

30307822



Superfund

September 15, 1986

Iowa Department of Water, Air and Waste Management
Henry A. Wallace Building
900 East Grand
Des Moines, Iowa 50319
Attn; Michael Hayward, P.E.

Subject: Design Capacity and Lead Usage

Dear Mr. Hayward

We do not have a design capacity to produce enough batteries in 24 hours to use 6.5 tons of lead.

Our two grid making machines can only produce enough grids to use 2.4 tons of lead in 24 hours. We operate them 8 hours per day, use approximately .8 tons of lead per 24 hour day.

Our plate making machine has a capacity to use 12 ton of oxide in 24 hours. We operate it 1 day a week using 3.6 tons of oxide per 24 hour day.

Our cell making equipment can only produce 20 batteries per hour, 480 batteries in a 24 hour day. This would be 7.2 tons of lead. We operate this equipment 8 hours per day using approximately 1.5 ton of lead per 24 hour day.

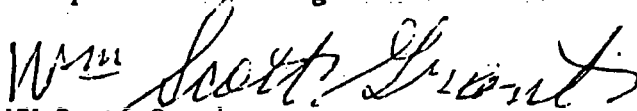
Our battery charging capacity, 11 chargers, is 356 batteries total. It takes 48 hours per line of batteries which make 178 batteries per 24 hours. This would be 2.64 tons of lead per 24 hour day.

This plant was nearly bankrupt when I got involved in it in 1974. I moved to this area and took personal control in 1976.

I put money and equipment into it and designed it to make approximately 100 batteries a day, 24 hour period, 5 days a week.

Last year we purchased 224.18 tons of lead. The year was during our fiscal year October 1, 1985 to October 1, 1986. This averages out to 1.1209 tons per day based on 200 work days a year.

I hope this is enough information.



WM Scott Grant
RELIANCE BATTERY MFG. CO.
2204 South 8th Street
Council Bluffs, IA 51501

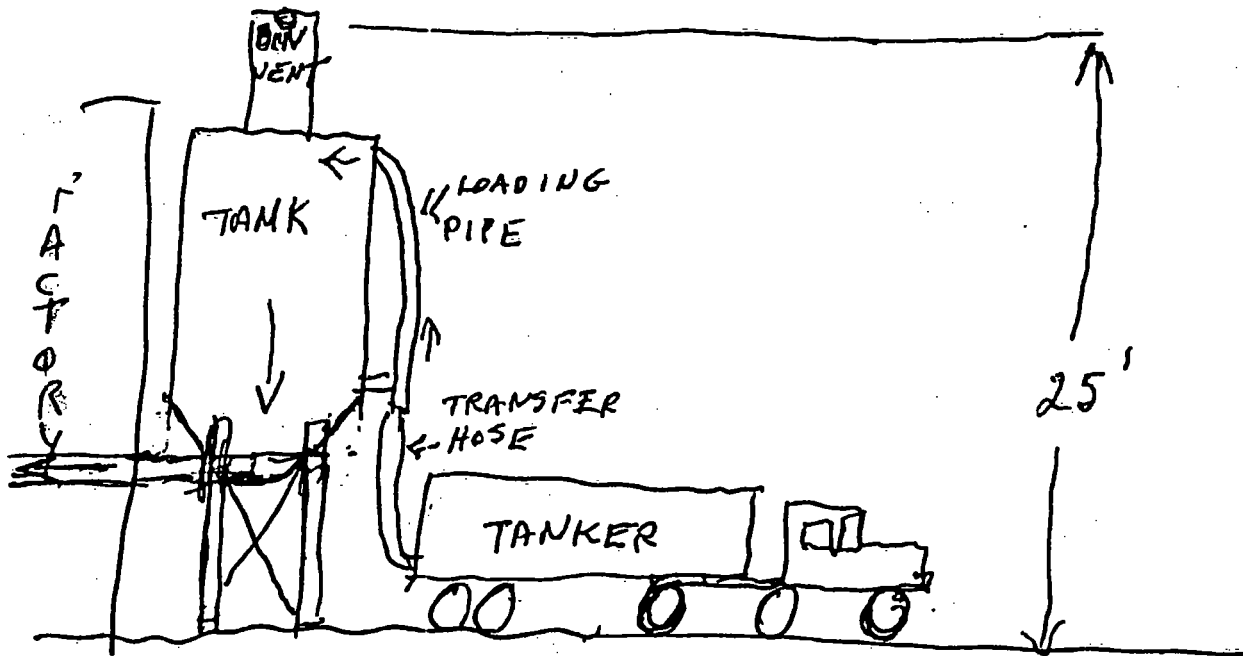
WSG/dee

CONSERVATION COMMISSION
IOWA

1986 SEP 18 AM 10:20

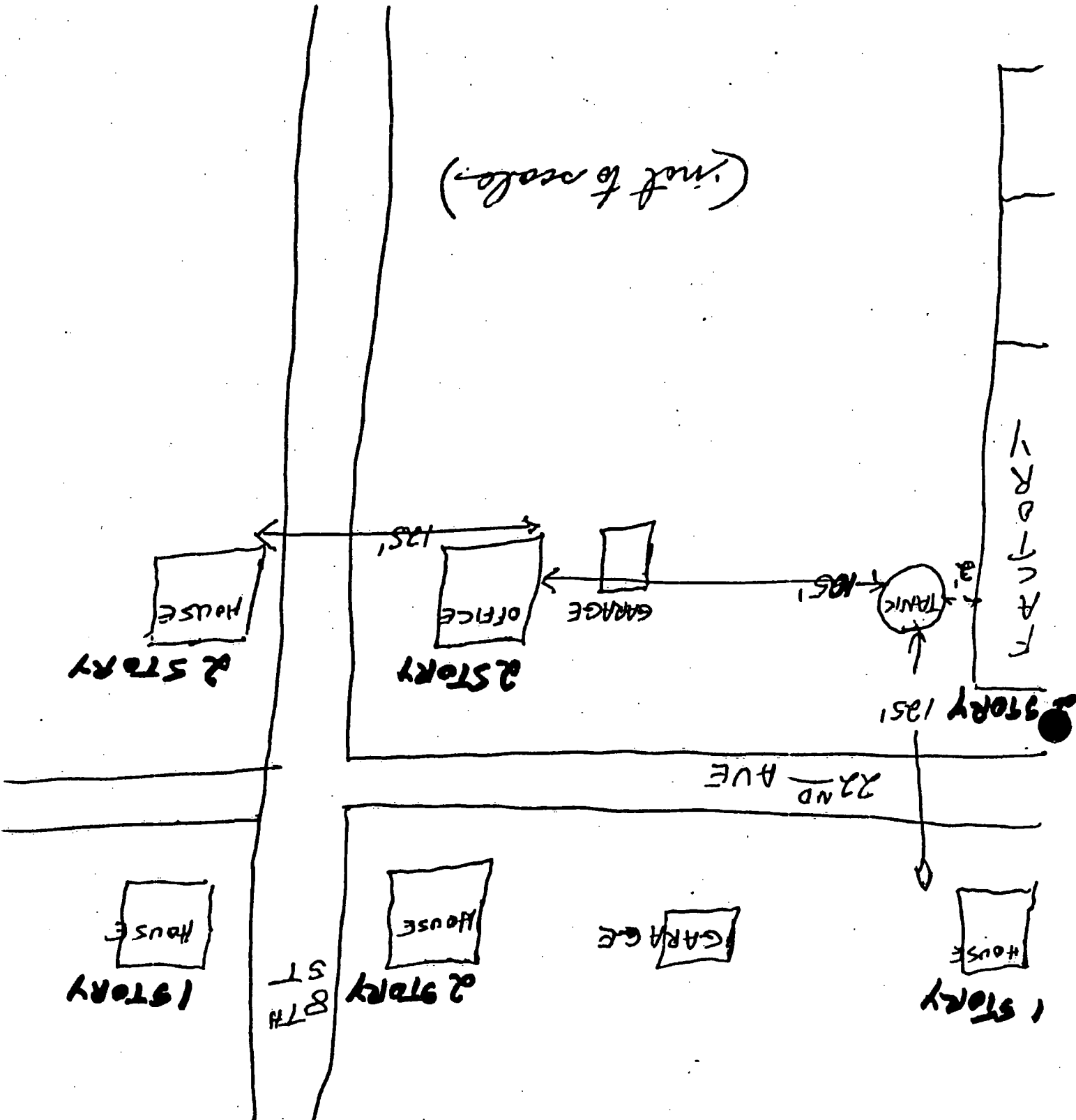
①

Storage tank is 6' in diameter & 9' in height. Tank is supported on steel legs - four in number. A bin vent is mounted on top of storage tank. A 4 inch loading pipe is attached to side of tank so that powdered lead may be pneumatically transferred into the tank from a semi-tank truck at 2200 cubic feet per minute.



The oxide is transferred to a mixer in the factory via an enclosed screw conveyor as needed. A 12,500 CFM bag house ventilation system is used to control any dust made by transfer inside the factory. Construction was started 2-1-8 and finished 11-1-81. Persons putting in system since

(not to scale)



(2)

People who had system put in
were to get all permits for system
and said they did. Their name is:

Oxide & Chemical Corp.

5726 Professional Circle

P.O. Box 41769

Indianapolis, In 46241

317-241-6381

The system reduces the amount
of total pollution as loading &
unloading is cleaner & quicker.
I would estimate reduction is
at least 50%.

William Scott Grant
Pres. Reliance Pet Mfg
2204 S. 8th St
Council Bluffs, Ia 51501

Flex-Kleen

Research-Cottrell

Air Process Equipment, Inc.

**P.O. Box 3618
Shawnee, Kansas 66203
(913) 268-4055**

March 5, 1985

**Mr. J. McKinney
OXIDE & CHEMICAL CORPORATION
603 Sunshine Road
Kansas City, KS 66115**

One (1) - Model 84BVBS16 II Flex Kleen dust collector bin vent as described in Bulletin BV-Series, and with dimensions and construction details as shown on drawing A83-JF-065 Arrangement II. The unit will have 170 sq. ft. of filter cloth (16 bags), providing an air-to-cloth ratio of 4.5/1 at 750 ACFM.

The unit includes the following features and equipment:

- 12 ga. welded steel housing capable of operating pressure of 17" w.g. positive or negative.**
- Stub pipe gas outlet.**
- Compressed air header assembly, complete with aluminum diaphragm valves and solenoid pilot valves, all prepiped and wired into a Nema 4 box on the header.**
- Astro-Flex electronic sequential timer shipped separately for field installation in the box on the header and for easy wiring of the solenoids.**
- Internal air piping.**
- Die cast aluminum venturi nozzles, 1/8" minimum section.**
- 16/16 ounce polyester felt filter bags.**
- 16 Stainless steel bag clamps.**
- Air pressure gauge.**
- Quick access man door.**
- Flange at the bottom of the straight shell side for bolting to other equipment.**
- Pressure differential gauge.**

BV Series — Ordering information

Select from a wide range of models...all designed to solve the dust control problems in your bins or silos. With the range of sizes available, it's easy to match the collector size to your application.

Stock BV

In situations where speedy delivery is important, standard BV collectors are in stock for prompt shipment—and are offered at substantial savings.

Sanitary BV

A sanitary BV unit is also available, for food handling and other users requiring sanitary-type construction.

BV Series

BVBS—BVB stock unit, with bottom bag removal.

BVBC—Modified stock unit for special requirements.

BVTC—Top bag removal.

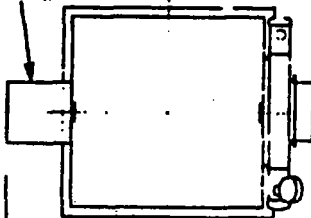
BVWC—Top bag removal with walk-in plenum.

Model No.	Filter Area (Sq. Ft.)	Comp. Air Req'd (SCFM)	"A"	"B"	"C"
18-BVB-9	17	4.0	2'0"	3'0"	1'4"
36-BVB-9	39	4.2	2'0"	4'6"	1'4"
58-BVB-9	65	4.5	2'0"	6'4"	1'4"
84-BVB-9	95	5.0	2'0"	8'7"	1'4"
18-BVB-16	30	5.2	2'8"	3'0"	1'11"
36-BVB-16	69	5.5	2'8"	4'6"	1'11"
58-BVB-16	115	5.8	2'8"	6'4"	1'11"
84-BVB-16	170	6.2	2'8"	8'7"	1'11"
18-BVB-25	47	6.3	3'4"	3'0"	2'6"
36-BVB-25	107	6.5	3'4"	4'6"	2'6"
58-BVB-25	180	6.7	3'4"	6'4"	2'6"
84-BVB-25	265	7.0	3'4"	8'7"	2'6"
36-BVB-36	155	7.5	4'0"	4'6"	3'1"
58-BVB-36	260	8.0	4'0"	6'4"	3'1"
84-BVB-36	382	8.5	4'0"	8'7"	3'1"
100-BVB-36	457	9.0	4'0"	9'11"	3'1"

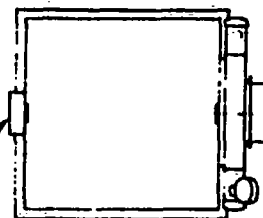
ARR II —, + BAG HOUSING

ARR III —, + HOUSING & HOPPER

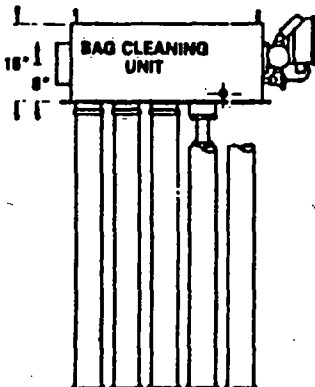
OPTIONAL WEATHERHOOD



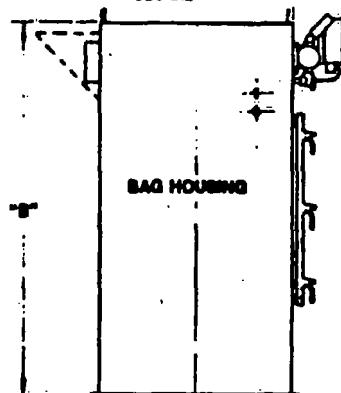
STUB OUTLET



ARR I — BAG CLEANING UNIT

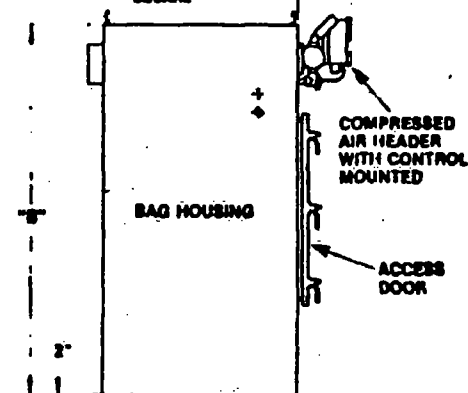


15-7 1/8" "A" SQUARE 12"



OPTIONAL INTERNAL ACCESS DOOR

"A" SQUARE 12"



COMPRESSED AIR HEADER WITH CONTROL MOUNTED

ACCESS DOOR

INLET

3"

8"

3"

3"

3"

3"

3"

3"

3"

3"

3"

3"

MATERIAL DISCHARGE 5 5/8" SQ. OPENING WITH O.D. FLANGE, SIX 7/16" x 3/4" SLOTS ON 9 5/8" B.C.

Ask your Flex-Kleen representative about the BV Series of bin vents/dust collectors—let Flex-Kleen help you take the nuisance out of dust control in your bins and silos.

For additional information, please call our sales manager at (312) 684-5300.

Flex-Kleen

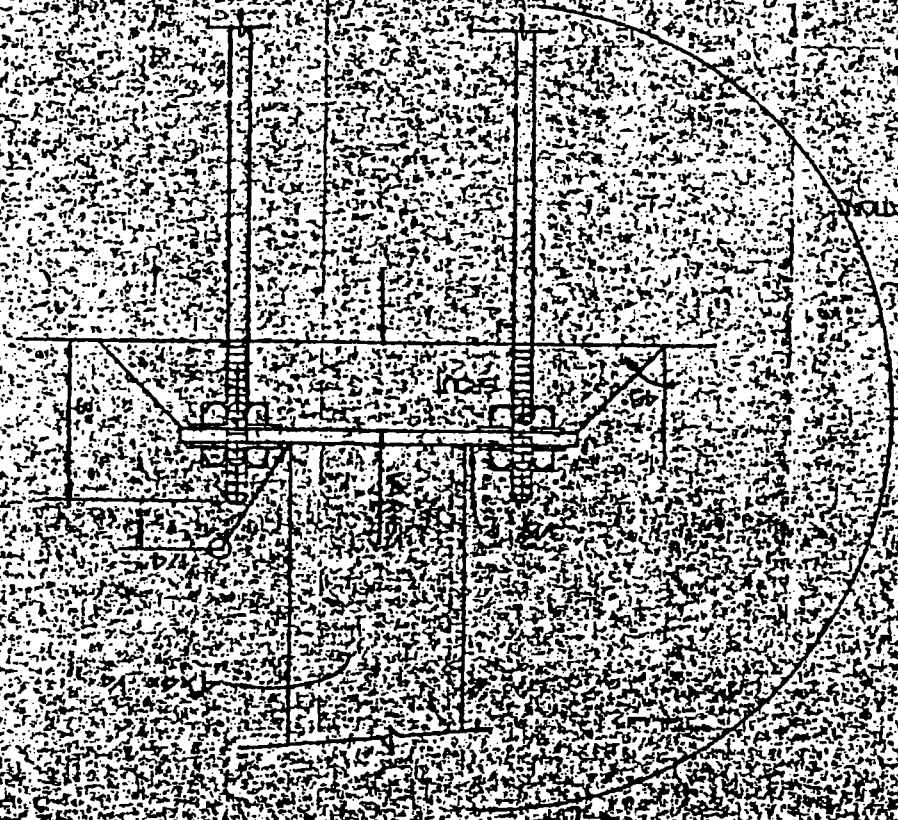
One Northwestern Center, 165 North Canal Street, Chicago, IL 60608 (312) 684-5300/Telex 254254

Research-Cottrell

DATE
11/3/85



FOOT PAD - GROUT DEVIATION



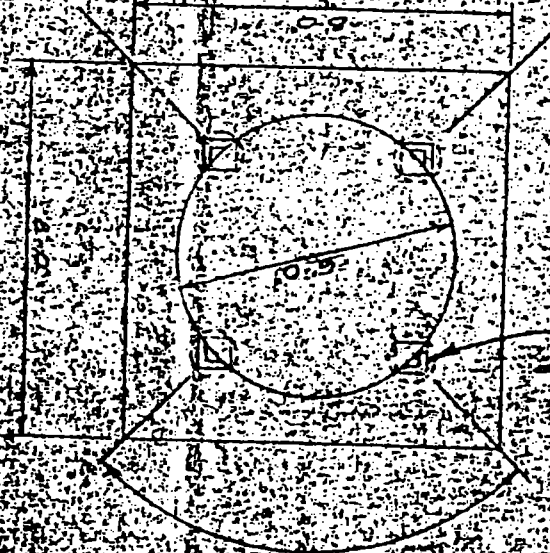
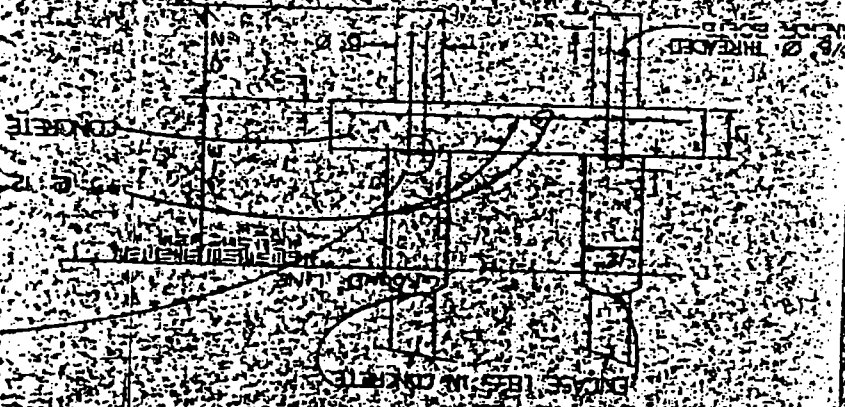
FOOT PAD - GROUT DEVIATION

1/4" = 1'-0"

FOUNDATION - FIN. TYPE

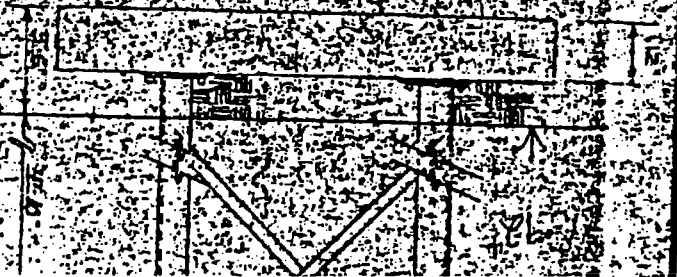
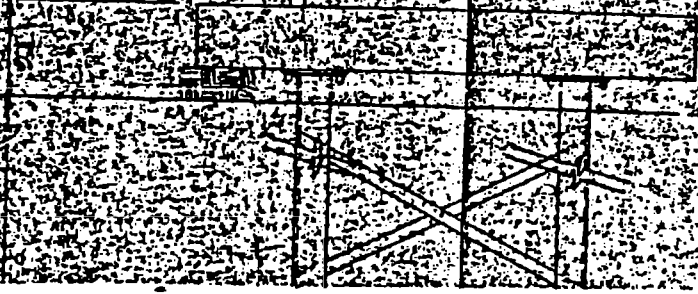
SIDE VIEW

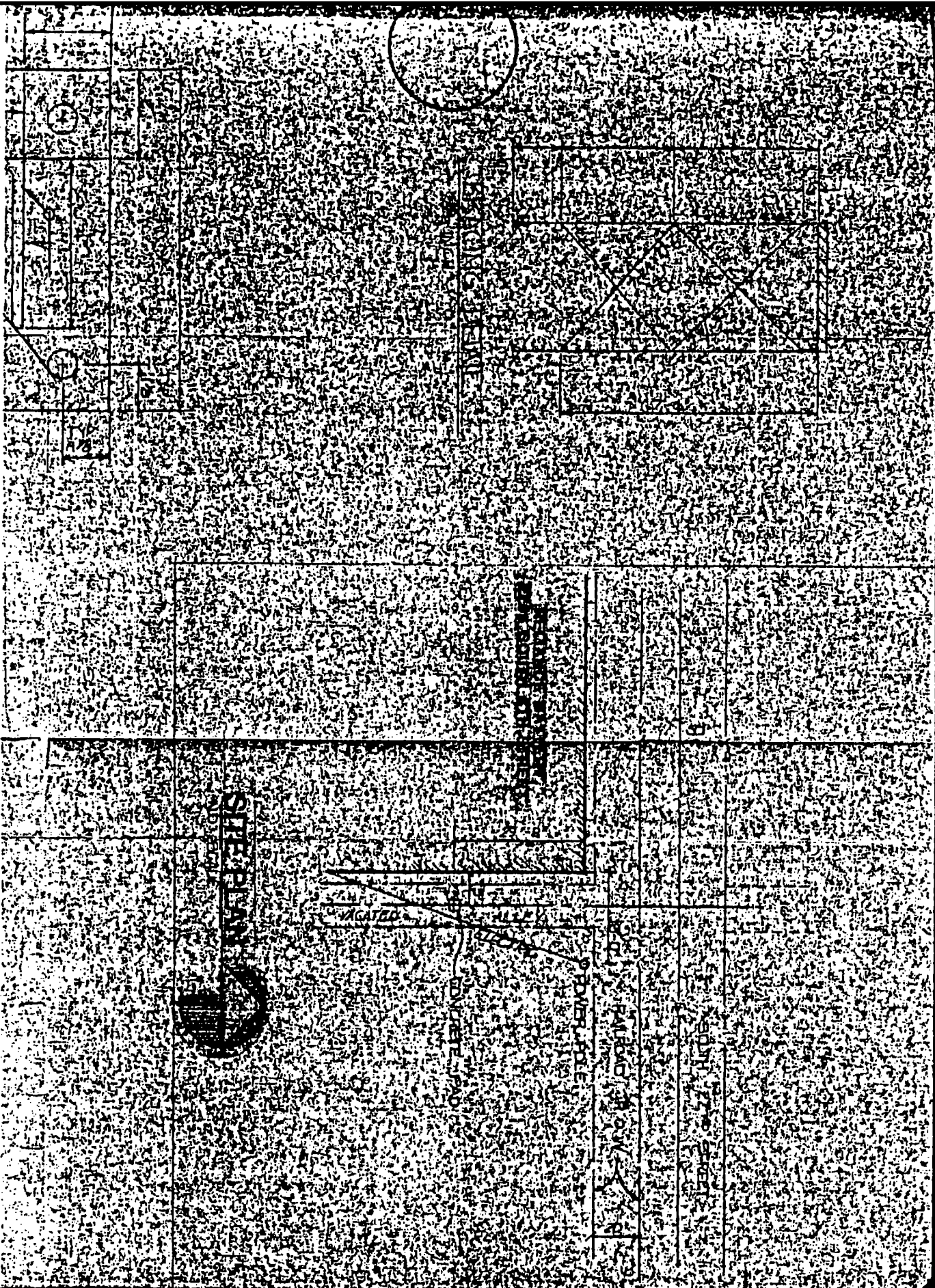
PLAN VIEW



EAST ELEVATION

SOUTH ELEVATION





FOUNDATION PLAN



BUREAU OF LABOR

307 East Seventh Street, Des Moines, Iowa 50319 Telephone (515) 281-3606

October 27, 1986

TERRY E. BRANSTAD
Governor

ALLEN J. MEIER
Commissioner

WALTER H. JOHNSON
Deputy Commissioner

Mr. Dave Escritt
Reliance Battery Mfg. Co.
2204 South 8th St.
Council Bluffs, IA 51501

Dear Mr. Escritt:

The lead-in air breathing zone samples collected for employees working at Reliance Battery Mfg. Co. on September 30, 1986, are tabulated in Table I: Lead-In Air. These samples were collected by the Division of Labor Services, IOSH to help support you in your efforts to join the Cooperative Assessment Program (CAP). Because the CAP is a cooperative program these sample results will not be used as a basis for determining a violation under the Lead Standard 1910.1025.

RBM CO.-LEAD-IN-AIR SEPT. 30, 1986

<u>EMPLOYEE</u>	<u>JOB TITLE</u>	<u>MINUTES</u>		<u>mg/M³</u>	<u>TWA</u>
		<u>SAMPLED</u>	<u>WORKED</u>	<u>SEGMENT</u>	<u>mg/M³</u>
LeRoy Stevens	Break & Stack Plates	383	480	---	.080
Scott Grant	Tiegel; burn elements	348	480	---	.042
Darvin Forward	Mold burn bars	148	160	.018	.018
Darvin Forward	Grid Casting	314	320	.018	
John Grant	Formation	125	240	.005	.010
John Grant	O.T.P.	220	240	.017	
Scott Habighorst	Clean batt/shipping	98	480	---	.002

The column titled Segmented Sample - mg/M³ represents the exposure level for that particular job for the time sampled. The column titled TWA is the Time Weighted Average exposure for the full shift.

If you have any questions, please call me at (515) 281-3606.

Sincerely,

John Bremhorst
Industrial Hygienist

JB:kf

cc: Mary L. Bryant, IOSH Administrator
Shashi Patel, IH-LSO

March 2, 1987

Mr. Rexford A. Walker
AIR QUALITY SECTION
IOWA DEPT. OF NATURAL RESOURCES
H. A. WALLACE STATE OFFICE BLDG.
900 East Grand
DES, MOINES, IA 50319-0034

RE: Bulk Storage Tank
Permit No. 86-A-123
Design Capacity, Limiting Factors

Dear Mr. Walker:

General Note; This meeting is set to clarify original letter submitted Sept. 15 1986 by WM Scott Grant.

Original letter stated battery charging capacity was our limiting factor. After a lengthy discussion with David Phelps on Feb. 26, 1987 I realized that charging is not an acceptable limiting factor.

Using knowledge obtained from talking with Mr. Phelps I will attempt to clarify several limiting factors of our production capabilities.

First a basic understanding of our operation will be necessary. We must all understand that in order to be able to make batteries containing lead we must first have the lead components to make them. Also considering lead oxide and metallic lead as raw materials, you must also understand it is common to use 12# of Metallic lead to each 11# of lead oxide in each battery.

1. Our pasting operation (Plate Making) operates for one 8 hour shift per week, using approximately 4.0 tons of lead oxide per week or 12.0 tons per 24 hour work day.
Note. 24 hour work day equals 3 actual work weeks of pasted plates.
2. To support pasting for one 8 hour shift our grid casting operation must operate 8 hours per day 5 days per week operating our 2 machines. In a 24 hour work period (3 days) our 2 grid casting machines can only produce grids containing 2.4 tons of lead or .8 tons of lead per 8 hour shift.
3. Theory of maximum capacity; $25.08 = 13.08 \text{ Pb casting} + 12.00 \text{ pasting}$

- A. Pasting as a limiting factor. Pasting using a maximum of 12.0 tons of lead oxide in a 24 hour work period (3 work shifts, 3 actual weeks) would require 13.08 tons of metallic lead to equal 25.08 tons of lead per 24 hour work period (this would be 3 work shifts or 3 weeks of production). This is the equivalent of 15 days of materials produced for assembly or 1.67 tons per actual 8 hour work shift or 5.01 tons of assemblable materials per 24 hour work period. This would be maximum capacity of pasted plates available to assemble.

Note; To support maximum capacity at pasting it would require grids equaling 40 hours of capacity production at grid casting to equal 8 hours of pasting, or 120 hours of casting to support 24 hours of pasting.

- B. Casting as a limiting factor.
Our casting department (2 machines) has the capability to produce, at maximum

Mr. Rexford A. Walker
Des Moines, IA
March 2, 1987
Page 2

3. B. Continued

capacity, grids containing 2.4 tons of lead in a 24 hour work period. To support pasting for an 8 hour shift, casting must operate 40 working hours or 5 shifts. If we assume only 24 hours as a limit this would allow production of 2.4 tons of grids. 2.4 tons of grids would equal pasted plates containing 2.2 tons of lead oxide or a total of 4.6 tons total pasted plate weight. However this would be equivalent to only 61% of an 8 hour shift at pasting or 4.88 hours of pasting for maximum capacity of 24 hours of casting. In a full capacity 40 hour work week casting can produce grids containing 4.0 tons of lead which would require 3.63 tons of lead oxide to make pasted plates. These plates would equal 7.63 tons of lead per 5-8 hour work days or 1 week. This would provide the assembly department with an average of 1.53 tons of pasted plates per each 8 hour shift or 4.59 tons per 24 hour work day.

Maximum available pasted plates provided to the assembly department to produce finished batteries may never exceed 23 tons, assuming casting worked 120 hours per week and pasting operated at 24 hours per week. This would allow only 4.06 tons of pasted plates per day to produce batteries.

GENERAL FACTS:

1. We operate casting 8 hours per day 5 days per week using 4.0 ton of lead at maximum capacity.
2. We operate pasting 1 day per week using 3.63 tons of lead oxide per week at maximum capacity.
3. The total of lead used at pasting and casting would equal 7.63 tons per week or 396.76 tons of lead per year, 1.98 ton maximum capacity per day.

ACTUAL FACTS

1. Actual lead purchases between Oct. 1, 1985 to Oct. 1, 1986 were 224.18 tons or 1.1209 tons per day. Which means we are operating at 57% of our maximum total capacity.
2. Our charging capacity limits us to 178 batteries per day, we attempt to produce 100 batteries per day or approximately 56% of total charging capacity.
3. The reality of manufacturing is not all operations will produce at 100% of it's designed capacity. Wm Scott Grant designed this factory to be able to produce 178 batteries per day hoping to achieve 100 batteries per day.
4. We buy lead oxide every 6 to 7 weeks, it takes a total of 45 minutes to unload into bulk oxide storage tank. This is the only time the bin vent dust control unit is in operation. This equals approximately 6 hours per year of total usage. Testing required would cause an added economic burden on Reliance Battery which may not be feasible at this time.

Any considerations you can extend to our situation will be appreciated.

Thank You

David E. Ewert - Office Manager,

Reliance Battery
2204 South 8th STREET
Council Bluffs, Ia 51501