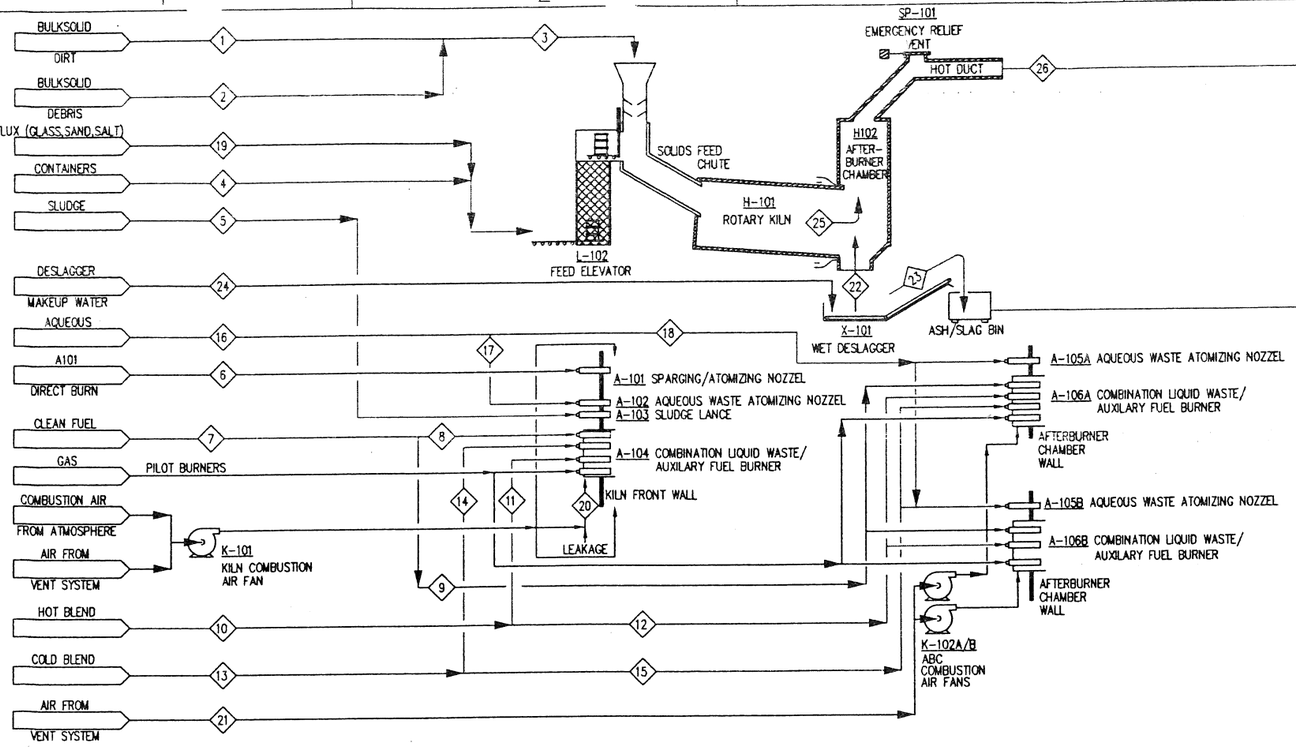

LICENSED PROFESSIONAL ENGINEER
KARL D. LIBSCH
No. 334380-2202
12/1/2006
STATE OF UTAH

GAS STREAMS

FLOW = LB/HR	20	21	22	23	24	25	26
STREAM DESCRP / COMPONENT	KILN COMBUSTION AIR & LEAKAGE	ABC COMBUSTION AIR	DESLAGGER EVAPORATION	DESLAGGER ASH/SLAG	DESLAGGER MAKEUP WATER	KILN EXIT GAS	ABC EXIT GAS
ASH				5366		596	610
SALT							
O2	29218	10677				11998	12370
N2	96226	35163				96226	131389
CO2						19100	28885
SO2						28.7	47.5
HCL						390	393
H2O	1390	508	3403	1341	4744	11326	20873.6
TOTAL	126834	46348	3403	6707	4744	139665	194568.1
TEMPERATURE °F	60	60				2012	2120
ACFM	31598	11546				172656	254738
RESIDENCE TIME, SEC.							2.68

WASTE FEED

FLOW = LB/HR	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
STREAM DESCRP / COMPONENT	BULK SOLID DIRT	BULK SOLID DEBRIS	APRON FEEDER FEED	CONTAINERS	SLUDGE	A101 DIRECT BURN	CLEAN FUEL	KILN CLEAN FUEL	ABC CLEAN FUEL	HOT BLEND	KILN HOT BLEND	ABC HOT BLEND	COLD BLEND	KILN COLD BLEND	ABC COLD BLEND	AQUEOUS	KILN AQUEOUS	ABC AQUEOUS	FLUX
CARBON	357	1941	2298	1709	20.5					3042	1185	1857	814		814				
HYDROGEN	45.3	250	295.3	389	4.7					485	189	296	144		144				
OXYGEN	314	1703	2017	1414	17					297	115.8	181.2	131		131				
SULFUR	1.5	8	9.5							13	5.1	7.9	1.4		1.4				
CHLORINE	3.2		3.2	375						2.7	1.1	1.6	1.6		1.6				
ASH	3029	1798	4827	1113	17.8					10.3	4	6.3	8		8	1800		1800	
WATER	1250	300	1550		540														
TOTAL	5000	6000	11000	5000	600					3850	1500	2350	1100		1100	1800		1800	
HHV	912	5330	3321.82	7000	100	16200	19400	19400	19400	16200	16200	16200	4410	4410	4410				
MM BTU/HR	4.56	31.98	36.54	35	.06					62.37	24.3	38.7	4.85		4.85				
																	Total Btu/hr	138.82	
																	Kiln Btu/hr	95.9	
																	ABC Btu/hr	42.92	

INTERLOCK DESCRIPTION

REVISIONS

NO	DESCRIPTION	DATE	BY	CHK		ENG MGR
1	LOGO CHANGE	12/1/2006	KL			

REVISIONS

NO	DESCRIPTION	DATE	BY	CHK		ENG MGR

APPROVALS	BY	DATE
DRAWN	CBM	02-25-98
CHECKED		
ELEC		
MECH		
STRUCT		
PROJECT ENG		
ENGINEERING MGR		
AS BUILT		

REGISTERED PROFESSIONAL ENGINEER
DATE: _____

CleanHarbors
ARAGONITE LLC

TITLE
UTAH ENVIRONMENTAL SERVICE CENTER
PROCESS FLOW DIAGRAM
TYPICAL DECEMBER 1997

FOR TOOELE SITE
CAD NO. AP717B
SCALE
JOB NO
CLEAN HARBORS DWG NO D-800-PF-275
REV 1