

DOWNSTREAM

Date/Time	Operator	Inlet flow, slpm	Inlet p, mb	Target flow	% d	CO in, ppm	CO out, ppm	DF	Target DF	% d	INLET P <sub>MB</sub>
<u>86103</u> 12/5/19 - 10:50	BRIAN VINAL	7.830	997.2	8.13	3.6%	4964	167.4	29.65	37.4	20.3%	1013
12/5/19 - 4:17 (16:17)	BRIAN VINAL	7.780	998.7	8.15	5.5%	4964	167.9	29.72	37.3	20.3%	1013
12/6/19 - 10:05	BRIAN VINAL	8.003	1009.8	8.20	2.4%	4964	173.0	28.69	37.2	22.8%	1013
12/9/19 10:30	BV/GA	8.03	<del>1013.3</del>	<del>8.53</del>		4964	134	37.0	36.0		
		<del>GA</del>	997	8.13							
12/10/19 0805	BV/GA	8.02	982	<del>8.02</del>	+3.6		125	39.7	37.1	+7.0	1000
12/10 1107	BV/GA	<del>7.29</del>	<del>984</del>	<del>7.79</del>							
12/10 1245	BV/GA	<del>7.27</del>	<del>983</del>	<del>7.77</del>	HOT	DILUTER	114	43.5	"	"	1000
12/10 1341	BV/GA COLD!	7.56	983	7.77	-3		118	42.1	37.1	+13.4	1001
		<del>7.38</del>	<del>1015</del>	<del>8.58</del>							
12/11/19 1356	BV/GA COLD	7.54	998	8.15	-7.5		132	37.6	36.0	+4.4	1013
12/13/19 0930	BV/GA COLD	7.71	1008	8.41	-8.3	4964	140	35.5	34.8	-2.0	1027
12/18/19 1340	GA COLD	7.82	981	7.71		<del>1106</del>	<del>124</del>	37.1	40.0	-7.2	1001
12/19/19 1524	GA COLD	8.13	997	8.13	0	"	130	38.2	35.7	+7.0	1016
12/18/19 1340	GA COLD					"	124	37.1	40.0	-7.2	1001

*[Handwritten signature]*

eDiluter log, Rev. 12/20/19 eDiluter s/n 86103 Calibration Date: 8/15/19 Sampling Location: CS TSI flowmeter s/n: 7007

Date/Time	Operator Initials	Inlet flow SLPM	Inlet P mb	Target flow slpm	% D	CO in ppm	CO out ppm	Inlet P mb	DF	Target DF	% D	Comments
1/6/20 @ 9:53	BY	8.05	1005	8.33	3.36 ✓	4964	134	37.0 ↙	1005	36.7	0.8 ✓	Post ESP
1/7/20 @ 8:15 am	BY	8.18	991	7.98	2.50 ✓	4964	137	1010	36.2	34.2	0.0 ✓	POST ESP - PRE CHECK
1/7/20 @ 5:47 pm	BY	8.06	987	7.87	2.41 ✓	4964	136	1006	36.5	36.6	0.2 ✓	Post ESP Post Check
1/8/20 @ 8:47 am	BY	8.02	984	7.79	2.95 ✓	4964	133	1004	37.3	36.8	1.35 ✓	Post ESP   Pre Check
1/8/20 @ 5:20 pm	BY	8.03	988	7.90	1.64 ✓	4964	133	1006	37.3	36.6	1.91 ✓	Post ESP / Post Check
1/9/20 @ 8:31 am	BY	8.53	1010	8.46	0.82 ✓	4964	146	1031	34.0	34.5	1.44 ✓	Post ESP / Pre Check
1/9/20 @ 4:37	BY	8.50	1012	8.51	0.11 ✓	4964	149	1031	33.3	34.5	3.47 ✓	POST ESP   Post check
1/12/20 @ 1:03 pm	BY	8.35	1001	8.23	1.45 ✓	4964	139	1021	35.7	35.3	1.13 ✓	POST ESP / Pre Check
1/14/20 @ 8:31	BY	8.34	1061	8.23	1.33 ✓	4964	136	1020	36.5	35.4	4.23 ✓	Post ESP / Pre Check
1/14/20 @ 4:30	BY	8.07	996	8.10	0.37 ✓	4964	131	1014	37.9	39.79	5.01 ✓	Post ESP / Post Check
1/15/20 @ 8:37	BY	8.20	994	8.05	1.86 ✓	4964	134	1013	37.0	36.0	2.71 ✓	Post ESP / Post Check
1/15/20 @ 4:04	BY	8.16	993	8.03	1.61 ✓	4964	135	1012	36.7	36.1	1.66 ✓	Post ESP / Post Check
1/17/20 @ 7:40	BY	8.37	1003	8.28	1.08 ✓	4964	140	1023	35.4	35.2	0.55 ✓	Post ESP / Pre Check
1/17/20 @ <del>7:46</del> 7:46	BY	<del>8.35</del> 3.52	<del>1007</del>	8.38	0.35 ✓	4964		<del>1069</del>		<del>32.1</del>		Post ESP / Post check (1)
1/17/20 @ 4:46	BY	3.52	1038	7.13	61.4 x	4964	1.0 x	1020		32.0	Fail	Post ESP / Post check (2)
1/21/20 @ 8:35	BY	7.39	1007	8.38	11.81 x							
1/21/20 @ 9:12	BY	7.95	1003	8.28	3.95 ✓	4964	142	1023	34.9	35.2	0.85 ✓	Post ESP / Pre check (3)
1/21/20 @ 4:38	BY	7.66	1002	8.26	7.26 ✓	4964	139	1021	<del>35.3</del> 35.7	35.3	1.13 ✓	Post ESP / Post Check

Notes:

eDiluter log, Rev. 12/20/19 eDiluter s/n: 103 Calibration Date: 8/15/19 Sampling Location: BY ES Post ESP TSI flowmeter s/n: 7007

changed to 4002 flowmeter

Date/Time	Operator Initials	Inlet flow SLPM	Inlet P mb	Target flow slpm	% D	CO in ppm	CO out ppm	Inlet P mb	DF	Target DF	% D	Comments
1/22/20 @ 8:37	BY	1004 ← → 7.88	7.88	8.31	5.1 ✓	4964	145	1024	34.2	35.1	2.56 ✓	Post ESP / Pre check
1/22/20 @ 4:16	BY	7.70	1002	8.26	6.78 ✓	4964	141	1021	35.2	35.3	0.38 ✓	Post ESP / Post check
1/23/20 @ 9:35	BY	7.77	1002	8.26	5.93 ✓	4964	140	1022	35.5	35.2	0.85 ✓	Post ESP / Pre check
1/23/20 @ 5:12 pm	BY	8.22	997	8.13	1.10 ✓	4964	135	1018	36.8	35.6	3.37 ✓	Post ESP / Post Check
1/27/20 @ 1:08 pm	BY	7.90	973	7.50	5.33 ✓	4964	136	995	<del>36.5</del> 37.6	37.6	2.92 ✓	Post ESP
1/29/20 @ 8:18	BY	8.04	991	7.98	0.75 ✓	4964	127	1008	39.1	36.4	7.42 ✓	Post ESP / Post Check ✓
1/29/20 @ 4:03-40-4:13:38	BY	8.11	990	7.95	2.01 ✓	4964	129	1008	38.5	36.4	5.76 ✓	Post ESP / Post Check
1/30/20 @ 8:19:01	BY	8.42	993	8.03	4.85 ✓	4964	100	1017	x	35.6	x	Fail
1/30/20 8:40:00	BY	8.42	997	8.13	3.56 ✓	4964	136	1018	36.5	35.6	2.52 ✓	Post ESP / Pre Check
1/30/20 @ 4:18	BY	8.25	999	8.18	0.85 ✓	4964	62	1017	80.1	35.6	x	Fail note Analyzer too coarse

Notes:

#103

Sn 86103, cal date: 19-08-15. Inlet Pressure (mb), Inlet Flow (SLPM), DF

INLET(P)	FLOW	TARGET DF							
951	6.89	43.1	994	8.05	37.7	1037	9.10	34.1	
952	6.92	42.9	995	8.08	37.6	1038	9.13	34.0	
953	6.95	42.8	996	8.10	37.5	1039	9.15	34.0	
954	6.98	42.6	997	8.13	37.4	1040	9.17	33.9	
955	7.00	42.5	998	8.15	37.3	1041	9.19	33.8	
956	7.03	42.3	999	8.18	37.2	1042	9.22	33.8	
957	7.06	42.2	1000	8.21	37.1	1043	9.24	33.7	
958	7.09	42.1	1001	8.23	37.1	1044	9.26	33.6	
959	7.12	41.9	1002	8.26	37.0	1045	9.28	33.6	
960	7.14	41.8	1003	8.28	36.9	1046	9.31	33.5	
961	7.17	41.6	1004	8.31	36.8	1047	9.33	33.4	
962	7.20	41.5	1005	8.33	36.7	1048	9.35	33.4	
963	7.23	41.4	1006	8.36	36.6	1049	9.37	33.3	
964	7.25	41.2	1007	8.38	36.5	1050	9.40	33.2	
965	7.28	41.1	1008	8.41	36.4	1051	9.42	33.2	
966	7.31	41.0	8.43-1009	<del>8.20</del>	<del>37.2</del>	37.3	1052	9.44	33.1
967	7.34	40.8	1010	8.46	36.2	1053	9.46	33.0	
968	7.36	40.7	1011	8.48	36.1	1054	9.49	33.0	
969	7.39	40.6	1012	8.51	36.1	1055	9.51	32.9	
970	7.42	40.4	1013	8.53	36.0	1056	9.53	32.8	
971	7.45	40.3	1014	8.55	35.9	1057	9.55	32.8	
972	7.47	40.2	1015	8.58	35.8	1058	9.57	32.7	
973	7.50	40.1	1016	8.60	35.7	1059	9.60	32.7	
974	7.53	40.0	1017	8.63	35.6	1060	9.62	32.6	
975	7.55	39.8	1018	8.65	35.6	1061	9.64	32.5	
976	7.58	39.7	1019	8.68	35.5	1062	9.66	32.5	
> 977	7.61	39.6	1020	8.70	35.4	1063	9.68	32.4	
978	7.63	39.5	1021	8.72	35.3	1064	9.70	32.4	
979	7.66	39.4	1022	8.75	35.2	1065	9.73	32.3	
980	7.69	39.2	1023	8.77	35.2	1066	9.75	32.2	
981	7.71	39.1	1024	8.80	35.1	1067	9.77	32.2	
982	7.74	39.0	1025	8.82	35.0	1068	9.79	32.1	
983	7.77	38.9	1026	8.84	34.9	1069	9.81	32.1	
984	7.79	38.8	1027	8.87	34.8	1070	9.83	32.0	
> 985	7.82	38.7	1028	8.89	34.8	1071	9.85	32.0	
986	7.85	38.6	1029	8.92	34.7	1072	9.87	31.9	
987	7.87	38.5	1030	8.94	34.6	1073	9.89	31.8	
988	7.90	38.4	1031	8.96	34.5	1074	9.92	31.8	
989	7.92	38.3	1032	8.99	34.5				
990	7.95	38.1	1033	9.01	34.4				
991	7.98	38.0	1034	9.03	34.3				
992	8.00	37.9	1035	9.06	34.3				
993	8.03	37.8	1036	9.08	34.2				

**eDiluter 2<sup>nd</sup> stage flows**

86103:  
9/2/19 Erkki email, August 2019 cal for sn 86103, 1013 mb

inlet flow 7.48 slpm  
outlet flow 44.85 slpm  
dil air flow: 37.37 slpm

1st stage inlet: 8.02 at 1013 mb.

86106:  
10/1/19 Erkki email Sept. 2019 cal for sn 86106, 1013 mb:

Inlet flow 8.13 slpm  
Outlet flow 48.79 lpm  
dil air flow: 40.66 lpm

eDiluter log, Rev. 12/20/19 eDiluter s/n: 103 Calibration Date: \_\_\_\_\_ Sampling Location: \_\_\_\_\_ TSI flowmeter s/n: \_\_\_\_\_

Date/Time	Operator Initials	Inlet flow SLPM	Inlet P mb	Target flow slpm	% D	CO in ppm	CO out ppm	Inlet P mb	DF	Target DF	% D	Comments
<del>3/17/20 @ 9:54</del>	<del>RY</del>	<del>8.30</del>	<del>997</del>	<del>8.13</del>	<del>2.21</del>	<del>4964</del>	<del>51/36</del> <del>162</del>	<del>1015</del>	<del>306</del>	<del>35.8</del>	<del>14.57</del>	<del>POST ESP</del>
<del>3/17/20 @ 5:34</del>	<del>RY</del>	<del>7.94</del>	<del>991</del>	<del>7.98</del>	<del>0.5%</del>	<del>4964</del>	<del>128</del>	<del>1008</del>	<del>38.8</del>	<del>36.4</del>	<del>0.57</del>	<del>POST ESP</del>

Notes: