SF File Number 102D1D2 ADMINISTRATIVE RECORD Exhibit (2)

ATTACHMENT 3

1244275 - R8 SDMS

GENERAL INFORMATION

Mr. A.B. Kane
East Helena Slag Treating Plant

DATE 4/30/68

INTERVIEWER W. D. M

Wm. D. Michaely
Arthur G McKee & Co.
2300 Chester Ave.
Cleveland, Ohio 44101
Contract # PH 86-68-65
Senior Process Engineer
650 Fifth Street
San Francisco, Calif. 94107

PLANT DESIGNATION 326.19

TYPE OF PLANT ZINC SMELTER

PLANT ELEVATION 3900'

STACK SIZE

	DESIGNATION	HEIGHT	DIAMETER
a)	None		
b)			
c)			

AGRICULTURAL TEST PLOT OR INSPECTION

None

AUXILIARY PLANTS a) None
b) c)

EMISSION POINTS a) Baghouse Discharge
b) c) (5 Trapazoidal vents)

GENERAL PROCESS DESCRIPTION

Zinc Fuming

434721

OPERATING DATA

OPERATING UNIT	ROASTER 1ST STAGE	ROASTER 2ND STAGE	FUMING FURNACE	SINTERER 1ST STAGE	SINTERER 2ND STAGE	OTHER
SIZE OF UNIT			Hearth 21' x 8' wide			
NO. UNITS			1			
TYPE			Water Jacketed fully			
FUEL TYPE			S.B. Coal			
FUEL QUANTITY			130-150 TPD			
HEAT VALUE			12,500 BTU			
FEED: MOISTURE IN CHARGE %			Tr			
FEED: TOTAL CHARGE TO UNIT			*65-68 TP/charge			* 12 charg[illegible] per 24 hr. 2 hr oyc[illegible] 1 hr. charg[illegible] 1 hr. reduc[illegible] stappin[illegible]
FEED: SULFIDE CONCEN.						
FEED: OXIDE ORE						
FEED: SLAG			54-58 TP/charge			
FEED: DUST			—			
FEED: RESIDUE RECYCLE			13 TP Day - periodically during day AVE			4 TP charg[illegible]
FEED: CARBONACEOUS COAL - ~~[illegible]~~			10-13 TP/charge			Fume from Bellow[illegible]
FEED: SULFUR BEARING BINDER			—			
FEED: FLUX SILICA / LIME			—			
OUTPUT: LEADED ZNO FUME ~~ZINC OXIDE~~			90 TPD Zn 9.5 TPD Pb			78% Tot[illegible] 70% Zn 8% Pb varies b[illegible] Total of 7[illegible]
OUTPUT: SINTER						
OUTPUT: RESIDUE CLINKER						
OUTPUT: MIXED OXIDE						
OUTPUT: RECYCLE DUST						
OPERATING TEMP.			2200°F			
OPERATING DAYS			355			

CHEMICAL ANALYSIS

WEIGHT %	Basis W/D	Zn	Pb	S	FeO Fe	Cu	SiO_2	CaO	Al_2O_3	H_2O	C	REMARKS
~~SULFIDE CONCENTRATE~~												
~~OXIDE ORE~~												
Hot SLAG		16.0	1.0	–	27.0		22.0	20.0				
DUST												
Cold slag		9.0	1.5	–	[illegible]		[illegible]					
RESIDUE												
COAL	Dry			.4 to 1.3					Fixed C – 54.0 Volatile – 32.0 Ash – 6.5			Depends on coal purchased Target .5% S
COKE												
BINDER												
SILICA												
LIMESTONE												
FUEL OIL												
ZINC OXIDE		70.	8.0									Try to maintain 70-8% ratio
SINTER												
RESIDUE CLINKER		1.5	Tr	–								92% Zn Recovery
RECYCLE DUST		45	2.0				High					

CHEMICAL ANALYSIS

WEIGHT %	BASIS W/D	ZN	PB	S	FeO FE	CU	SiO_2	CaO	Al_2O_3	H_2O	C		REMARKS
~~SULFIDE CONCENTRATE~~													
~~OXIDE ORE~~													
Hot SLAG		16.0	1.0	—	27.0		22.0	20.0					
DUST													
Cold slag		9.0	1.5	—	about same as HOT								
RESIDUE													
COAL	Dry			.4 to 1.3							Fixed C - 54.0 Volatile - 32.0 Ash - 6.5		Depends on coal purchased Target .5% S
COKE													
BINDER													
SILICA													
LIMESTONE													
FUEL OIL													
ZINC OXIDE		70.	8.0										Try to maintain 70-8% ratio
SINTER													
RESIDUE CLINKER		1.5	Tr	—									92% Zn Recovery
RECYCLE DUST		45	2.0				High						

EXIT GASES

OPERATING UNIT OR COLLECTOR.	ROASTER 1	ROASTER 2	FUMING FURNACE	SINTER 1	SINTER 2	COKE FURNACE	GRATE KILN	ELECTRO-THERM.	RETORT	REMARKS
SAMPLING METHOD										
SAMPLING FREQUENCY										
SAMPLING POINT			Baghouse Intake							
GAS TEMP.			300							
% SOLIDS IN GAS										
GAS VOLUME			340,000							136,000 Fan capacity, rest is dilution from ventilation doors etc.
% H_2										
% SO_2										
% CO_2										
% O_2										
% SO_3										
% H_2O										

COLLECTION SYSTEM

COLLECTOR	WASTE HEAT BOILER	CYCLONE	ELECTRO-STATIC		BAG HOUSE			REMARKS
LOCATION					N.W. from Furnace			
SIZE					5 sections of 144 bags each			
No. UNITS					5			
TYPE					18" Dia x 29' Dacron and orlon			
INLET TEMP.					300° F			
OUTLET TEMP.								5" above barometer
CAPACITY					136,000 CFM			To convert To std.
EFFICENCY								
BY-PASS METHOD					—			
FREQUENCY					—			
SOLIDS COLLECTED					70%			Rest collected in flue
OPERATING DAYS					355			