Cavity

Cavity 1 Calculations

Equations

$$C = \frac{A * W}{1.0 + B\,(W/Hb)}$$ when L/Hb <2 or W/Hb<2

Or

$$C = \frac{1.75 * W}{1.0 + 0.25\,(W/Hb)}$$ when L/Hb >2 or W/Hb>2

Hb = Building Height (m)
L = Alongwind Building Dimension (m)
W = Crosswind Building Dimension (m)
A = -2.0 + 3.7 *(L/Hb)^(-1/3)
B = -.15 + .305 *(L/Hb)^(-1/3)

#	Building	Hb (m)	L (m)	W (m)	A	B	C1 Cavity (m)	Nearest Fence Line (m)	Cavity Inside Fence?
1_TG	1-Turbine Generator	30.48	85.34	41.15	0.63	0.07	53.84	251.00	True
2_Boiler	2-Boiler	77.72	26.09	38.07	3.32	0.29	110.86	288.73	True
3A_BH	3-Baghouse A	24.38	44.20	41.15	1.03	0.10	36.42	309.00	True
3B_BH	3-Baghouse B	24.38	44.20	41.15	1.03	0.10	36.42	290.00	True
7_LSP&SD	7-Limestone Prep & Sludge Dewatering	25.91	48.77	24.38	1.00	0.10	22.27	152.00	True
9_LUnloa	9-Limestone Unloading	9.14	13.72	12.19	1.23	0.12	13.00	183.00	True
13_CTBld	13-Cooling Tower Building	10.36	16.75	292.69	1.15	0.11	63.54	112.00	True
14_CWPB	14-Circulating Water Pump Building	10.06	11.40	24.30	1.55	0.14	26.51	225.00	True
15_MB	15-Yard Maintenance Building	7.62	48.77	24.38	(0.01)	0.01	23.71	205.00	True
20_CrusH	20-Coal Crusher House	36.58	10.67	7.62	3.58	0.31	25.62	395.00	True
22_NH3	22-Anhydrous Ammonia Storage Tank	3.05	16.76	3.05	0.10	0.02	4.27	344.00	True
23_NBC	23 - New Brine Concentrator	33.53	12.19	12.19	3.18	0.28	35.26	145.00	True
23_EBC	23 - Existing Brine Concentrator	28.96	12.19	12.19	2.94	0.26	32.31	152.00	True
24_CCEE	24-CT Electrical Equipment Enclosure	4.57	8.53	3.66	1.01	0.10	3.41	245.00	True
28_U2EE	28-Unit 2 Electrical Equipment Enclosure	4.57	8.53	3.66	1.01	0.10	3.41	280.00	True
29_SSFPB	29-Scrubber Slurry Feed Pump Building	9.14	24.38	14.02	0.67	0.07	17.74	235.00	True
33A_Boiler	33A - Boiler	89.31	142.50	71.22	1.17	0.11	76.31	355.00	True
34_PB	34_Unit 1 Precipitator	23.62	62.79	23.47	0.67	0.07	32.90	357.00	True
36_SB	36 - Service Building	7.32	13.92	8.48	0.99	0.10	7.52	440.00	True
36A_hallway	36A - Hallway to Power Building	4.88	19.81	7.92	0.32	0.04	9.86	422.00	True
37_CWPB	37 - Unit 1 Circulating H2O Pump Bld	9.14	15.54	9.75	1.10	0.11	9.64	496.00	True
38_CWDS	Unit 1 Circulating H2O Discharge Structure	3.05	12.19	7.62	0.33	0.04	8.21	510.00	True
39A_RD	39A - Rotary Dumper	8.99	22.25	19.81	0.74	0.08	22.36	265.00	True
39B_RD	39B_Rotary Dumper	8.99	53.34	13.41	0.04	0.02	17.10	275.00	True
40A_LCSB	40A - Live Coal Storage Building	21.95	121.92	9.14	0.09	0.02	14.49	298.00	True
40B_CSB	40B - Coal Storage Barn	27.13	15.24	9.14	2.48	0.22	21.15	337.00	True
42_CH	42 - Unit 2 Crusher House	25.91	11.13	9.60	2.90	0.25	25.48	395.00	True
48-AFU/S	48 - Unit 1 Alternative Fuel Unloading	4.88	38.71	9.75	(0.15)	0.00	11.38	325.00	True
50_WH	50 - Unit 1 Warehouse	6.86	64.01	17.68	(0.24)	(0.01)	18.81	420.00	True
50_WH2	Unit 1 Warehouse	6.86	12.25	15.70	1.05	0.10	17.47	400.00	True
51A_SB	51A - Unit 1 Cold Lime Softening Building	7.62	17.00	12.20	0.83	0.08	15.25	448.00	True
56_SCB	56-Substation Control Building	4.57	14.50	14.90	0.52	0.06	14.37	326.00	True
63_MS	63 - Maintenance Shop	8.84	30.48	24.38	0.45	0.05	25.25	433.00	True
64_STB	64_Sewage Treatment Building	3.05	10.06	5.49	0.49	0.05	6.62	491.00	True
65_SWPH	65 - Service Water Pump House	3.05	11.58	8.53	0.37	0.05	8.79	492.00	True
66_ASB	66_Acid Storage Building	3.05	7.32	4.88	0.76	0.08	6.10	500.00	True
67_CCS	37 - Chlorine Container Storage	4.57	16.76	7.32	0.40	0.05	9.14	495.00	True
69_FP	69-Fire Pump	4.57	10.97	9.75	0.76	0.08	11.13	Outside Already	True
70_DG	70-Diesel Generator	3.05	9.75	4.88	0.51	0.06	6.10	324.00	True

Cavity 2 Calculations

Equations

$$C = \frac{A * W}{1.0 + B\,(W/Hb)}$$ when L/Hb <2 or W/Hb<2

Or

$$C = \frac{1.75 * W}{1.0 + 0.25\,(W/Hb)}$$ when L/Hb >2 or W/Hb>2

Hb = Building Height (m)
L = Alongwind Building Dimension (m)
W = Crosswind Building Dimension (m)
A = -2.0 + 3.7 *(L/Hb)^(-1/3)
B = -.15 + .305 *(L/Hb)^(-1/3)

#	Building	Hb (m)	W (m)	L (m)	A	B	C2 Cavity (m)	Nearest Fence Line (m)	Cavity Inside Fence?
1_TG	1-Turbine Generator	30.48	85.34	41.15	1.35	0.13	87.85	251.00	True
2_Boiler	2-Boiler	77.72	26.09	38.07	2.69	0.24	65.10	288.73	True
3A_BH	3-Baghouse A	24.38	44.20	41.15	1.11	0.11	41.06	309.00	True
3B_BH	3-Baghouse B	24.38	44.20	41.15	1.11	0.11	41.06	290.00	True
7_LSP&SD	7-Limestone Prep & Sludge Dewatering	25.91	48.77	24.38	1.78	0.16	66.43	152.00	True
9_LUnloa	9-Limestone Unloading	9.14	13.72	12.19	1.36	0.13	15.69	183.00	True
13_CTBld	13-Cooling Tower Building	10.36	16.75	292.69	(0.79)	(0.05)	20.88	112.00	True
14_CWPB	14-Circulating Water Pump Building	10.06	11.40	24.30	0.76	0.08	15.55	225.00	True
15_MB	15-Yard Maintenance Building	7.62	48.77	24.38	0.51	0.06	32.82	205.00	True
20_CrusH	20-Coal Crusher House	36.58	10.67	7.62	4.24	0.36	40.90	395.00	True
22_NH3	22-Anhydrous Ammonia Storage Tank	3.05	16.76	3.05	1.70	0.16	12.35	344.00	True
23_NBC	23 - New Brine Concentrator	33.53	12.19	12.19	3.18	0.28	35.26	145.00	True
23_EBC	23 - Existing Brine Concentrator	28.96	12.19	12.19	2.94	0.26	32.31	152.00	True
24_CCEE	24-CT Electrical Equipment Enclosure	4.57	8.53	3.66	1.99	0.18	12.71	245.00	True
28_U2EE	28-Unit 2 Electrical Equipment Enclosure	4.57	8.53	3.66	1.99	0.18	12.71	280.00	True
29_SSFPB	29-Scrubber Slurry Feed Pump Building	9.14	24.38	14.02	1.21	0.11	25.60	235.00	True
33A_Boiler	33A - Boiler	89.31	142.50	71.22	1.99	0.18	220.59	355.00	True
34_PB	34_Unit 1 Precipitator	23.62	62.79	23.47	1.71	0.16	66.01	357.00	True
36_SB	36 - Service Building	7.32	13.92	8.48	1.52	0.14	16.72	440.00	True
36A_hallway	36A - Hallway to Power Building	4.88	19.81	7.92	1.15	0.11	17.20	422.00	True
37_CWPB	37 - Unit 1 Circulating H2O Pump Bld	9.14	15.54	9.75	1.62	0.15	20.12	496.00	True
38_CWDS	Unit 1 Circulating H2O Discharge Structure	3.05	12.19	7.62	0.73	0.07	10.67	510.00	True
39A_RD	39A - Rotary Dumper	8.99	22.25	19.81	0.84	0.08	24.06	265.00	True
39B_RD	39B_Rotary Dumper	8.99	53.34	13.41	1.24	0.12	37.59	275.00	True
40A_LCSB	40A - Live Coal Storage Building	21.95	121.92	9.14	2.95	0.26	89.31	298.00	True
40B_CSB	40B - Coal Storage Barn	27.13	15.24	9.14	3.32	0.29	43.50	337.00	True
42_CH	42 - Unit 2 Crusher House	25.91	11.13	9.60	3.15	0.27	31.36	395.00	True
48-AFU/S	48 - Unit 1 Alternative Fuel Unloading	4.88	38.71	9.75	0.94	0.09	22.70	325.00	True
50_WH	50 - Unit 1 Warehouse	6.86	64.01	17.68	0.70	0.07	33.60	420.00	True
50_WH2	Unit 1 Warehouse	6.86	12.25	15.70	0.81	0.08	14.82	400.00	True
51A_SB	51A - Unit 1 Cold Lime Softening Building	7.62	17.00	12.20	1.16	0.11	19.10	448.00	True
56_SCB	56-Substation Control Building	4.57	14.50	14.90	0.50	0.06	14.15	326.00	True
63_MS	63 - Maintenance Shop	8.84	30.48	24.38	0.64	0.07	28.65	433.00	True
64_STB	64_Sewage Treatment Building	3.05	10.06	5.49	1.04	0.10	9.65	491.00	True
65_SWPH	65 - Service Water Pump House	3.05	11.58	8.53	0.63	0.07	10.39	492.00	True
66_ASB	66_Acid Storage Building	3.05	7.32	4.88	1.16	0.11	8.00	500.00	True
67_CCS	37 - Chlorine Container Storage	4.57	16.76	7.32	1.16	0.11	15.31	495.00	True
69_FP	69-Fire Pump	4.57	10.97	9.75	0.87	0.09	12.00	Outside Already	True
70_DG	70-Diesel Generator	3.05	9.75	4.88	1.16	0.11	9.48	324.00	True

Meteorological Data (Missing Values)

From: "Richard A. Perry" <dperry@beeline-software.com>
To: "'Robynn Andracsek'" <RAndracsek@burnsmcd.com>
Date: 3/24/2005 2:06:04 PM
Subject: RE: RE: Big Stone II met data- Missing Values

Hi Robynn,

Here are your met files. I have also included a spreadsheet with the data from Mitchell, SD used to fill the five missing hours.

Invoice will follow by mail.

Dick

-----Original Message-----
From: Robynn Andracsek [mailto:RAndracsek@burnsmcd.com]
Sent: Monday, March 21, 2005 11:13 AM
To: TGraumann@otpco.com
Cc: dperry@beeline-software.com; Dave Hendry; otpconus@burnsmcd.com; Stephen Gosoroski; Todd Sundbom
Subject: Fwd: RE: Big Stone II met data- Missing Values

FYI

Robynn Andracsek
Burns & McDonnell
9400 Ward Parkway
Kansas City, MO 64114
(816) 822-3596 phone
(816) 942-3816 fax
RAndracsek@burnsmcd.com

>>> <Jason.Knapp@state.sd.us> 3/21/2005 10:10:17 AM >>>
Robynn,

In order to fill in the missing data we will have to find the closest and most representative site. I'm assuming this will be the Sioux Falls, SD site. I am not familiar with the sites in ND and MN but would be willing to substitute data from a site in either of these states if the data is more representative.

-----Original Message-----
From: Robynn Andracsek [mailto:RAndracsek@burnsmcd.com]
Sent: Wednesday, March 16, 2005 3:03 PM
To: Jason.Knapp@state.sd.us; Kyrik.Rombough@state.sd.us
Cc: Dave Hendry; otpconus@burnsmcd.com; Stephen Gosoroski; Todd Sundbom; TGraumann@otpco.com
Subject: Big Stone II met data- Missing Values

Kyrik-

There are some serious missing values in the data- a five hour period on what looks like an extremely stormy day. We need your guidance on how to fill in this missing data. Please see the attached file.

Thanks.

Robynn Andracsek
Burns & McDonnell
9400 Ward Parkway
Kansas City, MO 64114
(816) 822-3596 phone
(816) 942-3816 fax
RAndracsek@burnsmcd.com

>>> "Richard A. Perry" <dperry@beeline-software.com> 3/16/2005 2:58:45 PM >>>
Hi Robynn,

Here are the days 8-10 Feb 2002. I added the column headers for your benefit. Open the file in Notepad so the columns will stay lined up.

Dick

				T	DP	RH	Pres	WD	WS	Vis	Ceil	weather	cld1	cld2	cld3
14936A2002020801	9999	9999	9999	31	24	76	2991	0	0	10	77777	9999	0	99999	99999
14936A2002020802	9999	9999	9999	28	23	81	2989	180	5.8	10	77777	9999	0	99999	99999
14936A2002020803	9999	9999	9999	26	21	81	2989	210	3.5	10	77777	9999	0	99999	99999
14936A2002020804	9999	9999	9999	27	23	85	2987	0	0	10	77777	9999	0	99999	99999
14936A2002020805	9999	9999	9999	27	23	85	2985	60	6.9	10	77777	9999	0	99999	99999
14936A2002020806	9999	9999	9999	27	22	81	2986	190	5.8	10	77777	9999	0	99999	99999
14936A2002020807	9999	9999	9999	27	21	78	2984	130	8.1	10	77777	9999	0	99999	99999
14936A2002020808	9999	9999	9999	28	20	72	2982	160	9.2	10	77777	9999	0	99999	99999
14936A2002020809	9999	9999	9999	31	23	72	2981	120	6.9	10	77777	9999	0	99999	99999
14936A2002020810	9999	9999	9999	38	24	57	2981	180	9.2	10	77777	9999	0	99999	99999
14936A2002020811	9999	9999	9999	43	27	53	2977	150	12.7	10	77777	9999	0	99999	99999
14936A2002020812	9999	9999	9999	47	28	48	2975	160	12.7	10	77777	9999	0	99999	99999
14936A2002020813	9999	9999	9999	53	28	38	2970	150	12.7	10	77777	9999	0	99999	99999
14936A2002020814	9999	9999	9999	55	28	36	2966	150	9.2	10	77777	9999	0	99999	99999
14936A2002020815	9999	9999	9999	54	31	42	2962	140	11.5	10	77777	9999	0	99999	99999
14936A2002020816	9999	9999	9999	53	32	45	2959	140	11.5	10	77777	9999	0	99999	99999
14936A2002020817	9999	9999	9999	50	33	52	2958	150	8.1	10	77777	9999	0	99999	99999
14936A2002020818	9999	9999	9999	45	32	61	2959	130	9.2	10	77777	9999	0	99999	99999
14936A2002020819	9999	9999	9999	45	32	61	2960	160	9.2	10	77777	9999	0	99999	99999
14936A2002020820	9999	9999	9999	42	32	68	2961	150	11.5	10	77777	9999	0	99999	99999
14936A2002020821	9999	9999	9999	39	32	76	2960	160	10.4	7	77777	9999	0	99999	99999
14936A2002020822	9999	9999	9999	37	32	82	2961	160	10.4	6	77777	8E+05	0	99999	99999
14936A2002020823	9999	9999	9999	36	32	86	2961	130	9.2	5	77777	7E+05	0	99999	99999
14936A2002020824	9999	9999	9999	35	32	89	2962	100	10.4	4	77777	7E+05	0	99999	99999
14936A2002020901	9999	9999	9999	34	32	92	2964	90	8.1	4	77777	7E+05	0	99999	99999
14936A2002020902	9999	9999	9999	33	32	96	2966	60	8.1	4	77777	7E+05	0	99999	99999
14936A2002020903	9999	9999	9999	33	31	92	2967	50	11.5	4	77777	7E+05	2030	99999	99999
14936A2002020904	9999	9999	9999	34	31	89	2968	30	10.4	4	3400	7E+05	4034	99999	99999
14936A2002020905	9999	9999	9999	34	32	92	2974	30	13.8	3	1000	7E+05	4010	6039	99999
14936A2002020906	9999	9999	9999	34	32	92	2977	30	16.1	3	1000	7E+05	6010	99999	99999
14936A2002020907	9999	9999	9999	35	32	89	2982	30	15	3	1000	7E+05	6010	99999	99999
14936A2002020908	9999	9999	9999	34	32	92	2987	20	15	4	1400	4E+07	6014	99999	99999
14936A2002020909	9999	9999	9999	33	32	96	2991	20	21.9	0.5	700	4E+07	4007	4012	6018
14936A2002020910	9999	9999	9999	33	32	96	2995	20	20.7	0.5	700	4E+07	4007	6011	99999
14936A2002020911	9999	9999	9999	33	31	92	3000	20	26.5	1.8	1300	4E+07	4013	6017	99999
14936A2002020912	9999	9999	9999	31	30	96	3005	20	28.8	1	600	4E+07	4006	6013	99999
14936A2002020913	9999	9999	9999	999.9	999.9	999	9999	999	99.9	999.9	99999	1E+08	99999	99999	99999

				T	DP	RH	Pres	WD	WS	Vis	Ceil	weather	cld1	cld2	cld3
14936A2002020914	9999	9999	9999	999.9	999.9	999	9999	999	99.9	999.9	99999	1E+08	99999	99999	99999
14936A2002020915	9999	9999	9999	999.9	999.9	999	9999	999	99.9	999.9	99999	1E+08	99999	99999	99999
14936A2002020916	9999	9999	9999	999.9	999.9	999	9999	999	99.9	999.9	99999	1E+08	99999	99999	99999
14936A2002020917	9999	9999	9999	999.9	999.9	999	9999	999	99.9	999.9	99999	1E+08	99999	99999	99999
14936A2002020918	9999	9999	9999	29	22	75	3027	10	30	10	2800	8E+05	6028	99999	99999
14936A2002020919	9999	9999	9999	27	21	78	3032	10	33.4	10	6000	9999	2034	6060	99999
14936A2002020920	9999	9999	9999	26	20	78	3036	10	26.5	10	10000	9999	2080	4100	99999
14936A2002020921	9999	9999	9999	24	17	75	3040	10	26.5	10	77777	9999	0	99999	99999
14936A2002020922	9999	9999	9999	22	17	82	3044	10	30	10	77777	9999	0	99999	99999
14936A2002020923	9999	9999	9999	22	17	82	3046	10	31.1	10	77777	9999	0	99999	99999
14936A2002020924	9999	9999	9999	20	17	89	3047	360	24.2	10	77777	9999	0	99999	99999
14936A2002021001	9999	9999	9999	18	14	84	3050	360	20.7	10	77777	9999	2016	99999	99999
14936A2002021002	9999	9999	9999	17	13	84	3051	360	18.4	10	77777	9999	0	99999	99999
14936A2002021003	9999	9999	9999	16	12	84	3053	360	18.4	10	77777	9999	0	99999	99999
14936A2002021004	9999	9999	9999	14	9	80	3054	350	13.8	10	77777	9999	0	99999	99999
14936A2002021005	9999	9999	9999	13	9	84	3057	330	11.5	10	77777	9999	0	99999	99999
14936A2002021006	9999	9999	9999	12	8	84	3058	330	10.4	10	77777	9999	0	99999	99999
14936A2002021007	9999	9999	9999	11	8	88	3058	320	10.4	8	77777	9999	0	99999	99999
14936A2002021008	9999	9999	9999	11	8	88	3059	320	6.9	7	77777	9999	0	99999	99999
14936A2002021009	9999	9999	9999	15	11	84	3059	330	5.8	9	77777	9999	0	99999	99999
14936A2002021010	9999	9999	9999	19	13	77	3059	330	9.2	10	77777	9999	0	99999	99999
14936A2002021011	9999	9999	9999	23	16	74	3059	290	9.2	10	77777	9999	0	99999	99999
14936A2002021012	9999	9999	9999	27	18	69	3057	300	8.1	10	77777	9999	0	99999	99999
14936A2002021013	9999	9999	9999	32	19	59	3055	280	9.2	10	77777	9999	0	99999	99999
14936A2002021014	9999	9999	9999	34	22	61	3051	270	8.1	10	77777	9999	0	99999	99999
14936A2002021015	9999	9999	9999	37	24	60	3049	280	6.9	10	77777	9999	0	99999	99999
14936A2002021016	9999	9999	9999	38	24	57	3046	240	11.5	10	77777	9999	0	99999	99999
14936A2002021017	9999	9999	9999	38	25	60	3044	240	8.1	10	77777	9999	0	99999	99999
14936A2002021018	9999	9999	9999	34	22	61	3042	210	5.8	10	77777	9999	0	99999	99999
14936A2002021019	9999	9999	9999	33	23	67	3039	200	8.1	10	77777	9999	0	99999	99999
14936A2002021020	9999	9999	9999	33	22	64	3037	210	11.5	10	77777	9999	0	99999	99999
14936A2002021021	9999	9999	9999	31	21	67	3032	200	9.2	10	77777	9999	0	99999	99999
14936A2002021022	9999	9999	9999	31	20	64	3027	190	11.5	10	77777	9999	0	99999	99999
14936A2002021023	9999	9999	9999	29	19	66	3022	190	11.5	10	77777	9999	0	99999	99999
14936A2002021024	9999	9999	9999	29	19	66	3018	200	13.8	10	77777	9999	0	99999	99999

Unedited Surface Weather Observations (METAR/SPEC)	Latitude	Longitude	Station Elev. (ft)	Time Conversion	Day	Mon.		Year		SID	Station (Type, Name, State)
	43° 47'	-98° 02'	1294	6	9	2		2002		MHE	ASOS MITCHELL, SD

		WIND					VISIBILITY									
TYPE	TIME (LST)	DIR TRUE	SPD KTS	S-D MPH (Computed)	GUST KTS	VARIABILITY TRUE	SURFACE STATUTE MILES	RUNWAY VISUAL RANGE (FT)	PRESENT WEATHER	SKY CONDITIONS	TEMP °C	TEMP °F (Computed)	DEW POINT °C	DEW POINT °F (Computed)	ALTI-METER INS.	REMARKS AND SUPPLEMENTAL CODED DATA
1	2	3	4	4A	5	6	7	8	9	10	11	11A	12	12A	13	14
S	59	80	6	6.9			4		BR	CLR	0	32	-1	30	A2961	SLP034 T00001011
S	159	40	8	9.2			3		BR	CLR	-1	30	-2	28	A2961	SLP032 T10061017
S	259	30	5	5.8			4		BR	SCT110	-1	30	-2	28	A2963	SLP040 T10061022 53010
S	359	350	7	8.1			4		BR	FEW110	-1	30	-2	28	A2964	SLP045 T10061017
S	459	350	10	11.5			4		BR	CLR	0	32	-1	30	A2968	SLP058 T00001011
S	559	360	13	15.0			4		BR	OVC038	1	34	-1	30	A2972	SLP074 T00061006 10006 21011 53030
S	608	360	14	16.1			4		BR	SCT009 OVC038	1	34	-1	30	A2973	
S	620	360	13	15.0			4		BR	BKN009 OVC038	1	34	-1	30	A2974	
S	659	350	13	15.0			4		BR	OVC009	1	34	0	32	A2977	SLP092 T00110000
S	759	350	17	19.6			3		BR	OVC007	1	34	0	32	A2981	SLP105 T00110000
S	815	350	17	19.6			2 1/2		BR	OVC007	1	34	0	32	A2982	
S	859	350	17	19.6	23		3		BR	OVC009	2	36	0	32	A2985	SLP121 T00170000 51042
S	925	350	19	21.9	23		4		BR	OVC011	1	34	-1	30	A2987	
S	959	350	20	23.0	26		4		UP BR	BKN008 OVC014	1	34	-1	30	A2989	PK WND 35026/1554 UPB45 SLP134 P0000 T00111006
S	1011	360	21	24.2	26		5		BR	BKN010 OVC016	1	34	-1	30	A2990	PK WND 35026/1605 UPE08 CIG 007V012 P0000
S	1059	350	20	23.0	25		6		BR	OVC012	1	34	-1	30	A2994	PK WND 35027/1649 UPE08 SLP152 P0000 T00111006
S	1129	350	19	21.9	26		2 1/2		-SN BR	OVC014	01	34	-01	30	A2996	PK WND 36026/1726 UPB00E11SNB11 P0000
S	1142	350	18	20.7	23		1 1/2		-SN BR	OVC014	01	34	-01	30	A2997	PK WND 36026/1726 UPB00E11SNB11 P0000
S	1159	350	20	23.0	26		1 3/4		-SN BR	OVC014	01	34	-01	30	A2998	PK WND 35026/1754 UPB00E11SNB11 SLP167 P0000 60000
S	1205	350	21	24.2	25		2		-SN BR	SCT011 OVC017	01	34	-01	30	A2999	P0000
S	1208	350	22	25.3	25		1 3/4		-SN BR	BKN013 OVC017	01	34	-01	30	A2999	P0000
S	1216	350	21	24.2	27		1 1/2		-SN BR	OVC015	01	34	-01	30	A2999	PK WND 34027/1814 P0000
S	1226	360	24	27.6	29		1 3/4		-SN BR	BKN013 OVC018	01	34	-01	30	A2999	PK WND 36029/1825 P0000
S	1235	350	21	24.2	29		3		-SN BR	OVC015	01	34	-01	30	A3000	PK WND 35029/1829 P0000
S	1243	350	21	24.2			2 1/2		-SN BR	OVC013	01	34	-01	30	A3000	PK WND 35029/1829 P0000
S	1259	350	23	26.5			4		-SN BR	OVC013	01	34	-01	30	A3000	PK WND 35029/1829 SLP173 P0001 T00061006
S	1313	350	23	26.5	30		2		-SN BR	OVC015	01	34	-01	30	A3001	PK WND 36031/1903 P0000
S	1316	350	25	28.8	30		1 3/4		-SN BR	SCT010 OVC016	01	34	-01	30	A3001	PK WND 36031/1903 P0000
S	1331	340	26	30.0	32		1 1/2		-SN BR	BKN010 OVC017	00	32	-01	30	A3002	PK WND 34032/1929 CIG 006V014 P0000
S	1359	350	28	32.3	37		1/2		SN FZFG	BKN010 OVC013	-01	30	-02	28	A3003	PK WND 34037/1956 CIG 007V011 SLP185 P0000 T100610
S	1425	340	26	30.0	35		1/2		SN FZFG	BKN008 OVC014	-01	30	-02	28	A3005	PK WND 35039/2013 CIG 007V011 P0001

Unedited Surface Weather Observations (METAR/SPEC)	Latitude	Longitude	Station Elev. (ft)	Time Conversion	Day	Mon.		Year		SID	Station (Type, Name, State)
	43° 47'	-98° 02'	1294	6	9	2		2002		MHE	ASOS MITCHELL, SD

		WIND					VISIBILITY									
TYPE	TIME (LST)	DIR TRUE	SPD KTS	S-D MPH (Computed)	GUST KTS	VARIABILITY TRUE	SURFACE STATUTE MILES	RUNWAY VISUAL RANGE (FT)	PRESENT WEATHER	SKY CONDITIONS	TEMP °C	TEMP °F (Computed)	DEW POINT °C	DEW POINT °F (Computed)	ALTI-METER INS.	REMARKS AND SUPPLEMENTAL CODED DATA
S	1433	350	31	35.7	38		1/4		+SN FZFG	BKN010 OVC014	-01	30	-02	28	A3005	PK WND 35039/2013 CIG 007V014 P0001
S	1459	350	29	33.4	38		1/2		SN FZFG	BKN010 OVC015	-02	28	-02	28	A3007	PK WND 35042/2048 SLP198 P0001 60002 T10171022 530
S	1524	350	31	35.7	38		1/4		SN FZFG	BKN013 OVC018	-02	28	-02	28	A3009	PK WND 34039/2105 P0001
S	1559	350	35	40.3	40		1/2		SN FZFG	OVC016	-02	28	-03	27	A3012	PK WND 34040/2158 SLP215 P0002 T10221033
S	1614	350	33	38.0	40		1 3/4		-SN BR	OVC016	-02	28	-04	25	A3013	PK WND 35042/2200 VIS 1 1/4V2 1/2 P0000
S	1620	350	33	38.0	39		3		UP	OVC016	-02	28	-04	25	A3013	PK WND 35042/2200 UPB19SNE19 P0000
S	1659	350	29	33.4	36		4		-SN BR	OVC016	-02	28	-04	25	A3017	PK WND 35042/2200 UPB19E53SNE19B48E52B53 SLP233 P0
S	1705	350	32	36.9	36		1 3/4		-SN BR	OVC016	-02	28	-04	25	A3018	PK WND 35036/2305 P0000
S	1716	350	32	36.9	38		3/4		-SN BR	BKN014 OVC019	-02	28	-03	27	A3019	PK WND 35038/2316 P0000
S	1726	350	28	32.3	39		1/2		SN FZFG	OVC016	-02	28	-03	27	A3019	PK WND 34039/2318 P0000
S	1733	350	30	34.6	36		1/2		SN FZFG	OVC014	-02	28	-03	27	A3020	PK WND 34039/2318 P0000
S	1759	350	27	31.1	37		1/2		FZFG	BKN014 OVC020	-03	27	-03	27	A3022	PK WND 34039/2318 SNEMM SLP251 P0001 60005 T102810
S	1809	350	27	31.1	37		1/2		FZFG	FEW012 BKN017 OVC024	-03	27	-03	27	A3023	PK WND 34037/0004 PWINO FZRANO
S	1822	350	28	32.3	38		1 1/4		BR	OVC018	-02	28	-04	25	A3025	PK WND 34038/0013 PWINO FZRANO
S	1859	350	31	35.7	36		1		BR	FEW012 SCT021 OVC029	-02	28	-04	25	A3028	PK WND 34038/0046 SLP269 T10221039 PWINO FZRANO
S	1907	350	27	31.1	39		3/4		BR	SCT010 BKN021 OVC029	-03	27	-04	25	A3029	PK WND 35039/0100 PWINO FZRANO
S	1914	350	30	34.6	35		3/4		BR	BKN010 BKN019 OVC029	-03	27	-03	27	A3029	PK WND 35039/0100 PWINO FZRANO
S	1927	340	28	32.3	36		1		BR	VV010	-03	27	-04	25	A3030	PK WND 35039/0100 P0001 PWINO FZRANO
S	1949	350	29	33.4	41		1 1/2		BR	BKN022 BKN029 OVC040	-03	27	-05	23	A3031	PK WND 35041/0143 P0001 PWINO FZRANO
S	1959	340	25	28.8	32		4		BR	BKN027 OVC040	-03	27	-05	23	A3032	PK WND 35041/0143 SLP282 P0001 T10281050 PWINO FZR
S	2059	340	25	28.8	33		10			OVC029	-03	27	-07	19	A3035	PK WND 34038/0246 SLP294 60001 T10331067 51042 PWI
S	2135	340	28	32.3	39		10			SCT029 BKN055 OVC080	-04	25	-08	18	A3038	PK WND 34040/0325 PWINO FZRANO
S	2159	340	26	30.0	36		10			FEW024 BKN029 OVC100	-04	25	-08	18	A3039	PK WND 34040/0325 SLP309 T10441078 PWINO FZRANO
S	2227	340	25	28.8	34		10			SCT024 OVC039	-05	23	-08	18	A3040	PK WND 34034/0420 PWINO FZRANO
S	2259	340	24	27.6	33		10			CLR	-06	21	-08	18	A3040	PK WND 34034/0441 SLP313 T10561083 PWINO FZRANO
S	2359	340	24	27.6	33		10			CLR	-06	21	-09	16	A3043	PK WND 34033/0558 SLP325 60001 T10611089 11022 210

Inventory Source Information from Minnesota and North Dakota

Matthew McClasky - Inventory Request

From: "Cicha, Joe G." <jcicha@state.nd.us>
To: "Matt McClasky (mmcclasky@burnsmcd.com)" <mmcclasky@burnsmcd.com>
Date: 5/17/2005 8:50 AM
Subject: Inventory Request

Good morning,

My supervisor Steve Weber is away at a modeling workshop, so he asked me to response to your request. For your area of concern, North Dakota has no significant sources of PM-10. If you have any questions or additional requests, feel free to contact me.

Joe Cicha
North Dakota Department of Health
Division of Air Quality
1200 Missouri Avenue
Bismarck, ND 58504-5264
(701) 328-5288
(701) 328-5200 fax
jcicha@state.nd.us

From: Robynn Andracsek
To: McClasky, Matthew
Subject: Fwd: RE: Otter Tail Project Big Stone Plant

>>> "Nelson, Christopher" <Christopher.Nelson@state.mn.us> 5/25/2005 9:19:38 AM >>>
The attached file contains available modeling data for sources in counties near the SD/MN border. Let me know if you have questions. I will be out of the office this afternoon until next Tuesday.

Thanks,
Chris Nelson

Christopher J. Nelson, P.E.
Risk Evaluation/Air Modeling
Minnesota Pollution Control Agency
520 Lafayette Rd. N.
St. Paul, MN 55155

651-296-7750 voice
651-297-7709 fax
christopher.nelson@state.mn.us

BIGSTONE.ZIP contains available modeling parameters for several "large" source located in
Chippewa, Lac Qui Parle, Stevens, and Swift counties in Minnesota.

NAAQS Sources
Associated Milk Producers - Dawson (AMP2.xls): no specific location data available
Chippewa Valley Ethanol Company (CVEC.P10, parameters.xls)
Fibrominn (FIB.p10, FIB.so2, parameters.xls)
Xcel-Minnesota Valley (XMV.nox, XMV.p10, XMV.so2)
Diversified Energy (DCO.nox, DCO.p10, parameters.xls)

Increment Consuming Sources
Fibrominn (FIBSEP04.NOX, FIBSEP04.P10, FIBSEP04.SO2): Minor Source Baseline Date is 2002.

2005/05/24
07300016
Associated Milk Producers Inc - Dawson
Highway 212 E
Dawson
Lac Qui Parle

Stack	Description	Stack Height (ft)	Stack Width (ft)	Stack Length (ft)	Exit Flow Rate (acfm)	Temperature (F)	Discharge Direction	Emissions (lb/hr)		
								NOX	PM10	SO2
SV001M	Nebraska Boiler Stack	32	3.33		9575	250	Up, No Cap	21.850	5.700	126.360
SV002M	Cleaver-Brooks Boiler Stack	32	4.25		25000	585	Up, No Cap	15.370	.540	.040
SV003M	Main Emergency Generator Stack	15	.5		50	650	Horizontal	19.000	1.320	1.240
SV006M	Atomizer Dryer Stack	97	4.58		58000	190	Up, No Cap	1.940	21.770	.007
SV007M	Fluidized Bed Dryer Stack	97	2.42		12250	105	Up, No Cap		8.370	
SV008M	Surge Bin Baghouse Stack	87	.5			65	Horizontal		7.450	

Approximate Facility Location

Latitute	44.9264
Longitude	-96.0405

Facility	Model ID	Pollutant	Emission Rate (g/s)
Fibrominn	FIBRO	NOX	16
CVEC	FWPUMP	NOX	1.89
CVEC	FWPUMP	SO2	0.03
CVEC	SV015	NOX	2.41
CVEC	SV015	SO2	0.013
CVEC	SV6&7	NOX	15.2
CVEC	SV6&7	SO2	1
DenCo	SRC3	SO2	0.12

```
** THISFILE: FIBSEP04.NOX
** FIBSEP04:
** FIBSEP04: FIBROMINN, SWIFT COUNTY. UPDATED PM10 PSD MODELING.
** FIBSEP04:
** FIBSEP04: REFERENCE:
** FIBSEP04: 9/24/04 SUBMITTAL TO MPCA BY ALTERNATIVE RESOURCES, INC ON BEHALF
** FIBSEP04: OF FIBROMINN LLC, "UPDATED AIR QUALITY IMPACTS ANALYSIS
** FIBSEP04: FOR MINOR DESIGN CHANGES FOR THE FIBROMINN BIOMASS POWER PLANT,
** FIBSEP04: BENSON, MINNESOTA."
** FIBSEP04:
** FIBSEP04: REFERENCE FOR SO2 AND NOX EMISSION RATES:
** FIBSEP04: 8/15/02 LETTER FROM TERENCE WALMSLEY, FIBROMINN, REVISED VOL.3:
** FIBSEP04: "APPLICATION FOR PREVENTION OF SIGNIFICANT DETERIORATION (PSD)
** FIBSEP04: PERMIT TO CONSTRUCT, AND A FEDERAL PART-70 PERMIT TO OPERATE FOR
THE
** FIBSEP04: FIBROMINN BIOMASS POWER PLANT, BENSON, MINNESOTA,
** FIBSEP04: VOLUME 3 OF 3 (REVISED AUGUST, 2002)", DATED AUGUST 15, 2002.
** FIBSEP04: OUTPUT AND RELATED FILES, MAY 6, 2002" WITH CD-ROM TITLED:
** FIBSEP04: "1233-4 FIBROMINN 8/1/02 ALTERNATIVE RESOURCES, INC."
** FIBSEP04:
** FIBSEP04: NOTE: SO2 & NOX INCREMENT FILES UPDATED BY MPCA FROM NEW PM10
** FIBSEP04: SOURCE PARAMETERS (ONLY MAIN STACK EMITS SO2 & NOX)

SO STARTING
** Source Location **
** Source ID - Type - X Coord. - Y Coord. **
   LOCATION FIBRO POINT 293822.709 5022056.310 314.600
   SRCPARAM FIBRO 16.00 91.440 405.000 24.40000 2.490
   BUILDHGT FIBRO 42.70 42.70 42.70 28.30 28.30 28.30
   BUILDHGT FIBRO 25.90 25.90 25.90 25.90 25.90 25.90
   BUILDHGT FIBRO 25.90 25.90 42.70 42.70 42.70 42.70
   BUILDHGT FIBRO 42.70 42.70 42.70 28.30 28.30 28.30
   BUILDHGT FIBRO 25.90 25.90 25.90 25.90 25.90 25.90
   BUILDHGT FIBRO 25.90 25.90 42.70 42.70 42.70 42.70
   BUILDWID FIBRO 37.41 40.19 40.19 32.80 48.80 49.61
   BUILDWID FIBRO 143.76 142.42 136.76 140.81 143.77 142.37
   BUILDWID FIBRO 101.90 108.85 40.19 40.19 39.34 33.82
   BUILDWID FIBRO 37.41 40.19 40.19 32.80 48.80 49.61
   BUILDWID FIBRO 143.76 142.42 136.76 140.81 143.77 142.37
   BUILDWID FIBRO 101.90 108.85 40.19 40.19 39.34 33.82
   BUILDLEN FIBRO 40.08 44.20 46.99 38.52 47.53 44.35
   BUILDLEN FIBRO 95.86 75.78 53.40 67.64 88.65 106.98
   BUILDLEN FIBRO 88.72 87.28 47.67 45.41 41.77 36.86
   BUILDLEN FIBRO 40.08 44.20 46.99 38.52 47.53 44.35
   BUILDLEN FIBRO 95.86 75.78 53.40 67.64 88.65 106.98
   BUILDLEN FIBRO 88.72 87.28 47.67 45.41 41.77 36.86
   XBADJ    FIBRO 63.41 44.20 46.99 49.61 52.70 48.95
   XBADJ    FIBRO -116.45 -104.31 -89.00 -90.11 -92.90 -92.86
   XBADJ    FIBRO -75.95 -87.00 47.67 45.41 -103.37 -102.68
   XBADJ    FIBRO -103.48 44.20 46.99 -88.13 -100.24 -93.29
   XBADJ    FIBRO 20.59 28.53 35.60 22.47 4.24 -14.12
   XBADJ    FIBRO -12.77 -0.27 47.67 45.41 61.60 65.81
   YBADJ    FIBRO 11.92 44.20 46.99 24.02 24.13 37.04
   YBADJ    FIBRO -6.10 -17.90 -29.17 -39.54 -48.71 -56.41
   YBADJ    FIBRO 53.19 45.81 47.67 45.41 17.34 2.75
   YBADJ    FIBRO -11.92 44.20 46.99 -24.02 -24.13 -37.04
   YBADJ    FIBRO 6.10 17.90 29.17 39.54 48.71 56.41
   YBADJ    FIBRO -53.19 -45.81 47.67 45.41 -17.34 -2.75
   CONCUNIT 1000000 (GRAMS/SEC) (MICROGRAMS/CUBIC-METER)
   SRCGROUP ALL
SO FINISHED
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**
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**
** ISC-PRIME Input Produced by:
** ISC-AERMOD View Ver. 4.8.5
** Lakes Environmental Software Inc.
** Date: 7/20/2004
** File: C:\fIBROBEN\87-1hr.PIN
**
****************************************
**
**
****************************************
** ISC-PRIME Control Pathway
****************************************
**
**
CO STARTING
   TITLEONE 1233-4 FIBROMINN
   TITLETWO 1987 100% LOAD Fine Grid 1-hr
   MODELOPT DFAULT CONC NOCMPL  RURAL
   AVERTIME 1 3 24 ANNUAL
   POLLUTID OTHER
   TERRHGTS ELEV
   RUNORNOT RUN
   ERRORFIL 87-1hr.err
CO FINISHED
**
****************************************
** ISC-PRIME Source Pathway
****************************************
**
**
SO STARTING
** Source Location **
** Source ID - Type - X Coord. - Y Coord. **
   LOCATION FIBRO POINT 293822.709 5022056.310 314.600
** Source Parameters **
   SRCPARAM FIBRO 1 91.440 405.000 24.40000 2.490
** Building Downwash **
   BUILDHGT FIBRO 42.70 42.70 42.70 28.30 28.30 28.30
   BUILDHGT FIBRO 25.90 25.90 25.90 25.90 25.90 25.90
   BUILDHGT FIBRO 25.90 25.90 42.70 42.70 42.70 42.70
   BUILDHGT FIBRO 42.70 42.70 42.70 28.30 28.30 28.30
   BUILDHGT FIBRO 25.90 25.90 25.90 25.90 25.90 25.90
   BUILDHGT FIBRO 25.90 25.90 42.70 42.70 42.70 42.70
   BUILDWID FIBRO 37.41 40.19 40.19 32.80 48.80 49.61
   BUILDWID FIBRO 143.76 142.42 136.76 140.81 143.77 142.37
   BUILDWID FIBRO 136.64 126.76 40.19 40.19 39.34 33.82
   BUILDWID FIBRO 37.41 40.19 40.19 32.80 48.80 49.61
   BUILDWID FIBRO 143.76 142.42 136.76 140.81 143.77 142.37
   BUILDWID FIBRO 136.64 126.76 40.19 40.19 39.34 33.82
   BUILDLEN FIBRO 40.08 44.20 46.99 38.52 47.53 44.35
   BUILDLEN FIBRO 95.86 75.78 53.40 67.64 88.65 106.98
   BUILDLEN FIBRO 122.05 133.41 47.67 45.41 41.77 36.86
   BUILDLEN FIBRO 40.08 44.20 46.99 38.52 47.53 44.35
   BUILDLEN FIBRO 95.86 75.78 53.40 67.64 88.65 106.98
   BUILDLEN FIBRO 122.05 133.41 47.67 45.41 41.77 36.86
   XBADJ    FIBRO 63.41 44.20 46.99 49.61 52.70 48.95
   XBADJ    FIBRO -116.45 -104.31 -89.00 -90.11 -92.90 -92.86
   XBADJ    FIBRO -90.00 -84.41 47.67 45.41 -103.37 -102.68
   XBADJ    FIBRO -103.48 44.20 46.99 -88.13 -100.24 -93.29
   XBADJ    FIBRO 20.59 28.53 35.60 22.47 4.24 -14.12
   XBADJ    FIBRO -32.05 -49.00 47.67 45.41 61.60 65.81
   YBADJ    FIBRO 11.92 44.20 46.99 24.02 24.13 37.04
   YBADJ    FIBRO -6.10 -17.90 -29.17 -39.54 -48.71 -56.41
   YBADJ    FIBRO -62.39 -66.47 47.67 45.41 17.34 2.75
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   YBADJ    FIBRO -11.92 44.20 46.99 -24.02 -24.13 -37.04
   YBADJ    FIBRO 6.10 17.90 29.17 39.54 48.71 56.41
   YBADJ    FIBRO 62.39 66.47 47.67 45.41 -17.34 -2.75
   CONCUNIT 1000000 (GRAMS/SEC) (MICROGRAMS/CUBIC-METER)
   SRCGROUP ALL
SO FINISHED
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**
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****************************************
** ISC-PRIME Control Pathway
****************************************
**
**
CO STARTING
   TITLEONE 1233-4 FIBROMINN
   TITLETWO 5 YEAR 100% LOAD PARTICULATE
   MODELOPT DFAULT CONC NOCMPL  RURAL
   AVERTIME 24
   POLLUTID OTHER
   TERRHGTS ELEV
   RUNORNOT RUN
   ERRORFIL 5YR.ERR
CO FINISHED
**
****************************************
** ISC-PRIME Source Pathway
****************************************
**
**
SO STARTING
** Source Location **
** Source ID - Type - X Coord. - Y Coord. **
   LOCATION FIBRO POINT 293822.709 5022056.310 314.600
   LOCATION LIME POINT 293834.220 5022115.250 314.600
   LOCATION ASH POINT 293764.460 5022104.030 314.600
   LOCATION FUEL POINT 293931.640 5022144.340 314.600
   LOCATION RD1 VOLUME 293537.390 5021783.120 314.600
   LOCATION RD2 VOLUME 293543.490 5021783.120 314.600
   LOCATION RD3 VOLUME 293549.590 5021783.120 314.600
   LOCATION RD4 VOLUME 293555.690 5021783.120 314.600
   LOCATION RD5 VOLUME 293561.790 5021783.120 314.600
   LOCATION RD6 VOLUME 293567.890 5021783.120 314.600
   LOCATION RD7 VOLUME 293573.990 5021783.120 314.600
   LOCATION RD8 VOLUME 293580.090 5021783.120 314.600
   LOCATION RD9 VOLUME 293586.190 5021783.120 314.600
   LOCATION RD10 VOLUME 293592.290 5021783.120 314.600
   LOCATION RD11 VOLUME 293598.390 5021783.120 314.600
   LOCATION RD12 VOLUME 293604.490 5021783.120 314.600
   LOCATION RD13 VOLUME 293610.590 5021783.120 314.600
   LOCATION RD14 VOLUME 293616.690 5021783.120 314.600
   LOCATION RD15 VOLUME 293622.790 5021783.120 314.600
   LOCATION RD16 VOLUME 293628.890 5021783.120 314.600
   LOCATION RD17 VOLUME 293634.990 5021783.120 314.600
   LOCATION RD18 VOLUME 293641.090 5021783.120 314.600
   LOCATION RD20 VOLUME 293653.290 5021783.120 314.600
   LOCATION RD21 VOLUME 293659.390 5021783.120 314.600
   LOCATION RD22 VOLUME 293665.490 5021783.120 314.600
   LOCATION RD23 VOLUME 293671.590 5021783.120 314.600
   LOCATION RD24 VOLUME 293677.690 5021783.120 314.600
   LOCATION RD25 VOLUME 293683.790 5021783.120 314.600
   LOCATION RD26 VOLUME 293689.890 5021783.120 314.600
   LOCATION RD27 VOLUME 293695.990 5021783.120 314.600
   LOCATION RD28 VOLUME 293702.090 5021783.120 314.600
   LOCATION RD29 VOLUME 293708.190 5021783.120 314.600
   LOCATION RD30 VOLUME 293714.290 5021783.120 314.600
   LOCATION RD31 VOLUME 293720.390 5021783.120 314.600
   LOCATION RD32 VOLUME 293726.490 5021783.120 314.600
   LOCATION RD33 VOLUME 293732.590 5021783.120 314.600
   LOCATION RD34 VOLUME 293738.690 5021783.120 314.600
   LOCATION RD35 VOLUME 293745.220 5021783.470 314.600
   LOCATION RD36 VOLUME 293751.280 5021784.170 314.600
   LOCATION RD37 VOLUME 293757.340 5021784.870 314.600
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   LOCATION RD38 VOLUME 293762.800 5021787.590 314.600
   LOCATION RD19 VOLUME 293647.190 5021783.120 314.600
   LOCATION RD39 VOLUME 293768.260 5021790.310 314.600
   LOCATION RD40 VOLUME 293773.720 5021793.030 314.600
   LOCATION RD41 VOLUME 293778.660 5021796.620 314.600
   LOCATION RD42 VOLUME 293783.600 5021800.210 314.600
   LOCATION RD43 VOLUME 293788.540 5021803.800 314.600
   LOCATION RD44 VOLUME 293792.070 5021808.770 314.600
   LOCATION RD45 VOLUME 293795.600 5021813.740 314.600
   LOCATION RD46 VOLUME 293799.130 5021818.710 314.600
   LOCATION RD47 VOLUME 293803.180 5021825.170 314.600
   LOCATION RD48 VOLUME 293807.230 5021831.630 314.600
   LOCATION RD49 VOLUME 293811.230 5021838.090 314.600
   LOCATION RD50 VOLUME 293816.640 5021847.660 314.600
   LOCATION RD51 VOLUME 293822.050 5021857.230 314.600
   LOCATION RD52 VOLUME 293829.400 5021868.810 314.600
   LOCATION RD53 VOLUME 293837.580 5021880.940 314.600
   LOCATION RD54 VOLUME 293845.760 5021893.070 314.600
   LOCATION RD55 VOLUME 293853.940 5021905.200 314.600
   LOCATION RD56 VOLUME 293862.120 5021917.330 314.600
   LOCATION RD57 VOLUME 293870.300 5021929.460 314.600
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   LOCATION RD59 VOLUME 293886.660 5021953.720 314.600
   LOCATION RD60 VOLUME 293894.840 5021965.850 314.600
   LOCATION RD61 VOLUME 293903.020 5021977.980 314.600
   LOCATION RD62 VOLUME 293911.200 5021990.110 314.600
   LOCATION RD63 VOLUME 293919.380 5022002.240 314.600
   LOCATION RD64 VOLUME 293927.560 5022014.370 314.600
   LOCATION RD65 VOLUME 293935.740 5022026.500 314.600
   LOCATION RD66 VOLUME 293943.920 5022038.630 314.600
   LOCATION RDB VOLUME 293969.010 5022031.910 314.600
** Source Parameters **
   SRCPARAM FIBRO 5.97 91.440 405.000 24.40000 2.490
   SRCPARAM LIME 0.03 15.500 293.000 7.77000 0.300
   SRCPARAM ASH 0.0011 26.200 293.000 0.32000 0.305
   SRCPARAM FUEL 0.27 23.000 293.000 9.14000 1.570
   SRCPARAM RD1 0.00026 3.510 2.840 1.630
   SRCPARAM RD2 0.00026 3.510 2.840 1.630
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   SRCPARAM RD6 0.00026 3.510 2.840 1.630
   SRCPARAM RD7 0.00026 3.510 2.840 1.630
   SRCPARAM RD8 0.00026 3.510 2.840 1.630
   SRCPARAM RD9 0.00026 3.510 2.840 1.630
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   SRCPARAM RDB 0.00208 3.510 11.256 1.630
** Building Downwash **
   BUILDHGT FIBRO 42.70 42.70 42.70 28.30 28.30 28.30
   BUILDHGT FIBRO 25.90 25.90 25.90 25.90 25.90 25.90
   BUILDHGT FIBRO 25.90 25.90 42.70 42.70 42.70 42.70
   BUILDHGT FIBRO 42.70 42.70 42.70 28.30 28.30 28.30
   BUILDHGT FIBRO 25.90 25.90 25.90 25.90 25.90 25.90
   BUILDHGT FIBRO 25.90 25.90 42.70 42.70 42.70 42.70
   BUILDHGT LIME 42.70 42.70 42.70 42.70 42.70 42.70
   BUILDHGT LIME 42.70 42.70 42.70 42.70 42.70 42.70
   BUILDHGT LIME 42.70 42.70 42.70 42.70 42.70 42.70
   BUILDHGT LIME 42.70 42.70 42.70 42.70 42.70 42.70
   BUILDHGT LIME 42.70 42.70 42.70 42.70 42.70 42.70
   BUILDHGT LIME 42.70 42.70 42.70 42.70 42.70 42.70
   BUILDHGT ASH 25.90 25.90 42.70 42.70 42.70 42.70
   BUILDHGT ASH 42.70 42.70 42.70 38.40 25.90 25.90
   BUILDHGT ASH 25.90 25.90 25.90 25.90 25.90 25.90
   BUILDHGT ASH 25.90 25.90 42.70 42.70 42.70 42.70
   BUILDHGT ASH 42.70 42.70 42.70 38.40 25.90 25.90
   BUILDHGT ASH 25.90 25.90 25.90 25.90 25.90 25.90
   BUILDHGT FUEL 21.90 21.90 25.60 28.30 28.30 38.40
   BUILDHGT FUEL 42.70 42.70 42.70 42.70 42.70 21.90
   BUILDHGT FUEL 21.90 21.90 21.90 21.90 21.90 21.90
   BUILDHGT FUEL 21.90 21.90 25.60 28.30 28.30 38.40
   BUILDHGT FUEL 42.70 28.30 28.30 28.30 42.70 21.90
   BUILDHGT FUEL 21.90 21.90 21.90 21.90 21.90 21.90
   BUILDWID FIBRO 37.41 40.19 40.19 32.80 48.80 49.61
   BUILDWID FIBRO 143.76 142.42 136.76 140.81 143.77 142.37
   BUILDWID FIBRO 101.90 108.85 40.19 40.19 39.34 33.82
   BUILDWID FIBRO 37.41 40.19 40.19 32.80 48.80 49.61
   BUILDWID FIBRO 143.76 142.42 136.76 140.81 143.77 142.37
   BUILDWID FIBRO 101.90 108.85 40.19 40.19 39.34 33.82
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BUILDWID LIME 37.41 42.19 45.70 47.81 48.48 47.67
BUILDWID LIME 45.41 41.77 36.86 40.08 44.20 46.99
BUILDWID LIME 48.35 48.23 46.66 43.66 39.34 33.82
BUILDWID LIME 37.41 42.19 45.70 47.81 48.48 47.67
BUILDWID LIME 45.41 41.77 36.86 40.08 44.20 46.99
BUILDWID LIME 48.35 48.23 46.66 43.66 39.34 33.82
BUILDWID ASH 67.64 88.65 45.70 47.81 48.48 47.67
BUILDWID ASH 45.41 41.77 36.86 57.22 79.28 91.86
BUILDWID ASH 101.90 108.85 112.50 95.86 75.78 53.40
BUILDWID ASH 67.64 88.65 45.70 47.81 48.48 47.67
BUILDWID ASH 45.41 41.77 36.86 57.22 79.28 91.86
BUILDWID ASH 101.90 108.85 112.50 95.86 75.78 53.40
BUILDWID FUEL 59.15 72.66 52.70 46.51 48.80 56.47
BUILDWID FUEL 45.41 41.77 36.86 40.08 44.20 101.86
BUILDWID FUEL 100.08 95.25 87.54 77.16 64.44 49.76
BUILDWID FUEL 59.15 72.66 87.90 46.51 48.80 56.47
BUILDWID FUEL 45.41 46.73 43.12 45.54 44.20 101.86
BUILDWID FUEL 100.08 95.25 87.54 77.16 64.44 49.76
BUILDLEN FIBRO 40.08 44.20 46.99 38.52 47.53 44.35
BUILDLEN FIBRO 95.86 75.78 53.40 67.64 88.65 106.98
BUILDLEN FIBRO 88.72 87.28 47.67 45.41 41.77 36.86
BUILDLEN FIBRO 40.08 44.20 46.99 38.52 47.53 44.35
BUILDLEN FIBRO 95.86 75.78 53.40 67.64 88.65 106.98
BUILDLEN FIBRO 88.72 87.28 47.67 45.41 41.77 36.86
BUILDLEN LIME 40.08 44.20 46.99 48.35 48.23 46.66
BUILDLEN LIME 43.66 39.34 33.82 37.41 42.19 45.70
BUILDLEN LIME 47.81 48.48 47.67 45.41 41.77 36.86
BUILDLEN LIME 40.08 44.20 46.99 48.35 48.23 46.66
BUILDLEN LIME 43.66 39.34 33.82 37.41 42.19 45.70
BUILDLEN LIME 47.81 48.48 47.67 45.41 41.77 36.86
BUILDLEN ASH 140.81 143.77 46.99 48.35 48.23 46.66
BUILDLEN ASH 43.66 39.34 33.82 37.41 98.11 91.44
BUILDLEN ASH 88.72 87.28 83.18 143.76 142.42 136.76
BUILDLEN ASH 140.81 143.77 46.99 48.35 48.23 46.66
BUILDLEN ASH 43.66 39.34 33.82 37.41 98.11 91.44
BUILDLEN ASH 88.72 87.28 83.18 143.76 142.42 136.76
BUILDLEN FUEL 96.18 100.55 68.04 49.28 47.53 46.66
BUILDLEN FUEL 43.66 39.34 33.82 37.41 42.19 83.95
BUILDLEN FUEL 92.69 98.62 101.55 101.40 98.16 91.94
BUILDLEN FUEL 96.18 100.55 112.12 49.28 47.53 46.66
BUILDLEN FUEL 43.66 34.07 27.29 31.64 42.19 83.95
BUILDLEN FUEL 92.69 98.62 101.55 101.40 98.16 91.94
XBADJ    FIBRO 63.41 44.20 46.99 49.61 52.70 48.95
XBADJ    FIBRO -116.45 -104.31 -89.00 -90.11 -92.90 -92.86
XBADJ    FIBRO -75.95 -87.00 47.67 45.41 -103.37 -102.68
XBADJ    FIBRO -103.48 44.20 46.99 -88.13 -100.24 -93.29
XBADJ    FIBRO 20.59 28.53 35.60 22.47 4.24 -14.12
XBADJ    FIBRO -12.77 -0.27 47.67 45.41 61.60 65.81
XBADJ    LIME 3.36 -1.32 -5.96 -10.42 -14.56 -18.26
XBADJ    LIME -21.41 -23.90 -25.67 -31.72 -37.98 -43.09
XBADJ    LIME -46.88 -49.25 -50.13 -49.48 -47.33 -43.74
XBADJ    LIME -43.44 -42.89 -41.03 -37.93 -33.67 -28.40
XBADJ    LIME -22.26 -15.44 -8.15 -5.68 -4.21 -2.61
XBADJ    LIME -0.93 0.78 2.46 4.07 5.56 6.87
XBADJ    ASH -146.82 -145.52 38.64 43.02 46.09 47.76
XBADJ    ASH 47.98 46.75 44.09 35.03 9.19 7.75
XBADJ    ASH -0.66 -13.01 -24.96 -1.02 3.80 8.50
XBADJ    ASH 6.02 1.75 -85.63 -91.36 -94.32 -94.42
XBADJ    ASH -91.65 -86.09 -77.91 -72.44 -107.30 -99.19
XBADJ    ASH -88.07 -74.27 -58.22 -142.74 -146.23 -145.27
XBADJ    FUEL -80.86 -77.65 -137.95 -82.59 -87.33 -117.17
XBADJ    FUEL -122.90 -124.89 -123.09 -122.61 -119.58 -4.28
XBADJ    FUEL -5.55 -6.65 -7.55 -8.22 -8.65 -8.81
XBADJ    FUEL -15.32 -22.90 25.83 33.32 39.79 70.52
XBADJ    FUEL 79.24 51.37 52.22 45.50 77.38 -79.67
XBADJ    FUEL -87.15 -91.97 -94.00 -93.17 -89.52 -83.14
YBADJ    FIBRO 11.92 44.20 46.99 24.02 24.13 37.04
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   YBADJ    FIBRO -6.10 -17.90 -29.17 -39.54 -48.71 -56.41
   YBADJ    FIBRO 53.19 45.81 47.67 45.41 17.34 2.75
   YBADJ    FIBRO -11.92 44.20 46.99 -24.02 -24.13 -37.04
   YBADJ    FIBRO 6.10 17.90 29.17 39.54 48.71 56.41
   YBADJ    FIBRO -53.19 -45.81 47.67 45.41 -17.34 -2.75
   YBADJ    LIME 13.02 16.89 20.24 22.98 25.01 26.29
   YBADJ    LIME 26.77 26.44 25.30 23.40 20.78 17.54
   YBADJ    LIME 13.75 9.56 5.07 0.42 -4.23 -8.76
   YBADJ    LIME -13.02 -16.89 -20.24 -22.98 -25.01 -26.29
   YBADJ    LIME -26.77 -26.44 -25.30 -23.40 -20.78 -17.54
   YBADJ    LIME -13.75 -9.56 -5.07 -0.42 4.23 8.76
   YBADJ    ASH -9.36 -22.49 -34.57 -23.25 -11.23 1.13
   YBADJ    ASH 13.46 25.38 36.53 37.99 37.86 46.74
   YBADJ    ASH 54.07 59.76 63.63 -30.10 -17.34 -4.05
   YBADJ    ASH 9.36 22.49 34.57 23.25 11.23 -1.13
   YBADJ    ASH -13.46 -25.38 -36.53 -37.99 -37.86 -46.74
   YBADJ    ASH -54.07 -59.76 -63.63 30.10 17.34 4.05
   YBADJ    FUEL -28.19 -33.45 19.56 37.34 26.71 45.41
   YBADJ    FUEL 32.76 14.71 -3.79 -22.17 -39.87 -21.15
   YBADJ    FUEL -14.28 -6.98 0.53 8.03 15.28 22.07
   YBADJ    FUEL 28.19 33.45 -37.16 -37.34 -26.71 -45.41
   YBADJ    FUEL -32.76 8.65 20.39 31.52 39.87 21.15
   YBADJ    FUEL 14.28 6.98 -0.53 -8.03 -15.28 -22.07
   CONCUNIT 1000000 (GRAMS/SEC) (MICROGRAMS/CUBIC-METER)
   SRCGROUP ALLFIBRO FIBRO LIME RD1 RD10 RD11 RD12 RD13 RD14 RD15 RD16 RD17
   SRCGROUP ALLFIBRO RD18 RD19 RD2 RD20 RD21 RD22 RD23 RD24 RD25 RD26 RD27
   SRCGROUP ALLFIBRO RD28 RD29 RD3 RD30 RD31 RD32 RD33 RD34 RD35 RD36 RD37
   SRCGROUP ALLFIBRO RD38 RD39 RD4 RD40 RD41 RD42 RD43 RD44 RD45 RD46 RD47
   SRCGROUP ALLFIBRO RD48 RD49 RD5 RD50 RD51 RD52 RD53 RD54 RD55 RD56 RD57
   SRCGROUP ALLFIBRO RD58 RD59 RD6 RD60 RD61 RD62 RD63 RD64 RD65 RD66 RD7
   SRCGROUP ALLFIBRO RD8 RD9 RDB FUEL ASH
   SRCGROUP ALL
SO FINISHED
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** BREEZE ISC GIS Pro v4.1.1 - G:\MODELS\ISC\DENCO\AERA\PM1087.dat
** Trinity Consultants

** PRIME

CO STARTING
CO TITLEONE  Diversified Energy Co. AERA
CO TITLETWO  PM Modeling
CO MODELOPT  DFAULT  CONC  RURAL
CO AVERTIME  24  ANNUAL
CO POLLUTID  OTHER
CO TERRHGTS  FLAT
CO RUNORNOT  RUN
CO FINISHED

SO STARTING
SO ELEVUNIT  METERS
SO LOCATION  SRC3  POINT  89.6  133.0  0
** SRCDESCR  RTO Stack
SO LOCATION  SRC1  POINT  130.6  67.0  0
** SRCDESCR  Boiler #1
SO LOCATION  SRC2  POINT  131.0  71.9  0
** SRCDESCR  Boiler #2
SO LOCATION  SRC4  POINT  144.2  68.3  0
** SRCDESCR  Boiler#3
SO LOCATION  SRC5  POINT  134.8  178.3  0
** SRCDESCR  Grain Handling
SO LOCATION  SRC6  POINT  144.4  178.9  0
** SRCDESCR  Hammermill Stack
SO LOCATION  SRC7  VOLUME  144.6  167.4  0
** SRCDESCR  Fugitive DDGS and Grain Handling
SO LOCATION  SRC8  VOLUME  110.1  167.7  0
** SRCDESCR  Fugitive DDGS and Grain Handling 2
SO LOCATION  SRC9  POINT  113.3  56.3  0
** SRCDESCR  Golden Lyk
SO LOCATION  SRC10  POINT  164.5  98.3  0
** SRCDESCR  Loadout Flare
SO LOCATION  SRC11  POINT  111.9  149.6  0
** SRCDESCR  DDGS Cooler Stack
SO LOCATION  SRC12  AREA  67.2  162.2  0
** SRCDESCR  Road 1
SO LOCATION  SRC14  AREA  67.6  52.0  0
** SRCDESCR  Road 2
SO LOCATION  SRC16  AREA  136.3  53.4  0
** SRCDESCR  Road 3
SO LOCATION  SRC17  AREA  187.1  61.9  0
** SRCDESCR  Road 4
SO LOCATION  SRC18  AREA  145.1  172.3  0
** SRCDESCR  Road 5
SO LOCATION  SRC19  AREA  109.6  162.3  0
** SRCDESCR  Road 6
SO LOCATION  SRC20  AREA  53.5  169.1  0
** SRCDESCR  Road 7
SO LOCATION  SRC21  AREA  36.0  37.5  0
** SRCDESCR  Road 8
SO LOCATION  SRC23  POINT  210.6  143.6  0
** SRCDESCR  New Cooling Tower
SO LOCATION  SRC24  POINT  234.0  83.0  0
** SRCDESCR  Old Cooling Tower
SO SRCPARAM  SRC3  4.409926E-01  24.384  435.9278  11.46  1.517904
SO SRCPARAM  SRC1  1.918948E-02  10.3632  457.0389  10.65  0.59436
SO SRCPARAM  SRC2  1.918948E-02  10.3632  449.8167  10.7  0.585216
SO SRCPARAM  SRC4  4.699721E-02  11.2776  456.4833  20.19  0.762
SO SRCPARAM  SRC5  6.299894E-02  1.8288  294.2611  27.84  0.509016
SO SRCPARAM  SRC6  7.559874E-02  2.7432  294.2611  50  0.381
SO SRCPARAM  SRC7  7.244879E-03  1.8288  2.124456  2.124456
SO SRCPARAM  SRC8  7.244879E-03  1.8288  2.124456  2.124456
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SO SRCPARAM  SRC9  4.283928E-02  9.7536  294.2611  6.468057  0.6096
SO SRCPARAM  SRC10  2.015966E-03  10.9728  755.3722  2.6  1.014984
SO SRCPARAM  SRC11  7.559874E-02  18.288  293.15  20.22  0.445008
SO SRCPARAM  SRC12  4.776121E-06  0.5  11.7  117  180  2
SO SRCPARAM  SRC14  4.776121E-06  0.5  11.7  68.40002  88.4  2
SO SRCPARAM  SRC16  4.776121E-06  0.5  9.899998  58.49999  82  2
SO SRCPARAM  SRC17  4.776121E-06  0.5  10  100  0  2
SO SRCPARAM  SRC18  4.776121E-06  0.5  10  45.20001  91.7  2
SO SRCPARAM  SRC19  4.776121E-06  0.5  10  55.49999  -90  2
SO SRCPARAM  SRC20  4.776121E-06  0.5  13.5  14.9  -90  2
SO SRCPARAM  SRC21  4.776121E-06  0.5  15.7  28.7  68.7  2
SO SRCPARAM  SRC23  4.787920E-02  9.348216  294.2611  5.747508  7.760208
SO SRCPARAM  SRC24  5.795903E-02  8.8392  294.2611  5.456178  6.897624
SO BUILDHGT  SRC3  9.75  12.19  12.19  12.19  9.75  9.75
SO BUILDHGT  SRC3  9.75  0.0  9.75  9.75  9.75  9.75
SO BUILDHGT  SRC3  9.75  9.75  9.75  9.75  9.75  9.75
SO BUILDHGT  SRC3  9.75  12.19  18.29  18.29  18.29  18.29
SO BUILDHGT  SRC3  12.19  12.19  9.75  9.75  9.75  9.75
SO BUILDHGT  SRC3  9.75  9.75  9.75  9.75  9.75  9.75
SO BUILDWID  SRC3  109.35  39.4  41.91  43.15  108.45  101.0
SO BUILDWID  SRC3  90.48  0.0  10.72  77.18  90.29  10.72
SO BUILDWID  SRC3  108.29  112.47  113.23  110.55  107.07  103.4
SO BUILDWID  SRC3  109.35  39.4  33.82  31.54  28.79  25.65
SO BUILDWID  SRC3  39.04  35.21  10.7  10.66  10.69  10.72
SO BUILDWID  SRC3  108.29  112.47  113.23  110.55  107.07  103.4
SO BUILDLEN  SRC3  77.18  39.1  41.73  43.09  112.47  113.23
SO BUILDLEN  SRC3  110.55  0.0  10.72  109.35  111.97  10.72
SO BUILDLEN  SRC3  112.6  108.45  101.0  90.48  77.21  68.0
SO BUILDLEN  SRC3  77.18  39.1  25.83  28.94  31.67  33.92
SO BUILDLEN  SRC3  39.34  35.98  10.7  10.66  10.69  10.72
SO BUILDLEN  SRC3  112.6  108.45  101.0  90.48  77.21  68.0
SO XBADJ     SRC3  -76.06  17.14  20.29  22.82  -63.51  -55.18
SO XBADJ     SRC3  -45.18  0.0  19.04  -19.01  -16.04  18.87
SO XBADJ     SRC3  -8.74  -4.64  -0.39  3.86  8.0  11.9
SO XBADJ     SRC3  -1.11  -56.25  -90.64  -95.42  -97.54  -96.94
SO XBADJ     SRC3  -65.39  -61.17  -53.15  -53.48  -30.39  -29.59
SO XBADJ     SRC3  -103.86  -103.81  -100.6  -94.34  -85.22  -79.9
SO YBADJ     SRC3  -35.67  -25.29  -18.77  -11.68  -49.58  -50.1
SO YBADJ     SRC3  -49.1  0.0  -6.2  -37.48  -31.05  6.83
SO YBADJ     SRC3  -15.76  -7.27  1.43  10.1  19.73  30.3
SO YBADJ     SRC3  35.67  25.29  25.33  11.45  -2.78  -16.93
SO YBADJ     SRC3  -10.81  -17.95  6.2  -2.19  -2.52  -6.83
SO YBADJ     SRC3  15.76  7.27  -1.43  -10.1  -19.73  -30.3
SO BUILDHGT  SRC1  9.75  9.75  9.75  9.75  9.75  9.75
SO BUILDHGT  SRC1  9.75  9.75  9.75  9.75  9.75  9.75
SO BUILDHGT  SRC1  9.75  9.75  9.75  9.75  9.75  9.75
SO BUILDHGT  SRC1  9.75  9.75  9.75  9.75  9.75  9.75
SO BUILDHGT  SRC1  9.75  9.75  9.75  9.75  9.75  9.75
SO BUILDHGT  SRC1  9.75  9.75  9.75  9.75  9.75  9.75
SO BUILDWID  SRC1  109.35  111.97  113.33  112.6  108.45  101.0
SO BUILDWID  SRC1  90.48  77.21  68.0  77.18  90.29  100.82
SO BUILDWID  SRC1  108.29  112.47  113.23  110.55  107.07  103.4
SO BUILDWID  SRC1  109.35  111.97  113.33  112.6  108.45  101.0
SO BUILDWID  SRC1  90.48  77.21  68.0  77.18  90.29  100.82
SO BUILDWID  SRC1  108.29  112.47  113.23  110.55  107.07  103.4
SO BUILDLEN  SRC1  77.18  90.29  100.82  108.29  112.47  113.23
SO BUILDLEN  SRC1  110.55  107.07  103.4  109.35  111.97  113.33
SO BUILDLEN  SRC1  112.6  108.45  101.0  90.48  77.21  68.0
SO BUILDLEN  SRC1  77.18  90.29  100.82  108.29  112.47  113.23
SO BUILDLEN  SRC1  110.55  107.07  103.4  109.35  111.97  113.33
SO BUILDLEN  SRC1  112.6  108.45  101.0  90.48  77.21  68.0
SO XBADJ     SRC1  -18.19  -28.2  -37.52  -45.7  -52.49  -57.69
SO XBADJ     SRC1  -61.13  -62.72  -62.4  -70.85  -77.14  -81.09
SO XBADJ     SRC1  -82.58  -81.55  -78.05  -72.18  -64.11  -54.1
SO XBADJ     SRC1  -58.99  -62.09  -63.3  -62.59  -59.98  -55.54
SO XBADJ     SRC1  -49.42  -44.35  -41.0  -38.5  -34.83  -32.24
SO XBADJ     SRC1  -30.02  -26.89  -22.95  -18.3  -13.1  -13.9
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SO YBADJ     SRC1  16.17  21.15  24.42  26.28  27.33  27.55
SO YBADJ     SRC1  26.94  25.51  20.1  20.4  16.94  12.89
SO YBADJ     SRC1  8.44  3.74  -1.07  -5.86  -9.18  -10.7
SO YBADJ     SRC1  -16.17  -21.15  -24.42  -26.28  -27.33  -27.55
SO YBADJ     SRC1  -26.94  -25.51  -20.1  -20.4  -16.94  -12.89
SO YBADJ     SRC1  -8.44  -3.74  1.07  5.86  9.18  10.7
SO BUILDHGT  SRC2  9.75  9.75  9.75  9.75  9.75  9.75
SO BUILDHGT  SRC2  9.75  9.75  9.75  9.75  9.75  9.75
SO BUILDHGT  SRC2  9.75  9.75  9.75  9.75  9.75  9.75
SO BUILDHGT  SRC2  9.75  9.75  9.75  9.75  9.75  9.75
SO BUILDHGT  SRC2  9.75  9.75  9.75  9.75  9.75  9.75
SO BUILDHGT  SRC2  9.75  9.75  9.75  9.75  9.75  9.75
SO BUILDWID  SRC2  109.35  111.97  113.33  112.6  108.45  101.0
SO BUILDWID  SRC2  90.48  77.21  68.0  77.18  90.29  100.82
SO BUILDWID  SRC2  108.29  112.47  113.23  110.55  107.07  103.4
SO BUILDWID  SRC2  109.35  111.97  113.33  112.6  108.45  101.0
SO BUILDWID  SRC2  90.48  77.21  68.0  77.18  90.29  100.82
SO BUILDWID  SRC2  108.29  112.47  113.23  110.55  107.07  103.4
SO BUILDLEN  SRC2  77.18  90.29  100.82  108.29  112.47  113.23
SO BUILDLEN  SRC2  110.55  107.07  103.4  109.35  111.97  113.33
SO BUILDLEN  SRC2  112.6  108.45  101.0  90.48  77.21  68.0
SO BUILDLEN  SRC2  77.18  90.29  100.82  108.29  112.47  113.23
SO BUILDLEN  SRC2  110.55  107.07  103.4  109.35  111.97  113.33
SO BUILDLEN  SRC2  112.6  108.45  101.0  90.48  77.21  68.0
SO XBADJ     SRC2  -23.08  -32.94  -41.97  -49.71  -55.95  -60.49
SO XBADJ     SRC2  -63.19  -63.96  -62.8  -70.39  -75.84  -78.99
SO XBADJ     SRC2  -79.73  -78.06  -74.01  -67.71  -59.36  -49.2
SO XBADJ     SRC2  -54.1  -57.35  -58.86  -58.58  -56.52  -52.75
SO XBADJ     SRC2  -47.37  -43.11  -40.6  -38.96  -36.13  -34.35
SO XBADJ     SRC2  -32.87  -30.39  -26.99  -22.77  -17.86  -18.8
SO YBADJ     SRC2  15.72  19.85  22.32  23.43  23.83  23.51
SO YBADJ     SRC2  22.47  20.75  15.2  15.51  12.2  8.45
SO YBADJ     SRC2  4.43  0.29  -3.87  -7.91  -10.43  -11.1
SO YBADJ     SRC2  -15.72  -19.85  -22.32  -23.43  -23.83  -23.51
SO YBADJ     SRC2  -22.47  -20.75  -15.2  -15.51  -12.2  -8.45
SO YBADJ     SRC2  -4.43  -0.29  3.87  7.91  10.43  11.1
SO BUILDHGT  SRC4  9.75  9.75  9.75  9.75  9.75  9.75
SO BUILDHGT  SRC4  9.75  9.75  9.75  9.75  9.75  9.75
SO BUILDHGT  SRC4  9.75  9.75  9.75  9.75  9.75  9.75
SO BUILDHGT  SRC4  9.75  9.75  9.75  9.75  9.75  9.75
SO BUILDHGT  SRC4  9.75  9.75  9.75  9.75  9.75  9.75
SO BUILDHGT  SRC4  9.75  9.75  9.75  9.75  9.75  9.75
SO BUILDWID  SRC4  109.35  111.97  113.33  112.6  108.45  101.0
SO BUILDWID  SRC4  90.48  77.21  68.0  77.18  90.29  100.82
SO BUILDWID  SRC4  108.29  112.47  113.23  110.55  107.07  103.4
SO BUILDWID  SRC4  109.35  10.69  10.72  10.68  108.45  101.0
SO BUILDWID  SRC4  90.48  77.21  68.0  77.18  90.29  100.82
SO BUILDWID  SRC4  108.29  112.47  113.23  110.55  107.07  103.4
SO BUILDLEN  SRC4  77.18  90.29  100.82  108.29  112.47  113.23
SO BUILDLEN  SRC4  110.55  107.07  103.4  109.35  111.97  113.33
SO BUILDLEN  SRC4  112.6  108.45  101.0  90.48  77.21  68.0
SO BUILDLEN  SRC4  77.18  10.69  10.72  10.68  112.47  113.23
SO BUILDLEN  SRC4  110.55  107.07  103.4  109.35  111.97  113.33
SO BUILDLEN  SRC4  112.6  108.45  101.0  90.48  77.21  68.0
SO XBADJ     SRC4  -21.83  -34.07  -45.45  -55.44  -63.75  -70.12
SO XBADJ     SRC4  -74.36  -76.34  -76.0  -84.01  -89.48  -92.22
SO XBADJ     SRC4  -92.16  -89.3  -83.73  -75.61  -65.2  -52.8
SO XBADJ     SRC4  -55.35  -55.88  -56.65  -55.82  -48.72  -43.11
SO XBADJ     SRC4  -36.19  -30.73  -27.4  -25.33  -22.5  -21.11
SO XBADJ     SRC4  -20.44  -19.15  -17.27  -14.87  -12.02  -15.2
SO YBADJ     SRC4  29.34  33.49  35.55  35.86  35.08  33.23
SO YBADJ     SRC4  30.37  26.59  18.8  16.76  11.07  4.96
SO YBADJ     SRC4  -1.29  -7.51  -13.5  -19.08  -22.8  -24.3
SO YBADJ     SRC4  -29.34  8.74  -0.17  -9.07  -35.08  -33.23
SO YBADJ     SRC4  -30.37  -26.59  -18.8  -16.76  -11.07  -4.96
SO YBADJ     SRC4  1.29  7.51  13.5  19.08  22.8  24.3
SO BUILDHGT  SRC5  18.29  18.29  18.29  18.29  18.29  18.29
```

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SO BUILDHGT  SRC5  18.29  18.29  18.29  18.29  18.29  18.29
SO BUILDHGT  SRC5  18.29  18.29  18.29  18.29  18.29  18.29
SO BUILDHGT  SRC5  18.29  18.29  18.29  18.29  18.29  18.29
SO BUILDHGT  SRC5  18.29  18.29  18.29  18.29  18.29  18.29
SO BUILDHGT  SRC5  18.29  18.29  18.29  18.29  18.29  18.29
SO BUILDWID  SRC5  36.43  35.41  33.82  31.54  28.79  25.65
SO BUILDWID  SRC5  22.08  18.34  14.74  18.54  22.27  25.83
SO BUILDWID  SRC5  28.94  31.67  33.92  35.48  36.46  36.84
SO BUILDWID  SRC5  36.43  35.41  33.82  31.54  28.79  25.65
SO BUILDWID  SRC5  22.08  18.34  14.74  18.54  22.27  25.83
SO BUILDWID  SRC5  28.94  31.67  33.92  35.48  36.46  36.84
SO BUILDLEN  SRC5  18.54  22.27  25.83  28.94  31.67  33.92
SO BUILDLEN  SRC5  35.48  36.46  36.84  36.43  35.41  33.82
SO BUILDLEN  SRC5  31.54  28.79  25.65  22.08  18.34  14.74
SO BUILDLEN  SRC5  18.54  22.27  25.83  28.94  31.67  33.92
SO BUILDLEN  SRC5  35.48  36.46  36.84  36.43  35.41  33.82
SO BUILDLEN  SRC5  31.54  28.79  25.65  22.08  18.34  14.74
SO XBADJ     SRC5  2.65  2.99  2.98  2.72  2.13  1.23
SO XBADJ     SRC5  0.12  -1.24  -2.82  -4.47  -6.24  -8.07
SO XBADJ     SRC5  -9.83  -11.53  -13.12  -14.49  -15.67  -16.72
SO XBADJ     SRC5  -21.18  -25.26  -28.81  -31.66  -33.79  -35.14
SO XBADJ     SRC5  -35.59  -35.22  -34.02  -31.95  -29.16  -25.74
SO XBADJ     SRC5  -21.71  -17.26  -12.53  -7.59  -2.67  1.98
SO YBADJ     SRC5  -13.74  -11.46  -8.83  -5.94  -2.86  0.3
SO YBADJ     SRC5  3.45  6.5  9.35  11.92  14.12  15.9
SO YBADJ     SRC5  17.19  17.96  18.18  17.86  16.99  15.6
SO YBADJ     SRC5  13.74  11.46  8.83  5.94  2.86  -0.3
SO YBADJ     SRC5  -3.45  -6.5  -9.35  -11.92  -14.12  -15.9
SO YBADJ     SRC5  -17.19  -17.96  -18.18  -17.86  -16.99  -15.6
SO BUILDHGT  SRC6  18.29  18.29  18.29  18.29  18.29  18.29
SO BUILDHGT  SRC6  18.29  18.29  18.29  18.29  18.29  18.29
SO BUILDHGT  SRC6  18.29  18.29  18.29  18.29  18.29  18.29
SO BUILDHGT  SRC6  18.29  18.29  18.29  18.29  18.29  18.29
SO BUILDHGT  SRC6  18.29  18.29  18.29  18.29  18.29  18.29
SO BUILDHGT  SRC6  18.29  18.29  18.29  18.29  18.29  18.29
SO BUILDWID  SRC6  36.43  35.41  33.82  31.54  28.79  25.65
SO BUILDWID  SRC6  22.08  18.34  14.74  18.54  22.27  25.83
SO BUILDWID  SRC6  28.94  31.67  33.92  35.48  36.46  36.84
SO BUILDWID  SRC6  36.43  35.41  33.82  31.54  28.79  25.65
SO BUILDWID  SRC6  22.08  18.34  14.74  18.54  22.27  25.83
SO BUILDWID  SRC6  28.94  31.67  33.92  35.48  36.46  36.84
SO BUILDLEN  SRC6  18.54  22.27  25.83  28.94  31.67  33.92
SO BUILDLEN  SRC6  35.48  36.46  36.84  36.43  35.41  33.82
SO BUILDLEN  SRC6  31.54  28.79  25.65  22.08  18.34  14.74
SO BUILDLEN  SRC6  18.54  22.27  25.83  28.94  31.67  33.92
SO BUILDLEN  SRC6  35.48  36.46  36.84  36.43  35.41  33.82
SO BUILDLEN  SRC6  31.54  28.79  25.65  22.08  18.34  14.74
SO XBADJ     SRC6  0.39  -0.86  -2.34  -3.91  -5.61  -7.39
SO XBADJ     SRC6  -9.11  -10.8  -12.42  -13.82  -15.06  -16.09
SO XBADJ     SRC6  -16.8  -17.24  -17.41  -17.21  -16.74  -16.12
SO XBADJ     SRC6  -18.93  -21.41  -23.49  -25.03  -26.05  -26.53
SO XBADJ     SRC6  -26.37  -25.66  -24.42  -22.6  -20.35  -17.73
SO XBADJ     SRC6  -14.74  -11.55  -8.25  -4.87  -1.59  1.38
SO YBADJ     SRC6  -4.39  -2.65  -0.82  1.03  2.85  4.58
SO YBADJ     SRC6  6.17  7.58  8.75  9.66  10.27  10.58
SO YBADJ     SRC6  10.56  10.22  9.57  8.63  7.43  6.0
SO YBADJ     SRC6  4.39  2.65  0.82  -1.03  -2.85  -4.58
SO YBADJ     SRC6  -6.17  -7.58  -8.75  -9.66  -10.27  -10.58
SO YBADJ     SRC6  -10.56  -10.22  -9.57  -8.63  -7.43  -6.0
SO BUILDHGT  SRC9  9.75  9.75  9.75  9.75  9.75  9.75
SO BUILDHGT  SRC9  9.75  9.75  9.75  9.75  9.75  9.75
SO BUILDHGT  SRC9  9.75  9.75  9.75  9.75  9.75  9.75
SO BUILDHGT  SRC9  9.75  9.75  9.75  9.75  9.75  9.75
SO BUILDHGT  SRC9  9.75  9.75  9.75  9.75  9.75  9.75
SO BUILDHGT  SRC9  9.75  9.75  9.75  9.75  9.75  9.75
SO BUILDWID  SRC9  109.35  111.97  113.33  112.6  108.45  101.0
SO BUILDWID  SRC9  90.48  77.21  68.0  77.18  90.29  100.82
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SO BUILDWID  SRC9  108.29  112.47  113.23  110.55  107.07  103.4
SO BUILDWID  SRC9  109.35  111.97  113.33  112.6  108.45  101.0
SO BUILDWID  SRC9  90.48  77.21  68.0  77.18  90.29  100.82
SO BUILDWID  SRC9  108.29  112.47  113.23  110.55  107.07  103.4
SO BUILDLEN  SRC9  77.18  90.29  100.82  108.29  112.47  113.23
SO BUILDLEN  SRC9  110.55  107.07  103.4  109.35  111.97  113.33
SO BUILDLEN  SRC9  112.6  108.45  101.0  90.48  77.21  68.0
SO BUILDLEN  SRC9  77.18  90.29  100.82  108.29  112.47  113.23
SO BUILDLEN  SRC9  110.55  107.07  103.4  109.35  111.97  113.33
SO BUILDLEN  SRC9  112.6  108.45  101.0  90.48  77.21  68.0
SO XBADJ     SRC9  -4.64  -12.23  -19.61  -26.39  -32.36  -37.36
SO XBADJ     SRC9  -41.22  -43.82  -45.1  -55.67  -64.54  -71.46
SO XBADJ     SRC9  -76.2  -78.63  -78.67  -76.32  -71.65  -64.8
SO XBADJ     SRC9  -72.53  -78.06  -81.22  -81.91  -80.11  -75.87
SO XBADJ     SRC9  -69.34  -63.25  -58.3  -53.68  -47.43  -41.87
SO XBADJ     SRC9  -36.4  -29.82  -22.33  -14.16  -5.57  -3.2
SO YBADJ     SRC9  0.99  8.56  14.79  19.9  24.41  28.17
SO YBADJ     SRC9  31.08  33.04  30.8  33.94  32.92  30.81
SO YBADJ     SRC9  27.76  23.87  19.26  14.06  9.71  6.6
SO YBADJ     SRC9  -0.99  -8.56  -14.79  -19.9  -24.41  -28.17
SO YBADJ     SRC9  -31.08  -33.04  -30.8  -33.94  -32.92  -30.81
SO YBADJ     SRC9  -27.76  -23.87  -19.26  -14.06  -9.71  -6.6
SO BUILDHGT  SRC10  9.75  9.75  9.75  9.75  9.75  9.75
SO BUILDHGT  SRC10  9.75  9.75  9.75  9.75  9.75  9.75
SO BUILDHGT  SRC10  12.19  12.19  12.19  18.29  18.29  18.29
SO BUILDHGT  SRC10  9.75  9.75  9.75  9.75  9.75  9.75
SO BUILDHGT  SRC10  9.75  9.75  9.75  9.75  9.75  9.75
SO BUILDHGT  SRC10  9.75  9.75  9.75  9.75  9.75  9.75
SO BUILDWID  SRC10  10.69  10.69  10.72  10.68  10.68  10.72
SO BUILDWID  SRC10  90.48  77.21  68.0  77.18  90.29  10.72
SO BUILDWID  SRC10  43.09  43.13  41.87  35.48  36.46  36.84
SO BUILDWID  SRC10  10.69  10.69  10.72  10.68  10.68  10.72
SO BUILDWID  SRC10  90.48  77.21  68.0  77.18  90.29  100.82
SO BUILDWID  SRC10  108.29  112.47  113.23  10.69  10.69  10.72
SO BUILDLEN  SRC10  10.69  10.69  10.72  10.68  10.68  10.72
SO BUILDLEN  SRC10  110.55  107.07  103.4  109.35  111.97  10.72
SO BUILDLEN  SRC10  43.15  43.07  41.69  22.08  18.34  14.74
SO BUILDLEN  SRC10  10.69  10.69  10.72  10.68  10.68  10.72
SO BUILDLEN  SRC10  110.55  107.07  103.4  109.35  111.97  113.33
SO BUILDLEN  SRC10  112.6  108.45  101.0  10.69  10.69  10.72
SO XBADJ     SRC10  9.84  10.06  9.8  9.11  7.96  6.39
SO XBADJ     SRC10  -103.69  -101.54  -96.3  -98.8  -98.29  -53.4
SO XBADJ     SRC10  -89.57  -92.03  -91.68  -99.82  -99.61  -96.72
SO XBADJ     SRC10  -20.53  -20.75  -20.52  -19.79  -18.64  -17.11
SO XBADJ     SRC10  -6.86  -5.53  -7.1  -10.55  -13.68  -18.53
SO XBADJ     SRC10  -24.17  -29.08  -33.1  6.5  8.03  9.14
SO YBADJ     SRC10  -2.6  0.07  2.75  5.34  7.77  9.96
SO YBADJ     SRC10  9.12  0.57  -11.2  -16.31  -24.06  5.4
SO YBADJ     SRC10  22.8  11.15  -0.83  17.31  1.63  -14.1
SO YBADJ     SRC10  2.6  -0.07  -2.75  -5.34  -7.77  -9.96
SO YBADJ     SRC10  -9.12  -0.57  11.2  16.31  24.06  31.17
SO YBADJ     SRC10  37.32  42.35  46.08  -9.85  -7.64  -5.2
SO BUILDHGT  SRC11  12.19  12.19  12.19  12.19  12.19  18.29
SO BUILDHGT  SRC11  12.19  12.19  12.19  12.19  12.19  12.19
SO BUILDHGT  SRC11  12.19  12.19  12.19  12.19  12.19  12.19
SO BUILDHGT  SRC11  12.19  18.29  18.29  18.29  18.29  18.29
SO BUILDHGT  SRC11  12.19  12.19  12.19  12.19  12.19  12.19
SO BUILDHGT  SRC11  12.19  12.19  12.19  12.19  12.19  12.19
SO BUILDWID  SRC11  36.07  39.4  41.91  43.15  43.07  25.65
SO BUILDWID  SRC11  39.04  35.21  30.4  35.29  39.1  41.73
SO BUILDWID  SRC11  43.09  43.13  41.87  39.34  35.98  34.7
SO BUILDWID  SRC11  36.07  35.41  33.82  31.54  28.79  25.65
SO BUILDWID  SRC11  39.04  35.21  30.4  35.29  39.1  41.73
SO BUILDWID  SRC11  43.09  43.13  41.87  39.34  35.98  34.7
SO BUILDLEN  SRC11  35.29  39.1  41.73  43.09  43.13  33.92
SO BUILDLEN  SRC11  39.34  35.98  34.7  36.07  39.4  41.91
SO BUILDLEN  SRC11  43.15  43.07  41.69  39.04  35.21  30.4
```

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SO BUILDLEN  SRC11  35.29  22.27  25.83  28.94  31.67  33.92
SO BUILDLEN  SRC11  39.34  35.98  34.7  36.07  39.4  41.91
SO BUILDLEN  SRC11  43.15  43.07  41.69  39.04  35.21  30.4
SO XBADJ     SRC11  -6.74  -6.08  -5.24  -4.23  -3.1  35.41
SO XBADJ     SRC11  -0.58  0.35  -1.9  -5.88  -9.69  -13.2
SO XBADJ     SRC11  -16.3  -18.92  -20.96  -22.36  -23.08  -23.2
SO XBADJ     SRC11  -28.54  -60.06  -65.12  -68.37  -69.78  -69.33
SO XBADJ     SRC11  -38.76  -36.33  -32.8  -30.18  -29.71  -28.71
SO XBADJ     SRC11  -26.84  -24.16  -20.74  -16.68  -12.13  -7.2
SO YBADJ     SRC11  -12.15  -10.01  -7.76  -5.27  -2.62  13.7
SO YBADJ     SRC11  2.84  5.48  8.0  10.9  13.47  15.63
SO YBADJ     SRC11  17.31  18.47  19.07  19.09  18.34  15.45
SO YBADJ     SRC11  12.15  23.16  14.32  5.03  -4.4  -13.7
SO YBADJ     SRC11  -2.84  -5.48  -8.0  -10.9  -13.47  -15.63
SO YBADJ     SRC11  -17.31  -18.47  -19.07  -19.09  -18.34  -15.45
SO BUILDHGT  SRC23  0.0  0.0  9.75  9.75  9.75  9.75
SO BUILDHGT  SRC23  9.75  9.75  12.19  12.19  12.19  18.29
SO BUILDHGT  SRC23  18.29  18.29  0.0  0.0  0.0  0.0
SO BUILDHGT  SRC23  0.0  0.0  0.0  0.0  0.0  0.0
SO BUILDHGT  SRC23  0.0  0.0  0.0  0.0  0.0  0.0
SO BUILDHGT  SRC23  0.0  0.0  0.0  0.0  0.0  0.0
SO BUILDWID  SRC23  0.0  0.0  113.33  112.6  10.68  10.72
SO BUILDWID  SRC23  90.48  77.21  52.62  60.17  66.14  25.83
SO BUILDWID  SRC23  28.94  31.67  0.0  0.0  0.0  0.0
SO BUILDWID  SRC23  0.0  0.0  0.0  0.0  0.0  0.0
SO BUILDWID  SRC23  0.0  0.0  0.0  0.0  0.0  0.0
SO BUILDWID  SRC23  0.0  0.0  0.0  0.0  0.0  0.0
SO BUILDLEN  SRC23  0.0  0.0  102.09  111.26  10.68  10.72
SO BUILDLEN  SRC23  118.88  114.52  58.82  55.4  50.55  33.82
SO BUILDLEN  SRC23  31.54  28.79  0.0  0.0  0.0  0.0
SO BUILDLEN  SRC23  0.0  0.0  0.0  0.0  0.0  0.0
SO BUILDLEN  SRC23  0.0  0.0  0.0  0.0  0.0  0.0
SO BUILDLEN  SRC23  0.0  0.0  0.0  0.0  0.0  0.0
SO XBADJ     SRC23  0.0  0.0  -143.86  -155.8  -56.47  -56.18
SO XBADJ     SRC23  -162.51  -154.81  -100.6  -104.12  -104.49  -91.07
SO XBADJ     SRC23  -90.2  -86.83  0.0  0.0  0.0  0.0
SO XBADJ     SRC23  0.0  0.0  0.0  0.0  0.0  0.0
SO XBADJ     SRC23  0.0  0.0  0.0  0.0  0.0  0.0
SO XBADJ     SRC23  0.0  0.0  0.0  0.0  0.0  0.0
SO YBADJ     SRC23  0.0  0.0  55.41  38.32  2.7  -6.22
SO YBADJ     SRC23  -17.68  -36.04  25.11  12.11  -1.13  8.05
SO YBADJ     SRC23  -4.95  -17.8  0.0  0.0  0.0  0.0
SO YBADJ     SRC23  0.0  0.0  0.0  0.0  0.0  0.0
SO YBADJ     SRC23  0.0  0.0  0.0  0.0  0.0  0.0
SO YBADJ     SRC23  0.0  0.0  0.0  0.0  0.0  0.0
SO SRCGROUP  ALL
SO SRCGROUP  ROADS  SRC12  SRC14  SRC16  SRC17  SRC18  SRC19  SRC20  SRC21
SO SRCGROUP  RTO  SRC3
SO SRCGROUP  BOILERS  SRC1  SRC2  SRC4
SO SRCGROUP  GRAINH  SRC5
SO SRCGROUP  HAMMER  SRC6
SO SRCGROUP  FUGGDDG  SRC7  SRC8
SO SRCGROUP  GOLDLYK  SRC9
SO SRCGROUP  LOADOUTF  SRC10
SO SRCGROUP  COOLER  SRC11
SO FINISHED
```

```
** BREEZE ISC GIS Pro v4.1.1 - G:\MODELS\ISC\DENCO\TO50ft\NOx87.dat
** Trinity Consultants

** PRIME

CO STARTING
CO TITLEONE  Diversified Energy Co. AERA
CO TITLETWO  NOx Modeling
CO MODELOPT  DFAULT  CONC  RURAL
CO AVERTIME  1  ANNUAL
CO POLLUTID  OTHER
CO TERRHGTS  FLAT
CO RUNORNOT  RUN
CO FINISHED

SO STARTING
SO ELEVUNIT  METERS
SO LOCATION  SRC3  POINT  89.6  133.0  0
** SRCDESCR  RTO Stack
SO LOCATION  SRC1  POINT  130.6  67.0  0
** SRCDESCR  Boiler #1
SO LOCATION  SRC2  POINT  131.0  71.9  0
** SRCDESCR  Boiler #2
SO LOCATION  SRC4  POINT  144.2  68.3  0
** SRCDESCR  Boiler#3
SO LOCATION  SRC10  POINT  164.5  98.3  0
** SRCDESCR  Loadout Flare
SO LOCATION  SRC5  POINT  156.5  94.1  0
** SRCDESCR  Methanator flare
SO SRCPARAM  SRC3  4.636725E-01  15.24  435.9278  11.46  1.517904
SO SRCPARAM  SRC1  2.469559E-01  10.3632  457.0389  10.65  0.59436
SO SRCPARAM  SRC2  2.469559E-01  10.3632  449.8167  10.7  0.585216
SO SRCPARAM  SRC4  6.047899E-01  11.2776  456.4833  20.19  0.762
SO SRCPARAM  SRC10  2.645956E-02  10.9728  755.3722  2.6  1.014984
SO SRCPARAM  SRC5  2.582957E-03  11.2776  1033.15  3.24  0.3048
SO BUILDHGT  SRC3  9.75  12.19  12.19  12.19  9.75  9.75
SO BUILDHGT  SRC3  9.75  0.0  9.75  9.75  9.75  9.75
SO BUILDHGT  SRC3  9.75  9.75  9.75  9.75  9.75  9.75
SO BUILDHGT  SRC3  9.75  12.19  18.29  18.29  18.29  18.29
SO BUILDHGT  SRC3  12.19  12.19  9.75  9.75  9.75  9.75
SO BUILDHGT  SRC3  9.75  9.75  9.75  9.75  9.75  9.75
SO BUILDWID  SRC3  109.35  39.4  41.91  43.15  108.45  101.0
SO BUILDWID  SRC3  90.48  0.0  10.72  77.18  90.29  10.72
SO BUILDWID  SRC3  108.29  112.47  113.23  110.55  107.07  103.4
SO BUILDWID  SRC3  109.35  39.4  33.82  31.54  28.79  25.65
SO BUILDWID  SRC3  39.04  35.21  10.7  10.66  10.69  10.72
SO BUILDWID  SRC3  108.29  112.47  113.23  110.55  107.07  103.4
SO BUILDLEN  SRC3  77.18  39.1  41.73  43.09  112.47  113.23
SO BUILDLEN  SRC3  110.55  0.0  10.72  109.35  111.97  10.72
SO BUILDLEN  SRC3  112.6  108.45  101.0  90.48  77.21  68.0
SO BUILDLEN  SRC3  77.18  39.1  25.83  28.94  31.67  33.92
SO BUILDLEN  SRC3  39.34  35.98  10.7  10.66  10.69  10.72
SO BUILDLEN  SRC3  112.6  108.45  101.0  90.48  77.21  68.0
SO XBADJ     SRC3  -76.06  17.14  20.29  22.82  -63.51  -55.18
SO XBADJ     SRC3  -45.18  0.0  19.04  -19.01  -16.04  18.87
SO XBADJ     SRC3  -8.74  -4.64  -0.39  3.86  8.0  11.9
SO XBADJ     SRC3  -1.11  -56.25  -90.64  -95.42  -97.54  -96.94
SO XBADJ     SRC3  -65.39  -61.17  -53.15  -53.48  -30.39  -29.59
SO XBADJ     SRC3  -103.86  -103.81  -100.6  -94.34  -85.22  -79.9
SO YBADJ     SRC3  -35.67  -25.29  -18.77  -11.68  -49.58  -50.1
SO YBADJ     SRC3  -49.1  0.0  -6.2  -37.48  -31.05  6.83
SO YBADJ     SRC3  -15.76  -7.27  1.43  10.1  19.73  30.3
SO YBADJ     SRC3  35.67  25.29  25.33  11.45  -2.78  -16.93
SO YBADJ     SRC3  -10.81  -17.95  6.2  -2.19  -2.52  -6.83
SO YBADJ     SRC3  15.76  7.27  -1.43  -10.1  -19.73  -30.3
SO BUILDHGT  SRC1  9.75  9.75  9.75  9.75  9.75  9.75
SO BUILDHGT  SRC1  9.75  9.75  9.75  9.75  9.75  9.75
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SO BUILDHGT  SRC1  9.75  9.75  9.75  9.75  9.75  9.75
SO BUILDHGT  SRC1  9.75  9.75  9.75  9.75  9.75  9.75
SO BUILDHGT  SRC1  9.75  9.75  9.75  9.75  9.75  9.75
SO BUILDHGT  SRC1  9.75  9.75  9.75  9.75  9.75  9.75
SO BUILDWID  SRC1  109.35  111.97  113.33  112.6  108.45  101.0
SO BUILDWID  SRC1  90.48  77.21  68.0  77.18  90.29  100.82
SO BUILDWID  SRC1  108.29  112.47  113.23  110.55  107.07  103.4
SO BUILDWID  SRC1  109.35  111.97  113.33  112.6  108.45  101.0
SO BUILDWID  SRC1  90.48  77.21  68.0  77.18  90.29  100.82
SO BUILDWID  SRC1  108.29  112.47  113.23  110.55  107.07  103.4
SO BUILDLEN  SRC1  77.18  90.29  100.82  108.29  112.47  113.23
SO BUILDLEN  SRC1  110.55  107.07  103.4  109.35  111.97  113.33
SO BUILDLEN  SRC1  112.6  108.45  101.0  90.48  77.21  68.0
SO BUILDLEN  SRC1  77.18  90.29  100.82  108.29  112.47  113.23
SO BUILDLEN  SRC1  110.55  107.07  103.4  109.35  111.97  113.33
SO BUILDLEN  SRC1  112.6  108.45  101.0  90.48  77.21  68.0
SO XBADJ     SRC1  -18.19  -28.2  -37.52  -45.7  -52.49  -57.69
SO XBADJ     SRC1  -61.13  -62.72  -62.4  -70.85  -77.14  -81.09
SO XBADJ     SRC1  -82.58  -81.55  -78.05  -72.18  -64.11  -54.1
SO XBADJ     SRC1  -58.99  -62.09  -63.3  -62.59  -59.98  -55.54
SO XBADJ     SRC1  -49.42  -44.35  -41.0  -38.5  -34.83  -32.24
SO XBADJ     SRC1  -30.02  -26.89  -22.95  -18.3  -13.1  -13.9
SO YBADJ     SRC1  16.17  21.15  24.42  26.28  27.33  27.55
SO YBADJ     SRC1  26.94  25.51  20.1  20.4  16.94  12.89
SO YBADJ     SRC1  8.44  3.74  -1.07  -5.86  -9.18  -10.7
SO YBADJ     SRC1  -16.17  -21.15  -24.42  -26.28  -27.33  -27.55
SO YBADJ     SRC1  -26.94  -25.51  -20.1  -20.4  -16.94  -12.89
SO YBADJ     SRC1  -8.44  -3.74  1.07  5.86  9.18  10.7
SO BUILDHGT  SRC2  9.75  9.75  9.75  9.75  9.75  9.75
SO BUILDHGT  SRC2  9.75  9.75  9.75  9.75  9.75  9.75
SO BUILDHGT  SRC2  9.75  9.75  9.75  9.75  9.75  9.75
SO BUILDHGT  SRC2  9.75  9.75  9.75  9.75  9.75  9.75
SO BUILDHGT  SRC2  9.75  9.75  9.75  9.75  9.75  9.75
SO BUILDHGT  SRC2  9.75  9.75  9.75  9.75  9.75  9.75
SO BUILDWID  SRC2  109.35  111.97  113.33  112.6  108.45  101.0
SO BUILDWID  SRC2  90.48  77.21  68.0  77.18  90.29  100.82
SO BUILDWID  SRC2  108.29  112.47  113.23  110.55  107.07  103.4
SO BUILDWID  SRC2  109.35  111.97  113.33  112.6  108.45  101.0
SO BUILDWID  SRC2  90.48  77.21  68.0  77.18  90.29  100.82
SO BUILDWID  SRC2  108.29  112.47  113.23  110.55  107.07  103.4
SO BUILDLEN  SRC2  77.18  90.29  100.82  108.29  112.47  113.23
SO BUILDLEN  SRC2  110.55  107.07  103.4  109.35  111.97  113.33
SO BUILDLEN  SRC2  112.6  108.45  101.0  90.48  77.21  68.0
SO BUILDLEN  SRC2  77.18  90.29  100.82  108.29  112.47  113.23
SO BUILDLEN  SRC2  110.55  107.07  103.4  109.35  111.97  113.33
SO BUILDLEN  SRC2  112.6  108.45  101.0  90.48  77.21  68.0
SO XBADJ     SRC2  -23.08  -32.94  -41.97  -49.71  -55.95  -60.49
SO XBADJ     SRC2  -63.19  -63.96  -62.8  -70.39  -75.84  -78.99
SO XBADJ     SRC2  -79.73  -78.06  -74.01  -67.71  -59.36  -49.2
SO XBADJ     SRC2  -54.1  -57.35  -58.86  -58.58  -56.52  -52.75
SO XBADJ     SRC2  -47.37  -43.11  -40.6  -38.96  -36.13  -34.35
SO XBADJ     SRC2  -32.87  -30.39  -26.99  -22.77  -17.86  -18.8
SO YBADJ     SRC2  15.72  19.85  22.32  23.43  23.83  23.51
SO YBADJ     SRC2  22.47  20.75  15.2  15.51  12.2  8.45
SO YBADJ     SRC2  4.43  0.29  -3.87  -7.91  -10.43  -11.1
SO YBADJ     SRC2  -15.72  -19.85  -22.32  -23.43  -23.83  -23.51
SO YBADJ     SRC2  -22.47  -20.75  -15.2  -15.51  -12.2  -8.45
SO YBADJ     SRC2  -4.43  -0.29  3.87  7.91  10.43  11.1
SO BUILDHGT  SRC4  9.75  9.75  9.75  9.75  9.75  9.75
SO BUILDHGT  SRC4  9.75  9.75  9.75  9.75  9.75  9.75
SO BUILDHGT  SRC4  9.75  9.75  9.75  9.75  9.75  9.75
SO BUILDHGT  SRC4  9.75  9.75  9.75  9.75  9.75  9.75
SO BUILDHGT  SRC4  9.75  9.75  9.75  9.75  9.75  9.75
SO BUILDHGT  SRC4  9.75  9.75  9.75  9.75  9.75  9.75
SO BUILDWID  SRC4  109.35  111.97  113.33  112.6  108.45  101.0
SO BUILDWID  SRC4  90.48  77.21  68.0  77.18  90.29  100.82
SO BUILDWID  SRC4  108.29  112.47  113.23  110.55  107.07  103.4
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SO BUILDWID  SRC4  109.35  10.69  10.72  10.68  108.45  101.0
SO BUILDWID  SRC4  90.48  77.21  68.0  77.18  90.29  100.82
SO BUILDWID  SRC4  108.29  112.47  113.23  110.55  107.07  103.4
SO BUILDLEN  SRC4  77.18  90.29  100.82  108.29  112.47  113.23
SO BUILDLEN  SRC4  110.55  107.07  103.4  109.35  111.97  113.33
SO BUILDLEN  SRC4  112.6  108.45  101.0  90.48  77.21  68.0
SO BUILDLEN  SRC4  77.18  10.69  10.72  10.68  112.47  113.23
SO BUILDLEN  SRC4  110.55  107.07  103.4  109.35  111.97  113.33
SO BUILDLEN  SRC4  112.6  108.45  101.0  90.48  77.21  68.0
SO XBADJ     SRC4  -21.83  -34.07  -45.45  -55.44  -63.75  -70.12
SO XBADJ     SRC4  -74.36  -76.34  -76.0  -84.01  -89.48  -92.22
SO XBADJ     SRC4  -92.16  -89.3  -83.73  -75.61  -65.2  -52.8
SO XBADJ     SRC4  -55.35  -55.88  -56.65  -55.82  -48.72  -43.11
SO XBADJ     SRC4  -36.19  -30.73  -27.4  -25.33  -22.5  -21.11
SO XBADJ     SRC4  -20.44  -19.15  -17.27  -14.87  -12.02  -15.2
SO YBADJ     SRC4  29.34  33.49  35.55  35.86  35.08  33.23
SO YBADJ     SRC4  30.37  26.59  18.8  16.76  11.07  4.96
SO YBADJ     SRC4  -1.29  -7.51  -13.5  -19.08  -22.8  -24.3
SO YBADJ     SRC4  -29.34  8.74  -0.17  -9.07  -35.08  -33.23
SO YBADJ     SRC4  -30.37  -26.59  -18.8  -16.76  -11.07  -4.96
SO YBADJ     SRC4  1.29  7.51  13.5  19.08  22.8  24.3
SO BUILDHGT  SRC10  9.75  9.75  9.75  9.75  9.75  9.75
SO BUILDHGT  SRC10  9.75  9.75  9.75  9.75  9.75  9.75
SO BUILDHGT  SRC10  12.19  12.19  12.19  18.29  18.29  18.29
SO BUILDHGT  SRC10  9.75  9.75  9.75  9.75  9.75  9.75
SO BUILDHGT  SRC10  9.75  9.75  9.75  9.75  9.75  9.75
SO BUILDHGT  SRC10  9.75  9.75  9.75  9.75  9.75  9.75
SO BUILDWID  SRC10  10.69  10.69  10.72  10.68  10.68  10.72
SO BUILDWID  SRC10  90.48  77.21  68.0  77.18  90.29  10.72
SO BUILDWID  SRC10  43.09  43.13  41.87  35.48  36.46  36.84
SO BUILDWID  SRC10  10.69  10.69  10.72  10.68  10.68  10.72
SO BUILDWID  SRC10  90.48  77.21  68.0  77.18  90.29  100.82
SO BUILDWID  SRC10  108.29  112.47  113.23  10.69  10.69  10.72
SO BUILDLEN  SRC10  10.69  10.69  10.72  10.68  10.68  10.72
SO BUILDLEN  SRC10  110.55  107.07  103.4  109.35  111.97  10.72
SO BUILDLEN  SRC10  43.15  43.07  41.69  22.08  18.34  14.74
SO BUILDLEN  SRC10  10.69  10.69  10.72  10.68  10.68  10.72
SO BUILDLEN  SRC10  110.55  107.07  103.4  109.35  111.97  113.33
SO BUILDLEN  SRC10  112.6  108.45  101.0  10.69  10.69  10.72
SO XBADJ     SRC10  9.84  10.06  9.8  9.11  7.96  6.39
SO XBADJ     SRC10  -103.69  -101.54  -96.3  -98.8  -98.29  -53.4
SO XBADJ     SRC10  -89.57  -92.03  -91.68  -99.82  -99.61  -96.72
SO XBADJ     SRC10  -20.53  -20.75  -20.52  -19.79  -18.64  -17.11
SO XBADJ     SRC10  -6.86  -5.53  -7.1  -10.55  -13.68  -18.53
SO XBADJ     SRC10  -24.17  -29.08  -33.1  6.5  8.03  9.14
SO YBADJ     SRC10  -2.6  0.07  2.75  5.34  7.77  9.96
SO YBADJ     SRC10  9.12  0.57  -11.2  -16.31  -24.06  5.4
SO YBADJ     SRC10  22.8  11.15  -0.83  17.31  1.63  -14.1
SO YBADJ     SRC10  2.6  -0.07  -2.75  -5.34  -7.77  -9.96
SO YBADJ     SRC10  -9.12  -0.57  11.2  16.31  24.06  31.17
SO YBADJ     SRC10  37.32  42.35  46.08  -9.85  -7.64  -5.2
SO BUILDHGT  SRC5  9.75  9.75  9.75  9.75  9.75  9.75
SO BUILDHGT  SRC5  9.75  9.75  9.75  9.75  9.75  9.75
SO BUILDHGT  SRC5  9.75  12.19  12.19  18.29  18.29  18.29
SO BUILDHGT  SRC5  18.29  9.75  9.75  9.75  9.75  9.75
SO BUILDHGT  SRC5  9.75  9.75  9.75  9.75  9.75  9.75
SO BUILDHGT  SRC5  9.75  9.75  9.75  9.75  9.75  9.75
SO BUILDWID  SRC5  10.69  10.69  10.72  10.68  10.68  10.72
SO BUILDWID  SRC5  90.48  77.21  68.0  77.18  90.29  10.72
SO BUILDWID  SRC5  10.68  43.13  41.87  35.48  36.46  36.84
SO BUILDWID  SRC5  36.43  10.69  10.72  10.68  10.68  10.72
SO BUILDWID  SRC5  90.48  77.21  68.0  77.18  90.29  100.82
SO BUILDWID  SRC5  108.29  112.47  113.23  110.55  107.07  103.4
SO BUILDLEN  SRC5  10.69  10.69  10.72  10.68  10.68  10.72
SO BUILDLEN  SRC5  110.55  107.07  103.4  109.35  111.97  10.72
SO BUILDLEN  SRC5  10.68  43.07  41.69  22.08  18.34  14.74
SO BUILDLEN  SRC5  18.54  10.69  10.72  10.68  10.68  10.72
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SO BUILDLEN  SRC5  110.55  107.07  103.4  109.35  111.97  113.33
SO BUILDLEN  SRC5  112.6  108.45  101.0  90.48  77.21  68.0
SO XBADJ     SRC5  15.37  16.74  17.44  17.47  16.79  15.42
SO XBADJ     SRC5  -94.74  -92.93  -88.3  -91.65  -92.21  -58.51
SO XBADJ     SRC5  -50.16  -90.1  -91.32  -101.03  -102.36  -100.92
SO XBADJ     SRC5  -100.34  -27.43  -28.15  -28.15  -27.47  -26.14
SO XBADJ     SRC5  -15.81  -14.14  -15.1  -17.7  -19.76  -23.36
SO XBADJ     SRC5  -27.6  -31.0  -33.46  -34.91  -35.29  -41.0
SO YBADJ     SRC5  -9.75  -6.01  -2.08  1.91  5.84  9.59
SO YBADJ     SRC5  10.33  3.32  -7.0  -10.78  -17.38  7.07
SO YBADJ     SRC5  5.34  19.98  8.19  26.26  10.24  -6.1
SO YBADJ     SRC5  -22.25  6.01  2.08  -1.91  -5.84  -9.59
SO YBADJ     SRC5  -10.33  -3.32  7.0  10.78  17.38  23.53
SO YBADJ     SRC5  28.96  33.52  37.05  39.46  39.4  36.6
SO SRCGROUP  ALL
SO SRCGROUP  RTO  SRC3
SO SRCGROUP  LOADOUTF  SRC10
SO SRCGROUP  METHFLAR  SRC5
SO SRCGROUP  BOILER#1  SRC1
SO SRCGROUP  BOILER#2  SRC2
SO SRCGROUP  BOILER#3  SRC4
SO FINISHED
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**
** ISC-PRIME Input Produced by:
** ISC-AERMOD View Ver. 4.6.2
** Lakes Environmental Software Inc.
** Date: 5/12/2003
** File: C:\ISCView4\CVEC.PIN
**
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****************************************
** ISC-PRIME Control Pathway
****************************************
**
**
CO STARTING
   TITLEONE 2 GENERATORS AT 20 FEET, FIRE PUMP AT 20
   TITLETWO 1986-1990
   MODELOPT DFAULT CONC NOCMPL  RURAL
   AVERTIME 24 ANNUAL
   POLLUTID OTHER
   TERRHGTS ELEV
   RUNORNOT RUN
CO FINISHED
**
****************************************
** ISC-PRIME Source Pathway
****************************************
**
**
SO STARTING
** Source Location **
** Source ID - Type - X Coord. - Y Coord. **
   LOCATION SV05 POINT 293275.350 5022644.050 316.200
   LOCATION SV013 POINT 293287.470 5022644.050 316.200
   LOCATION SV011 POINT 293307.900 5022693.220 316.300
   LOCATION SV012 POINT 293345.050 5022706.040 316.300
   LOCATION SV6&7 POINT 293365.480 5022619.110 316.200
   LOCATION SV8&9 POINT 293370.770 5022619.110 316.200
   LOCATION SV015 POINT 293238.631 5022671.314 316.300
   LOCATION SV016 POINT 293366.270 5022642.560 316.200
   LOCATION COOL1C POINT 293247.019 5022636.748 316.200
   LOCATION COOL2C POINT 293243.397 5022636.885 316.200
   LOCATION COOL3C POINT 293239.642 5022637.027 316.200
   LOCATION COOL4C POINT 293235.662 5022637.045 316.200
   LOCATION COOL5C POINT 293231.819 5022637.191 316.200
   LOCATION COOL6C POINT 293228.111 5022637.376 316.200
   LOCATION COOL7C POINT 293220.311 5022637.528 316.200
   LOCATION COOL8C POINT 293206.477 5022638.013 316.200
   LOCATION GPBAG POINT 293410.930 5022671.260 316.200
   LOCATION FWPUMP POINT 293406.340 5022741.870 315.200
   LOCATION CVECFS3 VOLUME 293327.590 5022702.280 316.300
   LOCATION LOADOUTE VOLUME 293417.020 5022653.150 316.200
   LOCATION ONRD1 VOLUME 293520.930 5022524.139 315.470
   LOCATION ONRD2 VOLUME 293521.117 5022533.278 315.470
   LOCATION ONRD3 VOLUME 293521.263 5022540.886 315.470
   LOCATION ONRD4 VOLUME 293521.482 5022550.023 315.470
   LOCATION ONRD5 VOLUME 293521.702 5022559.160 315.470
   LOCATION ONRD6 VOLUME 293521.992 5022568.298 315.470
   LOCATION ONRD7 VOLUME 293522.142 5022577.435 315.470
   LOCATION ONRD8 VOLUME 293522.361 5022586.572 315.470
   LOCATION ONRD9 VOLUME 293522.581 5022595.710 315.470
   LOCATION ONRD10 VOLUME 293522.801 5022604.847 315.470
   LOCATION ONRD11 VOLUME 293523.021 5022613.984 315.470
   LOCATION ONRD12 VOLUME 293523.240 5022623.122 315.470
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LOCATION ONRD13 VOLUME 293523.460 5022632.259 315.470
LOCATION ONRD14 VOLUME 293523.680 5022641.397 315.470
LOCATION ONRD15 VOLUME 293523.900 5022650.534 315.470
LOCATION ONRD16 VOLUME 293524.119 5022659.671 315.470
LOCATION ONRD17 VOLUME 293524.339 5022668.809 315.470
LOCATION ONRD18 VOLUME 293524.559 5022677.946 315.470
LOCATION ONRD19 VOLUME 293524.779 5022687.083 315.470
LOCATION ONRD20 VOLUME 293418.870 5022520.320 316.100
LOCATION ONRD21 VOLUME 293419.050 5022529.460 316.100
LOCATION ONRD22 VOLUME 293419.200 5022537.060 316.100
LOCATION ONRD23 VOLUME 293419.420 5022546.200 316.100
LOCATION ONRD24 VOLUME 293419.640 5022555.340 316.100
LOCATION ONRD25 VOLUME 293419.860 5022564.480 316.100
LOCATION ONRD26 VOLUME 293420.080 5022573.610 316.100
LOCATION ONRD27 VOLUME 293420.030 5022582.750 316.100
LOCATION ONRD28 VOLUME 293420.520 5022591.890 316.100
LOCATION ONRD29 VOLUME 293420.740 5022601.030 316.100
LOCATION ONRD30 VOLUME 293420.960 5022610.160 316.100
LOCATION ONRD31 VOLUME 293421.180 5022619.300 316.100
LOCATION ONRD32 VOLUME 293421.400 5022628.440 316.100
LOCATION ONRD33 VOLUME 293421.620 5022637.580 316.100
LOCATION ONRD34 VOLUME 293421.840 5022646.710 316.100
LOCATION ONRD36 VOLUME 293422.280 5022664.990 316.100
LOCATION ONRD37 VOLUME 293422.500 5022674.130 316.100
LOCATION ONRD38 VOLUME 293422.720 5022683.260 316.100
LOCATION ONRD39 VOLUME 293422.940 5022692.400 316.100
LOCATION ONRD40 VOLUME 293423.160 5022701.540 316.100
LOCATION ONRD41 VOLUME 293423.380 5022710.670 316.100
LOCATION ONRD42 VOLUME 293423.600 5022719.810 316.100
LOCATION ONRD43 VOLUME 293423.820 5022728.950 316.100
LOCATION ONRD44 VOLUME 293424.040 5022738.090 316.100
LOCATION ONRD47 VOLUME 293196.860 5022529.100 316.200
LOCATION ONRD48 VOLUME 293197.080 5022538.240 316.200
LOCATION ONRD49 VOLUME 293197.030 5022547.370 316.200
LOCATION ONRD50 VOLUME 293197.520 5022556.510 316.200
LOCATION ONRD51 VOLUME 293197.740 5022565.650 316.200
LOCATION ONRD52 VOLUME 293197.960 5022574.780 316.200
LOCATION ONRD53 VOLUME 293198.180 5022583.920 316.200
LOCATION ONRD54 VOLUME 293198.400 5022593.060 316.200
LOCATION ONRD55 VOLUME 293198.620 5022602.020 316.200
LOCATION ONRD56 VOLUME 293198.840 5022611.330 316.200
LOCATION ONRD57 VOLUME 293199.060 5022620.470 316.200
LOCATION ONRD58 VOLUME 293199.280 5022629.610 316.200
LOCATION ONRD59 VOLUME 293199.500 5022638.750 316.200
LOCATION ONRD60 VOLUME 293199.720 5022647.880 316.200
LOCATION ONRD61 VOLUME 293199.940 5022657.020 316.200
LOCATION ONRD62 VOLUME 293200.160 5022666.160 316.200
LOCATION ONRD63 VOLUME 293200.380 5022675.300 316.200
LOCATION ONRD64 VOLUME 293200.600 5022684.430 316.200
LOCATION ONRD65 VOLUME 293200.820 5022693.570 316.200
LOCATION ONRD66 VOLUME 293201.040 5022702.710 316.200
LOCATION ONRD67 VOLUME 293201.260 5022711.850 316.200
LOCATION ONRD68 VOLUME 293201.480 5022720.980 316.200
LOCATION ONRD69 VOLUME 293201.700 5022730.120 316.200
LOCATION ONRD70 VOLUME 293201.700 5022730.120 316.100
LOCATION ONRD71 VOLUME 293210.830 5022730.450 316.200
LOCATION ONRD72 VOLUME 293219.970 5022730.770 316.200
LOCATION ONRD73 VOLUME 293229.100 5022731.100 316.200
LOCATION ONRD74 VOLUME 293238.230 5022731.430 316.200
LOCATION ONRD75 VOLUME 293247.370 5022731.760 316.200
LOCATION ONRD76 VOLUME 293256.500 5022732.080 316.200
LOCATION ONRD77 VOLUME 293265.640 5022732.410 316.200
LOCATION ONRD78 VOLUME 293274.770 5022732.740 316.200
LOCATION ONRD79 VOLUME 293283.910 5022733.070 316.200
LOCATION ONRD80 VOLUME 293293.040 5022733.390 316.200
LOCATION ONRD81 VOLUME 293302.170 5022733.720 316.200
LOCATION ONRD82 VOLUME 293311.310 5022734.050 316.200
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   LOCATION ONRD83 VOLUME 293320.440 5022734.370 316.200
   LOCATION ONRD84 VOLUME 293329.580 5022734.700 316.200
   LOCATION ONRD85 VOLUME 293338.710 5022735.030 316.200
   LOCATION ONRD86 VOLUME 293347.840 5022735.360 316.200
   LOCATION ONRD87 VOLUME 293356.980 5022735.680 316.200
   LOCATION ONRD88 VOLUME 293366.110 5022736.010 316.200
   LOCATION ONRD89 VOLUME 293375.250 5022736.340 316.200
   LOCATION ONRD90 VOLUME 293384.380 5022736.670 316.200
   LOCATION ONRD91 VOLUME 293393.520 5022736.990 316.200
   LOCATION ONRD92 VOLUME 293402.650 5022737.320 316.200
   LOCATION ONRD93 VOLUME 293411.780 5022737.650 316.200
   LOCATION ONRD95 VOLUME 293433.180 5022733.800 316.100
   LOCATION ONRD96 VOLUME 293442.320 5022729.600 316.100
   LOCATION ONRD97 VOLUME 293451.460 5022725.300 316.100
   LOCATION ONRD98 VOLUME 293460.600 5022721.100 316.100
   LOCATION ONRD99 VOLUME 293469.740 5022716.800 316.200
   LOCATION ONRD100 VOLUME 293478.880 5022712.600 316.200
   LOCATION ONRD101 VOLUME 293488.020 5022708.300 316.200
   LOCATION ONRD102 VOLUME 293497.160 5022704.100 316.100
   LOCATION ONRD103 VOLUME 293506.300 5022699.800 316.100
   LOCATION ONRD104 VOLUME 293515.440 5022695.600 316.100
   LOCATION ONRD105 VOLUME 293524.580 5022691.300 316.100
   LOCATION ONRD106 VOLUME 293428.340 5022537.060 316.100
   LOCATION ONRD107 VOLUME 293437.480 5022537.060 316.100
   LOCATION ONRD108 VOLUME 293446.620 5022537.060 316.100
   LOCATION ONRD109 VOLUME 293455.760 5022537.060 316.100
   LOCATION ONRD110 VOLUME 293464.900 5022537.060 316.200
   LOCATION ONRD111 VOLUME 293474.040 5022537.060 316.200
   LOCATION ONRD112 VOLUME 293483.180 5022537.060 316.200
   LOCATION ONRD113 VOLUME 293492.320 5022537.060 316.100
   LOCATION ONRD114 VOLUME 293501.460 5022537.060 316.100
   LOCATION ONRD115 VOLUME 293510.600 5022537.060 316.100
   LOCATION GPDRY VOLUME 293391.250 5022669.030 316.200
** DESCRSRC GPC Grain Dryer
** Source Parameters **
   SRCPARAM SV05 0.055 8.530 422.000 18.20000 0.790
   SRCPARAM SV013 0.055 8.530 422.000 18.20000 0.790
   SRCPARAM SV011 0.139 12.800 311.000 31.60000 0.460
   SRCPARAM SV012 0.008 1.680 293.000 16.20000 0.500
   SRCPARAM SV6&7 0.15 6.096 739.000 23.90000 0.508
   SRCPARAM SV8&9 0.15 6.096 739.000 23.90000 0.508
   SRCPARAM SV015 1.26 22.900 422.000 15.80000 1.980
   SRCPARAM SV016 0.12 7.620 293.000 18.40000 0.860
   SRCPARAM COOL1C 0.00557 10.400 293.000 44.50000 3.050
   SRCPARAM COOL2C 0.00557 10.400 293.000 44.50000 3.050
   SRCPARAM COOL3C 0.00557 10.400 293.000 44.50000 3.050
   SRCPARAM COOL4C 0.00557 10.400 293.000 44.50000 3.050
   SRCPARAM COOL5C 0.00557 10.400 293.000 44.50000 3.050
   SRCPARAM COOL6C 0.00557 10.400 293.000 44.50000 3.050
   SRCPARAM COOL7C 0.0187 11.000 293.000 8.70000 5.500
   SRCPARAM COOL8C 0.0187 11.000 293.000 8.70000 5.500
   SRCPARAM GPBAG 0.206 7.620 293.000 19.70000 0.762
   SRCPARAM FWPUMP 0.056 6.096 786.000 18.71 0.356
   SRCPARAM CVECFS3 0.011 9.140 8.350 3.660
   SRCPARAM LOADOUTE 0.085 4.880 3.350 4.530
   SRCPARAM ONRD1 0.00609 3.510 4.250 1.630
   SRCPARAM ONRD2 0.00609 3.510 4.250 1.630
   SRCPARAM ONRD3 0.00609 3.510 4.250 1.630
   SRCPARAM ONRD4 0.00609 3.510 4.250 1.630
   SRCPARAM ONRD5 0.00609 3.510 4.250 1.630
   SRCPARAM ONRD6 0.00609 3.510 4.250 1.630
   SRCPARAM ONRD7 0.00609 3.510 4.250 1.630
   SRCPARAM ONRD8 0.00609 3.510 4.250 1.630
   SRCPARAM ONRD9 0.00609 3.510 4.250 1.630
   SRCPARAM ONRD10 0.00609 3.510 4.250 1.630
   SRCPARAM ONRD11 0.00609 3.510 4.250 1.630
   SRCPARAM ONRD12 0.00609 3.510 4.250 1.630
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SRCPARAM ONRD14 0.00609 3.510 4.250 1.630
SRCPARAM ONRD15 0.00609 3.510 4.250 1.630
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   SRCPARAM GPDRY 0.116 10.700 1.130 9.930
** Building Downwash **
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   BUILDHGT SV05 13.41 13.41 13.41 13.41 19.20 19.20
   BUILDHGT SV05 19.20 20.73 20.73 20.73 19.20 28.96
   BUILDHGT SV05 28.96 28.96 28.96 28.96 13.41 13.41
   BUILDHGT SV05 13.41 13.41 22.90 22.90 25.90 25.90
   BUILDHGT SV05 19.20 20.73 20.73 20.73 19.20 19.20
   BUILDHGT SV013 19.20 25.90 25.90 19.20 19.20 13.41
   BUILDHGT SV013 13.41 13.41 13.41 13.41 13.41 19.20
   BUILDHGT SV013 19.20 19.20 19.20 25.90 28.96 28.96
   BUILDHGT SV013 28.96 25.90 25.90 19.20 19.20 13.41
   BUILDHGT SV013 21.30 22.90 22.90 22.90 25.90 25.90
   BUILDHGT SV013 19.20 19.20 19.20 25.90 28.96 19.20
   BUILDHGT SV011 28.96 28.96 28.96 28.96 28.96 28.96
   BUILDHGT SV011 28.96 28.96 28.96 28.96 28.96 28.96
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   BUILDHGT SV011 28.96 28.96 28.96 28.96 28.96 28.96
   BUILDHGT SV012 13.41 13.41 19.20 19.20 13.41 28.96
   BUILDHGT SV012 28.96 28.96 28.96 28.96 28.96 10.06
   BUILDHGT SV012 10.06 10.06 13.41 13.41 12.50 10.06
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   BUILDHGT SV012 28.96 28.96 28.96 28.96 28.96 25.90
   BUILDHGT SV012 25.90 22.90 25.90 25.90 13.41 13.41
   BUILDHGT SV6&7 13.41 21.34 22.90 22.90 22.90 22.90
   BUILDHGT SV6&7 22.90 22.90 25.90 25.90 25.90 25.90
   BUILDHGT SV6&7 28.96 28.96 28.96 25.90 25.90 13.41
   BUILDHGT SV6&7 13.41 21.34 22.90 22.90 25.90 25.90
   BUILDHGT SV6&7 25.90 25.90 25.90 25.90 25.90 25.90
   BUILDHGT SV6&7 25.90 25.90 25.90 25.90 25.90 13.41
   BUILDHGT SV8&9 21.34 22.90 22.90 25.90 22.90 22.90
   BUILDHGT SV8&9 22.90 22.90 25.90 25.90 25.90 25.90
   BUILDHGT SV8&9 28.96 28.96 28.96 25.90 25.90 25.90
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BUILDHGT SV8&9 25.90 25.90 25.90 25.90 25.90 25.90
BUILDHGT SV015 9.63 9.93 9.93 28.96 28.96 28.96
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BUILDLEN SV05 75.23 69.36 61.37 66.44 20.45 24.14
BUILDLEN SV05 21.20 23.91 24.07 23.51 15.33 24.96
BUILDLEN SV05 26.73 28.87 30.13 30.48 80.01 78.82
BUILDLEN SV05 75.23 69.36 24.05 23.68 25.65 24.82
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BUILDLEN SV013 37.83 28.87 30.13 20.30 21.08 78.82
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BUILDLEN SV011 29.45 30.37 30.37 29.44 27.62 24.96
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BUILDLEN SV016 61.21 69.23 33.77 36.88 34.22 30.51
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BUILDLEN COOL2C 11.48 15.10 75.15 78.78 113.16 111.27
BUILDLEN COOL2C 106.00 97.51 23.67 21.88 19.18 21.42
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BUILDLEN COOL2C 23.01 23.91 24.07 15.10 11.48 7.52
BUILDLEN COOL3C 11.48 15.10 75.15 78.78 113.16 111.27
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BUILDLEN COOL6C 110.35 22.86 20.93 18.38 15.26 11.68
BUILDLEN COOL6C 13.93 17.24 30.13 30.48 29.89 28.41
BUILDLEN COOL6C 106.00 97.51 23.67 21.88 19.18 21.42
BUILDLEN COOL6C 23.01 23.91 20.93 18.38 15.26 11.68
BUILDLEN COOL7C 13.93 17.24 20.02 22.20 113.16 24.48
```

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BUILDLEN COOL7C 24.52 23.81 22.38 23.34 24.33 110.42
BUILDLEN COOL7C 110.35 22.86 20.93 18.38 15.26 11.68
BUILDLEN COOL7C 13.93 17.24 20.02 30.48 29.89 28.41
BUILDLEN COOL7C 106.00 97.51 23.67 21.88 19.18 21.42
BUILDLEN COOL7C 23.01 22.86 20.93 18.38 15.26 11.68
BUILDLEN COOL8C 13.93 17.24 20.02 22.20 23.70 24.48
BUILDLEN COOL8C 24.52 23.81 22.38 23.34 24.33 24.58
BUILDLEN COOL8C 24.09 22.86 20.93 18.38 15.26 11.68
BUILDLEN COOL8C 13.93 17.24 20.02 30.48 29.89 28.41
BUILDLEN COOL8C 24.52 23.81 23.67 16.35 19.18 21.42
BUILDLEN COOL8C 24.09 22.86 20.93 18.38 15.26 11.68
BUILDLEN GPBAG 26.80 25.57 24.78 23.29 29.86 28.96
BUILDLEN GPBAG 29.89 31.33 31.81 21.56 24.97 28.97
BUILDLEN GPBAG 29.87 29.86 28.95 29.84 23.65 24.01
BUILDLEN GPBAG 23.65 39.82 38.43 23.29 29.86 28.96
BUILDLEN GPBAG 29.89 31.33 31.81 31.33 29.89 28.97
BUILDLEN GPBAG 29.87 29.86 28.95 29.84 23.65 27.21
BUILDLEN FWPUMP 23.65 34.30 13.98 14.42 8.79 28.41
BUILDLEN FWPUMP 26.05 22.91 7.63 8.27 8.66 14.58
BUILDLEN FWPUMP 15.04 15.04 13.98 14.43 15.12 15.35
BUILDLEN FWPUMP 15.12 14.43 13.98 14.42 8.79 8.72
BUILDLEN FWPUMP 8.39 7.80 7.63 8.27 8.66 8.79
BUILDLEN FWPUMP 29.86 29.86 28.94 29.84 31.28 24.01
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XBADJ    SV05 14.44 20.19 25.33 22.25 11.39 13.26
XBADJ    SV05 14.68 23.58 26.36 28.34 15.69 -71.52
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XBADJ    SV05 -89.68 -89.55 -133.11 -134.60 -142.56 -140.91
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XBADJ    SV013 5.40 7.87 10.10 29.44 -71.49 -71.52
XBADJ    SV013 -71.96 28.87 30.13 3.84 0.46 -76.58
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XBADJ    SV013 -26.60 -28.50 -29.54 29.44 43.87 -49.96
XBADJ    SV011 -6.74 -11.26 -15.43 -19.13 -22.25 -24.69
XBADJ    SV011 -26.39 -27.28 -27.34 -30.03 -32.60 -34.17
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XBADJ    SV011 5.26 3.82 2.26 0.64 -1.01 -2.62
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XBADJ    SV6&7 -126.45 -127.97 -125.60 19.62 14.96 -50.97
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XBADJ    SV015 -39.27 -48.75 -51.62 42.18 44.89 46.25
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XBADJ    SV015 -12.67 -16.68 -20.18 -72.65 -74.79 -74.65
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XBADJ    SV015 -81.54 -91.98 -92.41 -90.03 -39.27 -37.80
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XBADJ    SV016 10.65 14.62 18.14 21.12 20.75 -110.05
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XBADJ    COOL1C -60.11 -60.11 -58.28 -4.19 -3.77 -3.24
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XBADJ    COOL2C 39.96 38.63 36.14 -9.54 -6.95 -4.15
XBADJ    COOL2C -5.29 -92.61 -95.74 -95.96 -93.27 -118.33
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XBADJ    COOL2C -62.97 -62.54 -60.21 -5.56 -4.53 -3.38
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XBADJ    COOL3C 19.63 -37.45 36.35 22.05 13.83 5.19
XBADJ    COOL3C 37.52 41.16 38.14 -8.13 -6.16 -4.00
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XBADJ    COOL3C -125.63 -125.93 -60.01 -62.27 -61.72 -64.81
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XBADJ    COOL4C -0.54 35.81 -7.84 -6.75 -5.45 -3.99
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XBADJ    COOL6C -9.14 -13.26 -16.97 -2.02 9.16 20.06
XBADJ    COOL6C -25.80 -26.16 -25.73 -26.05 24.79 15.36
XBADJ    COOL6C 5.46 -21.05 -18.04 -14.49 -10.50 -6.19
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XBADJ    GPBAG 27.99 28.07 27.30 -135.31 -136.92 39.00
XBADJ    GPBAG 39.35 38.50 36.48 32.02 32.36 35.41
XBADJ    GPBAG 37.39 20.97 21.16 33.98 -52.42 -55.31
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YBADJ    SV05 -20.74 -11.38 -1.68 8.07 -26.15 -21.79
YBADJ    SV05 -6.21 -19.60 -13.13 -6.26 11.50 14.74
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YBADJ    SV05 6.21 19.60 13.13 6.26 -11.50 -12.47
YBADJ    SV013 -5.45 28.87 30.13 -16.00 -18.19 -23.41
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YBADJ    SV013 -14.00 -11.00 -7.68 29.44 12.83 2.62
YBADJ    SV013 -7.67 28.87 30.13 16.00 18.19 23.41
YBADJ    SV013 25.29 30.02 20.21 0.98 8.42 -12.26
YBADJ    SV013 14.00 11.00 7.68 29.44 -12.83 -0.35
YBADJ    SV011 19.25 20.11 20.36 19.98 19.00 17.45
YBADJ    SV011 15.36 12.81 9.86 6.62 3.18 -0.36
YBADJ    SV011 -3.89 -7.30 -10.49 -13.36 -15.83 -17.81
YBADJ    SV011 -19.25 -20.11 -20.36 -19.98 -19.00 -17.45
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YBADJ    SV012 2.85 0.41 -43.69 -34.64 -36.29 -17.22
YBADJ    SV012 9.62 -3.35 19.99 30.45 39.99 -24.92
YBADJ    SV012 -16.02 -6.63 2.96 12.45 21.58 6.46
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YBADJ    SV8&9 23.40 21.15 16.65 25.96 8.41 -9.39
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   YBADJ    FWPUMP -2.02 -5.61 -9.00 -12.14 0.72 -0.42
   YBADJ    FWPUMP -1.54 -2.62 -3.63 -4.52 -5.27 -5.86
   YBADJ    FWPUMP 18.14 4.38 -9.50 -7.43 -27.26 9.90
   CONCUNIT 1000000 (GRAMS/SEC) (MICROGRAMS/CUBIC-METER)
   SRCGROUP GEN SV6&7 SV8&9
   SRCGROUP NEWFWP FWPUMP
   SRCGROUP ALL
SO FINISHED
```

```
** THISFILE: FIBSEP04.P10
** FIBSEP04:
** FIBSEP04: FIBROMINN, SWIFT COUNTY. UPDATED PM10 PSD MODELING.
** FIBSEP04:
** FIBSEP04: REFERENCE:
** FIBSEP04: 9/24/04 SUBMITTAL TO MPCA BY ALTERNATIVE RESOURCES, INC ON BEHALF
** FIBSEP04: OF FIBROMINN LLC, "UPDATED AIR QUALITY IMPACTS ANALYSIS
** FIBSEP04: FOR MINOR DESIGN CHANGES FOR THE FIBROMINN BIOMASS POWER PLANT,
** FIBSEP04: BENSON, MINNESOTA."
** FIBSEP04:
** FIBSEP04: NOTE: SO2 & NOX INCREMENT FILES UPDATED BY MPCA FROM NEW PM10
** FIBSEP04: SOURCE PARAMETERS (ONLY MAIN STACK EMITS SO2 & NOX)

SO STARTING
** Source Location **
** Source ID - Type - X Coord. - Y Coord. **
   LOCATION FIBRO POINT 293822.709 5022056.310 314.600
   LOCATION LIME POINT 293834.220 5022115.250 314.600
   LOCATION ASH POINT 293764.460 5022104.030 314.600
   LOCATION FUEL POINT 293931.640 5022144.340 314.600
   LOCATION RD1 VOLUME 293537.390 5021783.120 314.600
   LOCATION RD2 VOLUME 293543.490 5021783.120 314.600
   LOCATION RD3 VOLUME 293549.590 5021783.120 314.600
   LOCATION RD4 VOLUME 293555.690 5021783.120 314.600
   LOCATION RD5 VOLUME 293561.790 5021783.120 314.600
   LOCATION RD6 VOLUME 293567.890 5021783.120 314.600
   LOCATION RD7 VOLUME 293573.990 5021783.120 314.600
   LOCATION RD8 VOLUME 293580.090 5021783.120 314.600
   LOCATION RD9 VOLUME 293586.190 5021783.120 314.600
   LOCATION RD10 VOLUME 293592.290 5021783.120 314.600
   LOCATION RD11 VOLUME 293598.390 5021783.120 314.600
   LOCATION RD12 VOLUME 293604.490 5021783.120 314.600
   LOCATION RD13 VOLUME 293610.590 5021783.120 314.600
   LOCATION RD14 VOLUME 293616.690 5021783.120 314.600
   LOCATION RD15 VOLUME 293622.790 5021783.120 314.600
   LOCATION RD16 VOLUME 293628.890 5021783.120 314.600
   LOCATION RD17 VOLUME 293634.990 5021783.120 314.600
   LOCATION RD18 VOLUME 293641.090 5021783.120 314.600
   LOCATION RD20 VOLUME 293653.290 5021783.120 314.600
   LOCATION RD21 VOLUME 293659.390 5021783.120 314.600
   LOCATION RD22 VOLUME 293665.490 5021783.120 314.600
   LOCATION RD23 VOLUME 293671.590 5021783.120 314.600
   LOCATION RD24 VOLUME 293677.690 5021783.120 314.600
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   LOCATION RD26 VOLUME 293689.890 5021783.120 314.600
   LOCATION RD27 VOLUME 293695.990 5021783.120 314.600
   LOCATION RD28 VOLUME 293702.090 5021783.120 314.600
   LOCATION RD29 VOLUME 293708.190 5021783.120 314.600
   LOCATION RD30 VOLUME 293714.290 5021783.120 314.600
   LOCATION RD31 VOLUME 293720.390 5021783.120 314.600
   LOCATION RD32 VOLUME 293726.490 5021783.120 314.600
   LOCATION RD33 VOLUME 293732.590 5021783.120 314.600
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   LOCATION RD40 VOLUME 293773.720 5021793.030 314.600
   LOCATION RD41 VOLUME 293778.660 5021796.620 314.600
   LOCATION RD42 VOLUME 293783.600 5021800.210 314.600
   LOCATION RD43 VOLUME 293788.540 5021803.800 314.600
   LOCATION RD44 VOLUME 293792.070 5021808.770 314.600
   LOCATION RD45 VOLUME 293795.600 5021813.740 314.600
   LOCATION RD46 VOLUME 293799.130 5021818.710 314.600
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   LOCATION RD48 VOLUME 293807.230 5021831.630 314.600
   LOCATION RD49 VOLUME 293811.230 5021838.090 314.600
   LOCATION RD50 VOLUME 293816.640 5021847.660 314.600
   LOCATION RD51 VOLUME 293822.050 5021857.230 314.600
   LOCATION RD52 VOLUME 293829.400 5021868.810 314.600
   LOCATION RD53 VOLUME 293837.580 5021880.940 314.600
   LOCATION RD54 VOLUME 293845.760 5021893.070 314.600
   LOCATION RD55 VOLUME 293853.940 5021905.200 314.600
   LOCATION RD56 VOLUME 293862.120 5021917.330 314.600
   LOCATION RD57 VOLUME 293870.300 5021929.460 314.600
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   LOCATION RD59 VOLUME 293886.660 5021953.720 314.600
   LOCATION RD60 VOLUME 293894.840 5021965.850 314.600
   LOCATION RD61 VOLUME 293903.020 5021977.980 314.600
   LOCATION RD62 VOLUME 293911.200 5021990.110 314.600
   LOCATION RD63 VOLUME 293919.380 5022002.240 314.600
   LOCATION RD64 VOLUME 293927.560 5022014.370 314.600
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   LOCATION RD66 VOLUME 293943.920 5022038.630 314.600
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** Source Parameters **
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   BUILDHGT FIBRO 25.90 25.90 25.90 25.90 25.90 25.90
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   BUILDHGT LIME 42.70 42.70 42.70 42.70 42.70 42.70
   BUILDHGT LIME 42.70 42.70 42.70 42.70 42.70 42.70
   BUILDHGT LIME 42.70 42.70 42.70 42.70 42.70 42.70
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   BUILDHGT LIME 42.70 42.70 42.70 42.70 42.70 42.70
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   BUILDHGT ASH 42.70 42.70 42.70 38.40 25.90 25.90
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   BUILDHGT FUEL 42.70 42.70 42.70 42.70 42.70 21.90
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   BUILDHGT FUEL 21.90 21.90 25.60 28.30 28.30 38.40
   BUILDHGT FUEL 42.70 28.30 28.30 28.30 42.70 21.90
   BUILDHGT FUEL 21.90 21.90 21.90 21.90 21.90 21.90
   BUILDWID FIBRO 37.41 40.19 40.19 32.80 48.80 49.61
   BUILDWID FIBRO 143.76 142.42 136.76 140.81 143.77 142.37
   BUILDWID FIBRO 101.90 108.85 40.19 40.19 39.34 33.82
   BUILDWID FIBRO 37.41 40.19 40.19 32.80 48.80 49.61
   BUILDWID FIBRO 143.76 142.42 136.76 140.81 143.77 142.37
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   BUILDWID LIME 37.41 42.19 45.70 47.81 48.48 47.67
   BUILDWID LIME 45.41 41.77 36.86 40.08 44.20 46.99
   BUILDWID LIME 48.35 48.23 46.66 43.66 39.34 33.82
   BUILDWID LIME 37.41 42.19 45.70 47.81 48.48 47.67
   BUILDWID LIME 45.41 41.77 36.86 40.08 44.20 46.99
   BUILDWID LIME 48.35 48.23 46.66 43.66 39.34 33.82
   BUILDWID ASH 67.64 88.65 45.70 47.81 48.48 47.67
   BUILDWID ASH 45.41 41.77 36.86 57.22 79.28 91.86
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BUILDWID ASH 101.90 108.85 112.50 95.86 75.78 53.40
BUILDWID FUEL 59.15 72.66 52.70 46.51 48.80 56.47
BUILDWID FUEL 45.41 41.77 36.86 40.08 44.20 101.86
BUILDWID FUEL 100.08 95.25 87.54 77.16 64.44 49.76
BUILDWID FUEL 59.15 72.66 87.90 46.51 48.80 56.47
BUILDWID FUEL 45.41 46.73 43.12 45.54 44.20 101.86
BUILDWID FUEL 100.08 95.25 87.54 77.16 64.44 49.76
BUILDLEN FIBRO 40.08 44.20 46.99 38.52 47.53 44.35
BUILDLEN FIBRO 95.86 75.78 53.40 67.64 88.65 106.98
BUILDLEN FIBRO 88.72 87.28 47.67 45.41 41.77 36.86
BUILDLEN FIBRO 40.08 44.20 46.99 38.52 47.53 44.35
BUILDLEN FIBRO 95.86 75.78 53.40 67.64 88.65 106.98
BUILDLEN FIBRO 88.72 87.28 47.67 45.41 41.77 36.86
BUILDLEN LIME 40.08 44.20 46.99 48.35 48.23 46.66
BUILDLEN LIME 43.66 39.34 33.82 37.41 42.19 45.70
BUILDLEN LIME 47.81 48.48 47.67 45.41 41.77 36.86
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BUILDLEN ASH 140.81 143.77 46.99 48.35 48.23 46.66
BUILDLEN ASH 43.66 39.34 33.82 37.41 98.11 91.44
BUILDLEN ASH 88.72 87.28 83.18 143.76 142.42 136.76
BUILDLEN ASH 140.81 143.77 46.99 48.35 48.23 46.66
BUILDLEN ASH 43.66 39.34 33.82 37.41 98.11 91.44
BUILDLEN ASH 88.72 87.28 83.18 143.76 142.42 136.76
BUILDLEN FUEL 96.18 100.55 68.04 49.28 47.53 46.66
BUILDLEN FUEL 43.66 39.34 33.82 37.41 42.19 83.95
BUILDLEN FUEL 92.69 98.62 101.55 101.40 98.16 91.94
BUILDLEN FUEL 96.18 100.55 112.12 49.28 47.53 46.66
BUILDLEN FUEL 43.66 34.07 27.29 31.64 42.19 83.95
BUILDLEN FUEL 92.69 98.62 101.55 101.40 98.16 91.94
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XBADJ    FIBRO -116.45 -104.31 -89.00 -90.11 -92.90 -92.86
XBADJ    FIBRO -75.95 -87.00 47.67 45.41 -103.37 -102.68
XBADJ    FIBRO -103.48 44.20 46.99 -88.13 -100.24 -93.29
XBADJ    FIBRO 20.59 28.53 35.60 22.47 4.24 -14.12
XBADJ    FIBRO -12.77 -0.27 47.67 45.41 61.60 65.81
XBADJ    LIME 3.36 -1.32 -5.96 -10.42 -14.56 -18.26
XBADJ    LIME -21.41 -23.90 -25.67 -31.72 -37.98 -43.09
XBADJ    LIME -46.88 -49.25 -50.13 -49.48 -47.33 -43.74
XBADJ    LIME -43.44 -42.89 -41.03 -37.93 -33.67 -28.40
XBADJ    LIME -22.26 -15.44 -8.15 -5.68 -4.21 -2.61
XBADJ    LIME -0.93 0.78 2.46 4.07 5.56 6.87
XBADJ    ASH -146.82 -145.52 38.64 43.02 46.09 47.76
XBADJ    ASH 47.98 46.75 44.09 35.03 9.19 7.75
XBADJ    ASH -0.66 -13.01 -24.96 -1.02 3.80 8.50
XBADJ    ASH 6.02 1.75 -85.63 -91.36 -94.32 -94.42
XBADJ    ASH -91.65 -86.09 -77.91 -72.44 -107.30 -99.19
XBADJ    ASH -88.07 -74.27 -58.22 -142.74 -146.23 -145.27
XBADJ    FUEL -80.86 -77.65 -137.95 -82.59 -87.33 -117.17
XBADJ    FUEL -122.90 -124.89 -123.09 -122.61 -119.58 -4.28
XBADJ    FUEL -5.55 -6.65 -7.55 -8.22 -8.65 -8.81
XBADJ    FUEL -15.32 -22.90 25.83 33.32 39.79 70.52
XBADJ    FUEL 79.24 51.37 52.22 45.50 77.38 -79.67
XBADJ    FUEL -87.15 -91.97 -94.00 -93.17 -89.52 -83.14
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YBADJ    FIBRO -6.10 -17.90 -29.17 -39.54 -48.71 -56.41
YBADJ    FIBRO 53.19 45.81 47.67 45.41 17.34 2.75
YBADJ    FIBRO -11.92 44.20 46.99 -24.02 -24.13 -37.04
YBADJ    FIBRO 6.10 17.90 29.17 39.54 48.71 56.41
YBADJ    FIBRO -53.19 -45.81 47.67 45.41 -17.34 -2.75
YBADJ    LIME 13.02 16.89 20.24 22.98 25.01 26.29
YBADJ    LIME 26.77 26.44 25.30 23.40 20.78 17.54
YBADJ    LIME 13.75 9.56 5.07 0.42 -4.23 -8.76
YBADJ    LIME -13.02 -16.89 -20.24 -22.98 -25.01 -26.29
YBADJ    LIME -26.77 -26.44 -25.30 -23.40 -20.78 -17.54
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   YBADJ    ASH -9.36 -22.49 -34.57 -23.25 -11.23 1.13
   YBADJ    ASH 13.46 25.38 36.53 37.99 37.86 46.74
   YBADJ    ASH 54.07 59.76 63.63 -30.10 -17.34 -4.05
   YBADJ    ASH 9.36 22.49 34.57 23.25 11.23 -1.13
   YBADJ    ASH -13.46 -25.38 -36.53 -37.99 -37.86 -46.74
   YBADJ    ASH -54.07 -59.76 -63.63 30.10 17.34 4.05
   YBADJ    FUEL -28.19 -33.45 19.56 37.34 26.71 45.41
   YBADJ    FUEL 32.76 14.71 -3.79 -22.17 -39.87 -21.15
   YBADJ    FUEL -14.28 -6.98 0.53 8.03 15.28 22.07
   YBADJ    FUEL 28.19 33.45 -37.16 -37.34 -26.71 -45.41
   YBADJ    FUEL -32.76 8.65 20.39 31.52 39.87 21.15
   YBADJ    FUEL 14.28 6.98 -0.53 -8.03 -15.28 -22.07
   CONCUNIT 1000000 (GRAMS/SEC) (MICROGRAMS/CUBIC-METER)
   SRCGROUP ALL
SO FINISHED
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** THISFILE: FIBSEP04.SO2
** FIBSEP04:
** FIBSEP04: FIBROMINN, SWIFT COUNTY. UPDATED PM10 PSD MODELING.
** FIBSEP04:
** FIBSEP04: REFERENCE:
** FIBSEP04: 9/24/04 SUBMITTAL TO MPCA BY ALTERNATIVE RESOURCES, INC ON BEHALF
** FIBSEP04: OF FIBROMINN LLC, "UPDATED AIR QUALITY IMPACTS ANALYSIS
** FIBSEP04: FOR MINOR DESIGN CHANGES FOR THE FIBROMINN BIOMASS POWER PLANT,
** FIBSEP04: BENSON, MINNESOTA."
** FIBSEP04:
** FIBSEP04: REFERENCE FOR SO2 AND NOX EMISSION RATES:
** FIBSEP04: 8/15/02 LETTER FROM TERENCE WALMSLEY, FIBROMINN, REVISED VOL.3:
** FIBSEP04: "APPLICATION FOR PREVENTION OF SIGNIFICANT DETERIORATION (PSD)
** FIBSEP04: PERMIT TO CONSTRUCT, AND A FEDERAL PART-70 PERMIT TO OPERATE FOR
THE
** FIBSEP04: FIBROMINN BIOMASS POWER PLANT, BENSON, MINNESOTA,
** FIBSEP04: VOLUME 3 OF 3 (REVISED AUGUST, 2002)", DATED AUGUST 15, 2002.
** FIBSEP04: OUTPUT AND RELATED FILES, MAY 6, 2002" WITH CD-ROM TITLED:
** FIBSEP04: "1233-4 FIBROMINN 8/1/02 ALTERNATIVE RESOURCES, INC."
** FIBSEP04:
** FIBSEP04: NOTE: SO2 & NOX INCREMENT FILES UPDATED BY MPCA FROM NEW PM10
** FIBSEP04: SOURCE PARAMETERS (ONLY MAIN STACK EMITS SO2 & NOX)

SO STARTING
** Source Location **
** Source ID - Type - X Coord. - Y Coord. **
   LOCATION FIBROST POINT 293822.709 5022056.310 314.600
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   LOCATION FIBROLT POINT 293822.709 5022056.310 314.600
   SRCPARAM FIBROLT 16.90 91.440 405.000 24.40000 2.490
   BUILDHGT FIBROST 42.70 42.70 42.70 28.30 28.30 28.30
   BUILDHGT FIBROST 25.90 25.90 25.90 25.90 25.90 25.90
   BUILDHGT FIBROST 25.90 25.90 42.70 42.70 42.70 42.70
   BUILDHGT FIBROST 42.70 42.70 42.70 28.30 28.30 28.30
   BUILDHGT FIBROST 25.90 25.90 25.90 25.90 25.90 25.90
   BUILDHGT FIBROST 25.90 25.90 42.70 42.70 42.70 42.70
   BUILDWID FIBROST 37.41 40.19 40.19 32.80 48.80 49.61
   BUILDWID FIBROST 143.76 142.42 136.76 140.81 143.77 142.37
   BUILDWID FIBROST 101.90 108.85 40.19 40.19 39.34 33.82
   BUILDWID FIBROST 37.41 40.19 40.19 32.80 48.80 49.61
   BUILDWID FIBROST 143.76 142.42 136.76 140.81 143.77 142.37
   BUILDWID FIBROST 101.90 108.85 40.19 40.19 39.34 33.82
   BUILDLEN FIBROST 40.08 44.20 46.99 38.52 47.53 44.35
   BUILDLEN FIBROST 95.86 75.78 53.40 67.64 88.65 106.98
   BUILDLEN FIBROST 88.72 87.28 47.67 45.41 41.77 36.86
   BUILDLEN FIBROST 40.08 44.20 46.99 38.52 47.53 44.35
   BUILDLEN FIBROST 95.86 75.78 53.40 67.64 88.65 106.98
   BUILDLEN FIBROST 88.72 87.28 47.67 45.41 41.77 36.86
   XBADJ    FIBROST 63.41 44.20 46.99 49.61 52.70 48.95
   XBADJ    FIBROST -116.45 -104.31 -89.00 -90.11 -92.90 -92.86
   XBADJ    FIBROST -75.95 -87.00 47.67 45.41 -103.37 -102.68
   XBADJ    FIBROST -103.48 44.20 46.99 -88.13 -100.24 -93.29
   XBADJ    FIBROST 20.59 28.53 35.60 22.47 4.24 -14.12
   XBADJ    FIBROST -12.77 -0.27 47.67 45.41 61.60 65.81
   YBADJ    FIBROST 11.92 44.20 46.99 24.02 24.13 37.04
   YBADJ    FIBROST -6.10 -17.90 -29.17 -39.54 -48.71 -56.41
   YBADJ    FIBROST 53.19 45.81 47.67 45.41 17.34 2.75
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   YBADJ    FIBROST 6.10 17.90 29.17 39.54 48.71 56.41
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   BUILDHGT FIBROLT 25.90 25.90 25.90 25.90 25.90 25.90
   BUILDHGT FIBROLT 25.90 25.90 42.70 42.70 42.70 42.70
   BUILDWID FIBROLT 37.41 40.19 40.19 32.80 48.80 49.61
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   BUILDWID FIBROLT 143.76 142.42 136.76 140.81 143.77 142.37
   BUILDWID FIBROLT 101.90 108.85 40.19 40.19 39.34 33.82
   BUILDWID FIBROLT 37.41 40.19 40.19 32.80 48.80 49.61
   BUILDWID FIBROLT 143.76 142.42 136.76 140.81 143.77 142.37
   BUILDWID FIBROLT 101.90 108.85 40.19 40.19 39.34 33.82
   BUILDLEN FIBROLT 40.08 44.20 46.99 38.52 47.53 44.35
   BUILDLEN FIBROLT 95.86 75.78 53.40 67.64 88.65 106.98
   BUILDLEN FIBROLT 88.72 87.28 47.67 45.41 41.77 36.86
   BUILDLEN FIBROLT 40.08 44.20 46.99 38.52 47.53 44.35
   BUILDLEN FIBROLT 95.86 75.78 53.40 67.64 88.65 106.98
   BUILDLEN FIBROLT 88.72 87.28 47.67 45.41 41.77 36.86
   XBADJ    FIBROLT 63.41 44.20 46.99 49.61 52.70 48.95
   XBADJ    FIBROLT -116.45 -104.31 -89.00 -90.11 -92.90 -92.86
   XBADJ    FIBROLT -75.95 -87.00 47.67 45.41 -103.37 -102.68
   XBADJ    FIBROLT -103.48 44.20 46.99 -88.13 -100.24 -93.29
   XBADJ    FIBROLT 20.59 28.53 35.60 22.47 4.24 -14.12
   XBADJ    FIBROLT -12.77 -0.27 47.67 45.41 61.60 65.81
   YBADJ    FIBROLT 11.92 44.20 46.99 24.02 24.13 37.04
   YBADJ    FIBROLT -6.10 -17.90 -29.17 -39.54 -48.71 -56.41
   YBADJ    FIBROLT 53.19 45.81 47.67 45.41 17.34 2.75
   YBADJ    FIBROLT -11.92 44.20 46.99 -24.02 -24.13 -37.04
   YBADJ    FIBROLT 6.10 17.90 29.17 39.54 48.71 56.41
   YBADJ    FIBROLT -53.19 -45.81 47.67 45.41 -17.34 -2.75
   CONCUNIT 1000000 (GRAMS/SEC) (MICROGRAMS/CUBIC-METER)
   SRCGROUP ALLST FIBROST
   SRCGROUP ALLLT FIBROLT
SO FINISHED
```

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CO STARTING
CO TITLEONE MINNESOTA VALLEY - ALL SOURCES - SV003 OPERATES 8-4
CO TITLETWO NAD83
CO MODELOPT DFAULT CONC   Rural
CO AVERTIME 24 ANNUAL
CO POLLUTID PM10
CO MULTYEAR H6H pmall87.SAV
CO EVENTFIL pmall87.EVT SOCONT
CO TERRHGTS Elev
CO RUNORNOT RUN
CO ERRORFIL ERRORS.LST
CO FINISHED

SO STARTING
** Point Sources
SO LOCATION     SV001      POINT          299988.6   4964059.5     277.4
SO LOCATION     SV002      POINT          300008.4   4964051.5     277.4
SO LOCATION     SV003      POINT          299998.4   4964209.8     277.4
SO LOCATION     SV004      POINT          299985.6   4964051.2     277.4
SO LOCATION     SV005      POINT          299985.6   4964053.9     277.4

**Process Fugitive Sources
SO LOCATION     IA001UR    AREA           300037.3   4964168.7     277.4
SO LOCATION     IA001WE    AREA           300037.3   4964168.7     277.4
SO LOCATION     IA002UR    AREA           300175.3   4964026.4     277.4
SO LOCATION     IA002WE    AREA           300175.3   4964026.4     277.4
SO LOCATION     IA003      AREA           299989.8   4964066.9     277.4
SO LOCATION     FS001      AREA           299867.1   4964159.5     277.4
SO LOCATION     FS002      AREA           299867.1   4964159.5     277.4
SO LOCATION     FS003      AREA           299867.1   4964159.5     277.4
SO LOCATION     FS004      AREA           299872.6   4964180.2     277.4
SO LOCATION     FS005WE    AREA           299867.3   4964170.1     277.4
SO LOCATION     FS005UR    AREA           299867.3   4964170.1     277.4
SO LOCATION     FS005PM    AREA           299867.3   4964170.1     277.4
SO LOCATION     FS006      AREA           299856.7   4964215.1     277.4
SO LOCATION     FS007      AREA           299987.6   4964222.3     277.4


**Process Unpaved Road Fugitive Sources
**  1.  Fly Ash Transport from Disposal Basin to Plant Access Road
SO LOCATION     IA004011   AREA           300195.6   4964094.4     277.4
**  2.  Coke Storage Stockpile to Crusher Hopper
SO LOCATION     IA004021   AREA           299972.6   4964183.6     277.4
SO LOCATION     IA004022   AREA           299954.1   4964216.9     277.4
**  3.  Coal Storage Stockpile to Crusher Hopper
SO LOCATION     IA004031   AREA           299907.8   4964225.4     277.4
SO LOCATION     IA004032   AREA           299856.7   4964232.6     277.4
**  4.  Coal Storage Stockpile to Alternate Plant Access Road
SO LOCATION     IA004041   AREA           299828.4   4964255.3     277.4
**  5.  Alternate Plant Access Road
SO LOCATION     IA004051   AREA           299779.3   4964236.5     277.4
SO LOCATION     IA004052   AREA           299729.5   4964203.0     277.4
SO LOCATION     IA004053   AREA           299679.8   4964169.4     277.4
**  Paved Road Fugitive Sources
**  A.  Plant Access Rd. (N. of Ash Disposal Basins) to Alternate Plant Ent.
SO LOCATION     IA004A01   AREA           300123.3   4964109.5     277.4
SO LOCATION     IA004A02   AREA           300043.5   4964080.5     277.4
SO LOCATION     IA004A03   AREA           299983.3   4964070.2     277.4
SO LOCATION     IA004A04   AREA           299923.1   4964070.2     277.4
SO LOCATION     IA004A05   AREA           299869.0   4964111.9     277.4
SO LOCATION     IA004A06   AREA           299820.2   4964154.3     277.4
**  B.  East Gate to Plant Access Road North of Ash Disposal Basins
SO LOCATION     IA004B01   AREA           300197.7   4964150.2     277.4
**  C.   US Highway 212 Entrance to Alternate Plant Entrance
SO LOCATION     IA004C01   AREA           299685.4   4964151.2     277.4
SO LOCATION     IA004C02   AREA           299753.4   4964151.2     277.4
```

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**HOUR/CONTROL FACTORS FOR PROCESS FUGITIVES
SO EMISFACT SV003 HROFDY 7*0.0 8*1.0 9*0.0
SO EMISFACT FS001-FS004 HROFDY 6*0.0 10*1.0 8*0.0
SO EMISFACT FS005UR HROFDY 6*0.0 10*1.0 8*0.0
SO EMISFACT FS005PM HROFDY 6*0.0 10*1.0 8*0.0
SO EMISFACT FS006 HROFDY 6*0.0 10*1.0 8*0.0
SO EMISFACT FS007 HROFDY 6*0.0 10*1.0 8*0.0
SO EMISFACT IA001UR HROFDY 6*0.0 10*1.0 8*0.0
SO EMISFACT IA003 HROFDY 6*0.0 10*0.15 8*0.0

SO EMISFACT IA004011 HROFDY 6*0.0 10*1.0 8*0.0
SO EMISFACT IA004021-IA004022 HROFDY 6*0.0 10*0.5 8*0.0
SO EMISFACT IA004031-IA004032 HROFDY 6*0.0 10*0.5 8*0.0
SO EMISFACT IA004041 HROFDY 6*0.0 10*0.5 8*0.0
SO EMISFACT IA004051-IA004053 HROFDY 6*0.0 10*0.5 8*0.0
SO EMISFACT IA004A01-IA004A06 HROFDY 6*0.0 10*1.0 8*0.0
SO EMISFACT IA004B01 HROFDY 6*0.0 10*1.0 8*0.0
SO EMISFACT IA004C01-IA004C02 HROFDY 6*0.0 10*1.0 8*0.0
SO EMISFACT IA002UR HROFDY 6*0.0 10*1.0 8*0.0


**WIND EROSION - WS SCALER (CONSIDERS 50% AND 90% CONTROL)
SO EMISFACT FS005WE STAR 0.0 8.84 32.40 65.04 106.82 286.92
SO EMISFACT FS005WE STAR 0.0 8.84 32.40 65.04 106.82 286.92
SO EMISFACT FS005WE STAR 0.0 8.84 32.40 65.04 106.82 286.92
SO EMISFACT FS005WE STAR 0.0 8.84 32.40 65.04 106.82 286.92
SO EMISFACT FS005WE STAR 0.0 8.84 32.40 65.04 106.82 286.92
SO EMISFACT FS005WE STAR 0.0 8.84 32.40 65.04 106.82 286.92
SO EMISFACT IA001WE STAR 0.0 8.84 32.40 65.04 106.82 286.92
SO EMISFACT IA001WE STAR 0.0 8.84 32.40 65.04 106.82 286.92
SO EMISFACT IA001WE STAR 0.0 8.84 32.40 65.04 106.82 286.92
SO EMISFACT IA001WE STAR 0.0 8.84 32.40 65.04 106.82 286.92
SO EMISFACT IA001WE STAR 0.0 8.84 32.40 65.04 106.82 286.92
SO EMISFACT IA001WE STAR 0.0 8.84 32.40 65.04 106.82 286.92
SO EMISFACT IA002WE STAR 0.0 4.42 16.20 32.52  53.41 143.46
SO EMISFACT IA002WE STAR 0.0 4.42 16.20 32.52  53.41 143.46
SO EMISFACT IA002WE STAR 0.0 4.42 16.20 32.52  53.41 143.46
SO EMISFACT IA002WE STAR 0.0 4.42 16.20 32.52  53.41 143.46
SO EMISFACT IA002WE STAR 0.0 4.42 16.20 32.52  53.41 143.46
SO EMISFACT IA002WE STAR 0.0 4.42 16.20 32.52  53.41 143.46

**  Point Source Parameters
**                              Q: (g/s)   Ht. (m)      T (K)        V (m/s)
dia (m)
SO SRCPARAM     SV001          40.8240        84.43        418.0     10.74
3.66
SO SRCPARAM     SV002           0.3175        39.62        449.7      7.08
0.41
SO SRCPARAM     SV003           0.1190         3.66        294.1     21.01
0.56
SO SRCPARAM     SV004           0.0810        30.02        294.1      0.01
0.36
SO SRCPARAM     SV005           0.0810        30.02        294.1      0.01
0.36

**  Area Source Input into ISC3
**                          g/sm2      H            X Dim        Y Dim
Angle
** Process Fugitives
SO SRCPARAM     IA001UR     4.7061E-05          3.0         43.8      37.4
0
SO SRCPARAM     IA001WE     8.6660E-07          3.0         43.8      37.4
0
SO SRCPARAM     IA002UR     4.0427E-07          3.0         57.4      68.7
0
SO SRCPARAM     IA002WE     8.2087E-06          3.0         57.4      68.7
0
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SO SRCPARAM     IA003       9.1197E-04         30.0          4.4       3.7
0
SO SRCPARAM     FS001       1.4303E-04          3.0         15.9       6.5
0
SO SRCPARAM     FS002       1.4303E-04          3.0         15.9       6.5
0
SO SRCPARAM     FS003       1.4303E-04          3.0         15.9       6.5
0
SO SRCPARAM     FS004       1.0397E-03         15.0          4.0       3.6
0
SO SRCPARAM     FS005WE     2.6896E-06         10.0         82.0      65.5
0
SO SRCPARAM     FS005UR     6.8809E-07         10.0         82.0      65.5
0
SO SRCPARAM     FS005PM     1.1653E-05         10.0         82.0      65.5
0
SO SRCPARAM     FS006       3.3213E-05          3.0         10.6      17.5
0
SO SRCPARAM     FS007       6.3992E-05          3.0          8.4       8.3
0

** Unpaved Road Fugitives
**  1.  Ash Transport from Disposal Basin to Plant Access Road
SO SRCPARAM     IA004011    5.8748E-06            3         10.0      43.6
0
**  2.  Coke Storage Stockpile to Crusher Hopper
SO SRCPARAM     IA004021    7.0764E-05            3         64.8      10.0
0.0
SO SRCPARAM     IA004022    7.0764E-05            3         32.2      10.0
74.0
**  3.  Coal Storage Stockpile to Crusher Hopper
SO SRCPARAM     IA004031    2.1475E-04            3         51.6      10.0
8.0
SO SRCPARAM     IA004032    2.1475E-04            3         51.6      10.0
8.0
**  4.  Coal Storage Stockpile to Alternate Plant Access Road
SO SRCPARAM     IA004041    7.3341E-05            3         33.6      10.0
40.0
**  5.  Alternate Plant Access Road
SO SRCPARAM     IA004051    7.3341E-05            3         10.0      60.0
56.0
SO SRCPARAM     IA004052    7.3341E-05            3         10.0      60.0
56.0
SO SRCPARAM     IA004053    7.3341E-05            3         10.0      60.0
56.0

**  Paved Road Fugitive Sources
**  A.  Plant Access Rd. (N. of Ash Disposal Basins) to Alternate Plant Ent.
SO SRCPARAM     IA004A01    1.0867E-04            3         10.0      85.8
61
SO SRCPARAM     IA004A02    1.0867E-04            3         10.0      85.8
70
SO SRCPARAM     IA004A03    1.0867E-04            3         60.2      10.0
0
SO SRCPARAM     IA004A04    1.0867E-04            3         60.2      10.0
0
SO SRCPARAM     IA004A05    1.0867E-04            3         64.6      10.0
41
SO SRCPARAM     IA004A06    1.0867E-04            3         64.6      10.0
41
**  B.  East Gate to Plant Access Road North of Ash Disposal Basins
SO SRCPARAM     IA004B01    1.4815E-04            3         10.0      82.4
49
**  C.   US Highway 212 Entrance to Alternate Plant Entrance
SO SRCPARAM     IA004C01    1.0867E-04            3         68.0      10.0
0
SO SRCPARAM     IA004C02    1.0867E-04            3         68.0      10.0
```

0

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SO BUILDHGT SV001       36.58    36.58    36.58    36.58    36.58    36.58
SO BUILDHGT SV001       36.58    36.58    36.58    36.58    36.58    36.58
SO BUILDHGT SV001       36.58    36.58    36.58    36.58    36.58    36.58
SO BUILDHGT SV001       36.58    36.58    36.58    36.58    36.58    36.58
SO BUILDHGT SV001       36.58    36.58    36.58    36.58    36.58    36.58
SO BUILDHGT SV001       36.58    36.58    36.58    36.58    36.58    36.58
SO BUILDWID SV001       29.49    31.68    32.91    33.14    32.37    30.61
SO BUILDWID SV001       27.92    24.38    20.10    24.38    27.92    30.61
SO BUILDWID SV001       32.37    33.14    32.91    31.68    29.49    26.40
SO BUILDWID SV001       29.49    31.68    32.91    33.14    32.37    30.61
SO BUILDWID SV001       27.92    24.38    20.10    24.38    27.92    30.61
SO BUILDWID SV001       32.37    33.14    32.91    31.68    29.49    26.40
SO BUILDHGT SV002       36.58    36.58    36.58    36.58    36.58    36.58
SO BUILDHGT SV002       36.58    36.58    36.58    36.58    36.58    36.58
SO BUILDHGT SV002       36.58    36.58    36.58    36.58    36.58    36.58
SO BUILDHGT SV002       36.58    36.58    36.58    36.58    36.58    36.58
SO BUILDHGT SV002       36.58    36.58    36.58    36.58    36.58    36.58
SO BUILDHGT SV002       36.58    36.58    36.58    36.58    36.58    36.58
SO BUILDWID SV002       29.49    31.68    32.91    33.14    32.37    30.61
SO BUILDWID SV002       27.92    24.38    20.10    24.38    27.92    30.61
SO BUILDWID SV002       32.37    33.14    32.91    31.68    29.49    26.40
SO BUILDWID SV002       29.49    31.68    32.91    33.14    32.37    30.61
SO BUILDWID SV002       27.92    24.38    20.10    24.38    27.92    30.61
SO BUILDWID SV002       32.37    33.14    32.91    31.68    29.49    26.40
SO BUILDHGT SV003        9.14     9.14     9.14     9.14     9.14     9.14
SO BUILDHGT SV003        9.14     9.14     9.14     9.14     9.14     9.14
SO BUILDHGT SV003        9.14     9.14     9.14     9.14     9.14     9.14
SO BUILDHGT SV003        9.14     9.14     9.14     9.14     9.14     9.14
SO BUILDHGT SV003        9.14     9.14     9.14     9.14     9.14     9.14
SO BUILDHGT SV003        9.14     9.14     9.14     9.14     9.14     9.14
SO BUILDWID SV003        9.15    10.01    10.58    10.82    10.73    10.32
SO BUILDWID SV003        9.60     8.58     7.30     8.58     9.60    10.32
SO BUILDWID SV003       10.73    10.82    10.58    10.01     9.15     8.00
SO BUILDWID SV003        9.15    10.01    10.58    10.82    10.73    10.32
SO BUILDWID SV003        9.60     8.58     7.30     8.58     9.60    10.32
SO BUILDWID SV003       10.73    10.82    10.58    10.01     9.15     8.00
SO BUILDHGT SV004       36.58    36.58    36.58    36.58    36.58    36.58
SO BUILDHGT SV004       36.58    36.58    36.58    36.58    36.58    36.58
SO BUILDHGT SV004       36.58    36.58    36.58    36.58    36.58    36.58
SO BUILDHGT SV004       36.58    36.58    36.58    36.58    36.58    36.58
SO BUILDHGT SV004       36.58    36.58    36.58    36.58    36.58    36.58
SO BUILDHGT SV004       36.58    36.58    36.58    36.58    36.58    36.58
SO BUILDWID SV004       29.49    31.68    32.91    33.14    32.37    30.61
SO BUILDWID SV004       27.92    24.38    20.10    24.38    27.92    30.61
SO BUILDWID SV004       32.37    33.14    32.91    31.68    29.49    26.40
SO BUILDWID SV004       29.49    31.68    32.91    33.14    32.37    30.61
SO BUILDWID SV004       27.92    24.38    20.10    24.38    27.92    30.61
SO BUILDWID SV004       32.37    33.14    32.91    31.68    29.49    26.40
SO BUILDHGT SV005       36.58    36.58    36.58    36.58    36.58    36.58
SO BUILDHGT SV005       36.58    36.58    36.58    36.58    36.58    36.58
SO BUILDHGT SV005       36.58    36.58    36.58    36.58    36.58    36.58
SO BUILDHGT SV005       36.58    36.58    36.58    36.58    36.58    36.58
SO BUILDHGT SV005       36.58    36.58    36.58    36.58    36.58    36.58
SO BUILDHGT SV005       36.58    36.58    36.58    36.58    36.58    36.58
SO BUILDWID SV005       29.49    31.68    32.91    33.14    32.37    30.61
SO BUILDWID SV005       27.92    24.38    20.10    24.38    27.92    30.61
SO BUILDWID SV005       32.37    33.14    32.91    31.68    29.49    26.40
SO BUILDWID SV005       29.49    31.68    32.91    33.14    32.37    30.61
SO BUILDWID SV005       27.92    24.38    20.10    24.38    27.92    30.61
SO BUILDWID SV005       32.37    33.14    32.91    31.68    29.49    26.40

SO SRCGROUP ALL
SO FINISHED
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CO STARTING
CO TITLEONE MINNESOTA VALLEY - TWO POINT SOURCES - NOX
CO TITLETWO SV001 @ 100% LOAD - NAD83
CO MODELOPT DFAULT CONC   Rural
CO AVERTIME ANNUAL
CO POLLUTID NOX
CO EVENTFIL NOX10089.EVT SOCONT
CO TERRHGTS Elev
CO RUNORNOT RUN
CO ERRORFIL ERRORS.LST
CO FINISHED

SO STARTING
** Point Sources
SO LOCATION     SV001      POINT          299988.6   4964059.5     277.4
SO LOCATION     SV002      POINT          300008.4   4964051.5     277.4

**  Point Source Parameters
**                         Q: (g/s)   Ht. (m)      T (K)        V (m/s)   dia
(m)
SO SRCPARAM     SV001           82.026        84.43        418.0     10.74
3.66
SO SRCPARAM     SV002            0.113        39.62        449.7      7.08
0.41



SO BUILDHGT SV001       36.58    36.58    36.58    36.58    36.58    36.58
SO BUILDHGT SV001       36.58    36.58    36.58    36.58    36.58    36.58
SO BUILDHGT SV001       36.58    36.58    36.58    36.58    36.58    36.58
SO BUILDHGT SV001       36.58    36.58    36.58    36.58    36.58    36.58
SO BUILDHGT SV001       36.58    36.58    36.58    36.58    36.58    36.58
SO BUILDHGT SV001       36.58    36.58    36.58    36.58    36.58    36.58
SO BUILDWID SV001       29.49    31.68    32.91    33.14    32.37    30.61
SO BUILDWID SV001       27.92    24.38    20.10    24.38    27.92    30.61
SO BUILDWID SV001       32.37    33.14    32.91    31.68    29.49    26.40
SO BUILDWID SV001       29.49    31.68    32.91    33.14    32.37    30.61
SO BUILDWID SV001       27.92    24.38    20.10    24.38    27.92    30.61
SO BUILDWID SV001       32.37    33.14    32.91    31.68    29.49    26.40
SO BUILDHGT SV002       36.58    36.58    36.58    36.58    36.58    36.58
SO BUILDHGT SV002       36.58    36.58    36.58    36.58    36.58    36.58
SO BUILDHGT SV002       36.58    36.58    36.58    36.58    36.58    36.58
SO BUILDHGT SV002       36.58    36.58    36.58    36.58    36.58    36.58
SO BUILDHGT SV002       36.58    36.58    36.58    36.58    36.58    36.58
SO BUILDHGT SV002       36.58    36.58    36.58    36.58    36.58    36.58
SO BUILDWID SV002       29.49    31.68    32.91    33.14    32.37    30.61
SO BUILDWID SV002       27.92    24.38    20.10    24.38    27.92    30.61
SO BUILDWID SV002       32.37    33.14    32.91    31.68    29.49    26.40
SO BUILDWID SV002       29.49    31.68    32.91    33.14    32.37    30.61
SO BUILDWID SV002       27.92    24.38    20.10    24.38    27.92    30.61
SO BUILDWID SV002       32.37    33.14    32.91    31.68    29.49    26.40

SO SRCGROUP ALL
SO FINISHED


RE STARTING
RE ELEVUNIT FEET
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CO STARTING
CO TITLEONE MINNESOTA VALLEY - TWO POINT SOURCES - SO2
CO TITLETWO SV001 @ 100% LOAD - NAD83
CO MODELOPT DFAULT CONC   Rural
CO AVERTIME 1 3 24 ANNUAL
CO POLLUTID SO2
CO EVENTFIL SO210091.EVT SOCONT
CO TERRHGTS Elev
CO RUNORNOT RUN
CO ERRORFIL ERRORS.LST
CO FINISHED

SO STARTING
** Point Sources
SO LOCATION     SV001      POINT          299988.6   4964059.5     277.4
SO LOCATION     SV002      POINT          300008.4   4964051.5     277.4

**  Point Source Parameters
**                                Q: (g/s)   Ht. (m)      T (K)       V (m/s)
dia (m)
SO SRCPARAM     SV001          272.16         84.43        418.0     10.74
3.66
SO SRCPARAM     SV002            0.5557       39.62        449.7      7.08
0.41



SO BUILDHGT SV001       36.58    36.58    36.58    36.58    36.58    36.58
SO BUILDHGT SV001       36.58    36.58    36.58    36.58    36.58    36.58
SO BUILDHGT SV001       36.58    36.58    36.58    36.58    36.58    36.58
SO BUILDHGT SV001       36.58    36.58    36.58    36.58    36.58    36.58
SO BUILDHGT SV001       36.58    36.58    36.58    36.58    36.58    36.58
SO BUILDHGT SV001       36.58    36.58    36.58    36.58    36.58    36.58
SO BUILDWID SV001       29.49    31.68    32.91    33.14    32.37    30.61
SO BUILDWID SV001       27.92    24.38    20.10    24.38    27.92    30.61
SO BUILDWID SV001       32.37    33.14    32.91    31.68    29.49    26.40
SO BUILDWID SV001       29.49    31.68    32.91    33.14    32.37    30.61
SO BUILDWID SV001       27.92    24.38    20.10    24.38    27.92    30.61
SO BUILDWID SV001       32.37    33.14    32.91    31.68    29.49    26.40
SO BUILDHGT SV002       36.58    36.58    36.58    36.58    36.58    36.58
SO BUILDHGT SV002       36.58    36.58    36.58    36.58    36.58    36.58
SO BUILDHGT SV002       36.58    36.58    36.58    36.58    36.58    36.58
SO BUILDHGT SV002       36.58    36.58    36.58    36.58    36.58    36.58
SO BUILDHGT SV002       36.58    36.58    36.58    36.58    36.58    36.58
SO BUILDHGT SV002       36.58    36.58    36.58    36.58    36.58    36.58
SO BUILDWID SV002       29.49    31.68    32.91    33.14    32.37    30.61
SO BUILDWID SV002       27.92    24.38    20.10    24.38    27.92    30.61
SO BUILDWID SV002       32.37    33.14    32.91    31.68    29.49    26.40
SO BUILDWID SV002       29.49    31.68    32.91    33.14    32.37    30.61
SO BUILDWID SV002       27.92    24.38    20.10    24.38    27.92    30.61
SO BUILDWID SV002       32.37    33.14    32.91    31.68    29.49    26.40

SO SRCGROUP ALL
SO FINISHED
```

Northern Lights Ethanol Modeling Information

Robynn Andracsek - FW: Site plan for Northern Lights Ethanol

From: <TGraumann@otpco.com>
To: <RAndracsek@burnsmcd.com>
Date: 4/7/2005 4:17 PM
Subject: FW: Site plan for Northern Lights Ethanol

Robyn,

FYI

Have a Nice Day!

Terry

Terry Graumann

Terry Graumann
Manager, Environmental Services
Otter Tail Power Company
P.O. Box 496
215 S. Cascade
Fergus Falls, MN 56538-0496
Telephone: 218-739-8407 Fax: 218-739-8629
E-Mail: tgraumann@otpco.com

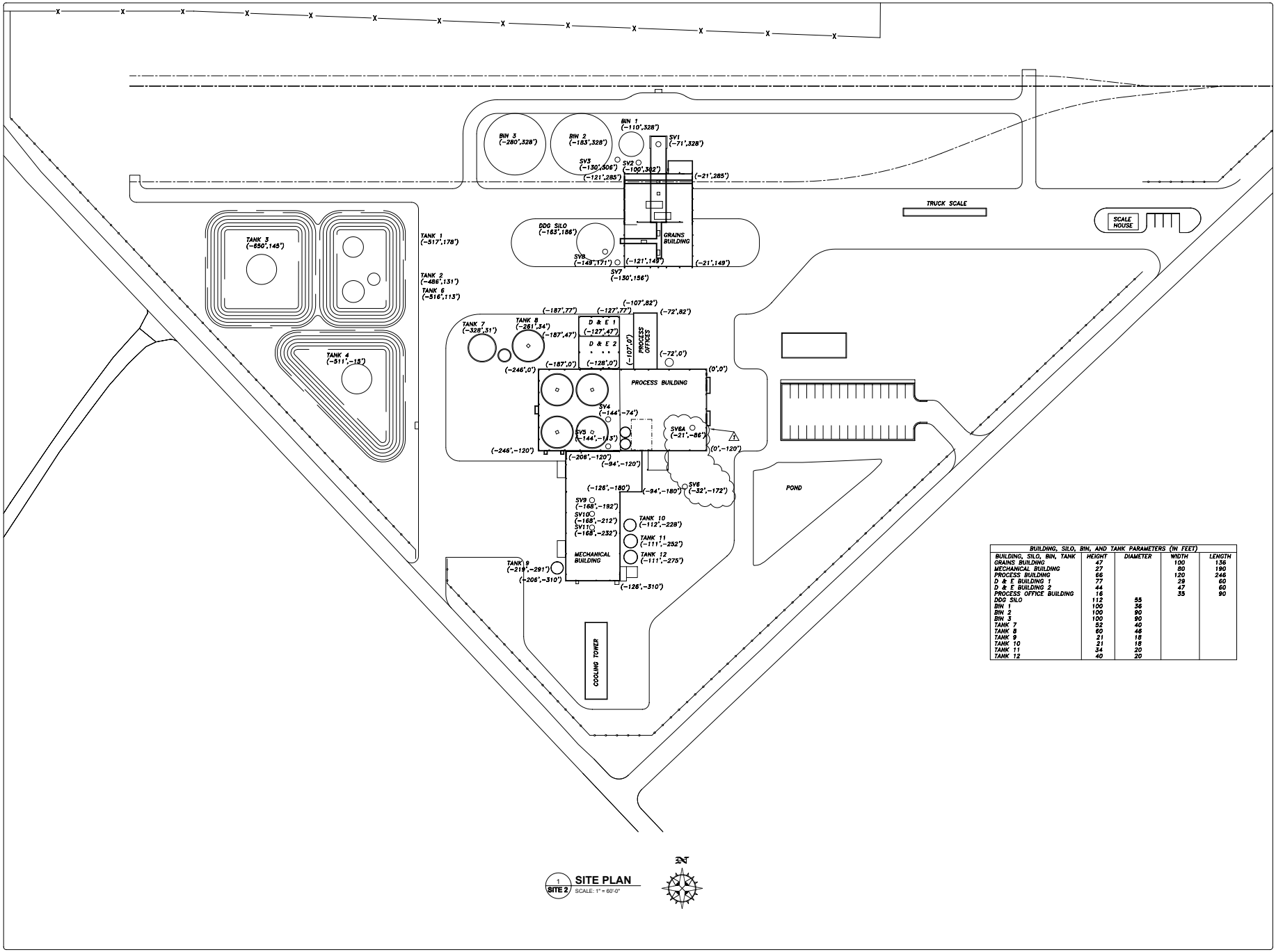
-----Original Message-----
From: Zigich, Daren [mailto:Daren.Zigich@broin.com]
Sent: Thursday, April 07, 2005 3:25 PM
To: Graumann, Terry
Subject: Site plan for Northern Lights Ethanol

Terry,

Here is a site plan for Northern Lights Ethanol. I have attached a pdf file for your viewing pleasure and the CAD file should be small enough to email on to whoever needs it. I will send you a table of the stack parameters and emission rates for the other stacks.

One thing I'm not sure about is whether or not you need to consider our SO2 emissions? We generally only burn natural gas except for those limited times in the winter when natural gas is curtailed and your Big Stone boiler is offline. In that scenario we run our boilers on the diesel fuel that Big Stone supplies to the plant. I don't have SO2 data for that case so we would just have to use emissions factors. We did test for NOx and PM which does increase over the natural gas rate. As you know, most of the time our boilers are offline. I will try to make a table that explains this further.

Sincerely,
Daren



BUILDING, SILO, BIN, AND TANK PARAMETERS (IN FEET)				
BUILDING, SILO, BIN, TANK	HEIGHT	DIAMETER	WIDTH	LENGTH
GRAINS BUILDING	47		100	136
MECHANICAL BUILDING	27		80	190
PROCESS BUILDING	66		120	246
D & E BUILDING 1	77		29	60
D & E BUILDING 2	44		47	60
PROCESS OFFICE BUILDING	16		33	90
DDG SILO	112	55		
BIN 1	100	36		
BIN 2	100	90		
BIN 3	100	90		
TANK 7	52	40		
TANK 8	60	46		
TANK 9	21	18		
TANK 10	21	18		
TANK 11	34	20		
TANK 12	40	20		

1 SITE 2 **SITE PLAN**
SCALE: 1" = 60'-0"

BROIN & ASSOCIATE
PLANT DESIGN, ENGINEERING
2200 E. 57th STREET N.
SIOUX FALLS, SD 57104
TEL. (605) 965-2200
FAX. (605) 965-2203

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Revisions:
1 04-09-02 RGG
ADDED SV6 & SV6A

Project Title
NORTHERN LIGHTS ETHANC LLC

BIG STONE CITY, SD

Sheet Title:
SITE PLAN FOR EMISSIONS

Project: NLE
Date: 06-20-01
Drawn By: RGG
Checked By:
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SITE 2

Plot Date: Apr 07, 2005 Plot Time: 11:25am File Name: F:\DWG\NLE\Civil\SITE 2.dwg, Layout: SITE 2 By: greggmik

Robynn Andracsek - FW: Emissions and stack parameters for Northern Lights Ethanol

From: <TGraumann@otpco.com>
To: <RAndracsek@burnsmcd.com>
Date: 4/14/2005 12:06 PM
Subject: FW: Emissions and stack parameters for Northern Lights Ethanol
CC: <dhendry@burnsmcd.com>, <sgosoro@burnsmcd.com>, <tsundbom@burnsmcd.com>, <otpconus@burnsmcd.com>

Robyn,

The attached files provide the emissions information for the Northern Lights Ethanol Plant. Based on the attached information and the previous site map, it would appear that we may be missing specific location information. What are your thoughts?

Terry

Terry Graumann

Terry Graumann
Manager, Environmental Services
Otter Tail Power Company
P.O. Box 496
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-----Original Message-----
From: Zigich, Daren [mailto:Daren.Zigich@broin.com]
Sent: Wednesday, April 13, 2005 2:52 PM
To: Graumann, Terry
Subject: Emissions and stack parameters for Northern Lights Ethanol

Terry,

Sorry for the delay but here are some emission estimates and stack parameters for Northern Lights Ethanol. The high SO2 numbers are strictly from our ability to burn up to 0.5% fuel oil in the boilers. However, due to our annual 100 ton cap on all pollutants our ability to use oil is limited. The fuel oil also effects the PM and NOx numbers on the boilers. The site drawing I sent you last week shows a 3rd boiler stack (SV11). That unit was never permitted or installed so just disregard that extra stack.

If you have any questions please feel free to contact me. Also if your modelers want to discuss the fugitive emissions further, I would be happy to break those down further so that they may make a better assessment of their impacts.

Hope this helps.

Sincerely,
Daren K. Zigich, P.E.
Broin and Associates

Northern Lights Ethanol
Emissions Summary

Point Sources

Stack Vent	Process Unit	Dryer	Boiler	Control	VOC		PM-10		PM		NOx		CO		HAPs		SO2	
					lbs/hr	TPY	lbs/hr	TPY	lbs/hr	TPY	lbs/hr	TPY	lbs/hr	TPY	lbs/hr	TPY	lbs/hr	TPY
1	1			BH	0.00	0.00	1.00	4.40	1.00	4.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	2			BH	0.00	0.00	0.11	0.47	0.11	0.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3	3			BH	0.00	0.00	0.39	1.69	0.39	1.69	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	4			WS/RCO	0.16	0.68	0.04	0.16	0.04	0.16	0.49	2.15	0.41	1.80	0.04	0.16	0.00	0.00
5	5			WS	0.91	4.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	6	1, 2		MC,RTO	12.56	55.02	3.52	15.42	3.52	15.42	12.68	55.54	15.50	67.89	1.13	4.95	negl.	negl.
7	7			BH	2.56	11.21	1.02	4.47	1.02	4.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8	8			BH	0.00	0.00	0.04	0.16	0.04	0.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9			1		0.31	1.38	0.08	0.35	0.08	0.35	17.82	13.69	12.96	12.31	negl.	negl.	42.20	37.98
10			2		0.31	1.38	0.08	0.35	0.08	0.35	17.82	13.69	12.96	12.31	negl.	negl.	42.20	37.98
Total					16.82	73.66	6.27	27.46	6.27	27.46	48.81	85.06	41.83	94.31	1.17	5.11	84.40	75.96

BH - Baghouse RTO - Regenerative Thermal Oxidizer
WS - Wet Scrubber MC - Multi-Cyclone

Fugitive Sources	VOC		PM-10		PM	
	lbs/hr	TPY	lbs/hr	TPY	lbs/hr	TPY
Grain Receiving, loading and truck traffic	0.00	0.00	0.54	2.38	1.90	8.32
Equipment leaks and loading rack	4.56	19.96	0.00	0.00	0.00	0.00
Storage Tanks 1 - 6	0.32	1.41	0.00	0.00	0.00	0.00
Total	4.88	21.37	0.54	2.38	1.90	8.32

	VOC		PM-10		PM		NOx		CO		HAPs*		SO2	
	lbs/hr	TPY	lbs/hr	TPY	lbs/hr	TPY	lbs/hr	TPY	lbs/hr	TPY	lbs/hr	TPY	lbs/hr	TPY
Emissions Estimate	21.70	95.03	6.81	29.84	8.17	35.78	48.81	85.06	41.83	94.31	1.17	5.11	84.40	75.96

*Estimated HAPs speciation (Acetaldehyde=3.8 TPY, Formaldehyde=0.9 TPY, Methanol=0.2 TPY, Acrolein=0.2 TPY)

Northern Lights Ethanol Stack Vent Information

Stack Vent	Height	dia (in.)	temp F	discharge	flow (acfm)
SV1	85	36	70	horz.	23,450
SV2	68	12	70	horz.	2,500
SV3	15	16	70	horz.	9,000
SV4	68	32	450	vert.	17,000
SV5	68	8	70	vert.	1,200
SV6	100	66	300	vert.	90,000
SV7	15	26	90	vert.	23,800
SV8	112	4x6	70	horz.	850
SV9	32	36	410	vert.	30,000
SV10	32	36	410	vert.	30,000

From: <TGraumann@otpco.com>
To: <RAndracsek@burnsmcd.com>
Date: 4/18/2005 6:51:27 AM
Subject: FW: FW: Emissions and stack parameters for Northern LightsEthanol

Robyn,

Here are the answers to your questions from last week.

Terry

Terry Graumann
Manager, Environmental Services
Otter Tail Power Company
P.O. Box 496
215 S. Cascade
Fergus Falls, MN 56538-0496
Telephone: 218-739-8407 Fax: 218-739-8629
E-Mail: tgraumann@otpco.com

-----Original Message-----
From: Zigich, Daren [mailto:Daren.Zigich@broin.com]
Sent: Sunday, April 17, 2005 8:03 PM
To: Graumann, Terry
Subject: RE: FW: Emissions and stack parameters for Northern LightsEthanol

Terry,

Here are hopefully some answers.

1. As stated in an earlier email, stack vent 11 was never permitted or installed. Stack vent 6a is just an emergency dump stack for the dryers should the RTO go down. Unless you need to model our emissions during startup, shutdown and breakdown conditions, I would simply ignore stack 6a. We never try to operate more than about 30 minutes at a time through that stack. If it goes on longer than that we bring the dryers down.

2. I have some information that puts the slab of the process building (a good average elevation on the site) at 1104 feet ASL.

3. We usually do not include them in modeling our other sites but if you believe they are significant the dimensions are as follows:

Tanks 1 and 6 are 32 feet diameter and 32 feet tall
Tanks 3 and 4 are 60 feet diameter and 48 feet tall
Tank 2 is 23 feet diameter and 21 feet tall

The tanks are in a containment dike that further lowers their height above the surrounding ground level by 2 to 3 feet.

I Hope that helps.

Sincerely,
Daren

-----Original Message-----
From: TGraumann@otpco.com [mailto:TGraumann@otpco.com]
Sent: Thursday, April 14, 2005 3:45 PM
To: Zigich, Daren
Subject: FW: FW: Emissions and stack parameters for Northern LightsEthanol

Daren,

Are you able to respond to our modelers questions below?

Terry

Terry Graumann
Manager, Environmental Services
Otter Tail Power Company
P.O. Box 496
215 S. Cascade
Fergus Falls, MN 56538-0496
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E-Mail: tgraumann@otpco.com

-----Original Message-----
From: Robynn Andracsek [mailto:RAndracsek@burnsmcd.com]
Sent: Thursday, April 14, 2005 3:23 PM
To: Graumann, Terry
Cc: Dave Hendry; Stephen Gosoroski; Todd Sundbom
Subject: Re: FW: Emissions and stack parameters for Northern LightsEthanol

Terry-

Very good data. Just a couple of questions:

1) Should stacks 6a and 11 be modeled? They are on the map but not on the spreadsheet.

2) What is the base elevation of the site?

3) Dimensions were not provided for tanks 1-6. Any reason why they should be excluded? If not, please provide height and diameter.

Robynn Andracsek
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