TABLE 2-3
NOS. 2 AND 3 SMELT DISSOLVING TANK VENT
SUMMARY OF PM AND TRS EMISSION RESULTS

	Run 1	Run 2	Run 3	Mean
Date	7/29/09	7/29/09	7/29/09	----
Time Began	1101	1438	1708	----
Time Ended	1243	1545	1815	----
Stack Gas Data				
Temperature, °F	171	167	166	168
Velocity, ft/sec	33	33	32	32
Moisture, %	40	37	36	38
CO_2, Concentration, %	0.0	0.0	0.0	0.0
O_2 Concentration, %	20.9	20.9	20.9	20.9
VFR, x 10^4 dscfm	2.66	2.78	2.75	2.73
Particulate Matter				
Isokinetic Sampling Rate, %	94	95	96	95
Concentration, gr/dscf	0.037	0.022	0.024	0.028
Emission Rate, lb/hr	8.4	5.4	5.8	6.5
Emission Factor, lb/tonBLS	0.070	0.046	0.049	0.055
Total Reduced Sulfur				
Concentration, ppm	4.33	4.49	3.99	4.27
Emission Rate, lb/hr	0.61	0.66	0.58	0.62
Emission Factor, lb/tonBLS	0.005	0.006	0.005	0.005

TRS times are as follows: R1 = 0914-1214; R2 = 1238-1538; R3 = 1614-1914.

ISOKINETIC CALCULATIONS

Run Number		1	2	3	Mean
Date		7/29/09	7/29/09	7/29/09	---
Time Began		1101	1438	1708	---
Time Ended		1243	1545	1815	---
INPUT DATA					
Sampling Time, min	(Theta)	64.0	64	64	64
Stack Diameter, in.	(Dia.)	71.00	71.00	71.00	71.00
Barometric Pressure, in. Hg	(Pb)	29.23	29.23	29.23	29.23
Static Pressure, in. H2O	(Pg)	-0.25	-0.25	-0.25	-0.25
Pitot Tube Coefficient	(Cp)	0.84	0.84	0.84	0.84
Meter Correction Factor	(Y)	0.9840	0.9840	0.9840	0.9840
Orifice Calibration Value	(Delta H@)	1.9470	1.9470	1.9470	1.9470
Nozzle Diameter, in.	(Dn)	0.360	0.360	0.360	0.360
Meter Volume, ft^3	(Vm)	44.281	47.243	47.148	46.224
Meter Temperature, °F	(Tm)	87.3	92.3	93.0	90.9
Meter Temperature, °R	(Tm-R)	547.3	552.3	553.0	550.9
Meter Orifice Pressure, in. H2O	(Delta H)	1.675	1.813	1.806	1.765
Ave Sq Rt Orifice Press, (in. H2O)^½	((Delta H)½)avg)	1.291	1.345	1.343	1.326
Volume H2O Collected, mL	(Vlc)	596.1	539.2	526.0	553.8
CO2 Concentration, %	(CO2)	0.0	0.0	0.0	0.0
O2 Concentration, %	(O2)	20.9	20.9	20.9	20.9
Ave Sq Rt Velo Head, (in. H2O)^½	((Delta P)½)avg)	0.491	0.487	0.478	0.485
Stack Temperature, °F	(Ts)	170.6	167.4	165.9	168.0
Stack Temperature, °R	(Ts-R)	630.6	627.4	625.9	628.0
Particulate Collected, g	(Mn)	0.0981	0.0636	0.0691	0.0769
Moisture Fraction (at Saturation)	(BWS)	0.418	0.398	0.381	0.399
Production Rate, tons BLS/hr	(Pr)	119.5	118.0	118.3	118.6
CALCULATED DATA					
Nozzle Area, ft^2	(An)	7.07E-04	7.07E-04	7.07E-04	7.07E-04
Stack Area, ft^2	(As)	27.49	27.49	27.49	27.49
Stack Pressure, in. Hg	(Ps)	29.21	29.21	29.21	29.21
Meter Pressure, in. Hg	(Pm)	29.35	29.36	29.36	29.36
Standard Meter Volume, ft^3	(Vmstd)	41.223	43.597	43.454	42.758
Standard Water Volume, ft^3	(Vwstd)	28.058	25.380	24.759	26.066
Moisture Fraction (Measured)	(BWS)	0.405	0.368	0.363	0.379
Moisture Fraction (lower sat/meas)	(BWS)	0.405	0.368	0.363	0.379
Mol. Wt. of Dry Gas, lb/lb-mole	(Md)	28.84	28.84	28.84	28.84
Mol. Wt. of Stack Gas, lb/lb-mole	(Ms)	24.45	24.85	24.90	24.73
Average Stack Gas Velocity, ft/sec	(Vs)	33.13	32.51	31.84	32.50
Stack Gas Flow, actual, ft^3/min	(Qa)	54658	53636	52525	53607
Stack Gas Flow, Std , ft^3/min	(Qs)	26575	27843	27547	27322
Isokinetic Sampling Rate, %	(%I)	94.3	95.2	95.9	95.1
Particulate Conc @ Std Cond, gr/ft^3	(Cs)	0.0367	0.0225	0.0245	0.0279
Particulate Emission, lb/hr	(PMR)	8.4	5.4	5.8	6.5
Particulate Emission Rate, lb/ton BLS	(ER)	0.0700	0.0455	0.0490	0.0548
Calibration check	(Yqa)	1.0342	1.0144	1.0155	1.021
Percent difference from Y					3.80%

EMISSION CALCULATIONS

		Run 1	Run 2	Run 3	Mean
Date		**7/29/09**	**7/29/09**	**7/29/09**	**---**
Time Began		**914**	**1238**	**1614**	**---**
Time Ended		**1214**	**1538**	**1914**	**---**
Volumetric Flow Rate, (Qs), DSCFM		2.66E+04	2.78E+04	2.75E+04	2.73E+04
BWS		0.405	0.368	0.363	0.379
% Oxygen		20.9	20.9	20.9	20.9
Production Rate, units/hr ton BLS		119.5	118.0	118.3	118.6
Total Reduced Sulfur (TRS MW)=	34.08				
Concentration, ppm		4.33	4.49	3.99	4.27
Emission Rate, lb/hr		0.61	0.66	0.58	0.62
Emission Factor, lb/ton BLS		0.005	0.006	0.005	0.005

Bowater, Incorporated
Smelt Dissolving Tank Vent
Process Data,

Start Time 7/29/2009 9:00
End Time 7/29/2009 19:30

	Smelt Dissolving Tank Scrubber				No. 2 Recovery Boiler			No. 3 Recovery Boiler			
	Scrubber Pump Discharge Pressure (PSIG) rpis89.pv	Weak Wash Spray Flow (gpm) rfis98.pv	Weak Wash Flow (gpm) rfis99.pv	Differential Pressure (inches of water) rpis98.pv	Liquor Firing Rate (gpm) R2LIQ.PV	Percent Solids (%) rdr204a.pv	Pounds per Hour BLS	Liquor Firing Rate (gpm) R3LIQ.PV	Percent Solids (%) rdi3748.pv	Pounds per Hour BLS	Total Tons per Hour BLS
07/29/09 09:00 AM	48.59	97.66	108.23	4.36	186.5	67.7	81399	358.2	67.6	156109	118.8
07/29/09 09:15 AM	48.60	97.64	108.27	4.43	184.0	67.8	80536	360.5	67.6	157201	118.9
07/29/09 09:30 AM	48.66	97.63	108.20	4.37	189.1	67.5	82283	358.2	67.6	156226	119.3
07/29/09 09:45 AM	48.68	97.61	108.09	4.48	192.6	67.4	83691	359.2	67.6	156688	120.2
07/29/09 10:00 AM	48.67	97.59	108.61	4.53	191.8	67.3	83285	358.0	67.6	156159	119.7
07/29/09 10:15 AM	48.65	97.58	108.25	4.41	191.3	67.3	83060	357.2	67.6	155836	119.4
07/29/09 10:30 AM	48.59	97.56	107.56	4.40	191.7	67.2	83101	357.1	67.6	155837	119.5
07/29/09 10:45 AM	48.64	97.55	108.30	4.52	191.8	67.3	83269	358.6	67.6	156462	119.9
07/29/09 11:00 AM	48.76	97.53	108.26	4.54	191.3	67.3	83074	358.2	67.6	156221	119.6
07/29/09 11:15 AM	48.68	97.69	108.38	4.47	191.8	67.3	83254	358.7	67.6	156334	119.8
07/29/09 11:30 AM	48.67	97.69	108.58	4.47	191.6	67.3	83151	358.8	67.5	156326	119.7
07/29/09 11:45 AM	48.58	97.62	108.55	4.41	191.3	67.3	83040	358.1	67.5	155942	119.5
07/29/09 12:00 PM	48.61	97.55	108.11	4.44	190.9	67.3	82916	358.1	67.5	155916	119.4
07/29/09 12:15 PM	48.57	97.48	108.28	4.32	189.4	67.3	82275	357.5	67.5	155592	118.9
07/29/09 12:30 PM	48.55	97.41	108.02	4.30	190.7	67.2	82679	359.3	67.4	156318	119.5
07/29/09 12:45 PM	48.50	97.34	108.10	4.37	192.2	67.2	83269	358.5	67.4	155890	119.6
07/29/09 01:00 PM	48.53	97.04	108.62	4.41	191.9	67.2	83154	358.2	67.4	155741	119.4
07/29/09 01:15 PM	48.60	96.77	108.29	4.45	191.6	67.2	83021	358.9	67.4	156011	119.5
07/29/09 01:30 PM	48.55	96.77	108.24	4.38	191.9	67.2	83174	355.2	67.3	154326	118.8
07/29/09 01:45 PM	48.55	96.77	108.52	4.42	191.9	67.2	83190	354.0	67.3	153734	118.5
07/29/09 02:00 PM	48.59	96.77	108.17	4.38	191.8	67.2	83155	352.5	67.3	153073	118.1
07/29/09 02:15 PM	48.55	96.77	108.44	4.28	191.2	67.2	82889	352.2	67.3	153007	117.9
07/29/09 02:30 PM	48.57	96.77	108.72	4.35	191.6	67.2	83066	351.6	67.3	152685	117.9
07/29/09 02:45 PM	48.62	96.77	108.37	4.47	191.8	67.2	83195	352.0	67.3	152854	118.0
07/29/09 03:00 PM	48.62	96.77	108.26	4.47	191.2	67.3	82969	351.7	67.3	152762	117.9
07/29/09 03:15 PM	48.64	96.77	109.19	4.43	191.3	67.4	83137	352.1	67.3	152906	118.0
07/29/09 03:30 PM	48.61	96.77	108.76	4.42	191.1	67.3	83026	352.9	67.3	153198	118.1
07/29/09 03:45 PM	48.61	96.77	108.62	4.38	191.1	67.3	83035	353.3	67.3	153457	118.2
07/29/09 04:00 PM	48.56	96.77	108.55	4.38	191.6	67.3	83248	352.2	67.3	152923	118.1
07/29/09 04:15 PM	48.59	96.77	108.64	4.42	191.1	67.4	83034	352.4	67.3	152934	118.0
07/29/09 04:30 PM	48.64	96.77	108.43	4.38	193.3	67.4	84030	351.8	67.2	152507	118.3
07/29/09 04:45 PM	48.60	96.77	108.51	4.23	193.2	67.4	83990	351.6	67.2	152401	118.2
07/29/09 05:00 PM	48.67	96.90	108.96	4.22	193.5	67.4	84144	351.7	67.2	152457	118.3
07/29/09 05:15 PM	48.67	97.06	108.49	4.27	193.2	67.4	84041	352.4	67.2	152810	118.4
07/29/09 05:30 PM	48.66	97.10	108.81	4.30	193.0	67.5	83975	351.9	67.2	152583	118.3
07/29/09 05:45 PM	48.73	97.14	108.59	4.46	193.0	67.5	83994	352.2	67.2	152762	118.4
07/29/09 06:00 PM	48.70	97.18	108.64	4.47	192.8	67.5	83917	351.8	67.2	152420	118.2
07/29/09 06:15 PM	48.67	97.22	108.62	4.26	192.2	67.5	83663	352.8	67.1	152744	118.2
07/29/09 06:30 PM	48.64	97.26	108.54	4.35	192.5	67.5	83798	352.1	67.1	152405	118.1
07/29/09 06:45 PM	48.71	97.30	108.88	4.35	192.9	67.5	83967	353.5	67.1	152915	118.4
07/29/09 07:00 PM	48.63	97.34	108.69	4.36	193.0	67.5	83995	354.4	67.1	153300	118.6
07/29/09 07:15 PM	48.60	97.39	108.12	4.36	192.8	67.5	83919	356.0	67.1	154044	119.0

Run 1 119.5

Run 2 118.0

Run 3 118.3

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