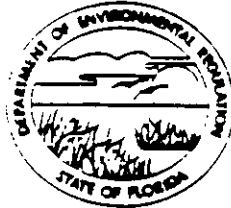


STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

#200pd.
6-30-89
Recept. #117638

TWIN TOWERS OFFICE BUILDING
2800 BLAIR STONE ROAD
TALLAHASSEE, FLORIDA 32301

D.E.R.
JUN 30 1989
SOUTHWEST DISTRICT
TAMPA



AC 29-167251

BOB GRAHAM
GOVERNOR

VICTORIA J. TSCHINKEL
SECRETARY

APPLICATION TO OPERATE/CONSTRUCT AIR POLLUTION SOURCES

SOURCE TYPE: Point Source (Air Pollution) New¹ Existing¹

APPLICATION TYPE: Construction Operation Modification

COMPANY NAME: Consolidated Minerals, Inc. COUNTY: Hillsborough

Identify the specific emission point source(s) addressed in this application (i.e. Line
Kiln No. 4 with Venturi Scrubber; Peaking Unit No. 2, Gas Fired) KBF4 Dust Collector

SOURCE LOCATION: Street Coronet Road City Plant City

UTM: East 17-393.8 North 30963

Latitude ° ' "N Longitude ° ' "W

APPLICANT NAME AND TITLE: F. W. Cheesman/President

APPLICANT ADDRESS: P.O. Box 790 Plant City, FL 34289

SECTION I: STATEMENTS BY APPLICANT AND ENGINEER

1. APPLICANT

I am the undersigned owner or authorized representative* of Consolidated Minerals, Inc.

I certify that the statements made in this application for a Construction permit are true, correct and complete to the best of my knowledge and belief. Further, I agree to maintain and operate the pollution control source and pollution control facilities in such a manner as to comply with the provision of Chapter 40J, Florida Statutes, and all the rules and regulations of the department and revisions thereof. I also understand that a permit, if granted by the department, will be non-transferable and I will promptly notify the department upon sale or legal transfer of the permitted establishment.

*Attach letter of authorization

Signed: F. W. Cheesman
F. W. Cheesman/President
Name and Title (Please Type)

Date: _____ Telephone No. (813)752-1161

3. PROFESSIONAL ENGINEER REGISTERED IN FLORIDA (where required by Chapter 471, F.S.)

This is to certify that the engineering features of this pollution control project have been designed/examined by me and found to be in conformity with modern engineering principles applicable to the treatment and disposal of pollutants characterized in the permit application. There is reasonable assurance, in my professional judgment, that

See Florida Administrative Code Rule 17-2.100(57) and (104)

the pollution control facilities, when properly maintained and operated, will discharge an effluent that complies with all applicable statutes of the State of Florida and the rules and regulations of the department. It is also agreed that the undersigned will furnish, if authorized by the owner, the applicant a set of instructions for the proper maintenance and operation of the pollution control facilities and, if applicable, pollution sources.

Signed Anthony R. Lenkei

Anthony R. Lenkei
Name (Please Type)

Consolidated Minerals, Inc.
Company Name (Please Type)

P.O. Box 790 Plant City, FL 34289
Mailing Address (Please Type)

Florida Registration No. 8716 Date: 6, 28, 89. Telephone No. (813)752-1161

SECTION II: GENERAL PROJECT INFORMATION

- A. Describe the nature and extent of the project. Refer to pollution control equipment, and expected improvements in source performance as a result of installation. State whether the project will result in full compliance. Attach additional sheet if necessary.

The Flex-Kleen Dust Collector will have a total cloth area of 382 ft² and an airflow of 1800 CFM. It will collect any dust that is generated from the final product preparation. This will involve drying and crushing of the KBF4 product. This unit will meet or exceed all state and federal pollution control standards.

- B. Schedule of project covered in this application (Construction Permit Application Only)

Start of Construction July 1989 Completion of Construction January 1990

- C. Costs of pollution control system(s): (Note: Show breakdown of estimated costs only for individual components/units of the project serving pollution control purposes. Information on actual costs shall be furnished with the application for operation permit.)

<u>Flex-Kleen Dust Collector</u>	<u>\$ 8,000</u>
<u>Duct Work</u>	<u>10,000</u>
<u>Exhaust Fan</u>	<u>5,000</u>
<u>Total Pollution Control Equipment</u>	<u>\$23,000</u>

- D. Indicate any previous DER permits, orders and notices associated with the emission point, including permit issuance and expiration dates.

NOT APPLICABLE

E. Requested permitted equipment operating time: hrs/day 8; days/wk 5; wks/yr 52;
if power plant, hrs/yr _____; if seasonal, describe: _____

F. If this is a new source or major modification, answer the following questions.
(Yes or No)

1. Is this source in a non-attainment area for a particular pollutant? NO
a. If yes, has "offset" been applied? N/A
b. If yes, has "Lowest Achievable Emission Rate" been applied? N/A
c. If yes, list non-attainment pollutants. N/A

2. Does best available control technology (BACT) apply to this source?
If yes, see Section VI. NO

3. Does the State "Prevention of Significant Deterioration" (PSD)
requirement apply to this source? If yes, see Sections VI and VII. NO

4. Do "Standards of Performance for New Stationary Sources" (NSPS)
apply to this source? NO

5. Do "National Emission Standards for Hazardous Air Pollutants"
(NESHAP) apply to this source? NO

H. Do "Reasonably Available Control Technology" (RACT) requirements apply
to this source? NO

a. If yes, for what pollutants? _____

b. If yes, in addition to the information required in this form,
any information requested in Rule 17-2.650 must be submitted.

Attach all supportive information related to any answer of "Yes". Attach any justifi-
cation for any answer of "No" that might be considered questionable.

SECTION III: AIR POLLUTION SOURCES & CONTROL DEVICES (Other than Incinerators)

A. Raw Materials and Chemicals Used in your Process, if applicable:

Description	Contaminants		Utilization Rate - lbs/hr	Relate to Flow Diagram
	Type	% Wt		
Potassium Fluoborate (KBF4)	Particulate	100%	2,500	See Attachment C-1

B. Process Rate, if applicable: (See Section V, Item 1)

1. Total Process Input Rate (lbs/hr): 2,500

2. Product Weight (lbs/hr): 2,500

C. Airborne Contaminants Emitted: (Information in this table must be submitted for each emission point, use additional sheets as necessary)

Name of Contaminant	Emission ¹		Allowed Emission Rate per Rule 17-2	Allowable ³ Emission lbs/hr	Potential ⁴ Emission		Relate to Flow Diagram
	Maximum lbs/hr	Actual T/yr			lbs/yr	T/yr	
Particulate	.006	.006	17-2.650(2)(b)(2)	.046	28.0	122.6	See Attachment: C-2
Opacity			17-2.610(2)(a)	5%			

¹See Section V, item 2.

²Reference applicable emission standards and units (e.g. Rule 17-2.600(5)(b)2. Table II, E. (1) - 0.1 pounds per million BTU heat input)

³Calculated from operating rate and applicable standard.

⁴Emission, if source operated without control (See Section V, Item 3).

D. Control Devices: (See Section V, Item 4)

Name and Type (Model & Serial No.)	Contaminant	Efficiency	Range of Particles Size Collected (in microns) (If applicable)	Basis for Efficiency (Section V Item 5)
Flex-Kleen Model				
84-BVBS-36 III G	Particulate	99.98	150 to 3 u	Manufacturer specifications

E. Fuels

Type (Be Specific)	Consumption*		Maximum Heat Input (MMBTU/hr)
	avg/hr	max./hr	
Natural Gas	.00035 MCF/hr	.0004 MMCF/hr	.396 MMBTU/hr

*Units: Natural Gas--MMCF/hr; Fuel Oils--gallons/hr; Coal, wood, refuse, other--lbs/hr.

Fuel Analysis:

Percent Sulfur: _____ Percent Ash: _____
 Density: _____ lbs/gal Typical Percent Nitrogen: _____
 Heat Capacity: _____ BTU/lb _____ BTU/gal
 Other Fuel Contaminants (which may cause air pollution): _____

F. If applicable, indicate the percent of fuel used for space heating.

Annual Average _____ Maximum _____

G. Indicate liquid or solid wastes generated and method of disposal.

Any solid waste will be returned to the circuit for reprocessing.

Brief description of operating characteristics of control devices: _____

Ultimate disposal of any effluent other than that emitted from the stack (scrubber water, ash, etc.):

NOTE: Items 2, 3, 4, 6, 7, 8, and 10 in Section V must be included where applicable.

SECTION V: SUPPLEMENTAL REQUIREMENTS

Please provide the following supplements where required for this application.

1. Total process input rate and product weight -- show derivation [Rule 17-2.100(127)]
2. To a construction application, attach basis of emission estimate (e.g., design calculations, design drawings, pertinent manufacturer's test data, etc.) and attach proposed methods (e.g., FR Part 60 Methods 1, 2, 3, 4, 5) to show proof of compliance with applicable standards. To an operation application, attach test results or methods used to show proof of compliance. Information provided when applying for an operation permit from a construction permit shall be indicative of the time at which the test was made. SEE ATTACHMENT A
3. Attach basis of potential discharge (e.g., emission factor, that is, AP42 test). SEE ATTACHMENT A
4. With construction permit application, include design details for all air pollution control systems (e.g., for baghouse include cloth to air ratio; for scrubber include cross-section sketch, design pressure drop, etc.) SEE ATTCHMENT B
5. With construction permit application, attach derivation of control device(s) efficiency. Include test or design data. Items 2, 3 and 5 should be consistent: actual emissions = potential (1-efficiency). SEE ATTACHMENT A
6. An 8 1/2" x 11" flow diagram which will, without revealing trade secrets, identify the individual operations and/or processes. Indicate where raw materials enter, where solid and liquid waste exit, where gaseous emissions and/or airborne particles are evolved and where finished products are obtained. SEE ATTACHMENT C-1 AND C-2
7. An 8 1/2" x 11" plot plan showing the location of the establishment, and points of airborne emissions, in relation to the surrounding area, residences and other permanent structures and roadways (Example: Copy of relevant portion of USGS topographic map). SEE ATTACHMENT D
8. An 8 1/2" x 11" plot plan of facility showing the location of manufacturing processes and outlets for airborne emissions. Relate all flows to the flow diagram. SEE ATTACHMENT E

- 9. The appropriate application fee in accordance with Rule 17-4.05. The check should be made payable to the Department of Environmental Regulation.
- 10. With an application for operation permit, attach a Certificate of Completion of Construction indicating that the source was constructed as shown in the construction permit.

SECTION VI: BEST AVAILABLE CONTROL TECHNOLOGY

NOT APPLICABLE

A. Are standards of performance for new stationary sources pursuant to 40 C.F.R. Part 60 applicable to the source?

Yes No

Contaminant	Rate or Concentration
_____	_____
_____	_____
_____	_____
_____	_____

B. Has EPA declared the best available control technology for this class of sources (if yes, attach copy)

Yes No

Contaminant	Rate or Concentration
_____	_____
_____	_____
_____	_____
_____	_____

C. What emission levels do you propose as best available control technology?

Contaminant	Rate or Concentration
_____	_____
_____	_____
_____	_____
_____	_____

D. Describe the existing control and treatment technology (if any).

- | | |
|---------------------------|--------------------------|
| 1. Control Device/System: | 2. Operating Principles: |
| 3. Efficiency:* | 4. Capital Costs: |

*Explain method of determining

5. Useful Life:

6. Operating Costs:

7. Energy:

8. Maintenance Cost:

9. Emissions:

Contaminant

Rate or Concentration

Contaminant	Rate or Concentration

10. Stack Parameters

a. Height:

ft.

b. Diameter:

ft.

c. Flow Rate:

ACFM

d. Temperature:

°F.

e. Velocity:

FPS

E. Describe the control and treatment technology available (As many types as applicable, use additional pages if necessary).

1.

a. Control Device:

b. Operating Principles:

c. Efficiency:¹

d. Capital Cost:

e. Useful Life:

f. Operating Cost:

g. Energy:²

h. Maintenance Cost:

i. Availability of construction materials and process chemicals:

j. Applicability to manufacturing processes:

k. Ability to construct with control device, install in available space, and operate within proposed levels:

2.

a. Control Device:

b. Operating Principles:

c. Efficiency:¹

d. Capital Cost:

e. Useful Life:

f. Operating Cost:

g. Energy:²

h. Maintenance Cost:

i. Availability of construction materials and process chemicals:

¹Explain method of determining efficiency.

²Energy to be reported in units of electrical power - KWH design rate.

- j. Applicability to manufacturing processes:
- k. Ability to construct with control device, install in available space, and operate within proposed levels:

3.

- a. Control Device:
- b. Operating Principles:
- c. Efficiency:¹
- d. Capital Cost:
- e. Useful Life:
- f. Operating Cost:
- g. Energy:²
- h. Maintenance Cost:
- i. Availability of construction materials and process chemicals:
- j. Applicability to manufacturing processes:
- k. Ability to construct with control device, install in available space, and operate within proposed levels:

4.

- a. Control Device:
- b. Operating Principles:
- c. Efficiency:¹
- d. Capital Costs:
- e. Useful Life:
- f. Operating Cost:
- g. Energy:²
- h. Maintenance Cost:
- i. Availability of construction materials and process chemicals:
- j. Applicability to manufacturing processes:
- k. Ability to construct with control device, install in available space, and operate within proposed levels:

F. Describe the control technology selected:

- 1. Control Device:
- 2. Efficiency:¹
- 3. Capital Cost:
- 4. Useful Life:
- 5. Operating Cost:
- 6. Energy:²
- 7. Maintenance Cost:
- 8. Manufacturer:
- 9. Other locations where employed on similar processes:
- a. (1) Company:
- (2) Mailing Address:
- (3) City:
- (4) State:

Explain method of determining efficiency.

Energy to be reported in units of electrical power - KWH design rate.

(5) Environmental Manager:

(6) Telephone No.:

(7) Emissions:¹

Contaminant

Rate or Concentration

(8) Process Rate:¹

b. (1) Company:

(2) Mailing Address:

(3) City:

(4) State:

(5) Environmental Manager:

(6) Telephone No.:

(7) Emissions:¹

Contaminant

Rate or Concentration

(8) Process Rate:¹

10. Reason for selection and description of systems:

¹Applicant must provide this information when available. Should this information not be available, applicant must state the reason(s) why.

SECTION VII - PREVENTION OF SIGNIFICANT DETERIORATION

4. Company Monitored Data

1. _____ no. sites _____ TSP _____ () SO₂* _____ Wind spd/dir

Period of Monitoring _____ / _____ / _____ to _____ / _____ / _____
month day year month day year

Other data recorded _____

Attach all data or statistical summaries to this application.

Specify bubbler (B) or continuous (C).

2. Instrumentation, Field and Laboratory

- a. Was instrumentation EPA referenced or its equivalent? [] Yes [] No
- b. Was instrumentation calibrated in accordance with Department procedures?
[] Yes [] No [] Unknown

B. Meteorological Data Used for Air Quality Modeling

- 1. _____ Year(s) of data from _____ / _____ / _____ to _____ / _____ / _____
month day year month day year
- 2. Surface data obtained from (location) _____
- 3. Upper air (mixing height) data obtained from (location) _____
- 4. Stability wind rose (STAR) data obtained from (location) _____

C. Computer Models Used

- 1. _____ Modified? If yes, attach description.
- 2. _____ Modified? If yes, attach description.
- 3. _____ Modified? If yes, attach description.
- 4. _____ Modified? If yes, attach description.

Attach copies of all final model runs showing input data, receptor locations, and principle output tables.

D. Applicants Maximum Allowable Emission Data

Pollutant	Emission Rate
TSP	_____ grams/sec
SO ²	_____ grams/sec

E. Emission Data Used in Modeling

Attach list of emission sources. Emission data required is source name, description of point source (on NEDS point number), UTM coordinates, stack data, allowable emissions, and normal operating time.

F. Attach all other information supportive to the PSD review.

G. Discuss the social and economic impact of the selected technology versus other applicable technologies (i.e., jobs, payroll, production, taxes, energy, etc.). Include assessment of the environmental impact of the sources.

H. Attach scientific, engineering, and technical material, reports, publications, journals, and other competent relevant information describing the theory and application of the requested best available control technology.

ATTACHMENT A

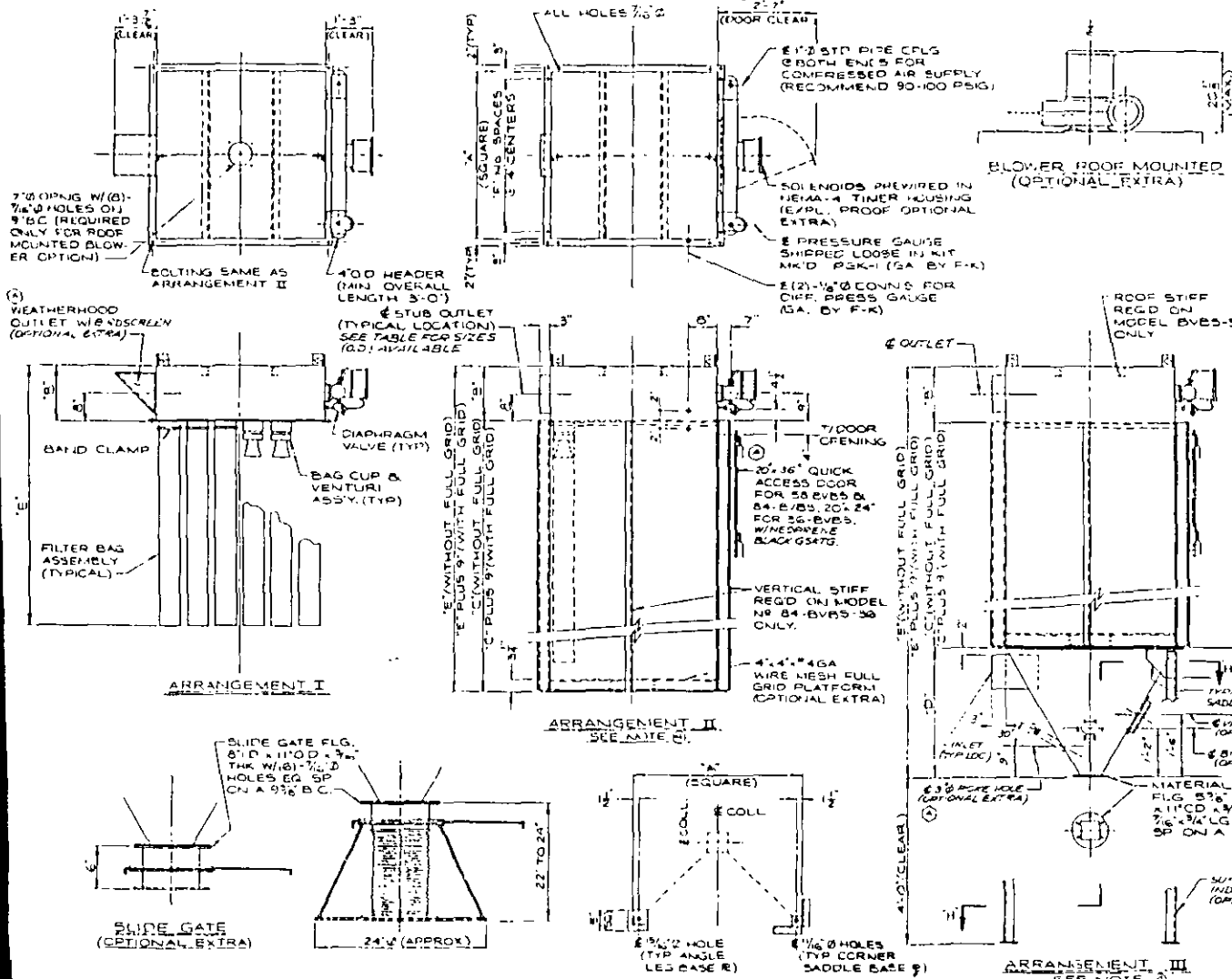
Particulate Emission Estimate

Estimate Dust Collector Loading: 280 lbs/hr
100% - 99.98% (Dust Collector Efficiency) = .02%
28 lbs/hr x .02% = .0056 lbs/hr Discharge
.0056 lbs/hr x 2080 operating hours = 11.65 lbs/yr
11.65 lbs/yr - 2,000 lbs/ton = .0058 tons/yr

Potential Emissions

28 lbs/hr Dust Collector Loading
28 lbs/hr x 8760 hrs/yr
245,280 lbs/yr - 2,000 lbs/ton =
122.6 tons/year Potential Emissions

ATTACHMENT B



DATA										DIMENSIONS (WITHOUT DUTCHMAN)								
MOEFL	MIN	MAX	AREA SQ FT	TOP OF HOOD (IN)	HT OF HOOD (IN)	HT OF RECD (IN)	HT OF RECD (IN)	HT OF RECD (IN)	HT OF RECD (IN)	A	B	C	D	E	F	G	H	I
18-BVBS-1	I	17	9	16	3	4.0	2'-0"	1'-4"		2'-10"	5	2"			5"	3"	172	
36-BVBS-3	I	39	9	36	3	4.2	2'-0"	1'-4"		4'-4"	5	3"	5'-10"	4'-4"	5"	201		
	1'-4"							5'-2"	4'-6"	201								
	1'-4"							3'-2"	1'-4"	5'-10"		4'-4"		5"		201		
58-BVBS-6	I	65	9	58	3	4.5	2'-0"	1'-4"		6'-2"	5	4"	6'-10"	6'-4"	5"	421		
	1'-4"							5'-0"	6'-4"	421								
	1'-4"							3'-0"	1'-4"	6'-10"		6'-4"		5"		421		
84-BVBS-9	I	95	9	84	3	5.0	2'-0"	1'-4"		8'-4"	5	5"	8'-10"	8'-7"	5"	222		
	1'-4"							7'-5"	8'-7"	222								
	1'-4"							7'-5"	1'-4"	8'-10"		8'-7"		5"		222		
18-BVBS-4	I	30	18	18	4	3.2	2'-8"	1'-4"		2'-10"	7	3"	2'-10"	4"	3"	271		
	1'-4"								4'-4"	271								
	1'-4"							5'-2"	1'-11"	6'-5"		4"		3"		271		
36-BVBS-6	I	69	18	36	4	3.5	2'-8"	1'-4"		4'-4"	7	4.5"	5'-10"	4'-6"	6"	501		
	1'-4"							5'-2"	4'-6"	501								
	1'-4"							3'-2"	1'-11"	6'-5"		4"		6"		501		
58-BVBS-9	I	115	16	58	4	3.8	2'-8"	1'-4"		6'-2"	7	5"	6'-10"	6'-4"	7"	601		
	1'-4"							5'-0"	6'-4"	601								
	1'-4"							5'-0"	1'-11"	8'-3"		6'-4"		7"		601		
84-BVBS-12	I	170	16	84	4	6.2	2'-8"	1'-4"		8'-4"	7	6.5"	8'-10"	8'-7"	8"	352		
	1'-4"							7'-5"	10'-6"	352								
	1'-4"							7'-5"	1'-11"	10'-6"		8'-4"		8"		352		
18-BVBS-25	I	47	25	18	5	6.3	3'-4"	1'-4"		2'-10"	9	4"	2'-10"	4"	4"	372		
	1'-4"								4'-4"	372								
	1'-4"							5'-2"	2'-4"	7'-6"		4"		4"		372		
36-BVBS-25	I	106	25	36	5	6.5	3'-4"	1'-4"		4'-4"	9	5.5"	5'-10"	4'-6"	7"	422		
	1'-4"							5'-2"	4'-6"	422								
	1'-4"							5'-0"	2'-4"	8'-10"		4'-6"		9"		422		
58-BVBS-25	I	180	25	58	5	6.7	3'-4"	1'-4"		6'-2"	9	7.5"	6'-10"	6'-4"	9"	775		
	1'-4"							5'-0"	6'-4"	775								
	1'-4"							5'-0"	2'-4"	8'-10"		6'-4"		9"		775		
84-BVBS-25	I	265	25	84	5	7.0	3'-4"	1'-4"		8'-4"	9	8.5"	8'-10"	8'-7"	10"	472		
	1'-4"							7'-5"	10'-7"	472								
	1'-4"							7'-5"	2'-6"	11'-1"		8'-4"		10"		472		
84-BVBS-36	I	382	36	84	6	8.5	4'-0"	1'-4"		8'-4"	11	10.5"	8'-10"	8'-7"	12"	672		
	1'-4"							7'-5"	11'-6"	672								
	1'-4"							7'-5"	3'-1"	11'-6"		8'-4"		12"		672		

- ORIENTATION OPTIONS**
- ACCESS DOOR OPTIONS (A) (B) (C) (D)
- ACCESS DOOR LOCATION REQ'D (A) (B) (C) (D)
- INLET OPTIONS (A) (B) (C) (D)
- INLET LOCATION REQ'D (A) (B) (C) (D)
- OUTLET OPTIONS (1) (2) (3) (4)
- OUTLET LOCATION REQ'D (1) (2) (3) (4)
- WEATHERHOOD OPTIONS (1) (2) (3)
- WEATHERHOOD LOCATION REQ'D (1) (2) (3)
- INDICATOR OPNG OPTIONS (A) (B) (C) (D)
- INDICATOR OPNG LOCATION REQ'D (A) (B) (C) (D)
- VIBRATOR AND OPTIONS (A) (B) (C) (D)
- MS RATER AND LOCATION REQ'D (A) (B) (C) (D)
- POKE HOLE LOCATION REQ'D (A) (B) (C) (D)
- POKE HOLE LOCATION REQ'D (A) (B) (C) (D)
- NOTE: DO NOT LOCATE MORE THAN ONE COMPONENT AT EACH POSITION ON HOOPER

NOTES:

- DIAMOND HOPPER HEIGHT IS BASED ON 60° SLOPE & MATERIAL DISCHARGE OPNG. THAT WILL SUIT AN 8" AIRLOCK
- DESIGN PRESSURE IS 15.17 TWG
- DRAWING TO BE USED FOR GENERAL ARRANGEMENT ONLY. NOT TO BE USED FOR CONSTRUCTION UNLESS CERTIFIED.
- WHEN A FULL INTERNAL GRID IS INCLUDED IN UNIT, THE MODEL IS DESIGNATED AS "ARR. I G" OR "ARR. III G".

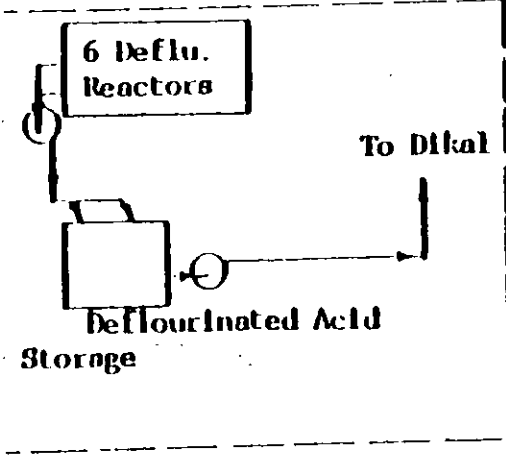
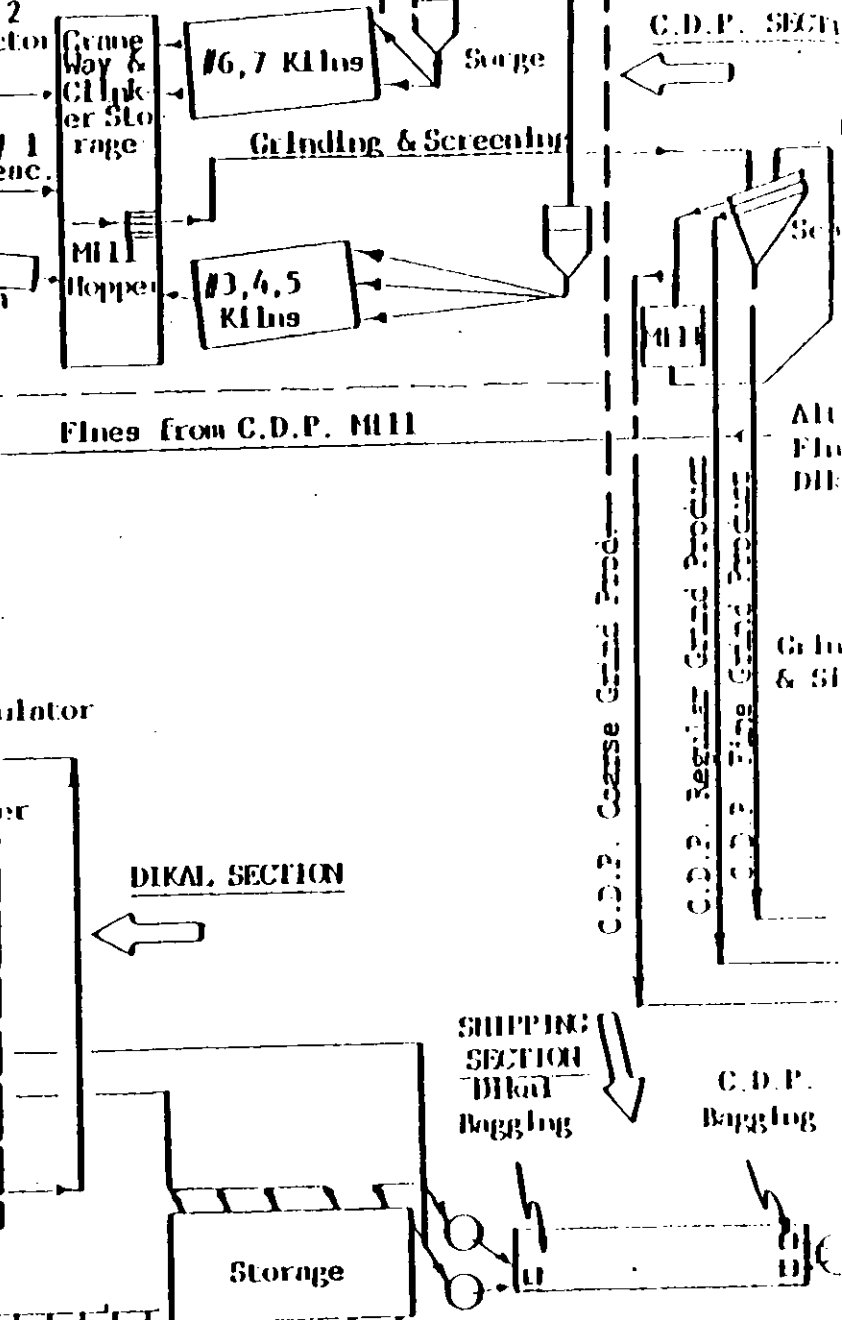
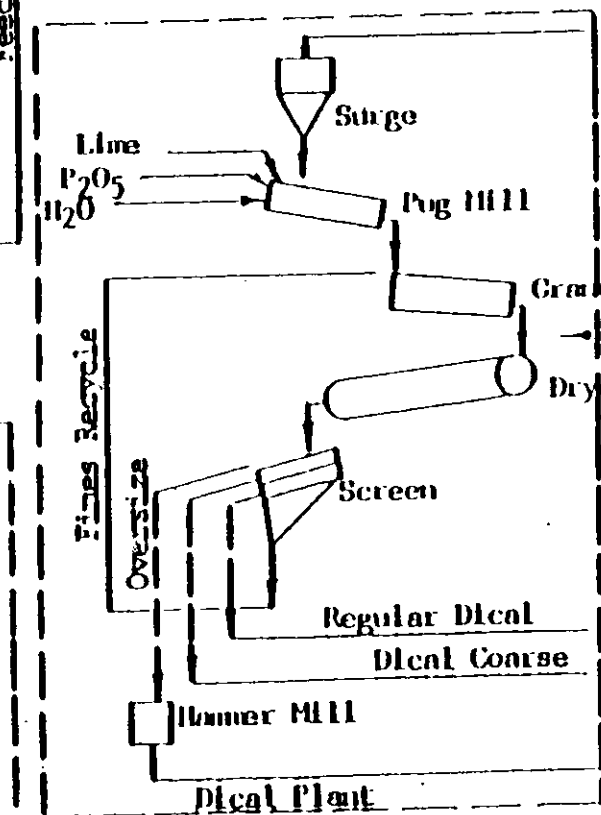
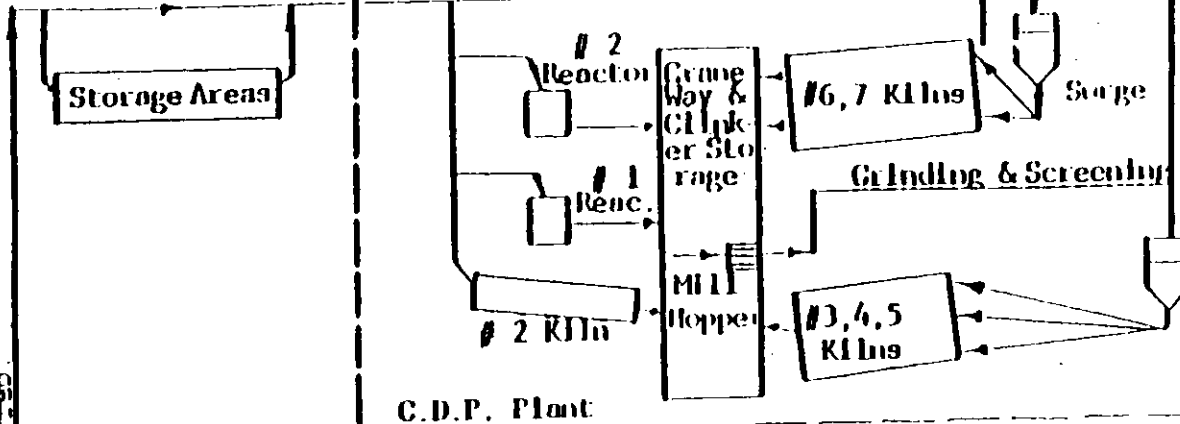
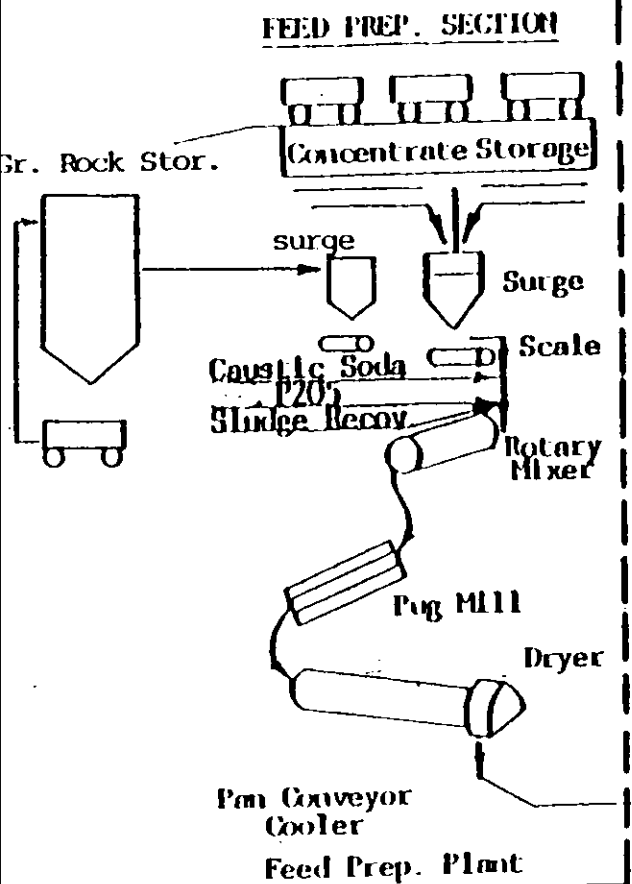
NOTES (CONT.):

- GRID SIZE AND INLET SIZE FROM THE TABLE BASED ON 3000-4000 CFM MIN GAS FLOWING.

(A) CAPTIVE GRID (TYP) OUTLET, WITH 1" AND OUTLET & 1" Ø B. SCREEN, (OPTIONAL EXTRA)		(B) CAPTIVE GRID (TYP) OUTLET, WITH 1" AND OUTLET & 1" Ø B. SCREEN, (OPTIONAL EXTRA)	
DATE	REVISION	DATE	BY
FLEX-KLEEN CORPORATION			
SUBSIDIARY OF RESEARCH-COTTRELL, INC.			
NY 5	COM	POWER	
7-27-85	100		
GENERAL DATA			
FLEX-KLEEN BVBS SERIES		ABS-3F-063 A	

THIS DRAWING SUPERCEDES A-75F-85

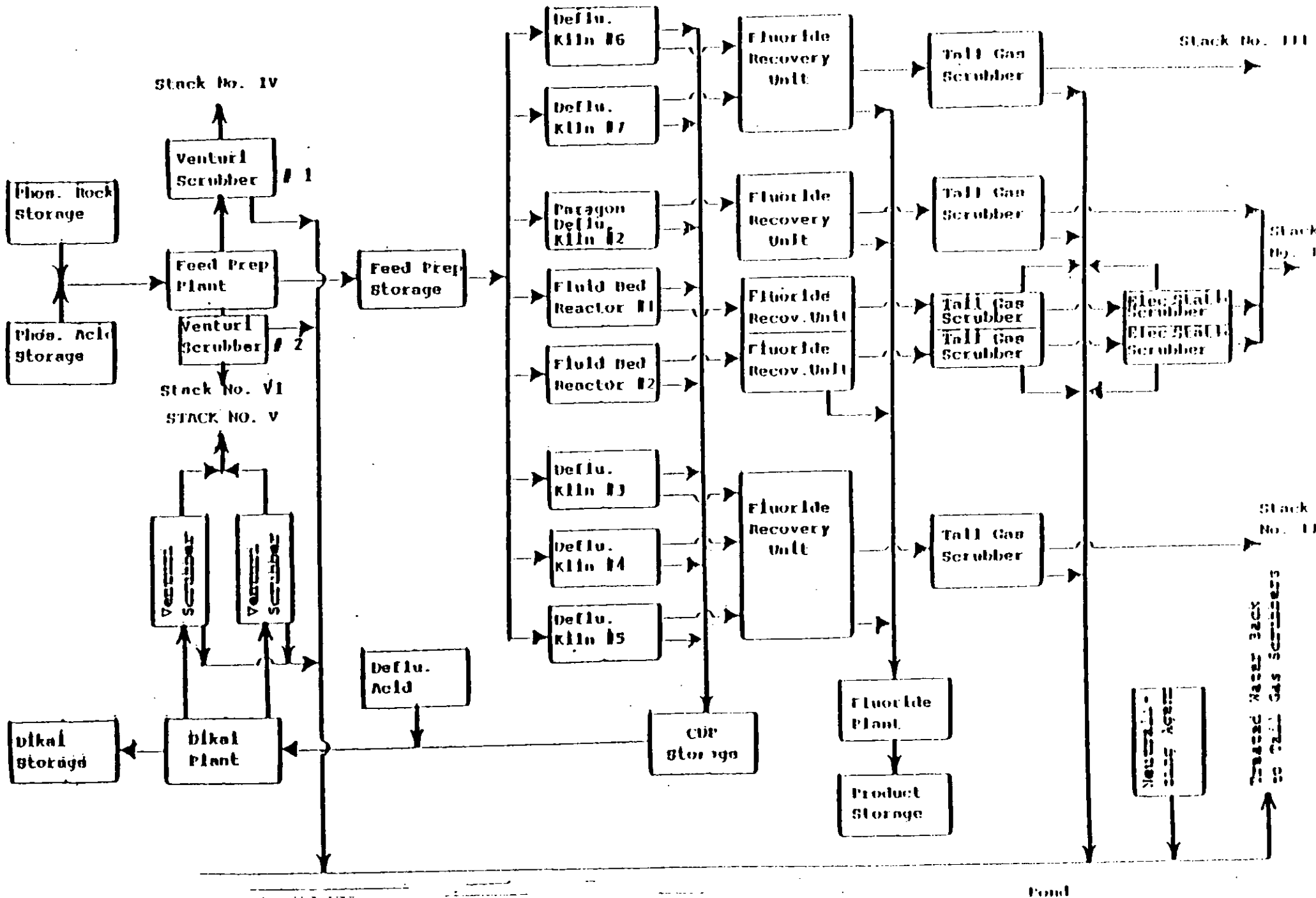
ATTACHMENT C-1



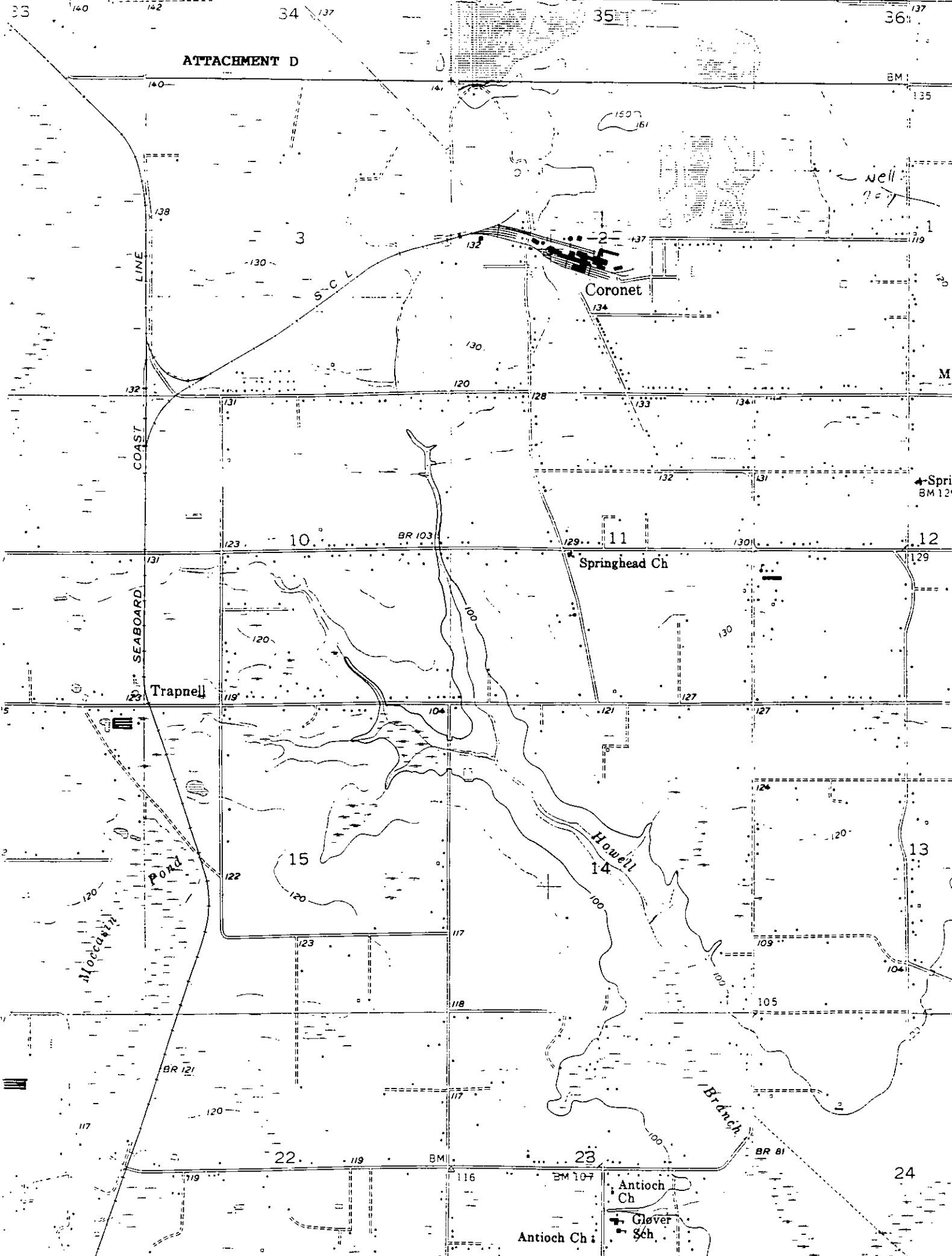
CMI PLANT CITY FACILITY

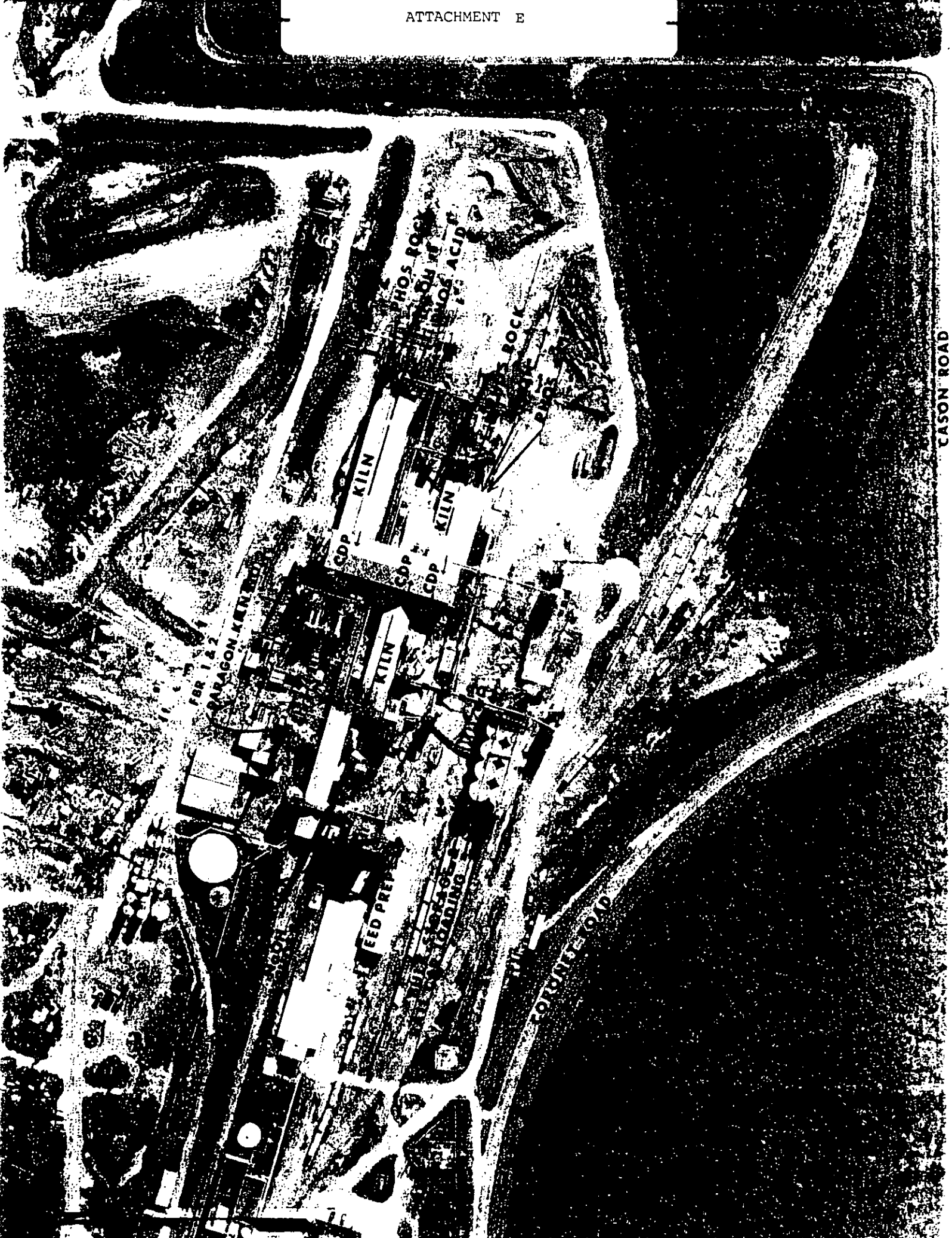
ATTACHMENT C-2

FLOW DIAGRAM



ATTACHMENT D





CMI
CONSOLIDATED MINERALS, INC.
FEED SUPPLEMENT DIVISION

June 27, 1989

D. E. R.

JUN 29 1989

SOUTHWEST DISTRICT
TAMPA

Mr. J. Harry Kerns, P.E.
District Air Engineer
Department of Environmental Regulation
Southwest District
4520 Oak Fair Blvd.
Tampa, FL 33610

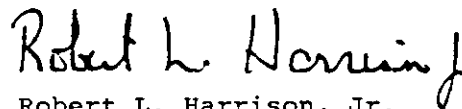
Dear Mr. Kerns:

Please find attached four copies of an operation permit application for Consolidated Minerals Inc. Plant City Research and Development Fluid Bed Reactor with Scrubber.

Also attached is a check in the amount of \$200.00 to cover the application fee. A copy of this application and the appropriate application fee has been transmitted to the Hillsborough County Environmental Protection Commission.

If you have any questions concerning the contents of this application, please let me know.

Sincerely,



Robert L. Harrison, Jr.
Environmental Supervisor

RLHjr:tc

cc: F. W. Cheesman

Attachments