

Note: This is a reference cited in *AP 42, Compilation of Air Pollutant Emission Factors, Volume I Stationary Point and Area Sources*. AP42 is located on the EPA web site at www.epa.gov/ttn/chief/ap42/

The file name refers to the reference number, the AP42 chapter and section. The file name "ref02_c01s02.pdf" would mean the reference is from AP42 chapter 1 section 2. The reference may be from a previous version of the section and no longer cited. The primary source should always be checked.

AP-42 Section Number: 9.10.2.1

Reference Number: 9

Title: Almond Huller Baghouse Emissions
Tests

Superior Farms

Truesdail Laboratories

November 1980

REPORT

TRUESDAIL LABORATORIES, INC.

AP-42 Section 9.10.2.1
Reference 9
Report Sect.
Reference

DUPLICATE

CHEMISTS - MICROBIOLOGISTS - ENGINEERS
RESEARCH - DEVELOPMENT - TESTING

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LOS ANGELES 90066
AREA CODE 213 • 228-1564
CABLE: TRUELABB

CLIENT *Superior Farming Company*
1101 Stockdale Highway
Bakersfield, California 93309
Attn: Mr. Dave Nelson
SAMPLE Almond Huller Baghouse emissions. Tests
on 3 Baghouses, on October 1, 2, and 6, 1980
P. O. No. 98819

DATE November 5, 1980
RECEIVED September 12, 1980
LABORATORY NO. 34506

INVESTIGATION

Sampling and analysis of 3 Baghouse emissions for particulate matter concentration and emission rates.

RESULTS

On October 1, 2 and 6, 1980, representatives of Truesdail Laboratories, Inc., conducted tests on each of (three) baghouse serving almond hullers and peelers owned by Superior Farming Company, located at their Bakersfield (Kern County), California, facility. The tests were conducted to determine particulate matter concentration and emission rates of the three baghouses.

The particulate matter sampling was performed according to EPA method 5. The maximum number of traverse points (24) was chosen because of the minimum allowable number of diameters from the nearest obstruction; both, upstream and downstream from the sampling ports.

The tests were run while the systems were under normal operating and load conditions.

Each of the baghouses has multiple exhaust fans. The Kern County APCD gave its approval to test only one exhaust outlet on each of the baghouses and to multiply the flow rates and particulate matter emission rates by the number of outlets per baghouse.

The exhaust fans had no provisions for testing the flue gas (no stacks), so a special portable manifold was attached to one of the fans. This permitted testing of the flue gas by exhausting it through a rectangular stack. Three sampling ports were positioned one-half of the effective diameter upstream and two effective diameters downstream of the nearest bend or obstruction.

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KERN COUNTY HL

This report applies only to the sample, or samples, investigated and is not necessarily indicative of the quality or condition of similar products. As a mutual protection to clients, the public and these Laboratories, this report is submitted for the exclusive use of the client to whom it is addressed and upon the condition that it is not to be used, in whole or in part, as a news or publicity matter without prior written authorization from these Laboratories.

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FUESDAIL LABORATORIES, INC.

-2-

Laboratory No. 34566

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The results are tabulated below:

Summary of the Results

<u>Source</u>	<u>Emission rate, lbs/hour</u>
1) Huller #1 & #2 plus Precleaner #1	5.36
2) Precleaner #2	0.60
3) Huller line #3	0.16
TOTAL:	6.12
or in 24 hours =	146.9 lbs

} SAUNCO

The Kern County APCD Regulations limit the particulate emissions to a maximum of 200 lbs/24 hours. The results of the tests show the emissions to be below this amount.

APC
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Test Date: October 1, 1980

Precleaner No. 2:

(Dayhouse equipped with two exhausts)

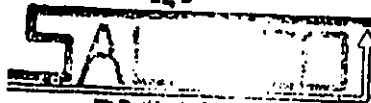
Test No.	1	2
Testing time: Start	1021	1340
Finish	1233	1350
Flue Gas: Temperature, °F	104	103
Velocity, ft/sec	42.8 ✓	43.8
*flue dimensions, inches	30x39x2	
*flue area, sq. ft.	16.25	16.25
static pressure, in. H ₂ O	-0.02 .10	-0.02 .10
*Flow Rate: CH ₄	42,670 ✓	43,390
SO ₂	29,920 ✓	29,140
DSCM	28,880 ✓	28,890
Water Vapor, % (by vol.)	1.55 ✓	1.6

Particulate Matter

Sample collection, grams	0.0071 ✓	0.0058
Sample volume, DSCF	54.10 (5.07)	53.40
Percent isokinetic sampling	98.6	98.6
Concentration, grains/DSCF	0.0020 ✓	0.0016
*Emission rate, lbs/hour	0.62 .70	0.53
Average, lbs/hour	---	0.60
*calculated for both exhausts		

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KERN COUNTY HEALTH DEPT.



Test Date: October 2, 1980

Huller Line No. 3

(warehouse equipped with two exhausts)

Test No.	1	2
Testing time: Start	1040	1500
Finish	1311	1710
Flue gas: Temperature, °F	103	109
Velocity, ft/sec	48.1	48.5
*flue dimensions, inches	30x39x2	---
*flue area, sq. ft.	16.25	16.25
static pressure, in. H ₂ O	-0.5	-0.5
*Flow Rate: CFM	46,890	47,300
SCFM	43,510	43,450
DSCFM	42,810	42,890
Water Vapor, % (by vol.)	1.6	1.3

Particulate Matter

Sample collection, grams	0.0017	0.0018
Sample volume, DSCF	60.03	60.11
Percent isokinetic sampling	99.6	99.6
Concentration, grains/DSCF	0.0004	0.0004
*Emission Rate, lbs/hour	0.16	0.15
Average, lbs/hour	---	0.16
*calculated for both exhausts		

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KEVIN COUNTY HEALTH DEPT

Test Date: October 6, 1980

Baghouse Serving
 Millers #1 and #2
and Precleaner #1

(Baghouse equipped with six exhausts)

Test No.	1	2
Testing time: Start	1105	1307
Finish	1224	1425
Flue Gas: Temperature, °F	97	101
Velocity, ft/sec	43.9	47.0
*Flue dimensions, inches	30x39x6	---
*Flue area, sq. ft.	43.75	48.75
static pressure, in. H ₂ O	-0.19	-0.19
*Flow Rate: CFM	128,500	137,600
SCFM	120,500	130,400
DSCFM	118,400	128,200
Water Vapor, % (by vol.)	1.7	1.7

Particulate Matter

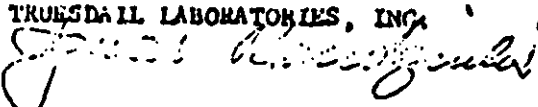
Sample collection, grams	0.0099	0.0132
Sample volume, DSCF	34.06	35.76
Percent isokinetic sampling	102.	101.
Concentration, grains/DSCF	0.0043	0.0057
Emission rate, lbs/hour	4.36	6.15
Average, lbs/hour	---	5.36

*calculated for six exhausts

Photocopies of field data and calculation sheets are appended to this report.

Respectfully submitted,

TRUESDAIL LABORATORIES, INC.


 Ignace Bondzulis

Supervisor, Air Pollution Testing

Company: Superior Farming Co.

Permit No: 5032003A

Equipment: Huller line #3 fabric

Test Date: October 2, 1960

SUMMARY OF SOURCE TEST RESULTS

Prepared By: Joe O'Bannon

Data: 12-3-80

D. Landis

POLLUTANTS	EMISSIONS										Removal Efficiency %	Emission Factor lb/ton	
	Inlet					Outlet						Inlet	Outlet
	Concentration		Mass Flow Rate lb/hr	Concentration		Mass Flow Rate lb/hr							
	gr/scf	CO ₂ PPM		gr/scf	CO ₂ PPM								
Particulate mean						0.0004 0.0004 0.0004				0.16 0.15 0.16			.015
Sulfate													
CO ₂													
NO _x as NO ₂													
Fuel Rate/ Process Rate	10.63 t/h												
Operating Conditions	Normal												
Remarks	The source test was conducted by Truesdail Labs., Inc. to determine initial compliance. This baghouse had two stacks. The test was conducted on one stack and the mass flow rate results and the emission factor results are calculated for both.												

C.COT EXCEL 15 NSL UNIT. CK AK REPORTS. II 1-16-81

Company: Superior Farming Co.
 Patent No. 303,300

Equipment: ICA Fabric collector

SUMMARY OF SOURCE TEST RESULTS

Date: 12-3-80

POLLUTANTS	EMISSIONS						Removal Efficiency %	Emission Factor	
	Inlet			Outlet				Inlet	Outlet
	Concentration gr/scf	GL2% CO2 ppmv	Mass Flow Rate lb/hr	Concentration gr/scf	GL2% CO2 ppmv	Mass Flow Rate lb/hr			
Particulate mean									
Sulfate									
SO2									
NOx as NO2									
Fuel Rate/ Process Rate	Precleaner #1 = 16.30 t/h; huller #1 = 7.84 t/h; huller #2 = 9.08 t/h.								
Operating Conditions	Normal. Hullers # 1 & 2 and precleaner #1 share this fabric collector.								
Remarks	The source test was conducted by Truesdail Labs to determine initial compliance. The fabric collector is common to the three lines, with six stacks. The test was run on one stack and the mass flow rate and emission factor results are calculated for all six.								

r.c. 6/24/84 IS NSR UNIT. CLK FOR RESULTS 1-16-81