APPENDIX 1:

Agrium KNO Air Emissions Inventory 2007

Source ID	Tag Number	Source Description	Fuel Type	Rating/Size	Emissions (January 2007 - December 2007)						
Ammonia Plant #1					CO	NH_3	NO_X	PM_{10}	$PM_{2.5}$	SO_2	VOC
1	D-107	CO2 Vent	NA	Varies	0.00	0.00	NA	NA	NA	NA	0.00
2	B-101	Primary Reformer	NG & Process Gas	1450 MMBtu/hr or 75 tons/hr or product	0.00	NA	0.00	0.00	0.00	0.00	0.00
3	B-110	Startup Heater	NG	63.6 MMBtu/hr	0.00	NA	0.00	0.00	0.00	0.00	0.00
4	V-106	Organic Sufur Removal Unit Vent	NA	NA	NA	NA	NA	NA	NA	NA	NA
5	F-113	Amine Plant Fat Flasher Vent	NA	NA	0.00	0.00	NA	NA	NA	NA	0.00
6	F-105	Deaerator	NA	NA	NA	0.00	NA	NA	NA	NA	NA
7	F-130	Wet Reformed Gas Vent	NA	NA	0.00	0.00	NA	NA	NA	NA	NA
8	F-168	Ammonia Drain Tank Vent	NA	NA	NA	0.00	NA	NA	NA	NA	NA
9	B-402	Plants 1 and 2 Small Flare	NG & NH3	10,000 lb/hr NH3	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10	B-403	Plants 1 and 2 Emergency Flare	NG & NH3	300,000 lb/hr NH3	0.00	0.00	0.00	NA	NA	0.00	0.00
11	B-609	Ammonia Tank Storage System Flare	NG & NH3	10,000 lb/hr NH3	0.97	0.30	1.78	NA	NA	0.00	0.37
Ammonia Plant #4											
12	B-201	Primary Reformer	NG & Process Gas	1350 MMBtu/hr or 75 tons/hr of product	140.74	NA	231.84	12.73	12.73	0.33	9.21
13	B-200	Startup Heater	NG	84.2 MMBtu/hr	0.06	NA	0.07	0.01	0.01	0.00	0.00
14	D-207	CO2 Vent	NA	NA	0.62	54.20	NA	NA	NA	NA	8.09
15	H-205	Organic Sufur Removal Unit Vent	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16	H-269	Amine Fat Flasher Vent	NA	NA	1.27	0.76	NA	NA	NA	NA	0.38
17	F-263	PC Stripper Surge Tank Vent	NA	NA	NA	0.04	NA	NA	NA	NA	NA
18	F-205	Deaerator	NA	NA	NA	0.90	NA	NA	NA	NA	NA
19	C-200	H2 Vent Stack (dry gas vent)	NA	NA	21.12	0.25	NA	NA	NA	NA	NA
20	H-260	PC Stripper steam KO Drum	NA	NA	NA	0.00	NA	NA	NA	NA	NA
21	F-287	Ammonia Drain Tank Vent	NA	NA	NA	0.02	NA	NA	NA	NA	NA
22	B-502	Plants 4 and 5 Small Flare	NG & NH3	20,000 lb/hr NH3	2.11	0.46	2.86	0.00	0.00	0.00	0.80
23	B-501	Plants 4 and 5 Emergency Flare	NG & NH3	400,000 lb/hr NH3	0.37	74.76	0.95	0.00	0.00	0.00	0.14
Urea Plant # 2											
24	GC-401A	CO2 Compressor	NG	5.2 MMBtu/hr	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25	GC-401B	CO2 Compressor	NG	5.2 MMBtu/hr	0.00	NA	0.00	0.00	0.00	0.00	0.00
26	GC-401C	CO2 Compressor	NG	5.2 MMBtu/hr	0.00	NA	0.00	0.00	0.00	0.00	0.00
27	P-405	Urea Prill Tower	NA	65 tons/hr of product	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	D-405	Atmospheric Absorber Vent	NA	NA	NA	NA	NA	NA	NA	NA	NA
29	D-406	Tank Vent Scrubber	NA	NA	NA	NA	NA	NA	NA	NA	NA
30	F-410	Crystalizer Hotwell Vent	NA	NA	NA	NA	NA	NA	NA	NA	NA
31	F-409	Urea Surge Tank Vent	NA	NA	NA	NA	NA	NA	NA	NA	NA
32	D-407	Vent Scrubber	NA	NA	NA	NA	NA	NA	NA	NA	NA
33	D-408	Inerts Vent Scrubber	NA	NA	NA	NA	NA	NA	NA	NA	NA
34	E-611	Cooling Tower	NA	NA	NA	0.00	NA	NA	NA	NA	NA
Urea Plant # 5											
35	C-560A	Granulator A/B Scrubber Exhaust Vent Stack	NA	NA	NA	97.40	NA	3.73	3.73	NA	NA
36	C-506B	Granulator C/D Scrubber Exhaust Vent Stack	NA	NA	NA	96.60	NA	3.73	3.73	NA	NA
37	D-515	Atmospheric Absorber Final Scrubber	NA	NA	NA	1.00	NA	NA	NA	NA	0.04
38	D-511	Inerts Vent Scrubber	NA	NA	NA	1.57	NA	NA	NA	NA	0.04
39	E-535	After Condenser Exchanger	NA	NA	NA	5.72	NA	NA	NA	NA	NA
40	E-711	Cooling Tower	NA	NA	NA	2.92	NA	NA	NA	NA	NA
41	D-514	Tank Scrubber	NA	NA	NA	0.22	NA	NA	NA	NA	NA
Utility Plant # 3											
42	B-600A	Package Boiler	Used Oil	156 MMBtu/hr	0.00	NA	0.00	0.00	0.00	0.00	0.00
42	B-600A	Package Boiler	NG	156 MMBtu/hr	0.03	NA	0.08	0.00	0.00	0.00	0.00
43	B-600B	Package Boiler	NG	156 MMBtu/hr	0.00	NA	0.00	0.00	0.00	0.00	0.00
44	B-600C	Package Boiler	NG	183 MMBtu/hr	0.00	NA	0.00	0.00	0.00	0.00	0.00
45	F-1700	Used Oil Tank Vent	NA	NA	NA	0.00	NA	NA	NA	NA	NA
46	F-1715	Oil/Water Separator Tank	NA	NA	NA	0.90	NA	NA	NA	NA	NA
47		Urea Loding Wharf	NA	Fugitive Dust Source	NA	NA	NA	1.83	1.83	NA	NA
Utility Plant # 6											
48	B-700A	Package Boiler	NG	230 MMBtu/hr	5.56	NA	18.54	0.50	0.50	0.01	0.36
49	B-700B	Package Boiler	NG	230 MMBtu/hr	5.56	NA	18.52	0.50	0.50	0.01	0.36
50	B-705A	Waste Heat Boiler	NG	50 MMBtu/hr	0.33	NA	0.39	0.03	0.03	0.00	0.02
51	B-705B	Waste Heat Boiler	NG	50 MMBtu/hr	4.63	NA	5.52	0.42	0.42	0.01	0.30
52	B-705C	Waste Heat Boiler	NG	50 MMBtu/hr	0.00	NA	0.00	0.00	0.00	0.00	0.00
53	B-705D	Waste Heat Boiler	NG	50 MMBtu/hr	4.79	NA	5.70	0.43	0.43	0.01	0.31
54	B-705E	Waste Heat Boiler	NG	50 MMBtu/hr	0.00	NA	0.00	0.00	0.00	0.00	0.00
55	GGT-744A	Solar Turbine/Generator Set	NG	37.5 MMBtu/hr	0.84	NA	3.28	0.07	0.07	0.00	0.02
56	GGT-744B	Solar Turbine/Generator Set	NG	37.5 MMBtu/hr	5.70	NA	22.24	0.46	0.46	0.01	0.15
57	GGT-744C	Solar Turbine/Generator Set	NG	37.5 MMBtu/hr	0.00	NA	0.00	0.00	0.00	0.00	0.00
58	GGT-744D	Solar Turbine/Generator Set	NG	37.5 MMBtu/hr	4.45	NA	17.36	0.36	0.36	0.01	0.11
59	GGT-744E	Solar Turbine/Generator Set	NG	37.5 MMBtu/hr	0.00	NA	0.00	0.00	0.00	0.00	0.00
60	F-791	Deaerator Vent	NA	NA	NA	0.37	NA	NA	NA	NA	NA
61	F-711	Degasifier	NA	NA	NA	0.12	NA	NA	NA	NA	NA
Co-Generation Plant											
62	GGT-1746	Ge Frame 6B (MS6001B) Turbine	NG	437.1 MMBtu/hr	61.80	NA	525.89	13.60	13.60	0.40	4.33
63	GSE-1746	Detroit Diesel Startup Engine	Diesel	650 hp	0.00	NA	0.00	0.00	0.00	0.00	0.01
64	B-707	Heat Recovery Steam Generator (Duct Firing)	NG	471 MMBty/hr	19.48	NA	50.31	3.13	3.13	0.05	1.28
					CO	NH_3	NO_X	PM_{10}	$PM_{2.5}$	SO_2	VOC
				TOTAL	280.41	338.50	905.33	41.54	41.54	0.85	26.33

Table Notes
1 - NG is natural gas. NH3 is ammonia. NA is not applicable. UO is used oil. Diesel is self-expanatory
2 - The term "gas" as used in this permit includes natural gas, ammonia, and process gas

APPENDIX 2:

Agrium KNO Wastewater Discharge Data 2000 – 2005

DATE	3-PHI-003-1MINAVG Discharge Minimum Low pH	3-PHI-003-1MINAVG Discharge Maximum High pH	0 Discharge Longest (min.) pH excursion	003-1MINAVG'<=6.0) Discharge Montly Total (min.) pH excursion	L-EFF-HEM-MAX Discharge **Daily Max.** ppm Oil & Grease	L-EFF-HEM-AVG Discharge Monthly Avg. ppm method 1664	L-EFF-HEM-MAX Discharge **Daily Max.** ppm method 1664	L-EFF-ORG-N-AVG Discharge Monthly Avg. # Organic-N	L-EFF-ORG-N-LBS Discharge **Daily Max.** # Organic-N	L-EFF-NH3-AVG Discharge Monthly Avg. # NH3-N	L-EFF-NH3-N-LBS Discharge **Daily Max.** # NH3-N	L-EFF-CL-AVG Discharge Monthly Avg. Total Cl ppb	L-EFF-CL-MAX Discharge **Daily Max.** Total Cl ppb	3-FT-607-PV Discharge Avg. Flow	3-FT-607-PV Discharge Total Flow
December-99	6.4	8.4	0	0	2.0	1.7	2.4	189	314	1142	1545			846	26227
January-00	6.5	8.5	0	0	3.1	1.9	2.2	105	158	1062	1420			914	28339
February-00	6.6	8.4	0	0	3.2	1.9	2.7	376	1136	1574	2227			1169	33900
March-00	6.6	8.3	0	0	2.7	2.1	2.8	171	326	1267	1868			781	24215
April-00	6.7	8.6	0	0	6.0	1.9	2.5	225	326	1704	1806			726	21774
May-00	6.45	8.7	0	0	3.7	2.1	2.6	227	396	926	1497			546	16941
June-00	6.5	8.6	0	0	3.0	2.6	2.9	24	56	664	1376			406	12184
July-00	6.4	8.4	0	0	3.9	3.3	4.7	96	151	799	1189			492	15261
August-00	6.4	8.5	0	0	4.8	2.5	3.2	92	157	1069	2616			771	23906
September-00	6.3	8.6	0	0	7.9	6.0	8.8	180	437	1412	3014			873	26191
October-00	6.3	8.5	0	0	5.3	1.6	2.4	132	197	610	700			1050	32555
November-00	6.3	8.7	0	0	2.6	1.8	2.1	889	1539	611	930			813	24376
December-00	6.3	8.9	0	0	2.4	1.6	1.7	128	170	1076	2037			911	28229
January-01	6.1	8.8	0	0	2.4	2.0	3.7	116	189	619	717			772	23944
February-01	6	8.8	0	0	2.7	2.1	2.7	52	62	514	678			624	17478
March-01	6.4	8.9	0	0	2.1	1.4	2.1	185	434	1273	2074			790	24475
April-01	6.3	8.7	0	0	1.9	1.5	1.9	119	243	1292	1645			879	26361
May-01	6.1	8.6	0	0	3.8	2.7	3.8	114	222	520	723			854	26462
June-01	6.3	8.6	0	0	6.6	5.0	6.6	99	147	667	1375			847	25404
July-01	6.2	8.7	0	0	5.4	4.8	5.4	205	384	250	336			808	25058
August-01	6.3	8.7	0	0	5.8	4.2	5.8	68	88	377	794			821	25466
September-01	6.4	8.7	0	0	5.1	3.5	5.1	116	240	871	1341			705	21163
October-01	6.3	8.8	0	0	3.8	2.8	3.8	79	119	291	397			525	16269
November-01	6.3	8.6	0	0	3.6	2.4	3.6	180	245	370	485			779	23377
December-01	6.3	8.6	0	0	3.4	1.7	3.4	226	287	530	878			913	28311
January-02	6.3	8.6	0	0	3.0	2.1	3.0	111	153	381	498			804	24935
February-02	6.3	8.7	0	0	<5.0	1.4	2.0	161	199	532	673			819	22938
March-02	6.4	8.7	0	0	2.0	1.6	2.0	152	257	631	1116			972	30119
April-02	6.4	8.6	0	0	3.7	2.2	3.7	171	306	815	1362			848	25452
May-02	6.1	8.6	0	0	3.0	2.8	3.0	45	56	773	1063			832	25791
June-02	6.5	8.6	0	0	8.6	5.6	8.6	107	194	469	753			634	19006
July-02	6.6	8.9	0	0	6.5	3.9	6.5	147	199	402	546			821	25455
August-02	6.3	8.8	0	0	3.3	2.7	3.3	182	236	409	600			946	29333
September-02	6.4	8.1	0	0	3.7	2.2	3.7	158	209	660	792			877	26316
October-02	6.4	8.7	0	0	3.5	2.8	3.5	105	143	408	572			942	29197
November-02	6.4	8.6	0	0	5.2	4.4	5.2	168	209	521	604			881	26435
December-02	6.4	8.8	0	0	4.0	2.3	4.0	66	90	364	533			765	23720
January-03	6.8	8.9	0	0	1.2	1.1	1.2	55	79	290	360			987	30609
February-03	6.4	8.9	0	0	4.6	2.5	4.6	130	219	549	1089			919	25745
March-03	6.6	8.6	0	0	8.2	4.7	8.2	125	165	488	787			859	26639
April-03	6.5	8.5	0	0	4.0	2.9	4.0	147	172	750	1159			836	25093
May-03	6.3	8.5	0	0	4.0	3.1	4.0	394	648	751	984			752	23304
June-03	6.4	8.5	0	0	2.9	2.7	2.9	1024	1638	790	1514			861	25837
July-03	6.4	8.5	0	0	6.6	4.3	6.6	575	1358	744	1040			824	25538
August-03	6.2	8.6	0	0	8.3	4.3	8.3	848	1180	619	949			984	30493
September-03	6.4	8.6	0	0	6.3	3.9	6.3	852	2386	605	655			913	27395
October-03	6.5	8.5	0	0	2.9	2.6	2.9	818	1093	702	883	472	750	881	27316
November-03	6.5	8.5	0	0	3.7	3.0	3.7	729	1125	619	922	452	1285	764	22917
December-03	6.7	8.4	0	0	3.5	2.7	3.5	772	1068	829	1440	1324	2070	824	25545
January-04	6.3	8.97	0	0	3.8	3.0	3.8	630	1032	712	1086	319	604	983	30482
February-04	6.05	8.9	0	0	2.3	2.2	2.3	49	103	357	596	12	19	947	27465
April-04	6.8	8.7	0	0	4.1	3.4	4.1	365	787	679	845	40	90	970	29110
May-04	6.6	8.6	0	0	4.6	3.4	4.6	311	463	548	802	45	108	856	26531
June-04	6.8	8.6	0	0	3.5	3.1	3.5	393	750	927	1182	158	637	829	24876
July-04	6.7	8.55	0	0	5.1	3.6	5.1	2163	2938	967	1103	137	250	975	30234
August-04	7	8.75	0	0	4.9	3.7	4.9	867	1716	720	1100	66	134	952	29514
September-04	6.45	8.75	0	0	2.7	2.3	2.7	503	542	1093	1374	717	912	914	27422
October-04	6.9	8.6	0	0	3.3	2.6	3.3	508	828	1034	1715	770	1550	931	28872
November-04	7	8.6	0	0	3.1	2.7	3.1	295	379	1114	1453	957	1843	664	19928
December-04	6.6	9	0	0	3.1	2.7	3.1	59	80	1080	1618	54	78	680	21086
January-05	4.7	8.9	1.2	1.2	No Longer Used	2.1	2.2	159.5	278	1400	2410	55	96	698	20950
February-05	5.9	8.6	0.0	0.0	No Longer Used	2.5	3.6	383.1	684	532	663	49	90	644	17385
March-05	5.1	8.6	13.8	14.1	No Longer Used	2.5	3.7	59.0	41	451	453	49	112	766	22975
April-05	6.3	8.5	0.0	0.0	No Longer Used	2.7	3.0	43.9	66	528	879	106	227	647	18745
May-05	retrieve events from s	retrieve events from s	0.0	ection exceeded the	No Longer Used	Shutdown	Shutdown	Shutdown	68	Shutdown	1134	Shutdown	Shutdown	680	20398
June-05	6.4	8.8	0.0	0.0	No Longer Used	2.4	3.0	67.8	198	654	989	102	166	661	19158
July-05	6.5	9.7	0.0	0.0	No Longer Used	2.9	4.4	148.2	230	590	989	58	95	665	19942
August-05	3.9	10.3	0.0	0.0	No Longer Used	3.7	7.4	430.9	1146	963	1529	215	628	621	18633
September-05	3.0	8.5	0.0	0.0	No Longer Used	2.7	3.5	217.8	268	498	620	46	70	596	17276