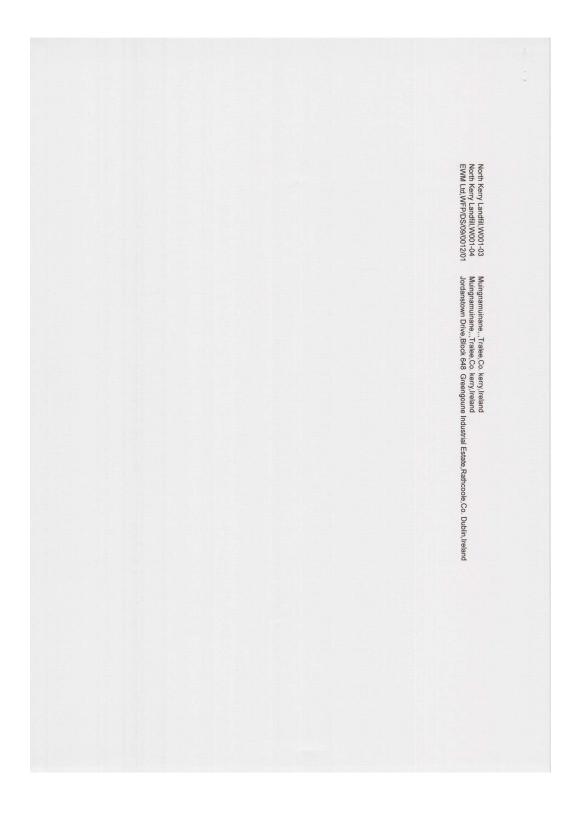
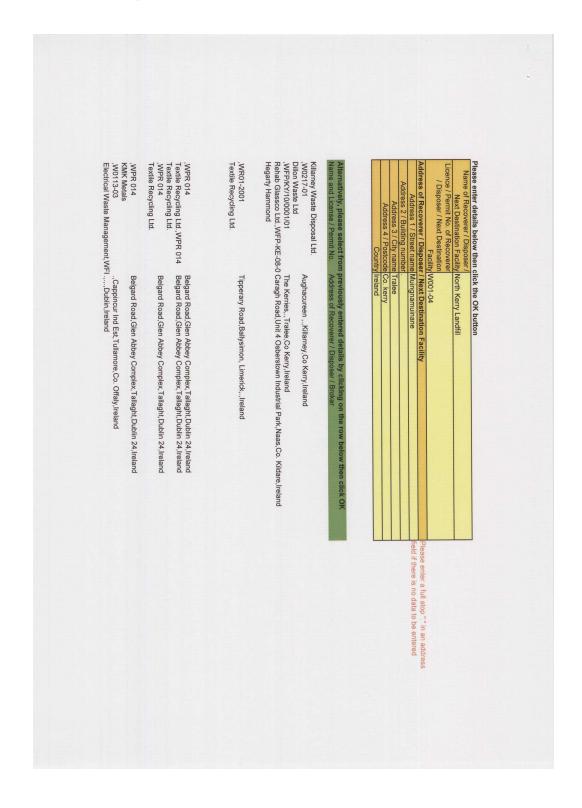
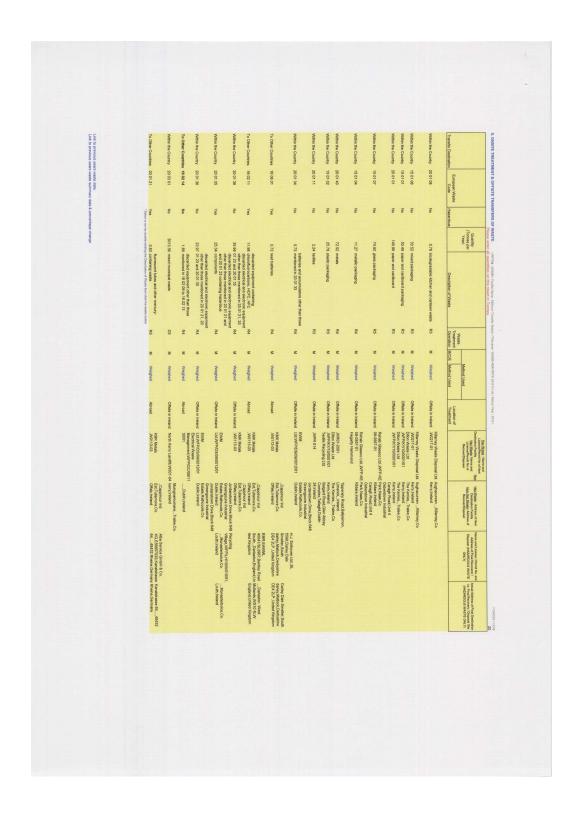


- 38 -

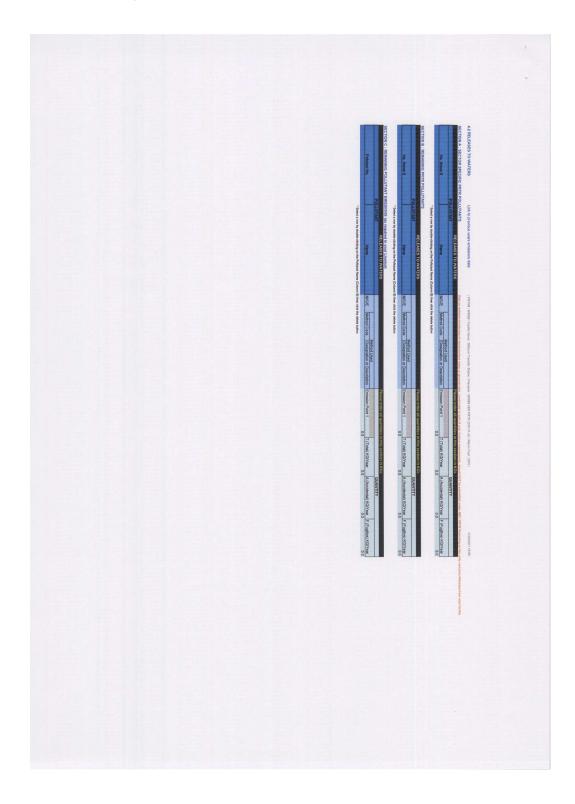


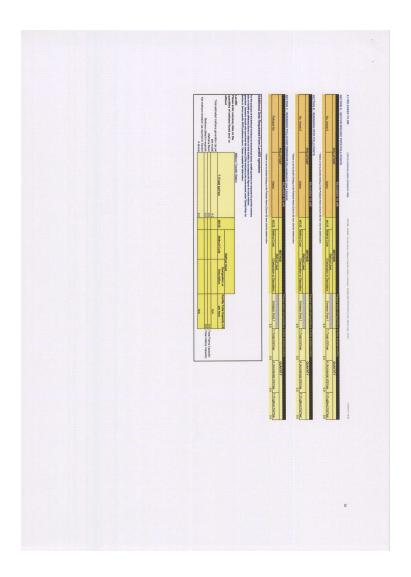




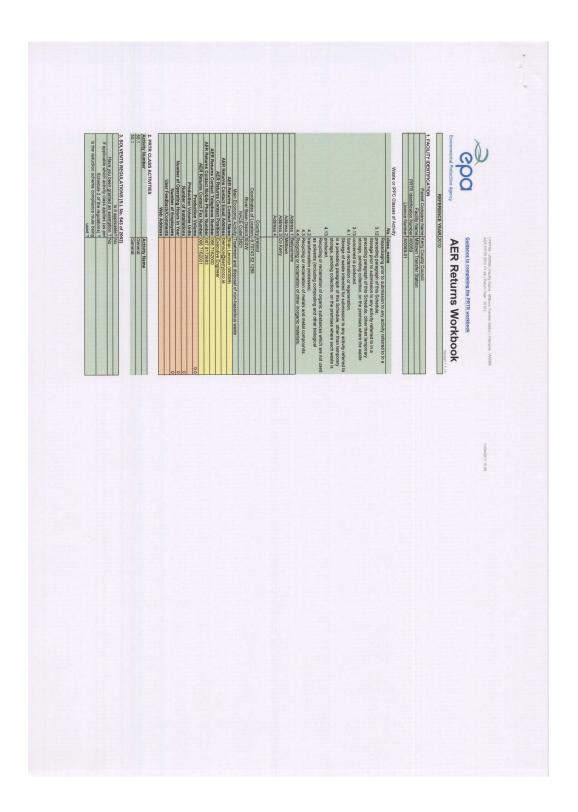








Appendix IV - <u>AER/PRTR Return 2010</u>



Appendix III - Landfill Gas Summary

Milltown Waste Transfer Station

Monitoring of Landfill Gas Levels

Date	Ref.	CH ₄	CO_2	O_2	Atm. Pressure	Temperature
		% v/v	% v/v	% v/v	Mbar	Degrees Celsius
6/10/08	L1	19.6	6.4	7.8	1005	13
	L2	24.7	10.3	6.1	1005	13
11/5/09	L1	22.6	8.7	6.8	1008	17
	L2	18.1	8.2	6.4	1008	17
3/12/09	L1	24.2	7.8	7.1	1004	7
	L2	19.6	10.2	8.6	1004	7
20/4/10	L1	3.4	1.7	17.8	1015	14
30/3/11	L1	2.6	0.6	19.6	999	12
	·	·				

Note: L2 is no longer monitored as agreed with EPA

12-Oct-

Milltown Sw4b 83094.9 98829.5 2010/4735 10 15:00 0.39 6.4 11.2 258 99 24.5 **2.2 71** 13

Table 2 Surface Water Monitoring Results

					14-Apr-												
Milltown	Sw4b	83094.9	98829.5	2004/1700	04 06-Oct-	10:57	4.38	7	20.6	373	21		3	9	10.9		
Milltown	Sw4b	83094.9	98829.5	2004/5209	04 19-Jan-	11:03	5.35	7	1.5	372	33	32	2.8	3	11.4		
Milltown	Sw4b	83094.9	98829.5	2005/0381	05	14:30	6.88	6.9	< 1	422	26	45	3.7	2	10.5		
Milltown	Sw4b	83094.9	98829.5	2005/1913	19-Apr- 05	10:40	< 0.02	7	3	286	77	32	7	82	8.4		
Milltown	Sw4b	83094.9	98829.5	2005/3599	14-Jul- 05	12:20	0.07	7.1	24.9	381	223	42	4.8	282	17		
Milltown	Sw4b	83094.9	98829.5	2005/5372	18-Oct- 05	12:31	0.45	7.1	1.4	324	20	32	5.2	7	12.9	7	<i>5790</i>
Milltown	Sw4b	83094.9	98829.5	2006/0501	31-Jan- 06	11:45	4.75	7.2	< 1	403	11	31	3.6	< 1	4.8		
Milltown	Sw4b	83094.9	98829.5	2006/1670	20-Apr- 06	14:11	0.25	6.9	< 1	337	52	32	4	3	10.4		
Milltown	Sw4b	83094.9	98829.5	2006/3666	03-Aug- 06	15:24	0.29	7.2	6.9	394	69	37	1.9	90	17.2		
Milltown	Sw4b	83094.9	98829.5	2006/5001	12-Oct- 06	14:20	1.88	6.9	2.5	365	225	32	3.9	8	15.1	> 48390	> 48390
Milltown	Sw4b	83094.9	98829.5	2007/0624	01-Feb- 07	11:45	4.39	6.7	< 1	412	27	31	5.1	< 1	9.7		
Milltown	Sw4b	83094.9	98829.5	2007/1946	17-Apr- 07	14:10	0.03	6.8	1.2	338	27	31	6.4	7	13.5		
Milltown	Sw4b	83094.9	98829.5	2007/3902	19-Jul- 07	12:10	0.29	6.8	15	235	493	29	3.5	480	16.4		
Milltown	Sw4b	83094.9	98829.5	2007/5812	25-Oct- 07	14:15	2.37	6.2	2.7	300	20	33	6.9	4	11.5	272	> 2419
Milltown	Sw4b	83094.9	98829.5	2008/0020	03-Jan- 08	10:25	3.65	6.9	10.6	380	27	37	4.2	4	7.5		
Milltown	Sw4b	83094.9	98829.5	2008/1611	03-Apr- 08	11:05	0.27	6.1	1.5	314	15	33	4.2	2	11.9		
					17-Jul-												
Milltown	Sw4b	83094.9	98829.5	2008/3688	08 04-Nov-	10:40	3.06	7.2	< 1	286	17	30	9.9	6	17.4		
Milltown	Sw4b	83094.9	98829.5	2008/5853	08 07-Jan-	15:30	0.03	5.8	1.1	189	23	28	5.4	2	9.5	4	96
Milltown	Sw4b	83094.9	98829.5	2009/0089	09	14:40	< 0.02	5.9	< 1	207	16	30	3.6	4	6.1	0	48
Milltown	Sw4b	83094.9	98829.5	2009/1945	07-Apr- 09	11:40	0.13	6.6	2.2	222	33	26	9.5	18	11		
Milltown	Sw4b	83094.9	98829.5	2009/5156	01-Oct- 09	11:15	0.51	6.2	7.8	295	123	39	5.9	3000	12.9		
Milltown	Sw4b	83094.9	98829.5	2010/0201	20-Jan- 10	11:11	0.99	6.7	5.5	296	58	23	4.2	101	4.9		
Milltown	Sw4b	83094.9	98829.5	2010/1487	08-Apr- 10	14:50	< 0.02	6.3	2	182	37	24	9.1	6	10.8		
Milltown	Sw4b	83094.9	98829.5	2010/3122	14-Jul- 10	15:50	0.48	6.7	6.4	198	59	20	2.9	7	15.2	4106	38550

					06												
Milltown	Sw3c	83098.1	98785.1	2006/5000	12-Oct- 06	14:10	4.35	6.7	3.8	347	260	26.5	4.4	24	15.5	> 48390	> 48390
Milltown	Sw3c	83098.1	98785.1	2007/0623	01-Feb- 07	11:40	0.09	6.5	< 1	439	18	33	5	4	9.9		
Milltown	Sw3c	83098.1	98785.1	2007/1945	17-Apr- 07	13:50	5.33	6.6	2.9	373	24	31	6.3	17	15		
Milltown	Sw3c	83094.9	98829.5	2007/3901	19-Jul- 07	12:02	5.11	6.8	3.2	368	51	25	3.2	118	17.6		
Milltown	Sw3c	83098.1	98785.1	2007/5811	25-Oct- 07	13:55	3.64	6.6	4	285	61	30	4.8	83	12.1	2419	> 2419
Milltown	Sw3c	83098.1	98785.1	2008/0019	03-Jan- 08	10:19	6.22	6.6	17.6	403	59	38.5	5.1	86	7.2		
Milltown	Sw3c	83098.1	98785.1	2008/1610	03-Apr- 08	10:55	3.02	6.5	1.2	318	29	32	4.5	32	12.3		
Milltown	Sw3c	83098.1	98785.1	2008/3687	17-Jul- 08	10:36	5.05	7	< 1	329	18	30	5.8	7	15.7		
Milltown	Sw3c	83098.1	98785.1	2008/5852	04-Nov- 08	15:20	1.24	6.2	2	232	22	28	6.5	10	10.1	126	1968
Milltown	Sw3c	83098.1	98785.1	2009/0088	07-Jan- 09	14:10	1.09	6	1.4	253	11	30	6.6	2	7.2	9	1986
Milltown	Sw3c	83098.1	98785.1	2009/1944	07-Apr- 09	11:28	0.33	6.5	10.5	232	110	28.5	10.3	12	11		
Milltown	Sw3c	83098.1	98785.1	2009/3604	08-Jul- 09	15:36	0.06	6.8	13.5	234	136	24	6.3	302	19.4		
Milltown	Sw3c	83098.1	98785.1	2009/5155	01-Oct- 09	11:05	0.15	6.3	1.5	233	14	28	5.1	70	13.8		
Milltown	Sw3c	83098.1	98785.1	2010/0200	20-Jan- 10	11:00	0.08	6.1	1.4	218	17	40	3.4	2	7		
Milltown	Sw3c	83098.1	98785.1	2010/1486	08-Apr- 10	14:45	0.02	6.1	< 1	191	33	22	5.4	2	10.3		
Milltown	Sw3c	83098.1	98785.1	2010/3121	14-Jul- 10	15:35	1.9	6.7	5.5	269	77	30	2.2	22	15.2	11588	98800
Milltown	Sw3c	83098.1	98785.1	2010/4734	12-Oct- 10	14:45	1.02	6.8	1.8	328	66	25.5	5.6	5	12.5		
Milltown	Sw4b	83094.9	98829.5	2003/0145	15-Jan- 03	11:30	< 0.02	6.4	< 1	202	19	32.5	7.4	2	7.9		
Milltown	Sw4b	83094.9	98829.5	2003/1917	16-Apr- 03	11:45	0.14	6.4	7.4	180	71	28	4.4	80	15.8		
Milltown	Sw4b	83094.9	98829.5	2003/3653	09-Jul- 03	12:02	< 0.02	6.7	17	243	325	30	6.6	341	14.4		
Milltown	Sw4b	83094.9	98829.5	2003/5457	01-Oct- 03	14:40	6.71	7.2	1.9	460	39	40	4.9	31	13.4	0	7701
Milltown	Sw4b	83094.9	98829.5	2004/0472	28-Jan- 04	13:25	13	7	14.4	506	41	44	4.4	7	6.8		

Milltown	Sw3a	83101.3	98726.3	2009/0087	07-Jan- 09	14:00	< 0.02	7.1	< 1	218	< 10	30	5.6	2	8.6	4	187
Milltown	Sw3a	83101.3	98726.3	2009/1942	07-Apr- 09	11:09	0.09	6.1	3	209	41	26	1.2	29	10.8		
Milltown	Sw3a	83101.3	98726.3	2009/3603	08-Jul- 09	14:54	0.45	7.7	5.5	363	79	21	10.3	22	23.1		
Milltown	Sw3a	83101.3	98726.3	2009/5154	01-Oct- 09	10:40	0.2	6.2	3.1	228	34	30	2	327	13.9		
Milltown	Sw3a	83101.3	98726.3	2010/0199	20-Jan- 10	10:43	0.03	6	2.1	219	14	34	2.8	2	6.1		
Milltown	Sw3a	83101.3	98726.3	2010/1485	08-Apr- 10	14:30	0.03	6.1	5.8	180	56	24.5	9.4	18	12		
Milltown	Sw3a	83101.3	98726.3	2010/3120	14-Jul- 10	15:10	0.69	6.6	16.3	132	46	16	3.4	30	15.4	82300	2419600
Milltown	Sw3a	83101.3	98726.3	2010/4733	12-Oct- 10	14:30	0.78	6.6	15.6	257	227	28	3.7	160	11.9		
Milltown	Sw3c	83098.1	98785.1	2003/0144	15-Jan- 03	11:20	11.3	7.1	> 8	448	43	37.5	8	23	7.1		
Milltown	Sw3c	83098.1	98785.1	2003/1916	16-Apr- 03	11:25	11	6.8	2.5	387	24	31.5	9.3	9	15.5		
Milltown	Sw3c	83098.1	98785.1	2003/3652	09-Jul- 03	11:53	12.8	7	25.7	436	29	34.5	2.2	29	16.7		
Milltown	Sw3c	83098.1	98785.1	2003/5456	01-Oct- 03	14:35	27.8	7.4	2	648	27	44	4.9	17	13.2	0	2755
Milltown	Sw3c	83098.1	98785.1	2004/0471	28-Jan- 04	13:12	13	6.8	8.5	488	32	40	7.3	12	7.8		
Milltown	Sw3c	83098.1	98785.1	2004/1699	14-Apr- 04	10:52	6.91	6.9	3.6	378	22		6.9	9	11.3		
Milltown	Sw3c	83098.1	98785.1	2004/3709	21-Jul- 04	14:46	13.1	6.8	3.4	470	44	32.5	2.5	69	15.6	7	> 2419
Milltown	Sw3c	83098.1	98785.1	2004/5208	06-Oct- 04	11:00	7.38	7.2	1.4	361	35	32	3.5	6	11.7	•	7 2
Milltown	Sw3c	83098.1	98785.1	2005/0380	19-Jan- 05	14:52	7.56	6.8	< 1	416	24	39.5	4.9	4	10.6		
Milltown	Sw3c	83098.1	98785.1	2005/1912	19-Apr- 05	10:29	3.96	7	1.4	292	45	30	8.6	68	9.6		
Milltown	Sw3c	83098.1	98785.1	2005/3598	14-Jul- 05	12:11	6.56	, 7	3.4	394	30	33	4.9	48	17.5		
Milltown	Sw3c	83098.1	98785.1	2005/5398	18-Oct- 05	12:11	4.81	, 7.1	1.4	364	19	29	5.7	3	12.5	161	9800
					31-Jan-											101	9600
Milltown	Sw3c	83098.1	98785.1	2006/0500	06 20-Apr-	11:37	8.25	6.7	< 1	401	13	31	4.7	5	6		
Milltown	Sw3c	83098.1	98785.1	2006/1669	06	14:05	4.56	6.7	< 1	349	11	32	5.2	2	10.6		
Milltown	Sw3c	83098.1	98785.1	2006/3665	03-Aug-	15:12	6.82	6.7	3.8	500	23	34.5	1.9	84	18.8		

					03				26								
Milltown	Sw3a	83101.3	98726.3	2003/1915	16-Apr- 03	11:20	0.03	6.4	4.7	199	60	26.5	8.2	58	14.6		
Milltown	Sw3a	83101.3	98726.3	2003/3651	09-Jul- 03	11:35	< 0.02	6.3	7.2	224	28	22.5	3.4	63	16.1		
Milltown	Sw3a	83101.3	98726.3	2003/5455	01-Oct- 03	14:25	0.29	7	27.3	266	146	25	3.5	153	14	156	> 24190
Milltown	Sw3a	83101.3	98726.3	2004/0470	28-Jan- 04	13:02	0.02	6.2	6.8	206	13	32	8.2	7	8		
Milltown	Sw3a	83101.3	98726.3	2004/1698	14-Apr- 04	10:48	< 0.02	6.4	1.9	216	< 10		8.7	1	11		
Milltown	Sw3a	83101.3	98726.3	2004/3708	21-Jul- 04	14:22	0.05	6.7	5.6	238	22	26	4.8	21	16.8	365	14140
Milltown	Sw3a	83101.3	98726.3	2004/5207	06-Oct- 04	10:50	0.02	6.5	1.3	215	38	26	4.6	15	12.7		
Milltown	Sw3a	83101.3	98726.3	2005/0379	19-Jan- 05	15:07	0.02	6.2	< 1	207	14	32	7.9	4	10.1		
Milltown	Sw3a	83101.3	98726.3	2005/1911	19-Apr- 05	09:52	< 0.02	6.4	5.2	191	23	26	9.5	30	10		
Milltown	Sw3a	83101.3	98726.3	2005/3597	14-Jul- 05 18-Oct-	11:56	0.11	6.4	14.5	236	73	30	2.9	214	17		
Milltown	Sw3a	83101.3	98726.3	2005/5370	05 31-Jan-	12:14	0.15	6.8	3.8	264	24	24	4.4	22	13.4	345	5480
Milltown	Sw3a	83101.3	98726.3	2006/0499	06	11:48	0.02	6.3	1.4	216	10	27	6.6	15	7.6		
Milltown	Sw3a	83101.3	98726.3	2006/1668	20-Apr- 06	13:57	< 0.02	6.2	1	198	< 10	26	6	4	11		
Milltown	Sw3a	83101.3	98726.3	2006/3664	03-Aug- 06	15:05	1.58	6.5	20	374	206	50.5	2.2	102	19.3		
Milltown	Sw3a	83101.3	98726.3	2006/4999	12-Oct- 06	14:00	0.05	6.2	2.3	215	117	26	3.4	22	15.9	31060	> 48390
Milltown	Sw3a	83101.3	98726.3	2007/0622	01-Feb- 07	11:32	< 0.02	5.8	< 1	221	13	29	6.8	2	9.8		
Milltown	Sw3a	83101.3	98726.3	2007/1944	17-Apr- 07	14:00	0.16	6.4	> 8	262	85	33	8.6	62	13.9		
Milltown	Sw3a	83098.1	98785.1	2007/3900	19-Jul- 07	11:23	0.62	6.8	17	269	152	29	< 1	96	17.4		
Milltown	Sw3a	83101.3	98726.3	2007/5810	25-Oct- 07	14:30	0.13	6.2	8.3	202	145	31	5.5	92	11.3	1986	> 2419
Milltown	Sw3a	83101.3	98726.3	2008/0018	03-Jan- 08 03-Apr-	10:11	0.04	6	< 1	211	20	30.5	4.7	12	7.8		
Milltown	Sw3a	83101.3	98726.3	2008/1609	08	10:50	< 0.02	5.9	4.6	210	24	29	8.9	35	12		
Milltown	Sw3a	83101.3	98726.3	2008/3686	17-Jul- 08 04-Nov-	10:32	0.06	6.6	1	222	< 10	26.5	4.6	5	15.8		
Milltown	Sw3a	83101.3	98726.3	2008/5851	04-Nov- 08	15:10	0.1	6	30.4	205	232	29	5.5	259	10.1	402	13734

					40.1												
Milltown	Sw2	83053.4	98800	2005/0378	19-Jan- 05	15:17	0.05	6.3	3	212	31	34	7.1	33	10.5		
Milltown	Sw2	83053.4	98800	2005/1910	19-Apr- 05	10:14	< 0.02	6.1	> 8	222	99	35	11.5	65	6.4		
Milltown	Sw2	83053.4	98800	2005/3596	14-Jul- 05	11:42	0.05	6.5	14.2	223	184	44	2.8	130	17.5		
Milltown	Sw2	83053.4	98800	2005/5369	18-Oct- 05	12:01	0.21	6.5	8.3	285	59	33	5	12	12.5	687	24190
Milltown	Sw2	83053.4	98800	2006/0498	31-Jan- 06	11:38	< 0.02	6	2.6	203	23	30	8.8	18	2.5		
Milltown	Sw2	83053.4	98800	2006/1666	20-Apr- 06	13:46	< 0.02	5.9	1.5	184	36	27	6.7	7	10.7		
Milltown	Sw2	83053.4	98800	2006/3663	03-Aug- 06	14:50	0.17	6.4	14.3	251	156	37	2.7	89	16.2		
Milltown	Sw2	83053.4	98800	2006/4998	12-Oct- 06	14:30	0.08	5.4	3	207	330	22.5	5.7	18	14.7	28	39726
Milltown	Sw2	83053.4	98800	2007/0621	01-Feb- 07	11:23	< 0.02	5.4	2.2	204	75	31	6.2	43	9.9		
Milltown	Sw2	83053.4	98800	2007/1943	17-Apr- 07	14:20	0.04	6.3	3.7	180	45	29	9.1	31	16.8		
Milltown	Sw2	83053.4	98800	2007/3899	19-Jul- 07	11:42	0.43	6.8	73	269	1286	28	< 1	1785	16.8		
Milltown	Sw2	83053.4	98800	2007/5809	25-Oct- 07	13:40	0.04	6.1	2.4	204	49	29	9.1	18	9.3	2	> 2419
Milltown	Sw2	83053.4	98800	2008/0017	03-Jan- 08	09:48	0.04	6	1	179	33	31	6.2	16	5.6		
Milltown	Sw2	83053.4	98800	2008/1608	03-Apr- 08	10:45	0.04	5.9	1.4	190	17	28	6.9	9	12.5		
Milltown	Sw2	83053.4	98800	2008/5850	04-Nov- 08	15:00	0.11	6.1	5.5	175	86	29.5	6.7	86	8.8	148	580
Milltown	Sw2	83053.4	98800	2009/0086	07-Jan- 09	14:20	< 0.02	7.2	2.9	205	28	32	5.7	31	5.3	0	205
Milltown	Sw2	83053.4	98800	2009/1943	07-Apr- 09	11:15	0.04	6	1.9	164	41	28.5	4.3	20	10		
Milltown	Sw2	83053.4	98800	2009/5153	01-Oct- 09	10:32	0.12	6.2	3.4	190	27	31	1.9	418	12.9		
Milltown	Sw2	83053.4	98800	2010/0198	20-Jan- 10	10:55	< 0.02	5.8	2.1	131	38	23	7.9	21	4		
Milltown	Sw2	83053.4	98800	2010/1484	08-Apr- 10	14:20	< 0.02	6	5.5	154	57	21	11.9	28	12.3		
Milltown	Sw2	83053.4	98800	2010/3119	14-Jul- 10	15:05	0.18	6.5	16.5	157	185	20	5.4	116	14.1	432	214300
Milltown	Sw2	83053.4	98800	2010/4732	12-Oct- 10	14:20	0.04	6.3	14	206	117	26.5	3.2	82	12.2		27.000
	0.1.2	3333.1	55555	2310, 1132	10	25	0.01	0.0		200		20.0	0.2				
Milltown	Sw3a	83101.3	98726.3	2003/0143	15-Jan-	11:00	0.51	6.4	>	248	88	33.5	8.4	33	7.7		

Landfill	Location	Eastings	Northings	Sample Reference	Sample Date	Sample Time	Ammonium (NH4)	됩	BOD (02)	Conductivity @ 20 oC	Chemical Oxygen Demand (O2)	Chloride (CI)	Dissolved Oxygen (O2)	Suspended Solids	Temperature	Faecal Coliforms	Total Coliforms
							mg/l	pH units	mg/l	μS/cm	mg/l	mg/l	mg/l	mg/l	Degrees C	no./100mls	no./100mls
Milltown	Sw1	83018.5	98692.1	2010/0197	20-Jan- 10	11:20	< 0.02	6.8	1.1	120	40	13	10.1	5	2.4		
Milltown	Sw1	83018.5	98692.1	2010/1488	08-Apr- 10	15:25	< 0.02	8.1	1.9	160	42	6	13.9	2	12.3		
Milltown	Sw2	83053.4	98800	2003/0142	15-Jan- 03 16-Apr-	11:25	0.1	6.2	< 1	209	14	33	7.3	2	7.1		
Milltown	Sw2	83053.4	98800	2003/1914	03 09-Jul-	11:40	0.02 <	6.3	1.3	186	23	29.5	7.9	4	14.2		
Milltown	Sw2	83053.4	98800	2003/3650	03 01-Oct-	11:45	0.02	6.4	3.1	207	10	31.5	6.6	5	16.4		
Milltown	Sw2	83053.4	98800	2003/5454	03 28-Jan-	14:15	0.06	6.6	9.4	232	36	45	4.2	121	12.5	10	7701
Milltown	Sw2	83053.4	98800	2004/0469	04 14-Apr-	12:46	0.02	5.5	2.6	208	21	32	10.6	12	6.3		
Milltown	Sw2	83053.4	98800	2004/1697	04 21-Jul-	11:10	0.02	6.2	4.3	171	25		6.9	16	11.1		
Milltown	Sw2	83053.4	98800	2004/3707	04 06-Oct-	14:09	0.05	6.6	7.1	222	70	29	4.5	38	16.1	70	2419
Milltown	Sw2	83053.4	98800	2004/5206	04	11:10	0.11	5.8	1.7	181	65	30	3.7	5	11		

Milltown	Fe1	2005/5323	13-Oct- 05	15:12	0.46	6.9	1.8	385	35	1	13.6	< 1	None Detected
Milltown	Fe1	2006/0512	31-Jan- 06	13:46	0.05	6.7	< 1	395	48	22	8	< 1	None Detected
Milltown	FE1	2006/1671	20-Apr- 06	14:20	0.08	6.6	1.4	294	35	1	11.5	1.2	None Detected
Milltown	Fe1	2006/3667	03-Aug- 06	15:33	4.3	6.7	22	1068	96	17	18.7	9	sl. sewage
Milltown	Fe1	2006/5002	12-Oct- 06	14:40	4.58	6.6	 57	554	328	35	16.1	8	None Detected
			01-Feb-										
Milltown	Fe1	2007/0625	07 17-Apr-	11:58	3.49	6.4	3.5	498	163	101	9.6	3	Peaty
Milltown	Fe1	2007/1947	07 19-Jul-	14:30	7.78	6.9	10.5	431	41	16	13.5	3	ND
Milltown	Fe1	2007/3908	07 25-Oct-	11:07	0.59	6.6	6.3	343	48	12	16.4	6.8	N/D
Milltown	Fe1	2007/5814	07 03-Jan-	13:30	8.75	6.5	3.8	488	222	11	13.5	10	V. sl.musty
Milltown	Fe1	2008/0021	08	09:39	0.7	6.8	3.7	300	40	21		16	N/D
Milltown	Fe1	2008/1612	03-Apr- 08	10:35	0.18	6.7	2.3	341	60	7		6.3	N/D
Milltown	Fe1	2008/3926	28-Jul- 08	10:55	1	7.2	5.4	442	90	90	14	< 2	None
Milltown	Fe1	2008/6327	25-Nov- 08	15:15	0.06	7.3	2.3	737	70	34	10	33.6	ND
Milltown	Fe1	2009/0507	27-Jan- 09	16:15	< 0.02	6.9	< 1	880	67	26	7.8	3.2	ND
Milltown	Fe1	2009/1941	07-Apr- 09	11:00	3.88	6.8	8.8	328	70	20	10.4	2.5	slightly,oily
Milltown	Fe1	2009/4592	01-Sep- 09	15:30	< 0.02	7.3	1.9	874	123	54	15.9	19.3	ND
			26-Nov-		<						15.9		
Milltown	Fe1	2009/6067	09 08-Apr-	15:00	0.02	7.2	2.7	679	81	12		< 2	ND
Milltown	Fe1	2010/1489	10 22-Apr-	14:15	0.02	6.8	1.7	222	58	7	10.3	< 2	ND
Milltown	Fe1	2010/1732	10 14-Jul-	10:52	1.88	6.4	1.1	363	49	4	9.5	< 2	None
Milltown	Fe1	2010/3124	10 18-Oct-	15:15	3.58	6.7	17.6	294	86	5	15.5	2.1	SI. sewage(ammonia)
Milltown	Fe1	2010/4822	10	16:30	5.65	7.6	4.2	416	38	20		189	ND

Table 1 Foul Water Monitoring Results

Landfill	Location	Sample Reference	Sample Date	Sample Time	Ammonium (NH4)	Ħ	BOD (O2)	Conductivity @ 20 oC	Chemical Oxygen Demand (O2)	Suspended Solids	Temperature	Oils/Fats & Grease	Odour
					mg/l	pH units	mg/l	μS/cm	mg/l	mg/l	Degrees C	mg/l	Descriptive
			15-Jan-										
Milltown	Fe1	2003/0155	03 16-Apr-	11:15	9.8	5.3	954	1000	1428	105		70	Sour/Sharp/Acidic
Milltown	Fe1	2003/1918	03	12:00	0.8	7	9.5	219	31	21	15.3	9	musty
Milltown	Fe1	2003/3654	09-Jul- 03	12:00	37.4	7.3	18.9	602	64	12	20.8	3.5	Slightly oily
Milltown	Fe1	2003/5458	01-Oct- 03	15:00	22.3	7.4	10.1	474	50	17.5	16	2	earthy odour
Milltown	Fe1	2004/0482	28-Jan- 04	13:30	4.89	6.6	3.6	216	62	8	7.8	15	earthy
Milltown	Fe1	2004/1701	14-Apr- 04	10:40	< 0.02	7	1.3	355	36	< 1	11	9	None Detected
Milltown	Fe1	2004/3710	21-Jul- 04	14:52	0.02	6.4	1.9	250	48	1	16.9	1.5	None Detected
Milltown	Fe1	2004/5210	06-Oct- 04	10:37	< 0.02	6.8	< 1	252	23	< 1	13.4	6	None Detected
Milltown	Fe1	2005/0382	19-Jan- 05	14:40	0.14	6.9	< 1	379	19	2	10	1	None Detected
Milltown	Fe1	2005/1909	19-Apr- 05	12:56	< 0.02	7.1	< 1	233	27	< 1	11	9.5	None Detected
Milltown	Fe1	2005/3600	14-Jul- 05	12:35	3.62	6.8	22.7	416	81	14	16.5	1.2	Anaerobic/Sewage
.viiitOvvii	101	2000/0000	00	12.00	0.02	0.0	<i>LL</i> .1	710	01	17	10.0	1.2	,acrobio, cowage

Appendix II - Results of Foul and Surface Water Monitoring

Attn: Brian Lennon EE Waste Management Friday, 28 January 2011

Re: LABORATORY Results for Milltown Transfer stations: 2010

Enclosed are results (2003 – date) of monitoring of designated Surface water points and Foul emission point sampled as set out in EPA licence conditions for *MILLTOWN transfer station*. The latest results are for July – Dec 2010.

Evidence of contamination are still been noted at SW3c and SW4b.

Surface water contamination however in the main would indicate impact from old landfill activities. Further investigation as done for Caherciveen will be carried out here.

Results of samples from foul emissions exhibited no significant exceedances of limits during this reporting period

David Lenihan MSc

Senior Executive Chemist

		•
waste mineral oils (lubrication, vehicle, machine etc.)	13 xx xx	
oil filters (vehicles)		-
oil containers (mineral oil) - plastic + metal		-
waste cooking or vegetable oils	20 01 25	
aerosols	20 03 99	-
waste paint and varnish (including containers)		
WEEE (Total)	various	99.17
if segregated, provide the breakdown of WEEE in the next five rows		
fridges and freezers	20 01 35*; 20 01 36; 16 02 11*; 16 02 14	11.98
white goods (electrical and electronic)	20 01 36; 16 02 14	35.99
televisions and PC monitors	20 01 35*; 16 02 13*;	25.34
ICT- Information and Communications Technology Equipment, e.g. Includes Computer Equipment	16 02 14	1.89
other electrical and electronic equipment, e.g. White Goods incl. Washing Machines, Dryersetc, TVs, PCs, Small Items incl. toasters Radios	20 01 36; 20 01 35*	23.97
Gas Cylinders		
C& D Rubble		
fluorescent tubes and lighting	20 01 21*	-
Tyres	16 01 03	
bulky waste (provide summary below of waste types), e.g. Furniture, Mattresses, Mixed Bulky Waste	20 03 07	-

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if segregated, provide the breakdown of metals in the next four rows		
aluminium cans (packaging)	15 01 04	3.06
steel cans (packaging)	15 01 04	8.21
other metal packaging	15 01 04	0.21
other metals (non-packaging)(scrap)	20 01 40	72.52
plastic (Total)	15 01 02; 20 01 39	25.78
if segregated, provide the breakdown of plastic waste in the next two rows		
plastic packaging(bottles)	15 01 02	25.78
plastic non-packaging	20 01 39	-
textiles (Total)	15 01 09; 20 01 11	2.24
if segregated, provide the breakdown of textiles in the next two rows		
textiles, packaging	15 01 09	-
textiles, non-packaging	20 01 11	2.24
wood (Total)	15 01 03; 20 01 38; 20 01 37*	-
if segregated, provide the breakdown of wood waste in the next four rows		
wood packaging	15 01 03	_
wood non-packaging	20 01 38	-
mixed, uncontaminated wood packaging and non-packaging	15 01 03; 20 01 38	-
wood, treated, hazardous	20 01 37*	-
miscellaneous hazardous waste (Total)		1.45
small batteries	20 01 34; 20 01 33*	0.73
lead acid batteries (Car Batteries)	16 06 01*	0.72
Ni-Cd batteries and Accumulators	16 06 02*	

Appendix I - Waste Collected at Milltown Transfer Station for Recovery/Recycling during reporting period

Material type	Suggested EWC Codes	Household Waste
organic waste (food and garden) Total	20 01 08; 20 02 01	0.78
if segregated, provide specific information on food and garden waste		
food	20 01 08	0.78
garden	20 02 01	•
mixed dry recyclables (KCC Trucks)	20 03 01	68.74
mixed dry recyclables (eco-bags)	15 01 06; 20 03 01	35.52
cardboard, newspaper and other paper (Total)	15 01 01; 20 01 01	200.44
if segregated, provide the breakdown of cardboard and paper in the rows below		
*cardboard packaging	15 01 01	50.48
cardboard non-packaging	20 01 01	-
paper packaging	15 01 01	1
paper non-packaging	20 01 01	149.96
*newspaper and magazines	20 01 01	
glass (Total)	15 01 07; 20 01 02	74.92
if segregated, provide the breakdown of glass in the next two rows		
glass packaging(bottles)	15 01 07	74.92
glass non-packaging(sheet)	20 01 02	-
metals (Total)	15 01 04; 20 01 40	83.79

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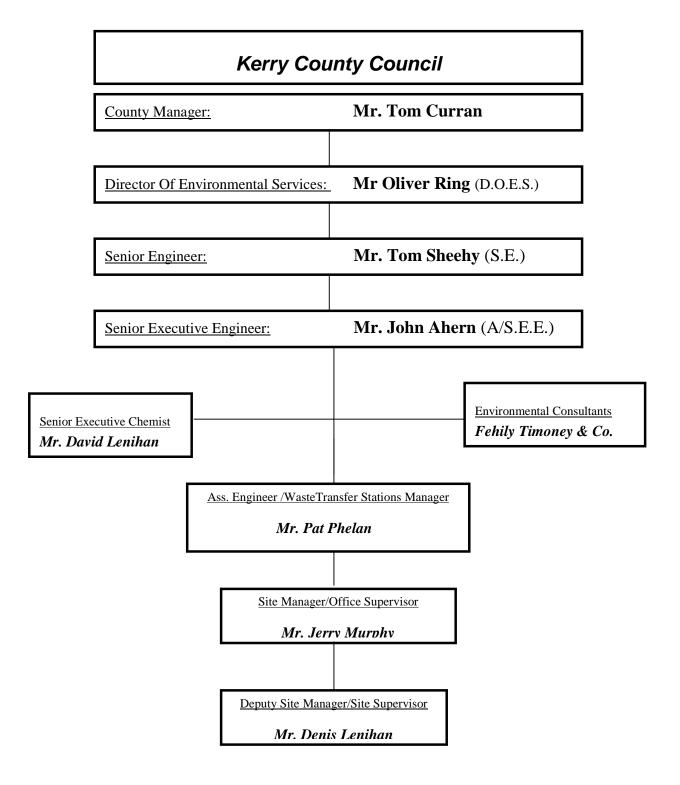
17 Programme of Public Information

The following files are available for inspection on site by members of the public:

- AER of previous reporting years
- All correspondence with the Agency
- Surface Water Monitoring Results
- Incident/Complaints Register
- Tonnage of waste accepted on site
- Characterisation of waste accepted on site
- Operational Procedure Manual
- Waste Acceptance Procedure
- Information on Recycling Initiatives e.g. leaflets.
- Environmental Management System.

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16 Management and Staffing Structure at Facility 2010



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b) Statement of Costs for Recycling Operations at Facility

Recycling 2010		
Accelem	Accelem(T)	Total Charge €
60030		
	Wages	1,840.52
60040	Salaries	2,883.02
60100	ER PRSI	447.02
60200	Overtime	1,590.06
60300	Arrears	-1,619.51
60500	Annual Leave	116.49
60600	Travel/Subsistence	233.07
61990	Other Allowances	89.64
65500	Minor Contracts- Trade Services & other works	0.00
67500	Non-Capital Equip Purchase - Computers	0.00
68500	Non-Capital Equip Purchase - Other	0.00
69250	Repairs & Maint -Computer Equip	0.00
70000	Materials	0.00
70990	Issues from Stores	0.00
73400	Staff Travelling & Subsistence Expenses	1,563.48
76000	Communication Expenses	84.24
77200	Security - Property	0.00
78000	Training	0.00
79900	Consultancy/Professional Fees and Expenses	0.00
80000	Advertising	83.20
81000	Printing & Office Consumables	0.00
82100	Statutory Contributions to Other Bodies	0.00
85100	Rates & Other LA Charges	0.00
86000	Energy	0.00
99000	Miscellaneous Expenses	0.00
99050	Refunds	490.03
	Total	7,801.26

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15 Report on Financial Provision

a) Statement of Costs for Waste Operations at Facility

60030 60040 60100 60200 60300 60500 60510 60600 60700 61990	Accelem(T) Wages Salaries ER PRSI Overtime Arrears Annual Leave Bank Holiday Leave Travel/Subsistence Eating on site allowance Other Allowances Minor Contracts- Trade Services & other works	9,840.0 46,184 -22 9,043.0 1,844 6,169.0 5 1,837.0
60040 60100 60200 60300 60500 60510 60600 60700 61990	Salaries ER PRSI Overtime Arrears Annual Leave Bank Holiday Leave Travel/Subsistence Eating on site allowance Other Allowances Minor Contracts- Trade Services & other works	8,649.3 9,840.0 46,184. -22.3 9,043.0 1,844.3 6,169.0 5.3 1,837.0
60100 60200 60300 60500 60510 60600 60700 61990	ER PRSI Overtime Arrears Annual Leave Bank Holiday Leave Travel/Subsistence Eating on site allowance Other Allowances Minor Contracts- Trade Services & other works	9,840.0 46,184 -22 9,043.0 1,844 6,169.0 5 1,837.0
60200 60300 60500 60510 60600 60700 61990	Overtime Arrears Annual Leave Bank Holiday Leave Travel/Subsistence Eating on site allowance Other Allowances Minor Contracts- Trade Services & other works	46,184. -22.3 9,043.0 1,844.3 6,169.0 5. 1,837.0
60300 60500 60510 60600 60700 61990	Arrears Annual Leave Bank Holiday Leave Travel/Subsistence Eating on site allowance Other Allowances Minor Contracts- Trade Services & other works	-22.3 9,043.4 1,844.3 6,169.3 5.7 1,837.6
60500 60510 60600 60700 61990	Bank Holiday Leave Travel/Subsistence Eating on site allowance Other Allowances Minor Contracts- Trade Services & other works	9,043.0 1,844.0 6,169.0 5.7 1,837.0
60510 60600 60700 61990	Bank Holiday Leave Travel/Subsistence Eating on site allowance Other Allowances Minor Contracts- Trade Services & other works	1,844.2 6,169.4 5.7 1,837.4
60600 60700 61990	Travel/Subsistence Eating on site allowance Other Allowances Minor Contracts- Trade Services & other works	6,169.6 5. 1,837.6
60700 61990	Eating on site allowance Other Allowances Minor Contracts- Trade Services & other works	5. 1,837.0
61990	Other Allowances Minor Contracts- Trade Services & other works	1,837.0
	Minor Contracts- Trade Services & other works	
05500		40 E 40 4
65500		48,546.0
67500	Non-Capital Equip Purchase - Computers	0.0
	Hire (Ext) - Plant/Transport/Machinery &	
69000	Equipment	247.:
69200	Repairs & Maint - Plant	498.
69250	Repairs & Maint -Computer Equip	0.0
69400	Transfers from Machinery Yard	5,170.0
69600	Other Vehicle Expenses	88.0
70000	Materials	1,551.0
70970	Issues From Stores No Markup	302.
70985	Issue from Fuel Stores	39.9
70990	Issues from Stores	4,353.
70991	Returns to Stores	-333.8
71000	Insurance	66.
73400	Staff Travelling & Subsistence Expenses	3,434.9
76000	Communication Expenses	1,784.3
77100	Courier	2.3
77200	Security - Property	760.0
78000	Training	54.
79900	Consultancy/Professional Fees and Expenses	0.0
80000	Advertising	251.4
81000	Printing & Office Consumables	912.2
82100	Statutory Contributions to Other Bodies	8,756.
85000	Rent	8,380.0
85100	Rates & Other LA Charges	178.
86000	Energy	3,024.
99000	Miscellaneous Expenses	100.0
99050	Refunds	46.0

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12 Report on Progress towards achievement of the 2009 Environmental Objectives and Targets

Objective	Target	Progress
Provide easier egress/access into the site/recycling area of the facility.	March 2010	Improved access & parking area to rear of administration building
Continue to promote kerbside and infacility recovery and recycling.	Ongoing	Ongoing
Promote & increase WEEE collection.	Ongoing	Ongoing
Complete snagging items for restoration Plan in 2010	June 2010, dependant on weather	Snagging completed on schedule

13 Summary of Procedures Developed by the Licensee

The following procedures were developed during the reporting period:

- Revised Waste Acceptance Procedures Weight of waste leaving Facility compared to weight of waste arriving in Landfill
- Revised Operational Procedures for Facility Manager
- Revised Health & Safety Procedures

14 Reported Incidents and Complaints

No incidences or complaints were reported in relation to the operation of the facility during the reporting period.

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11 Schedule of Environmental Objectives and Targets for the Forthcoming Year

Target Area	Objective	Works Required
Surface Water Emissions	Keep Surface Water	Regular inspection of surface
	Emissions within	water drains.
	agreed limits	Regular monitoring of results
		from Surface Water
		Monitoring Points.
		Regular inspection of bunded
		areas for integrity on site.
Litter – On public roads to	Reduction in the	Regular inspections and clean
facility	number of bags of	up of approach roads.
	waste/litter lost from	Quick response to clean up
	trailers on the way to	any reported waste on the
	the facility	approach roads to the facility
Energy Resources	Reduce the quantity of	
	diesel and electricity	
	used on site	

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9 Report on Development Works Undertaken during the Reporting Period

No development works were undertaken at the facility during the reporting period.

10 Proposed Development Works For Forthcoming Year

No development works are proposed at the facility for 2011.

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8.0 Resource and Energy Consumption Summary

The following is the energy consumption for Milltown Transfer Station for the reporting period.

8.1 Diesel

The diesel usage for Milltown Transfer Station for the reporting period 2010 was 2,492 litres. This is a reduction of 108 litres in comparison with 2009 figures. The primary usage of diesel is for the rubber tyred excavator on site with the remainder used by the oil burner for the steam washer.

8.2 Electricity

The electricity usage for the facility during the reporting period was 14,400 kilowatt hours.

The primary energy consumer on site is a 3 phase waste compactor. Power is also required for the office computer and lighting, storage heating, cardboard baler and public lighting on the site.

8.3 Water

Water supply to the site is via a connection to the mains water supply. Water usage for the facility during the reporting period was 64,000 litres. Water is mainly used on site for power washing yards, transfer station apron and hopper and washing of trucks where required. No surface water or ground water is abstracted.

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7.0 <u>Summary of Results and Interpretations of Environmental</u> Monitoring

a) Dust monitoring.

No dust monitoring was carried out during 2010 due to a misunderstanding between Kerry County Council and the EPA. There were no issues with dust during 2010 and no complaints were received in relation to dust at the facility. The results over the years have shown no significant nuisance from dust at the facility.

Kerry County Council will carry out dust monitoring in 2011.

b) Noise monitoring.

No noise monitoring was carried out during 2010 due to a misunderstanding between Kerry County Council and the EPA. There were no issues with noise during 2010 and no complaints were received in relation to noise at the facility. The results over the years have shown that the facility caused no significant noise nuisance to neighbours. Kerry County Council will carry out noise monitoring in 2011.

c) Monitoring of surface water.

The surface water monitoring results are attached in Appendix II and show some exceedances of environmental limits at SW3c and SW4b. Surface water contamination would indicate probable impact from old landfill activities and not from the operation of the transfer station. Further investigations will be carried out during 2011 to determine the source of contamination.

d) Foul Water

The foul water emissions results are attached in Appendix II. The results of samples from the foul water emissions exhibited no significant exceedances of limits during the reporting period.

e) Landfill gas

The levels of methane gas and carbon dioxide recorded have reduced significantly $(CH_4 - 3.4\% \text{ v/v}, CO_2 - 1.7\% \text{ v/v} \text{ on } 20/4/10)$ compared to previous years. The landfill gas monitoring results are attached in Appendix III.

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5.0 <u>Projections of the quantities to be accepted and percentages</u> disposed and recycled/ recovered for the coming year

It is expected that waste disposal rates and recycling/recovery rates at Milltown Transfer Station will continue to decrease in the next reporting period mainly due to the weak economic environment and the increasingly competitive waste industry.

6.0 Summary Report on Emissions for the Reporting Period

a) Foul Water Emissions

The foul water discharge is monitored quaterly. The results are sent to the EPA and are also available at the Milltown facility. No significant exceedances of limits were noted during this reporting period.

A Puraflow Wastewater Treatment Unit is successfully working at the facility since 2004. The Puraflow unit was serviced by Bord na Mona and a replacement pump installed during 2010.

b) Surface Water Emissions

Surface water runoff takes place from site roads and uncontaminated surfaces discharges via silt traps to the surface water drains.

c) Waste from Silt Traps and Interceptors

A total of approximately 2.4 Tonnes of silt/sludge were removed during the reporting period from the silt trap and the foul water treatment unit and disposed at the Killorglin Wastewater Treatment plant.

The quantities of waste sent for recycling also continued to decrease in comparison to previous years, particularly for dry recyclables, WEEE, cardboard, newspapers and batteries. The reduction in dry recyclables is due to an increase in Kerry County Councils refuse vehicles travelling directly with dry recyclables to the Contractors depot instead of using this site. Waste sent for recycling during the reporting period compared with previous years is outlined in Table 2 below.

Waste for Recycling & Recovery	Tonnages 2008	Tonnages 2009	Tonnages 2010
Metals	64.58	84.0	75.73
Glass	71.38	78.16	74.92
Aluminium	Included	2.32	3.06
Batteries	2.32	8.88	1.45
Newspapers	166.78	155	149.96
Cardboard	84.08	85.6	50.48
Fluorescent Tubes	0.38	0.28	0
Domestic Hazardous	0.28	0.25est	0
Waste			
Plastic Bottles	11.32	10.52	25.78
Waste Engine Oil	1.25	2.8	0
WEEE	326.2	106.02	99.17
Dry Recyclables	123.7	128.0	104.26 ¹
Cooking Oil	0	0.32	0
Textiles	0	2.28	2.24
Total for	852.27	664.43	518.31
Recycling/Recovery			

¹Dry recyclables collected in eco sense bags and from KCC kerbside collection trucks

Table 2 Waste collected on site and recovered/recycled off site during the reporting period

Appendix I contains a breakdown of waste by classification collected on site for recovery/recycling off site during the reporting period.

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4.0 Quantity and Composition of Waste Received, Disposed and Recovered: 1st Jan – 31st Dec 2010

Waste tonnage disposed of at Milltown Transfer Station during the reporting year (2010) decreased on the previous year (2009). This is primarily due to the downturn in the economy resulting in a significant change in the disposal habits of members of the public. The quantity of construction and demolition waste delivered directly to the facility has significantly reduced.

The weight of the waste accepted into Milltown Transfer Station Facility for disposal for the reporting period was 3,013.36 Tonnes. This comprises of the following breakdown:

Waste for Disposal	Tonnes	
	2009	2010
Municipal waste collected by Local Authority	980.64	870.13
Commercial & Industrial	280.87	467.28
Road Sweepings & Graveyard Waste	104.90	104.68
Flytipping	89.51	75.6
Public Domestic	2021.34	1,495.67
Total for Disposal	3,477.26	3,013.36

Table 1 Waste Stream breakdown for reporting Period.

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- Class 12 Repackaging prior to submission to any activity referred to in a preceding paragraph of this Schedule.
- Class 13 Storage prior to submission to any activity referred to in a preceding paragraph of this Schedule, other than temporary storage, pending collection, on the premises where the waste concerned is produced.

Waste recovery activities carried out at Milltown Transfer Station are in accordance with Part 1 of Waste Licence W0069-01 which outlines the waste recovery activities licensed in accordance with the Fourth Schedule of the Waste Management Act 1996. Licensed activities include:

- **Class 1** Solvent reclamation or regeneration.
- Class 2 Recycling or reclamation of organic substances which are not used as solvents (including composting and other biological transformation processes).
- **Class 3** Recycling or reclamation of metals and metal compounds.
- **Class 4** Recycling or reclamation of other inorganic materials.
- Class 13 Storage of waste intended for submission to any activity referred to in a preceding paragraph of this Schedule, other than temporary storage, pending collection, on the premises where such waste is produced.

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1.0 Introduction

Kerry County Council operates a waste transfer and recycling facility at Ballyvirrane, Milltown, Co. Kerry. It is located approximately 2 km south of the town of Milltown on the minor Milltown to Ballyvirrane road.

The principal activity of the Transfer Station is the compaction of solid waste into 30 cubic metre closed containers for subsequent transfer and disposal at North Kerry Landfill.

Other activities include the recycling or reclamation of inorganic materials including metals, glass, steel and aluminium cans, car batteries, dry cell batteries, fluorescent tubes, domestic hazardous waste, cardboard, plastic bottles and newspapers. Small quantities of organic waste are also collected for transfer to North Kerry Landfill for composting.

This Annual Environment Report is prepared in accordance with Condition 2.8 and Schedule C of Waste Licence W0069-01 issued by the Environmental Protection Agency (EPA).

2.0 Reporting Period

The reporting period for this Annual Environmental Report is 1st January 2010 – 31st December 2010.

3.0 Waste Activities Carried out at the Facility

Waste disposal activities carried out at Milltown Transfer Station are in accordance with Part 1 of Waste Licence W0069-01 which outlines the waste disposal activities licensed in accordance with the Third Schedule of the Waste Management Act 1996. Licensed activities include:

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Kerry County Council



Waste Licence Ref No. W0069-01

REPORT TITLE

Milltown Transfer Station Annual Environmental Report

Reporting Period:

January 2010 - December 2010

Prepared By: Environmental Service Section, Kerry County Council, Maine Street, Tralee Co. Kerry.

June 2011