99%	0.060		
	069810-5810		27141	0.20000	2.714	99%	0.027		
	069810-5820/5870/5890		51314	0.20000	5.131	99%	0.051		
	069810-5830		0	0.20000	0.000	99%	0.000		
	069810-5610		18881	0.20000	1.888	99%	0.019		
	069810-2950		0	0.20000	0.000	99%	0.000		
	069810-5600		11889	0.20000	1.189	99%	0.012		
	069810-5500		0	0.02232	0.000	99%	0.000		
	069800-2930		0	0.20000	0.000	99%	0.000		
	5153 MEK		0	6.75				0.000	
	5191 MEK	0	5.89				0.000		
	CL-TKE Cleaner	0	6.69				0.000		
	UVWS-010 Ceraprime Ink	16	6.81				0.014		
				Baseline Total				0.198	
				Adjustment Total				0.000	
				Total				0.198	0.647

Operating Permit – 464514P, Conditions #5, #7, #52
Monolithic Carrier Operations (*continued*)

Date	Monolithic Carrier Part Number	Liters used per mth	Lb VOC per Gal	Processed (parts/month)	VOC Content (lb/part)	Uncontrolled VOC Emitted (tpm)	Overall Control Efficiency (%)	Controlled VOC Emitted (tpm)	VOC Emitted (tons per rolling 12 months)		
May-18	069810-2200			81844	0.0186	0.761	99%	0.008			
	069810-2260			0	0.0126	0.000	99%	0.000			
	069810-2290			27252	0.0124	0.169	99%	0.002			
	069810-4030			37053	0.0156	0.289	99%	0.003			
	069810-5800			34787	0.20000	3.479	99%	0.035			
	069810-5810			13492	0.20000	1.349	99%	0.013			
	069810-5820/5870/5890			95898	0.20000	9.590	99%	0.096			
	069810-5830			0	0.20000	0.000	99%	0.000			
	069810-5610			0	0.20000	0.000	99%	0.000			
	069810-2950			0	0.20000	0.000	99%	0.000			
	069810-5600			0	0.20000	0.000	99%	0.000			
	069810-5500			0	0.02232	0.000	99%	0.000			
	069800-2930			0	0.20000	0.000	99%	0.000			
	5153 MEK			36	6.75						0.032
	5191 MEK			90	5.89						0.070
CL-TKE Cleaner	6	6.69	0.005								
UVWS-010 Ceraprime Ink	6	6.81	0.005								
								Baseline Total	0.269		
								Adjustment Total	0.000		
								Total	0.269		
Jun-18	069810-2200			92847	0.0186	0.863	99%	0.009	0.621		
	069810-2260			0	0.0126	0.000	99%	0.000			
	069810-2290			45653	0.0124	0.283	99%	0.003			
	069810-4030			40687	0.0156	0.317	99%	0.003			
	069810-5800			39297	0.20000	3.930	99%	0.039			
	069810-5810			21803	0.20000	2.180	99%	0.022			
	069810-5820/5870/5890			27073	0.20000	2.707	99%	0.027			
	069810-5830			17622	0.20000	1.762	99%	0.018			
	069810-5610				0.20000	0.000	99%	0.000			
	069810-2950				0.20000	0.000	99%	0.000			
	069810-5600			4039	0.20000	0.404	99%	0.004			
	069810-5500				0.02232	0.000	99%	0.000			
	069800-2930				0.20000	0.000	99%	0.000			
	5153 MEK			20	6.75						0.018
	5191 MEK			45	5.89						0.035
CL-TKE Cleaner	39	6.69	0.034								
UVWS-010 Ceraprime Ink	24	6.81	0.022								
								Baseline Total	0.233		
								Adjustment Total	0.000		
								Total	0.233		
									0.730		

Operating Permit – 464514P, Conditions #5, #7, #52
Monolithic Carrier Operations (*continued*)

Date	Monolithic Carrier Part Number	Liters used per mth	Lb VOC per Gal	Processed (parts/month)	VOC Content (lb/part)	Uncontrolled VOC Emitted (tpm)	Overall Control Efficiency (%)	Controlled VOC Emitted (tpm)	VOC Emitted (tons per rolling 12 months)		
Jul-18	069810-2200			68623	0.0186	0.638	99%	0.006			
	069810-2260			0	0.0126	0.000	99%	0.000			
	069810-2290			19450	0.0124	0.121	99%	0.001			
	069810-4030			28364	0.0156	0.221	99%	0.002			
	069810-5800			71151	0.20000	7.115	99%	0.071			
	069810-5810			0	0.20000	0.000	99%	0.000			
	069810-5820/5870/5890			63038	0.20000	6.304	99%	0.063			
	069810-5830			22447	0.20000	2.245	99%	0.022			
	069810-5610			0	0.20000	0.000	99%	0.000			
	069810-2950			0	0.20000	0.000	99%	0.000			
	069810-5600			0	0.20000	0.000	99%	0.000			
	069810-5500			0	0.02232	0.000	99%	0.000			
	069800-2930			0	0.20000	0.000	99%	0.000			
	5153 MEK			0	6.75						0.000
	5191 MEK			81	5.89						0.063
CL-TKE Cleaner	8	6.69					0.007				
UVWS-010 Ceraprime Ink	0	6.81					0.000				
					Baseline Total			0.237			
						Adjustment Total			0.000		
						Total			0.237	0.639	
Aug-18	069810-2200			81006	0.0186	0.753	99%	0.008			
	069810-2260			0	0.0126	0.000	99%	0.000			
	069810-2290			16005	0.0124	0.099	99%	0.001			
	069810-4030			36820	0.0156	0.287	99%	0.003			
	069810-5800			53777	0.20000	5.378	99%	0.054			
	069810-5810			0	0.20000	0.000	99%	0.000			
	069810-5820/5870/5890			64045	0.20000	6.405	99%	0.064			
	069810-5830			20173	0.20000	2.017	99%	0.020			
	069810-5610			0	0.20000	0.000	99%	0.000			
	069810-2950			0	0.20000	0.000	99%	0.000			
	069810-5600			8348	0.20000	0.835	99%	0.008			
	069810-5500			0	0.02232	0.000	99%	0.000			
	069800-2930			0	0.20000	0.000	99%	0.000			
	5153 MEK			16	6.75						0.014
	5191 MEK			45	5.89						0.035
CL-TKE Cleaner	27	6.69					0.024				
UVWS-010 Ceraprime Ink	16	6.81					0.014				
					Baseline Total			0.245			
						Adjustment Total			0.000		
						Total			0.245	0.710	

Source 54-0158-38

Operating Permit – 464514P, Conditions #5, #7, #52
Monolithic Carrier Operations (*continued*)

Date	Monolithic Carrier Part Number	Liters used per mth	Lb VOC per Gal	Processed (parts/month)	VOC Content (lb/part)	Uncontrolled VOC Emitted (tpm)	Overall Control Efficiency (%)	Controlled VOC Emitted (tpm)	VOC Emitted (tons per rolling 12 months)
Sep-18	069810-2200			102630	0.0186	0.954	99%	0.010	
	069810-2260			4831	0.0126	0.030	99%	0.000	
	069810-2290			53337	0.0124	0.331	99%	0.003	
	069810-4030			9452	0.0156	0.074	99%	0.001	
	069810-5800			25664	0.20000	2.566	99%	0.026	
	069810-5810			0	0.20000	0.000	99%	0.000	
	069810-5820/5870/5890			49178	0.20000	4.918	99%	0.049	
	069810-5830			20617	0.20000	2.062	99%	0.021	
	069810-5610			0	0.20000	0.000	99%	0.000	
	069810-2950				0.20000	0.000	99%	0.000	
	069810-5600			12723	0.20000	1.272	99%	0.013	
	069810-5500				0.02232	0.000	99%	0.000	
	069800-2930				0.20000	0.000	99%	0.000	
	5153 MEK	16	6.75					0.014	
	5191 MEK	46	5.89					0.035	
	CL-TKE Cleaner	21	6.69					0.019	
	UVWS-010 Ceraprime Ink	20	6.81					0.018	
								Baseline Total	0.208
								Adjustment Total	0.000
								Total	0.208 0.662
Oct-18	069810-2200			140015	0.0186	1.302	99%	0.013	
	069810-2260			0	0.0126	0.000	99%	0.000	
	069810-2290			9827	0.0124	0.061	99%	0.001	
	069810-4030			0	0.0156	0.000	99%	0.000	
	069810-5800			6013	0.20000	0.601	99%	0.006	
	069810-5810			0	0.20000	0.000	99%	0.000	
	069810-5820/5870/5890			65823	0.20000	6.582	99%	0.066	
	069810-5830			0	0.20000	0.000	99%	0.000	
	069810-5610			75082	0.20000	7.508	99%	0.075	
	069810-2950			4981	0.20000	0.498	99%	0.005	
	069810-5600			17404	0.20000	1.740	99%	0.017	
	069810-5500			3791	0.02232	0.042	99%	0.000	
	069800-2930				0.20000	0.000	99%	0.000	
	5153 MEK	8	6.75					0.007	
	5191 MEK	10	5.89					0.008	
	CL-TKE Cleaner	15	6.69					0.013	
	UVWS-010 Ceraprime Ink	12	6.81					0.011	
								Baseline Total	0.222
								Adjustment Total	0.000
								Total	0.222 0.709

Operating Permit – 464514P, Conditions #5, #7, #52
Monolithic Carrier Operations *(continued)*

Date	Monolithic Carrier Part Number	Liters used per mth	Lb VOC per Gal	Processed (parts/month)	VOC Content (lb/part)	Uncontrolled VOC Emitted (t/m)	Overall Control Efficiency (%)	Controlled VOC Emitted (t/m)	VOC Emitted (tons per rolling 12 months)
Nov-18	069810-2200			109696	0.0186	0.020	99%	0.010	
	0			0.0126	0.000	99%	0.000		
	069810-2260			20667	0.0124	0.128	99%	0.001	
	069810-2290			0	0.20000	0.000	99%	0.000	
	069810-2950			0	0.0156	0.000	99%	0.000	
	069810-4030			6314	0.20000	0.631	99%	0.006	
	069810-5600			0	0.20000	0.000	99%	0.000	
	069810-5610			49521	0.20000	4.952	99%	0.050	
	069810-5800			17037	0.20000	1.704	99%	0.017	
	069810-5810			20312	0.20000				
	069810-5820			4512	0.20000	0.451	99%	0.005	
	069810-5830			0	0.02232	0.000	99%	0.000	
	069810-5500			19904	0.20000				
	069810-5840			0	0.20000				
	069810-5850			23076	0.20000				
	069810-5860			32478	0.20000	3.248	99%	0.032	
	069810-5870			0	0.20000				
	069810-5880			12546	0.20000				
	069810-5890				0.20000	0.000	99%	0.000	
	069800-2930								
	5153 MEK	16	6.75					0.014	
	5191 MEK	0	5.69					0.000	
	CL-TKE Cleaner	6	6.69					0.005	
	UVWS-010 Ceraprime Ink	16	6.81					0.014	
							Baseline Total	0.155	
							Adjustment Total	0.000	
							Total	0.155	
Dec-18	069810-2200			101321	0.0186	0.942	99%	0.009	0.612
				0.0126	0.000	98%	0.000		
	069810-2260				0.0124	0.000	98%	0.000	
	069810-2290				0.20000	0.000	99%	0.000	
	069810-2950				0.0156	0.000	99%	0.000	
	069810-4030				0.20000	1.017	99%	0.010	
	069810-5600			10165	0.20000	0.000	99%	0.000	
	069810-5610				0.20000	0.000	99%	0.000	
	069810-5800				0.20000	0.000	99%	0.000	
	069810-5810				0.20000	0.000	99%	0.000	
	069810-5820			31071	0.20000				
	069810-5830				0.20000	0.000	99%	0.000	
	069810-5500				0.02232	0.000	99%	0.000	
	069810-5840			8397	0.20000				
	069810-5850				0.20000				
	069810-5860				0.20000				
	069810-5870				0.20000	0.000	99%	0.000	
	069810-5880				0.20000				
	069810-5890				0.20000				
	069800-2930				0.20000	0.000	99%	0.000	
	5153 MEK	8	6.75					0.007	
	5191 MEK	45	5.89					0.035	
	CL-TKE Cleaner	23	6.69					0.020	
	UVWS-010 Ceraprime Ink	28	6.81					0.025	
							Baseline Total	0.107	
							Adjustment Total	0.000	
							Total	0.107	
								0.519	

Source 54-0158-38

Operating Permit – 464514P, Conditions #55

Monolithic Carrier Kiln Thermal Oxidizer Controls

Strip Chart Log - Thermal Oxidizer Kiln 1 2018

Condition	Start	Stop	Record (hours)	Temp Alarms	Idle Temp Alarms	No Data	Data Skip (have backup)	No Data Power Outage	Comment
roll	12/31/17 0:00	2/1/18 0:00	768:00:00						Kiln down for scheduled shutdown
roll	2/1/18 0:00	3/1/18 0:00	672:00:00						Kiln down for scheduled shutdown
roll	3/1/18 0:00	4/1/18 0:00	744:00:00						Kiln down for scheduled shutdown
roll	4/1/18 0:00	5/1/18 0:00	720:00:00						Kiln down for scheduled shutdown
roll	5/1/18 0:00	6/1/18 0:00	744:00:00						Kiln down for scheduled shutdown
roll	6/1/18 0:00	7/1/18 0:00	720:00:00						Kiln down for scheduled shutdown
roll	7/1/18 0:00	8/1/18 0:00	744:00:00						Kiln down for scheduled shutdown
roll	8/1/18 0:00	9/1/18 0:00	744:00:00						Kiln down for scheduled shutdown
roll	9/1/18 0:00	10/1/18 0:00	720:00:00						Kiln down for scheduled shutdown
roll	10/1/18 0:00	11/1/18 0:00	744:00:00						Kiln down for scheduled shutdown
roll	11/1/18 0:00	12/1/18 0:00	720:00:00						Kiln down for scheduled shutdown
roll	12/1/18 0:00	12/31/18 0:00	720:00:00						Kiln down for scheduled shutdown
			8760:00:00	0:00:00		0:00:00	0:00:00	0:00:00	
		Available Time	24:00:00						
		365	8784:00:00						

Source 54-0158-38

Operating Permit – 464514P, Conditions #55

Monolithic Carrier Kiln Thermal Oxidizer Controls

Strip Chart Log - Thermal Oxidizer Kiln 2 2018

Condition	Start	Stop	Record (hours)	Temp Alarms (h:m:s)	Idle Temp Alarms	No Data	Data Sklp (have backup)	No Data Power Outage	Comment
Roll	1/1/2018 0:00	12/15/18 21:55	8373:55:00						
	12/15/2018 21:55	12/29/2018 16:49		330:54:00					annudal scheduled holiday shutdown
			8373:55:00	330:54:00	0:00:00	0:00:00	0:00:00	0:00:00	
		Available Time	386:05:00	→		0:00:00			
		365	8760:00:00						

DENSO Manufacturing Athens Tennessee, Inc.

Construction Permit

2017 Annual Air Report

Permit Number: 969182P

Source 54-0158-46

Construction Permit – 969182P, Condition #16

TO 1 Control

701 TO 1 - 2018

Condition	Start	Stop	Record (hours)	Deviation Temp Alarms	Temp Alarms	No Data	Backup Data	Comment
Roll	1/1/18 0:00	1/1/18 0:00	0:00:00					
	1/1/18 0:00	3/23/18 12:55			1956:55:00			
Roll	3/23/18 12:55	3/24/18 17:26	28:31:00					
	3/24/18 17:26	3/25/18 23:34			30:08:00			
Roll	3/25/18 23:34	3/29/18 20:35	93:01:00					
	3/29/18 20:35	3/30/18 15:49			19:14:00			
Roll	3/30/18 15:49	3/30/2018 16:52	1:03:00					
	3/30/18 16:52	4/2/18 1:48			56:56:00			
Roll	4/2/18 1:48	4/5/18 4:46	74:58:00					
	4/5/18 4:46	4/5/18 12:56			8:10:00			
Roll	4/5/18 12:56	4/5/18 14:15	1:19:00					
	4/5/18 14:15	4/10/18 17:35			123:20:00			
Roll	4/10/18 17:35	4/10/18 19:03	1:28:00					
	4/10/18 19:03	4/11/18 12:51			17:48:00			
Roll	4/11/18 12:51	4/14/18 7:24	66:33:00					
	4/14/18 7:24	4/14/18 9:27			2:03:00			
Roll	4/14/18 9:27	4/14/18 19:12	9:45:00					
	4/14/18 19:12	4/16/18 2:34			31:22:00			
Roll	4/16/18 2:34	4/16/18 20:21	1/0/00 17:47					
	4/16/18 20:21	4/16/18 23:13			2:52:00			
Roll	4/16/18 23:13	4/17/18 4:18	5:05:00					
	4/17/18 4:18	4/17/18 11:26			7:08:00			
Roll	4/17/18 11:26	4/18/2018 12:14	24:48:00					
	4/18/18 12:14	4/19/18 1:23			13:09:00			
Roll	4/19/18 1:23	4/19/18 20:20	18:57:00					
	4/19/18 20:20	4/20/18 0:59			4:39:00			
Roll	4/20/18 0:59	4/20/18 4:49	3:50:00					
	4/20/18 4:49	4/20/18 11:02			6:13:00			
Roll	4/20/18 11:02	4/20/18 21:53	10:51:00					

Source 54-0158-46

Construction Permit – 969182P, Condition #16

TO 1 Control

Roll	4/21/18 1:59	4/21/18 20:14	18:15:00					
	4/21/18 20:14	4/23/18 11:09			38:55:00			
Roll	4/23/18 11:09	4/23/18 19:45	8:36:00					
	4/23/18 19:45	4/24/18 11:36			15:51:00			
Roll	4/24/18 11:36	4/24/18 19:16	7:40:00					
	4/24/18 19:16	4/25/18 11:20			16:04:00			
Roll	4/25/18 11:20	4/25/18 19:38	8:18:00					
	4/25/18 19:38	4/26/18 1:08			5:30:00			
Roll	4/26/18 1:08	4/26/18 19:42	18:34:00					
	4/26/18 19:42	4/27/18 11:31			15:49:00			
Roll	4/27/18 11:31	4/28/18 22:36	35:05:00					
	4/28/18 22:36	4/30/18 10:56			36:20:00			
Roll	4/30/18 10:56	4/30/18 21:55	10:59:00					
	4/30/18 21:55	5/1/18 1:58			4:03:00			
Roll	5/1/18 1:58	5/1/18 12:25	10:27:00					
	5/1/18 12:25	7/9/18 15:56			1659:31:00			
Roll	7/9/18 15:56	7/9/18 23:26	7:30:00					
	7/9/18 23:26	7/10/18 10:26			11:00:00			
Roll	7/10/18 10:26	7/11/18 0:37	14:11:00					
	7/11/18 0:37	7/11/18 2:32			1:55:00			
Roll	7/11/18 2:32	7/11/18 23:33	21:01:00					
	7/11/18 23:33	7/12/18 10:52			11:19:00			
Roll	7/12/18 10:52	7/14/18 1:29	38:37:00					
	7/14/18 1:29	7/14/18 17:19			15:50:00			
Roll	7/14/18 17:19	7/18/18 0:23	79:04:00					
	7/18/18 0:23	7/18/18 1:00			0:37:00			
Roll	7/18/18 1:00	7/20/18 8:29	55:29:00					
	7/20/18 8:29	7/31/18 23:59			279:30:00			
Roll	7/31/18 23:59	8/1/18 0:11	0:12:00					
	8/1/18 0:11	8/3/18 11:03			58:52:00			
Roll	8/3/18 11:03	8/3/18 23:08	12:05:00					

Source 54-0158-46

Construction Permit – 969182P, Condition #16

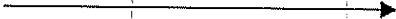
TO 1 Control

	8/3/18 23:08	8/4/18 15:11			16:03:00			
Roll	8/4/18 15:11	8/4/18 21:42	6:31:00					
	8/4/18 21:42	8/5/18 16:19			18:37:00			
Roll	8/5/18 16:19	8/5/18 21:13	4:54:00					
	8/5/18 21:13	8/6/18 9:52			12:39:00			
Roll	8/6/18 9:52	8/9/18 18:04	80:12:00					
	8/9/18 18:04	8/10/18 13:38			19:34:00			
Roll	8/10/18 13:38	8/10/18 20:27	6:49:00					
	8/10/18 20:27	8/11/18 16:45			20:18:00			
Roll	8/11/18 16:45	8/11/18 20:54	4:09:00					
	8/11/18 20:54	8/13/18 12:37			39:43:00			
Roll	8/13/18 12:37	8/13/18 22:23	9:46:00					
	8/13/18 22:23	8/14/18 12:01			13:38:00			
Roll	8/14/18 12:01	8/14/18 22:46	10:45:00					
	8/14/18 22:46	8/15/18 12:13			13:27:00			
Roll	8/15/18 12:13	8/15/18 23:05	10:52:00					
	8/15/18 23:05	8/16/18 11:55			12:50:00			
Roll	8/16/18 11:55	8/16/18 21:32	9:37:00					
	8/16/18 21:32	8/17/18 14:39			17:07:00			
Roll	8/17/18 14:39	8/17/18 20:36	5:57:00					
	8/17/18 20:36	8/18/18 17:59			21:23:00			
Roll	8/18/18 17:59	8/18/18 18:27	0:28:00					
	8/18/18 18:27	8/18/18 21:30			3:03:00			
Roll	8/18/18 21:30	8/18/18 23:19	1:49:00					
	8/18/18 23:19	8/19/18 12:00			12:41:00			
Roll	8/19/18 12:00	8/20/18 10:40	22:40:00					
	8/20/18 10:40	8/20/18 15:39			4:59:00			
Roll	8/20/18 15:39	8/20/18 21:37	5:58:00					
	8/20/18 21:37	8/21/18 16:09			18:32:00			
Roll	8/21/18 16:09	8/21/18 22:29	6:20:00					
	8/21/18 22:29	8/22/18 13:03			14:34:00			
Roll	8/22/18 13:03	8/22/18 22:13	9:10:00					

Source 54-0158-46

Construction Permit – 969182P, Condition #16

TO 1 Control (*continued*)

	8/22/18 22:13	8/23/18 13:32			15:19:00		
Roll	8/23/18 13:32	8/23/18 22:04	8:32:00				
	8/23/18 22:04	8/24/18 12:19			14:15:00		
Roll	8/24/18 12:19	8/24/18 23:06	10:47:00				
	8/24/18 23:06	8/27/18 12:55			61:49:00		
Roll	8/27/18 12:55	8/27/18 23:37	10:42:00				
	8/27/18 23:37	8/28/18 12:27			12:50:00		
Roll	8/28/18 12:27	8/29/18 22:03	33:36:00				
	8/29/18 22:03	8/30/18 12:41			14:38:00		
Roll	8/30/18 12:41	8/30/18 22:16	9:35:00				
	8/30/18 22:16	9/7/18 16:34			186:18:00		
Roll	9/7/18 16:34	9/7/18 21:08	4:34:00				
	9/7/18 21:08	12/30/18 11:59			2726:51:00		
*Only document events lasting over 3 hours			977:42:00	0:00:00	7746:17:00	0:00:00	0:00:00
Data Check:			977:42:00				
Permitted minimum operating temperature = 1544° F			7806:18:00				
365 =			8784:00:00				

Source 54-0158-46

Construction Permit – 969182P, Condition #16

TO 2 Control

701 TO 2 - 2018

Condition	Start	Stop	Record (hours)	Deviation Temp	Temp Alarms	No Data	Backup Data	Comment
Roll	1/1/18 0:00	1/1/18 0:00	0:00:00					
	1/1/18 0:00	1/26/18 11:40			611:40:00			
Roll	1/26/18 11:40	2/12/18 12:48	409:08:00					
	2/12/18 12:48	2/13/18 1:33			12:45:00			
Roll	2/13/18 1:33	2/19/18 9:52	152:19:00					
	2/19/18 9:52	2/19/18 21:47			11:55:00			
Roll	2/19/18 21:47	2/24/18 13:22	111:35:00					
	2/24/18 13:22	2/26/18 1:53			36:31:00			
Roll	2/26/18 1:53	3/13/18 21:30	379:37:00					
	3/13/18 21:30	3/14/18 1:47			4:17:00			
Roll	3/14/18 1:47	3/20/18 11:50	154:03:00					
	3/20/18 11:50	3/20/18 18:07			6:17:00			
Roll	3/20/18 18:07	3/20/18 21:35	3:28:00					
	3/20/18 21:35	3/20/18 22:17			0:42:00			
Roll	3/20/18 22:17	3/20/18 22:58	0:41:00					
	3/20/18 22:58	3/21/18 2:09			3:11:00			
Roll	3/21/18 2:09	3/21/18 14:07	11:58:00					
	3/21/18 14:07	3/21/18 15:53			1:46:00			
Roll	3/21/18 15:53	3/22/18 15:33	23:40:00					
	3/22/18 15:33	3/22/18 16:19			0:46:00			
Roll	3/22/18 16:19	3/23/18 10:26	18:07:00					
	3/23/18 10:26	4/5/18 14:11			315:45:00			
Roll	4/5/18 14:11	4/10/18 12:01	117:50:00					
	4/10/18 12:01	4/18/18 12:30			192:29:00			
Roll	4/18/18 12:30	4/18/18 16:31	4:01:00					
	4/18/18 16:31	5/1/18 12:28			307:57:00			
Roll	5/1/18 12:28	5/2/18 4:00	15:32:00					

Source 54-0158-46

Construction Permit – 969182P, Condition #16

TO 2 Control (*continued*)

	5/2/18 4:00	5/3/18 1:41			21:41:00		
Roll	5/3/18 1:41	5/3/18 16:04	14:23:00				
	5/3/18 16:04	6/1/18 18:46			698:42:00		
Roll	6/1/18 18:46	6/1/18 23:41	4:55:00				
	6/1/18 23:41	7/18/18 13:47			1118:06:00		
Roll	7/18/18 13:47	7/31/18 9:52	308:05:00				
	7/31/18 9:52	8/7/18 16:56			175:04:00		
Roll	8/7/18 16:56	8/8/18 7:13	14:17:00				
	8/8/18 7:13	8/28/18 15:19			488:06:00		
Roll	8/28/18 15:19	8/29/18 8:52	17:33:00				
	8/29/18 8:52	9/5/18 11:37			170:45:00		
Roll	9/5/18 11:37	9/7/18 14:22	50:45:00				
	9/7/18 14:22	9/10/18 12:20			69:58:00		
Roll	9/10/18 12:20	9/10/18 17:18	4:58:00				
	9/10/18 17:18	9/10/18 19:59			2:41:00		
Roll	9/10/18 19:59	9/17/18 20:13	168:14:00				
	9/17/18 20:13	9/18/18 9:41			13:28:00		
Roll	9/18/18 9:41	9/25/18 7:50	166:09:00				
	9/25/18 7:50	10/3/18 12:20			196:30:00		
Roll	10/3/18 12:20	10/3/18 21:22	9:02:00				
	10/3/18 21:22	10/4/18 13:10			15:48:00		
Roll	10/4/18 13:10	10/4/18 20:28	7:18:00				
	10/4/18 20:28	10/8/18 2:22			77:54:00		
Roll	10/8/18 2:22	10/11/18 8:08	77:46:00				
	10/11/18 8:08	10/11/18 12:46			4:38:00		
Roll	10/11/18 12:46	10/12/18 14:57	26:11:00				
	10/12/18 14:57	10/15/18 4:10			61:13:00		
Roll	10/15/18 4:10	10/15/18 21:09	16:59:00				
	10/15/18 21:09	10/22/18 22:11			169:02:00		

Source 54-0158-46

Construction Permit – 969182P, Condition #16

TO 2 Control (*continued*)

Roll	10/22/18 22:11	10/25/18 10:27	60:16:00					
	10/25/18 10:27	10/25/18 15:16			4:49:00			
Roll	10/25/18 15:16	10/27/18 14:41	47:25:00					
	10/27/18 14:41	10/28/18 1:14			10:33:00			
Roll	10/28/18 1:14	10/28/18 9:54	8:40:00					
	10/28/18 9:54	10/29/18 2:49			16:55:00			
Roll	10/29/18 2:49	10/29/18 13:52	11:03:00					
	10/29/18 13:52	10/30/18 2:46			12:54:00			
Roll	10/30/18 2:46	10/30/18 10:44	7:58:00					
	10/30/18 10:44	12/30/18 11:59			1465:15:00			
*Only document events lasting over 15 minutes			1729:22:00	0:00:00	3519:34:00	0:00:00	0:00:00	
		Data Check:	1729:22:00					
Permitted minimum operating temperature = 1544° F			7054:38:00	→				
		365 =	8784:00:00					

AIRL, INC.**1550 37TH STREET, NE****CLEVELAND, TENNESSEE 37312****(423) 476 - 7766 Fax: (423) 476-7714****ISO/IEC 17025:2005, PJLA - 76332****Testing Accreditation****Scope of Accreditation:***Wastewater, Surface Water, Ground Water, Drinking Water, Solids, Hazardous Waste, Soils, Sediments, and Sludges.***Date Received** 3 /7 /2018**Date Sampled** 3/6/2018**Date Requested** 3 /19/2018**Rush Status** Normal**Phone** (423) 746-0000**Extension** 7311☐ **Fax** (423) 746-1090☐ **eMail:****PO#**

State of Tennessee (ID #02034)

Alabama Dept. of
Environmental Management
(ID #40780)**Lab Report 305068**

2740

Denso Manufacturing

Attention: Taylor Johnson

2400 Denso Drive

Athens, TN 37303

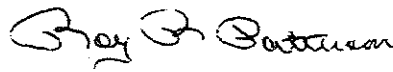
Sample InformationDMAT Denso Athens, TN
Clean Exxsol Liquid**Lab Report: 305068****Result****LCL Method SDL Date Time Analyst**

@25C	<u>Volatiles 24/24A</u>							
	Specific Gravity	0.841		0.001	2710F	0.001	3/15/2018 9:55	KEP
	Total Solids	< 0.01 lbs/gal		0.01	EPA 24/24A	0.01	3/15/2018 15:45	JAV
	Total Solids (%)	< 0.01 % wt.		0.01	EPA 24/24A	0.01	3/12/2018 13:00	KEP
	Volatiles (excluding water)	6.9549 lbs/gal		0.01	EPA 24/24A	0.01	3/15/2018 15:45	JAV
	Volatiles (excluding water) %	99.095 % wt.		0.1	EPA 24/24A	0.1	3/15/2018 15:45	JAV
	Water	0.0635 lbs/gal		0.01	EPA 24/24A	0.01	3/15/2018 15:45	JAV
	Water (%)	0.9050 % wt.		0.1	EPA 24/24A	0.1	3/15/2018 15:45	JAV

Lowest Calibration Level [LCL] - reporting limit; Sample Detection Level [SDL] - Sample Specific

QA/QC Procedures required by the Method(s) were followed unless otherwise noted. Performance and acceptance standards for required QA/QC procedures were achieved unless otherwise noted. No significant modifications have been made to the Method(s). I attest that, based upon my inquiry of those individuals immediately responsible for reviewing the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

These results relate only to the items tested. This report shall not be reproduced except in full and with permission of this laboratory. The laboratory retains sole ownership of data until full reimbursement has been made.

Report approved by:
TECHNICAL DIRECTOR

AIRL, INC.**1550 37TH STREET, NE****CLEVELAND, TENNESSEE 37312****(423) 476 - 7766 Fax: (423) 476-7714****ISO/IEC 17025:2005, PJLA - 76332****Testing Accreditation**

State of Tennessee (ID #02034)

Alabama Dept. of
Environmental Management
(ID #40780)*Scope of Accreditation:**Wastewater, Surface Water, Ground Water, Drinking
Water, Solids, Hazardous Waste, Soils, Sediments,
and Sludges.***Lab Report 309869**

2740

Denso Manufacturing

Attention: Stacy Melton

2400 Denso Drive

Athens, TN 37303

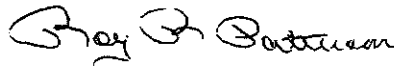
Date Received 10/3 /2018**Date Sampled** 10/3/2018**Date Requested** 10/15/2018**Rush Status** Normal**Phone** (423) 746-0000**Extension** 7311☐ **Fax** (423) 746-1090☐ **eMail:****PO#****Sample Information**DMAT Denso Athens, TN
Waste Viscor Liquid**Lab Report: 309869****Result****LCL Method SDL Date Time Analyst****Volatiles 24/24A**

Specific Gravity	0.783	0.001	EPA 24/24A 0.001	10/4/2018 13:00	KEP
Total Solids	0.414 lbs/gal	0.01	EPA 24/24A 0.01	10/5/2018 8:45	JAV
Total Solids (%)	6.340 % wt.	0.1	EPA 24/24A 0.1	10/4/2018 8:15	KEP
Volatiles (excluding water)	5.991 lbs/gal	0.01	EPA 24/24A 0.01	10/5/2018 8:45	JAV
Volatiles (excluding water) %	91.69 % wt.	0.1	EPA 24/24A 0.1	10/5/2018 8:45	JAV
Water	0.129 lbs/gal	0.01	EPA 24/24A 0.01	10/5/2018 8:45	JAV
Water (%)	1.972 % wt.	0.1	EPA 24/24A 0.1	10/5/2018 8:45	JAV

Lowest Calibration Level [LCL] - reporting limit; Sample Detection Level [SDL] - Sample Specific

QA/QC Procedures required by the Method(s) were followed unless otherwise noted. Performance and acceptance standards for required QA/QC procedures were achieved unless otherwise noted. No significant modifications have been made to the Method(s). I attest that, based upon my inquiry of those individuals immediately responsible for reviewing the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

These results relate only to the items tested. This report shall not be reproduced except in full and with permission of this laboratory. The laboratory retains sole ownership of data until full reimbursement has been made.

Report approved by:
TECHNICAL DIRECTOR

RTO Abnormality Log (By-Pass & Malfunction)

Abnormality	Date	By-Pass		Reason / Comment	Associate Name
		Start-Up	Shut-Down		
Alarm RTO	4-5-18	NA	NA	Low process air alarm. Reset	J. McCarty
Alarm	5-12-18	05:00	10:30	Unit shut down on temp. TE-189 high, temp. 1600°F. Flame fail at 2 MIN. Incident started on 3rd shift. Burner would not run. By-pass running. Turned over to 1st.	
RTO		11:45	—	3rd shift continued troubleshooting. Tried to run burner long enough to get temps. above 1600°F. Burner fails.	
"		—	VARIOUS	Turned over to 2nd.	
"	5-13-18	VARIOUS	VARIOUS	Continued trying to get temp. up turned over to 3rd.	
"	"	VARIOUS	VARIOUS	Finally got burner to hold. Upper bed 1600°F. Air not changing over to 1st.	J. McCarty D Brant D Standish
"	5-13-18	"	"	1st. Shift took burner. Checked Poppet Valve. Found West Piston off shaft. Replaced with Loctite. Cleaned West Solenoid Valve.	
"	"	"	"	Fired burner. Over to 2nd.	
↑ "	"	"	"	Monitored temps. Started several times. Running in Idle. Over to 3rd.	
Trickle Start	RTO 5-13-18	"	23:30	Monitored temps. All 3 beds above 1600°F. Placed in process.	
Shut-down	6-29-18	3:45 pm	2:15 pm	The poppet valve was sticking and caused a shut down readjusted valve and remove relay. started by up.	
Shut-down	6-30-18	4:00 pm	3:30 pm	Tripped #5 Burner. Started power reset at 4:00 pm.	

Normal Operation: From 4:00 am Monday until 4:00 am Saturday

FIPE-09-04-001C

RTO Abnormality Log (By-Pass & Malfunction)

Abnormality	Date	By-Pass		Reason / Comment	Associate Name
		Start-Up	Shut-Down		
Troubleshoot Data logger	3/17/16	04:00	04:30	Checking TE-167 input to Data Logger - Detecting cable appears to be broken	Jha
Repair	3/18/16	02:55	03:33	Replaced TE-167 thermocouple and wiring. W.O.# 6694947.	Jha
Alarm	3/31/16	—	—	Bed temp droping below alarm level. Trip out on W. Side Section. Increased air pressure. Tightened water fittings	W.O. 67135-24 T. McCurry
Adjustment	4/18/16	00:15	01:30	Placed in by-pass to check main blower belts. Tightened all. N.R. to replace belts.	T. McCurry
Repair	1-20-17	11:50	2:50	Center bed temp dropping - replaced east side poppet solenoid. Cleaned poppet cylinder shaft	C. Shelton
Trouble shoot	1-23-17	—	—	Check readings for cause of alarms. TE-160 upper PLenum going over 500°F on upflow cycle in last 10 sec. Cannot see if disc's are seating. Need to reduce cycle time from 250 sec. to 235 sec. Then check disc seating	
"	"	—	—		
Repair	1-23-17	10:30	11:30	Replaced east poppet cylinder piston and seals. No changes to program on 1-23-17	T. McCurry C. Shelton
Repair	4-2-17	10:00	21:00	Air pressure switch at inlet faulty. Oil accumulation needed to turn off for several hours	C. Shelton
Trouble shoot	9-26-17	N/A	N/A	Main blower belts squealing when beds. SWAP inlet down. Only lasts couple minutes	
"	"	"	"	No cause found.	Tom McCurry
Repair	2-19-18	10:30	12:00	Replaced east poppet cylinder solenoid valve	C. Shelton
Shutdown	3/15/-18	22:30	01:00	We were call by third shift that RTO was not running. We located with no control power we reset. At this time still not running. O. Brant	
" "	3-14-18		01:00	Breakers tripped, reset. Cleaned filters. So burner would run. Temp. fell to 600°F.	
"	"	W.O. 7527	433	Field burner went to 1600°F. Reset in Idle Mode for 2 hour then placed in Process Mode.	T. McCurry
Trouble RTO	4-5-18	N/A	N/A	Heavy vibration reported in duct #1. Lubed all joints. No improvement. Will have to shut unit down and look inside duct	T. McCurry
"	"	"	"	Day shift go help	

Normal Operation: From 4:00 am Monday until 4:00 am Saturday

FIPE-09-04-001C

VOC Abnormality Log (Bypass and malfunction)

Abnormality	Date	Bypass Start	Bypass Shutdown	Reason / Comments	Associate Name
System Shutdown	1/25/18	00:18	00:31	Touch screen dead. Burner and fans offline VOC #1. Cycled power, reset and got panel back. Started burner, fans	T. McCurry
"	"	01:15	01:25	Stage 1 air filter shut down burner, fans #1. Reset alarm started unit.	T. McCurry
"	"	02:45	02:55	Stage 1 air filter shut down unit #1. Reset alarm, started unit	T. McCurry
"	"	05:15	05:35	Stage 1 air filter, touch screen dead shutdown #1. Wiggling powerwires back at touch screen brought	
"	"	"	"	Panel back. Cleared alarm, re-started unit	T. McCurry
System Shutdown	1/26/18	00:10	00:20	Burner shutdown. Reset unit #1.	T. McCurry
"	"	02:00	02:55	Touch screen out. Tightened all wire terminals to touch screen. Reset fault. Started fans on #1 and #2	T. McCurry
"	"	08:15	08:30	Low Air Pressure. Reset start burner.	SL
VOC 2 burner shut down	2/19/18			Burner shut down. Desorber in let temp to high stage 1 and 2 filter Dirty	D Bront

VOC Abnormality Log (Bypass and malfunction)

Abnormality	Date	Bypass Start	Bypass Shutdown	Reason / Comments	Associate Name
Burner off	3/13/18	0M		Bypass at RTO running trying to restart RTO	J Gardner
Burner shut	3/14	22:30	01:00	work order 7527434. Reset burner. Re-started RTO.	J McRory
Burner off	3/20/18	4:pm 8:pm	11:22 4:22	Flame safe Guard fault Flame safe Guard fault	Dbrant
Burner off	3/20/18	4pm 8pm	11:22 4:22	stage 1 filter Dirty stage 2 filter Dirty	Dbrant
2 process Fan shutdown	4/18/18	3:40 pm	4:00	shut down 1 stage filter is the alarm	Dbrant
1 process Fan shutdown	4/18/18	3:50		shut down VOC1 on process fan / oxidizer Blower / low air pressure.	Dbrant
Burner off on Flame fault	7/6/18		7/6/18	Burner shut off on Flame Guard fault. Reset and restarted	Dbrant
Prodc Issue	10/3/18	ARA 00:10		Calumet washer low Press. fault. Magnehelic on it says 75 to 1.75. Needle at .25. Started VOC2. 1 fan at 58 Hz.	Jane
↓		Both	VOC	*at 45 Hz. Dampers wide open? No change in Mag. reading. Helped tech adjust blast gate on top of machine. Closing Over	

VOC Abnormality Log (Bypass and malfunction)

[illegible]