

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

RECEIVED
AUG 15 1997
BUREAU OF
AIR REGULATION

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,

A handwritten signature in cursive script that reads "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

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) $\text{lbs / bucket} = 2,800 \text{ lbs / cu. yard} \times 1.5 \text{ cu. yard/bucket}$
 $\text{lbs per bucket} = 4,200 \text{ lbs / bucket}$
- 2) $\text{lbs crushed per hr} = 4,200 \text{ lbs / bucket} \times 94 \text{ buckets(in 30 min)} \times 2 \text{ (30 min periods/hr)}$
 $\text{lbs crushed per hr} = 789,600$
- 3) $\text{tons crushed per hr} = 789,600 \text{ lbs/hr} / 2,000 \text{ lbs/ton}$
 $\text{tons crushed / hr} = 394.8$



VISIBLE EMISSION OBSERVATION FORM

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

Process
 PORTABLE ROCK CRUSHER POWER SUPPLY

Control Equipment
 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 Ref. to Observer
 Start 15' End 15' Start 12' End 12'

Distance to Emission Point
 Start 90' End 90' Start 320° End 320°

Vertical Angle to Obs. Pt.
 Start 90° End 90° 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

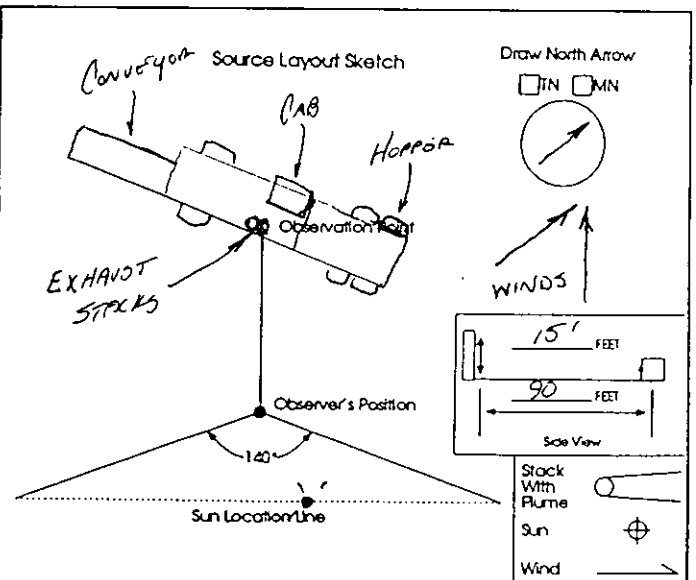
Emission Color
 Start N/A End N/A Water Droplet Plume
 Attached Detached None

Describe Plume Background
 Start SKY End SKY

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

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



Latitude
 SECTION 7 Longitude
 T415 R Destination
 38E

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

Form Number
 U 5 5 C 2 Page
 1 of
 1

Continued on VEO Form Number
 N/A

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	
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
 [Signature] Date
 30 July 97

Organization
 GOLDER ASSOCIATES

Certified By
 ETA Date
 25 FEB 97



VISIBLE EMISSION OBSERVATION FORM

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 State Zip
 LEWISTON FL 33440

Process Unit # Operating Mode
 PORTABLE ROCK CRUSHER — —

Control Equipment Operating Mode
 NONE —

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

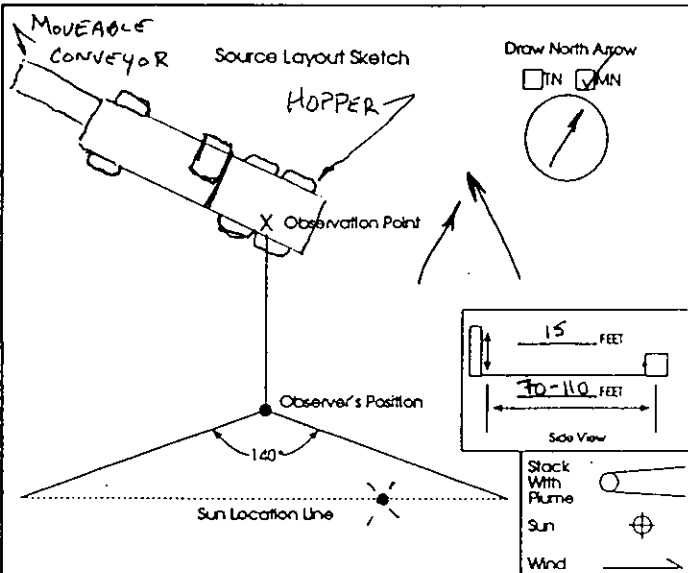
Emission Color
 Start N/A End N/A Water Droplet Plume
 Attached Detached None

Describe Plume Background
 Start SKY End SKY

Background Color
 Start BLUE/WHITE End SAME Sky Conditions
 Start CLEAR End CLEAR

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

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



Latitude Longitude Declination
 SECTION 7 T413 R 3 SE

Additional Information

Form Number U S S C 1 Page 1 of 1

Continued on VEO Form Number N/A

Observation Date	Time Zone	Start Time	End Time
30 JULY 97	EAST	0945	1015
Min	Sec	0	15
30	45		
1	0	0	0
2	0	0	0
3	0	0	0
4	0	0	0
5	0	0	0
6	0	0	0
7	0	0	0
8	0	0	0
9	0	0	0
10	0	0	0
11	0	0	0
12	0	0	0
13	0	0	0
14	0	0	0
15	0	0	0
16	0	0	0
17	0	0	0
18	0	0	0
19	0	0	0
20	0	0	0
21	0	0	0
22	0	0	0
23	0	0	0
24	0	0	0
25	0	0	0
26	0	0	0
27	0	0	0
28	0	0	0
29	0	0	0
30	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

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.

Thomas Hore

President

William J. Lee

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:		°F
Dwell Time:		seconds
Incinerator Afterburner Temperature:		°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): <p style="text-align: center;">3-05-020-01</p>	
3. SCC Units: <p style="text-align: center;">Tons Raw Material</p>	
4. Maximum Hourly Rate: <p style="text-align: center;">435</p>	5. Maximum Annual Rate: <p style="text-align: center;">3,166,800</p>
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? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
5. Range of Estimated Fugitive/Other Emissions: <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 _____ to _____ tons/yr	
6. Emission Factor: 7 E-04 lb/ton Reference: AP-42	
7. Emissions Method Code: <input type="checkbox"/> 0 <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input checked="" type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 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? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		
5. Range of Estimated Fugitive/Other Emissions:		
<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 _____ to _____ tons/yr		
6. Emission Factor:		7 E-04 lb/ton
Reference: AP-42		
7. Emissions Method Code:		
<input type="checkbox"/> 0 <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input checked="" type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5		
8. Calculation of Emissions (limit to 600 characters):		
<p>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</p>		
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	
Activity	Emission Factor ^a	PM/PM10	
		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.