AP-42 Section Number: 11.14

Reference Number: 4

Title: Written Communication from David Ousley, Alabama Department of Environmental Management, to Richard Marinshaw, Midwest Research Institute

Ousley, David

Alabama Department of Environmental Management

April 1993

RECEIVED 4/5/93

ADEM

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DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

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Guy Hunt
Governor

AP-42 Section 11.14
Reference 4
Report Sect. —
Reference 4

April 1, 1993

Mr. Rick Marinshaw
MRI
401 Harrison Oaks Blvd.
Suite 350
Cary, NC 27513

Dear Mr. Marinshaw

Enclosed are copies of various permit applications submitted to our department by Chi-Vit Corporation in Leesburg, Alabama. I hope this information is beneficial to your organization's efforts. Also, please let me know if you would like information concerning testing of the #3 Frit Unit and #1 Scrubber that is scheduled for mid-April

If you need additional information or have any questions, please contact me at (205)271-7861.

Sincerely,

David Ousley
Industrial Section
Engineering Services Branch
Air Division

ADO:ado

enclosures:

ALABAMA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
AIR DIVISION

PERMIT APPLICATION FOR
MANUFACTURING OR PROCESSING OPERATION

Do Not Write in This Space

1. Type of unit or process (e.g., calcining kiln, cupola furnace)

HARDINGE MILL, PELLA MILL AND BAGGER

Make _____ Model _____ Date Installed _____

Capacity (manufacturer's or designer's guaranteed maximum) _____

_____

Operating capacity (specify units) _____

Briefly describe the operation of this unit or process in your facility:

HARDINGE MILL - Grind mold powder frit to 20% on a 200 mesh and bagged in 50 lb. bags - 600 to 800 lbs hr.

PELLA MILL - Grind mold powder frit to 20% on a 200 mesh screen and transfer to a hopper for use in another process - 2,500-3,000 lbs/hr.

2. Normal operating schedule

Hours per day 16 Days per week 5 Weeks per year 50

Peak production season (if any) Not Applicable

3. Materials used in unit or process (including solid fuels)

Material	Process Weight (lb/hour) Average	Maximum	Quantity/year	Units of Consumption
Mold Powder Frit	600 lbs.	600	300,000	Pounds
Mold Powder Frit	2,500	2,500	8,000,000	Pounds

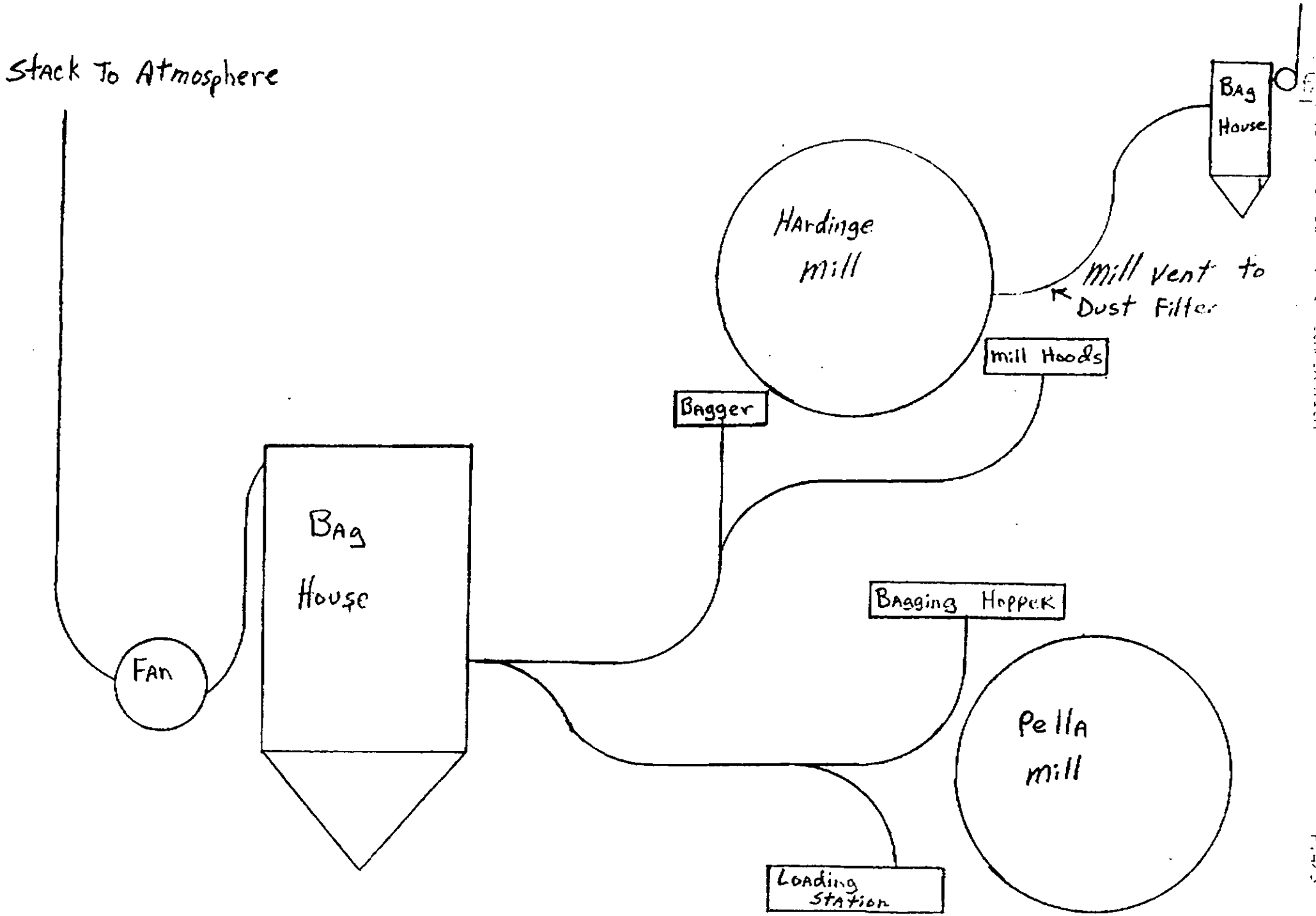
4. Fuels used (excluding heat supplied by indirect heat exchangers)

NA

Coal _____ tons/yr Percent sulfur _____ Percent ash _____

Oil _____ gal/yr Percent sulfur _____ Grade No. _____

Natural gas _____ Thousand cu.ft/yr L.P. gas _____ gal/yr



Mold Powder Grinding Flow Diagram (Dust Collection)

Chi-Vit 1989

ALABAMA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
AIR DIVISION

PERMIT APPLICATION FOR
MANUFACTURING OR PROCESSING OPERATION

Do Not Write in This Space

1. Type of unit or process (e.g., calcining kiln, cupola furnace)

FRIT SMELTER 3-03-0001-2002 3 IDENTICAL FRIT UNITS

Make OWNER DESIGN Model _____ Date Installed _____

Capacity (manufacturer's or designer's guaranteed maximum) 1 TON/HOUR

Operating capacity (specify units) 0.7 - 0.9 TON/HOUR

Briefly describe the operation of this unit or process in your facility:

Raw materials fed from a mixer thru a twin screw feeder on a continuous basis at a fixed rate into smelter - materials heated by direct fired gas burners to a temperature or approximately 2400°F. The resultant molten glass is discharged at opposite end onto water cooled quenching rolls. Glass is further cooled and fractured on a vibrating conveyor and elevated into a hopper via a bucket elevator, and then bagged in 100 lb. bags.

2. Normal operating schedule

Hours per day 24 Days per week 5 Weeks per year 50

Peak production season (if any) NOT APPLICABLE

3. Materials used in unit or process (including solid fuels)

Material	Process Weight (lb/hour) Average	Maximum	Quantity/year	Units of Consumption
	SEE ATTACHED SHEET			

4. Fuels used (excluding heat supplied by indirect heat exchangers)

Coal _____ tons/yr Percent sulfur _____ Percent ash _____

Oil _____ gal/yr Percent sulfur _____ Grade No. _____

Natural gas 33,000 Thousand cu.ft/yr L.P. gas 100,000 gal/yr
STAND-BY ALTERNATE FUEL

Chl-Vit

Chemicals	Glass for Porc. Enam. Coatings	Glass for Mold Powder for Steel
	Hourly Usage (Lbs.)	Hourly Usage (Lbs.)
	Min Max	Min Max
Silica	416-687.5	300-470
Flourspar	None	300-390
Soda Ash	0-208	230-550
Soda Nitrate	0-21	None
(Ca) Calcium Carbonate	0-4.2	80-30
(Mg) Magnesium Carbonate	0-21	None
(K) Potassium Carbonate	0-83	50-550
Potassium Nitrate	0-33	None
Sodium Sil. Flouride	0-208	None
Potassium Sil. Flouride	41-208	None
Titanium Oxide	92-333	None
Zircon	0-167	None
Borax	208-500	None
Alum. Hydrate	0-13.5	None
Lithium Carbonate	0-37.5	0-160
Sod. Phosphates	0-100	None
Pot. Phosphates	0-25	None
Strontium Carbonate	0-42	None
Boric Acid	0-83	None
Feldspar	0-625	None
Charge	0.95-1.05 tons/hr.	0.75-0.85 ton/hr.

5. Products of process or unit:

Products	Quantity/year	Units of Production
PORCELAIN FRIT	1950 - 1815#/hr.	POUNDS
FRIT FOR MOLD POWDER	1650 - 1540#/hr.	POUNDS

6. Emissions to the atmosphere (each point of emission should be listed separately and numbered so that it can be located on the flow sheet)

Emission Point	Stack Height (ft)	Stack Diameter (ft at top)	Gas Discharged (ACFM)	Exit Temp. (Deg. F)	Gas Velocity (FPS)
STACK	50	3	1.31×10^4	129	39.3

7. Air contaminants emitted

Emission Point	Pollutant	Amount Per Hour		Amount Per Year		Basis of Estimate
STACK	PARTICULATE MATTER	1.8	lb		tons	STACK TEST
MIXER-FEEDER CONVEYOR		1.9-2.2 8.2-9.6	lb		tons	
BAGGER		12.5-14.8	lb		tons	

8. Emissions allowed by Regulation

Emission Point	Pollutant	Allowable Per Hour	Basis of Estimate
STACK	PARTICULATE MATTER	4.4	STACK TEST

9. Are any volatile organic materials stored on premises? Yes [X] No [ ]

Material Stored	Size of Tank (gallons)	Vapor Control Devices
L-P GAS	(2) 30,000	

10. Are any organic solvents used or produced? Yes ☐ No ☒

Type	Principal Use	Quantity Per Year (gallons) Consumed	Produced

11. Is there any emission control equipment on this unit or process? Yes ☒ No ☐

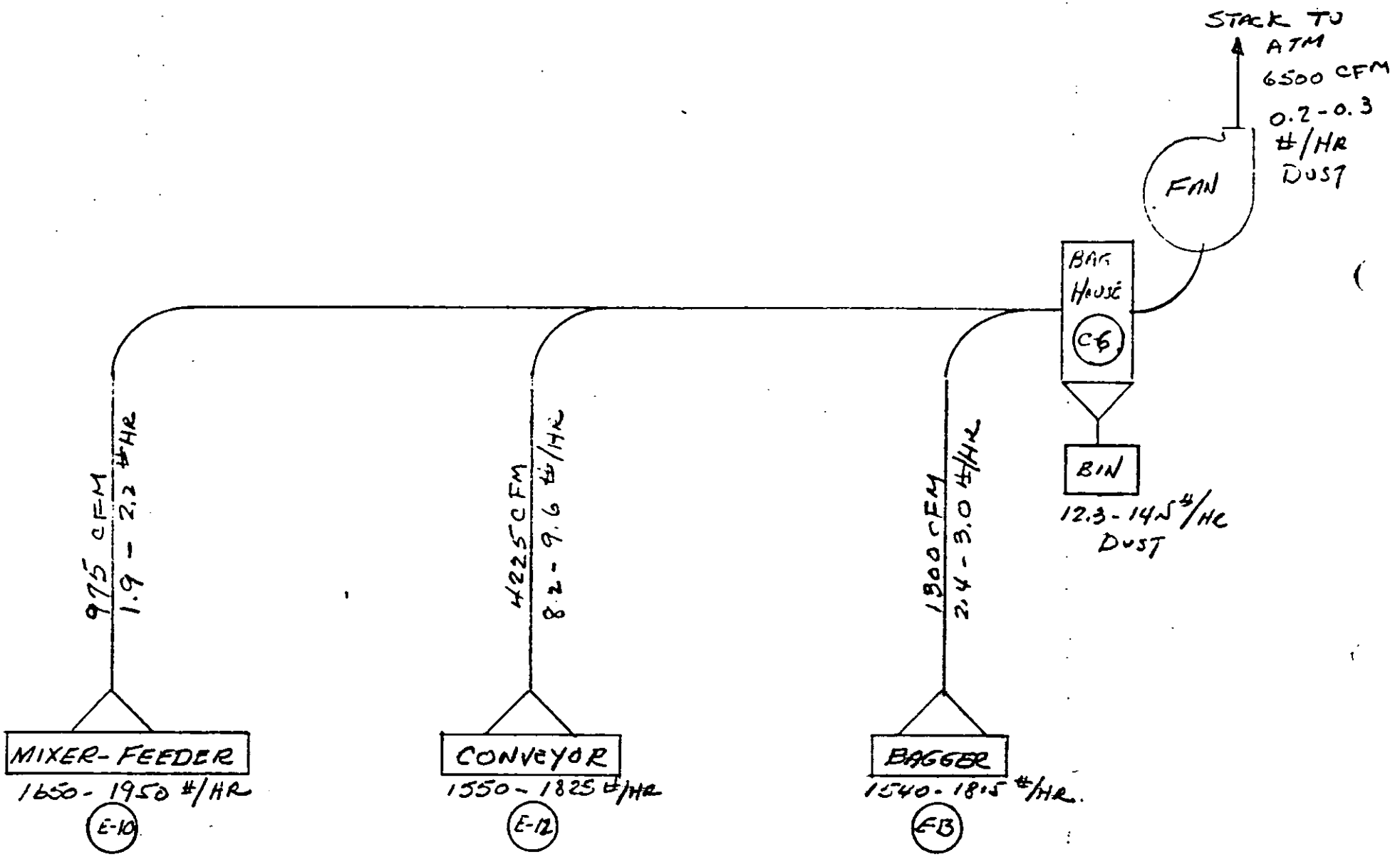
Where a gas cleaning device exists, "DATA SHEET FOR GAS CLEANING DEVICES", Form ADEM 110 must accompany Form ADEM 105.

12. Using a flow diagram: (1) Illustrate input of raw materials, (2) label production processes, process fuel combustion, process equipment, and air pollution control equipment, (3) illustrate locations of air contaminant release so that emission points under Item 6 can be identified. Attach extra pages as needed.

SEE ATTACHED SHEET

13. Permit application is made for:

Existing Unit (initial application)	☐	New Unit (to be constructed)	☐
Modification	☐	Ownership Change	☒
Change of Location	☐	Other (specify)	☐



#3 SMELTER - MIXER - FEEDER - CONVEYOR - BAGGER

FLOW DIAGRAM

JBV - 3-31-77

CHI-VIT CORP
LEESBURG ALA

SK-L-EPA-3A
EX "B"

PAGE 11 OF 30

14. If application is being made to construct or modify, provide the following:

Name of installer or contractor OWNER BUILT

Mailing address _____ Phone _____

Date construction or modification to begin _____

Date construction or modification to be complete _____

15. Does the input material or product from this process or unit contain finely divided materials which could become airborne? Yes [X] No [ ]

Is this material stored in piles or in some other way as to make possible the creation of dust problems? Yes [ ] No [X]

List storage piles (if any)

Type of Material	Particle Size (diameter or screen size)	Pile Size (average tons on piles)	Pile Wetted (Yes or No)	Pile Covered (Yes or No)

Name of person submitting this report BRUCE W. LARSON

Title MANAGER ENVIRONMENTAL AFFAIRS

Date May 9, 1989 Phone 513/652-1341