

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 9.13.2
Reference 16
Report Sect. _____
Reference _____

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**BAY AREA
AIR QUALITY MANAGEMENT DISTRICT**
939 Ellis Street
San Francisco, California 94109
(415) 771-6000
**SUMMARY OF
SOURCE TEST RESULTS**

Report No. 91109

Test Date: 1/10/91

Test Times:

Run A: 1002-1052

Run B: 1157-1247

Run C: 1304-1354

SOURCE INFORMATION		BAAQMD REPRESENTATIVES
Firm Name and Address HILLS BROTHERS COFFEE CO. 1501 Mariposa Street San Francisco, CA 94124 (415) 546-4600	Firm Representative and Title Mr. Tod E. Diebold, Project Engineer	Source Test Engineers
	Phone No. (415) 863-7477	C. McClure/H. Doi
Permit Conditions None	Source: S-9 Abated by A-11 Green Coffee Handling System	Permit Services Division / Enforcement Division J. Slamovich
	Plant No. 1375 Operates 8 hr/day & 260 days/yr	Test Requested by: J. Bean

Operating Parameters:

Green coffee handling system operated continually during testing. Chase & Sandborn blend produced at a rate of 6.1 ton per hour. 218 bags of mild, natural and robusta beans dumped during sampling.

Applicable Regulations: **6-310, 6-311**

VN Recommended: **NO**

Source Test Results and Comments:

METHOD:	TEST	RUN A	RUN B	RUN C	AVERAGE	LIMIT
ST-17	Stack Volume Flowrate, SDCFM				6,000	
	Stack Gas Temperature, °F	68	71	72	70	
ST-23	Water Content, Volume %	1.2	1.0	1.1	1.1	
ST-15	Particulate, gr/SDCF	.006	.007	.008	.007	.15
	Particulate, lb/hr	.3	.4	.4	.4	13.8
	Isokinetic Ratio, Act/Theo.	1.00	.99	.99		

NO COMMERCIAL USE OF THESE RESULTS IS AUTHORIZED

Source Test Team Leader C. McClure	Date 1/16/91	Senior Source Test Engineer K. Kuraniec	Date 1/16/91	Approved by Source Test Manager G. Karels	Date 1/22/91
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SOURCE TEST LAB DATA SHEET

PLANT: Hills Brothers Coffee
 SOURCE OPERATION: BAG HOUSE
 SOURCE TEST NO.: _____
 FILTER MEDIA: FLAT 110MM FIBERGLASS

PAGE 1 OF 1
 INITIAL CM
 TEST DATE 1/10/91

Drying Procedure: 105°C 24 hours before
 and after test, desiccated

FILTER DATA						
RUN NO.	FILTER NO.	TARE WEIGHT (g)		FINAL WEIGHT (g)		SAMPLE WEIGHT (g)
A	461	11/23/90 AM	11/14/90 AM	1/19/91 PM	1/15/91 PM	
		.7177	.7178	.7184	.7183	0.0005 ✓
B	462	.6784	.6785	.6788	.6787	0.0002 ✓
C	463	.6811	.6812	.6831	.6831	0.0019 ✓

PROBE & NOZZLE RINSE DATA (total all runs)				
RUN NO.	FILTER NO.	JAR SAMPLE FINAL WEIGHT (g)	FILTER SAMPLE FINAL WEIGHT (g)	SAMPLE WEIGHT (g)
A	461	0.0105	0.0005	0.0110 ✓
B	462	0.0110	0.0002	0.0112 ✓
C	463	0.0125	0.0019	0.0144 ✓

PROBE & NOZZLE RINSE DATA (each run)						
RUN NO.	PROBE/NOZZLE NOS.	JAR TARE WEIGHT (g)		JAR FINAL WEIGHT (g)		JAR SAMPLE WEIGHT (g)
A	11	54.5163	54.5162	54.5268	54.5268	0.0105 ✓
B	23	54.9316	54.9320	54.9432	54.9430	0.0110 ✓
C	24	56.2980	56.2982	56.3108	56.3107	0.0125 ✓

INFLUENCE DATA						
SOLUTION	NO.	A TARE WEIGHT	B FILLED WEIGHT	C FINAL WEIGHT	C-A SAMPLE WEIGHT	C-B CONDENSATE WEIGHT

$$G = 15.43 \cdot \frac{W_p}{V_o} \text{ gr/sdCF}$$

HILLS BRO COFFEE #1375
S-9 1/10/91

$$G_A = \cancel{0.000} \ 0.0058 \Rightarrow 0.006 \text{ gr/sdCF}$$

$$W_{PA} = 0.0110 \text{ g}$$

$$G_B = 0.0071 \Rightarrow 0.007 \text{ gr/sdCF}$$

$$W_{PB} = 0.0172 \text{ g}$$

$$G_C = 0.0079 \Rightarrow 0.008 \text{ gr/sdCF}$$

$$W_{PC} = 0.0144 \text{ g}$$

$$G_{AB} = 0.007 \text{ gr/sdCF}$$

$$V_{DA} = 28.83 \text{ sdCF}$$

$$V_{DB} = 24.39 \text{ sdCF}$$

$$V_{DC} = 27.92 \text{ sdCF}$$

$$M = \frac{G \cdot Q}{116.67} \text{ Lb/hr}$$

$$Q = 5951 \text{ sdCFM}$$

$$M_A = 0.29 \Rightarrow 0.3 \text{ Lb/hr}$$

$$M_B = 0.36 \Rightarrow 0.4 \text{ Lb/hr}$$

$$M_C = 0.40 \Rightarrow 0.4 \text{ Lb/hr}$$

$$M_{AB} = 0.4 \text{ Lb/hr}$$

SOURCE TEST LAB DATA SHEET

PLANT: HILLS BROTHERS COFFEE
 SOURCE OPERATION: BAGHOUSE A-11
 SOURCE TEST NO.:
 FILTER MEDIA: H₂O - IMPINGERS

PAGE 1 OF 1
 INITIAL HD
 TEST DATE 1/10/91

Drying Procedure: 105°C 24 hours before
 and after test, desiccated

FILTER DATA

RUN NO.	FILTER NO.	TARE WEIGHT (g)	FINAL WEIGHT (g)	SAMPLE WEIGHT (g)

PROBE & NOZZLE RINSE DATA (total all times)

RUN NO.	FILTER NO.	JAR SAMPLE FINAL WEIGHT (g)	FILTER SAMPLE FINAL WEIGHT (g)	SAMPLE WEIGHT (g)

PROBE & NOZZLE RINSE DATA (each run)

RUN NO.	PROBE/NOZZLE NOS.	JAR TARE WEIGHT (g)	JAR FINAL WEIGHT (g)	JAR SAMPLE WEIGHT (g)

IMPINGER DATA

SOLUTION	NO.	A TARE WEIGHT	B FILLED WEIGHT	C FINAL WEIGHT	C-A SAMPLE WEIGHT	C-B CONDENSATE WEIGHT
H ₂ O	P-1	496.8	596.8	598.6	100.0	1.8
	P-2	483.8	584.5	584.2	100.7	-<0.3>
	P-3	491.6	591.5	592.6	99.9	1.1
	P-4	493.1	592.8	592.7	99.7	-<0.1>
	P-5	495.3	595.4	596.0	100.1	0.6
	P-6	487.1	587.7	588.2	100.6	0.5

Form: "Source Test Lab Data Sheet"

PLABDATA: NJ 1 Jan 88, 11

ISOKINETICS

HILL - BRO. COFFEE #1375
S-9 1/10/91

$$R_I = \frac{(V_m)(T_s)(100)}{(60)(100 - \%H_2O)(A_n)(V_s)(TIME)(T_m)}$$

$$D_n = 5.1 \text{ mm} = .51 \text{ cm}$$

$$A_n = 0.0002691 \pi (D_{\text{cm}})^2 \text{ ft}^2$$

$$A_n = 0.0002691 \pi (.51)^2 \text{ ft}^2$$

$$A_n = 2.199 \times 10^{-4} \text{ ft}^2$$

RUN A) $V_m = 27.68 \text{ ft}^3$ $T_s = 528.9^\circ\text{R}$ $V_s = 43.50 \text{ FPS}$ $TIME = 50 \text{ MIN}$ $T_m = 512.6^\circ\text{R}$
 $\%H_2O = 1.2$ $100 - \%H_2O = 98.8$

$$R_{IA} = \frac{(27.68)(528.9)(100)}{(60)(98.8)(2.199 \times 10^{-4})(43.50)(50)(512.6)} = 1.006$$

$$R_{IA} = 1.00$$

RUN B) $V_m = 23.77 \text{ ft}^3$ $T_s = 530.8^\circ\text{R}$ $V_s = 37.48 \text{ FPS}$ $TIME = 50 \text{ MIN}$ $T_m = 520.3^\circ\text{R}$
 $\%H_2O = 1.0$ $100 - \%H_2O = 99.0$

$$R_{IB} = \frac{(23.77)(530.8)(100)}{(60)(99.0)(2.199 \times 10^{-4})(37.48)(50)(520.3)} = 0.991$$

$$R_{IB} = 0.99$$

RUN C) $V_m = 27.23 \text{ ft}^3$ $T_s = 532.2^\circ\text{R}$ $V_s = 43.05 \text{ FPS}$ $TIME = 50 \text{ MIN}$ $T_m = 520.7^\circ\text{R}$
 $\%H_2O = 1.1$ $100 - \%H_2O = 98.9$

$$R_{IC} = \frac{(27.23)(532.2)(100)}{(60)(98.9)(2.199 \times 10^{-4})(43.05)(50)(520.7)} = 0.991$$

$$R_{IC} = 0.99$$



Source Test Data Sheet

TEA = 19 ~~50~~ 5.1 in. Nozzle Diameter
SMA = .84 Pitot Tube

Source Test No. 79A Gas Collector No. N/A
Run No. 11091 Barometric Pressure 30.15
Date: 11/10/91 Leak Rate @ 15-Hg 0.005213
5 TIME EACH POINT 10 # OF POINTS

Sampling Train: PROBE → FILTER # 461 → IMP# P-1
IMP# P-2 → PUMP# 71-34020 METER# 510949
EXH.

TRAVERSE		INITIAL TRAVERSE		SAMPLING										REMARKS	
Point	Dist. FROM	Duct Temp	H ₂ O	Traverse Point	h	V _g FPS	Time (1002)	Rate CFM	Temp Op	Volume Ft ³	Vac "Hg	Sat'd Gas Temp OF	T _g Duct Temp OF	gpm CFM	Vm/POINT
T _s = 67°			76-67°F												
P-27				P-1	58	42.3	5	5453	49	1025.87	5.5	37	67	32.7	
P-27 V				P-1	60	43.41	10	5546	49	1025.87	6	38	67	33.3	
.17	.11			P-1	58	42.3	15	5453	49	1113.30	5.5	38	67	32.7	
.17	.115			P-1	62	44.8	20	5638	50	144.10	6	38	67	33.8	
.145	.105			P-1	60	43.51	25	5541	51	1416.86	6	38	68	33.2	
.10	.095			P-1	60	43.51	30	5541	52	1649.67	6	38	68	33.2	
.10	.14	P-1 .57		P-1	60	43.5	35	5535	54	1649.67	6	38	69	33.2	
.13	.21	P-2 .68		P-1	60	43.5	40	5535	56	2257.31	6	38	69	33.2	
.145	.24	P-3 .76		P-1	60	43.5	45	5535	57	2429.04	6	38	69	33.2	
.16	.24	P-4 .43		P-1	60	43.5	50	5627	59	2825.82	6	38	69	33.8	
.16	.24	P-5 .42		P-1	62	44.27	55	5627	59	3035.82	6	38	69	33.8	
.16	.24	P-6 .42		P-1	62	44.27	60	5627	59	3245.82	6	38	69	33.8	
.16	.24	P-7 .42		P-1	62	44.27	65	5627	59	3455.82	6	38	69	33.8	
.16	.24	P-8 .42		P-1	62	44.27	70	5627	59	3665.82	6	38	69	33.8	
.16	.24	P-9 .42		P-1	62	44.27	75	5627	59	3875.82	6	38	69	33.8	
.16	.24	P-10 .42		P-1	62	44.27	80	5627	59	4085.82	6	38	69	33.8	
.16	.24	P-11 .42		P-1	62	44.27	85	5627	59	4295.82	6	38	69	33.8	
.16	.24	P-12 .42		P-1	62	44.27	90	5627	59	4505.82	6	38	69	33.8	
.16	.24	P-13 .42		P-1	62	44.27	95	5627	59	4715.82	6	38	69	33.8	
.16	.24	P-14 .42		P-1	62	44.27	100	5627	59	4925.82	6	38	69	33.8	
.16	.24	P-15 .42		P-1	62	44.27	105	5627	59	5135.82	6	38	69	33.8	
.16	.24	P-16 .42		P-1	62	44.27	110	5627	59	5345.82	6	38	69	33.8	
.16	.24	P-17 .42		P-1	62	44.27	115	5627	59	5555.82	6	38	69	33.8	
.16	.24	P-18 .42		P-1	62	44.27	120	5627	59	5765.82	6	38	69	33.8	
.16	.24	P-19 .42		P-1	62	44.27	125	5627	59	5975.82	6	38	69	33.8	
.16	.24	P-20 .42		P-1	62	44.27	130	5627	59	6185.82	6	38	69	33.8	
.16	.24	P-21 .42		P-1	62	44.27	135	5627	59	6395.82	6	38	69	33.8	
.16	.24	P-22 .42		P-1	62	44.27	140	5627	59	6605.82	6	38	69	33.8	
.16	.24	P-23 .42		P-1	62	44.27	145	5627	59	6815.82	6	38	69	33.8	
.16	.24	P-24 .42		P-1	62	44.27	150	5627	59	7025.82	6	38	69	33.8	
.16	.24	P-25 .42		P-1	62	44.27	155	5627	59	7235.82	6	38	69	33.8	
.16	.24	P-26 .42		P-1	62	44.27	160	5627	59	7445.82	6	38	69	33.8	
.16	.24	P-27 .42		P-1	62	44.27	165	5627	59	7655.82	6	38	69	33.8	
.16	.24	P-28 .42		P-1	62	44.27	170	5627	59	7865.82	6	38	69	33.8	
.16	.24	P-29 .42		P-1	62	44.27	175	5627	59	8075.82	6	38	69	33.8	
.16	.24	P-30 .42		P-1	62	44.27	180	5627	59	8285.82	6	38	69	33.8	
.16	.24	P-31 .42		P-1	62	44.27	185	5627	59	8495.82	6	38	69	33.8	
.16	.24	P-32 .42		P-1	62	44.27	190	5627	59	8705.82	6	38	69	33.8	
.16	.24	P-33 .42		P-1	62	44.27	195	5627	59	8915.82	6	38	69	33.8	
.16	.24	P-34 .42		P-1	62	44.27	200	5627	59	9125.82	6	38	69	33.8	
.16	.24	P-35 .42		P-1	62	44.27	205	5627	59	9335.82	6	38	69	33.8	
.16	.24	P-36 .42		P-1	62	44.27	210	5627	59	9545.82	6	38	69	33.8	
.16	.24	P-37 .42		P-1	62	44.27	215	5627	59	9755.82	6	38	69	33.8	
.16	.24	P-38 .42		P-1	62	44.27	220	5627	59	9965.82	6	38	69	33.8	
.16	.24	P-39 .42		P-1	62	44.27	225	5627	59	10175.82	6	38	69	33.8	
.16	.24	P-40 .42		P-1	62	44.27	230	5627	59	10385.82	6	38	69	33.8	
.16	.24	P-41 .42		P-1	62	44.27	235	5627	59	10595.82	6	38	69	33.8	
.16	.24	P-42 .42		P-1	62	44.27	240	5627	59	10805.82	6	38	69	33.8	
.16	.24	P-43 .42		P-1	62	44.27	245	5627	59	11015.82	6	38	69	33.8	
.16	.24	P-44 .42		P-1	62	44.27	250	5627	59	11225.82	6	38	69	33.8	
.16	.24	P-45 .42		P-1	62	44.27	255	5627	59	11435.82	6	38	69	33.8	
.16	.24	P-46 .42		P-1	62	44.27	260	5627	59	11645.82	6	38	69	33.8	
.16	.24	P-47 .42		P-1	62	44.27	265	5627	59	11855.82	6	38	69	33.8	
.16	.24	P-48 .42		P-1	62	44.27	270	5627	59	12065.82	6	38	69	33.8	
.16	.24	P-49 .42		P-1	62	44.27	275	5627	59	12275.82	6	38	69	33.8	
.16	.24	P-50 .42		P-1	62	44.27	280	5627	59	12485.82	6	38	69	33.8	
.16	.24	P-51 .42		P-1	62	44.27	285	5627	59	12695.82	6	38	69	33.8	
.16	.24	P-52 .42		P-1	62	44.27	290	5627	59	12905.82	6	38	69	33.8	
.16	.24	P-53 .42		P-1	62	44.27	295	5627	59	13115.82	6	38	69	33.8	
.16	.24	P-54 .42		P-1	62	44.27	300	5627	59	13325.82	6	38	69	33.8	
.16	.24	P-55 .42		P-1	62	44.27	305	5627	59	13535.82	6	38	69	33.8	
.16	.24	P-56 .42		P-1	62	44.27	310	5627	59	13745.82	6	38	69	33.8	
.16	.24	P-57 .42		P-1	62	44.27	315	5627	59	13955.82	6	38	69	33.8	
.16	.24	P-58 .42		P-1	62	44.27	320	5627	59	14165.82	6	38	69	33.8	
.16	.24	P-59 .42		P-1	62	44.27	325	5627	59	14375.82	6	38	69	33.8	
.16	.24	P-60 .42		P-1	62	44.27	330	5627	59	14585.82	6	38	69	33.8	
.16	.24	P-61 .42		P-1	62	44.27	335	5627	59	14795.82	6	38	69	33.8	
.16	.24	P-62 .42		P-1	62	44.27	340	5627	59	15005.82	6	38	69	33.8	
.16	.24	P-63 .42		P-1	62	44.27	345	5627	59	15215.82	6	38	69	33.8	
.16	.24	P-64 .42		P-1	62	44.27	350	5627	59	15425.82	6	38	69	33.8	
.16	.24	P-65 .42		P-1	62	44.27	355	5627	59	15635.82	6	38	69	33.8	
.16	.24	P-66 .42		P-1	62	44.27	360	5627	59	15845.82	6	38	69	33.8	
.16	.24	P-67 .42		P-1	62	44.27	365	5627	59	16055.82	6	38	69	33.8	
.16	.24	P-68 .42		P-1	62	44.27	370	5627	59	16265.82	6	38	69	33.8	
.16	.24	P-69 .42		P-1	62	44.27	375	5627	59	16475.82	6	38	69	33.8	
.16	.24	P-70 .42		P-1	62	44.27	380	5627	59	16685.82	6	38	69	33.8	
.16	.24	P-71 .42		P-1	62	44.27	385	5627	59	16895.82	6	38	69	33.8	
.16	.24	P-72 .42		P-1	62	44.27	390	5627	59	17105.82	6	38	69	33.8	
.16	.24	P-73 .42		P-1	62	44.27	395	5627	59	17315.82	6	38	69	33.8	
.16	.24	P-74 .42		P-1	62	44.27	400	5627	59	17525.82	6	38	69	33.8	
.16	.24	P-75 .42		P-1	62	44.27	405	5627	59	17735.82	6	38	69	33.8	
.16	.24	P-76 .42		P-1	62	44.27	410	5627	59	17945.82	6	38	69	33.8	
.16	.24	P-77 .42		P-1	62	44.27	415	5627	59	18155.82	6	38	69	33.8	
.16	.24	P-78 .42		P-1	62	44.27	420	5627	59	18365.82	6	38	69	33.8	
.16	.24	P-79 .42		P-1	62	44.27	425	5627	59	18575.82	6	38	69	33.8	
.16	.24	P-80 .42		P-1	62	44.27	430	5627	59	18785.82	6	38	69	33.8	
.16	.24	P-81 .42		P-1	62	44.27	435	5627	59	18995.82	6	38	69	33.8	
.16	.24	P-82 .42		P-1	62	44.27	440	5627	59	19205.82	6	38	69	33.8	
.16	.24	P-83 .42		P-1	62	44.27	445	5627	59	19415.82	6	38	69	33.8	
.16	.24	P-84 .42		P-1	62	44.27	450	5627	59	19625.82	6	38	69	33.8	
.16	.24	P-85 .42		P-1	62	44.27	455	5627	59	19835.82	6	38	69	33.8	
.16	.24	P-86 .42		P-1	62	44.27	460	5627	59	20045.82	6	38	69	33.8	
.16	.24	P-87 .42		P-1	62	44.27	465	5627	59	20255.82	6	38	69	33.8	
.16	.24	P-88 .42		P-1	62	44.27	470	5627	59	20465.82	6	38	69	33.8	
.16	.24	P-89 .42		P-1	62	44.27	475	5627	59	20675.82	6	38	69	33.8	
.16	.24	P-90 .42		P-1	62	44.27	480	5627	59	20885.82	6	38	69	33.8	
.16	.24														

Source Test Team

CHUCK MCCLURE

Source Test Engineer II

H. 005

1.0 / 2.8 / 5.2 / 8.7 / 12.3 / 21.8 / 24.2 / 26

$$D_n = 13.7 \left[\frac{T_g + 166}{W_g (100 - 1120)} \right]^{1/2} \approx \text{Condensate } (g)$$

$$Q_m = (2.638 \times 10^{-3}) \cdot \frac{1}{(100 - H_2O)_{\text{Dun}}} \cdot \frac{V_s}{V_s}$$

$$V_2 = \frac{2.41}{85.49} \times 100$$

$$V_o = \frac{V_T (K_1 \phi_1)^{1/2}}{17.71 (V_m)(P_o)}$$



BAY AREA AIR QUALITY MANAGEMENT DISTRICT
939 Ellis Street, San Francisco, Calif. 94109 • 771-6000

Source Test Data Sheet

Source Operation GRANITE CONCRETE WORKS
Plant HILLS BRIDGE #1375
Sample Type PARTICULATE
Process Cycle BRICKS
Duct Size 27"
Duct Pressure +2.0" H₂O
ASSUMED H₂O

Source Test No. B

Run No. 110/91

Date: 1/10/91

Nozzle Diameter 5/16"
Pitot Tube N/A
Gas Collector No. 3015
Barometric Pressure 29.15
Leak Rate @ 15" Hg 5
TIME EACH POINT 10
OF POINTS 50
TIME EACH RUN 50

Sampling Train: PROBE → FILTER # 462 → IMPH # 3 IMPH # 4 → PUMP # 71-34070 → METER # 510944 → EXH.

Traverse Point	Dist. From	INITIAL TRAVERSE		SAMPLING										REMARKS
		Duct Temp of	h ₂ O	h	V _g FPS	Time	Rate CFM	METER Temp Of	Volume Ft ³	Vac "Hq	Sat'd Gas Temp of	T _g Duct Temp of		
													Ratio CFM	Vm/Point
													27.1	
													29.05	
													28.4	
													28.4	
													28.4	
													28.7	
													29.0	
													28.4	
													28.4	
													29	
													70.8	
													530.8	

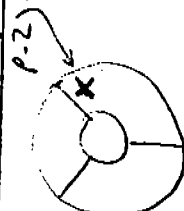
$$Q_n = 13.7 \left[\frac{T_g + 460}{V_g (100 - \%H_2O)} \right]^{1/2}$$

$$Q_m = \left[(2.618 \times 10^{-3}) (100 - \%H_2O) \right]^{1/2} \frac{V_g}{T_g}$$

$$V_s = (K)(Q_n) T_s \cdot h_{H_2O} \quad K = \frac{85.49}{\sqrt{(P_b + P_a) M W}}$$

$$V_o = \frac{17.71 (V_m)(P_o)}{T_m \text{ or } P_o}$$

Condensate 9
V₀ SKF
H₂O



Source Test Team
CHUCK MCCLURE
Source Test Engineer
H. H. I.



BAY AREA AIR QUALITY MANAGEMENT DISTRICT
939 Ellis Street, San Francisco, Calif. 94109 • 771-6000

Source Operation GREEN STAIN LINE
Plant HILL'S & CO. OFFICE #1376
Sample Type PARTICULATE
Process Cycle GAS-HOUSE EXHAUST
Duct Size 27"
Duct Pressure +2.0" H₂O
ASSUMED H₂O 20%

Source Test No. C
Run No. 1/10/91
Date: 1/10/91

5.1mm Nozzle Diameter
0.84 Pitot Tube
N/A Gas Collector No.
30.15 Barometric Pressure
0.0018 Leak Rate @ 15" Hg
5 TIME EACH POINT
10 # OF POINTS
50 TIME EACH RUN

Sampling Train: PROBE → FILTER # 463 → IMPH # P-5 IMPH # P-6 → PUMP # 71-340 PUMP # 510949 → EXH.

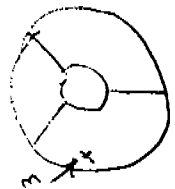
Traverse Point	Dist. From	TRAVERSE		SAMPLING										REMARKS	
		Duct Temp OF	H ₂ O	h	V _g FPS	Time	Rate CFM	Temp OF	Volume Ft ³	Vac "Hg	Sat'd Gas Temp OF	T _a Duct Temp OF			
				P-3	.63	44.78	5.586	61	0.013	0.5730	5	36	72	34	
				P-3	.59	43.31	10.548	61	0.010	0.5730	4.5	37	72	32.8	
				P-3	.60	43.67	15.5520	61	0.015	0.5730	5	37	72	33	
				P-3	.60	43.67	25.5520	61	0.015	0.5730	5	37	72	33	
				P-3	.57	42.50	25.5380	61	0.015	0.5730	5	38	72	32.3	
				P-3	.57	42.57	30.5380	61	0.015	0.5730	5	38	72	32.3	
				P-3	.57	42.57	35.5380	61	0.015	0.5730	5	38	72	32.3	
				P-3	.55	41.81	40.5380	61	0.015	0.5730	5	40	72	31.7	
				P-3	.57	42.61	45.5375	60	0.015	0.5730	5	40	73	32.2	
				P-3	.58	42.48	135.530	60	0.015	0.5730	5	40	73	32.5	
					.43.05			60.7	27.23	4.9	38.1	72.2			
								520.7				532.2			

$$D_h = 13.7 \left[\frac{T_a + 460}{V_s (100 - \%H_2O)} \right]^{1/2}$$

$$Q_m = \left[(2.638 \times 10^{-3}) (100 - \%H_2O) D_h^2 \right] \frac{V_s}{T_a}$$

$$V_s = (K)(Cp) T_s \cdot h_{H_2O} \quad K = \frac{85.49}{\sqrt{(P_b \pm H_s) (P_b)}}$$

$$V_o = \frac{17.71 (V_m)(P_b)}{T_m \text{ or } P_b}$$



Source Test Team
CHUCK MCCLURE
Source Test Engineer
H. DOIT

HILLS BRD. COFFEE
PLT#1375

S-9 GREEN COFFEE HANDLING SYSTEM
OPERATION DATA 1/10/91 0830 → 1400
30 MIN LUNCH

MILDS

CLASS 1 RWANDA
CLASS 3 GUATAMALA
CLASS 4 PERU

70 BAGS @ 132LBS/BAG → 9240Lb
48 BAGS @ 150LBS/BAG → 7200Lb
82 BAGS @ 152/BAGS → 12464Lb

NATURALS

CLASS 6 EQUADOR
CLASS 6 KENYA

20 BAGS @ 152LBS/BAG → 3040
23 BAGS @ 132LBS/BAG → 3036

ROBUSTA

CLASS 9 THAILAND
CLASS 10 EQUADOR

+ 153 BAGS @ 132LBS/BAG → 20196
40 BAGS @ 152LBS/BAG → 6080

436

TOTAL
PROCESSED

61,256Lb.

CHASE & SANDBORN BLEND.

$$\frac{436 \text{ BAGS}}{5 \text{ HRS}} = 87.2 \text{ BAGS/HOUR} \times \frac{50 \text{ MIN}}{60 \text{ MIN}} \times 3 \text{ RUNS} =$$

28 BAGS DUMPED
DURING 3 SAMPLING RUNS

0830 → 1400
30 MIN LUNCH
→ 0830 → 1400
5 HOURS

$$\text{RATE: } 61256 \text{ Lb} / 5 \text{ HRS} = 12251.2 \text{ Lb/Hr} \left(\frac{1 \text{ TON}}{2000 \text{ Lb}} \right) = 6.12 \text{ TON/Hr}$$

MAXIMUM EMISSIONS 6-311

$$E_{\text{MAX}} = (P_{\text{TON/Hr}})^{.67} \times 4.10 = (6.12)^{.67} (4.10) = 13.8 \text{ Lb/Hr MAXIMUM EMISSIONS}$$