Golder Associates Inc.

6241 NW 23rd Street, Suite 500
Gainesville, FL 32653-1500
Telephone (352) 336-5600
Fax (352) 336-6603

August 14, 1997

Mr. A. A. Linero, P.E.
Administrator, New Source Review Section
Florida Department of Environmental Protection
2600 Blair Stone Road
Tallahassee, FL 32399-2400

Re: U.S. Sugar Portable Rock Crusher, Method 9 Visible Emission Testing
AIRS I.D. No. 7775035-001-AC

Dear Mr. Linero:

As required to obtain an air operating permit for United States Sugar Corporation's portable rock crusher, the Florida Department of Environmental Protection (FDEP) requested that a visible emissions test be conducted on the crusher and associated diesel engine. On July 30, 1997, Golder Associates Inc. conducted USEPA Method 9 visible emission (VE) testing on the portable rock crusher and diesel engine. The visible emissions observations were made at the U.S. Sugar Corporation's Bourne Farms properties and the testing was observed by Mr. F. Mark Sittig of the Ft. Myers office of the (FDEP).

The results of the visible emissions observations demonstrated that the rock crusher and the diesel engine are in compliance within the 20% opacity limit requested in the after-the-fact construction permit. During the testing, the rock crusher was operating at a process rate of approximately 395 tons per hour (TPH) of limestone. Enclosed are copies of the field data sheets, copies of the process rate calculations, and VE testing certifications.

From a review of U.S. Sugar's application, it was determined that the process rate requested in the application (325 TPH) is lower than at which the equipment can operate. Therefore, U.S. Sugar would like to revise the maximum process operating rate to the rate experienced during testing plus 10 percent. Thus, the maximum requested rate is 435 TPH. Revised application pages reflecting this change are attached.

Should you have any questions about this information, or need any additional information, feel free to contact me at 352-336-5600.

Sincerely,

David A. Buff

David A. Buff, P.E.
Principal Engineer
Florida P.E. #19011
SEAL

DB/arz

cc: M. Arrants
Peter Briggs
Charles McDavid
Lawrence Worth

cc: W. Hanks, BAR
Palm Bch Co.
SED

9737536A/1

ATTACHMENT 1

USEPA METHOD 9 VISIBLE EMISSIONS TEST RESULTS

PROCESS RATE DERIVATION FOR USSC's PORTABLE ROCK CRUSHER

VARIABLES:

1) 2,800 lbs / cu. yd (density of limestone substrate being crushed)

2) 1.5 cu. yd. bucket being used to keep rock crusher hopper full during test.

3) 94 buckets crushed during 30 minute USEPA Method 9 Test.

CALCULATIONS:

1) lbs / bucket = 2,800 lbs / cu. yard x 1.5 cu. yard/bucket

lbs per bucket = 4,200 lbs / bucket

2) lbs crushed per hr = 4,200 lbs / bucket x 94 buckets(in 30 min) x 2 (30 min periods/hr)

lbs crushed per hr = 789,600

3) tons crushed per hr = 789,600 lbs/hr / 2,000 lbs/ton

tons crushed / hr = 394.8

VISIBLE EMISSION OBSERVATION FORM

Golder Associates

Form Number	U	S	S	C	2	Page 1 of 1
Continued on VEO Form Number N/A						

Method Used (Circle One): (Method 9) 203A 203B Other:

Company Name: U.S. SUGAR CORPORATION

Facility Name: BOURNE FARMS

Street Address: 111 PONCE DE LEON AVENUE

City: CLEWISTON | State: FL | Zip: 33440

PORTABLE ROCK CRUSHER POWER SUPPLY

Process: 318 HP DIESEL MOTOR | Unit #: — | Operating Mode: ~8 gal/Hr

Control Equipment: N/A | Operating Mode: N/A

Describe Emission Point: TWIN DIESEL EXHAUST STACKS NEAR CAB.

Height of Emission Point: Start 15' End 15' | Height of Emission Point Ref. to Observer: Start 12' End 12'

Distance to Emission Point: Start 90' End 90' | Direction to Emission Point (Degrees): Start 320° End 320°

Vertical Angle to Obs. Pt.: Start 9° End 9° | Direction to Obs. Pt. (Degrees): Start 320° End 320°

Distance and Direction to Observation Point from Emission Point: Start SAME POINT End S/P

Describe Emissions: Start NONE APPARENT End N/A

Emission Color: Start N/A End N/A | Water Droplet Plume: Attached ☐ Detached ☐ None ☑

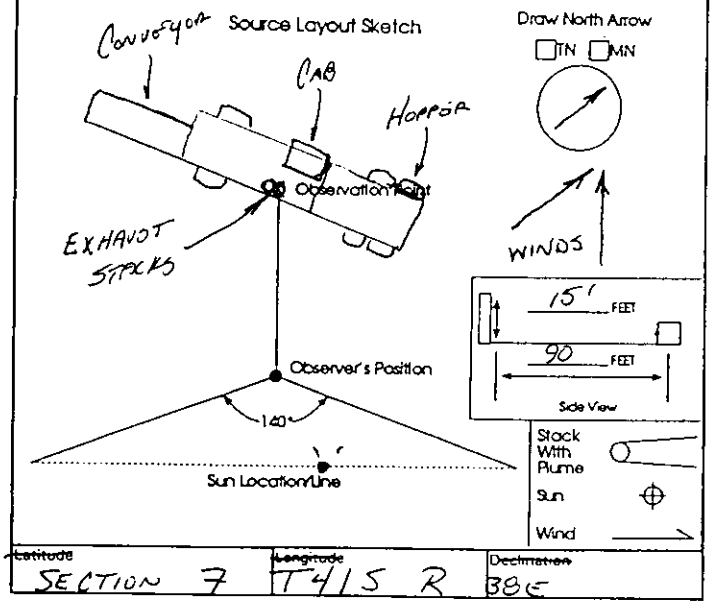
Describe Plume Background: Start SKY End SKY

Background Color: Start BLUE/WHITE End SAME | Sky Conditions: Start CLEAR 5% COVER End CLEAR

Wind Speed: Start 0-3 End 0-5 | Wind Direction: Start S-SE End S-SE

Ambient Temp.: Start 85°F End 86°F | Wet Bulb Temp.: 81°F | RH Percent:

Source Layout Sketch



~~Latitude~~ SECTION 7 | ~~Longitude~~ T41S R | ~~Declination~~ 38E

Additional Information: UPON STARTUP EMITTED ~ 30% OPACITY BLACK SMOKE FOR 15-20 SEC.

Observation Date	Time Zone	Start Time	End Time
30 JULY 97	EAST	0945	1015

Min \ Sec	0	15	30	45
1	0	0	0	0
2	0	0	0	0
3	0	0	0	0
4	0	0	0	0
5	0	0	0	0
6	0	0	0	0
7	0	0	0	0
8	0	0	0	0
9	0	0	0	0
10	0	0	0	0
11	0	0	0	0
12	0	0	0	0
13	0	0	0	0
14	0	0	0	0
15	0	0	0	0
16	0	0	0	0
17	0	0	0	0
18	0	0	0	0
19	0	0	0	0
20	0	0	0	0
21	0	0	0	0
22	0	0	0	0
23	0	0	0	0
24	0	0	0	0
25	0	0	0	0
26	0	0	0	0
27	0	0	0	0
28	0	0	0	0
29	0	0	0	0
30	0	0	0	0

Observer's Name (Print): MICHAEL J. ARRANTS

Observer's Signature: Michael J Arrants | Date: 30 JULY 97

Organization: GOLDER ASSOCIATES

Certified By: ETA | Date: 25 FEB 97

FORMS/VEOF (02/18/97)

VISIBLE EMISSION OBSERVATION FORM

Golder Associates

Form Number	U	S	S	C	1	Page 1 of 1
Continued on VEO Form Number N/A						

Method Used (Circle One): (Method 9) 203A 203B Other: _____

Company Name: U.S. SUGAR CORPORATION

Facility Name: BOURNE FARMS

Street Address: 111 PONCE DE LEON AVENUE

City: CLEWISTON | State: FL | Zip: 33440

SINGLE IMPELLER IMPACT BREAKER

Process: PORTABLE ROCK CRUSHER | Unit #: — | Operating Mode:

Control Equipment: NONE | Operating Mode:

Describe Emission Point: ENTIRE UNIT OBSERVED FOR FUGATIVE EMISSIONS

Height of Emission Point: Start 15' End 15' | Height of Emission Point Ref. to Observer: Start 12' End 12'

Distance to Emission Point: Start 70 - 110' End SAME | Direction to Emission Point (Degrees): Start 310° - 340° End SAME

Vertical Angle to Obs. Pt.: Start 0 - 9° End 0 - 9° | Direction to Obs. Pt. (Degrees): Start 310° - 340° End SAME

Distance and Direction to Observation Point from Emission Point: Start SAME POINTS End S/P

Describe Emissions: Start NONE APPARENT End N/A

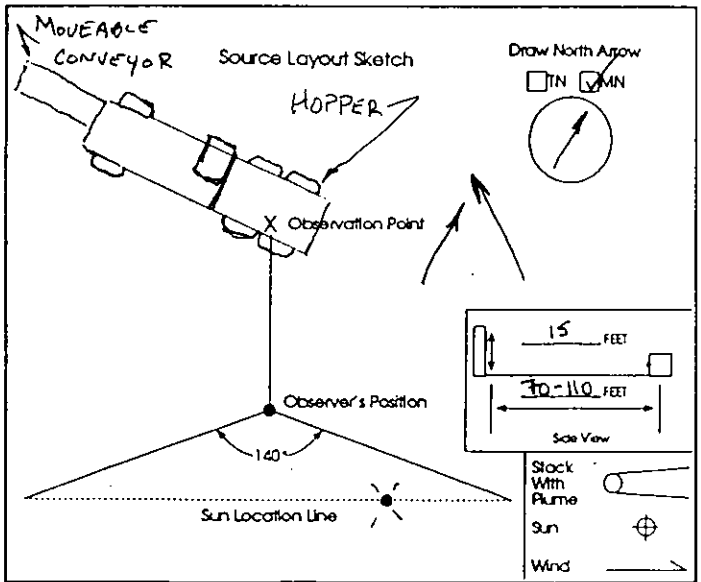
Emission Color: Start N/A End N/A | Water Droplet Plume: Attached ☐ Detached ☐ None ☑

Describe Plume Background: Start SKY End SKY

Background Color: Start BLUE/WHITE End SAME | Sky Conditions: Start CLEAR 5% COVER End CLEAR

Wind Speed: Start 0-3 End 0-5 | Wind Direction: Start S-SE End S-SE

Ambient Temp.: Start 85° End 96° | Wet Bulb Temp.: 81° | RH Percent:



Latitude: SECTION 7 | Longitude: T41S R 3E | Declination:

Additional Information:

Observation Date	Time Zone	Start Time	End Time
30 JULY 97	EAST	0945	1015

Sec / Min	0	15	30	45
1	0	0	0	0
2	0	0	0	0
3	0	0	0	0
4	0	0	0	0
5	0	0	0	0
6	0	0	0	0
7	0	0	0	0
8	0	0	0	0
9	0	0	0	0
10	0	0	0	0
11	0	0	0	0
12	0	0	0	0
13	0	0	0	0
14	0	0	0	0
15	0	0	0	0
16	0	0	0	0
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20	0	0	0	0
21	0	0	0	0
22	0	0	0	0
23	0	0	0	0
24	0	0	0	0
25	0	0	0	0
26	0	0	0	0
27	0	0	0	0
28	0	0	0	0
29	0	0	0	0
30	0	0	0	0

Observer's Name (Print): MICHAEL J. ARRANTS

Observer's Signature: [signature] Date: 30 JULY 97

Organization: GOLDER ASSOCIATES

Certified By: ETA Date: 25 FEB 97

FORMS/VEOF (02/18/97)

VISIBLE EMISSIONS EVALUATOR

This is to certify that

Michael Arrants

met the specifications of Federal Reference Method 9 and qualified as a visible emissions evaluator. Maximum deviation on white and black smoke did not exceed 7.5% opacity and no single error exceeding 15% opacity was incurred during the certification test conducted by Eastern Technical Associates of Raleigh, North Carolina. This certificate is valid for six months from date of issue.

President

Vice President

David B. Savage, Jr.
Program Manager

257057
Certificate Number

Tampa, Florida
Location

February 25, 1997
Date of Issue

ATTACHMENT 2

UPDATED PERMIT APPLICATION PAGES

C. EMISSIONS UNIT DETAIL INFORMATION
(Regulated Emissions Units Only)

Emissions Unit Details

1. Initial Startup Date:	
2. Long-term Reserve Shutdown Date:	
3. Package Unit: Manufacturer: Iowa Manufacturing Company	Model Number: 3633
4. Generator Nameplate Rating:	MW
5. Incinerator Information: Dwell Temperature: Dwell Time: Incinerator Afterburner Temperature:	 °F seconds °F

Emissions Unit Operating Capacity

1. Maximum Heat Input Rate:		1	mmBtu/hr
2. Maximum Incineration Rate:	lbs/hr		tons/day
3. Maximum Process or Throughput Rate:		435	tons rock/hour
4. Maximum Production Rate:			
5. Operating Capacity Comment (limit to 200 characters): Rock Crusher has a 318 H.P. diesel engine			

Emissions Unit Operating Schedule

1. Requested Maximum Operating Schedule:

20	hours/day	7	days/week
52	weeks/yr	7,280	hours/yr

F. SEGMENT (PROCESS/FUEL) INFORMATION
(Regulated and Unregulated Emissions Units)

Segment Description and Rate: Segment 1 of 2

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) (limit to 500 characters): **Mineral Products - Stone Quarrying-Processing; Primary Crushing**	
2. Source Classification Code (SCC): **3-05-020-01**	
3. SCC Units: **Tons Raw Material**	
4. Maximum Hourly Rate: **435**	5. Maximum Annual Rate: **3,166,800**
6. Estimated Annual Activity Factor:	
7. Maximum Percent Sulfur:	8. Maximum Percent Ash:
9. Million Btu per SCC Unit:	
10. Segment Comment (limit to 200 characters):	

H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)

Pollutant Detail Information:

1. Pollutant Emitted: **PM**

2. Total Percent Efficiency of Control: %

3. Potential Emissions: **1.01** lb/hour **3.66** tons/year

4. Synthetically Limited? [**X**] Yes [ ] No

5. Range of Estimated Fugitive/Other Emissions:

   [ ] 1 [ ] 2 [ ] 3 _____ to _____ tons/yr

6. Emission Factor: **7 E-04 lb/ton**

   Reference: **AP-42**

7. Emissions Method Code:

   [ ] 0 [ ] 1 [ ] 2 [**X**] 3 [ ] 4 [ ] 5

8. Calculation of Emissions (limit to 600 characters):

   Rock Crushing: 435 TPH x 0.0007 lb/ton = 0.31 lb/hr; 0.31 lb/hr x 7,280 hr/yr x 1 ton/2,000 lb = 1.11 TPY; Diesel Combustion: 318 hp x 0.0022 lb/hp-hr = 0.70 lb/hr; 0.70 lb/hr x 7,280 x 1 ton/2,000 = 2.55 TPY

9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters):

H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)

Pollutant Detail Information:

1. Pollutant Emitted: **PM10**
2. Total Percent Efficiency of Control: %
3. Potential Emissions: **1.01** lb/hour **3.66** tons/year
4. Synthetically Limited? [**X**] Yes [ ] No
5. Range of Estimated Fugitive/Other Emissions: [ ] 1 [ ] 2 [ ] 3 _____ to _____ tons/yr
6. Emission Factor: **7 E-04 lb/ton** Reference: **AP-42**
7. Emissions Method Code: [ ] 0 [ ] 1 [ ] 2 [**X**] 3 [ ] 4 [ ] 5
8. Calculation of Emissions (limit to 600 characters): **Rock Crushing: 435 TPH x 0.0007 lb/ton = 0.31 lb/hr; 0.31 lb/hr x 7,280 hr/yr x 1 ton/2,000 lb = 1.11 TPY; Diesel Combustion: 318 hp x 0.0022 lb/hp-hr = 0.70 lb/hr; 0.70 lb/hr x 7,280 x 1 ton/2,000 = 2.55 TPY**
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters):

Table 2. Potential PM Emissions from the Rock Crusher

OPERATING DATA		SPECIFICATION	
Operating Time (hr/yr)		7,280	
Material Throughput (ton/hr)		435	
Material Throughput (ton/yr)		3,166,800	
		PM/PM10	
Activity	Emission Factor [a]	lb/hr	TPY
EMISSIONS DATA			
Primary Crushing	7.00E-04 lb/ton	0.31	1.11

Note: NA = not applicable.

[a] Emission factors based on AP-42, Table 11.19.2-2.