DOCKETED

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Project Title:	Huntington Beach Energy Project - Compliance
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12/18	14:12:19	0.5	0.70	0.24	1.0	827.2	
12/18	14:13:19	0.5	0.70	0.22	0.9	828.4	
12/18	14:14:19	0.5	0.67	0.20	0.8	828.4	
12/18	14:15:19	0.5	0.69	0.19	0.7	828.8	
12/18	14:16:19	0.5	0.69	0.18	0.6	827.6	
12/18	14:17:19	0.5	0.36	0.11	0.6	829.6	
12/18	14:18:19	0.5	0.66	0.15	0.5	830.4	
12/18	14:19:19	0.5	0.00	0.15	0.4	858.5	
12/18	14:20:19	0.5	0.00	0.14	0.3	862.9	CO BIAS
12/18	14:21:19	0.5	0.00	0.17	0.3	860.5	
12/18	14:22:19	0.5	0.36	0.17	0.3	854.9	
12/18	14:23:19	0.5	0.63	0.17	35.6	58.2	
12/18	14:24:19	0.5	0.03	0.14	40.4	1.2	
12/18	14:25:19	0.5	0.00	0.14	41.9	1.2	
12/18	14:26:19	0.5	0.00	0.14	41.9	0.8	
12/18	14:27:19	0.5	0.00	0.14	41.8	0.8	NOX BIAS
12/18	14:28:19	0.5	0.00	0.08	23.0	0.8	
12/18	14:29:19	0.5	0.00	0.05	0.1	0.8	ZERO
12/18	14:30:19	0.5	20.86	16.53	0.0	2.0	
12/18	14:31:19	0.5	20.94	16.61	83.1	1769.6	
12/18	14:32:19	0.5	20.93	16.61	85.4	1788.9	
12/18	14:33:19	0.5	20.93	16.61	85.4	1783.7	
12/18	14:34:19	0.5	20.93	16.61	85.4	1787.7	SPAN
12/18	14:35:19	0.5	12.43	8.36	85.3	1782.5	
12/18	14:36:19	0.5	12.46	8.38	42.4	866.9	
12/18	14:37:19	0.5	12.45	8.38	42.3	859.7	MID
12/18	14:38:19	0.5	12.45	8.37	42.1	862.9	
12/18	14:39:19	0.5	12.45	8.37	42.1	864.9	
12/18	14:40:19	0.5	20.67	8.41	77.7	389.3	
12/18	14:41:19	0.5	20.66	8.42	87.2	1.2	
12/18	14:42:19	0.5	20.65	8.43	87.0	1.6	RESET NOX
12/18	14:43:19	0.5	1.93	0.50	43.8	430.3	
12/18	14:44:19	0.5	1.53	0.77	43.0	30.5	
12/18	14:45:19	0.5	1.52	0.72	43.0	28.9	MID
12/18	14:46:19	0.5	1.29	0.55	25.4	29.3	
12/18	14:47:19	0.5	1.31	0.58	3.2	22.1	
12/18	14:48:19	0.5	3.26	0.22	3.0	12.4	
12/18	14:49:19	0.5	1.33	0.21	0.6	0.8	
12/18	14:50:19	0.5	0.01	0.17	0.5	0.8	NOX BIAS
12/18	14:51:19	0.5	0.00	0.16	0.4	0.8	
12/18	14:52:19	0.5	0.00	0.15	12.7	0.8	
12/18	14:53:19	0.5	0.00	0.15	42.5	0.8	
12/18	14:54:19	0.5	0.03	0.17	42.5	0.8	NOX BIAS
12/18	14:55:19	0.5	12.07	7.08	40.9	147.3	
12/18	14:56:19	0.5	12.08	7.18	41.4	550.3	
12/18	14:57:19	0.5	12.12	7.19	41.0	558.3	START LOW LOAD P2E4
12/18	14:58:19	0.5	12.13	7.21	41.1	557.1	
12/18	14:59:19	0.5	12.09	7.25	40.2	559.9	
12/18	15:00:19	0.5	12.08	7.26	40.9	559.9	
12/18	15:01:19	0.5	12.00	7.35	41.9	553.1	
12/18	15:02:19	0.5	12.03	7.32	42.7	547.5	
12/18	15:03:19	0.5	12.02	7.33	43.0	546.7	
12/18	15:04:19	0.5	12.09	7.28	42.8	549.9	
12/18	15:05:19	0.5	12.07	7.29	42.5	555.9	
12/18	15:06:19	0.5	12.08	7.29	43.0	551.1	

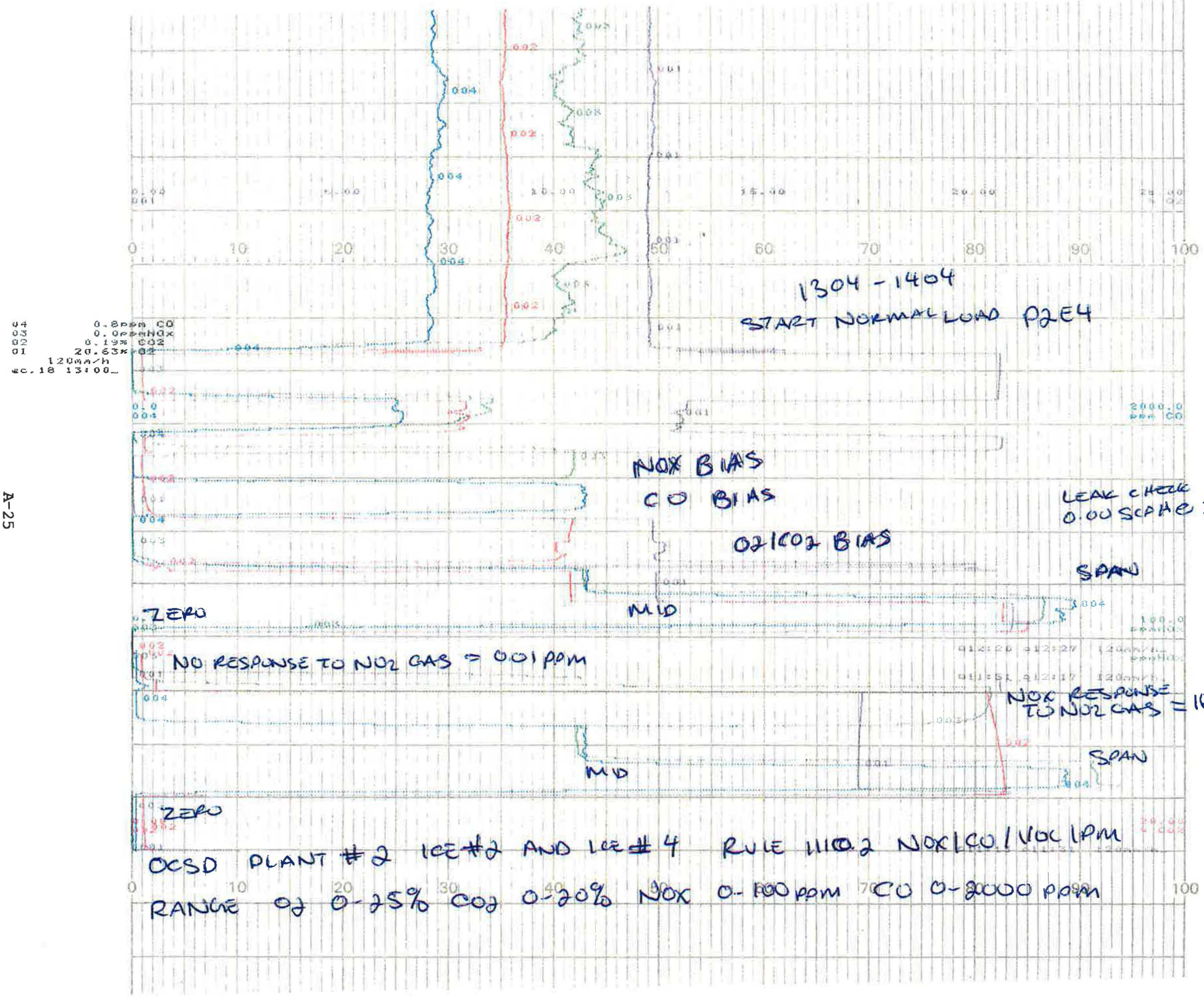
12/18	15:07:19	0.5	12.10	7.28	41.9	558.7	
12/18	15:08:19	0.5	12.08	7.30	42.2	552.7	
12/18	15:09:19	0.5	12.03	7.33	42.9	550.3	
12/18	15:10:19	0.5	12.01	7.34	42.9	551.1	
12/18	15:11:19	0.5	12.01	7.36	44.1	544.3	
12/18	15:12:19	0.5	12.05	7.32	43.4	545.5	
12/18	15:13:19	0.5	12.06	7.31	42.5	549.5	
12/18	15:14:19	0.5	12.03	7.33	42.8	553.9	
12/18	15:15:19	0.5	12.08	7.31	43.6	549.9	
12/18	15:16:19	0.5	12.06	7.32	43.7	541.4	
12/18	15:17:19	0.5	12.06	7.32	42.9	549.9	
12/18	15:18:19	0.5	12.09	7.30	42.4	560.7	
12/18	15:19:19	0.5	12.11	7.28	43.2	555.5	
12/18	15:20:19	0.5	12.10	7.29	42.3	556.7	
12/18	15:21:19	0.5	12.05	7.32	43.1	547.9	
12/18	15:22:19	0.5	12.08	7.31	43.6	550.3	
12/18	15:23:19	0.5	12.09	7.29	43.6	547.5	
12/18	15:24:19	0.5	12.12	7.27	43.1	557.1	
12/18	15:25:19	0.5	12.14	7.26	42.9	557.5	
12/18	15:26:19	0.5	11.95	7.40	42.2	551.5	
12/18	15:27:19	0.5	12.20	7.20	48.9	531.8	
12/18	15:28:19	0.5	12.25	7.16	45.9	551.1	START HIGH LOAD P2E4
12/18	15:29:19	0.5	12.33	7.09	45.1	564.3	
12/18	15:30:19	0.5	12.38	7.05	44.0	573.6	
12/18	15:31:19	0.5	12.41	7.03	42.8	581.6	
12/18	15:32:19	0.5	12.42	7.02	42.2	580.8	
12/18	15:33:19	0.5	12.39	7.03	42.4	583.2	
12/18	15:34:19	0.5	12.42	7.02	43.4	578.4	
12/18	15:35:19	0.5	12.42	7.01	42.6	582.0	
12/18	15:36:19	0.5	12.44	7.00	42.6	590.0	
12/18	15:37:19	0.5	12.46	6.98	43.9	583.2	
12/18	15:38:19	0.5	12.39	7.04	42.5	591.2	
12/18	15:39:19	0.5	12.41	7.02	48.1	555.9	
12/18	15:40:19	0.5	12.63	6.84	49.6	570.3	
12/18	15:41:19	0.5	12.62	6.86	44.0	602.8	
12/18	15:42:19	0.5	12.63	6.84	43.2	608.9	
12/18	15:43:19	0.5	12.62	6.86	42.7	610.1	
12/18	15:44:19	0.5	12.61	6.87	43.4	608.1	
12/18	15:45:19	0.5	12.68	6.82	44.3	607.7	
12/18	15:46:19	0.5	12.64	6.84	44.1	598.8	
12/18	15:47:19	0.5	12.42	7.86	42.9	278.5	
12/18	15:48:19	0.5	12.36	8.36	2.5	1.2	
12/18	15:49:19	0.5	12.47	8.29	1.8	0.8	
12/18	15:50:19	0.5	12.47	8.31	1.4	0.8	
12/18	15:51:19	0.5	12.46	8.32	1.1	0.8	
12/18	15:52:19	0.5	12.46	8.32	0.9	0.4	
12/18	15:53:19	0.5	12.45	8.33	0.8	0.8	O2/CO2 BIAS
12/18	15:54:19	0.5	12.51	8.31	0.7	0.8	
12/18	15:55:19	0.5	0.05	0.40	0.7	560.7	
12/18	15:56:19	0.5	0.03	0.29	0.6	848.9	
12/18	15:57:19	0.5	0.01	0.24	0.5	850.5	
12/18	15:58:19	0.5	0.01	0.21	0.5	854.1	CO BIAS
12/18	15:59:19	0.5	0.80	0.19	0.4	849.7	
12/18	16:00:19	0.5	0.01	0.17	30.4	77.5	
12/18	16:01:19	0.5	0.01	0.16	42.4	1.2	NOX BIAS

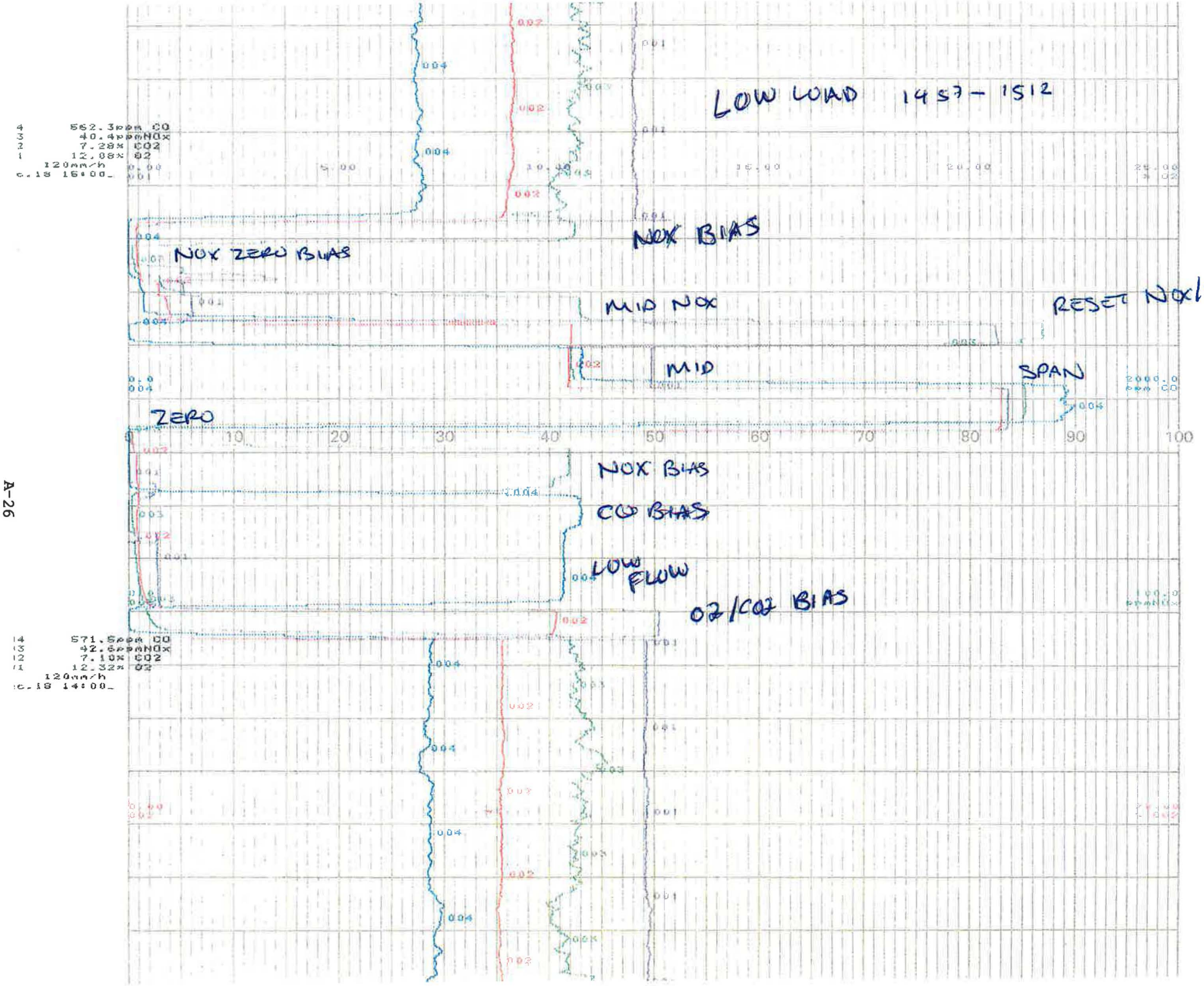
12/18	16:02:19	0.5	0.01	0.16	42.4	0.8	
12/18	16:03:19	0.5	0.00	0.06	6.5	2.0	
12/18	16:04:19	0.5	0.00	0.04	0.1	0.8	
12/18	16:05:19	0.5	0.00	0.04	0.0	0.8	ZERO
12/18	16:06:19	0.5	20.26	16.44	0.0	2.8	
12/18	16:07:19	0.5	20.92	16.57	86.3	1769.6	
12/18	16:08:19	0.5	20.92	16.56	86.8	1782.9	SPAN
12/18	16:09:19	0.5	12.44	8.34	86.7	1777.6	
12/18	16:10:19	0.5	12.45	8.35	43.0	863.3	MID
12/18	16:11:19	0.5	14.67	4.97	43.0	854.5	
12/18	16:12:19	0.5	14.33	5.38	33.8	435.9	
12/18	16:13:19	0.5	14.65	5.15	32.5	335.5	
12/18	16:14:19	0.5	14.68	5.14	31.6	334.3	
12/18	16:15:19	0.5	14.58	5.22	33.2	337.1	
12/18	16:16:19	0.5	17.17	3.29	31.9	241.6	
12/18	16:17:19	0.5	12.31	7.04	43.3	465.2	
12/18	16:18:19	0.5	12.25	7.10	44.3	472.4	
12/18	16:19:19	0.5	12.26	7.12	44.1	476.8	
12/18	16:20:19	0.5	12.11	7.24	44.6	487.3	
12/18	16:21:19	0.5	12.12	7.23	45.1	479.2	
12/18	16:22:19	0.5	12.19	7.18	45.6	476.8	
12/18	16:23:19	0.5	12.21	7.16	45.0	475.6	
12/18	16:24:19	0.5	12.32	7.08	44.6	476.4	
12/18	16:25:19	0.5	12.37	7.04	44.6	490.5	
12/18	16:26:19	0.5	12.18	7.21	43.0	489.7	
12/18	16:27:19	0.5	12.23	7.17	45.8	477.6	
12/18	16:28:19	0.5	12.27	7.14	45.9	472.4	
12/18	16:29:19	0.5	11.85	7.47	43.5	481.6	
12/18	16:30:19	0.5	11.86	7.46	46.5	498.9	START NORMAL LOAD P2E2
12/18	16:31:19	0.5	11.82	7.50	46.0	494.9	
12/18	16:32:19	0.5	11.84	7.48	46.2	498.9	
12/18	16:33:19	0.5	11.83	7.49	46.8	490.9	
12/18	16:34:19	0.5	11.91	7.42	46.0	496.5	
12/18	16:35:19	0.5	11.92	7.42	44.1	511.3	
12/18	16:36:19	0.5	11.89	7.44	44.4	505.7	
12/18	16:37:19	0.5	11.89	7.43	45.8	496.1	
12/18	16:38:19	0.5	11.91	7.42	45.8	499.3	
12/18	16:39:19	0.5	11.83	7.50	47.1	498.9	
12/18	16:40:19	0.5	11.79	7.53	47.1	496.5	
12/18	16:41:19	0.5	11.80	7.52	46.3	505.7	
12/18	16:42:19	0.5	11.81	7.51	46.1	510.1	
12/18	16:43:19	0.5	11.82	7.50	46.5	502.9	
12/18	16:44:19	0.5	11.78	7.52	45.8	510.1	
12/18	16:45:19	0.5	11.78	7.53	46.2	506.5	
12/18	16:46:19	0.5	11.83	7.49	46.8	505.7	
12/18	16:47:19	0.5	11.81	7.51	46.3	508.5	
12/18	16:48:19	0.5	11.80	7.51	46.8	505.7	
12/18	16:49:19	0.5	11.76	7.54	46.3	510.5	
12/18	16:50:19	0.5	11.80	7.52	46.9	508.5	
12/18	16:51:19	0.5	11.83	7.48	47.2	507.3	
12/18	16:52:19	0.5	11.78	7.52	46.4	506.5	
12/18	16:53:19	0.5	11.80	7.50	46.1	509.3	
12/18	16:54:19	0.5	11.78	7.52	46.1	505.3	
12/18	16:55:19	0.5	11.77	7.53	48.4	497.7	
12/18	16:56:19	0.5	11.82	7.49	46.8	508.9	

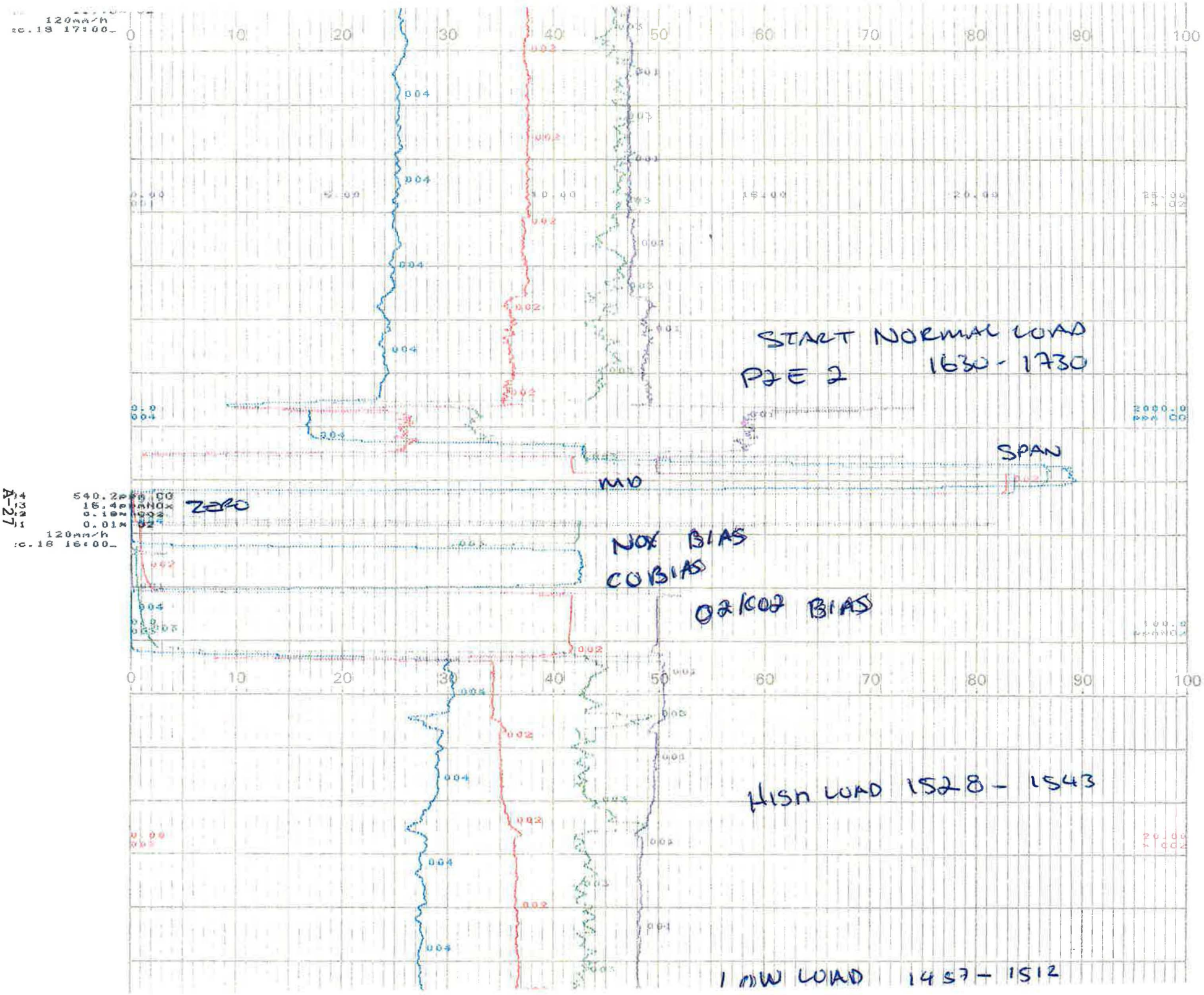
12/18	16:57:19	0.5	11.87	7.45	45.3	518.6	
12/18	16:58:19	0.5	11.87	7.45	45.2	522.2	
12/18	16:59:19	0.5	11.80	7.50	44.6	521.4	
12/18	17:00:19	0.5	11.78	7.52	45.9	512.1	
12/18	17:01:19	0.5	11.76	7.54	45.8	515.4	
12/18	17:02:19	0.5	11.81	7.51	45.9	511.3	
12/18	17:03:19	0.5	11.78	7.53	45.9	512.1	
12/18	17:04:19	0.5	11.80	7.51	45.4	514.1	
12/18	17:05:19	0.5	11.79	7.53	45.9	506.5	
12/18	17:06:19	0.5	11.77	7.54	46.5	502.5	
12/18	17:07:19	0.5	11.80	7.51	47.1	501.7	
12/18	17:08:19	0.5	11.80	7.53	45.4	510.1	
12/18	17:09:19	0.5	11.82	7.52	45.7	511.3	
12/18	17:10:19	0.5	11.78	7.54	44.8	515.0	
12/18	17:11:19	0.5	11.77	7.55	46.0	509.7	
12/18	17:12:19	0.5	11.83	7.52	46.9	509.7	
12/18	17:13:19	0.5	11.81	7.53	45.5	512.9	
12/18	17:14:19	0.5	11.76	7.55	45.4	512.1	
12/18	17:15:19	0.5	11.76	7.57	46.0	511.3	
12/18	17:16:19	0.5	11.77	7.55	46.8	505.7	
12/18	17:17:19	0.5	11.78	7.55	46.8	503.3	
12/18	17:18:19	0.5	11.77	7.55	46.9	504.5	
12/18	17:19:19	0.5	11.78	7.54	45.8	513.3	
12/18	17:20:19	0.5	11.83	7.50	45.3	512.1	
12/18	17:21:19	0.5	11.76	7.56	46.2	504.9	
12/18	17:22:19	0.5	11.75	7.57	47.2	500.1	
12/18	17:23:19	0.5	11.78	7.54	47.2	508.1	
12/18	17:24:19	0.5	11.81	7.54	46.5	508.1	
12/18	17:25:19	0.5	11.75	7.55	45.5	512.5	
12/18	17:26:19	0.5	11.75	7.57	46.0	505.3	
12/18	17:27:19	0.5	11.78	7.54	47.0	505.3	
12/18	17:28:19	0.5	11.77	7.54	45.8	508.5	
12/18	17:29:19	0.5	11.80	7.52	45.4	513.3	
12/18	17:30:19	0.5	11.78	7.54	45.3	512.1	
12/18	17:31:19	0.5	11.79	7.54	46.0	508.5	
12/18	17:32:19	0.5	11.76	7.55	46.3	505.3	
12/18	17:33:19	0.5	11.82	7.50	46.5	506.5	
12/18	17:34:19	0.5	10.33	6.43	45.5	512.1	
12/18	17:35:19	0.5	13.11	7.65	9.6	22.1	
12/18	17:36:19	0.5	12.57	8.19	2.1	0.8	
12/18	17:37:19	0.5	12.51	8.25	1.7	0.4	O2/CO2 BIAS
12/18	17:38:19	0.5	12.52	8.26	1.4	0.8	
12/18	17:39:19	0.5	13.13	7.70	1.2	0.8	
12/18	17:40:19	0.5	0.35	0.32	20.2	0.4	
12/18	17:41:19	0.5	0.02	0.23	42.5	0.4	
12/18	17:42:19	0.5	0.01	0.20	43.0	0.4	
12/18	17:43:19	0.5	0.01	0.18	43.0	0.8	NOX BIAS
12/18	17:44:19	0.5	0.66	0.18	43.0	0.8	
12/18	17:45:19	0.5	0.26	0.16	6.4	778.6	
12/18	17:46:19	0.5	0.10	0.16	0.8	842.1	
12/18	17:47:19	0.5	0.00	0.13	0.7	850.5	
12/18	17:48:19	0.5	0.00	0.13	0.6	853.7	
12/18	17:49:19	0.5	0.00	0.12	0.6	853.7	
12/18	17:50:19	0.5	0.00	0.13	0.6	855.3	CO BIAS
12/18	17:51:19	0.5	0.01	0.15	0.5	852.9	

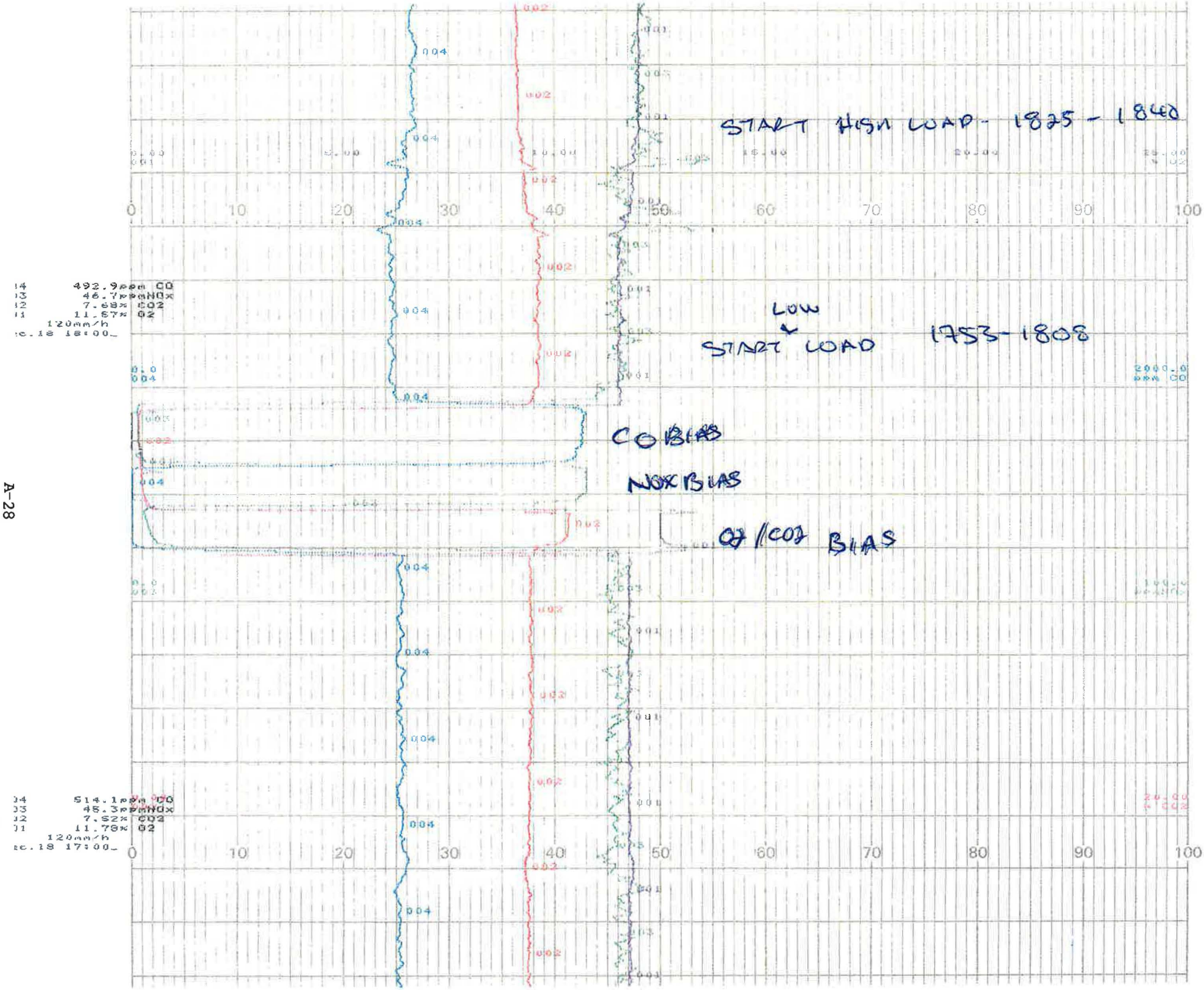
12/18	17:52:19	0.5	11.56	7.53	18.1	615.7	
12/18	17:53:19	0.5	11.55	7.62	44.0	496.9	START LOW LOAD P2E2
12/18	17:54:19	0.5	11.49	7.69	44.1	498.5	
12/18	17:55:19	0.5	11.54	7.69	46.5	487.3	
12/18	17:56:19	0.5	11.54	7.69	46.6	491.7	
12/18	17:57:19	0.5	11.58	7.68	45.7	496.1	
12/18	17:58:19	0.5	11.55	7.70	46.0	495.3	
12/18	17:59:19	0.5	11.53	7.71	47.5	486.1	
12/18	18:00:19	0.5	11.57	7.68	46.3	492.5	
12/18	18:01:19	0.5	11.56	7.70	46.2	494.1	
12/18	18:02:19	0.5	11.60	7.67	45.6	502.1	
12/18	18:03:19	0.5	11.59	7.68	45.9	494.5	
12/18	18:04:19	0.5	11.59	7.69	46.8	488.9	
12/18	18:05:19	0.5	11.58	7.69	45.5	495.3	
12/18	18:06:19	0.5	11.55	7.70	45.4	495.3	
12/18	18:07:19	0.5	11.56	7.70	47.3	488.1	
12/18	18:08:19	0.5	11.55	7.71	46.6	487.7	
12/18	18:09:19	0.5	11.52	7.73	45.3	495.3	
12/18	18:10:19	0.5	11.54	7.72	45.9	488.1	
12/18	18:11:19	0.5	11.57	7.70	46.4	489.3	
12/18	18:12:19	0.5	11.65	7.62	52.8	468.8	
12/18	18:13:19	0.5	11.63	7.64	46.5	500.5	
12/18	18:14:19	0.5	11.82	7.47	51.1	492.1	
12/18	18:15:19	0.5	11.85	7.47	46.9	507.3	
12/18	18:16:19	0.5	11.87	7.45	46.2	514.1	
12/18	18:17:19	0.5	11.89	7.43	45.0	521.0	
12/18	18:18:19	0.5	11.87	7.44	46.4	523.8	
12/18	18:19:19	0.5	11.58	7.65	45.7	521.8	
12/18	18:20:19	0.5	11.94	7.38	51.8	506.1	
12/18	18:21:19	0.5	11.94	7.37	48.8	514.5	
12/18	18:22:19	0.5	11.95	7.37	49.2	512.1	
12/18	18:23:19	0.5	11.98	7.35	49.7	521.0	
12/18	18:24:19	0.5	12.04	7.32	47.6	538.2	
12/18	18:25:19	0.5	11.99	7.34	47.5	537.8	START HIGH LOAD P2E2
12/18	18:26:19	0.5	12.00	7.33	47.9	535.4	
12/18	18:27:19	0.5	12.02	7.31	48.1	534.2	
12/18	18:28:19	0.5	12.01	7.31	48.3	530.2	
12/18	18:29:19	0.5	12.01	7.33	48.1	531.4	
12/18	18:30:19	0.5	12.04	7.29	48.0	530.6	
12/18	18:31:19	0.5	12.03	7.30	48.1	530.2	
12/18	18:32:19	0.5	12.03	7.30	48.2	534.2	
12/18	18:33:19	0.5	12.06	7.28	47.4	541.0	
12/18	18:34:19	0.5	12.04	7.28	47.9	535.4	
12/18	18:35:19	0.5	11.99	7.32	48.0	529.4	
12/18	18:36:19	0.5	12.02	7.29	49.1	527.8	
12/18	18:37:19	0.5	12.01	7.29	48.4	528.2	
12/18	18:38:19	0.5	12.03	7.28	48.5	533.8	
12/18	18:39:19	0.5	12.04	7.29	47.4	534.2	
12/18	18:40:19	0.5	12.02	7.30	47.5	537.0	
12/18	18:41:19	0.5	12.01	7.31	48.0	533.8	
12/18	18:42:19	0.5	11.98	7.33	48.4	529.8	
12/18	18:43:19	0.5	12.51	8.16	18.9	156.1	
12/18	18:44:19	0.5	12.77	7.99	2.6	0.8	
12/18	18:45:19	0.5	12.39	8.32	2.2	1.2	
12/18	18:46:19	0.5	12.37	8.34	1.7	0.4	

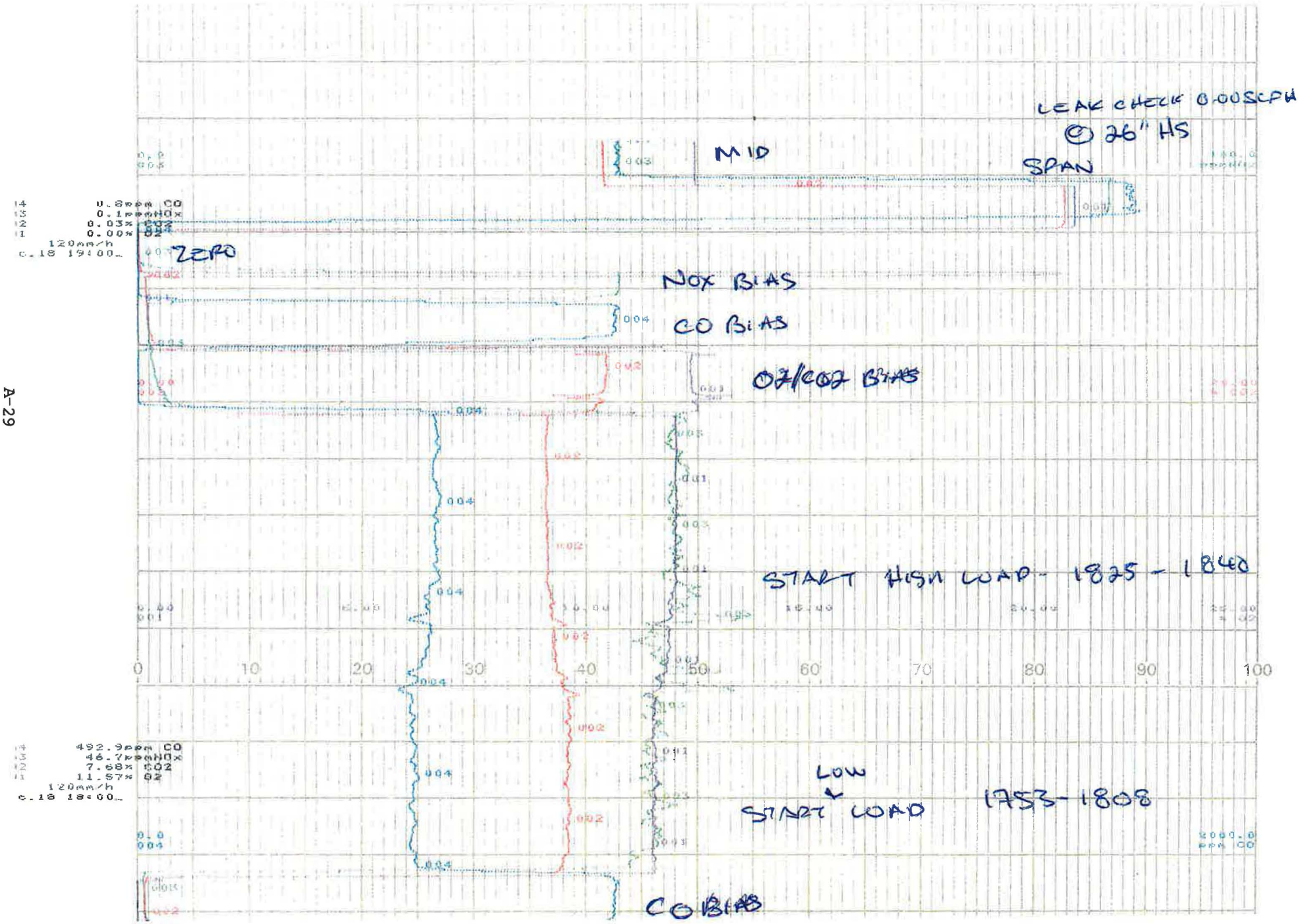
12/18	18:47:19	0.5	12.35	8.38	1.5	0.8	
12/18	18:48:19	0.5	12.36	8.36	1.4	0.8	O2/CO2 BIAS
12/18	18:49:19	0.5	12.82	7.91	1.2	0.8	
12/18	18:50:19	0.5	0.26	0.47	1.1	443.1	
12/18	18:51:19	0.5	0.01	0.24	1.0	847.3	
12/18	18:52:19	0.5	0.01	0.19	0.9	850.5	
12/18	18:53:19	0.5	0.00	0.16	0.9	854.9	CO BIAS
12/18	18:54:19	0.5	0.01	0.16	0.9	858.9	
12/18	18:55:19	0.5	0.00	0.15	22.8	68.6	
12/18	18:56:19	0.5	0.00	0.13	43.0	1.6	
12/18	18:57:19	0.5	0.00	0.14	43.0	1.6	NOX BIAS
12/18	18:58:19	0.5	0.37	0.11	29.8	1.6	
12/18	18:59:19	0.5	0.00	0.04	0.3	0.8	
12/18	19:00:19	0.5	0.00	0.02	0.0	0.8	
12/18	19:01:19	0.5	0.00	0.02	0.0	1.2	
12/18	19:02:19	0.5	0.00	0.02	0.0	1.2	ZERO
12/18	19:03:19	0.5	20.90	16.48	0.0	1.2	
12/18	19:04:19	0.5	20.94	16.57	62.5	1483.0	
12/18	19:05:19	0.5	20.94	16.57	86.7	1762.4	
12/18	19:06:19	0.5	20.94	16.55	86.8	1774.0	SPAN
12/18	19:07:19	0.5	20.94	16.56	86.8	1768.4	
12/18	19:08:19	0.5	12.45	8.33	86.9	1593.4	
12/18	19:09:19	0.5	12.44	8.32	43.1	857.7	
12/18	19:10:19	0.5	12.45	8.31	42.9	855.3	
12/18	19:11:19	0.5	12.45	8.31	42.9	855.7	MID
12/18	19:12:19	0.5	12.45	8.30	43.0	855.7	


04 0.8ppm CO
03 0.0ppmNOx
02 0.19% CO2
01 20.63% O2
120mm/h
ec.18 13:00
1304 - 1404
START NORMAL LOAD P2E4
NOX BIAS
CO BIAS
O2/CO2 BIAS
LEAK CHECK
0.00 SCFM @ 26'
SPAN
ZERO
MID
NO RESPONSE TO NO2 GAS = 0.01 PPM
NOX RESPONSE TO NO2 GAS = 16.3
SPAN
MID
ZERO
OCSD PLANT #2 ICE#2 AND ICE#4 RULE 1110.2 NOX/CO/VOC/PM
RANGE O2 0-25% CO2 0-20% NOX 0-100 PPM CO 0-2000 PPM


LOW LOAD 1457 - 1512
4 562.3ppm CO
3 40.4ppmNOx
2 7.28% CO2
1 12.08% O2
120mm/h
c.18 16:00
NOX ZERO BIAS
NOX BIAS
MID NOX
RESET NOx/SF
MID
SPAN
ZERO
10
20
30
40
50
60
70
80
90
100
NOX BIAS
CO BIAS
LOW FLOW
O2/CO2 BIAS
4 571.5ppm CO
3 42.6ppmNOx
2 7.10% CO2
1 12.32% O2
120mm/h
c.18 14:00


START NORMAL LOAD
1630 - 1730
PZE 2
SPAN
MID
ZERO
NOX BIAS
CO BIAS
O2/CO2 BIAS
HIGH LOAD 1528 - 1543
LOW LOAD 1457 - 1512


START HIGH LOAD - 1825 - 1840
LOW
START LOAD 1753-1808
CO BIAS
NOX BIAS
O2 /CO2 BIAS
493.9ppm CO
46.7ppmNOx
7.68% CO2
11.57% O2
120mm/h
514.1ppm CO
45.3ppmNOx
7.52% CO2
11.78% O2
120mm/h
0
10
20
30
40
50
60
70
80
90
100


LEAK CHECK 0.00SCFH
@ 26" HS
MID
SPAN
4 0.8ppm CO
3 0.1ppmNOx
2 0.03% SO2
1 0.00% O2
120mm/h
c.18 19:00
ZERO
NOX BIAS
CO BIAS
O2/CO2 BIAS
START HIGH LOAD - 1825 - 1840
0
10
20
30
40
50
60
70
80
90
100
4 492.9ppm CO
3 46.7ppmNOx
2 7.68% SO2
1 11.57% O2
120mm/h
c.18 18:00
LOW
START LOAD 1753-1808
CO BIAS

SUMMARY OF VOLUME FLOW SOURCE TEST DATA AND CALCULATIONS

Facility:	OCSD PLANT 2					
Source ID:	ENGINE #2					
MEASURED SOURCE PARAMETERS	**SYMBOL**	**UNITS**	**AVERAGE LOAD**	**HIGH LOAD**	**LOW LOAD**	**AVERAGE**
DATE			12/18/14	12/18/14	12/18/14	
TIME			1630-1730	1825-1840	1753-1808	
STACK DIAMETER	Ds	IN	30.00	30.00	30.00	30.00
STACK AREA	Ds	FT^2	4.91	4.91	4.91	4.91
BAROMETERIC PRESSURE	Pbar	IN. Hg	30.39	30.39	30.39	30.39
STATIC PRESSURE	Pstat	IN. H2O	-0.58	-0.77	-4.60	-1.98
STACK PRESSURE	Ps	IN. Hg	30.35	30.33	30.36	30.35
AVERAGE STACK TEMPERATURE	Ts	DEG. F	562.3	557.0	558.7	559.3
AVERAGE SQ. ROOT VELOCITY PRESSURE	dP	IN. H2O	0.9398	1.0511	0.7667	0.9192
SAMPLING PARAMETERS						
STANDARD TEMPERATURE	Tstd	DEG. F	60.0	60.0	60.0	60.0
STANDARD PRESSURE	Pstd	IN. Hg	29.92	29.92	29.92	29.92
PERCENT CARBON DIOXIDE	CO2	%	7.44	7.22	7.61	7.42
PERCENT OXYGEN	O2	%	11.82	12.08	11.62	11.84
PITOT CORRECTION FACTOR	Cp		0.840	0.840	0.840	0.840
SAMPLING TIME	t	MIN.	72.0	15.0	15.0	34.0
GAS VOLUME SAMPLED	Vm	DCF	60.935	60.935	60.935	60.935
WATER VAPOR COLLECTED	Vlc	GRAMS	331.4	331.4	331.4	331.4
DRY GAS METER CORRECTION FACTOR	Y		0.9870	0.9870	0.9870	0.9870
DRY GAS METER TEMPERATURE	Tm	DEG. F	76.5	76.5	76.5	76.5
ORIFICE PRESSURE	dH	IN. H2O	2.304	2.304	2.304	2.304
CALCULATED RESULTS						
CORRECTED GAS VOLUME SAMPLED	Vmstd	DSCF	59.534	59.534	59.534	59.534
VOLUME OF WATER CONDENSED	Vwstd	SCF	15.41	15.41	15.41	15.41
MOISTURE CONTENT OF FLUE GAS	Bws	%	20.56	20.56	20.56	20.56
DRY MOLECULAR WEIGHT OF FLUE GAS	MWdry	lb/lb-mol	29.66	29.64	29.68	29.66
WET MOLECULAR WEIGHT OF FLUE GAS	MWwet	lb/lb-mol	27.27	27.25	27.28	27.26
FLUE GAS VELOCITY	Vs	ft/sec	75.02	83.73	61.07	73.27
FLUE GAS FLOW RATE (ACTUAL CONDITIONS)	ACFM	ACFM	22,095	24,661	17,986	21,581
FLUE GAS FLOW RATE (STD. CONDITIONS)	SDCFM	SDCFM	9,056	10,156	7,400	8,871
PERCENT EXCESS AIR	% EA	%	124.6	131.1	119.7	125.1

SUMMARY OF VOLUME FLOW SOURCE TEST DATA AND CALCULATIONS

Facility:	OCSD PLANT 2					
Source ID:	ENGINE #4					
MEASURED SOURCE PARAMETERS	**SYMBOL**	**UNITS**	**AVERAGE LOAD**	**HIGH LOAD**	**LOW LOAD**	**AVERAGE**
DATE			12/18/14	12/18/14	12/18/14	
TIME			1304-1404	1528-1543	1457-1512	
STACK DIAMETER	Ds	IN	30.00	30.00	30.00	30.00
STACK AREA	Ds	FT^2	4.91	4.91	4.91	4.91
BAROMETERIC PRESSURE	Pbar	IN. Hg	30.39	30.39	30.39	30.39
STATIC PRESSURE	Pstat	IN. H2O	-0.67	-0.78	-0.34	-0.60
STACK PRESSURE	Ps	IN. Hg	30.34	30.33	30.37	30.35
AVERAGE STACK TEMPERATURE	Ts	DEG. F	500.1	501.6	496.2	499.3
AVERAGE SQ. ROOT VELOCITY PRESSURE	dP	IN. H2O	0.9480	1.0398	0.7761	0.9213
SAMPLING PARAMETERS						
STANDARD TEMPERATURE	Tstd	DEG. F	60.0	60.0	60.0	60.0
STANDARD PRESSURE	Pstd	IN. Hg	29.92	29.92	29.92	29.92
PERCENT CARBON DIOXIDE	CO2	%	7.11	6.98	7.29	7.12
PERCENT OXYGEN	O2	%	12.33	12.42	12.03	12.26
PITOT CORRECTION FACTOR	Cp		0.840	0.840	0.840	0.840
SAMPLING TIME	t	MIN.	72.0	15.0	15.0	34.0
GAS VOLUME SAMPLED	Vm	DCF	61.897	61.897	61.897	61.897
WATER VAPOR COLLECTED	Vlc	GRAMS	335.7	335.7	335.7	335.7
DRY GAS METER CORRECTION FACTOR	Y		0.9870	0.9870	0.9870	0.9870
DRY GAS METER TEMPERATURE	Tm	DEG. F	79.5	79.5	79.5	79.5
ORIFICE PRESSURE	dH	IN. H2O	2.341	2.341	2.341	2.341
CALCULATED RESULTS						
CORRECTED GAS VOLUME SAMPLED	Vmstd	DSCF	60.150	60.150	60.150	60.150
VOLUME OF WATER CONDENSED	Vwstd	SCF	15.61	15.61	15.61	15.61
MOISTURE CONTENT OF FLUE GAS	Bws	%	20.60	20.60	20.60	20.60
DRY MOLECULAR WEIGHT OF FLUE GAS	MWdry	lb/lb-mol	29.63	29.61	29.65	29.63
WET MOLECULAR WEIGHT OF FLUE GAS	MWwet	lb/lb-mol	27.23	27.22	27.25	27.23
FLUE GAS VELOCITY	Vs	ft/sec	73.38	80.59	59.91	71.29
FLUE GAS FLOW RATE (ACTUAL CONDITIONS)	ACFM	ACFM	21,612	23,735	17,646	20,998
FLUE GAS FLOW RATE (STD. CONDITIONS)	SDCFM	SDCFM	9,425	10,331	7,733	9,163
PERCENT EXCESS AIR	% EA	%	138.1	140.2	129.8	136.0

SUMMARY OF CONTINUOUS MONITORING DATA

FACILITY:	OCSD PLANT 2	DATA FOR SAMPLING RUN:		NORMAL LOAD	
SOURCE ID:	ENGINE #2	DATE:	01/28/15	TIME:	1200-1300
OPERATOR:	RN	PROJECT No.:	2061.1060		
PARAMETER UNITS	O_2 % VOL DRY	CO_2 % VOL DRY	NO_x PPMV,D	CO PPMV,D	SO_2 PPMV,D
INITIAL ZERO BIAS	0.00	0.02	---	---	---
INITIAL SPAN BIAS	12.30	8.47	---	---	---
FINAL ZERO BIAS	0.00	0.03	---	---	---
FINAL SPAN BIAS	12.30	8.52	---	---	---
AVERAGE ZERO BIAS	0.00	0.03	---	---	---
AVERAGE SPAN BIAS	12.30	8.50	---	---	---
BIAS GAS CONCENTRATION	12.50	8.23	---	---	---
FULL SCALE RANGE	25.00	20.00	---	---	---
UNCORRECTED CONC.	12.10	7.05	---	---	---
CORRECTED CONC.	**12.29**	**6.82**	---	---	---
PPMV @ 15 % O2			---	---	---
LB/HR BASED ON PITOT FLOW (DSCFM)	9,383		---	---	---

OCSD PLANT 2 ENGINE 2 COMPLIANCE (NORM LOAD)
January 28, 2015
RAW DAS DATA - RM RUN 1

DATA PT	DATE	TIME	O2 % VD	CO2 % VD	NOx PPMVD	CO PPMVD
1	01/28	12:00:26	12.12	7.06		
2	01/28	12:01:26	12.11	7.05		
3	01/28	12:02:26	12.07	7.03		
4	01/28	12:03:26	12.15	7.03		
5	01/28	12:04:26	12.13	7.03		
6	01/28	12:05:26	12.05	7.03		
7	01/28	12:06:26	12.12	7.03		
8	01/28	12:07:26	12.13	7.03		
9	01/28	12:08:26	12.12	7.03		
10	01/28	12:09:26	12.19	7.00		
11	01/28	12:10:26	12.16	7.02		
12	01/28	12:11:26	12.09	7.02		
13	01/28	12:12:26	12.13	7.01		
14	01/28	12:13:26	12.09	7.06		
15	01/28	12:14:26	12.12	7.03		
16	01/28	12:15:26	12.13	7.03		
17	01/28	12:16:26	12.08	7.05		
18	01/28	12:17:26	12.15	7.01		
19	01/28	12:18:26	12.12	7.01		
20	01/28	12:19:26	12.13	7.02		
21	01/28	12:20:26	12.14	7.03		
22	01/28	12:21:26	12.12	7.02		
23	01/28	12:22:26	12.10	7.02		
24	01/28	12:23:26	12.10	7.06		
25	01/28	12:24:26	12.11	7.05		
26	01/28	12:25:26	12.16	7.06		
27	01/28	12:26:26	12.11	7.06		
28	01/28	12:27:26	12.12	7.06		
29	01/28	12:28:26	12.12	7.04		
30	01/28	12:29:26	12.12	7.03		
31	01/28	12:30:26	12.04	7.04		
32	01/28	12:31:26	12.09	7.03		
33	01/28	12:32:26	12.00	7.05		
34	01/28	12:33:26	11.96	7.05		
35	01/28	12:34:26	12.07	7.05		
36	01/28	12:35:26	12.15	7.08		
37	01/28	12:36:26	12.13	7.05		
38	01/28	12:37:26	12.12	7.05		
39	01/28	12:38:26	12.10	7.04		
40	01/28	12:39:26	12.09	7.06		
41	01/28	12:40:26	12.07	7.05		
42	01/28	12:41:26	12.10	7.05		
43	01/28	12:42:26	12.00	7.07		
44	01/28	12:43:26	12.06	7.08		
45	01/28	12:44:26	12.10	7.07		
46	01/28	12:45:26	12.05	7.04		
47	01/28	12:46:26	12.07	7.07		
48	01/28	12:47:26	12.05	7.07		
49	01/28	12:48:26	12.00	7.10		
50	01/28	12:49:26	12.03	7.11		
51	01/28	12:50:26	11.98	7.11		
52	01/28	12:51:26	12.05	7.11		
53	01/28	12:52:26	12.04	7.08		
54	01/28	12:53:26	12.11	7.09		
55	01/28	12:54:26	12.15	7.03		
56	01/28	12:55:26	12.08	7.04		
57	01/28	12:56:26	12.12	7.05		
58	01/28	12:57:26	12.10	7.03		
59	01/28	12:58:26	12.11	7.03		
60	01/28	12:59:26	12.13	7.03		
61	01/28	13:00:26	12.12	7.01		
AVERAGES			**12.10**	**7.05**		

SUMMARY OF CONTINUOUS MONITORING DATA

FACILITY:	OCSD PLANT 2	DATA FOR SAMPLING RUN:		NORMAL LOAD	
SOURCE ID:	ENGINE #4	DATE:	01/28/15	TIME:	1445-1545
OPERATOR:	RN	PROJECT No.:	2061.1060		
PARAMETER UNITS	O_2 % VOL DRY	CO_2 % VOL DRY	NO_x PPMV,D	CO PPMV,D	SO_2 PPMV,D
INITIAL ZERO BIAS	0.00	0.03	---	---	---
INITIAL SPAN BIAS	12.30	8.52	---	---	---
FINAL ZERO BIAS	0.00	0.04	---	---	---
FINAL SPAN BIAS	12.43	8.53	---	---	---
AVERAGE ZERO BIAS	0.00	0.04	---	---	---
AVERAGE SPAN BIAS	12.37	8.53	---	---	---
BIAS GAS CONCENTRATION	12.50	8.23	---	---	---
FULL SCALE RANGE	25.00	20.00	---	---	---
UNCORRECTED CONC.	11.99	6.96	---	---	---
CORRECTED CONC.	**12.12**	**6.72**	---	---	---
PPMV @ 15 % O2			---	---	---
LB/HR BASED ON PITOT FLOW (DSCFM)	9,294		---	---	---

OCSD PLANT 2 ENGINE 4 COMPLIANCE (NORM LOAD)
January 28, 2015
RAW DAS DATA - RM RUN 1

DATA PT	DATE	TIME	O2 % VD	CO2 % VD	NOx PPMVD	CO PPMVD
1	01/28	14:45:26	11.91	7.01		
2	01/28	14:46:26	11.90	7.00		
3	01/28	14:47:26	11.87	7.02		
4	01/28	14:48:26	11.89	7.02		
5	01/28	14:49:26	11.84	7.01		
6	01/28	14:50:26	11.84	7.04		
7	01/28	14:51:26	11.83	7.05		
8	01/28	14:52:26	11.83	7.05		
9	01/28	14:53:26	11.88	7.03		
10	01/28	14:54:26	11.85	7.03		
11	01/28	14:55:26	11.90	7.01		
12	01/28	14:56:26	11.90	7.00		
13	01/28	14:57:26	11.89	7.01		
14	01/28	14:58:26	11.90	7.00		
15	01/28	14:59:26	11.93	6.99		
16	01/28	15:00:26	11.93	6.97		
17	01/28	15:01:26	11.97	6.97		
18	01/28	15:02:26	11.96	6.95		
19	01/28	15:03:26	11.98	6.94		
20	01/28	15:04:26	11.99	6.93		
21	01/28	15:05:26	11.97	6.92		
22	01/28	15:06:26	11.98	6.94		
23	01/28	15:07:26	11.96	6.94		
24	01/28	15:08:26	11.94	6.96		
25	01/28	15:09:26	11.96	6.95		
26	01/28	15:10:26	11.98	6.94		
27	01/28	15:11:26	11.93	6.95		
28	01/28	15:12:26	11.92	6.96		
29	01/28	15:13:26	11.88	6.99		
30	01/28	15:14:26	12.10	6.99		

31	01/28	15:15:26	12.08	6.97		
32	01/28	15:16:26	12.07	6.97		
33	01/28	15:17:26	12.05	6.96		
34	01/28	15:18:26	12.04	6.97		
35	01/28	15:19:26	12.07	6.98		
36	01/28	15:20:26	12.07	6.96		
37	01/28	15:21:26	12.08	6.95		
38	01/28	15:22:26	12.08	6.96		
39	01/28	15:23:26	12.06	6.95		
40	01/28	15:24:26	12.06	6.96		
41	01/28	15:25:26	12.09	6.96		
42	01/28	15:26:26	12.07	6.94		
43	01/28	15:27:26	12.09	6.95		
44	01/28	15:28:26	12.08	6.93		
45	01/28	15:29:26	12.07	6.92		
46	01/28	15:30:26	12.09	6.92		
47	01/28	15:31:26	12.05	6.92		
48	01/28	15:32:26	12.06	6.93		
49	01/28	15:33:26	12.06	6.93		
50	01/28	15:34:26	12.07	6.93		
51	01/28	15:35:26	12.08	6.91		
52	01/28	15:36:26	12.09	6.89		
53	01/28	15:37:26	12.08	6.90		
54	01/28	15:38:26	12.06	6.93		
55	01/28	15:39:26	12.03	6.93		
56	01/28	15:40:26	12.01	6.95		
57	01/28	15:41:26	12.00	6.94		
58	01/28	15:42:26	12.00	6.94		
59	01/28	15:43:26	11.97	6.96		
60	01/28	15:44:26	11.98	6.97		
AVERAGES			**11.99**	**6.96**		

DAQ32 Historical Viewer R10.02.01				Software ID	
Start Time		2015/01/28		11:27:26.5	
End Time		2015/01/28		16:28:26.5	
Sample Rate		60.0 Sec			
Data Count		302			
Group		01	-	01	
		Ch.	CH001	CH002	
Date	Time	msec	1-%O2	1-%CO2	
01/28	11:27:26	0.5	0.00	0.02	ZERO
01/28	11:28:26	0.5	0.00	0.02	
01/28	11:29:26	0.5	20.38	16.30	
01/28	11:30:26	0.5	20.79	16.89	
01/28	11:31:26	0.5	20.85	16.90	SPAN
01/28	11:32:26	0.5	12.30	8.47	SYSTEM BIAS
01/28	11:33:26	0.5	12.23	8.46	
01/28	11:34:26	0.5	5.41	5.04	
01/28	11:35:26	0.5	0.00	0.03	
01/28	11:36:26	0.5	0.00	0.03	
01/28	11:37:26	0.5	0.00	0.02	SYSTEM BIAS
01/28	11:38:26	0.5	11.86	7.02	
01/28	11:39:26	0.5	12.27	7.03	
01/28	11:40:26	0.5	12.17	7.05	
01/28	11:41:26	0.5	11.83	7.11	
01/28	11:42:26	0.5	11.83	7.14	
01/28	11:43:26	0.5	11.72	7.14	
01/28	11:44:26	0.5	11.73	7.20	
01/28	11:45:26	0.5	11.87	7.22	
01/28	11:46:26	0.5	11.76	7.31	
01/28	11:47:26	0.5	12.08	7.21	
01/28	11:48:26	0.5	12.17	7.07	
01/28	11:49:26	0.5	12.18	7.05	
01/28	11:50:26	0.5	12.19	7.04	
01/28	11:51:26	0.5	12.22	7.01	
01/28	11:52:26	0.5	12.18	7.03	
01/28	11:53:26	0.5	12.20	7.05	
01/28	11:54:26	0.5	12.22	7.03	
01/28	11:55:26	0.5	12.22	7.05	
01/28	11:56:26	0.5	12.20	7.05	
01/28	11:57:26	0.5	12.12	7.06	
01/28	11:58:26	0.5	12.14	7.07	
01/28	11:59:26	0.5	12.13	7.03	
01/28	12:00:26	0.5	12.12	7.06	START
01/28	12:01:26	0.5	12.11	7.05	
01/28	12:02:26	0.5	12.07	7.03	

01/28	12:03:26	0.5	12.15	7.03
01/28	12:04:26	0.5	12.13	7.03
01/28	12:05:26	0.5	12.05	7.03
01/28	12:06:26	0.5	12.12	7.03
01/28	12:07:26	0.5	12.13	7.03
01/28	12:08:26	0.5	12.12	7.03
01/28	12:09:26	0.5	12.19	7.00
01/28	12:10:26	0.5	12.16	7.02
01/28	12:11:26	0.5	12.09	7.02
01/28	12:12:26	0.5	12.13	7.01
01/28	12:13:26	0.5	12.09	7.06
01/28	12:14:26	0.5	12.12	7.03
01/28	12:15:26	0.5	12.13	7.03
01/28	12:16:26	0.5	12.08	7.05
01/28	12:17:26	0.5	12.15	7.01
01/28	12:18:26	0.5	12.12	7.01
01/28	12:19:26	0.5	12.13	7.02
01/28	12:20:26	0.5	12.14	7.03
01/28	12:21:26	0.5	12.12	7.02
01/28	12:22:26	0.5	12.10	7.02
01/28	12:23:26	0.5	12.10	7.06
01/28	12:24:26	0.5	12.11	7.05
01/28	12:25:26	0.5	12.16	7.06
01/28	12:26:26	0.5	12.11	7.06
01/28	12:27:26	0.5	12.12	7.06
01/28	12:28:26	0.5	12.12	7.04
01/28	12:29:26	0.5	12.12	7.03
01/28	12:30:26	0.5	12.04	7.04
01/28	12:31:26	0.5	12.09	7.03
01/28	12:32:26	0.5	12.00	7.05
01/28	12:33:26	0.5	11.96	7.05
01/28	12:34:26	0.5	12.07	7.05
01/28	12:35:26	0.5	12.15	7.08
01/28	12:36:26	0.5	12.13	7.05
01/28	12:37:26	0.5	12.12	7.05
01/28	12:38:26	0.5	12.10	7.04
01/28	12:39:26	0.5	12.09	7.06
01/28	12:40:26	0.5	12.07	7.05
01/28	12:41:26	0.5	12.10	7.05
01/28	12:42:26	0.5	12.00	7.07
01/28	12:43:26	0.5	12.06	7.08
01/28	12:44:26	0.5	12.10	7.07
01/28	12:45:26	0.5	12.05	7.04
01/28	12:46:26	0.5	12.07	7.07

01/28	12:47:26	0.5	12.05	7.07	
01/28	12:48:26	0.5	12.00	7.10	
01/28	12:49:26	0.5	12.03	7.11	
01/28	12:50:26	0.5	11.98	7.11	
01/28	12:51:26	0.5	12.05	7.11	
01/28	12:52:26	0.5	12.04	7.08	
01/28	12:53:26	0.5	12.11	7.09	
01/28	12:54:26	0.5	12.15	7.03	
01/28	12:55:26	0.5	12.08	7.04	
01/28	12:56:26	0.5	12.12	7.05	
01/28	12:57:26	0.5	12.10	7.03	
01/28	12:58:26	0.5	12.11	7.03	
01/28	12:59:26	0.5	12.13	7.03	
01/28	13:00:26	0.5	12.12	7.01	END
01/28	13:01:26	0.5	12.09	7.02	
01/28	13:02:26	0.5	12.12	7.02	
01/28	13:03:26	0.5	12.09	7.02	
01/28	13:04:26	0.5	12.15	7.02	
01/28	13:05:26	0.5	12.13	7.01	
01/28	13:06:26	0.5	12.14	7.01	
01/28	13:07:26	0.5	12.18	7.01	
01/28	13:08:26	0.5	12.19	6.97	
01/28	13:09:26	0.5	12.18	6.99	
01/28	13:10:26	0.5	12.11	6.99	
01/28	13:11:26	0.5	12.07	7.00	
01/28	13:12:26	0.5	12.07	7.01	
01/28	13:13:26	0.5	12.08	7.01	
01/28	13:14:26	0.5	12.06	7.02	
01/28	13:15:26	0.5	12.07	7.01	
01/28	13:16:26	0.5	12.03	7.02	
01/28	13:17:26	0.5	12.00	7.04	
01/28	13:18:26	0.5	12.03	7.02	
01/28	13:19:26	0.5	20.28	0.49	
01/28	13:20:26	0.5	20.40	0.32	
01/28	13:21:26	0.5	0.48	0.26	
01/28	13:22:26	0.5	0.00	0.04	
01/28	13:23:26	0.5	0.00	0.03	SYSTEM BIAS
01/28	13:24:26	0.5	0.00	0.03	
01/28	13:25:26	0.5	9.76	4.65	
01/28	13:26:26	0.5	12.28	8.51	
01/28	13:27:26	0.5	12.27	8.52	
01/28	13:28:26	0.5	12.30	8.52	SYSTEM BIAS
01/28	13:29:26	0.5	12.29	8.51	
01/28	13:30:26	0.5	0.00	0.23	

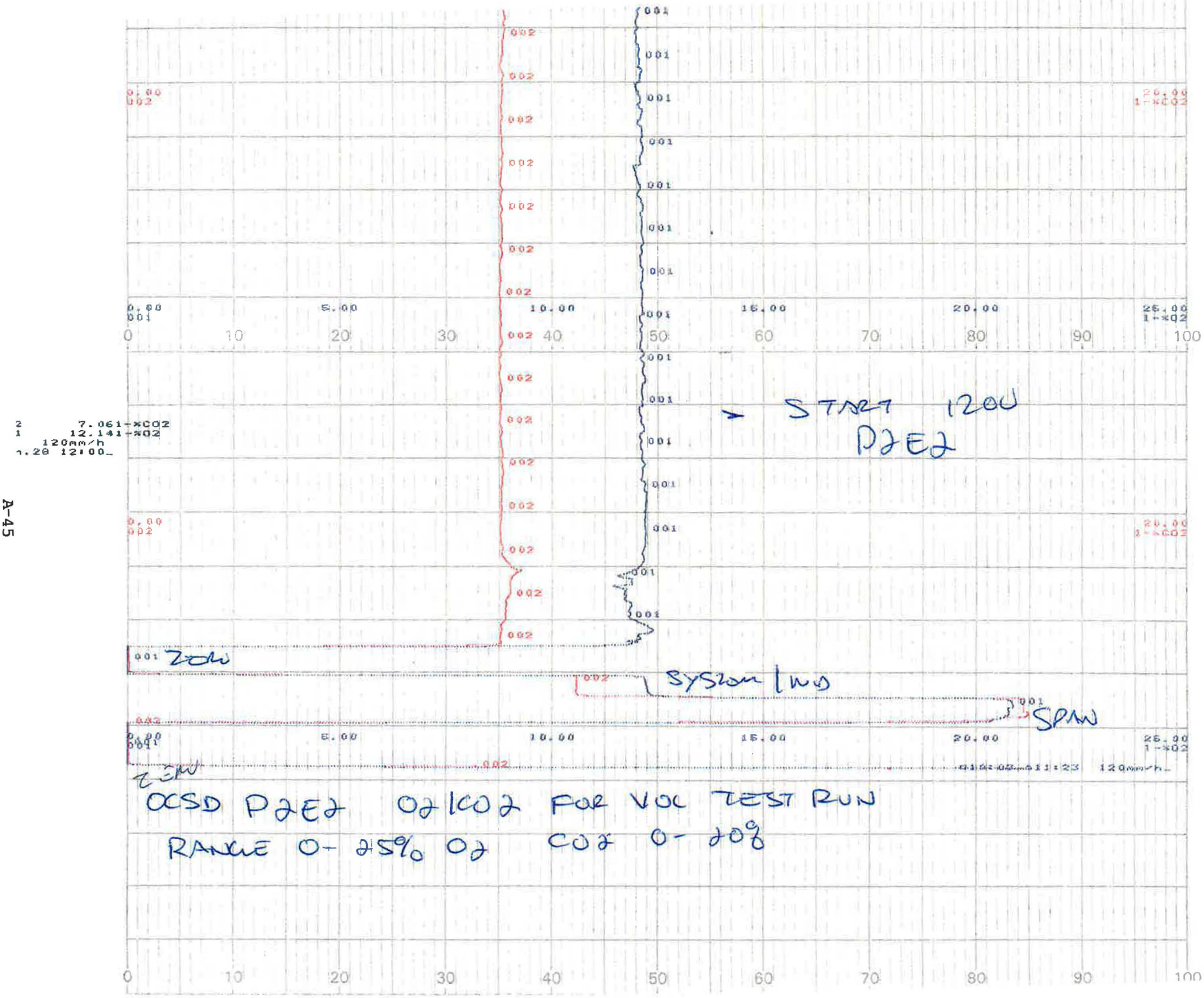
01/28	13:31:26	0.5	0.00	0.04	
01/28	13:32:26	0.5	0.00	0.04	ZERO
01/28	13:33:26	0.5	0.00	0.03	
01/28	13:34:26	0.5	0.00	0.03	
01/28	13:35:26	0.5	12.31	8.52	
01/28	13:36:26	0.5	12.33	8.52	
01/28	13:37:26	0.5	12.32	8.52	
01/28	13:38:26	0.5	12.32	8.53	MID
01/28	13:39:26	0.5	12.33	8.52	
01/28	13:40:26	0.5	12.32	8.53	
01/28	13:41:26	0.5	12.33	8.53	
01/28	13:42:26	0.5	12.33	8.52	
01/28	13:43:26	0.5	20.85	16.99	
01/28	13:44:26	0.5	20.86	16.98	
01/28	13:45:26	0.5	20.85	16.99	
01/28	13:46:26	0.5	20.86	16.99	SPAN
01/28	13:47:26	0.5	20.86	16.99	
01/28	13:48:26	0.5	20.86	17.00	
01/28	13:49:26	0.5	20.87	17.00	
01/28	13:50:26	0.5	20.87	17.00	
01/28	13:51:26	0.5	20.38	16.18	
01/28	13:52:26	0.5	20.38	16.16	
01/28	13:53:26	0.5	20.37	16.12	
01/28	13:54:26	0.5	20.38	16.08	
01/28	13:55:26	0.5	20.38	16.03	
01/28	13:56:26	0.5	20.37	16.00	
01/28	13:57:26	0.5	20.38	15.95	
01/28	13:58:26	0.5	20.37	15.91	
01/28	13:59:26	0.5	20.38	15.88	
01/28	14:00:26	0.5	20.38	15.84	
01/28	14:01:26	0.5	20.37	15.81	
01/28	14:02:26	0.5	20.38	15.78	
01/28	14:03:26	0.5	20.38	15.73	
01/28	14:04:26	0.5	20.38	15.71	
01/28	14:05:26	0.5	20.38	15.68	
01/28	14:06:26	0.5	20.57	0.10	
01/28	14:07:26	0.5	13.71	5.73	
01/28	14:08:26	0.5	13.79	5.75	
01/28	14:09:26	0.5	13.69	5.70	
01/28	14:10:26	0.5	13.68	5.70	
01/28	14:11:26	0.5	13.31	6.04	
01/28	14:12:26	0.5	14.13	5.05	
01/28	14:13:26	0.5	14.14	5.39	
01/28	14:14:26	0.5	14.31	5.41	

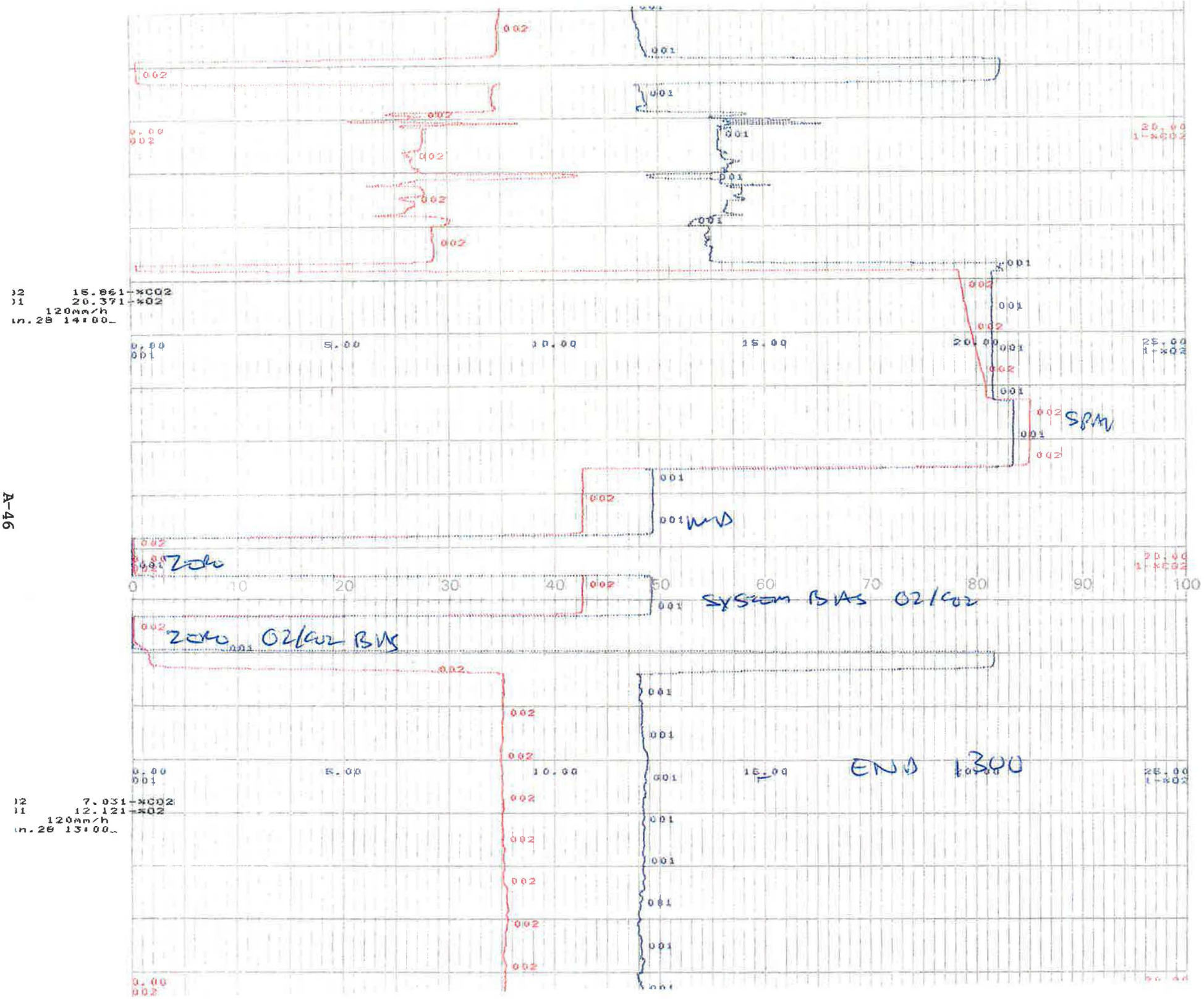
01/28	14:15:26	0.5	14.27	5.51	
01/28	14:16:26	0.5	12.99	6.60	
01/28	14:17:26	0.5	14.11	5.46	
01/28	14:18:26	0.5	14.43	5.32	
01/28	14:19:26	0.5	14.13	5.20	
01/28	14:20:26	0.5	13.90	5.51	
01/28	14:21:26	0.5	13.93	5.53	
01/28	14:22:26	0.5	14.06	5.63	
01/28	14:23:26	0.5	14.36	4.57	
01/28	14:24:26	0.5	12.29	6.59	
01/28	14:25:26	0.5	12.24	6.85	
01/28	14:26:26	0.5	12.15	6.87	
01/28	14:27:26	0.5	12.08	6.90	
01/28	14:28:26	0.5	20.52	0.13	
01/28	14:29:26	0.5	20.60	0.12	
01/28	14:30:26	0.5	20.59	0.11	
01/28	14:31:26	0.5	12.19	6.95	
01/28	14:32:26	0.5	12.12	6.96	
01/28	14:33:26	0.5	12.06	6.95	
01/28	14:34:26	0.5	12.00	6.96	
01/28	14:35:26	0.5	11.94	6.99	
01/28	14:36:26	0.5	11.90	7.01	
01/28	14:37:26	0.5	11.95	6.98	
01/28	14:38:26	0.5	11.93	6.98	
01/28	14:39:26	0.5	11.92	7.00	
01/28	14:40:26	0.5	11.92	7.00	
01/28	14:41:26	0.5	11.89	7.02	
01/28	14:42:26	0.5	11.91	7.02	
01/28	14:43:26	0.5	11.87	7.01	
01/28	14:44:26	0.5	11.88	7.03	
01/28	14:45:26	0.5	11.91	7.01	START
01/28	14:46:26	0.5	11.90	7.00	
01/28	14:47:26	0.5	11.87	7.02	
01/28	14:48:26	0.5	11.89	7.02	
01/28	14:49:26	0.5	11.84	7.01	
01/28	14:50:26	0.5	11.84	7.04	
01/28	14:51:26	0.5	11.83	7.05	
01/28	14:52:26	0.5	11.83	7.05	
01/28	14:53:26	0.5	11.88	7.03	
01/28	14:54:26	0.5	11.85	7.03	
01/28	14:55:26	0.5	11.90	7.01	
01/28	14:56:26	0.5	11.90	7.00	
01/28	14:57:26	0.5	11.89	7.01	
01/28	14:58:26	0.5	11.90	7.00	

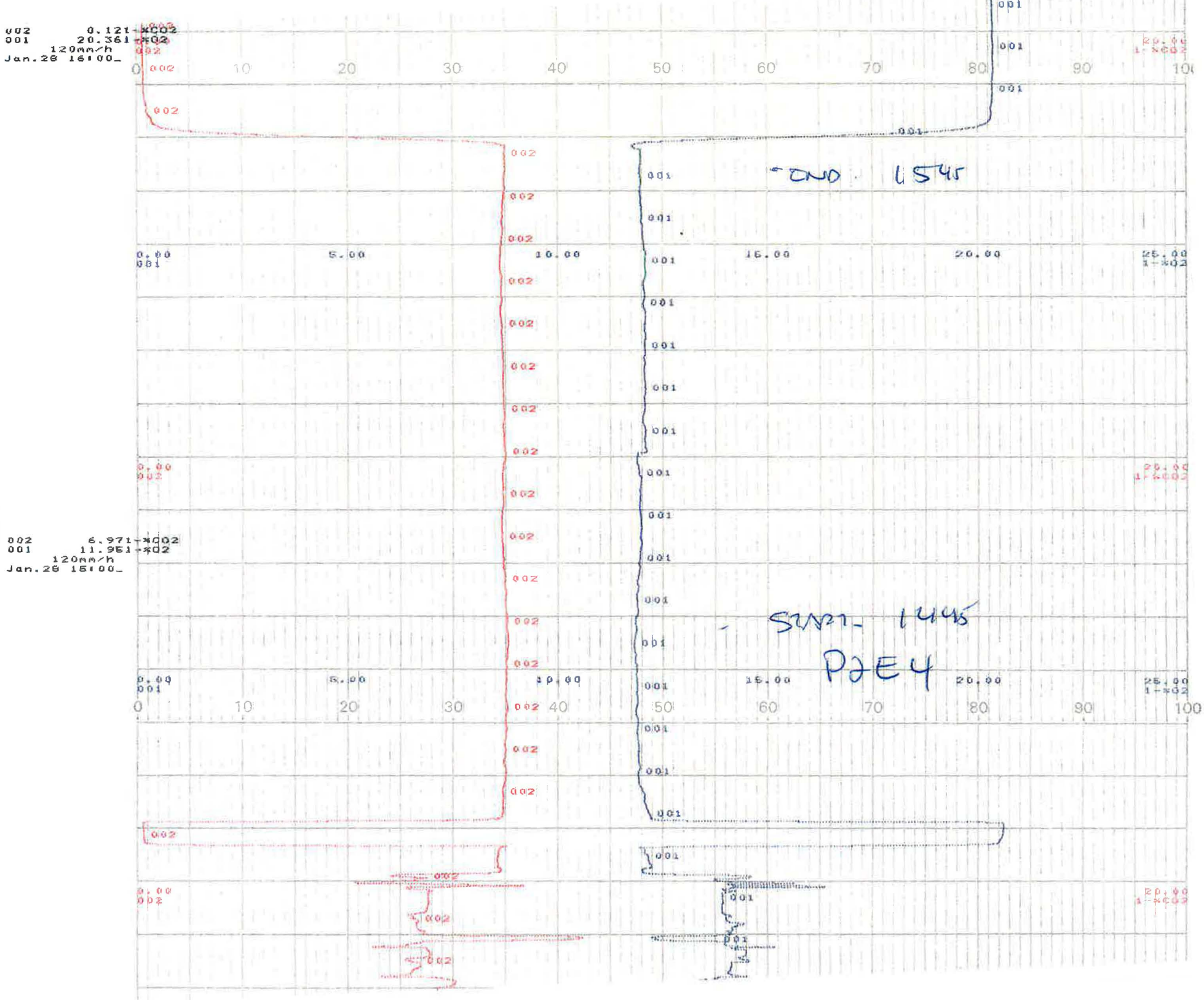
01/28	14:59:26	0.5	11.93	6.99
01/28	15:00:26	0.5	11.93	6.97
01/28	15:01:26	0.5	11.97	6.97
01/28	15:02:26	0.5	11.96	6.95
01/28	15:03:26	0.5	11.98	6.94
01/28	15:04:26	0.5	11.99	6.93
01/28	15:05:26	0.5	11.97	6.92
01/28	15:06:26	0.5	11.98	6.94
01/28	15:07:26	0.5	11.96	6.94
01/28	15:08:26	0.5	11.94	6.96
01/28	15:09:26	0.5	11.96	6.95
01/28	15:10:26	0.5	11.98	6.94
01/28	15:11:26	0.5	11.93	6.95
01/28	15:12:26	0.5	11.92	6.96
01/28	15:13:26	0.5	11.88	6.99
01/28	15:14:26	0.5	12.10	6.99
01/28	15:15:26	0.5	12.08	6.97
01/28	15:16:26	0.5	12.07	6.97
01/28	15:17:26	0.5	12.05	6.96
01/28	15:18:26	0.5	12.04	6.97
01/28	15:19:26	0.5	12.07	6.98
01/28	15:20:26	0.5	12.07	6.96
01/28	15:21:26	0.5	12.08	6.95
01/28	15:22:26	0.5	12.08	6.96
01/28	15:23:26	0.5	12.06	6.95
01/28	15:24:26	0.5	12.06	6.96
01/28	15:25:26	0.5	12.09	6.96
01/28	15:26:26	0.5	12.07	6.94
01/28	15:27:26	0.5	12.09	6.95
01/28	15:28:26	0.5	12.08	6.93
01/28	15:29:26	0.5	12.07	6.92
01/28	15:30:26	0.5	12.09	6.92
01/28	15:31:26	0.5	12.05	6.92
01/28	15:32:26	0.5	12.06	6.93
01/28	15:33:26	0.5	12.06	6.93
01/28	15:34:26	0.5	12.07	6.93
01/28	15:35:26	0.5	12.08	6.91
01/28	15:36:26	0.5	12.09	6.89
01/28	15:37:26	0.5	12.08	6.90
01/28	15:38:26	0.5	12.06	6.93
01/28	15:39:26	0.5	12.03	6.93
01/28	15:40:26	0.5	12.01	6.95
01/28	15:41:26	0.5	12.00	6.94
01/28	15:42:26	0.5	12.00	6.94

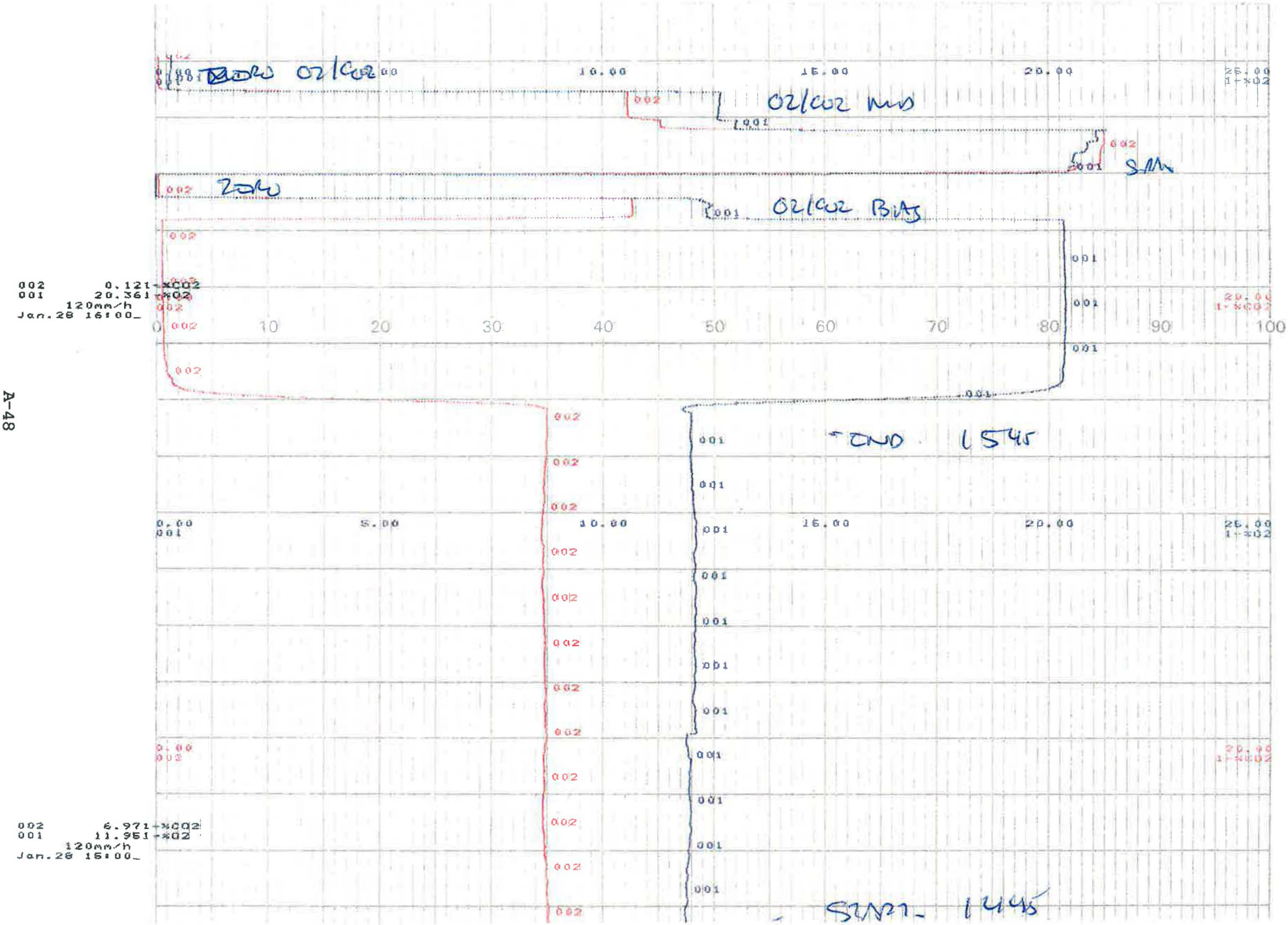
01/28	15:43:26	0.5	11.97	6.96	
01/28	15:44:26	0.5	11.98	6.97	
01/28	15:45:26	0.5	11.96	6.98	END
01/28	15:46:26	0.5	11.97	6.98	
01/28	15:47:26	0.5	11.96	6.99	
01/28	15:48:26	0.5	11.97	7.00	
01/28	15:49:26	0.5	11.98	6.99	
01/28	15:50:26	0.5	12.32	6.49	
01/28	15:51:26	0.5	18.25	1.66	
01/28	15:52:26	0.5	20.14	0.35	
01/28	15:53:26	0.5	20.30	0.25	
01/28	15:54:26	0.5	20.31	0.19	
01/28	15:55:26	0.5	20.34	0.15	
01/28	15:56:26	0.5	20.35	0.14	
01/28	15:57:26	0.5	20.36	0.13	
01/28	15:58:26	0.5	20.35	0.13	
01/28	15:59:26	0.5	20.36	0.12	
01/28	16:00:26	0.5	20.36	0.12	
01/28	16:01:26	0.5	20.36	0.12	
01/28	16:02:26	0.5	20.36	0.11	
01/28	16:03:26	0.5	20.35	0.11	
01/28	16:04:26	0.5	20.35	0.11	
01/28	16:05:26	0.5	20.35	0.11	
01/28	16:06:26	0.5	20.34	0.11	
01/28	16:07:26	0.5	20.35	0.11	
01/28	16:08:26	0.5	20.34	0.11	
01/28	16:09:26	0.5	20.34	0.11	
01/28	16:10:26	0.5	20.34	0.11	
01/28	16:11:26	0.5	12.35	8.52	SYSTEM BIAS
01/28	16:12:26	0.5	12.43	8.53	
01/28	16:13:26	0.5	0.00	0.14	
01/28	16:14:26	0.5	0.00	0.04	SYSTEM BIAS
01/28	16:15:26	0.5	0.00	0.04	
01/28	16:16:26	0.5	20.46	16.47	
01/28	16:17:26	0.5	20.54	16.92	
01/28	16:18:26	0.5	20.84	16.92	
01/28	16:19:26	0.5	21.06	16.99	SPAN
01/28	16:20:26	0.5	21.07	16.99	
01/28	16:21:26	0.5	13.01	9.04	
01/28	16:22:26	0.5	12.59	8.44	
01/28	16:23:26	0.5	12.62	8.45	MID
01/28	16:24:26	0.5	12.65	8.44	
01/28	16:25:26	0.5	0.28	0.07	
01/28	16:26:26	0.5	0.31	0.05	

01/28	16:27:26	0.5	0.33	0.05	ZERO
01/28	16:28:26	0.5	0.35	0.04	


2 7.061-%CO2
1 12.141-%O2
120mm/h
1.28 12:00
START 1200
PJE2
ZON
SYSZON INS
SPAN
ZON
OCSD PJE2 O2/CO2 FOR VOC TEST RUN
RANGE 0- 25% O2 CO2 0- 20%


15.861-%CO2
20.371-%O2
120mm/h
n.28 14:00
5.00
10.00
15.00
20.00
25.00
SPAN
ZERO
0
10
20
30
40
50
60
70
80
90
100
SYSTEM BIAS O2/CO2
ZERO O2/CO2 BIAS
END 1300
7.031-%CO2
12.121-%O2
120mm/h
n.28 13:00


002 0.121-*002
001 20.361-*02
120mm/h
Jan.26 16:00_
002 6.971-*002
001 11.961-*02
120mm/h
Jan.26 15:00_
0 10 20 30 40 50 60 70 80 90 100
0.00 5.00 10.00 15.00 20.00 25.00
END 1545
START 1445
PZE4


O2/CO2 MIX
O2/CO2 BIAS
END 1545
START 1445
002 0.121 *CO2
001 20.361 *O2
120mm/h
Jan.28 16:00
002 6.971 *CO2
001 11.961 *O2
120mm/h
Jan.28 16:00

SUMMARY OF VOLUME FLOW SOURCE TEST DATA AND CALCULATIONS

Facility:	OCSD PLANT 2		
Source ID:	ENGINE #2		
MEASURED SOURCE PARAMETERS	**SYMBOL**	**UNITS**	**AVERAGE LOAD**
DATE			01/28/15
TIME			1200-1300
STACK DIAMETER	Ds	IN	30.00
STACK AREA	Ds	FT^2	4.91
BAROMETERIC PRESSURE	Pbar	IN. Hg	30.00
STATIC PRESSURE	Pstat	IN. H2O	-0.57
STACK PRESSURE	Ps	IN. Hg	29.96
AVERAGE STACK TEMPERATURE	Ts	DEG. F	563.9
AVERAGE SQ. ROOT VELOCITY PRESSURE	dP	IN. H2O	0.8918
SAMPLING PARAMETERS			
STANDARD TEMPERATURE	Tstd	DEG. F	60.0
STANDARD PRESSURE	Pstd	IN. Hg	29.92
PERCENT CARBON DIOXIDE	CO2	%	6.82
PERCENT OXYGEN	O2	%	12.29
PITOT CORRECTION FACTOR	Cp		0.840
SAMPLING TIME	t	MIN.	30.0
GAS VOLUME SAMPLED	Vm	DCF	21.328
WATER VAPOR COLLECTED	Vlc	GRAMS	54.6
DRY GAS METER CORRECTION FACTOR	Y		1.0110
DRY GAS METER TEMPERATURE	Tm	DEG. F	87.5
ORIFICE PRESSURE	dH	IN. H2O	1.900
CALCULATED RESULTS			
CORRECTED GAS VOLUME SAMPLED	Vmstd	DSCF	20.630
VOLUME OF WATER CONDENSED	Vwstd	SCF	2.54
MOISTURE CONTENT OF FLUE GAS	Bws	%	10.96
DRY MOLECULAR WEIGHT OF FLUE GAS	MWdry	lb/lb-mol	29.58
WET MOLECULAR WEIGHT OF FLUE GAS	MWwet	lb/lb-mol	28.31
FLUE GAS VELOCITY	Vs	ft/sec	70.36
FLUE GAS FLOW RATE (ACTUAL CONDITIONS)	ACFM	ACFM	20,723
FLUE GAS FLOW RATE (STD. CONDITIONS)	SDCFM	SDCFM	9,383
PERCENT EXCESS AIR	% EA	%	135.7

SUMMARY OF VOLUME FLOW SOURCE TEST DATA AND CALCULATIONS

Facility:	OCSD PLANT 2		
Source ID:	ENGINE #4		
MEASURED SOURCE PARAMETERS	**SYMBOL**	**UNITS**	**AVERAGE LOAD**
DATE			01/28/15
TIME			1445-1545
STACK DIAMETER	Ds	IN	30.00
STACK AREA	Ds	FT^2	4.91
BAROMETERIC PRESSURE	Pbar	IN. Hg	30.00
STATIC PRESSURE	Pstat	IN. H2O	-0.59
STACK PRESSURE	Ps	IN. Hg	29.96
AVERAGE STACK TEMPERATURE	Ts	DEG. F	569.3
AVERAGE SQ. ROOT VELOCITY PRESSURE	dP	IN. H2O	0.8828
SAMPLING PARAMETERS			
STANDARD TEMPERATURE	Tstd	DEG. F	60.0
STANDARD PRESSURE	Pstd	IN. Hg	29.92
PERCENT CARBON DIOXIDE	CO2	%	6.72
PERCENT OXYGEN	O2	%	12.12
PITOT CORRECTION FACTOR	Cp		0.840
SAMPLING TIME	t	MIN.	30.0
GAS VOLUME SAMPLED	Vm	DCF	21.470
WATER VAPOR COLLECTED	Vlc	GRAMS	54.5
DRY GAS METER CORRECTION FACTOR	Y		1.0110
DRY GAS METER TEMPERATURE	Tm	DEG. F	75.0
ORIFICE PRESSURE	dH	IN. H2O	1.900
CALCULATED RESULTS			
CORRECTED GAS VOLUME SAMPLED	Vmstd	DSCF	21.253
VOLUME OF WATER CONDENSED	Vwstd	SCF	2.53
MOISTURE CONTENT OF FLUE GAS	Bws	%	10.65
DRY MOLECULAR WEIGHT OF FLUE GAS	MWdry	lb/lb-mol	29.56
WET MOLECULAR WEIGHT OF FLUE GAS	MWwet	lb/lb-mol	28.33
FLUE GAS VELOCITY	Vs	ft/sec	69.82
FLUE GAS FLOW RATE (ACTUAL CONDITIONS)	ACFM	ACFM	20,563
FLUE GAS FLOW RATE (STD. CONDITIONS)	SDCFM	SDCFM	9,294
PERCENT EXCESS AIR	% EA	%	130.2

SUMMARY OF PARTICULATE SOURCE TEST DATA AND CALCULATIONS

Date:	December 18, 2014
Client:	OCSD PLANT 2
Site:	ENGINE #2

MEASURED SOURCE PARAMETERS	SYMBOL	UNITS	RUN 1
STACK DIAMETER	Ds	IN	30.00
STACK AREA	Ds	FT^2	4.91
BAROMETERIC PRESSURE	Pbar	IN. Hg	30.39
STATIC PRESSURE	Pstat	IN. H2O	-0.580
STACK PRESSURE	Ps	IN. Hg	30.35
AVERAGE STACK TEMPERATURE	Ts	DEG. F	562.3
AVERAGE SQ. ROOT VELOCITY PRESSURE	dP	IN. H2O	0.940
SAMPLING PARAMETERS			
STANDARD TEMPERATURE	Tstd	DEG. F	60.0
STANDARD PRESSURE	Pstd	IN. Hg	29.92
PERCENT CARBON DIOXIDE	CO2	%	7.44
PERCENT OXYGEN	O2	%	11.82
PITOT CORRECTION FACTOR	Cp		0.840
NOZZLE DIAMETER	Dn	IN	0.295
NOZZLE DIAMETER	Dn	FT^2	0.00047
SAMPLING TIME	t	MIN.	72.0
GAS VOLUME SAMPLED	Vm	DCF	60.935
WATER VAPOR COLLECTED	Vlc	GRAMS	331.4
DRY GAS METER CORRECTION FACTOR	Y		0.9870
DRY GAS METER TEMPERATURE	Tm	DEG. F	76.5
ORIFICE PRESSURE	dH	IN. H2O	2.30
CALCULATED RESULTS			
CORRECTED GAS VOLUME SAMPLED	Vmstd	DSCF	59.534
VOLUME OF WATER CONDENSED	Vwstd	SCF	15.41
MOISTURE CONTENT OF FLUE GAS	Bws	%	20.56
DRY MOLECULAR WEIGHT OF FLUE GAS	MW dry	lb/lb-mole	29.66
WET MOLECULAR WEIGHT OF FLUE GAS	MW wet	lb/lb-mole	27.27
FLUE GAS VELOCITY	Vs	ft/sec	75.02
FLUE GAS FLOW RATE (ACTUAL CONDITIONS)	ACFM	ACFM	22,095
FLUE GAS FLOW RATE (STD. CONDITIONS)	SDCFM	SDCFM	9,056
PERCENT EXCESS AIR	% EA	%	124.6
PERCENT ISOKINETIC SAMPLING RATE	% ISO	%	94.4

Note: NA = Not Applicable for the test program.

SUMMARY OF PARTICULATE EMISSIONS

Date:	December 18, 2014
Client:	OCSD PLANT 2
Site:	ENGINE #2

PARTICULATE TYPE	SYMBOL	UNITS	RUN 1
FILTERABLE PARTICULATE			
NET MILLIGRAMS	mg	mg	7.6
CONCENTRATION	Csd	gr/SDCF	0.0020
CONCENTRATION @ 12% CO2	Csd,12	gr/SDCF	0.0032
EMISSION RATE	E.R.	LB/HR	0.15
EMISSION RATE	E.R.	LB/DAY	3.66
CONDENSABLE PARTICULATE			
NET MILLIGRAMS	mg	mg	15.3
CONCENTRATION	Csd	gr/SDCF	0.0040
CONCENTRATION @ 12% CO2	Csd,12	gr/SDCF	0.0064
EMISSION RATE	E.R.	LB/HR	0.31
EMISSION RATE	E.R.	LB/DAY	7.39
ORGANIC PARTICULATE			
NET MILLIGRAMS	mg	mg	0.5
CONCENTRATION	Csd	gr/SDCF	0.0001
CONCENTRATION @ 12% CO2	Csd,12	gr/SDCF	0.0002
EMISSION RATE	E.R.	LB/HR	0.01
EMISSION RATE	E.R.	LB/DAY	0.24
TOTAL PARTICULATE			
NET MILLIGRAMS	mg	mg	23.4
CONCENTRATION	Csd	gr/SDCF	0.0061
CONCENTRATION @ 12% CO2	Csd,12	gr/SDCF	0.0098
EMISSION RATE	E.R.	LB/HR	0.47
EMISSION RATE	E.R.	LB/DAY	11.29

Note: NA = Not Applicable - Lab Results were below analytical detection.

PARTICULATE LABORATORY DATA

Date: December 18, 2014
Client: OCSD PLANT 2
Site: ENGINE #2

Run No.	Type	Total Sample Vol. (ml)	Aliquot Vol. (ml)	Vlc less Silica gel Vol. (ml)	Gross Wt. (g)	Tare Wt. (g)	Uncorrected Final Wt. (mg)	Corrected Final Wt. (mg)
Blank	**Acetone**	NA	-----	-----	NA	NA	**NA**	-----
Blank	**H2O**	205	-----	-----	115.75270	115.7527	**0.00**	-----
Blank	**MeCl2**	NA	-----	-----	0.00000	0.0000	**0.00**	-----
Average 1	**Filter**	-------	-----	-----	0.14502	0.13744	**7.58**	**7.58**
	Condensables	460	460	317.9	106.14090	106.1256	**15.30**	**15.30**
	Organics	460	460	-----	117.28910	117.2886	**0.50**	**0.50**
	Total	-------	-----	-----	-------	-------	**23.38**	**23.38**

Note: NA = Not Applicable for the test program.

SUMMARY OF PARTICULATE SOURCE TEST DATA AND CALCULATIONS

Date:	December 18, 2014
Client:	OCSD PLANT 2
Site:	ENGINE #4

MEASURED SOURCE PARAMETERS	SYMBOL	UNITS	RUN 1
STACK DIAMETER	Ds	IN	30.00
STACK AREA	Ds	FT^2	4.91
BAROMETERIC PRESSURE	Pbar	IN. Hg	30.39
STATIC PRESSURE	Pstat	IN. H2O	-0.670
STACK PRESSURE	Ps	IN. Hg	30.34
AVERAGE STACK TEMPERATURE	Ts	DEG. F	500.1
AVERAGE SQ. ROOT VELOCITY PRESSURE	dP	IN. H2O	0.948
SAMPLING PARAMETERS			
STANDARD TEMPERATURE	Tstd	DEG. F	60.0
STANDARD PRESSURE	Pstd	IN. Hg	29.92
PERCENT CARBON DIOXIDE	CO2	%	7.11
PERCENT OXYGEN	O2	%	12.33
PITOT CORRECTION FACTOR	Cp		0.840
NOZZLE DIAMETER	Dn	IN	0.295
NOZZLE DIAMETER	Dn	FT^2	0.00047
SAMPLING TIME	t	MIN.	72.0
GAS VOLUME SAMPLED	Vm	DCF	61.897
WATER VAPOR COLLECTED	Vlc	GRAMS	335.7
DRY GAS METER CORRECTION FACTOR	Y		0.9870
DRY GAS METER TEMPERATURE	Tm	DEG. F	79.5
ORIFICE PRESSURE	dH	IN. H2O	2.34
CALCULATED RESULTS			
CORRECTED GAS VOLUME SAMPLED	Vmstd	DSCF	60.150
VOLUME OF WATER CONDENSED	Vwstd	SCF	15.61
MOISTURE CONTENT OF FLUE GAS	Bws	%	20.60
DRY MOLECULAR WEIGHT OF FLUE GAS	MW dry	lb/lb-mole	29.63
WET MOLECULAR WEIGHT OF FLUE GAS	MW wet	lb/lb-mole	27.23
FLUE GAS VELOCITY	Vs	ft/sec	73.38
FLUE GAS FLOW RATE (ACTUAL CONDITIONS)	ACFM	ACFM	21,612
FLUE GAS FLOW RATE (STD. CONDITIONS)	SDCFM	SDCFM	9,425
PERCENT EXCESS AIR	% EA	%	138.1
PERCENT ISOKINETIC SAMPLING RATE	% ISO	%	91.7

Note: NA = Not Applicable for the test program.

SUMMARY OF PARTICULATE EMISSIONS

Date:	December 18, 2014
Client:	OCSD PLANT 2
Site:	ENGINE #4

PARTICULATE TYPE	SYMBOL	UNITS	RUN 1
FILTERABLE PARTICULATE			
NET MILLIGRAMS	mg	mg	1.4
CONCENTRATION	Csd	gr/SDCF	0.0004
CONCENTRATION @ 12% CO2	Csd,12	gr/SDCF	0.0006
EMISSION RATE	E.R.	LB/HR	0.03
EMISSION RATE	E.R.	LB/DAY	0.70
CONDENSABLE PARTICULATE			
NET MILLIGRAMS	mg	mg	11.7
CONCENTRATION	Csd	gr/SDCF	0.0030
CONCENTRATION @ 12% CO2	Csd,12	gr/SDCF	0.0050
EMISSION RATE	E.R.	LB/HR	0.24
EMISSION RATE	E.R.	LB/DAY	5.79
ORGANIC PARTICULATE			
NET MILLIGRAMS	mg	mg	0.0
CONCENTRATION	Csd	gr/SDCF	0.0000
CONCENTRATION @ 12% CO2	Csd,12	gr/SDCF	0.0000
EMISSION RATE	E.R.	LB/HR	0.00
EMISSION RATE	E.R.	LB/DAY	0.00
TOTAL PARTICULATE			
NET MILLIGRAMS	mg	mg	13.1
CONCENTRATION	Csd	gr/SDCF	0.0033
CONCENTRATION @ 12% CO2	Csd,12	gr/SDCF	0.0057
EMISSION RATE	E.R.	LB/HR	0.27
EMISSION RATE	E.R.	LB/DAY	6.49

Note: NA = Not Applicable - Lab Results were below analytical detection.

PARTICULATE LABORATORY DATA

Date: December 18, 2014
Client: OCSD PLANT 2
Site: ENGINE #4

Run No.	Type	Total Sample Vol. (ml)	Aliquot Vol. (ml)	Vlc less Silica gel Vol. (ml)	Gross Wt. (g)	Tare Wt. (g)	Uncorrected Final Wt. (mg)	Corrected Final Wt. (mg)
Blank	**Acetone**	NA	-----	-----	NA	NA	**NA**	-----
Blank	**H2O**	205	-----	-----	115.75270	115.7527	**0.00**	-----
Blank	**MeCl2**	NA	-----	-----	0.00000	0.0000	**0.00**	-----
Average 1	**Filter**	-------	-----	-----	0.14118	0.13977	**1.40**	**1.40**
	Condensables	476	476	324.6	115.21365	115.2020	**11.65**	**11.65**
	Organics	476	476	-----	121.36180	121.3618	**0.00**	**0.00**
	Total	-------	-----	-----	-------	-------	**13.06**	**13.06**

Note: NA = Not Applicable for the test program.

SUMMARY OF SULFUR RESULTS

FACILITY:	OCSD PLANT 2	STD. TEMP:	60	DEG. F
UNIT:	ENGINE #2			
DATE:	December 18, 2014			

Parameter	**RUN 1**			**Average**
Time:	1630-1730			
Flow Rate, dscfm	9,055.8			9,055.8

Sulfur Compounds:				
H_2S, ppm	10.6			11
Carbonyl Sulfide, ppm	<0.2			<0.2
Methyl Mercaptan, ppm	<0.2			<0.2
Ethyl Mercaptan, ppm	<0.2			<0.2
Dimethyl Sulfide, ppm	<0.2			<0.2
Carbon Disulfide, ppm	<0.2			<0.2
isoprpyl mercaptan, ppm	<0.2			<0.2
n-propyl mercaptan, ppm	<0.2			<0.2
Dimethyl Disulfide,ppm	<0.2			<0.2
Total Sulfur Compounds :				
Total Reduced Sulfur ppm	10.6			11
SOx Exhaust, lb/hr (as SO_2)	0.97			0.97

EQUATIONS

TRS LB/HR = (SULFUR PPM) * (MW) * (DSCFM) * 1.583E-07

TRS = TOTAL REDUCED SULFUR (SULFUR PPM)
MW = MOLECULAR WEIGHT (64.06 LB/LB-MOLE)
1.583E-07 = CONVERSION FACTOR
DSCFM = DRY STANDARD CUBIC FEET PER MINUTE (EXHAUST FLOW RATE)

SUMMARY OF SULFUR RESULTS

FACILITY:	OCSD PLANT 2	STD. TEMP:	60	DEG. F
UNIT:	ENGINE #4			
DATE:	December 18, 2014			

Parameter	RUN 1			Average
Time:	1304-1404			
Flow Rate, dscfm	9,424.5			9,424.5
Sulfur Compounds:				
H_2S, ppm	12.0			12
Carbonyl Sulfide, ppm	<0.2			<0.2
Methyl Mercaptan, ppm	<0.2			<0.2
Ethyl Mercaptan, ppm	<0.2			<0.2
Dimethyl Sulfide, ppm	<0.2			<0.2
Carbon Disulfide, ppm	<0.2			<0.2
isoprpyl mercaptan, ppm	<0.2			<0.2
n-propyl mercaptan, ppm	0.21			0.21
Dimethyl Disulfide,ppm	<0.2			<0.2
Total Sulfur Compounds :				
Total Reduced Sulfur ppm	12.2			12
SOx Exhaust, lb/hr (as SO_2)	1.17			1.17

EQUATIONS

TRS LB/HR = (SULFUR PPM) * (MW) * (DSCFM) * 1.583E-07

TRS = TOTAL REDUCED SULFUR (SULFUR PPM)
MW = MOLECULAR WEIGHT (64.06 LB/LB-MOLE)
1.583E-07 = CONVERSION FACTOR
DSCFM = DRY STANDARD CUBIC FEET PER MINUTE (EXHAUST FLOW RATE)

SUMMARY OF SCAQMD 25.1 RESULTS

FACILITY:	OCSD PLANT 2	STD. TEMP:	60	DEG. F
UNIT:	ENGINE #2			
DATE:	January 28, 2015			
JOB NO:	2061.1060			

PARAMETER-UNITS	RUN #1A	RUN #1B	AVERAGE
AVERAGE VOLUME PITOT FLOW - DSCFM	9,383	9,383	9383.1
STACK OXYGEN - % O_2 DRY	12.29	12.29	12.29
METHANE - ppmv	NA	NA	NA
ETHANE - ppmv	NA	NA	NA
TGNMO - ppmv	124.0	99.6	111.80
TGNMO-ppmv @15%O_2	85.00	68.27	76.64
TGNMO - lb/hr	2.947	2.367	2.657

EQUATIONS

TGNMO LB/HR = TGNMO ppm * MW * 1.583E-07 * DSCFM

TGNMO = TOTAL GASEOUSE NON-METHANE ORGANIC
PPM = PARTS PER MILLION, CONCENTRATION
MW = MOLECULAR WEIGHT (16 LB/LB-MOLE as Carbon)
1.583 E-07 = CONVERSION FACTOR
DSCFM = DRY STANDARD CUBIC FEET PER MINUTE

PPM @ 15% O_2 = PPM * ((20.9-15)/20.9-O_2%))

O_2% = EXHAUST GAS OXYGEN CONCENTRATION

SUMMARY OF SCAQMD 25.1 RESULTS

FACILITY:	OCSD PLANT 2	STD. TEMP:	60	DEG. F
UNIT:	ENGINE #4			
DATE:	January 28, 2015			
JOB NO:	2061.1060			

PARAMETER-UNITS	RUN #1A [1]	RUN #1B	AVERAGE
AVERAGE VOLUME PITOT FLOW - DSCFM	9,294	9,294	9293.6
STACK OXYGEN - % O_2 DRY	12.12	12.12	12.12
METHANE - ppmv	NA	NA	NA
ETHANE - ppmv	NA	NA	NA
TGNMO - ppmv	195	63.6	63.60
TGNMO-ppmv @15%O_2	131.02	42.73	42.73
TGNMO - lb/hr	4.590	1.497	1.497

[1] RUN 1A HAS BEEN OMITTED FROM THE FINAL AVERAGE RESULTS DUE TO CONTAMINATION WITH EXCESS WATER THAT BIASED THE TGNMO HIGH

EQUATIONS

TGNMO LB/HR = TGNMO ppm * MW * 1.583E-07 * DSCFM

TGNMO = TOTAL GASEOUSE NON-METHANE ORGANIC
PPM = PARTS PER MILLION, CONCENTRATION
MW = MOLECULAR WEIGHT (16 LB/LB-MOLE as Carbon)
1.583 E-07 = CONVERSION FACTOR
DSCFM = DRY STANDARD CUBIC FEET PER MINUTE

PPM @ 15% O_2 = PPM * ((20.9-15)/20.9-O_2%))

O_2% = EXHAUST GAS OXYGEN CONCENTRATION

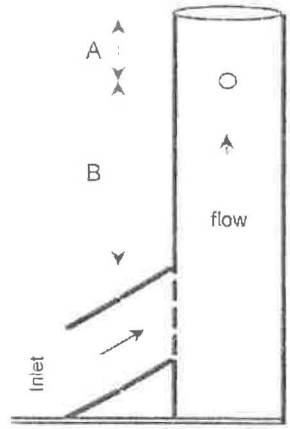
SCEC

Appendix B

Stack Sampling Location Schematic

OCSD PLANT 2 ENGINES 1, 2, 3, 4 AND 5
TRAVERSE POINT LAYOUT (NON-PARTICULATE)
CIRCULAR STACKS OVER 24 INCHES

Stack diameter:	30.0	*inches*
Upstream diameter (A):	54.0	*inches*
Downstream diameter (B):	135.0	*inches*
Port length:	8.00	*inches*
Number of ports being used:	2	*see note*
Equivalent upstream diameter (A):	1.800	*Pass*
Equivalent downstream diameter (B):	4.500	*Pass*
All points at least 1.0" from stack wall:	0.960	*Fail - relocate*
Total points:	16	
Points per port:	8	

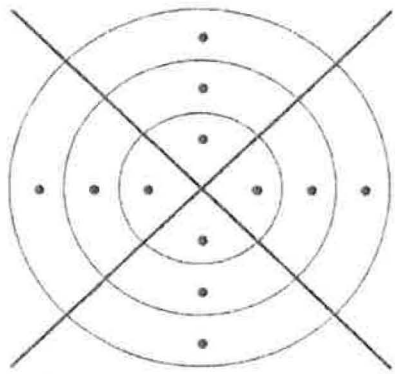


Typical vertical exhaust stack

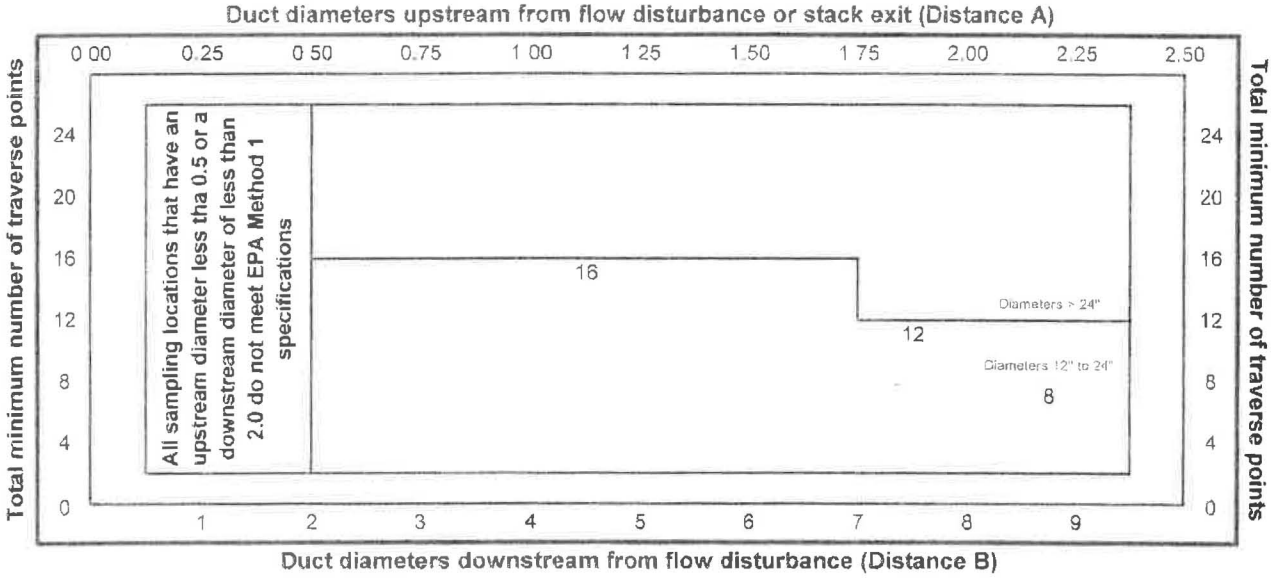
Point	% Diameter	Inside wall Distance (in)	Outside port Distance (in)
1	3.2	1.0	9.0
2	10.5	3.2	11.2
3	19.4	5.8	13.8
4	32.3	9.7	17.7
5	67.7	20.3	28.3
6	80.6	24.2	32.2
7	89.5	26.9	34.9
8	96.8	29.0	37.0

Note: No traverse point shall be within 1.0" of the stack walls (see Sections 11.3.1)

DUCT AREA = 4.909 ft^2

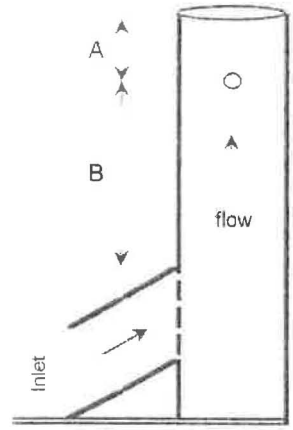


Example: Location of 12 points



OCSD PLANT 2 ENGINES 1, 2, 3, 4 AND 5
TRAVERSE POINT LAYOUT (PARTICULATE)
CIRCULAR STACKS OVER 24 INCHES

Stack diameter:	30.0	*inches*
Upstream diameter (A):	54.0	*inches*
Downstream diameter (B):	135.0	*inches*
Port length:	8.00	*inches*
Number of ports being used:	2	*see note*
Equivalent upstream diameter (A):	1.800	*Pass*
Equivalent downstream diameter (B):	4.500	*Pass*
All points at least 1.0" from stack wall:	0.630	*Fail - relocate*
Total points:	24	
Points per port:	12	

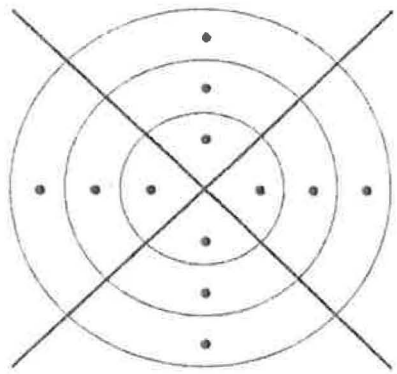


Typical vertical exhaust stack

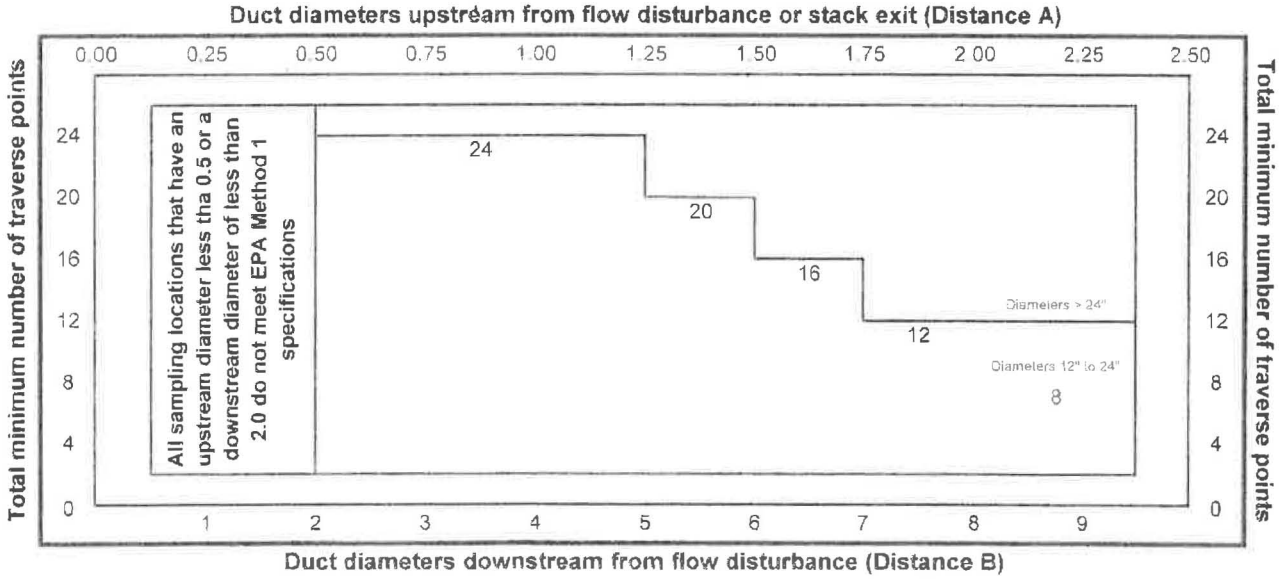
Point	% Diameter	Inside wall Distance (in)	Outside port Distance (in)
1	2.1	0.6	8.6
2	6.7	2.0	10.0
3	11.8	3.5	11.5
4	17.7	5.3	13.3
5	25.0	7.5	15.5
6	35.6	10.7	18.7
7	64.4	19.3	27.3
8	75.0	22.5	30.5
9	82.3	24.7	32.7
10	88.2	26.5	34.5
11	93.3	28.0	36.0
12	97.9	29.4	37.4

Note: No traverse point shall be within 1.0" of the stack walls (see Sections 11.3.1)

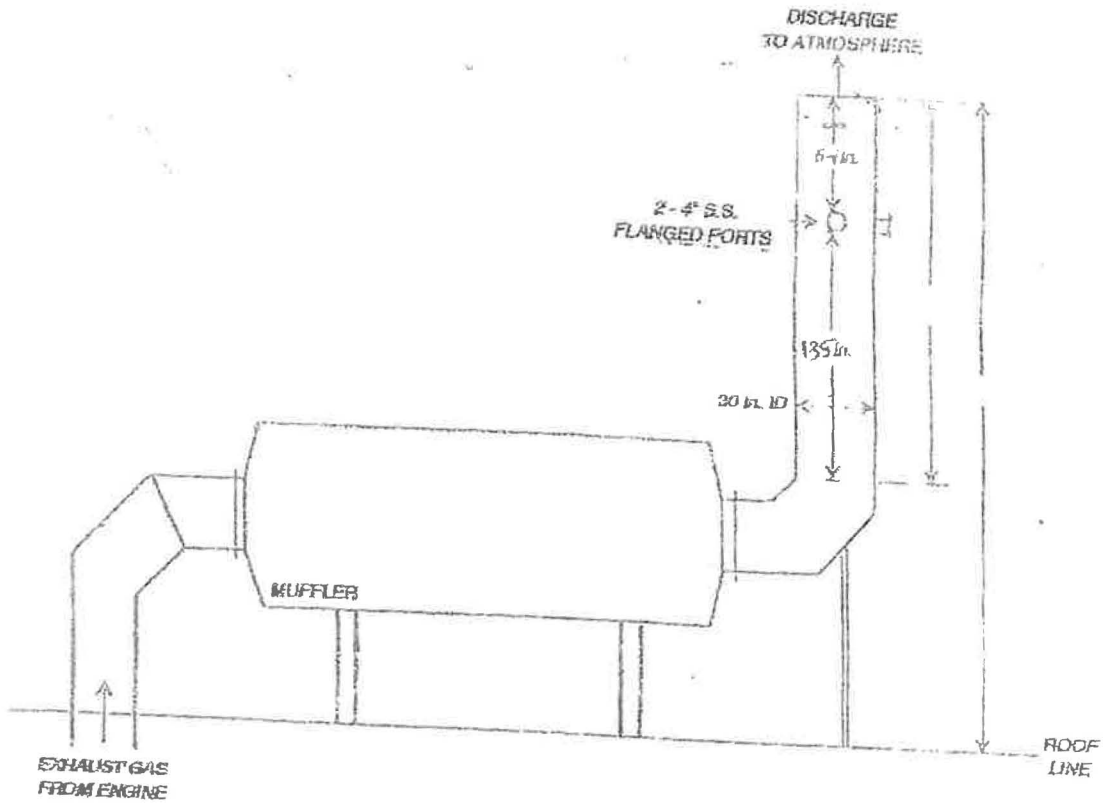
DUCT AREA = 4.909 ft^2



Example: Location of 12 points



OCSD PLANT No. 2 CGS IC ENGINES



Sample Location

SCEC

Appendix C

Field Data Sheets SCAQMD Methods 100.1, 25.1/25.3, 1.1-4.1, 5.1

SCEC
CONTINUOUS EMISSIONS MONITORING SYSTEM TEST DATA

Test Number: CONS-1
Client: OCSD
Location: PLANT #2
Unit: #2

Date: 12/18/14
Condition: R-1110.2
Operator: RN
Barometric:
~~#~~ 100703 ICE #

Gas Temperatures

Stack:
Probe:
Heated Line:

Stack Knockout:
Ambient:
Chiller:

	Analyzer Values				
	O_2 (%)	CO_2 (%)	NO_x (ppm)	CO (ppm)	SO_2 (ppm)
Analyzer Span Range					
Mid Span Cal Gas Value					
High Span Cal Gas Value					
	As Found Analyzer Readings				
Zero	0.0	0.04	9.1	0.8	
Mid Span	12.44	8.34	42.3	863	
High Span	20.92	16.57	85.4	1782	
	Pre-Test Analyzer System Bias (Normal Load)				
System Bias Zero	0.00	0.21	0.8	1.2	
System Bias Span	12.45	8.33	42.4	854.1	

Sample Point	Time Start	Time Stop	O_2 (%)	CO_2 (%)	NO_x (ppm)	CO (ppm)	SO_2 (ppm)
			Raw Test Data				
Normal Load	1630	1730.			0.0		
					43.0		
High Load	1825	1840			863		
Low Load	1753	1808					

	Post-Test Analyzer System Bias (Normal Load)				
System Bias Zero	0.00	0.13	0.6	0.4	
System Bias Span	12.51	8.25	43.0	855.3	
	Post-Test Analyzer System Bias (High/Low Load)				
System Bias Zero	0.01	0.15	0.9	1.6	
System Bias Span	12.36	8.36	43.0	854.9	
	Post-Test Analyzer Calibration				
Zero	0.00	0.02	0.0	1.2	
Mid Span	12.45	8.31	42.9	855.7	
High Span	20.94	16.55	868	1774	
	Test Results Summary				
	O_2 (%)	CO_2 (%)	NO_x (ppm)	CO (ppm)	SO_2 (ppm)
Calibration Corrected Raw Average (Normal)					
Calibration Corrected Raw Average (High)					
Calibration Corrected Raw Average (Low)					

SCEC
CONTINUOUS EMISSIONS MONITORING SYSTEM TEST DATA

Test Number:	COMS-1	Date:	12/18/14
Client:	OCSD	Condition:	R-1190.2
Location:	PLANT #2	Operator:	RN
Unit:	ICE #4	Barometric:	

Gas Temperatures

Stack:		Stack Knockout:	
Probe:		Ambient:	76
Heated Line:		Chiller:	

			Analyzer Values				
			O_2 (%)	CO_2 (%)	NO_x (ppm)	CO (ppm)	SO_2 (ppm)
Analyzer Span Range			25	20	100	2000	
Mid Span Cal Gas Value			12.5	8.23	42.6	858	
High Span Cal Gas Value			20.9	16.5	869	1780	
			As Found Analyzer Readings				
Zero			0.00	0.00	0.0	0.8	
Mid Span			12.44	8.32	42.9	863.7	
High Span			20.93	16.55	86.6	1794.9	
			Pre-Test Analyzer System Bias (Normal Load)				
System Bias Zero			0.02	0.25	0.0	1.2	
System Bias Span			12.34	8.29	41.9	856.5	
Sample Point	Time		**Raw Test Data**				
	Start	Stop	O_2 (%)	CO_2 (%)	NO_x (ppm)	CO (ppm)	SO_2 (ppm)
Normal Load	1304	1404					
High Load	1528 -	1543					
Low Load	1457	1512					
			Post-Test Analyzer System Bias (Normal Load)				
System Bias Zero			0.00	0.14	0.3	0.8	
System Bias Span			12.61	8.10	41.8	862.9	
			Post-Test Analyzer System Bias (High/Low Load)				
System Bias Zero			0.01	0.21	0.8	1.2	
System Bias Span			12.45	8.33	42.4	854.1	
			Post-Test Analyzer Calibration				
Zero			0.00	0.05	0.1	0.8	
Mid Span			12.45	8.38	42.3	859.7	
High Span			20.93	16.61	85.4	1787.7	
			Test Results Summary				
			O_2 (%)	CO_2 (%)	NO_x (ppm)	CO (ppm)	SO_2 (ppm)
Calibration Corrected Raw Average (Normal)					0.1		
Calibration Corrected Raw Average (High)					43.0		
Calibration Corrected Raw Average (Low)					87.2		

SCEC
CONTINUOUS EMISSIONS MONITORING SYSTEM TEST DATA

Test Number: CEMS-1
Client: OCSD
Location: P2
Unit: P2 E2

Date: 1/28/15
Condition: NORMAL O2/CO2/NOx
Operator: RN
Barometric: 30.00

Gas Temperatures

Stack: 574
Probe: 500
Heated Line: 254

Stack Knockout: 33
Ambient: 70
Chiller: 32

	Analyzer Values				
	O_2 (%)	CO_2 (%)	NO_x (ppm)	CO (ppm)	SO_2 (ppm)
Analyzer Span Range	25	20			
Mid Span Cal Gas Value	12.5	8.40			
High Span Cal Gas Value	20.9	166			
	As Found Analyzer Readings				
Zero	0.00	0.00			
Mid Span	12.30	8.47			
High Span	20.85	16.90			
	Pre-Test Analyzer System Bias				
System Bias Zero	0.00	0.02			
System Bias Span	12.30	8.47			

Sample Point	Time		Raw Test Data				
	Start	Stop	O_2 (%)	CO_2 (%)	NO_x (ppm)	CO (ppm)	SO_2 (ppm)
	1200	1300					

	Post-Test Analyzer System Bias				
System Bias Zero	0.00	0.03			
System Bias Span	12.30	8.52			
	Post-Test Analyzer Calibration				
Zero	0.00	0.04			
Mid Span	12.32	8.53			
High Span	20.86	16.99			
	Test Results Summary				
	O_2 (%)	CO_2 (%)	NO_x (ppm)	CO (ppm)	SO_2 (ppm)
Calibration Corrected Raw Average					
Corrected Average @ _____ %O_2					
Mass Emissions – Lb/Hr					

SCEC
CONTINUOUS EMISSIONS MONITORING SYSTEM TEST DATA

Test Number:	CEMS-1	Date:	1/28/15
Client:	OCSD	Condition:	NORMAL VOC/O2/CO2
Location:	P2	Operator:	RN
Unit:	P2E4	Barometric:	30.00

Gas Temperatures

Stack:	500	Stack Knockout:	33
Probe:	500	Ambient:	70
Heated Line:	254	Chiller:	33

			Analyzer Values				
			O_2 (%)	CO_2 (%)	NO_x (ppm)	CO (ppm)	SO_2 (ppm)
Analyzer Span Range			25	20			
Mid Span Cal Gas Value			12.5	8.40			
High Span Cal Gas Value			20.9	16.6			
			As Found Analyzer Readings				
Zero			0.00	0.00 (V)			
Mid Span			12.32	~~8.49~~ 8.53			
High Span			20.83	~~16.90~~	16.99		
			Pre-Test Analyzer System Bias				
System Bias Zero			0.00	0.03			
System Bias Span			12.30	8.57			
Sample Point	Time		**Raw Test Data**				
	Start	Stop	O_2 (%)	CO_2 (%)	NO_x (ppm)	CO (ppm)	SO_2 (ppm)
	1445	1545					
			Post-Test Analyzer System Bias				
System Bias Zero			0.00	0.04			
System Bias Span			12.43	8.53			
			Post-Test Analyzer Calibration				
Zero			0.33	0.05			
Mid Span			12.62	8.45			
High Span			21.06	16.99			
			Test Results Summary				
			O_2 (%)	CO_2 (%)	NO_x (ppm)	CO (ppm)	SO_2 (ppm)
Calibration Corrected Raw Average							
Corrected Average @ _____ %O_2							
Mass Emissions – Lb/Hr							

SCEC
Method 2: VELOCITY AND TEMPERATURE TRAVERSE DATA

Client/Facility:	OCSD	Date:	12/18/14
Sample Location:	ICE #2	Data By:	JD
Unit Number:		Pitot ID:	63 TC ID 64
Test Condition:		Pitot Cp:	.84
Barometric (in. Hg):	30.39	Pitot Leak Check:	JD

Test No. ~~High~~ Low			Static Pressure (in. H_2O) -4.6		Test No. ~~Low~~ High			Static Pressure (in. H_2O) -.77	
Time	Traverse Point		ΔP	Temperature	Time	Traverse Point		ΔP	Temperature
	Port	Point	in. H_2O	°F		Port	Point	in. H_2O	°F
	N	1	.52	552	N		1	1.2	554
		2	.53	561			2	1.4	560
		3	.63	561			3	1.3	560
		4	.75	560			4	1.2	560
		5	.59	560			5	1.1	559
		6	.54	559			6	.89	558
		7	.51	560			7	.86	555
		8	.52	558			8	.84	550
		9					9		
		10					10		
		11					11		
		12	.55	561			12		
	E	1	.57	557	E		1	.99	557
		2	.63	559			2	1.1	557
		3	.64	559			3	1.1	558
		4	.65	559			4	1.3	558
		5	.60	559			5	1.2	558
		6	.59	559			6	1.2	558
		7	.60	558			7	.99	556
		8	.56	558			8	1.1	554
		9					9		
		10					10		
		11					11		
		12					12		
AVERAGES:		ΔP √	0.7667	558.69	AVERAGES:		ΔP √	1.0511	557.0

SCEC

Method 2: VELOCITY AND TEMPERATURE TRAVERSE DATA

Client/Facility:	OCSD	Date:	12-18-14
Sample Location:	PLANT 2	Data By:	JD & GM
Unit Number:	ICE #4	Pitot ID:	TC ID
Test Condition:	LOW | HIGH	Pitot Cp:	0.84
Barometric (in. Hg):	30.39	Pitot Leak Check:	✓

Test No. 2 (LOW)			Static Pressure (in. H_2O) 0.34		Test No. 3 - (Hi)			Static Pressure (in. H_2O) -0.78	
Time	Traverse Point		ΔP	Temperature	Time	Traverse Point		ΔP	Temperature
	Port	Point	in. H_2O	°F		Port	Point	in. H_2O	°F
	N	1	0.75	500		N	1	1.2	500
		2	0.79	500			2	1.4	503
		3	0.74	500			3	1.5	503
		4	0.68	500			4	1.3	502
		5	0.52	498			5	1.1	501
		6	0.50	497			6	1.0	501
		7	0.47	496			7	0.98	499
		8	0.46	494			8	0.96	498
		9					9		
		10					10		
		11					11		
		12					12		
	E	1	0.67	491		E	1	1.0	501
		2	0.69	493			2	1.1	503
		3	0.~~60~~ 0.65 GM	495			3	1.2	503
		4	0.67	496			4	1.1	505
		5	0.53	497			5	0.96	505
		6	0.56	496			6	0.92	503
		7	0.53	494			7	0.89	500
		8	0.50	492			8	0.81	499
		9					9		
		10					10		
		11					11		
		12					12		
AVERAGES:		ΔP √	0.7761	496.19	AVERAGES:		ΔP √	1.0398	501.63

SCEC
Method 5: SAMPLE TRAIN DATA SHEET

Test Number: PM-1	Date: 12/18/14	IMPINGER DATA						SAMPLE TRAIN LEAK CHECK				
Client: OCSD	Barometric: 30.39	Imp #	Mat'l	Weights					CFM	Vac.	By:
Test Location: P2E2	Meter ID: CBJ			Final	Initial	Net		Meter Pre-Test	.000	15	JD
Test Condition: NORMAL	Meter Yd: 0.987	1	DI H2O	891.4	691.9			Meter Post-Test			
Test Method: SCAQMD S1	Meter ΔH @: 60°-1.759	2	DI H2O	691.6	684.8				Check	Press.	By:
Stack Diameter: 30	Pitot ID: 62	3	KO	615.3	612.7			Pitot Pre-Test			
Number of Points: 24	Pitot Cp: ~~84~~ .84	4	SG	778.0	761.5			Pitot Post-Test			
Sample Time: 72	Probe Length/Mat'l: 3'/QTZ	5	LW		103			SAMPLE TRAIN PRE-TEST CHECK			
Per Point: 3	Nozzle Dia/Mat'l: 0.295/QTZ	6							Time	ΔH	Meter Reading	Temp
Isokinetic Factor: 2.10	Assumed Stack T: 550	Total:						Initial				
	Assumed Meter T: 78	Filter Number: SS-873						Final				

TEST DATA

Sample Point	Time	METER CONDITIONS ΔP	ΔH	Meter Reading	TEMPERATURES °F Stack	METER Inlet	Outlet	Imp. Out	Probe	Oven	Other	Vac	Static Press.
12	0	.94	2.4	323.079	563	69	69	55	—	—	—	5	-.58
11	3	.94	2.4	325.7	563	72	69	46	—	—	—	5	
10	6	.92	2.4	328.4	564	75	69	49	—	—	—	5	
9	9	.90	2.3	331.0	564	77	69	50	—	—	—	5	
8	12	.93	2.4	333.6	565	78	70	51	—	—	—	5	
7	15	.93	2.4	336.1	564	79	70	50	—	—	—	5	
6	18	.89	2.3	338.7	564	80	70	51	—	—	—	5	
5	21	.82	2.3	341.3	563	81	71	51	—	—	—	5	
4	24	.83	2.2	343.9	562	81	71	51	—	—	—	5	
3	27	.89	2.3	346.4	560	83	71	50	—	—	—	5	
2	30	.80	2.1	348.9	558	82	72	51	—	—	—	5	
1	33	.76	2.0	351.4	557	83	72	51	—	—	—	5	

SAMPLE TRAIN OPERATION

Operator: ~~JD~~ RN
Assistant: ~~RN~~ JD
Imp. Setup/Rec:
Comments: Start -
End -

TEST SUMMARY

Calc. By: RN
Time:
Static Press: -.58
Stack Temp: 562.29
ΔP (in. H_2O): $\sqrt{0.9398}$
O_2/CO_2:
Meter Vol. (acf): 60.935
H_2O, V_{lc}: 331.4
Meter Temp.: 76.54
Meter Pres.: 2.30

SCEC

Method 5: SAMPLE TRAIN DATA SHEET

Test Number: PM-1	Date: 12/18/14	IMPINGER DATA					SAMPLE TRAIN LEAK CHECK					
Client: OCSD	Barometric:	Imp #	Mat'l	Weights				CFM	Vac.	By:		
Test Location: P2E2	Meter ID: CB1			Final	Initial	Net	Meter Pre-Test					
Test Condition: Normal	Meter Yd: 0.987	1					Meter Post-Test					
Test Method: SCAQMD 5.1	Meter ΔH @: 60° = 1.759	2						Check	Press.	By:		
Stack Diameter: 30	Pitot ID: 62	3					Pitot Pre-Test					
Number of Points: 24	Pitot Cp: .84	4					Pitot Post-Test					
Sample Time: 72	Probe Length/Mat'l:	5					SAMPLE TRAIN PRE-TEST CHECK					
Per Point: 3	Nozzle Dia/Mat'l:	6						Time	ΔH	Meter Reading	Temp	
Isokinetic Factor:	Assumed Stack T:	Total:					Initial					
	Assumed Meter T:	Filter Number:					Final					

TEST DATA

Sample Point	Time	METER CONDITIONS ΔP	ΔH	Meter Reading	TEMPERATURES °F Stack	METER Inlet	Outlet	Imp. Out	Probe	Oven	Other	Vac	Static Press.	SAMPLE TRAIN OPERATION
														Operator:
12	36	.80	2.1	353.8	558	77	72	54	—	—	—	5		Assistant:
11	39	.78	2.0	356.2	563	81	72	48	—	—	—	5		Imp. Setup/Rec:
10	42	.77	2.0	358.6	562	83	73	49	—	—	—	5		
9	45	.77	2.0	361.0	562	84	73	50	—	—	—	5		Comments:
8	48	.75	2.0	363.4	563	84	73	50	—	—	—	5		
7	51	.75	2.0	365.8	563	84	74	50	—	—	—	5		TEST SUMMARY
6	54	.90	2.3	368.2	561	85	74	51	—	—	—	5		Calc. By:
5	57	1.0	2.6	370.8	564	85	74	51	—	—	—	5		Time:
4	60	1.0	2.6	373.4	561	85	74	51	—	—	—	5		Static Press:
3	63	1.0	2.6	375.8	561	86	75	51	—	—	—	5		Stack Temp:
2	66	1.1	2.9	378.4	563	86	75	50	—	—	—	5		ΔP (in. H_2O):
1	69	1.1	2.9	381.2	561	86	76	50	—	—	—	5		O_2/CO_2:
END	72	—	—	384.014	—	—	—	—	—	—	—	—		Meter Vol. (acf):
														H_2O, V_{lc}:
														Meter Temp.:
														Meter Pres.:

PZE4 (R1)

SCEC
Method 5: SAMPLE TRAIN DATA SHEET

Test Number: PM-1	Date: 12/18/14	IMPINGER DATA					SAMPLE TRAIN LEAK CHECK				
Client: OCSD	Barometric: 30.39	Imp #	Mat'l	Weights				CFM	Vac.	By:	
Test Location: PZ ~~EPE~~	Meter ID: CB1			Final	Initial	Net	Meter Pre-Test	0.010	15	JD	
Test Condition: NORMAL	Meter Yd: 0.957	1	H2O	886.0	672.2		Meter Post-Test	0.010	8	JD	
Test Method: SCAQMD S.1	Meter ΔH @: 60° = 1.759	2	H2O	673.3	668.1			Check	Press.	By:	
Stack Diameter: 30	Pitot ID: 62	3	KO	605.8	604.2		Pitot Pre-Test	✓	4	JD	
Number of Points: 24	Pitot Cp: .84	4	Sil	768.1	757.0		Pitot Post-Test	✓	4	JD	
Sample Time: 72	Probe Length/Mat'l: 3'/QTZ	5	LW		104		SAMPLE TRAIN PRE-TEST CHECK				
Per Point: 3	Nozzle Dia/Mat'l: 0.295/QTZ	6						Time	ΔH	Meter Reading	Temp
Isokinetic Factor: 2.6	Assumed Stack T: 500	Total:					Initial				
	Assumed Meter T: 75	Filter Number: 55-876					Final				

TEST DATA

Sample Point	Time	METER CONDITIONS ΔP	ΔH	Meter Reading	TEMPERATURES °F Stack	METER Inlet	Outlet	Imp. Out	Probe	Oven	Other	Vac	Static Press.
EAST 12	0	.83	2.2	259.662	499	70	70	51	—	—	—	6	-.67
11	3	.83	2.2	262.4	499	72	70	48	—	—	—	6	
10	6	.83	2.2	265.0	502	74	70	51	—	—	—	6	
9	9	.87	2.3	267.5	497	76	70	53	—	—	—	6	
8	12	.91	2.4	269.9	501	78	71	54	—	—	—	6	
7	15	.95	2.5	272.5	504	80	71	54	—	—	—	6	
6	18	.95	2.5	275.1	503	80	72	54	—	—	—	6	
5	21	.93	2.4	277.8	504	82	72	55	—	—	—	6	
4	24	.94	2.4	280.4	503	82	73	55	—	—	—	6	
3	27	.95	2.5	283.0	503	83	73	55	—	—	—	6	
2	30	.93	2.4	285.6	496	85	74	55	—	—	—	6	
1	33	.83	2.2	288.2	499	85	75	55	—	—	—	6	

SAMPLE TRAIN OPERATION

Operator: RN
Assistant: JD
Imp. Setup/Rec:
Comments: Start-
End-

TEST SUMMARY

Calc. By: RN
Time:
Static Press: -0.67
Stack Temp: 500.13
ΔP (in. H_2O): $\sqrt{0.9480}$
O_2/CO_2:
Meter Vol. (acf): 61.897
H_2O, V_{lc}: 335.7
Meter Temp.: 79.48
Meter Pres.: 2.3

SCEC
Method 5: SAMPLE TRAIN DATA SHEET

Test Number: PM-1	Date: 12/18/14	IMPINGER DATA						SAMPLE TRAIN LEAK CHECK					
Client: OCSD	Barometric: 30.39	Imp #	Mat'l	Weights						CFM	Vac.	By:	
Test Location: P2E4	Meter ID: CB1			Final	Initial	Net		Meter Pre-Test					
Test Condition: NORMAL	Meter Yd: 0.987	1	H2O		672.2			Meter Post-Test					
Test Method: SCAQMD S.1	Meter ΔH @: 60°-1.759	2	H2O		668.1					Check	Press.	By:	
Stack Diameter: 30	Pitot ID: 62	3	KO		604.2			Pitot Pre-Test					
Number of Points: 24	Pitot Cp: .84	4	SG		757.0			Pitot Post-Test					
Sample Time: 72	Probe Length/Mat'l:	5	LW		104			SAMPLE TRAIN PRE-TEST CHECK					
Per Point: 3	Nozzle Dia/Mat'l:	6							Time	ΔH	Meter Reading	Temp	
Isokinetic Factor: 2.6	Assumed Stack T: 497	Total:						Initial					
	Assumed Meter T: 78	Filter Number:						Final					

TEST DATA

Sample Point	Time	METER CONDITIONS ΔP	ΔH	Meter Reading	TEMPERATURES °F Stack	METER Inlet	Outlet	Imp. Out	Probe	Oven	Other	Vac	Static Press.	SAMPLE TRAIN OPERATION
														Operator: RN
12	36	.83	2.2	290.7	498	82	76	55	—	—	—	6		Assistant: JD
11	39	.81	2.1	293.2	504	85	77	52	—	—	—	6		Imp. Setup/Rec:
10	42	.80	2.1	295.7	498	87	77	54	—	—	—	6		
9	45	.76	2.0	298.2	504	89	78	54	—	—	—	6		Comments: Start -
8	48	.83	2.2	300.6	502	89	79	54	—	—	—	6		End
7	51	.85	2.2	303.1	499	90	79	53	—	—	—	6		**TEST SUMMARY**
6	54	.93	2.4	305.5	500	90	80	53	—	—	—	6		Calc. By:
5	57	1.0	2.6	308.1	503	90	80	54	—	—	—	6		Time:
4	60	1.0	2.6	310.7	500	89	81	53	—	—	—	6		Static Press:
3	63	1.1	2.9	313.3	501	89	81	53	—	—	—	6		Stack Temp:
2	66	1.0	2.6	316.1	492	89	81	53	—	—	—	6		ΔP (in. H_2O):
1	69	.95	2.5	318.9	492	88	81	54	—	—	—	6		O_2/CO_2:
End	72	—	—	321.559	—	—	—	—	—	—	—	—		Meter Vol. (acf):
														H_2O, V_{lc}:
														Meter Temp.:
														Meter Pres.:

SCEC
Method 5: SAMPLE TRAIN DATA SHEET

Test Number: H20-1	Date: 1/28/15	IMPINGER DATA						SAMPLE TRAIN LEAK CHECK				
Client: OCSD	Barometric: 30.00	Imp #	Mat'l	Weights					CFM	Vac.	By:
Test Location: P2E2	Meter ID: CB13			Final	Initial	Net		Meter Pre-Test	0.000	12	JED
Test Condition: NORMAL	Meter Yd: 1.011	1	H20	735.5	696.8			Meter Post-Test	0.000	12	JED
Test Method: SCAQMD 4.1	Meter ΔH @: 68° = 1.982	2	H20	707.8	721.6				Check	Press.	By:
Stack Diameter: 30	Pitot ID: 31	3	KO	595.9	593.7			Pitot Pre-Test	✓	5"	JED
Number of Points: 1	Pitot Cp: 0.84	4	SG	793.0	786.0			Pitot Post-Test	✓	6"	JED
Sample Time: 30	Probe Length/Mat'l: 3'/SS	5						SAMPLE TRAIN PRE-TEST CHECK			
Per Point: 10	Nozzle Dia/Mat'l: NA	6							Time	ΔH	Meter Reading	Temp
Isokinetic Factor: —	Assumed Stack T: NA	Total:						Initial				
	Assumed Meter T: NA	Filter Number:						Final				

TEST DATA

Sample Point	Time	METER CONDITIONS ΔP	ΔH	Meter Reading	TEMPERATURES °F Stack	METER Inlet	Outlet	Imp. Out	Probe	Oven	Other	Vac	Static Press.	SAMPLE TRAIN OPERATION
NE 8	0	.76	1.9	435.330	564	86	92	59	–	–	–	3		Operator: RN
7	10	.84	1.9	442.6	564	86	87	55	–	–	–	3		Assistant: JED
6	20	.88	1.9	449.6	565	86	88	58	–	–	–	3		Imp. Setup/Rec:
5	30	.88	–	456.658	565	–	–	–	–	–	–	–		Comments: Start: 1155
4		.90			566									End: 1225
3		.85			565									TEST SUMMARY
2		.83			564									Calc. By: RN
1		.80			559									Time:
SE 8		.64			563									Static Press: -0.57
7		.66			565									Stack Temp: 563.94
6		.68			565									ΔP (in. H_2O): $\sqrt{0.8918}$
5		.75			568									O_2/CO_2:
4		.82			565									Meter Vol. (acf): 21.328
3		.98			565									H_2O, V_{lc}: 54.6
2		.94			562									Meter Temp.: 87.5
1		.95			558									Meter Pres.: 1.9

SCEC
Method 5: SAMPLE TRAIN DATA SHEET

Test Number: H20-1	Date: 1/28/13	IMPINGER DATA						SAMPLE TRAIN LEAK CHECK				
Client: OCSD	Barometric: 30.00	Imp #	Mat'l	Weights					CFM	Vac.	By:	
Test Location: DJE4	Meter ID: CB13			Final	Initial	Net		Meter Pre-Test	0.000	11	JED	
Test Condition: Normal	Meter Yd: 1.011	1	H2O	777.0	735.5			Meter Post-Test	0.000	10	JED	
Test Method: SCAQMD 41	Meter ΔH @: 68° - 1.982	2	H2O	729.9	723.8				Check	Press.	By:	
Stack Diameter: 30	Pitot ID: 31	3	H2O	595.9	595.9			Pitot Pre-Test	✓	6"	JED	
Number of Points: 1	Pitot Cp: 0.84	4	SG	796.9	793.0			Pitot Post-Test	✓	5"	JED	
Sample Time: 30	Probe Length/Mat'l: 3'/SS	5						SAMPLE TRAIN PRE-TEST CHECK				
Per Point: 10	Nozzle Dia/Mat'l: NA	6							Time	ΔH	Meter Reading	Temp
Isokinetic Factor: ✓	Assumed Stack T: NA	Total:						Initial				
	Assumed Meter T: NA	Filter Number:						Final				

TEST DATA

Sample Point	Time	METER CONDITIONS ΔP	ΔH	Meter Reading	TEMPERATURES °F Stack	METER Inlet	Outlet	Imp. Out	Probe	Oven	Other	Vac	Static Press.
SE NE 8	0	.64	1.9	457.490	569	74	75	59	–	–	–	3	
7	10	.63	1.9	464.6	573	75	75	53	–	–	–	3	
6	20	.75	1.9	471.8	573	77	74	55	–	–	–	3	
5	30	.73	–	478.960	575	–	–	–	–	–	–	–	
4		.91			574								
3		.97			573								
2		.95			570								
NE 1		.94			556								
NE 8		.56			573								
7		.57			573								
6		.62			568								
5		.65			569								
4		.99			569								
3		.87			567								
2		.91			563								
1		.90			563								

SAMPLE TRAIN OPERATION

Operator: RN
Assistant: JED
Imp. Setup/Rec:
Comments: Start: 1438
End: 1508

TEST SUMMARY

Calc. By: RN
Time:
Static Press: -0.59
Stack Temp: 569.25
ΔP (in. H_2O): ΔP $\sqrt{0.8828}$
O_2/CO_2:
Meter Vol. (acf): 21.470
H_2O, V_{lc}: 54.5
Meter Temp.: 73.0
Meter Pres.: 1.9

SCEC
Total Combustion Analysis
SCAQMD Method 25.1
Field Sampling Data Sheet

Job #: 2060. 1060
Facility: OCSD
Location: P2 E4
Date: 1/28/14
Operator: RN

Control Device: A.A. C
Sample Location: P2E4
Ambient Temp: 70
Barometric Pressure: 30.00

Sample A

Tank #: 249
Trap #: 117
Initial Vacuum: 30" Hg
Final Vacuum: 8" Hg

Sample B

Tank #: 267
Trap #: 124
Initial Vacuum: 30 Hg"
Final Vacuum: 8" Hg"

Time	Vacuum ("Hg)	Flow (cc/min)
1445	30	FIXED
1455	25"	
1505	22	
1515	18"	
1525	14	
1535	10"	
1545	8"	

Time	Vacuum ("Hg)	Flow (cc/min)
1445	30	FIXED
1453	25"	
1505	22	
1515	17"	
1525	13	
1535	10"	
1545	8"	

	A	B
Leak Rate Pre Test:	0.0	0.0
Leak Rate Post Test:	0.0	0.0

SCEC
Total Combustion Analysis
SCAQMD Method 25.1
Field Sampling Data Sheet

Job #: 2061.1060
Facility: OCSD
Location: P2E2
Date: 1/28/15
Operator: RN

Control Device: A.A.C
Sample Location: P2E2
Ambient Temp: 70
Barometric Pressure: 30.00

Sample A

Tank #: 474
Trap #: 164
Initial Vacuum: 30" Hg
Final Vacuum: 11" Hg

Time	Vacuum ("Hg)	Flow (cc/min)
1200	30	Fixed
1210	27"	
1220	25	
1230	21"	
1240	19	
1250	15	
1300	11	

Sample B

Tank #: 469
Trap #: 160
Initial Vacuum: 30" Hg
Final Vacuum: 11" Hg

Time	Vacuum ("Hg)	Flow (cc/min)
1200	30	Fixed
1210	26"	
1220	24"	
1230	21"	
1240	18"	
1250	13"	
1300	11"	

	A	B
Leak Rate Pre Test:	0.00	0.00
Leak Rate Post Test:	0.00	0.00

SCEC

Appendix D

QA/QC SCAQMD Method 100.1

OCSD PLANT 2
ENGINE #2
December 18, 2014

NO_2 Converter Check

NO_2 Gas Concentration, ppm (C_0)	17.10 ppm
NO_2 Gas Concentration in NO mode, ppm (C_1)	0.01 ppm
NO_2 Gas Concentration in NOx mode, ppm (C_2)	16.34 ppm

%CE = **95.5% PASS**

$C_1 < 5\%$ of C_0 **PASS**

OCSD PLANT 2
ENGINE #4
December 18, 2014

NO_2 Converter Check

NO_2 Gas Concentration, ppm (C_0)	17.10 ppm
NO_2 Gas Concentration in NO mode, ppm (C_1)	0.01 ppm
NO_2 Gas Concentration in NOx mode, ppm (C_2)	16.34 ppm

%CE = **95.5% PASS**

$C_1 < 5\%$ of C_0 **PASS**

SCEC

CEMS LINEARITY

CLIENT/LOCATION: OCSD Plant 2 Engine 2
VEHICLE / CEM I.D. TV-5

PRE-TEST DATE: 12/18/2014
POST-TEST DATE: 12/18/2014
BY: RN

SPAN GAS RECORD

	MID SPAN CYLINDER		HIGH SPAN CYLINDER	
	CYLINDER NO.	CONCENTRATION	CYLINDER NO.	CONCENTRATION
ZERO		99.999% N2		
O_2	CC243285	12.5	CC219841	20.9
CO_2	CC243285	8.23	CC219841	16.50
NO_x	CC244265	42.60	CC139489	86.90
CO	CC115386	858.0	CC207275	1780
NO2	CA01730	17.1		

PRETEST

	ANALYZER				
	O_2	CO_2	NO_x	CO	SO_2
Analyzer Range	25	20	100	2000	
Zero Gas Value	0	0	0	0	
Analyzer Reads	0.00	0.04	0.00	0.80	
High Gas Value	20.9	16.5	86.9	1780	
Analyzer Reads	20.92	16.57	86.30	1782.00	
Mid Gas Value	12.5	8.23	42.60	858.00	
Analyzer Reads	12.44	8.39	43	863	
Slope	1.0010	1.0018	0.9931	1.0007	
Y-Intercept	0	0.04	0	0.8	
Predicted Concentration	12.512	8.285	42.306	859.378	
Difference	-0.072	0.105	0.694	3.622	
Difference, %	-0.3%	0.5%	0.7%	0.2%	
Status	PASS	PASS	PASS	PASS	

Absolute Value of Difference must be less than 1%

POSTTEST

	ANALYZER				
	O_2	CO_2	NO_x	CO	SO_2
Analyzer Range	25	20	100	2000	
Zero Gas Value	0	0	0	0	
Analyzer Reads	-0.03	0.02	0.00	1.20	
High Gas Value	20.9	16.5	86.9	1780	
Analyzer Reads	21.05	16.73	85.84	1792.0	
Mid Gas Value	12.5	8.23	42.60	858.0	
Analyzer Reads	12.54	8.42	41.68	862	
Slope	1.0086	1.0127	0.9878	1.0061	
Y-Intercept	-0.03	0.02	0	1.2	
Predicted Concentration	12.578	8.355	42.080	864.406	
Difference	-0.038	0.065	-0.400	-2.406	
Difference, %	-0.2%	0.3%	-0.4%	-0.1%	
Status	PASS	PASS	PASS	PASS	

Absolute Value of Difference must be less than 1%

HIGH/LOW LOAD PRETEST

	ANALYZER				
	O_2	CO_2	NO_x	CO	SO_2
Analyzer Range	25	20	100	2000	
Zero Gas Value	0	0	0	0	
Analyzer Reads	-0.03	0.00	0.00	0.00	
High Gas Value	20.9	16.5	86.9	1780	
Analyzer Reads	21.05	16.73	85.84	1792.0	
Mid Gas Value	12.5	8.23	42.60	858.0	
Analyzer Reads	12.54	8.42	41.68	862	
Slope	1.0086	1.0139	0.9878	1.0067	
Y-Intercept	-0.03	0	0	0	
Predicted Concentration	12.578	8.345	42.080	863.784	
Difference	-0.038	0.075	-0.400	-1.784	
Difference, %	-0.2%	0.4%	-0.4%	-0.1%	
Status	PASS	PASS	PASS	PASS	

Absolute Value of Difference must be less than 1%

HIGH/LOW LOAD POSTTEST

	ANALYZER				
	O_2	CO_2	NO_x	CO	SO_2
Analyzer Range	25	20	100	2000	
Zero Gas Value	0	0	0	0	
Analyzer Reads	-0.04	-0.08	0.00	0.00	
High Gas Value	20.9	16.5	86.9	1780	
Analyzer Reads	21.04	16.70	85.50	1812.0	
Mid Gas Value	12.5	8.23	42.60	858.0	
Analyzer Reads	12.5	8.37	41.43	862	
Slope	1.0086	1.0170	0.9839	1.0180	
Y-Intercept	-0.04	-0.08	0	0	
Predicted Concentration	12.568	8.290	41.914	873.425	
Difference	-0.068	0.080	-0.484	-11.425	
Difference, %	-0.3%	0.4%	-0.5%	-0.6%	
Status	PASS	PASS	PASS	PASS	

Absolute Value of Difference must be less than 1%

CALIBRATION ERROR

FACILITY:	OCSD PLANT 2	DATA FOR SAMPLING RUNS:		PRETEST	
SOURCE ID:	ENGINE #2	DATE:			12/18/2014
OPERATOR:	RN	PROJECT No.:			2061.1060
PARAMETER	CYLINDER VALUE	ANALYZER CALIBRATION RESPONSE	ABSOLUTE DIFFERENCE	DIFFERENCE	
UNITS	PPMV or % VOL	PPMV or % VOL	PPMV or % VOL	% OF SPAN	
O_2 - FULL SCALE	25.00				
O_2 - ZERO	0.00	0.00	0.00	**0.00**	
O_2 - MID CAL	12.50	12.44	0.06	**0.24**	
O_2 -HIGH CAL	20.90	20.92	-0.02	**-0.08**	
CO_2 - FULL SCALE	20.00				
CO_2 - ZERO	0.00	0.04	-0.04	**-0.20**	
CO_2 - MID CAL	8.23	8.39	-0.16	**-0.80**	
CO_2 -HIGH CAL	16.50	16.57	-0.07	**-0.35**	
NO_x - FULL SCALE	100.00				
NO_x - ZERO	0.0	0.00	0.00	**0.00**	
NO_x - MID CAL	42.6	43.00	-0.40	**-0.40**	
NO_x -HIGH CAL	86.9	86.30	0.60	**0.60**	
CO - FULL SCALE	2000.00				
CO - ZERO	0.0	0.8	-0.80	**-0.04**	
CO - MID CAL	858.0	863.0	-5.00	**-0.25**	
CO -HIGH CAL	1780	1782.0	-2.00	**-0.10**	

NOTE: CO2/O2 - % VOL AND NOx/CO - PPMV; ALL ON A DRY BASIS

CALIBRATION ERROR

FACILITY:	OCSD PLANT 2	DATA FOR SAMPLING RUNS:		POSTTEST	
SOURCE ID:	ENGINE #2	DATE:			12/18/2014
OPERATOR:	RN	PROJECT No.:			2061.1060
PARAMETER	CYLINDER VALUE	ANALYZER CALIBRATION RESPONSE	ABSOLUTE DIFFERENCE	DIFFERENCE	
UNITS	PPMV or % VOL	PPMV or % VOL	PPMV or % VOL	% OF SPAN	
O_2 - FULL SCALE	25.00				
O_2 - ZERO	0.00	0.00	0.00	**0.00**	
O_2 - MID CAL	12.50	12.45	0.05	**0.20**	
O_2 -HIGH CAL	20.90	20.94	-0.04	**-0.16**	
CO_2 - FULL SCALE	20.00				
CO_2 - ZERO	0.00	0.02	-0.02	**-0.10**	
CO_2 - MID CAL	8.23	8.31	-0.08	**-0.40**	
CO_2 -HIGH CAL	16.50	16.55	-0.05	**-0.25**	
NO_x - FULL SCALE	100.00				
NO_x - ZERO	0.00	0.00	0.00	**0.00**	
NO_x - MID CAL	42.60	42.90	-0.30	**-0.30**	
NO_x -HIGH CAL	86.90	86.80	0.10	**0.10**	
CO - FULL SCALE	2000.00				
CO - ZERO	0.00	1.2	-1.20	**-0.06**	
CO - MID CAL	858.00	855.7	2.30	**0.11**	
CO -HIGH CAL	1780.00	1774.0	6.00	**0.30**	

NOTE: CO2/O2 - % VOL AND NOx/CO - PPMV; ALL ON A DRY BASIS

SYSTEM CALIBRATION BIAS AND DRIFT DATA

FACILITY:	OCSD PLANT 2	DATA FOR SAMPLING RUN:		HIGH AND LOW LOAD		
SOURCE ID:	ENGINE #2	DATE:			12/18/14	
OPERATOR:	RN	PROJECT No.:			2061.1060	
		INITIAL VALUES		FINAL VALUES		
PARAMETER	ANALYZER CALIBRATION RESPONSE	SYSTEM CALIBRATION RESPONSE	SYSTEM CALIBRATION BIAS	SYSTEM CALIBRATION RESPONSE	SYSTEM CALIBRATION BIAS	CALIBRATION DRIFT
UNITS	PPMV or % VOL	PPMV or % VOL	% OF SPAN	PPMV or % VOL	% OF SPAN	% OF SPAN
O_2 - ZERO	0.00	0.00	**0.00**	0.01	**-0.04**	**-0.04**
O_2 - SPAN	12.45	12.51	**-0.24**	12.36	**0.36**	**0.60**
CO_2 - ZERO	0.04	0.18	**-0.70**	0.15	**-0.55**	**0.15**
CO_2 - SPAN	8.35	8.25	**0.50**	8.36	**-0.05**	**-0.55**
NO_x - ZERO	0.00	0.60	**-0.60**	0.90	**-0.90**	**-0.30**
NO_x - SPAN	43.0	43.0	**0.00**	43.00	**0.00**	**0.00**
CO - ZERO	0.8	0.9	**-0.01**	1.6	**-0.04**	**-0.04**
CO - SPAN	863.3	855.3	**0.40**	854.9	**0.42**	**0.02**

NOTE: CO2/O2 - % VOL AND NOx/CO - PPMV; ALL ON A DRY BASIS

SUMMARY OF CONTINUOUS MONITORING DATA

FACILITY:	OCSD PLANT 2	DATA FOR SAMPLING RUN:		NORMAL LOAD	
SOURCE ID:	ENGINE #2	DATE:	12/18/14	TIME:	1630-1730
OPERATOR:	RN	PROJECT No.:	2061.1060		
PARAMETER UNITS	O_2 % VOL DRY	CO_2 % VOL DRY	NO_x PPMV,D	CO PPMV,D	SO_2 PPMV,D
INITIAL ZERO BIAS	0.00	0.21	0.80	1.20	---
INITIAL SPAN BIAS	12.45	8.33	42.40	854.10	---
FINAL ZERO BIAS	0.00	0.18	0.60	0.90	---
FINAL SPAN BIAS	12.51	8.25	43.00	855.30	---
AVERAGE ZERO BIAS	0.00	0.20	0.70	1.05	---
AVERAGE SPAN BIAS	12.48	8.29	42.70	854.70	---
BIAS GAS CONCENTRATION	12.50	8.23	42.60	858.00	---
FULL SCALE RANGE	25.00	20.00	100.00	2000.00	---
UNCORRECTED CONC.	11.80	7.51	46.13	507.28	---
CORRECTED CONC.	**11.82**	**7.44**	**46.08**	**508.81**	---
PPMV @ 15 % O2			29.95	330.74	---
LB/HR BASED ON PITOT FLOW (DSCFM)	9,056		3.04	20.42	---

SCEC

CEMS LINEARITY

CLIENT/LOCATION: OCSD Plant 2 Engine 4
VEHICLE / CEM I.D. TV-5

PRE-TEST DATE: 12/18/2014
POST-TEST DATE: 12/18/2014
BY: RN

SPAN GAS RECORD

	MID SPAN CYLINDER		HIGH SPAN CYLINDER	
	CYLINDER NO.	CONCENTRATION	CYLINDER NO.	CONCENTRATION
ZERO		99.999% N2		
O_2	CC243285	12.5	CC107912	20.9
CO_2	CC243285	8.23	CC107912	16.50
NO_x	CC244265	42.60	CC307348	86.90
CO	CC115386	858.0	CC207275	1780
NO2	CA01730	17.1		

PRETEST

	ANALYZER				
	O_2	CO_2	NO_x	CO	SO_2
Analyzer Range	25	20	100	2000	
Zero Gas Value	0	0	0	0	
Analyzer Reads	0.00	0.00	0.00	0.80	
High Gas Value	20.9	16.5	86.9	1780	
Analyzer Reads	20.93	16.55	86.60	1794.90	
Mid Gas Value	12.5	8.23	42.60	858.00	
Analyzer Reads	12.44	8.32	42.9	863.7	
Slope	1.0014	1.0030	0.9965	1.0079	
Y-Intercept	0	0	0	0.8	
Predicted Concentration	12.518	8.255	42.453	865.597	
Difference	-0.078	0.065	0.447	-1.897	
Difference, %	-0.3%	0.3%	0.4%	-0.1%	
Status	PASS	PASS	PASS	PASS	

Absolute Value of Difference must be less than 1%

POSTTEST

	ANALYZER				
	O_2	CO_2	NO_x	CO	SO_2
Analyzer Range	25	20	100	2000	
Zero Gas Value	0	0	0	0	
Analyzer Reads	-0.03	0.05	0.10	0.80	
High Gas Value	20.9	16.5	86.9	1780	
Analyzer Reads	21.05	16.73	85.84	1792.0	
Mid Gas Value	12.5	8.23	42.60	858.0	
Analyzer Reads	12.54	8.42	41.68	862	
Slope	1.0086	1.0109	0.9867	1.0063	
Y-Intercept	-0.03	0.05	0.1	0.8	
Predicted Concentration	12.578	8.370	42.131	864.199	
Difference	-0.038	0.050	-0.451	-2.199	
Difference, %	-0.2%	0.3%	-0.5%	-0.1%	
Status	PASS	PASS	PASS	PASS	

Absolute Value of Difference must be less than 1%

HIGH/LOW LOAD PRETEST

	ANALYZER				
	O_2	CO_2	NO_x	CO	SO_2
Analyzer Range	25	20	100	2000	
Zero Gas Value	0	0	0	0	
Analyzer Reads	-0.03	0.00	0.00	0.00	
High Gas Value	20.9	16.5	86.9	1780	
Analyzer Reads	21.05	16.73	85.84	1792.0	
Mid Gas Value	12.5	8.23	42.60	858.0	
Analyzer Reads	12.54	8.42	41.68	862	
Slope	1.0086	1.0139	0.9878	1.0067	
Y-Intercept	-0.03	0	0	0	
Predicted Concentration	12.578	8.345	42.080	863.784	
Difference	-0.038	0.075	-0.400	-1.784	
Difference, %	-0.2%	0.4%	-0.4%	-0.1%	
Status	PASS	PASS	PASS	PASS	

Absolute Value of Difference must be less than 1%

HIGH/LOW LOAD POSTTEST

	ANALYZER				
	O_2	CO_2	NO_x	CO	SO_2
Analyzer Range	25	20	100	2000	
Zero Gas Value	0	0	0	0	
Analyzer Reads	-0.04	-0.08	0.00	0.00	
High Gas Value	20.9	16.5	86.9	1780	
Analyzer Reads	21.04	16.70	85.50	1812.0	
Mid Gas Value	12.5	8.23	42.60	858.0	
Analyzer Reads	12.5	8.37	41.43	862	
Slope	1.0086	1.0170	0.9839	1.0180	
Y-Intercept	-0.04	-0.08	0	0	
Predicted Concentration	12.568	8.290	41.914	873.425	
Difference	-0.068	0.080	-0.484	-11.425	
Difference, %	-0.3%	0.4%	-0.5%	-0.6%	
Status	PASS	PASS	PASS	PASS	

Absolute Value of Difference must be less than 1%

CALIBRATION ERROR

FACILITY:	OCSD PLANT 2	DATA FOR SAMPLING RUNS:		PRETEST
SOURCE ID:	ENGINE #4	DATE:		12/18/2014
OPERATOR:	RN	PROJECT No.:		2061.1060

PARAMETER	CYLINDER VALUE	ANALYZER CALIBRATION RESPONSE	ABSOLUTE DIFFERENCE	DIFFERENCE
UNITS	PPMV or % VOL	PPMV or % VOL	PPMV or % VOL	% OF SPAN
O_2 - FULL SCALE	25.00			
O_2 - ZERO	0.00	0.00	0.00	**0.00**
O_2 - MID CAL	12.50	12.44	0.06	**0.24**
O_2 -HIGH CAL	20.90	20.93	-0.03	**-0.12**
CO_2 - FULL SCALE	20.00			
CO_2 - ZERO	0.00	0.00	0.00	**0.00**
CO_2 - MID CAL	8.23	8.32	-0.09	**-0.45**
CO_2 -HIGH CAL	16.50	16.55	-0.05	**-0.25**
NO_x - FULL SCALE	100.00			
NO_x - ZERO	0.0	0.00	0.00	**0.00**
NO_x - MID CAL	42.6	42.90	-0.30	**-0.30**
NO_x -HIGH CAL	86.9	86.60	0.30	**0.30**
CO - FULL SCALE	2000.00			
CO - ZERO	0.0	0.8	-0.80	**-0.04**
CO - MID CAL	858.0	863.7	-5.70	**-0.29**
CO -HIGH CAL	1780	1794.9	-14.90	**-0.75**

NOTE: CO2/O2 - % VOL AND NOx/CO - PPMV; ALL ON A DRY BASIS

CALIBRATION ERROR

FACILITY:	OCSD PLANT 2	DATA FOR SAMPLING RUNS:		POSTTEST	
SOURCE ID:	ENGINE #4	DATE:			12/18/2014
OPERATOR:	RN	PROJECT No.:			2061.1060
PARAMETER	CYLINDER VALUE	ANALYZER CALIBRATION RESPONSE	ABSOLUTE DIFFERENCE	DIFFERENCE	
UNITS	PPMV or % VOL	PPMV or % VOL	PPMV or % VOL	% OF SPAN	
O_2 - FULL SCALE	25.00				
O_2 - ZERO	0.00	0.00	0.00	**0.00**	
O_2 - MID CAL	12.50	12.45	0.05	**0.20**	
O_2 -HIGH CAL	20.90	20.93	-0.03	**-0.12**	
CO_2 - FULL SCALE	20.00				
CO_2 - ZERO	0.00	0.05	-0.05	**-0.25**	
CO_2 - MID CAL	8.23	8.38	-0.15	**-0.75**	
CO_2 -HIGH CAL	16.50	16.61	-0.11	**-0.55**	
NO_x - FULL SCALE	100.00				
NO_x - ZERO	0.00	0.10	-0.10	**-0.10**	
NO_x - MID CAL	42.60	42.30	0.30	**0.30**	
NO_x -HIGH CAL	86.90	85.40	1.50	**1.50**	
CO - FULL SCALE	2000.00				
CO - ZERO	0.00	0.8	-0.80	**-0.04**	
CO - MID CAL	858.00	859.7	-1.70	**-0.09**	
CO -HIGH CAL	1780.00	1787.7	-7.70	**-0.39**	

NOTE: CO2/O2 - % VOL AND NOx/CO - PPMV; ALL ON A DRY BASIS

SYSTEM CALIBRATION BIAS AND DRIFT DATA

FACILITY:	OCSD PLANT 2	DATA FOR SAMPLING RUN:		NORMAL LOAD		
SOURCE ID:	ENGINE #4	DATE:			12/18/14	
OPERATOR:	RN	PROJECT No.:			2061.1060	
		INITIAL VALUES		FINAL VALUES		
PARAMETER	ANALYZER CALIBRATION RESPONSE	SYSTEM CALIBRATION RESPONSE	SYSTEM CALIBRATION BIAS	SYSTEM CALIBRATION RESPONSE	SYSTEM CALIBRATION BIAS	CALIBRATION DRIFT
UNITS	PPMV or % VOL	PPMV or % VOL	% OF SPAN	PPMV or % VOL	% OF SPAN	% OF SPAN
O_2 - ZERO	0.00	0.02	**-0.08**	0.00	**0.00**	**0.08**
O_2 - SPAN	12.44	12.37	**0.28**	12.61	**-0.68**	**-0.96**
CO_2 - ZERO	0.00	0.25	**-1.25**	0.14	**-0.70**	**0.55**
CO_2 - SPAN	8.32	8.29	**0.15**	8.10	**1.10**	**0.95**
NO_x - ZERO	0.0	0.00	**0.00**	0.30	**-0.30**	**-0.30**
NO_x - SPAN	42.9	41.90	**1.00**	41.8	**1.10**	**0.10**
CO - ZERO	0.8	1.2	**-0.02**	0.8	**0.00**	**0.02**
CO - SPAN	863.7	856.5	**0.36**	862.9	**0.04**	**-0.32**

NOTE: CO2/O2 - % VOL AND NOx/CO - PPMV; ALL ON A DRY BASIS

SYSTEM CALIBRATION BIAS AND DRIFT DATA

FACILITY:	OCSD PLANT 2	DATA FOR SAMPLING RUN:		HIGH AND LOW LOAD		
SOURCE ID:	ENGINE #4	DATE:			12/18/14	
OPERATOR:	RN	PROJECT No.:			2061.1060	
		INITIAL VALUES		FINAL VALUES		
PARAMETER	ANALYZER CALIBRATION RESPONSE	SYSTEM CALIBRATION RESPONSE	SYSTEM CALIBRATION BIAS	SYSTEM CALIBRATION RESPONSE	SYSTEM CALIBRATION BIAS	CALIBRATION DRIFT
UNITS	PPMV or % VOL	PPMV or % VOL	% OF SPAN	PPMV or % VOL	% OF SPAN	% OF SPAN
O_2 - ZERO	0.00	0.00	**0.00**	0.01	**-0.04**	**-0.04**
O_2 - SPAN	12.45	12.61	**-0.64**	12.45	**0.00**	**0.64**
CO_2 - ZERO	0.05	0.14	**-0.45**	0.21	**-0.80**	**-0.35**
CO_2 - SPAN	8.38	8.10	**1.40**	8.33	**0.25**	**-1.15**
NO_x - ZERO	0.10	0.30	**-0.20**	0.80	**-0.70**	**-0.50**
NO_x - SPAN	43.00	41.8	**1.20**	42.40	**0.60**	**-0.60**
CO - ZERO	0.8	0.8	**0.00**	1.2	**-0.02**	**-0.02**
CO - SPAN	859.7	862.9	**-0.16**	854.1	**0.28**	**0.44**

NOTE: CO2/O2 - % VOL AND NOx/CO - PPMV; ALL ON A DRY BASIS

SCEC

CEMS LINEARITY

CLIENT/LOCATION: OCSD Plant 2 Engine 2
VEHICLE / CEM I.D. TV-7

PRE-TEST DATE: 1/28/2015
POST-TEST DATE: 1/28/2015
BY: RN

SPAN GAS RECORD

	MID SPAN CYLINDER		HIGH SPAN CYLINDER	
	CYLINDER NO.	CONCENTRATION	CYLINDER NO.	CONCENTRATION
ZERO		99.999% N2		
O_2	CC95426	12.5	CC174445	20.9
CO_2	CC95426	8.4	CC174445	16.60
NO_x				
CO				
NO2				

PRETEST

	ANALYZER				
	O_2	CO_2	NO_x	CO	SO_2
Analyzer Range	25	20			
Zero Gas Value	0	0			
Analyzer Reads	0.00	0.00			
High Gas Value	20.9	16.6			
Analyzer Reads	20.85	16.90			
Mid Gas Value	12.5	8.4			
Analyzer Reads	12.3	8.47			
Slope	0.9976	1.0181			
Y-Intercept	0	0			
Predicted Concentration	12.470	8.552			
Difference	-0.170	-0.082			
Difference, %	-0.7%	-0.4%			
Status	PASS	PASS			

Absolute Value of Difference must be less than 1%

POSTTEST

	ANALYZER				
	O_2	CO_2	NO_x	CO	SO_2
Analyzer Range	25	20			
Zero Gas Value	0	0			
Analyzer Reads	-0.03	0.04			
High Gas Value	20.9	16.6			
Analyzer Reads	21.05	16.73			
Mid Gas Value	12.5	8.4			
Analyzer Reads	12.54	8.42			
Slope	1.0086	1.0054			
Y-Intercept	-0.03	0.04			
Predicted Concentration	12.578	8.486			
Difference	-0.038	-0.066			
Difference, %	-0.2%	-0.3%			
Status	PASS	PASS			

Absolute Value of Difference must be less than 1%

SYSTEM CALIBRATION BIAS AND DRIFT DATA

FACILITY:	OCSD PLANT 2	DATA FOR SAMPLING RUN:		NORMAL LOAD		
SOURCE ID:	ENGINE #2	DATE:			01/28/15	
OPERATOR:	RN	PROJECT No.:			2061.1060	
		INITIAL VALUES		FINAL VALUES		
PARAMETER	ANALYZER CALIBRATION RESPONSE	SYSTEM CALIBRATION RESPONSE	SYSTEM CALIBRATION BIAS	SYSTEM CALIBRATION RESPONSE	SYSTEM CALIBRATION BIAS	CALIBRATION DRIFT
UNITS	PPMV or % VOL	PPMV or % VOL	% OF SPAN	PPMV or % VOL	% OF SPAN	% OF SPAN
O_2 - ZERO	0.00	0.00	**0.00**	0.00	**0.00**	**0.00**
O_2 - SPAN	12.30	12.30	**0.00**	12.30	**0.00**	**0.00**
CO_2 - ZERO	0.00	0.02	**-0.10**	0.03	**-0.15**	**-0.05**
CO_2 - SPAN	8.47	8.47	**0.00**	8.52	**-0.25**	**-0.25**

NOTE: CO2/O2 - % VOL AND NOx/CO - PPMV; ALL ON A DRY BASIS

SCEC

CEMS LINEARITY

CLIENT/LOCATION: OCSD Plant 2 Engine 4
VEHICLE / CEM I.D. TV-7

PRE-TEST DATE: 1/28/2015
POST-TEST DATE: 1/28/2015
BY: RN

SPAN GAS RECORD

	MID SPAN CYLINDER		HIGH SPAN CYLINDER	
	CYLINDER NO.	CONCENTRATION	CYLINDER NO.	CONCENTRATION
ZERO		99.999% N2		
O_2	CC95426	12.5	CC174445	20.9
CO_2	CC95426	8.4	CC174445	16.60
NO_x				
CO				
NO2				

PRETEST

	ANALYZER				
	O_2	CO_2	NO_x	CO	SO_2
Analyzer Range	25	20			
Zero Gas Value	0	0			
Analyzer Reads	0.00	0.00			
High Gas Value	20.9	16.6			
Analyzer Reads	20.85	16.90			
Mid Gas Value	12.5	8.4			
Analyzer Reads	12.3	8.47			
Slope	0.9976	1.0181			
Y-Intercept	0	0			
Predicted Concentration	12.470	8.552			
Difference	-0.170	-0.082			
Difference, %	-0.7%	-0.4%			
Status	PASS	PASS			

Absolute Value of Difference must be less than 1%

POSTTEST

	ANALYZER				
	O_2	CO_2	NO_x	CO	SO_2
Analyzer Range	25	20			
Zero Gas Value	0	0			
Analyzer Reads	-0.03	0.04			
High Gas Value	20.9	16.6			
Analyzer Reads	21.05	16.73			
Mid Gas Value	12.5	8.4			
Analyzer Reads	12.54	8.42			
Slope	1.0086	1.0054			
Y-Intercept	-0.03	0.04			
Predicted Concentration	12.578	8.486			
Difference	-0.038	-0.066			
Difference, %	-0.2%	-0.3%			
Status	PASS	PASS			

Absolute Value of Difference must be less than 1%

SYSTEM CALIBRATION BIAS AND DRIFT DATA

FACILITY:	OCSD PLANT 2	DATA FOR SAMPLING RUN:		NORMAL LOAD		
SOURCE ID:	ENGINE #4	DATE:			01/28/15	
OPERATOR:	RN	PROJECT No.:			2061.1060	
		INITIAL VALUES		FINAL VALUES		
PARAMETER	ANALYZER CALIBRATION RESPONSE	SYSTEM CALIBRATION RESPONSE	SYSTEM CALIBRATION BIAS	SYSTEM CALIBRATION RESPONSE	SYSTEM CALIBRATION BIAS	CALIBRATION DRIFT
UNITS	PPMV or % VOL	PPMV or % VOL	% OF SPAN	PPMV or % VOL	% OF SPAN	% OF SPAN
O_2 - ZERO	0.00	0.00	**0.00**	0.00	**0.00**	**0.00**
O_2 - SPAN	12.30	12.30	**0.00**	12.43	**-0.52**	**-0.52**
CO_2 - ZERO	0.00	0.03	**-0.15**	0.04	**-0.20**	**-0.05**
CO_2 - SPAN	8.47	8.52	**-0.25**	8.53	**-0.30**	**-0.05**

NOTE: CO2/O2 - % VOL AND NOx/CO - PPMV; ALL ON A DRY BASIS

SCEC

Appendix E

Laboratory Analytical Data

Associated Laboratories
806 N. Batavia - Orange, CA 92868
Tel (714)771-6900 Fax (714)538-1209
www.associatedlabs.com
info@associatedlabs.com

ACCREDITED IN ACCORDANCE WITH nelac
04232CA

Client: SCEC
Address: 1631 E. St. Andrews Place
Santa Ana, CA 92705

Attn: Rudy Nunez

Comments: OCSD
#2061.1060
Plant 2

Lab Request: 350889
Report Date: 01/13/2015
Date Received: 12/22/2014
Client ID: 14365

This laboratory request covers the following listed samples which were analyzed for the parameters indicated on the attached Analytical Result Report. All analyses were conducted using the appropriate methods. Methods accredited by NELAC are indicated on the report. This cover letter is an integral part of the final report.

Sample #	Client Sample ID
350889-001	P2E2
350889-002	P2E4
350889-003	Blank

Thank you for the opportunity to be of service to your company. Please feel free to call if there are any questions regarding this report or if we can be of further service.

ASSOCIATED LABORATORIES by,

Nina Prasad
President

NOTE: Unless notified in writing , all samples will be discarded by appropriate disposal protocol 45 days from date reported.

The reports of the Associated Laboratories are confidential property of our clients and may not be reproduced or used for publication in part or in full without our written permission. This is for the mutual protection of the public, our clients, and ourselves.

TESTING & CONSULTING
Chemical
Microbiological
Environmental

Matrix: Air	**Client:** SCEC		**Collector:** Client		
Sampled: 12/18/2014	**Site:**				
Sample #: 350889-001	**Client Sample #:** P2E2		**Sample Type:**		

Analyte	Result	DF	RDL	Units	Analyzed	By	Notes
Method: SCAQMD 5.1	**Prep Method:** Method					**QCBatchID:**	
See Attached		1					

Matrix: Air	**Client:** SCEC		**Collector:** Client		
Sampled: 12/18/2014	**Site:**				
Sample #: 350889-002	**Client Sample #:** P2E4		**Sample Type:**		

Analyte	Result	DF	RDL	Units	Analyzed	By	Notes
Method: SCAQMD 5.1	**Prep Method:** Method					**QCBatchID:**	
See Attached		1					

Matrix: Air	**Client:** SCEC		**Collector:** Client		
Sampled: 12/18/2014	**Site:**				
Sample #: 350889-003	**Client Sample #:** Blank		**Sample Type:**		

Analyte	Result	DF	RDL	Units	Analyzed	By	Notes
Method: SCAQMD 5.1	**Prep Method:** Method					**QCBatchID:**	
See Attached		1					

Data Qualifiers and Definitions

Qualifiers

B	Analyte was present in an associated method blank. Associated sample data was reported with qualifier.
B1	Analyte was present in an sample and associated method blank greater than MDL but less than DRL. Associated sample data was reported with qualifier.
BQ1	No valid test replicates. Result may be greater. Best result was reported with qualifier. Sample toxicity possible.
BQ2	No valid test replicates.
BQ3	Minimum DO is less than 1.0 mg/L. Result may be greater and reported with qualifier.
C	Laboratory Contamination.
D	The sample duplicate RPD was not within control limits, the sample data was reported without further clarification.
D1	Lesser amount of sample was used due to insufficient amount of sample supplied
DW	Sample result is calculated on a dry weigh basis
J	Reported value is estimated
L	The laboratory control sample (LCS) or laboratory control sample duplicate (LCSD) was out of control limits. Associated sample data was reported with qualifier.
M	The matrix spike (MS) or matrix spike duplicate (MSD) was not within control limits due to matrix interference. The associated LCS and/or LCSD was within control limits and the sample data was reported without further clarification.
NC	The analyte concentration in the sample exceeded the spike level by a factor of four or greater, spike recovery and limits do not apply.
P	Sample was received without proper preservation according to EPA guidelines.
Q1	Analyte Calibration Verification exceeds criteria and the result was reported with qualifier.
Q2	Analyte calibration was not verified and the result was estimated and reported with qualifier.
Q3	Analyte initial calibration was not available or exceeds criteria. The result was estimated and reported with qualifier.
Q4	Analyte result out of calibration range and was reported with qualifier
S	The surrogate recovery was out of control limits due to matrix interference. The associated method blank surrogate recovery was within control limits and the sample data was reported without further clarification.
T	Sample was extracted/analyzed past the holding time.
T1	Reanalysis was reported past hold time due to failing replicates in the original analysis (BOD only).
T2	Sample was analyzed ASAP but received and analyzed past the 15 minute holding time.
T3	Sample received and analyzed out of hold time per client's request
T4	Sample was analyzed out of hold time per client's request
T5	Reanalysis was reported past hold time. The original analysis was within hold time, but not reportable.
TIC	Tentatively Identified Compounds

Definitions

DF	Dilution Factor
MDL	Method Detection Limit
ND	Analyte was not detected or was less than the detection limit.
RDL	Reporting Detection Limit

GRAVIMETRIC ANALYSIS

LR 350889

CLIENT: OCSD

ANALYST:

REPORT#: 2061.1060

METHOD: SCAQMD 5-1

TEST DATE: 12/18/2014

LOCATION/UNIT: OCSD			RUN #: P2E2		
			SAMPLE WEIGHTS		
FRACTION	VOLUME	EVAP DISH	Weight (g)	Weight (g)	Weight (g)
Probe/Nozzle		Tare:	Date/Time:	Date/Time:	Date/Time:
Condensable (Inorg)	460 ML	E -186 Tare: 106.1256	106. 1418 Date/Time:01/08 16:30	106.1405 Date/Time: 01/09 8:17	106.1404 Date/Time: 01/09 16:20
Condensable (Org)	125 ML	E-182 Tare: 117.2886	117.2890 Date/Time:01/07 16:10	117.2892 Date/Time: 01/08 10:14	Date/Time:
Filter 55-873 Tare : 0.13744	-----	-----	0.14502 Date/Time: 01/07 8:30	0.14502 Date/Time: 01/08 9:56	Date/Time:

LOCATION/UNIT: OCSD			RUN #: P2E4		
			SAMPLE WEIGHTS		
FRACTION	VOLUME	EVAP DISH	Weight (g)	Weight (g)	Weight (g)
Probe/Nozzle		Tare:	Date/Time:	Date/Time:	Date/Time:
Condensable (Inorg)	476ML	E-113 Tare:115.2020	115.2138 Date/Time 01/08 16:25	115.2135 Date/Time.01/09 9:25	Date/Time:
Condensable (Org)	125ML	E-126 Tare: 121.3618	121.3618 Date/Time: 01/07 16:18	121.3618 Date/Time: 01/08 10:25	Date/Time:
Filter: 55-876 Tare 0.13977	-----	-----	0.14116 Date/Time: 01/07 8:35	0.14119 Date/Time : 01/08 9:51	Date/Time:

LOCATION/UNIT : OCSD			RUN #: BLANK		
			SAMPLE WEIGHTS		
FRACTION	VOLUME	EVAP DISH	Weight (g)	Weight (g)	Weight (g)
Probe/Nozzle		Tare:	Date/Time:	Date/Time:	Date/Time:
Condensable (Inorg)	205ML	E-119 Tare: 115.7527	115.7527 Date/Time: 01/07 16:15	115.7527 Date/Time: 01/08 10:04	Date/Time:
Condensable (Org)		Tare:	Date/Time:	Date/Time:	Date/Time:
Filter Tare:	-----	-----	Date/Time:	Date/Time:	Date/Time:

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MONTROSE ENVIRONMENTAL

Associated Laboratories
Environmental Analytical Services

SAMPLE ACCEPTANCE CHECKLIST

Section 1

Client: SCEC

Project: OCSD

Date Received: 12-22-14

Sampler's Signature Present: (Yes) No

Sample temperature: 20.5c

Sample(s) received in cooler: Yes (No) (Skip Section 2)

Shipping Information: _____

Section 2

Was the cooler packed with: ____ Ice ____ Ice Packs ___ Bubble Wrap ___ Styrofoam ____ Paper ____None ___ Other_____

Cooler Temperature:_____ *(Acceptance range is 0 to 6 Deg. C. or arrival on ice; For Microbiology sample ≤ 10 Deg. C or arrival on ice)*

Section 3	YES	NO	N/A
Was a COC received?	✓		
Were IDs present?	✓		
Were sampling dates & times present?	✓		
Was a signature present?	✓		
Were tests clearly indicated?	✓		
Were custody seals present?		✓	
If Yes – were they intact?			✓
Were all samples sealed in plastic bags?		✓	
Did all samples arrive intact? If no, indicate below.	✓		
Did all bottle labels agree with COC? (ID, dates and times)	✓		
Were correct containers used for the tests required?	✓		
Was a sufficient amount of sample sent for tests indicated?	✓		
Was there headspace in VOA vials?			✓
Were the containers labeled with correct preservatives?			✓
Was total residual chlorine measured (Fish Bioassay samples only)? * **If the answer is no, please inform Fish Bioassay Dept. immediately.*			✓

Section 4

Explanations/Comments

Section 5

Was Project Manager notified of discrepancies: Y / N N/A

Project Manager's response:_____

Completed By: M. Gabert Date: 12/22/14

AtmAA Inc.
23917 Craftsman Rd., Calabasas, CA 91302 • (818) 223-3277 • FAX (818) 223-8250
environmental consultants
laboratory services

February 11, 2015 LTR/036/15

Rudy Nunez
SCEC
1582-1 N. Batavia
Orange, CA 92867

re: OCSD / Plant 2

Dear Rudy:

Please find enclosed the laboratory analysis reports and the original chain of custody form for one Tedlar bag sample received January 29, 2015.

The Tedlar bag sample was analyzed for hydrocarbon speciation and permanent gases as requested on the chain of custody forms. BTU reports were prepared from these results.

Sincerely,

AtmAA, Inc.

Michael L. Porter
Laboratory Director

Encl.
MLP/krm

AtmAA Inc.
23917 Craftsman Rd., Calabasas, CA 91302 • (818) 223-3277 • FAX (818) 223-8250

environmental consultants
laboratory services

LABORATORY ANALYSIS REPORT

Speciated Hydrocarbons Analysis in Tedlar Bag Samples

Report Date: February 10, 2015
Client: SCEC
Site: OCSD
Project Location: Plant 2
Project No.: 2061.1060

Date Received: January 29, 2015
Date Analyzed: January 30, 2015

ANALYSIS DESCRIPTION

Hydrocarbon Speciation analysis was performed by flame ionization detection/gas chromatography (FID/GC), modified EPA-18.

AtmAA Lab No.:	10295-11	(repeat)
Sample ID:	P2	P2
	(Concentration in ppmv, component)	
Methane	600000	602000
non-methane hydrocarbons analysis by carbon number grouping		
C2	<0.05	<0.05
C3	1.84	1.81
C4	0.20	0.21
C5	0.79	0.58
C6	0.29	0.23
C7	0.30	0.26
C8	1.16	1.03
C9	2.56	2.33
C10	10.99	9.73
C11	17.13	16.05
C12	3.56	2.99
C13	4.53	3.74
TNMHC	446.4	399.9

TNMHC - total non-methane hydrocarbons as ppmvC.

Michael L. Porter
Laboratory Director

Calculated values for Specific Volume, BTU and F (factor)

Report Date: February 10, 2015
Client: SCEC
Site: OCSD
Project: 2061.1060
Date Received: January 29, 2015
Date Analyzed: January 30, 2015
AtmAA Lab No.: 10295-11 P2

Specific volume, BTU, and F factor are calculated using labortatory analysis results for methane, carbon dioxide, nitrogen, oxygen, TGNMO, and sulfur compounds in equations that include assumed values for the specific volume of gases (CH4, CO2, N2, O2, Ar, and (CH2)n). The specific volume of gases were taken from the Scott Speciality Gases catalogue, 2001, and represents "as is" ideal gas at 60° F and 1 atm. The F factor is calculated according to the equation in ASTM D-3588.B89

Component	Mole %	Wt %	C,H,O,N,S,	Wt.%
Methane	60.13	37.73	Carbon	44.18
Carbon dioxide	33.71	58.17	Hydrogen	9.44
Nitrogen	3.05	3.34	Oxygen	43.00
Oxygen	0.56	0.70	Nitrogen	3.34
Argon	0.025	0.039	Argon	0.04
$(CH_2)_n$	0.042	0.023	Sulfur	0.00

Specific Volume	14.351			
BTU/ft^3	608	HHV	547	LHV
BTU/ lb.	8720	HHV	7852	LHV
F (factor)	9476	HHV	10524	LHV
Specific Gravity	0.881			
Wobbe Index	583			

"as is" ideal gas at 60° F, 1 atm, where CH4-1010H, 909.4L TGNMO-804H, 756L BTU/cu.ft.

Component	Specific volume reference values *	
Methane	23.35	(ft^3/lb)
Carbon dioxide	8.59	
Nitrogen	13.54	
Oxygen	11.87	
Argon	9.52	
(CH2)n	10.428	

* reference, Scott Specialty Gases Catalogue, 2001 adjusted to 60°F

Calculated values for SCAQMD RECLAIM HHV and F (factor)

Report Date: February 10, 2015
Client: SCEC
Site: OCSD
Project: Plant 2
Date Received: January 29, 2015
Date Analyzed: January 30, 2015
AtmAA Lab No.: 10295-11 P2

HHV, and F factor are calculated using labortatory analysis results for methane,carbon dioxide, nitrogen, oxygen, TGNMO, and sulfur compounds inserted into SCAQMD RECLAIM D3588 spreadsheet.
Results represent a dry "real" gas at 60oF and 1 atm.

Component	Mole %	Wt %	C,H,O,N,S,	Wt.%
Methane	61.69	37.73	Carbon	44.18
Carbon dioxide	34.59	58.17	Hydrogen	9.44
Nitrogen	3.12	3.34	Oxygen	43.04
Oxygen	0.60	0.73	Nitrogen	3.34
$(CH_2)_n$	0.042	0.023	Sulfur	0.00

HHV (btu/scf)	614
Average MW	26.16
Gas Density (Ideal Gas)	0.06785
Compressibility Factor	0.99706
Gas Density (Real Gas)	0.06805
HHV (btu/lb)	9019
F Factor (dry)	9161
F Factor - dry (60 F)	9022
F Factor (wet)	11180
F Factor - wet (60 F)	11011
Fwet / Fdry	1.220
Fc (dry)	1573

Atmospheric Analysis & Consulting, Inc.

CLIENT : SCEC
PROJECT NAME : OCSD Plant 2
PROJECT NO. : 2061.1060
AAC PROJECT NO. : 150079
REPORT DATE : 02/05/2015

On January 29, 2015, Atmospheric Analysis & Consulting, Inc. received four (4) Six-Liter Summa Canisters and four (4) traps for TNMNEOC analysis by SCAQMD 25.1 and Fixed Gases analysis by EPA 3C. Upon receipt, the samples were assigned unique Laboratory ID numbers as follows:

Client ID	Lab No.	Initial Pressure (mmHg)
P2E2 Run – 1A	150079-76922	482.3
P2E2 Run – 1B	150079-76923	470.5
P2E4 Run – 1A	150079-76924	555.7
P2E4 Run – 1B	150079-76925	541.6

SCAQMD 25.1 Analysis - Traps were cold purged into the original sampling canister and then oxidized into an ICV. The sampling canisters and the trap burning canisters were then analyzed using a GC/TCA following SCAQMD 25.1 as specified in the SOW.

EPA 3C Analysis - An aliquot of the gaseous sample is injected into the GC/TCD for analysis following EPA 3C as specified in the SOW.

The trap associated with sample P2E4 Run – 1A released excess water upon burning, indicating it contained frozen water which likely bias the results high.

No other problems were encountered during receiving, preparation, and/or analysis of these samples. The test results included in this report meet all requirements of the NELAC Standards and/or AAC SOP# AACI- SCAQMD 25.1 and EPA 3C.

I certify that this data is technically accurate, complete, and in compliance with the terms and conditions of the contract. The Laboratory Director or his designee, as verified by the following signature, has authorized release of the data contained in this hardcopy data package.

If you have any questions or require further explanation of data results, please contact the undersigned.

Marcus Hueppe
Laboratory Director

This report consists of 52 pages.

ACCREDITED IN ACCORDANCE WITH nelac Certificate #E87837

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Atmospheric Analysis & Consulting, Inc

SAMPLE RECEIPT / LOG-IN REPORT

AAC Project **150079** **Received By: J. Zachman**

Sample Receipt Date	Project Desc	Clients ID	Matrix	Sampling Date/Time	Sampled By	Sample #	Analysis Requested
01/29/2015 1315	SCEC OCSD Plant 2	P2E2 Run -1A	Canister & Trap	01/28/2015 1200-1300	Client	76922	SCAQMD 25.1
01/29/2015 1315	SCEC OCSD Plant 2	P2E2 Run - 1B	Canister & Trap	01/28/2015 1200-1300	Client	76923	SCAQMD 25.1
01/29/2015 1315	SCEC OCSD Plant 2	P2E4 Run - 1A	Canister & Trap	01/28/2015 1445-1545	Client	76924	SCAQMD 25.1
01/29/2015 1315	SCEC OCSD Plant 2	P2E4 Run - 1B	Canister & Trap	01/28/2015 1445-1545	Client	76925	SCAQMD 25.1

TURN AROUND TIME: Normal (10days)

Lab Due Date: 02/05/2015

Total Samples: 4

REMARKS:

Client returned 2 x SCAQMD 25.1 Sets.

"Please include Data Package."

Atmospheric Analysis & Consulting, Inc.

CANISTER PRESSURE LOG

Client: SCEC Project No.: 150079

Date: 01/29/2015

Canister #	Sample #	Initial Pressure	Final Pressure
474	76922	482.3	910.0
469	76923	470.5	913.8
249	76924	555.7	933.8
267	76925	541.6	905.3

1

Equipment Prep Sheets & Trap Burning Logs

Atmospheric Analysis & Consulting, Inc.

Equipment Preparation Data Sheet
SCAQMD 25.1

Analyst: JZ Date and Time: 1/27/2015 8:00

Client: : SCEC Project Name: OCSD Plant 2

Thermometer ID: #5 Gauge ID: Ashcroft Box #: 000226

SAMPLE 01	
Can #	474
Can Cleaning Date	1/14/2015
Initial Pressure (mmHg)	0.0
Flow #	NA
Flow Cleaning Date	1/27/2015
Trap #	164
Trap Cleaning Date	1/27/2015
Probes washed	Y
Probes Baked in Oven	Y
System Purged	Y
Leak Checked	Y
Gauge Checked	Y

SAMPLE 02	
Can #	469
Can Cleaning Date	1/4/2015
Initial Pressure (mmHg)	0.0
Flow #	NA
Flow Cleaning Date	1/27/2015
Trap #	160
Trap Cleaning Date	1/27/2015
Probes washed	Y
Probes Baked in Oven	Y
System Purged	Y
Leak Checked	Y
Gauge Checked	Y

Comments:

Comments:

Atmospheric Analysis & Consulting, Inc.

Sample Receiving Data Sheet
SCAQMD 25.1

Analyst: JZ Project # : 150079 Courier:

Sample Receiving Date and Time: 1/29/2015 13:35

Thermometer ID: #5 Gauge ID: Ashcroft Box #: 000226

SAMPLE 01	
Sample ID	76922
Can #	474
Flow #	NA
Tank vol	6L
InitialPressure (mmHg)	0.0
Return Pressure (mmHg)	482.3
Trap #	164
Received on dry ice	Y
Purge Start Time	3:06 PM
Purge End Time	3:07 PM
Purged Date	01/29/2015
Final Pressure (mmHg)	910.0
Dilution Factor	1.89

SAMPLE 02	
Sample ID	76923
Can #	469
Flow #	NA
Tank vol	6L
InitialPressure (mmHg)	0.0
Return Pressure (mmHg)	470.5
Trap #	160
Received on dry ice	Y
Purge Start Time	3:40 PM
Purge End Time	3:41 PM
Purged Date	01/29/2015
Final Pressure (mmHg)	913.8
Dilution Factor	1.94

Comments:

Comments:

Atmospheric Analysis & Consulting, Inc.

Equipment Preparation Data Sheet
SCAQMD 25.1

Analyst: JZ Date and Time: 1/27/2015 8:00

Client: : SCEC Project Name: OCSD Plant 2

Thermometer ID: #5 Gauge ID: Ashcroft Box #: 000223

SAMPLE 03	
Can #	249
Can Cleaning Date	1/7/2015
Initial Pressure (mmHg)	0.0
Flow #	NA
Flow Cleaning Date	1/27/2015
Trap #	117
Trap Cleaning Date	1/27/2015
Probes washed	Y
Probes Baked in Oven	Y
System Purged	Y
Leak Checked	Y
Gauge Checked	Y

Comments:

SAMPLE 04	
Can #	267
Can Cleaning Date	12/22/2014
Initial Pressure (mmHg)	0.0
Flow #	NA
Flow Cleaning Date	1/27/2015
Trap #	124
Trap Cleaning Date	1/27/2015
Probes washed	Y
Probes Baked in Oven	Y
System Purged	Y
Leak Checked	Y
Gauge Checked	Y

Comments:

Atmospheric Analysis & Consulting, Inc.

Sample Receiving Data Sheet
SCAQMD 25.1

Analyst: JZ Project # : 150079 Courier:

Sample Receiving Date and Time: 1/29/2015 13:35

Thermometer ID: #5 Gauge ID: Ashcroft Box #: 000223

SAMPLE 03	
Sample ID	76924
Can #	249
Flow #	NA
Tank vol	6L
InitialPressure (mmHg)	0.0
Return Pressure (mmHg)	555.7
Trap #	117
Received on dry ice	Y
Purge Start Time	4:13 PM
Purge End Time	4:15 PM
Purged Date	01/29/2015
Final Pressure (mmHg)	933.8
Dilution Factor	1.68

SAMPLE 04	
Sample ID	76925
Can #	267
Flow #	NA
Tank vol	6L
InitialPressure (mmHg)	0.0
Return Pressure (mmHg)	541.6
Trap #	124
Received on dry ice	Y
Purge Start Time	4:40 PM
Purge End Time	4:42 PM
Purged Date	01/29/2015
Final Pressure (mmHg)	905.3
Dilution Factor	1.67

Comments:

Comments:

Atmospheric Analysis & Consulting, Inc.

SCAQMD 25.1
Trap Burning Summary Sheet

Client : SCEC
Project Number : 150079

Analyst: JZ

SAMPLE	1
Sample ID	76922
Trap #	164
ICV#	037
ICV Volume (L)	6L
Analysis Date	01/29/2015
Cold Purge Start Time	15:06
Cold Purge End Time	15:07
Initial Pressure (mmHg)	4.0
Trap Burning Start Time	15:07
Trap Burning End Time	15:31
Final Pressure (mmHg)	798.1
Analysis Pressure (mmHg)	904.6
Total Vol. Collected in ICV	6.27
Dilution Factor	1.13
Was Decoke Used?	N

Comments:

SAMPLE	2
Sample ID	76923
Trap #	160
ICV#	038
ICV Volume (L)	6L
Analysis Date	01/29/2015
Cold Purge Start Time	15:40
Cold Purge End Time	15:41
Initial Pressure (mmHg)	3.7
Trap Burning Start Time	15:41
Trap Burning End Time	16:04
Final Pressure (mmHg)	757.0
Analysis Pressure (mmHg)	910.1
Total Vol. Collected in ICV	5.95
Dilution Factor	1.20
Was Decoke Used?	N

Comments:

Atmospheric Analysis & Consulting, Inc.

SCAQMD 25.1
Trap Burning Summary Sheet

Client : SCEC
Project Number : 150079

Analyst: JZ

SAMPLE	3
Sample ID	76924
Trap #	117
ICV#	202
ICV Volume (L)	6L
Analysis Date	01/29/2015
Cold Purge Start Time	16:13
Cold Purge End Time	16:15
Initial Pressure (mmHg)	3.5
Trap Burning Start Time	16:15
Trap Burning End Time	16:31
Final Pressure (mmHg)	542.2
Analysis Pressure (mmHg)	900.0
Total Vol. Collected in ICV	4.25
Dilution Factor	1.66
Was Decoke Used?	N

Comments:

SAMPLE	4
Sample ID	76925
Trap #	124
ICV#	157
ICV Volume (L)	6L
Analysis Date	01/29/2015
Cold Purge Start Time	16:40
Cold Purge End Time	16:42
Initial Pressure (mmHg)	0.0
Trap Burning Start Time	16:42
Trap Burning End Time	17:00
Final Pressure (mmHg)	593.3
Analysis Pressure (mmHg)	910.1
Total Vol. Collected in ICV	4.68
Dilution Factor	1.53
Was Decoke Used?	N

Comments:

Results

Atmospheric Analysis & Consulting, Inc.

LABORATORY ANALYSIS REPORT

CLIENT : SCEC
PROJECT NO. : 150079
MATRIX : Air
UNITS : ppmC

SAMPLING DATE : 01/28/2015
RECEIVING DATE : 01/29/2015
ANALYSIS DATE : 02/02-04/2015
REPORT DATE : 02/05/2015

ANALYSIS METHOD: SCAQMD 25.1

Client ID	Lab ID #	Tank Vol Liters (V_{Tank})	Initial Pressure mmHg (P_i)	Return Pressure mmHg (P_r)	Final Pressure mmHg (P_f)	Sample Vol. (L) (V_{Sample})	Tank Dil Factor (DF_{Tank})	NMNEOC Tank (C_{Tank})	NMNEOC Trap (C_{Trap})	TNMNEOC (Total VOC ppmC)
P2E2 Run – 1A	150079-76922	6.00	0.0	482.3	910.0	3.81	1.89	4.9	119	124
P2E2 Run – 1B	150079-76923	6.00	0.0	470.5	913.8	3.71	1.94	4.4	95.1	99.6
P2E4 Run – 1A	150079-76924	6.00	0.0	555.7	933.8	4.39	1.68	3.0	192	195
P2E4 Run – 1B	150079-76925	6.00	0.0	541.6	905.3	4.28	1.67	2.4	61.2	63.6

EPA 3C

Reporting Limit: 0.1 %		Analyte			
Client ID	Lab ID #	O_2	CO	N_2	CO_2
P2E2 Run – 1A	150079-76922	12.3	<PQL	79.5	7.7
P2E2 Run – 1B	150079-76923	12.3	<PQL	79.5	7.7
P2E4 Run – 1A	150079-76924	12.4	<PQL	79.1	7.8
P2E4 Run – 1B	150079-76925	12.4	<PQL	79.3	7.7

Marcus Hueppe
Laboratory Director

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Method 25.1 Calculation Summary Sheet

TCA Calculations (Trap):

$$C_{Trap} = \frac{(C_{CO_2} \times DF_{Icv} \times V_{Icv})}{(V_{Sample})}$$

Where:

C_{Trap} = Gaseous concentration of TNMOC collected in the trap, ppmv (as Carbon)
C_{CO_2} = CO_2 concentration of collection vessel, ppmv (*from Raw Data printout*)
DF_{Icv} = Dilution Factor resulting from the pressurization of the intermediate collection vessel for anlysis (P_p/P_f) (*from Trap Burning Data Sheet*)
V_{Icv} = Volume collected in the intermediate collection vessel during the trap burning process in Liters ($V_c \times (P_f - P_i)/P_a$) (*from Trap Burning Data Sheet*)
V_{Sample} = Volume sampled in collection tank in Liters ($V_{Tank} \times (P_r - P_i)/P_a$) (*from Sample Receiving Data Sheet*)

Where:

V_c = Volume of the Intermediate collection vessel in liters (*from Trap Burning Data Sheet*)
P_p = final pressure of the ICV after pressurization for analysis (*from Trap Burning Data Sheet*)
P_f = final pressure of the ICV after the trap burning process (*from Trap Burning Data Sheet*)
P_i = initial pressure of the ICV before the trap burning process (*from Trap Burning Data Sheet*)
P_a = atmospheric pressure (760 mmHg)

V_{Tank} = Volume of the sampling tank in liters (*from Sample Receiving Data Sheet*)
P_r = Return canister pressure of the sampling tank (*from Sample Receiving Data Sheet*)
P_i = Initial canister pressure of the sampling tank (*from Sample Receiving Data Sheet*)
P_a = atmospheric pressure (760 mmHg)

TCA Calculations (Tank):

$$C_{Tank} = C_{TCA} \times DF_{Tank} \times 3.0$$

Where:

C_{Tank} = Gaseous concentration of tank, ppmv (as Carbon)
C_{TCA} = Average of analysis results from chromatograms, ppmv (as Propane)
DF_{Tank} = Dilution factor resulting from tank pressurization upon receipt (P_f/P_i)
3.0 = Conversion of result (as Propane) to (as Carbon)

Where:

P_f = Final canister pressure after pressurization for analysis (*from Sample Receiving Data Sheet*)
P_r = Return canister pressure upon sample receipt (*from Sample Receiving Data Sheet*)

Final Calculation (Tank and Trap):

$$\text{Total VOC (ppmC)} = (C_{Trap} + C_{Tank})$$

QA/QC Summary

Atmospheric Analysis & Consulting, Inc.

Quality Control/Quality Assurance Report

Date Analyzed : 02/02/2015
Analyst : DJ
Units : %

Instrument ID : TCD#1
Calb Date : 01/06/2015
Reporting Limit : 0.1%

I - Opening Continuing Calibration Verification - SCAQMD 25.1,25.3

AAC ID	Analyte	O_2	N_2	CO_2	CH_4	CO
CCV	Spike Conc	10.3	20.0	10.2	10.1	10.2
	Result	10.9	21.1	9.5	10.2	10.2
	% Rec *	105.9	105.6	93.2	101.0	100.0

II - Method Blank - SCAQMD 25.1,25.3

AAC ID	Analyte	O_2	N_2	CO_2	CH_4	CO
MB	Concentration	ND	ND	ND	ND	ND

III - Laboratory Control Spike & Duplicate - SCAQMD 25.1,25.3

AAC ID	Analyte	N_2	CO_2	CH_4	CO
Lab Control Standards	Sample Conc	0.0	0.0	0.0	0.0
	Spike Conc	20.0	10.2	10.1	10.2
	LCS Result	19.0	8.8	9.2	9.2
	LCSD Result	21.3	9.4	10.0	10.1
	LCS % Rec *	94.9	86.0	91.1	90.3
	LCSD % Rec *	106.1	91.7	99.2	99.1
	% RPD ***	11.2	6.5	8.5	9.3

IV - Sample & Sample Duplicate - SCAQMD 25.1,25.3

AAC ID	Analyte	O_2	N_2	CO_2	CH_4	CO
150079-76924	Sample	7.2	45.5	4.5	0.4	0.0
	Sample Dup	7.2	45.9	4.6	0.4	0.0
	Mean	7.2	45.7	4.5	0.4	0.0
	% RPD ***	0.1	0.9	2.3	0.6	0.0

V - Matrix Spike & Duplicate - SCAQMD 25.1,25.3

AAC ID	Analyte	N_2	CO_2	CH_4	CO
150079-76924	Sample Conc	22.9	2.3	0.2	0.0
	Spike Conc	9.2	10.2	10.1	10.2
	MS Result	33.9	11.6	10.3	10.2
	MSD Result	33.3	11.2	9.9	9.9
	MS % Rec **	120.1	91.3	99.8	99.4
	MSD % Rec **	112.9	87.3	96.5	96.5
	% RPD ***	6.1	4.5	3.4	3.0

VI - Closing Continuing Calibration Verification - SCAQMD 25.1,25.3

AAC ID	Analyte	O_2	N_2	CO_2	CH_4	CO
CCV	Spike Conc	10.3	20.0	10.2	10.1	10.2
	Result	11.1	21.6	10.0	10.9	11.1
	% Rec *	108.3	107.7	98.2	107.9	108.2

** Must be 85-115%*
*** Must be 75-125%*
**** Must be < 25%*
ND = Not Detected
<RL = less than Reporting Limit

Marcus Hueppe
Laboratory Director

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Atmospheric Analysis & Consulting, Inc.

SCAQMD 25.1,3 Quality Control/Quality Assurance Report

Date Analyzed : 02/03/2015
Analyst : DJ

Instrument ID : FID#4
Calb Date : 4/21/2014
Units : ppmV

I - Opening Calibration Verification Standard

AAC ID	Analyte	Concentration	Result	% Recovery *
O-CV	NMNEOC	53.95	53.04	98.3
O-CV dp	NMNEOC	53.95	54.12	100.3
O-CV tp	NMNEOC	53.95	53.80	99.7

II - Method Blank

AAC ID	Analyte	Result
MB	NMNEOC	ND

III - Matrix Spike & Duplicate

AAC ID	Analyte	Sample Concentration	Spike Added	MS Result	MSD Result	MS % Rec ***	MSD % Rec ***	% RPD****
150077-76919	NMNEOC	0.00	54.0	49.93	47.63	92.6	88.3	4.7

IV - 1 ppm Backflush Standards

AAC ID	Analyte	Result	% Recovery **
Backflush 1	NMNEOC	1.048	97.1
Backflush 2	NMNEOC	1.175	108.9
Backflush 3	NMNEOC	1.101	102.0

V - Bracketed Closing Calibration Verification Standards

AAC ID	Analyte	Concentration	Result	% Recovery *
C-CV Low	NMNEOC	10.8	11.14	103.2
C-CV High	NMNEOC	54.0	54.05	100.2

** Must be 90-110%*
*** Must be 80-120%*
**** Must be 75-125%*
***** Must be < 25%*

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Atmospheric Analysis & Consulting, Inc.

SCAQMD 25.1,3 Quality Control/Quality Assurance Report

Date Analyzed : 02/03/2015
Analyst: : DJ

Instrument ID : FID #4
Calb Date : 4/21/2014
Units : ppmV

Sample Duplicate analysis RPD's

AAC ID	Result	Result Dup	%RPD
150077-76919	<PQL	<PQL	NA
150077-76920	<PQL	<PQL	NA
150079-76922	<PQL	<PQL	NA
150079-76923	<PQL	<PQL	NA
150079-76924	<PQL	<PQL	NA
150079-76925	<PQL	<PQL	NA

Quality Assurance Criteria	
Conc. (ppmv)	%RPD
1-3	≤20
4-6	≤15
7-12	≤12
13-30	≤10
31-50	≤ 5

Marcus Hueppe
Laboratory Director

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Atmospheric Analysis & Consulting, Inc.

SCAQMD 25.1 Quality Control/Quality Assurance Report

Date Analyzed : 02/04/2015
Analyst : DJ

Instrument ID: FID#4
Units: PPMV
Calibration Date: 4/21/2014

I - Opening Calibration Verification Standard

AAC ID	Analyte	Concentration	Result	% Recovery *
O-CV	CO_2	53.80	54.29	100.9
O-CV dp	CO_2	53.80	54.67	101.6
O-CV tp	CO_2	53.80	54.42	101.1

II - Method Blank

AAC ID	Analyte	Result
MB	CO_2	ND

III - Matrix Spike & Duplicate

AAC ID	Analyte	Sample Concentration	Spike Added	MS Result	MSD Result	MS % Rec ***	MSD % Rec ***	% RPD****
150079-76922 B	CO_2	31.9	53.80	80.96	81.45	91.2	92.1	1.0

IV - 1 ppm Backflush Standards

AAC ID	Analyte	Result	% Recovery **
Backflush 1	CO_2	1.115	103.6
Backflush 2	CO_2	1.087	101.0
Backflush 3	CO_2		0.0

V - Bracketed Closing Calibration Verification Standards

AAC ID	Analyte	Concentration	Result	% Recovery *
C-CV Low	CO_2	10.8	10.71	99.5
C-CV High	CO_2	53.8	51.63	96.0

** Must be 90-110%*
*** Must be 80-120%*
**** Must be 75-125%*
***** Must be < 25%*

Marcus Hueppe
Laboratory Director

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Atmospheric Analysis & Consulting, Inc.

SCAQMD 25.1 Quality Control/Quality Assurance Report

Date Analyzed : 02/04/2015
Analyst : DJ

Instrument ID: FID #4
Units: PPMV
Calibration Date: 4/21/2014

Sample Duplicate analysis RPD's

AAC ID	Result	Result Dup	%RPD
150079-76922 B	64.9	62.8	3.3
150079-76923 B	50.1	48.7	2.9
150079-76924 B	119.8	118.5	1.1
150079-76925 B	37.0	35.9	3.1

Quality Assurance Criteria	
Conc. (ppmv)	%RPD
1-3	≤20
4-6	≤15
7-12	<12
13-30	≤10
31-50	≤ 5

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Atmospheric Analysis & Consulting, Inc.

Quality Control/Quality Assurance Report

Trap Combustion by SCAQMD 25.1

Date Analyzed : **01/29-30/2015**
Analyst : **DJ**
PQL : **10 ppm**

Instrument ID : **System 25.1**
Units : **ppm**

Method Blank

Analyte	Qualifying Result	Result
CO2	<10	1.0

Recovery Check Standard

Analyte	Result	**%Recovery***
CO2	340.4	**N/A**

Combustion Efficiency Standard

Analyte	Result	**%Recovery***
CH4 (as CO2)	332.8	**98**

MB must be < PQL

** Must be 95-105%*

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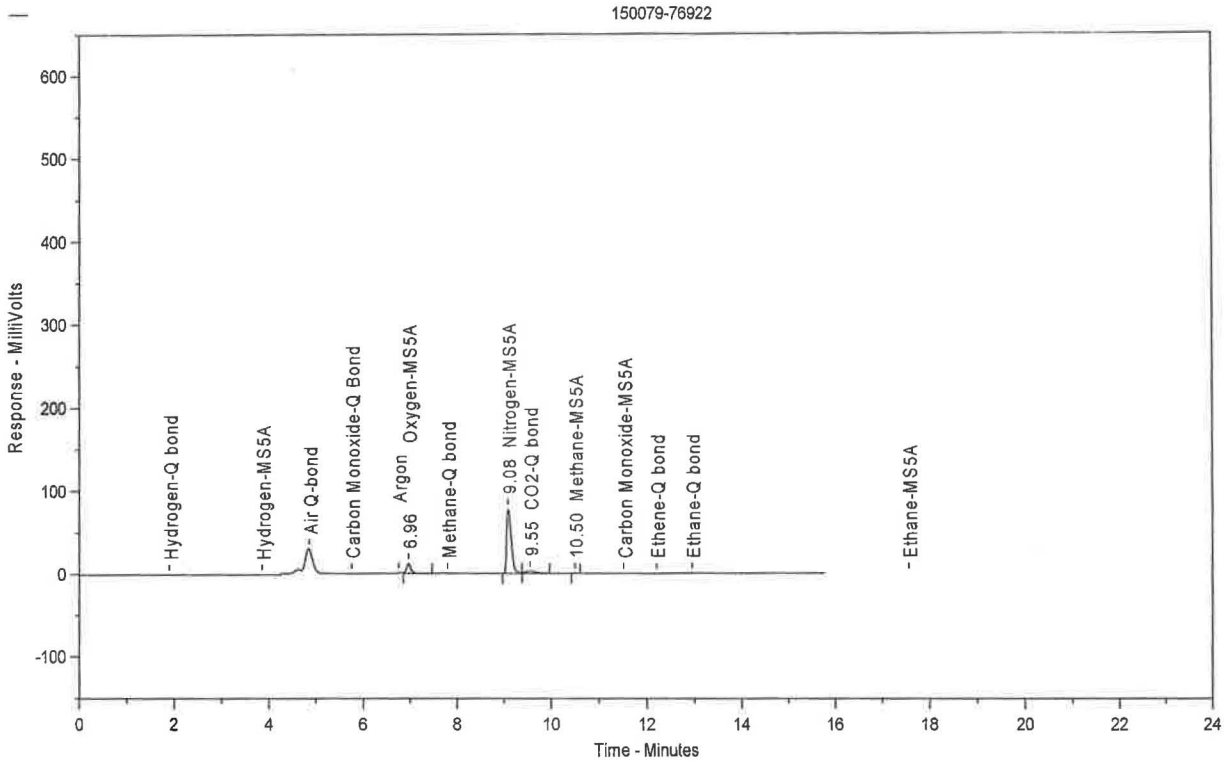
Raw Data



Sample Name = **150079-76922**

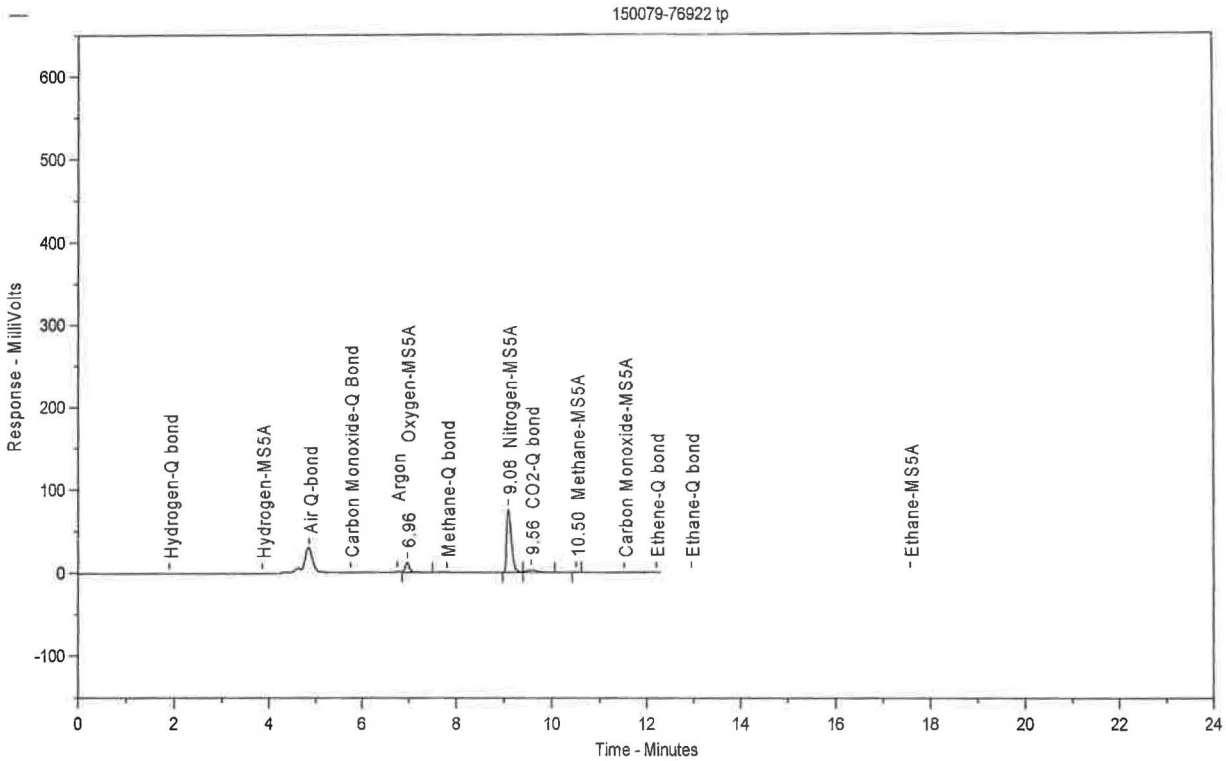
Instrument = TCD #1

Raw File Name = **C:\CPDATA\Inst#01\2015\020215.0006.raw** Date Taken (end) = 2/2/2015 7:09:13 AM
Method File Name = C:\Cpmethods\Inst #01\2015\D1945-D1946-3C.MET Dilution Factor = 1
Calibration File Name = C:\Cpmethods\Inst #01\2015\010615-D1945-D1946-3C-Standard.CAL

Peak #	Ret. Time	Name	Amount	Amt %	Area	Area %	Type	Width
1	6.96	Oxygen-MS5A	6.204	12.360	74295	11.400	BB	0.09
2	9.08	Nitrogen-MS5A	39.946	79.581	534921	82.081	BV	0.11
3	9.55	CO2-Q bond	3.832	7.634	40308	6.185	VB	0.23
4	10.50	Methane-MS5A	0.214	0.426	2173	0.333	BB	0.09

Total Area = 651697.3 Total Height = 92096.93 Total Amount = 50.19537

2/6/2/15



Sample Name = **150079-76922 tp**

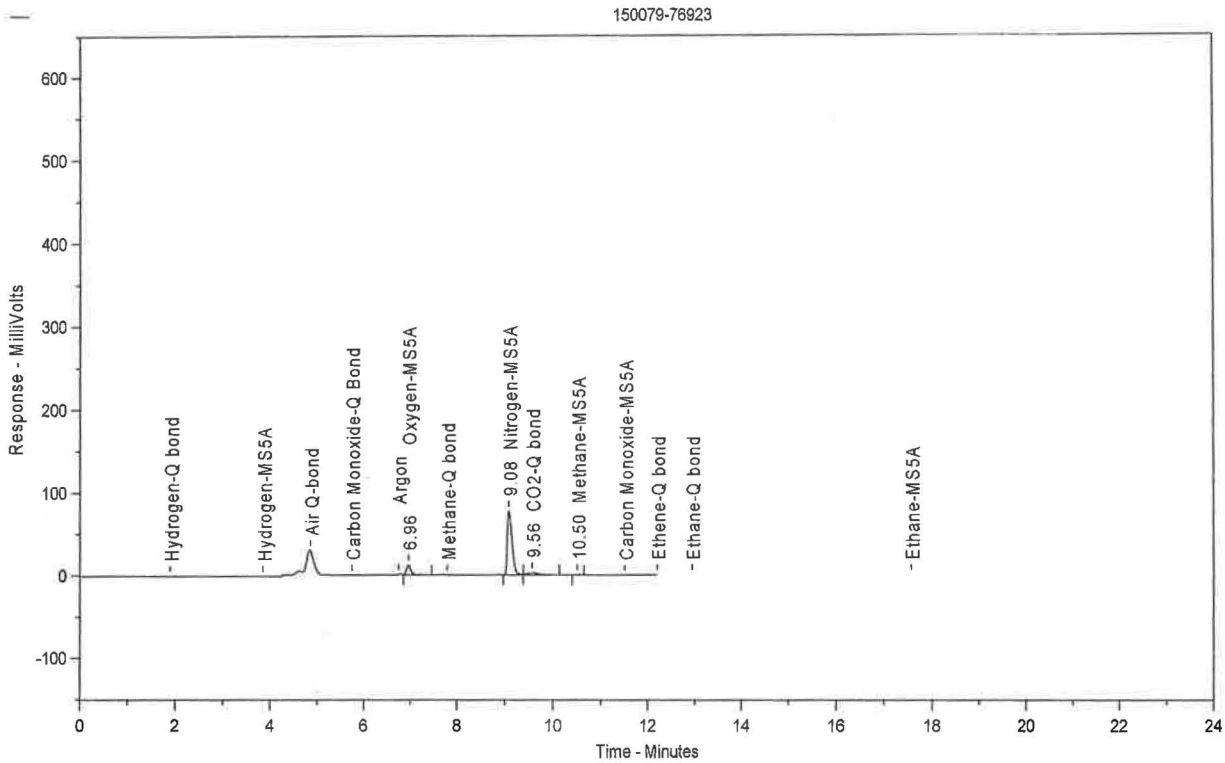
Instrument = TCD #1

Raw File Name = **C:\CPDATA\Inst#01\2015\020215.0008.RAW** Date Taken (end) = 2/2/2015 7:46:15 AM
Method File Name = C:\Cpmethods\Inst #01\2015\D1945-D1946-3C.MET Dilution Factor = 1
Calibration File Name = C:\Cpmethods\Inst #01\2015\010615-D1945-D1946-3C-Standard.CAL

Peak #	Ret. Time	Name	Amount	Amt %	Area	Area %	Type	Width
1	6.96	Oxygen-MS5A	5.978	12.307	71593	11.356	BB	0.09
2	9.08	Nitrogen-MS5A	38.599	79.460	516886	81.984	BV	0.11
3	9.56	CO2-Q bond	3.773	7.768	39695	6.296	VB	0.23
4	10.50	Methane-MS5A	0.226	0.465	2296	0.364	BB	0.08

Total Area = 630469.6 Total Height = 89747.06 Total Amount = 48.57673

2/2/15



Sample Name = **150079-76923**

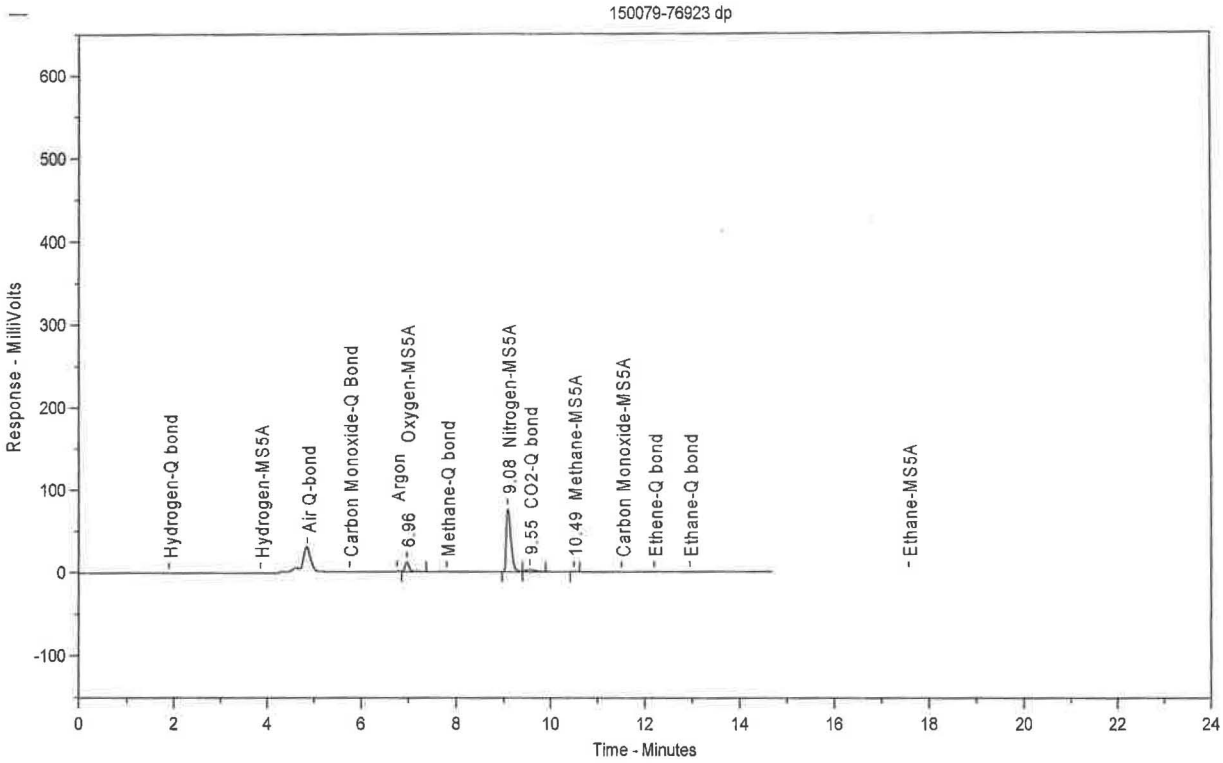
Instrument = TCD #1

Raw File Name = **C:\CPDATA\Inst#01\2015\020215.0009.RAW** Date Taken (end) = 2/2/2015 8:03:55 AM
Method File Name = C:\Cpmethods\Inst #01\2015\D1945-D1946-3C.MET Dilution Factor = 1
Calibration File Name = C:\Cpmethods\Inst #01\2015\010615-D1945-D1946-3C-Standard.CAL

Peak #	Ret. Time	Name	Amount	Amt %	Area	Area %	Type	Width
1	6.96	Oxygen-MS5A	6.158	12.286	73742	11.340	BB	0.09
2	9.08	Nitrogen-MS5A	39.749	79.305	532284	81.855	BV	0.11
3	9.56	CO2-Q bond	3.973	7.927	41794	6.427	VB	0.23
4	10.50	Methane-MS5A	0.242	0.482	2455	0.378	BB	0.09

Total Area = 650275.9 Total Height = 91805.45 Total Amount = 50.12136

2/2/15



Sample Name = **150079-76923 dp**

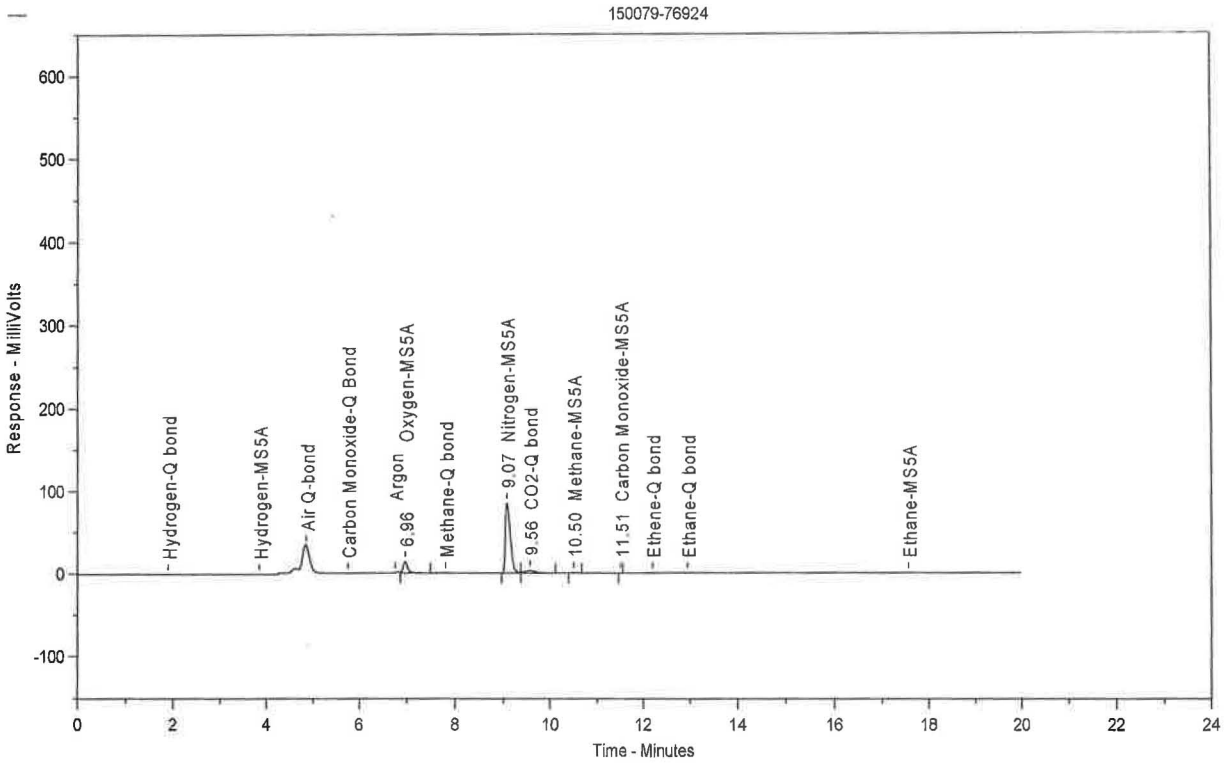
Instrument = TCD #1

Raw File Name = **C:\CPDATA\Inst#01\2015\020215.0010.RAW** Date Taken (end) = 2/2/2015 8:22:58 AM
Method File Name = C:\Cpmethods\Inst #01\2015\D1945-D1946-3C.MET Dilution Factor = 1
Calibration File Name = C:\Cpmethods\Inst #01\2015\010615-D1945-D1946-3C-Standard.CAL

Peak #	Ret. Time	Name	Amount	Amt %	Area	Area %	Type	Width
1	6.96	Oxygen-MS5A	6.028	12.292	72190	11.333	BB	0.09
2	9.08	Nitrogen-MS5A	39.136	79.800	524073	82.274	BV	0.11
3	9.55	CO2-Q bond	3.652	7.447	38418	6.031	VB	0.23
4	10.49	Methane-MS5A	0.227	0.462	2302	0.361	BB	0.09

Total Area = 636982.8 Total Height = 90718.33 Total Amount = 49.0425

2/2/15



Sample Name = **150079-76924**

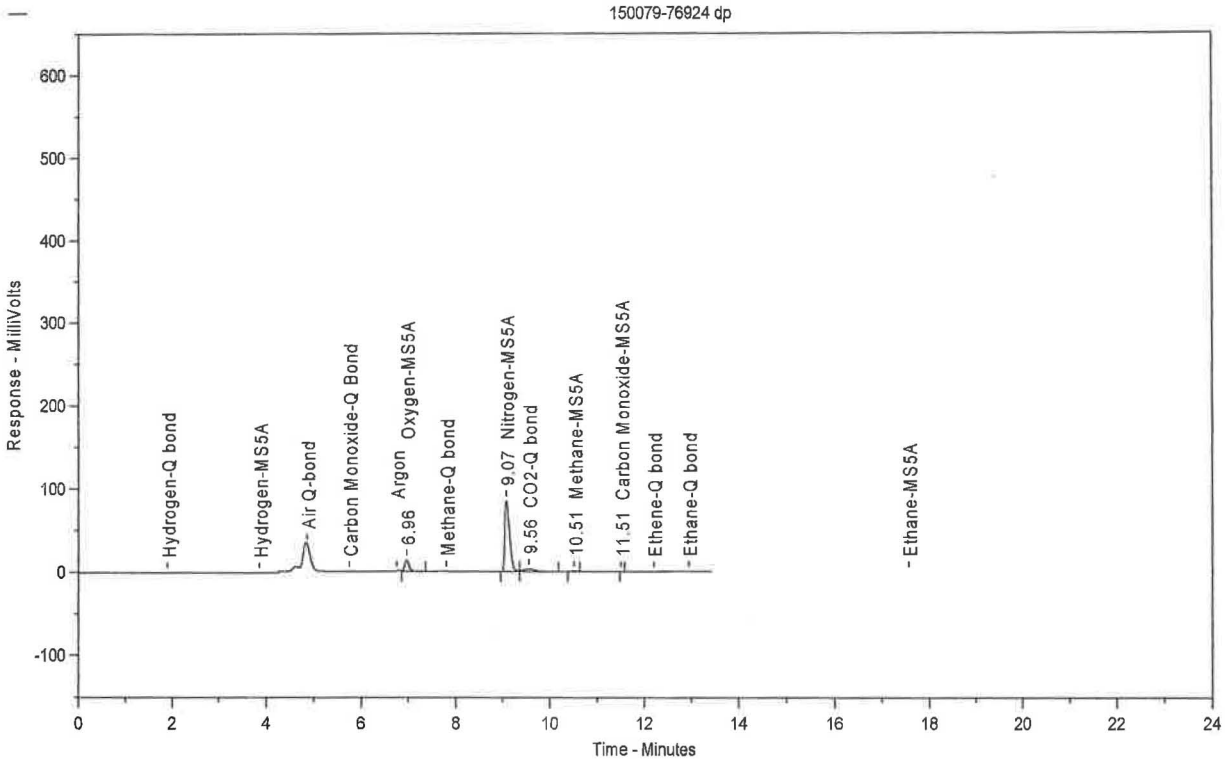
Instrument = TCD #1

Raw File Name = **C:\CPDATA\Inst#01\2015\020215.0011.RAW** Date Taken (end) = 2/2/2015 8:47:40 AM
Method File Name = C:\Cpmethods\Inst #01\2015\D1945-D1946-3C.MET Dilution Factor = 1
Calibration File Name = C:\Cpmethods\Inst #01\2015\010615-D1945-D1946-3C-Standard.CAL

Peak #	Ret. Time	Name	Amount	Amt %	Area	Area %	Type	Width
1	6.96	Oxygen-MS5A	7.195	12.501	86160	11.541	BB	0.09
2	9.07	Nitrogen-MS5A	45.521	79.091	609574	81.652	BV	0.11
3	9.56	CO2-Q bond	4.471	7.768	47029	6.300	VB	0.23
4	10.50	Methane-MS5A	0.356	0.619	3621	0.485	BB	0.09
5	11.51	Carbon Monoxide-MS5A	0.012	0.022	165	0.022	BB	0.08

Total Area = 746550.1 Total Height = 102118.2 Total Amount = 57.55481

2/2/15



Sample Name = **150079-76924 dp**

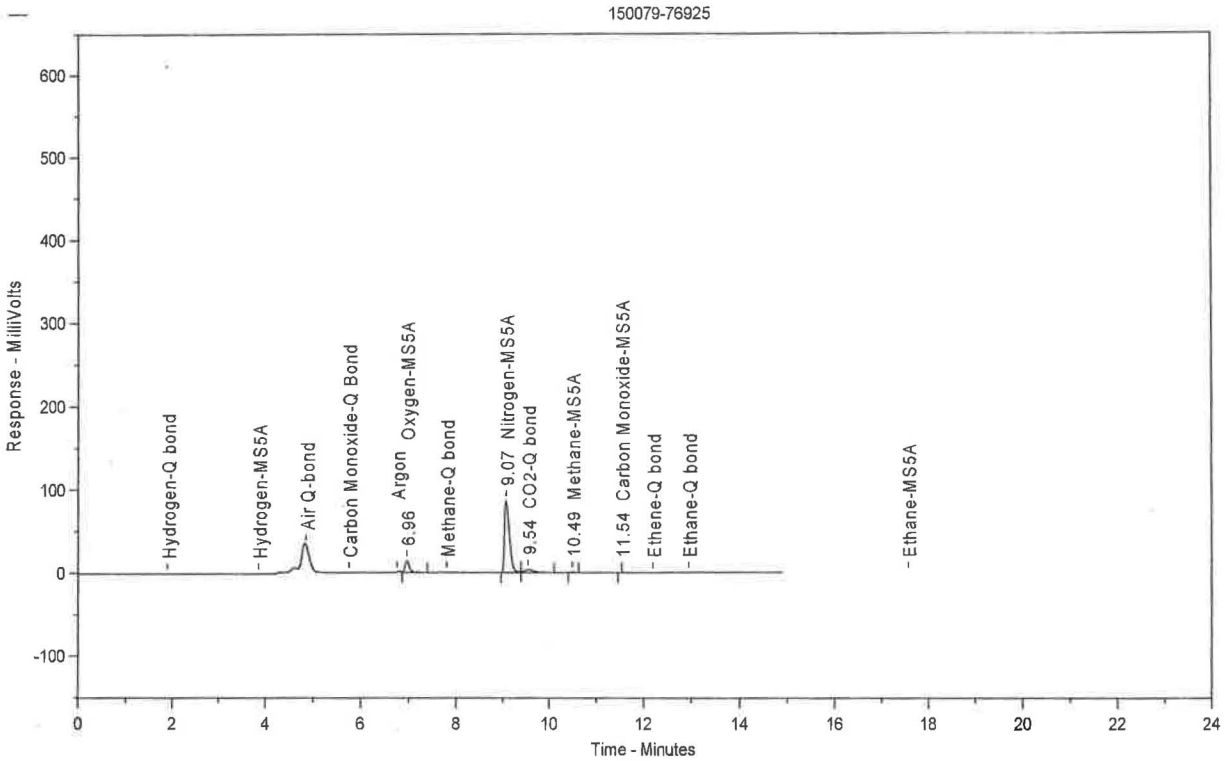
Instrument = TCD #1

Raw File Name = **C:\CPDATA\Inst#01\2015\020215.0012.raw** Date Taken (end) = 2/2/2015 9:06:06 AM
Method File Name = C:\Cpmethods\Inst #01\2015\D1945-D1946-3C.MET Dilution Factor = 1
Calibration File Name = C:\Cpmethods\Inst #01\2015\010615-D1945-D1946-3C-Standard.CAL

Peak #	Ret. Time	Name	Amount	Amt %	Area	Area %	Type	Width
1	6.96	Oxygen-MS5A	7.189	12.383	86085	11.433	BB	0.09
2	9.07	Nitrogen-MS5A	45.925	79.109	614986	81.678	BV	0.11
3	9.56	CO2-Q bond	4.573	7.877	48104	6.389	VB	0.23
4	10.51	Methane-MS5A	0.354	0.610	3598	0.478	BB	0.09
5	11.51	Carbon Monoxide-MS5A	0.012	0.021	163	0.022	BB	0.08

Total Area = 752937.1 Total Height = 102713.8 Total Amount = 58.05246

2/2/15



Sample Name = **150079-76925**

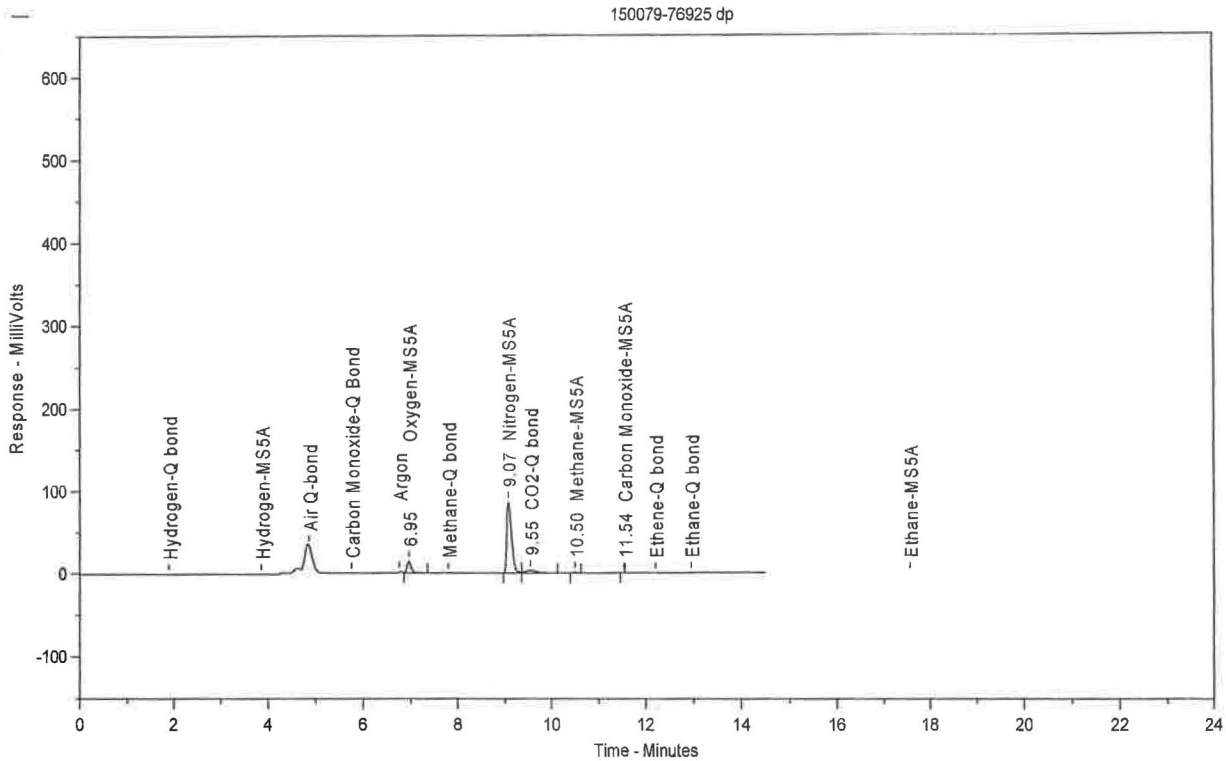
Instrument = TCD #1

Raw File Name = **C:\CPDATA\Inst#01\2015\020215.0015.RAW** Date Taken (end) = 2/2/2015 10:08:49 AM
Method File Name = C:\Cpmethods\Inst #01\2015\D1945-D1946-3C.MET Dilution Factor = 1
Calibration File Name = C:\Cpmethods\Inst #01\2015\010615-D1945-D1946-3C-Standard.CAL

Peak #	Ret. Time	Name	Amount	Amt %	Area	Area %	Type	Width
1	6.96	Oxygen-MS5A	7.326	12.416	87725	11.456	BB	0.09
2	9.07	Nitrogen-MS5A	46.834	79.378	627161	81.904	BV	0.11
3	9.54	CO2-Q bond	4.483	7.598	47161	6.159	VB	0.23
4	10.49	Methane-MS5A	0.347	0.588	3525	0.460	BB	0.09
5	11.54	Carbon Monoxide-MS5A	0.012	0.020	155	0.020	BB	0.08

Total Area = 765727 Total Height = 104108.1 Total Amount = 59.00108

2/2/15



Sample Name = **150079-76925 dp**

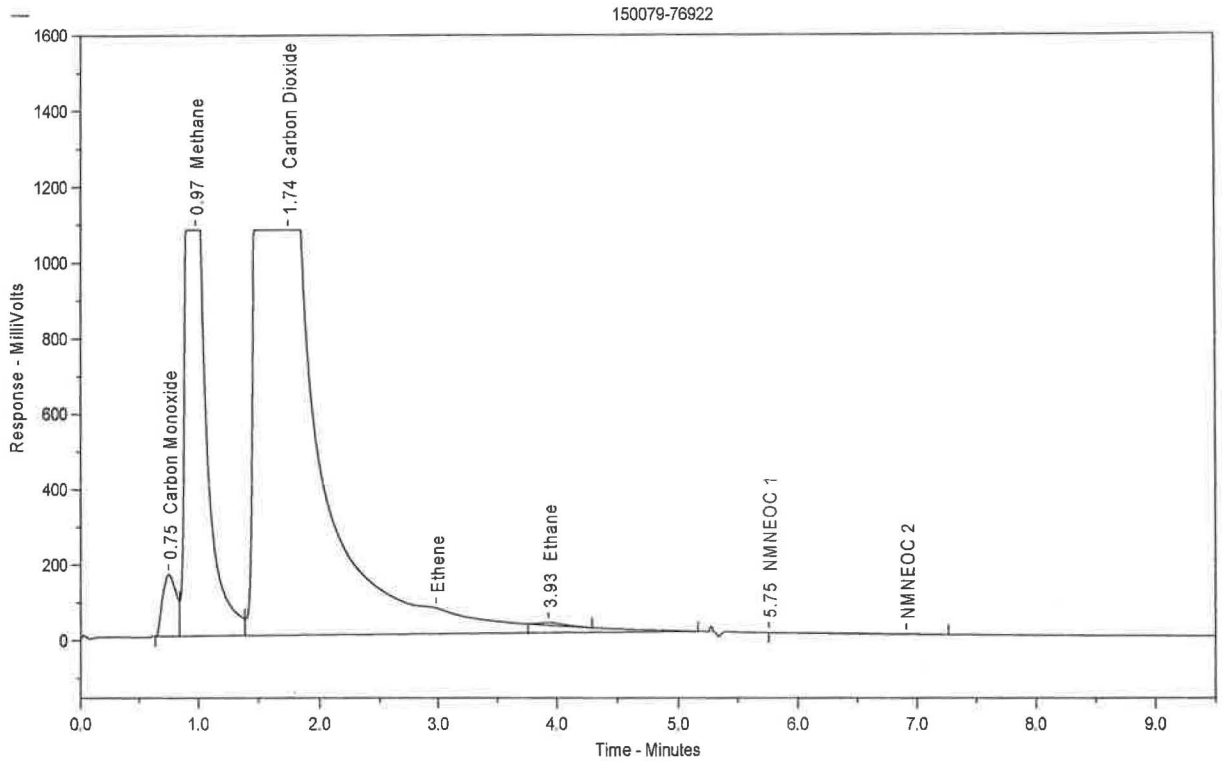
Instrument = TCD #1

Raw File Name = **C:\CPDATA\Inst#01\2015\020215.0016.RAW** Date Taken (end) = 2/2/2015 10:29:53 AM
Method File Name = C:\Cpmethods\Inst #01\2015\D1945-D1946-3C.MET Dilution Factor = 1
Calibration File Name = C:\Cpmethods\Inst #01\2015\010615-D1945-D1946-3C-Standard.CAL

Peak #	Ret. Time	Name	Amount	Amt %	Area	Area %	Type	Width
1	6.95	Oxygen-MS5A	7.367	12.474	88224	11.514	BB	0.09
2	9.07	Nitrogen-MS5A	46.769	79.187	626298	81.736	BV	0.11
3	9.55	CO2-Q bond	4.564	7.727	48010	6.266	VB	0.23
4	10.50	Methane-MS5A	0.349	0.590	3543	0.462	BB	0.09
5	11.54	Carbon Monoxide-MS5A	0.013	0.022	172	0.022	BB	0.07

Total Area = 766248.1 Total Height = 103996.6 Total Amount = 59.06213

2/2/15



Sample Name = **150079-76922**

Instrument = FID #4

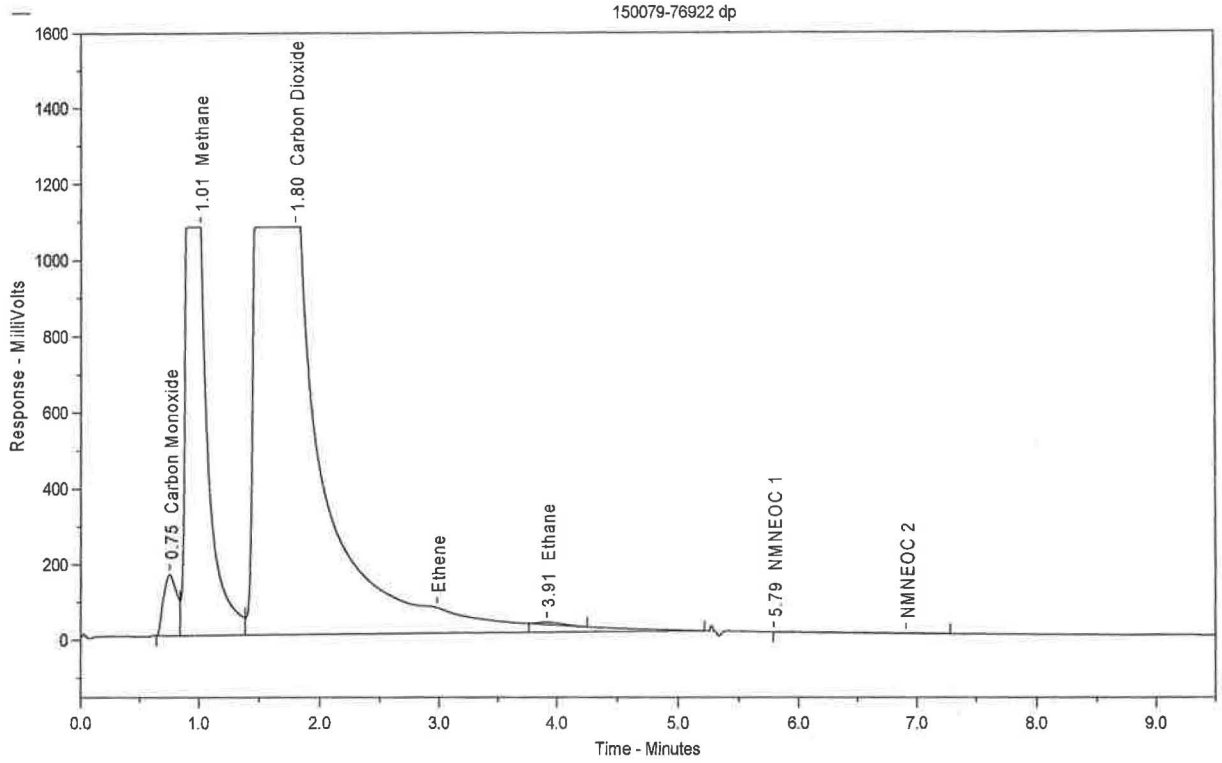
Raw File Name = **C:\CPDATA\Inst#04\2015\020315.0018.RAW**
Method File Name = C:\Cpmethods\Inst #04\2014\Method25.1,3.met
Calibration File Name = C:\Cpmethods\Inst #04\2014\042114-25.1,3.CAL

Date Taken (end) = 2/3/2015 9:35:01 AM
Dilution Factor = 1

Peak #	Ret. Time	Name	Amount	Amt %	Area	Area %	Type	Width
1	0.75	Carbon Monoxide	103.416	3.351	1294390	2.157	BV	0.15
2	0.97	Methane	701.680	22.737	14391414	23.984	VV	0.18
3	1.74	Carbon Dioxide	2277.433	73.797	44192388	73.648	SBB	0.51
4	3.93	Ethane	2.695	0.087	91173	0.152	TBB	0.33
5	5.75	NMNEOC 1	0.861	0.028	35351	0.059	BB	0.87

Total Area = 6.000472E+07 Total Height = 2313836 Total Amount = 3086.085

2/3/15



Sample Name = **150079-76922 dp**

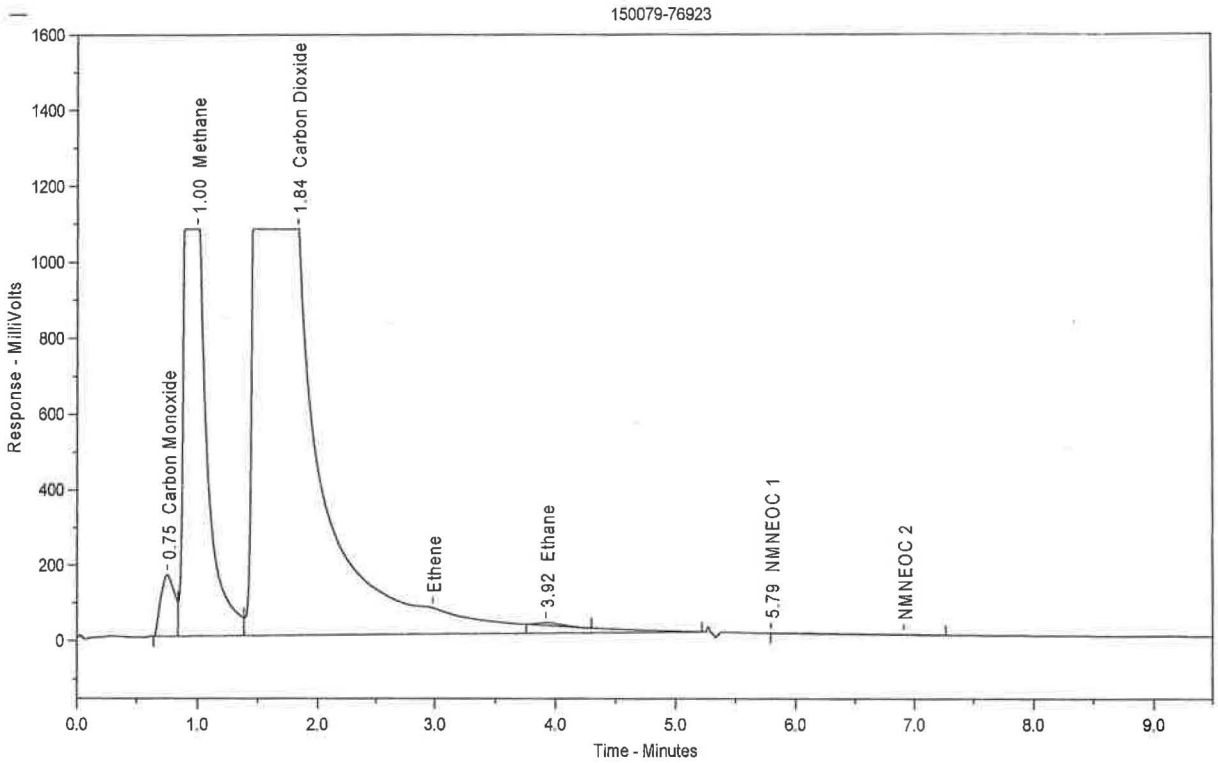
Instrument = FID #4

Raw File Name = **C:\CPDATA\Inst#04\2015\020315.0019.RAW** Date Taken (end) = 2/3/2015 9:48:54 AM
Method File Name = C:\Cpmethods\Inst #04\2014\Method25.1,3.met Dilution Factor = 1
Calibration File Name = C:\Cpmethods\Inst #04\2014\042114-25.1,3.CAL

Peak #	Ret. Time	Name	Amount	Amt %	Area	Area %	Type	Width
1	0.75	Carbon Monoxide	101.831	3.303	1274550	2.126	BV	0.15
2	1.01	Methane	704.652	22.857	14452362	24.106	VV	0.18
3	1.80	Carbon Dioxide	2272.915	73.729	44104720	73.565	SBB	0.51
4	3.91	Ethane	2.554	0.083	86408	0.144	TBB	0.31
5	5.79	NMNEOC 1	0.854	0.028	35074	0.059	BB	0.85

Total Area = 5.995311E+07 Total Height = 2313662 Total Amount = 3082.806

2/3/15



Sample Name = **150079-76923**

Instrument = FID #4

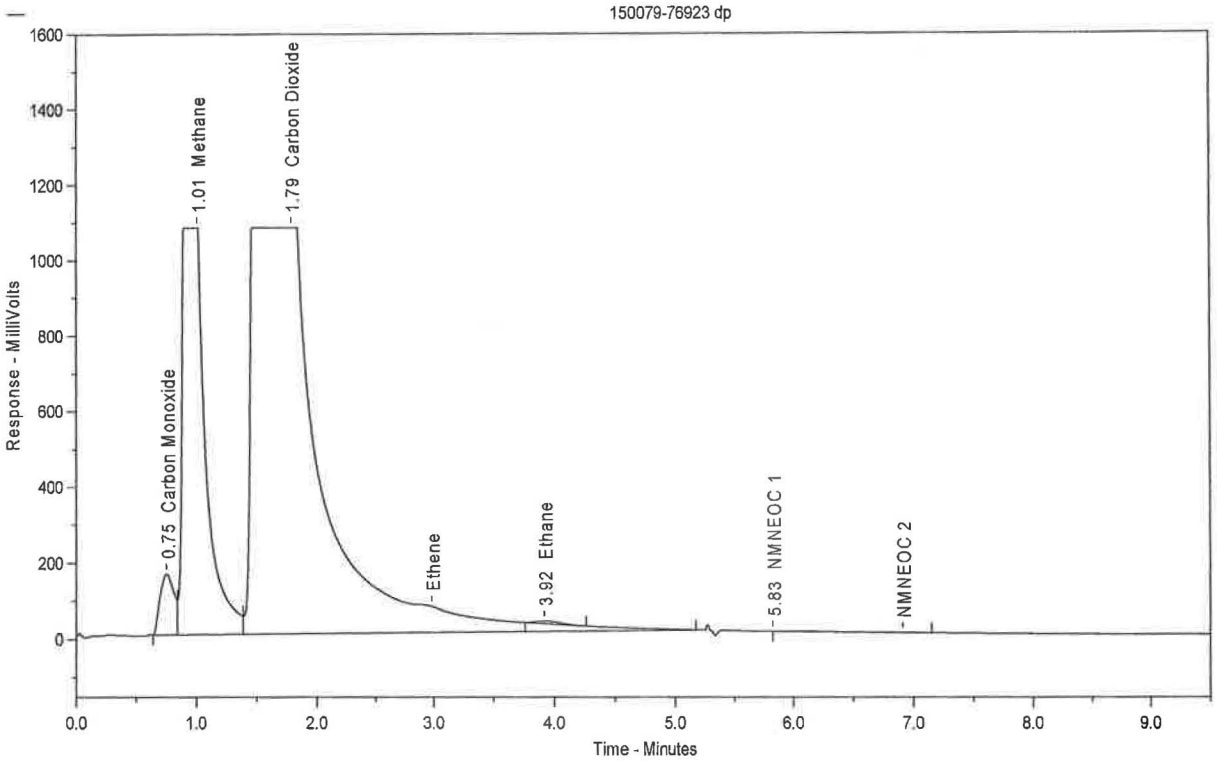
Raw File Name = **C:\CPDATA\Inst#04\2015\020315.0020.raw**
Method File Name = C:\Cpmethods\Inst #04\2014\Method25.1,3.met
Calibration File Name = C:\Cpmethods\Inst #04\2014\042114-25.1,3.CAL

Date Taken (end) = 2/3/2015 10:05:20 AM
Dilution Factor = 1

Peak #	Ret. Time	Name	Amount	Amt %	Area	Area %	Type	Width
1	0.75	Carbon Monoxide	103.536	3.326	1295891	2.140	BV	0.15
2	1.00	Methane	714.154	22.939	14647248	24.192	VV	0.19
3	1.84	Carbon Dioxide	2292.067	73.621	44476344	73.459	SBB	0.51
4	3.92	Ethane	2.806	0.090	94925	0.157	TBB	0.33
5	5.79	NMNEOC 1	0.765	0.025	31425	0.052	BB	0.83

Total Area = 6.054583E+07 Total Height = 2316078 Total Amount = 3113.327

2/3/15



Sample Name = **150079-76923 dp**

Instrument = FID #4

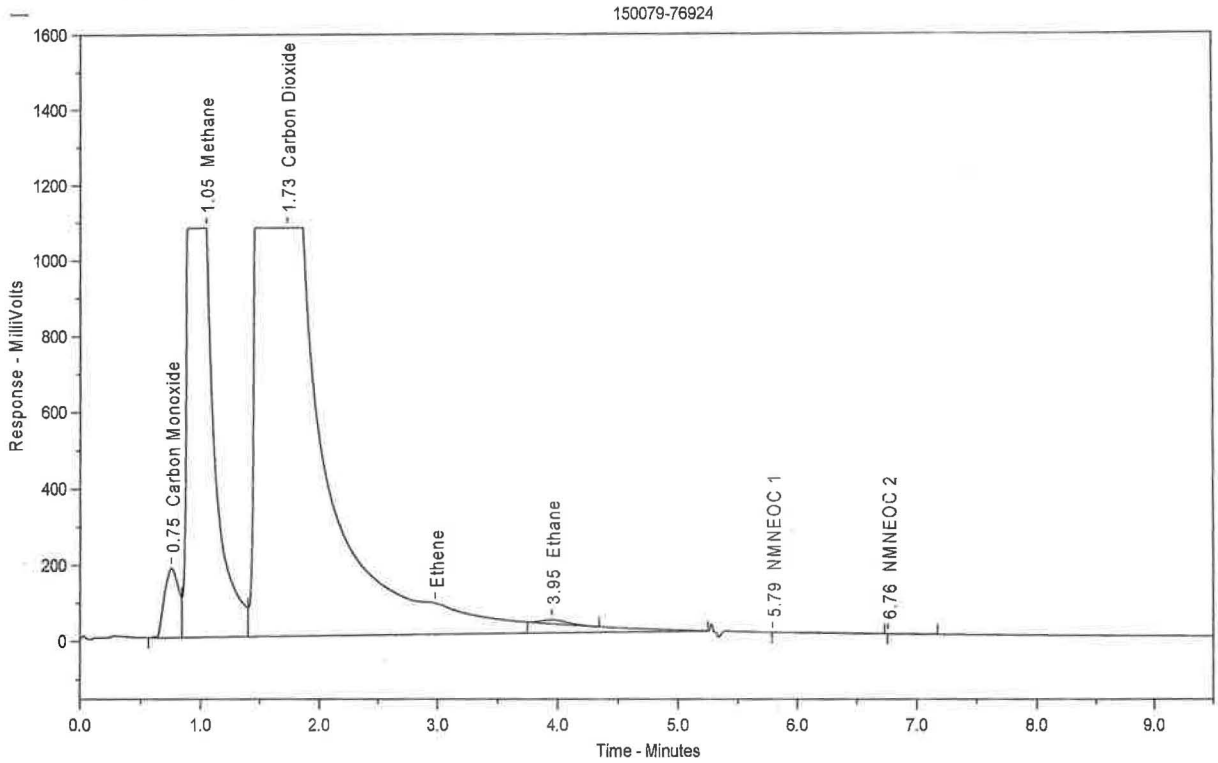
Raw File Name = **C:\CPDATA\Inst#04\2015\020315.0021.RAW**
Method File Name = C:\Cpmethods\Inst #04\2014\Method25.1,3.met
Calibration File Name = C:\Cpmethods\Inst #04\2014\042114-25.1,3.CAL

Date Taken (end) = 2/3/2015 10:19:27 AM
Dilution Factor = 1

Peak #	Ret. Time	Name	Amount	Amt %	Area	Area %	Type	Width
1	0.75	Carbon Monoxide	101.564	3.276	1271201	2.108	BV	0.15
2	1.01	Methane	713.120	23.005	14626046	24.257	VV	0.19
3	1.79	Carbon Dioxide	2281.698	73.606	44275152	73.430	SBB	0.51
4	3.92	Ethane	2.723	0.088	92131	0.153	TBB	0.31
5	5.83	NMNEOC 1	0.759	0.024	31164	0.052	BB	0.77

Total Area = 6.02957E+07 Total Height = 2313102 Total Amount = 3099.864

2/3/15



Sample Name = **150079-76924**

Instrument = FID #4

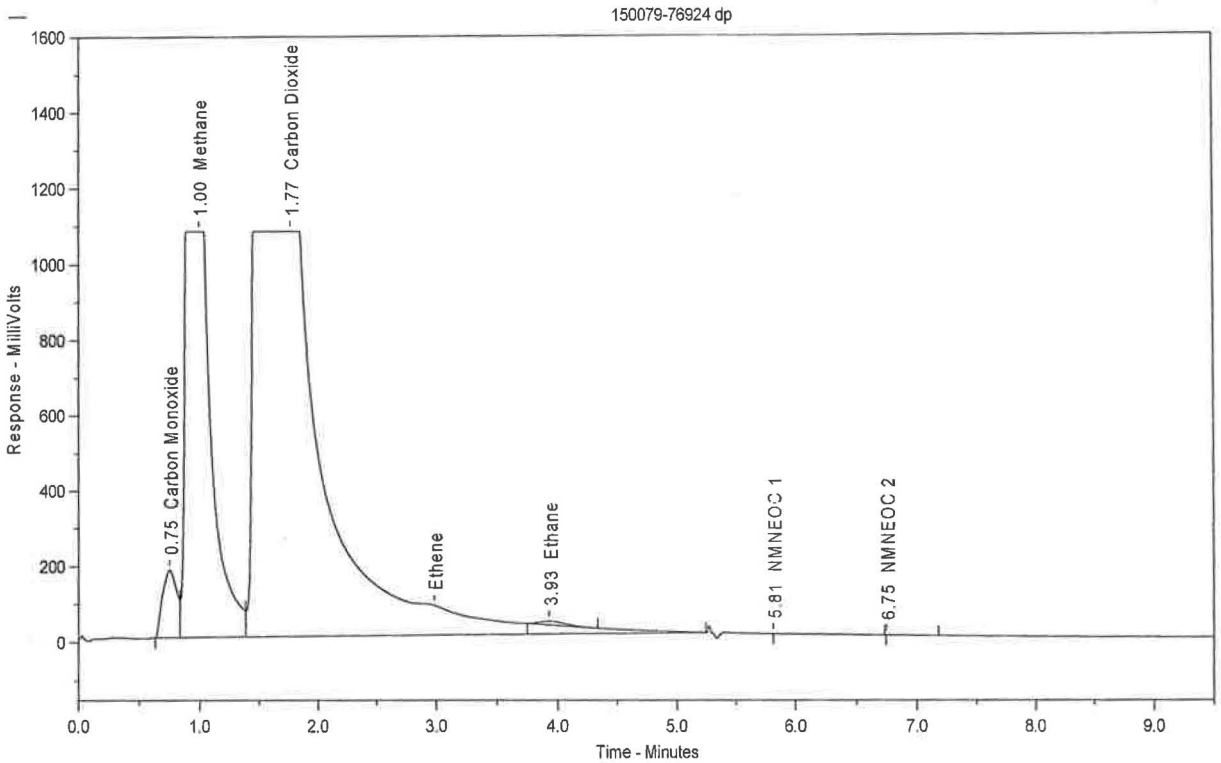
Raw File Name = **C:\CPDATA\Inst#04\2015\020315.0024.raw**
Method File Name = C:\Cpmethods\Inst #04\2014\Method25.1,3.met
Calibration File Name = C:\Cpmethods\Inst #04\2014\042114-25.1,3.CAL

Date Taken (end) = 2/3/2015 12:28:12 PM
Dilution Factor = 1

Peak #	Ret. Time	Name	Amount	Amt %	Area	Area %	Type	Width
1	0.75	Carbon Monoxide	120.547	3.512	1508799	2.259	BV	0.16
2	1.05	Methane	849.254	24.741	17418144	26.078	VV	0.22
3	1.73	Carbon Dioxide	2457.716	71.600	47690692	71.402	SBB	0.54
4	3.95	Ethane	4.445	0.129	150378	0.225	TBB	0.36
5	5.79	NMNEOC 1	0.437	0.013	17937	0.027	BB	0.58
6	6.76	NMNEOC 2	+ 0.151	0.004	6223	0.009	BB	0.29
			0.588					

Total Area = 6.679218E+07 Total Height = 2341212 Total Amount = 3432.55

2/3/15



Sample Name = **150079-76924 dp**

Instrument = FID #4

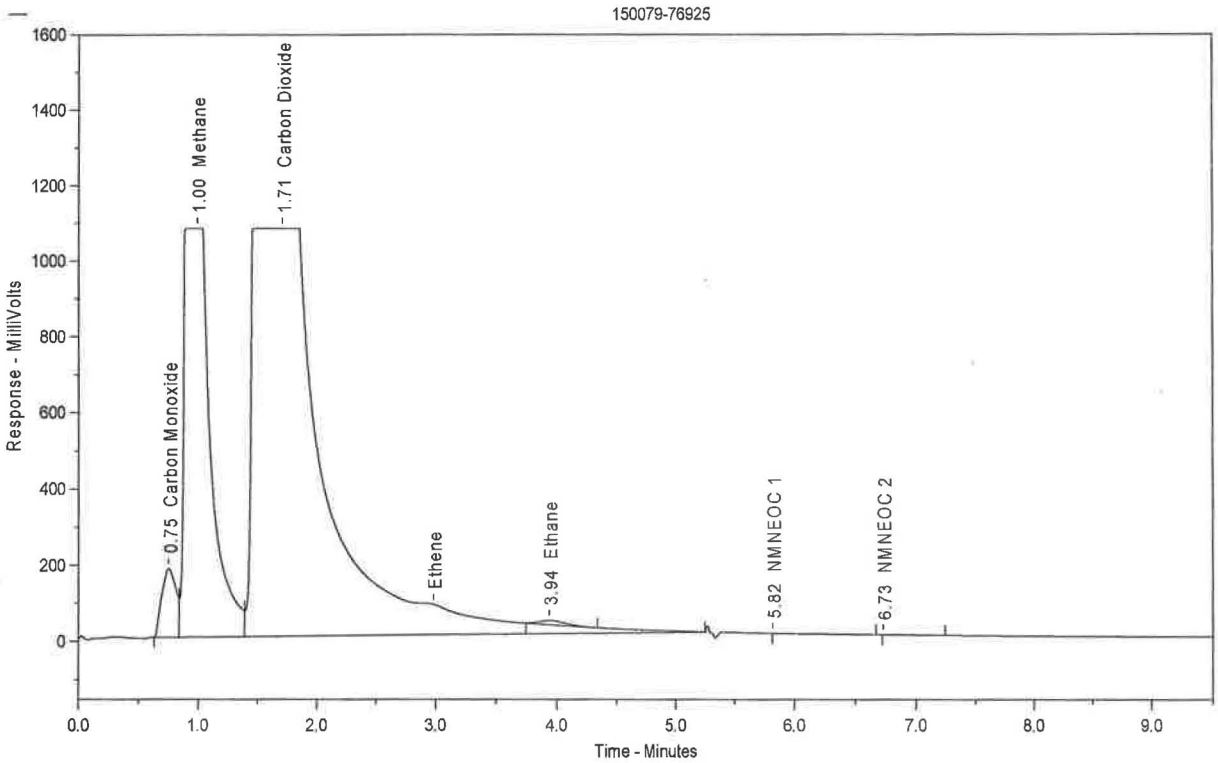
Raw File Name = **C:\CPDATA\Inst#04\2015\020315.0025.raw**
Method File Name = C:\Cpmethods\Inst #04\2014\Method25.1,3.met
Calibration File Name = C:\Cpmethods\Inst #04\2014\042114-25.1,3.CAL

Date Taken (end) = 2/3/2015 12:41:40 PM
Dilution Factor = 1

Peak #	Ret. Time	Name	Amount	Amt %	Area	Area %	Type	Width
1	0.75	Carbon Monoxide	114.733	3.433	1436028	2.207	BV	0.16
2	1.00	Methane	823.316	24.632	16886154	25.957	VV	0.22
3	1.77	Carbon Dioxide	2399.515	71.789	46561316	71.574	SBB	0.53
4	3.93	Ethane	4.287	0.128	145044	0.223	TBB	0.34
5	5.81	NMNEOC 1	0.441	0.013	18111	0.028	BB	0.58
6	6.75	NMNEOC 2	+ 0.164	0.005	6741	0.010	BB	0.30
			0.605					

Total Area = 6.505339E+07 Total Height = 2330425 Total Amount = 3342.455

2/3/15



Sample Name = **150079-76925**

Instrument = FID #4

Raw File Name = **C:\CPDATA\Inst#04\2015\020315.0026.raw**
Method File Name = C:\Cpmethods\Inst #04\2014\Method25.1,3.met
Calibration File Name = C:\Cpmethods\Inst #04\2014\042114-25.1,3.CAL

Date Taken (end) = 2/3/2015 1:01:00 PM
Dilution Factor = 1

Peak #	Ret. Time	Name	Amount	Amt %	Area	Area %	Type	Width
1	0.75	Carbon Monoxide	117.602	3.510	1471947	2.258	BV	0.16
2	1.00	Methane	824.596	24.608	16912418	25.938	VV	0.22
3	1.71	Carbon Dioxide	2403.669	71.731	46641936	71.534	SBB	0.53
4	3.94	Ethane	4.603	0.137	155746	0.239	TBB	0.36
5	5.82	NMNEOC 1	0.285	0.008	11696	0.018	BB	0.50
6	6.73	NMNEOC 2	+ 0.203	0.006	8358	0.013	BB	0.34
			0.488					

Total Area = 6.520211E+07 Total Height = 2337918 Total Amount = 3350.959

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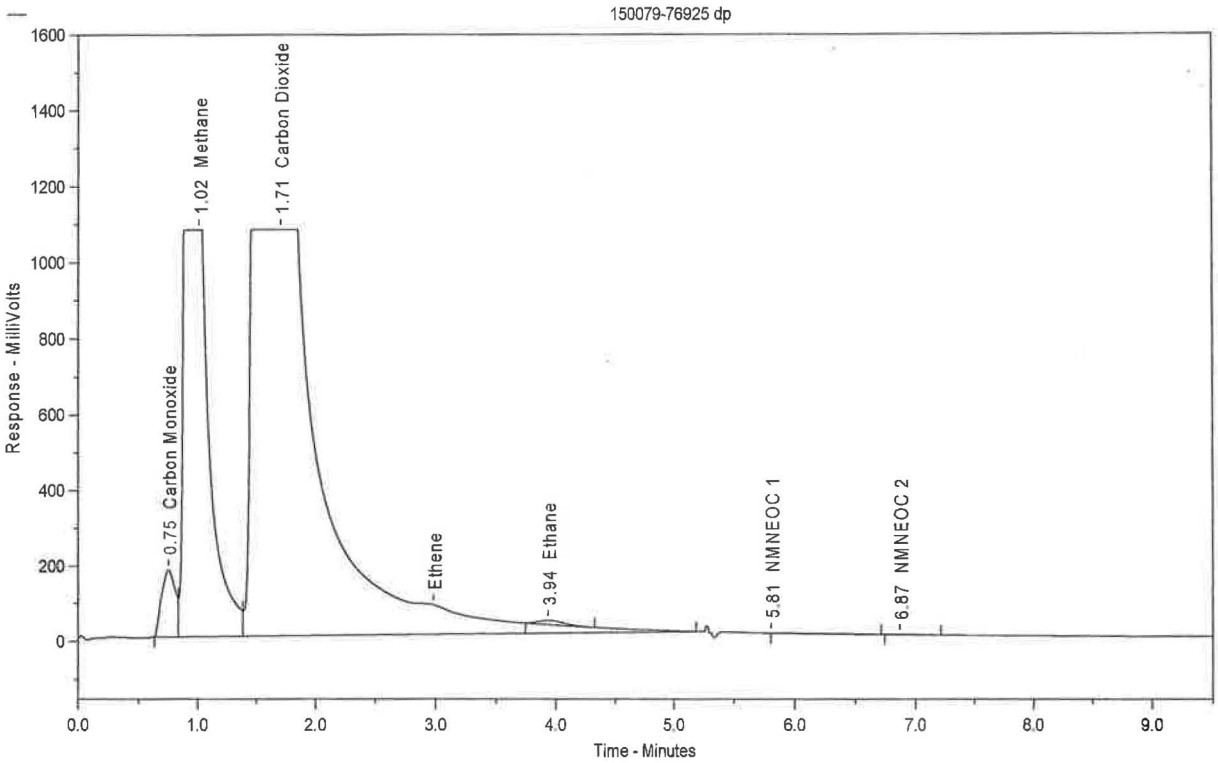

Sample Name = **150079-76925 dp**

Instrument = FID #4

Raw File Name = **C:\CPDATA\Inst#04\2015\020315.0027.raw**
Method File Name = C:\Cpmethods\Inst #04\2014\Method25.1,3.met
Calibration File Name = C:\Cpmethods\Inst #04\2014\042114-25.1,3.CAL

Date Taken (end) = 2/3/2015 1:16:41 PM
Dilution Factor = 1

Peak #	Ret. Time	Name	Amount	Amt %	Area	Area %	Type	Width
1	0.75	Carbon Monoxide	115.571	3.478	1446519	2.237	BV	0.16
2	1.02	Methane	818.661	24.640	16790696	25.969	VV	0.21
3	1.71	Carbon Dioxide	2383.125	71.728	46243276	71.521	SBB	0.53
4	3.94	Ethane	4.629	0.139	156614	0.242	TBB	0.35
5	5.81	NMNEOC 1	0.278	0.008	11425	0.018	BB	0.52
6	6.87	NMNEOC 2	0.203	0.006	8334	0.013	BB	0.31

0.481

Total Area = 6.465686E+07 Total Height = 2335450 Total Amount = 3322.467

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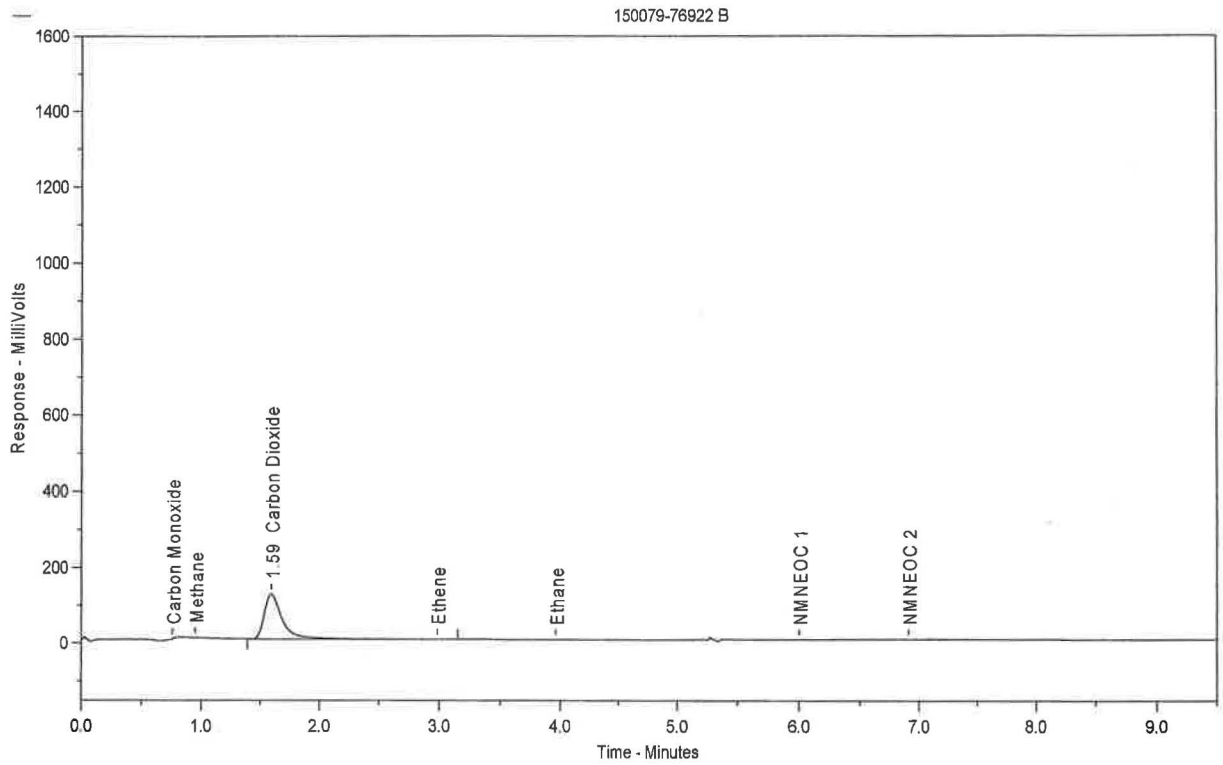

Sample Name = **150079-76922 B**

Instrument = FID #4

Raw File Name = **C:\CPDATA\Inst#04.\2015\020415.0018.RAW**
Method File Name = C:\Cpmethods\Inst #04\2014\Method25.1,3.met
Calibration File Name = C:\Cpmethods\Inst #04\2014\042114-25.1,3.CAL

Date Taken (end) = 2/4/2015 9:29:33 AM
Dilution Factor = 1

Peak #	Ret. Time	Name	Amount	Amt %	Area	Area %	Type	Width
1	1.59	Carbon Dioxide	64.897	100.000	1259286	100.000	BB	0.15

Total Area = 1259286 Total Height = 119052.2 Total Amount = 64.89668

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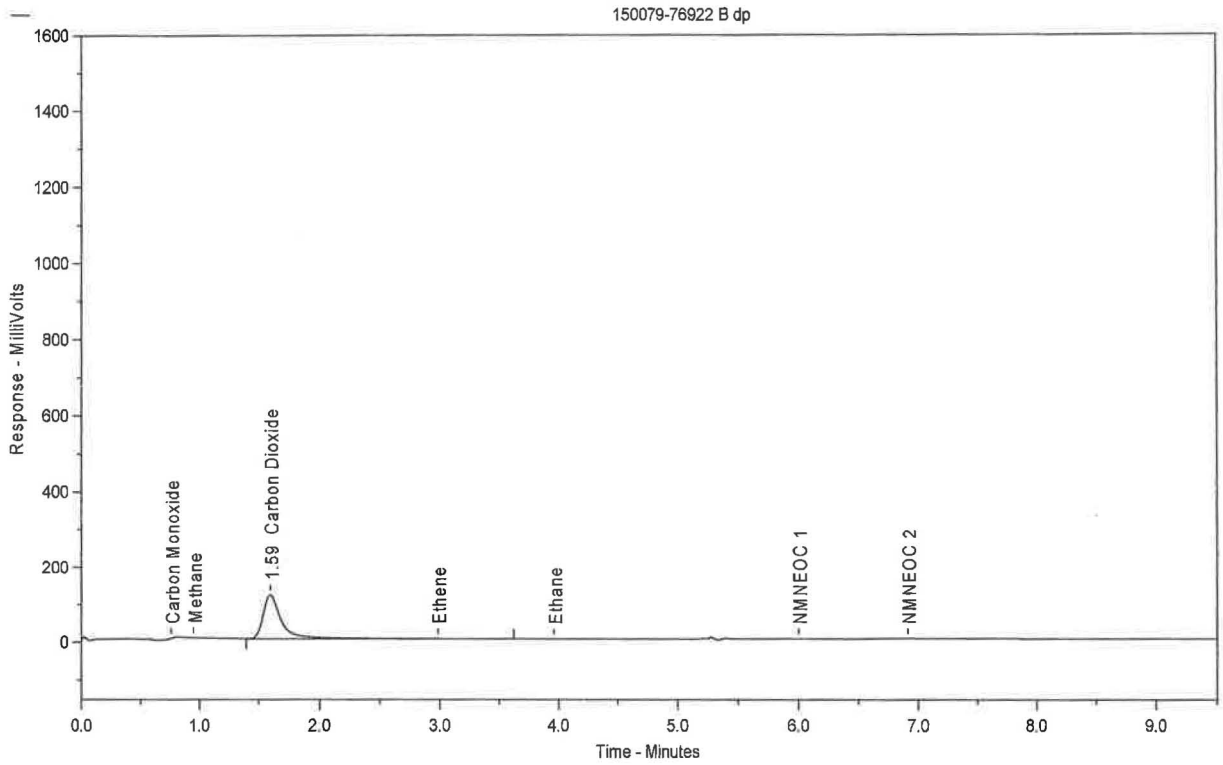

Sample Name = **150079-76922 B dp**

Instrument = FID #4

Raw File Name = **C:\CPDATA\Inst#04\2015\020415.0019.raw**
Method File Name = C:\Cpmethods\Inst #04\2014\Method25.1,3.met
Calibration File Name = C:\Cpmethods\Inst #04\2014\042114-25.1,3.CAL

Date Taken (end) = 2/4/2015 9:42:57 AM
Dilution Factor = 1

Peak #	Ret. Time	Name	Amount	Amt %	Area	Area %	Type	Width
1	1.59	Carbon Dioxide	62.786	100.000	1218326	100.000	BB	0.14

Total Area = 1218326 Total Height = 115994 Total Amount = 62.78582

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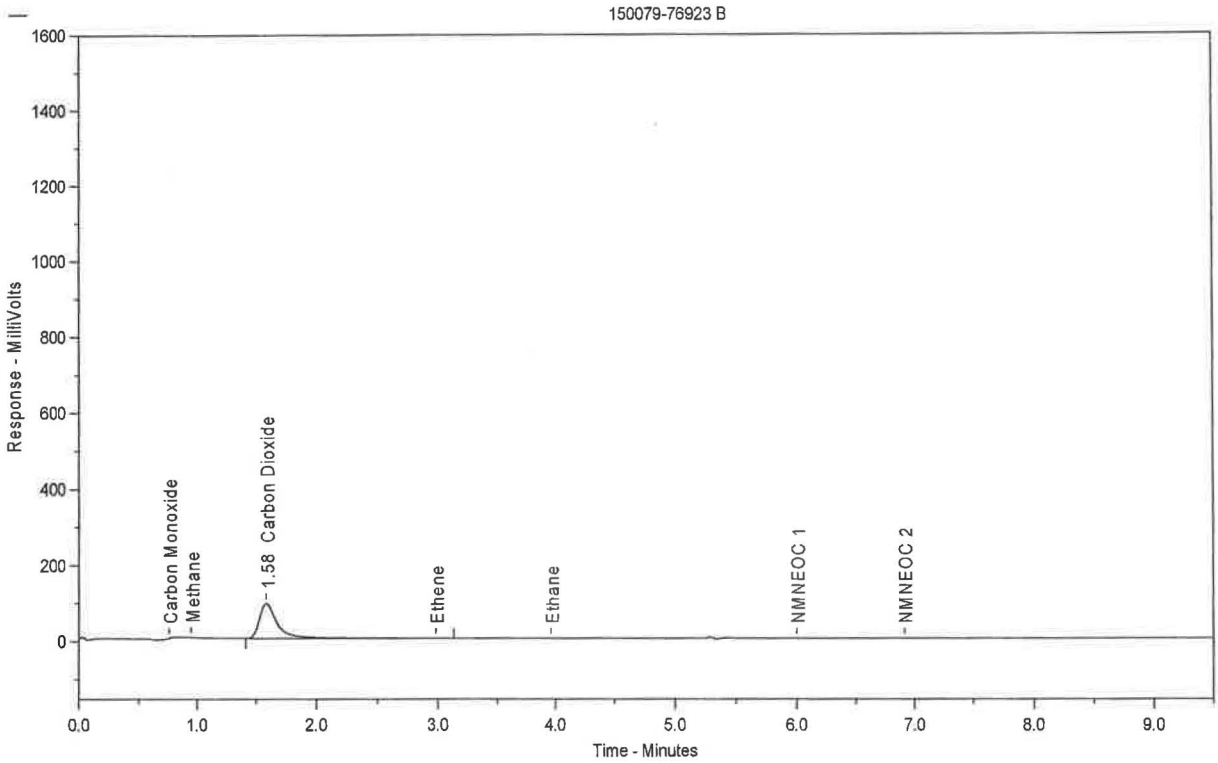

Sample Name = **150079-76923 B**

Instrument = FID #4

Raw File Name = **C:\CPDATA\Inst#04\2015\020415.0022.RAW**
Method File Name = C:\Cpmethods\Inst #04\2014\Method25.1,3.met
Calibration File Name = C:\Cpmethods\Inst #04\2014\042114-25.1,3.CAL

Date Taken (end) = 2/4/2015 10:29:05 AM
Dilution Factor = 1

Peak #	Ret. Time	Name	Amount	Amt %	Area	Area %	Type	Width
1	1.58	Carbon Dioxide	50.131	100.000	972760	100.000	BB	0.14

Total Area = 972760.4 Total Height = 91749.73 Total Amount = 50.13073

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