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: 9.11.1

Reference Number: 16

Title: Vegetable Oil Production (Meal Processing) Emission Test Report, MFA Soybeans, Mexico, Missouri

PEDCo Environmental Inc.

PEDCo Environmental Inc.

July 1979

United States
Environmental Protection
Agency

Office of Air Quality
Planning and Standards
Research Triangle Park NC 27711

EMB Report 79-VEG-02
October 1979

11595

Air

EPA

Vegetable Oil Production (Meal Processing)

AP-42 Section 9.11.1
Reference 16
Report Sect.
Reference

Emission Test Report MFA Soybeans Mexico, Missouri

United States
Environmental Protection
Agency

Office of Air Quality
Planning and Standards
Research Triangle Park NC 27711

EMB Report 79-VEG-6c
October 1979

11595

Air

EPA

Vegetable Oil Production (Meal Processing)

Emission Test Report MFA Soybeans Mexico, Missouri

PEDCo ENVIRONMENTAL, INC.
11499 CHESTER ROAD
CINCINNATI, OHIO 45246
(513) 782-4700
TELEX (513) 782-4807

DRAFT

VEGETABLE OIL EXTRACTION PLANT MEAL SAMPLING AND OPACITY TEST MFA SOYBEANS MEXICO, MISSOURI

JULY 6, 1979

Prepared by:

PEDCo Environmental, Inc.
11499 Chester Road
Cincinnati, Ohio 45246

79-VEG-6C
Contract No. 68-02-2811
Task No. 19

PN 3333-S

Project Technical Manager: Nancy McLaughlin

U.S. Environmental Protection Agency
Emission Measurement Branch

CHESTER TOWERS

BRANCH OFFICES

DALLAS, TEXAS
KANSAS CITY, MISSOURI
COLUMBUS, OHIO
DURHAM, NORTH CAROLINA

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SECTION 1

INTRODUCTION

As part of the program to gather emissions data from vegetable oil extraction plants, on July 6, 1979, a site visit to the MFA Soybean Plant in Mexico, Missouri was conducted for the purpose of collecting meal samples (to be analyzed for hexane content), monitoring process conditions, and checking selected sites for visible emissions. Meal samples and opacity measurements were taken by personnel from PEDCo Environmental, Inc. Representatives from Research Triangle Institute were on hand to monitor processing conditions.

Meal samples were taken in triplicate every hour for seven hours after each of the following process steps:

1. Desolventizer-Toaster (D T)
2. Meal cooler
3. Meal grinding

A total of six sites were checked for visible emissions.

SECTION 2

SUMMARY OF RESULTS

2.1 MEAL SAMPLES

Table 2-1 presents the average hexane content for each of the triplicate meal samples taken on both a wet and dry meal basis. The dry weight of the meal was determined by placing the sample in a drying oven after analysis and reweighing the sample after the moisture and hexane had been driven off. The average change in hexane concentration from wet to dry meal basis was about 26 percent.

Concentrations remained fairly constant at all of the sites through out the day with average values of 267 μg/g of wet meal at the D T , 154 μg/g of wet meal at the grinder and 210 μg/g of wet meal at the meal cooler.

The laboratory analysis report showing the concentrations, sample weights, and the date of analysis for each sample is in Appendix B of this report. The sampling log sheet is in Appendix A.

2.2 OPACITY READINGS

Stack opacity was read at the following six sites according to the procedures of Method 9 of the Federal Register:*

---

* Federal Register, Vol. 42, No. 160, August 18, 1977.

Location	Type of Control Device
Hull aspirator	Baghouse
Dryer	None
Hexane extraction facility (HDS)	None
Cooler	Cyclone
Meal preparation building	Baghouse
Bean conditioner	None

In all cases there were no visible emissions and opacity was recorded as zero. The opacity data sheets are in Appendix C of this report.

SECTION 3

SAMPLING AND ANALYTICAL PROCEDURES

3.1 MEAL SAMPLES

The meal sampling and analytical technique was adopted from a volitilization head-space sampling procedure developed at Texas A&M University.[1] Sample bottles used were 100 mℓ glass serum bottles with septum caps, tare weighed in the lab with two layers of filter paper in the bottom of each. In the field just prior to sampling, 0.5 mℓ of water was added to wet the filter paper, using an automatic pipette. A long handled scoop was used to take a sample from the conveyor belt. A small portion of this scoop was then transferred to each of the triplicate samples using a small spoon and a funnel. Septum caps were replaced immediately on the samples. An aluminum cap was then crimped tightly over the septum for a final seal. Each bottle was then weighed to determine the amount of sample collected. Meal samples were stored in a cooler with ice for shipment back to the PEDCo laboratory and stored in a refrigerator until analysis. Ideally a 2.0 gram sample should be taken each time. However, sampling had to be done quickly to prevent evaporation losses, and the actual sample weight varied from 1.2 g to 3.5 g.

---

[1] P. J. Wan, M. Chittwood, C. M. Cater, "Determination of Residual Hexane in Solvent Extracted Meal," Food Protein R&D Center, Texas A&M University.

Analysis was done by placing the sample bottle into a sand-bath for two hours at 125°C and then gradually cooling the sample to room temperature. A 1.0 mℓ head space sample is then injected into a gas chromatograph. Calibration standards are made by adding a known amount of 99 mole percent n-hexane to processed meal that has been completely dried. To determine the dry weight of the meal sampled after analysis, the samples were placed in a drying oven uncapped and reweighed after the moisture and hexane had been driven off.

3.2 OPACITY READINGS

Opacity was read by a qualified observer using the procedures of Federal Register* Method 9. Readings were taken every 15 seconds over a 12 minute period at each site.

*Federal Register, Vol. 42, No. 16, August 18, 1977.

PEDCo ENVIRONMENTAL, INC.
11499 CHESTER ROAD
CINCINNATI, OHIO 45246
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DRAFT

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Project Technical Manager: Nancy McLaughlin

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SECTION 1

INTRODUCTION

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Meal samples were taken in triplicate every hour for seven hours after each of the following process steps:

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2.2 OPACITY READINGS

Stack opacity was read at the following six sites according to the procedures of Method 9 of the Federal Register:*

---

* Federal Register, Vol. 42, No. 160, August 18, 1977.

TABLE 2-1. AVERAGE HEXANE CONCENTRATION IN MEAL
MFA - MEXICO, MISSOURI

JULY 6, 1979

Approximate sample time	Hexane concentration[a]					
	D T[b]		Grinder		Cooler	
	Wet µg/g	Dry µg/g	Wet µg/g	Dry µg/g	Wet µg/g	Dry µg/g
10:20	297	-[c]	153	193	265	405
11:20	220	303	148	-[c]	117	153
12:20	320	457	123	160	190	257
1:20	277	383	143	180	203	253
2:20	236	300	150	187	150	173
3:20	290	360	153	210	260	310
4:15	227	320	206	-[c]	287	-[c]
Average	267	354	154	186	210	259

[a] Average of triplicate samples.

[b] D T - Desolventizer-Toaster.

[c] Dry weight not recorded.

MFA

Location	Type of Control Device
Hull aspirator	Baghouse
4 Dryer	None
5 Hexane extraction facility (MOS)	None
5 Cooler	Cyclone
Meal preparation building	Baghouse
3 Bean conditioner	None

In all cases there were no visible emissions and opacity was recorded as zero. The opacity data sheets are in Appendix C of this report.

Location	Type of Control Device
Hull aspirator	Baghouse
9 Dryer	None
6 Hexane extraction facility (MOS)	None
5 Cooler	Cyclone
Meal preparation building	Baghouse
3 Bean conditioner	None

In all cases there were no visible emissions and opacity was recorded as zero. The opacity data sheets are in Appendix C of this report.

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SAMPLING AND ANALYTICAL PROCEDURES

3.1 MEAL SAMPLES

The meal sampling and analytical technique was adopted from a volitilization head-space sampling procedure developed at Texas A&M University.[1] Sample bottles used were 100 mℓ glass serum bottles with septum caps, tare weighed in the lab with two layers of filter paper in the bottom of each. In the field just prior to sampling, 0.5 mℓ of water was added to wet the filter paper, using an automatic pipette. A long handled scoop was used to take a sample from the conveyor belt. A small portion of this scoop was then transferred to each of the triplicate samples using a small spoon and a funnel. Septum caps were replaced immediately on the samples. An aluminum cap was then crimped tightly over the septum for a final seal. Each bottle was then weighed to determine the amount of sample collected. Meal samples were stored in a cooler with ice for shipment back to the PEDCo laboratory and stored in a refrigerator until analysis. Ideally a 2.0 gram sample should be taken each time. However, sampling had to be done quickly to prevent evaporation losses, and the actual sample weight varied from 1.2 g to 3.5 g.

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[1] P. J. Wan, M. Chittwood, C. M. Cater, "Determination of Residual Hexane in Solvent Extracted Meal," Food Protein R&D Center, Texas A&M University.

Analysis was done by placing the sample bottle into a sand-bath for two hours at 125°C and then gradually cooling the sample to room temperature. A 1.0 mℓ head space sample is then injected into a gas chromatograph. Calibration standards are made by adding a known amount of 99 mole percent n-hexane to processed meal that has been completely dried. To determine the dry weight of the meal sampled after analysis, the samples were placed in a drying oven uncapped and reweighed after the moisture and hexane had been driven off.

3.2 OPACITY READINGS

Opacity was read by a qualified observer using the procedures of Federal Register* Method 9. Readings were taken every 15 seconds over a 12 minute period at each site.

*Federal Register, Vol. 42, No. 16, August 18, 1977.

APPENDIX A

MEAL SAMPLING LOG SHEETS

CASCADE L1-C2462

Hepatic Soybean Meal Project

BOTTLE #	(1) BOTTLE WT (g)	MEXICO MISSOURI 11A	DATE	TIME		
201	92.81	GRINDER	7-6-79	10:18		
202	92.76	"	"	"		
203	92.80	"	"	"		
204	93.17	COOLER	"	10:23		
205	93.03	"	"	"		
206	92.64	"	"	"		
207	93.15	D.T.	"	10:27		
208	92.92	"	"	"		
209	92.55	"	"	"		
210	92.94	GRINDER	"	11:17		
211	92.49	"	"	"		
212	92.81	"	"	"		
213	92.74	COOLER	"	11:25		
214	93.16	"	"	"		
215	93.06	"	"	"		
216	92.70	D.T.	"	11:28		
217	92.87	"	"	"		
218	93.26	"	"	"		
219	93.23	GRINDER	"	11:22		
220	92.65	"	"	"		
221	92.72	"	"	"		
222	93.00	COOLER	"	11:25		
223	92.78	"	"	"		
224	92.66	"	"	"		
225	92.71	D.T.	"	11:28		
226	93.06	"	"	"		
227	92.79	"	"	"		
228	93.11	GRINDER	"	1:20		
229	92.90	"	"	"		
230	93.19	"	"	"		
231	92.73	COOLER	"	1:24		
232	92.87	"	"	"		
233	92.92	"	"	"		
234	92.95	D.T.	"	1:28		
235	92.73	"	"	"		
236	92.78	"	"	"		
237	92.98	GRINDER	"	2:18		

(1) [illegible]

ASCADE LI-C2462

MFA - Mexico

Bottle #	① (g) Bottle wt	MFA	DATE	TIME		
		GRINDER	7-6-79	2:18		
238	93.10	"	"	"		
239	92.80	~~COOLER~~ "	"	"		
240	93.09	COOLER	"	2:23		
241	92.63	"	"	"		
242	93.00	"	"	"		
243	92.76	D.T.	"	2:26		
244	92.83	"	"	"		
245	92.66	"	"	"		
246	92.67	GRINDER	"	4:11		
247	92.60	"	"	"		
248	92.84	COOLER	"	4:15		
249	92.98	GRINDER	"	4:11		
250	92.77	"	"	4:15		
251	93.13	"	"	"		
252	93.12	D.T.	"	4:16		
253	93.15	"	"	"		
254	92.95	"	"	"		
255	92.87	GRINDER	7-6-79	3:20		
256	93.04	"	"	"		
257	93.01	"	"	"		
258	92.82	COOLER	"	3:24		
259	93.00	"	"	"		
260	93.45	"	"	"		
261	93.01	D.T.	"	3:26		
262	92.99	"	"	"		
263	92.83	"	"	"		
264	92.79					
265	92.74					
266	92.66					
267	92.92					
268	92.72					
269	92.79					
270	92.78					
271	92.76					
272	92.73					
273	92.91					
274	92.67					

APPENDIX B

MEAL SAMPLES LABORATORY ANALYSIS REPORT

DATA SHEET

Plant: M.F.A., Mexico Missouri Date: July 6, 1979

Date Analysis		Sample No.-Location		Sample Date	Time	Wet Wt. (g)	Wet (µg/g)	Dry (µg/g)
8/1/79		201	Grinder	7/6/79	10:18 pm	3.19	200	250
8/1/79	(A)	202	Grinder	7/6/79	10:18 pm	2.40	120	150
8/1/79		203	Grinder	7/6/79	10:18 pm	2.61	140	180
7/18/79		204	Cooler	7/6/79	10:23 pm	1.19	790	- (1)
8/1/79		205	Cooler	7/6/79	10:23 pm	2.35	220	410
8/1/79		206	Cooler	7/6/79	10:23 pm	2.74	310	400
8/1/79		207	D.T.	7/6/79	10:27 pm	2.23	160	210
7/18/79		208	D.T.	7/6/79	10:27 pm	1.57	460	- (1)
8/1/79		209	D.T.	7/6/79	10:27 pm	2.21	270	370
8/1/79		210	Grinder	7/6/79	11:17 pm	2.79	89	133
8/1/79		211	Grinder	7/6/79	11:17 pm	2.11	95	110
7/18/79		212	Grinder	7/6/79	11:17 pm	1.56	260	- (1)
8/1/79		213	Cooler	7/6/79	11:25 pm	2.64	120	160
8/1/79		214	Cooler	7/6/79	11:25 pm	2.61	110	150
8/1/79		215	Cooler	7/6/79	11:25 pm	2.54	120	150
8/1/79	(A)	216	D.T.	7/6/79	11:28 pm	2.27	200	270
8/1/79		217	D.T.	7/6/79	11:28 pm	1.82	250	360
8/1/79		218	D.T.	7/6/79	11:28 pm	2.31	210	280
8/1/79		219	Grinder	7/6/79	12:22 pm	2.15	110	150
8/1/79		220	Grinder	7/6/79	12:22 pm	2.58	110	140
8/6/79		221	Grinder	7/6/79	12:22 pm	2.17	150	190
8/6/79		222	Cooler	7/6/79	12:25 pm	2.87	230	290
8/6/79		223	Cooler	7/6/79	12:25 pm	2.15	150	240
8/6/79		224	Cooler	7/6/79	12:25 pm	2.60	190	240
8/6/79		225	D.T.	7/6/79	12:28 pm	2.18	320	440
8/6/79		226	D.T.	7/6/79	12:28 pm	2.16	350	500
8/6/79		227	D.T.	7/6/79	12:28 pm	2.55	290	430
8/7/79		228	Grinder	7/6/79	1:20 pm	1.90	190	250
8/7/79		229	Grinder	7/6/79	1:20 pm	2.64	110	130
8/7/79		230	Grinder	7/6/79	1:20 pm	2.32	130	160

(1) Dry weight was not recorded.

(A) Duplicate injection of this sample produced a 5 to 10% difference.

DATA SHEET

Plant: M.F.A., Mexico Missouri Date: July 6, 1979

Date Analysis	Sample No.-Location		Sample Date	Time	Wet Wt. (g)	Wet (µg/g)	Dry (µg/g)
8/7/79	231	Cooler	7/6/79	1:24 pm	2.89	220	280
8/7/79	232	Cooler	7/6/79	1:24 pm	3.15	180	220
8/7/79	233	Cooler	7/6/79	1:24 pm	3.31	210	260
8/7/79	234	D.T.	7/6/79	1:28 pm	2.56	230	320
8/7/79	235	D.T.	7/6/79	1:28 pm	1.89	300	420
8/7/79	236	D.T.	7/6/79	1:28 pm	2.25	300	410
8/7/79	237	Grinder	7/6/79	2:18 pm	2.64	120	150
8/7/79	238	Grinder	7/6/79	2:18 pm	2.41	160	190
8/7/79	239	Grinder	7/6/79	2:18 pm	2.25	170	220
8/8/79	240	Cooler	7/6/79	2:23 pm	2.10	120	130
8/8/79	241	Cooler	7/6/79	2:23 pm	2.50	150	180
8/8/79	242	Cooler	7/6/79	2:23 pm	2.40	180	210
8/8/79	243	D.T.	7/6/79	2:26 pm	1.82	200	260
8/8/79	244	D.T.	7/6/79	2:26 pm	2.11	320	390
8/8/79	245	D.T.	7/6/79	2:26 pm	1.75	190	250
8/7/79	246	Grinder	7/6/79	4:11 pm	2.46	150	200
8/7/79	247	Grinder	7/6/79	4:11 pm	2.18	140	190
7/18/79	249	Grinder	7/6/79	4:11 pm	1.63	330	- ①
8/7/79	248	Cooler	7/6/79	4:15 pm	2.73	340	- ①
8/7/79	250	Cooler	7/6/79	4:15 pm	2.55	300	760
8/7/79	251	Cooler	7/6/79	4:15 pm	2.61	220	300
8/7/79	252	D.T.	7/6/79	4:16 pm	1.86	220	310
8/7/79	253	D.T.	7/6/79	4:16 pm	1.81	250	360
8/7/79	254	D.T.	7/6/79	4:16 pm	2.10	210	290
8/7/79	255	Grinder	7/6/79	3:20 pm	2.16	170	230
8/7/79	256	Grinder	7/6/79	3:20 pm	2.49	150	200
8/7/79	257	Grinder	7/6/79	3:20 pm	2.32	140	200
8/8/79	258	Cooler	7/6/79	3:24 pm	2.28	230	280
8/8/79	259	Cooler	7/6/79	3:24 pm	2.52	330	390
8/8/79	260	Cooler	7/6/79	3:24 pm	2.30	220	260
8/8/79	261	D.T.	7/6/79	3:26 pm	2.32	230	290
8/8/79	262	D.T.	7/6/79	3:26 pm	2.01	350	440
8/8/79	263	D.T.	7/6/79	3:26 pm	2.05	290	350

① Dry weight was not recorded.

APPENDIX C

STACK OPACITY DATA SHEETS

FIGURE 9-1
RECORD OF VISUAL DETERMINATION OF OPACITY

PAGE 1 of 2

COMPANY MFA
LOCATION MEXICO, MISSOURI
TEST NUMBER
DATE 7-6-79
TYPE FACILITY ASPIRATOR
CONTROL DEVICE BAGHOUSE

HOURS OF OBSERVATION 12/60
OBSERVER ROGER SCHUMER
OBSERVER CERTIFICATION DATE 5/16/79
OBSERVER AFFILIATION PEDCO
POINT OF EMISSIONS ~~AS~~ BLOWER WITH HAT
HEIGHT OF DISCHARGE POINT 3' ABOVE ROOF

	Initial			Final
CLOCK TIME	12:20-12:32			
OBSERVER LOCATION Distance to Discharge	8'			
Direction from Discharge	W			
Height of Observation Point	ROOF TOP			
BACKGROUND DESCRIPTION	WHITE GRAIN TOWER			
WEATHER CONDITIONS Wind Direction	FROM EAST			
Wind Speed	6-9			
Ambient Temperature	72°F			
SKY CONDITIONS (clear, overcast, % clouds, etc.)	SCATTERED CLOUDS			
PLUME DESCRIPTION Color	NONE VISIBLE			
Distance Visible	—			
OTHER INFORMATION	—			

SUMMARY OF AVERAGE OPACITY

Set Number	Time Start--End	Opacity Sum	Opacity Average

Readings ranged from ____ to ____ % opacity N/A

The source was/was not in compliance with ____ at the time evaluation was made.

FIGURE 9-2 OBSERVATION RECORD PAGE 2 OF 2

COMPANY MFA
LOCATION MEXICO, MISSOURI
TEST NUMBER
DATE 7-6-74

OBSERVER Roger Schumer
TYPE FACILITY ASPIRATOR
POINT OF EMISSIONS 1' SQUARE BLOWER EXHAUST

Hr.	Min.	Seconds 0	15	30	45	STEAM PLUME (check if applicable) Attached	Detached	COMMENTS
	0	0	0	0	0			
	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							
	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							
	14							
	15							
	16							
	17							
	18							
	19							
	20							
	21							
	22							
	23							
	24							
	25							
	26							
	27							
	28							
	29							

FIGURE 9-2 OBSERVATION RECORD (Continued) PAGE ___ OF ___

COMPANY
LOCATION
TEST NUMBER
DATE

OBSERVER
TYPE FACILITY
POINT OF EMISSIONS

Hr.	Min.	Seconds 0	15	30	45	STEAM PLUME (check if applicable) Attached	Detached	COMMENTS
	30							
	31							
	32							
	33							
	34							
	35							
	36							
	37							
	38							
	39							
	40							
	41							
	42							
	43							
	44							
	45							
	46							
	47							
	48							
	49							
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	51							
	52							
	53							
	54							
	55							
	56							
	57							
	58							
	59							

[FR Doc.74-26150 Filed 11-11-74;8:45 am]

FIGURE 9-1
RECORD OF VISUAL DETERMINATION OF OPACITY

PAGE 1 of 2

COMPANY MFA
LOCATION MEXICO, MISSOURI
TEST NUMBER
DATE 7/6/79
TYPE FACILITY CRYER
CONTROL DEVICE NONE

HOURS OF OBSERVATION 12/60
OBSERVER ROGER H. SCHUMER
OBSERVER CERTIFICATION DATE 5/16/79
OBSERVER AFFILIATION PEDCO
POINT OF EMISSIONS BLOWER
HEIGHT OF DISCHARGE POINT 9 ft

	Initial			Final
CLOCK TIME	1150 - 2:02			
OBSERVER LOCATION Distance to Discharge	15'			
Direction from Discharge	EAST			
Height of Observation Point	GROUND LEVEL			
BACKGROUND DESCRIPTION	WHITE SKY			
WEATHER CONDITIONS Wind Direction	FROM EAST			
Wind Speed	6-9			
Ambient Temperature	72°			
SKY CONDITIONS (clear, overcast, % clouds, etc.)	80% CLOUDS			
PLUME DESCRIPTION Color	ATTACHED STEAM			
Distance Visible	15			
OTHER INFORMATION	—			

SUMMARY OF AVERAGE OPACITY

Set Number	Time Start--End	Opacity Sum	Average
		N/A	

Readings ranged from ____ to ____ % opacity

The source was/was not in compliance with ____ at the time evaluation was made.

FIGURE 9-2 OBSERVATION RECORD PAGE 2 OF 2

COMPANY MFA
LOCATION MEXICO, MISSOURI
TEST NUMBER
DATE 7/6/79

OBSERVER Roger H. Schumer
TYPE FACILITY DRYER
POINT OF EMISSIONS ~~BLOWER~~

Hr.	Min.	Seconds 0	15	30	45	STEAM PLUME (check if applicable) Attached	Detached	COMMENTS
	0	0	0	0	0			
	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							
	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			
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FIGURE 9-2 OBSERVATION RECORD (Continued) PAGE ___ OF ___

COMPANY
LOCATION
TEST NUMBER
DATE

OBSERVER
TYPE FACILITY
POINT OF EMISSIONS

Hr.	Min.	Seconds 0	15	30	45	STEAM PLUME (check if applicable) Attached	Detached	COMMENTS
	30							
	31							
	32							
	33							
	34							
	35							
	36							
	37							
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[FR Doc.74-25150 Filed 11-11-74;8:45 am]

FIGURE 9-1
RECORD OF VISUAL DETERMINATION OF OPACITY

PAGE 1 of 2

COMPANY MFA
LOCATION MEXICO, MISSOURI
TEST NUMBER
DATE 7/6/79
TYPE FACILITY ~~[illegible]~~ HEXANE EXTRACTION
CONTROL DEVICE NONE

HOURS OF OBSERVATION 12/60
OBSERVER ROGER A. SCHUMER
OBSERVER CERTIFICATION DATE 5/16/79
OBSERVER AFFILIATION PEDCO
POINT OF EMISSIONS 8" dia Pipe EXHAUSTING DOWNWARD
HEIGHT OF DISCHARGE POINT 35'

	Initial			Final
CLOCK TIME 12:03-12:15				
OBSERVER LOCATION Distance to Discharge	100'			
Direction from Discharge	SOUTH			
Height of Observation Point	GROUND LEVEL			
BACKGROUND DESCRIPTION	WHITE SKY			
WEATHER CONDITIONS Wind Direction	EAST EAST			
Wind Speed	[illegible]			
Ambient Temperature	7[illegible]			
SKY CONDITIONS (clear, overcast, % clouds, etc.)	50% CLOUDS			
PLUME DESCRIPTION Color	NONE VISIBLE			
Distance Visible				
OTHER INFORMATION				

SUMMARY OF AVERAGE OPACITY

Set Number	Time Start--End	Opacity Sum	Opacity Average

Readings ranged from ____ to ____ % opacity

The source was/was not in compliance with ____ at the time evaluation was made.

FIGURE 9-2 OBSERVATION RECORD PAGE 2 OF 2

COMPANY MFA
LOCATION MEXICO MISSOURI
TEST NUMBER
DATE 11/6/79

OBSERVER ROGER SCHUMER
TYPE FACILITY HEXANE EXTRACTION
POINT OF EMISSIONS 8" dia. pipe exhausting downwards

Hr.	Min.	Seconds 0	15	30	45	STEAM PLUME (check if applicable) Attached	Detached	COMMENTS
	0	0	0	0	0			
	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							
	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			
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FIGURE 9-2 OBSERVATION RECORD (Continued) PAGE ___ OF ___

COMPANY
LOCATION
TEST NUMBER
DATE

OBSERVER
TYPE FACILITY
POINT OF EMISSIONS

Hr.	Min.	Seconds 0	15	30	45	STEAM PLUME (check if applicable) Attached	Detached	COMMENTS
	30							
	31							
	32							
	33							
	34							
	35							
	36							
	37							
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[FR Doc.74-26150 Filed 11-11-74;8:45 am]

FIGURE 9-1
RECORD OF VISUAL DETERMINATION OF OPACITY

PAGE 1 of 2

COMPANY MFA
LOCATION MEXICO, MISSOURI
TEST NUMBER
DATE 7-6-79
TYPE FACILITY COOLER
CONTROL DEVICE CYCLONE-High

HOURS OF OBSERVATION 12 to 6
OBSERVER ROGER SCHUMER
OBSERVER CERTIFICATION DATE 5/16/79
OBSERVER AFFILIATION PEI
POINT OF EMISSIONS EXHAUSTS DOWNWARD
HEIGHT OF DISCHARGE POINT 6'

	Initial			Final
CLOCK TIME 11:58				
OBSERVER LOCATION Distance to Discharge	20'			
Direction from Discharge	SOUTH			
Height of Observation Point	GROUND LEVEL			
BACKGROUND DESCRIPTION	GRAY METAL			
WEATHER CONDITIONS Wind Direction	FROM EAST			
Wind Speed	6-9			
Ambient Temperature	72°F			
SKY CONDITIONS (clear, overcast, % clouds, etc.)	SCATTERED CLOUDS			
PLUME DESCRIPTION Color	NONE VISIBLE			
Distance Visible				
OTHER INFORMATION				

SUMMARY OF AVERAGE OPACITY

Set Number	Time Start--End	Opacity Sum	Opacity Average
		N/A.	

Readings ranged from ____ to ____ % opacity

The source was/was not in compliance with ____ at the time evaluation was made.

FIGURE 9-2 OBSERVATION RECORD PAGE 2 OF 2

COMPANY MFA
LOCATION MEXICO, MISSOURI
TEST NUMBER
DATE 7/6/79

OBSERVER ROGER SCHUMER
TYPE FACILITY COOLER
POINT OF EMISSIONS SQUARE DUCT 1.5'X1.5'

Hr.	Min.	Seconds 0	15	30	45	STEAM PLUME (check if applicable) Attached	Detached	COMMENTS
	0	0	0	0	0			
	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							
	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			
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FIGURE 9-2 OBSERVATION RECORD (Continued) PAGE ___ OF ___

COMPANY
LOCATION
TEST NUMBER
DATE

OBSERVER
TYPE FACILITY
POINT OF EMISSIONS

Hr.	Min.	Seconds 0	15	30	45	STEAM PLUME (check if applicable) Attached	Detached	COMMENTS
	30							
	31							
	32							
	33							
	34							
	35							
	36							
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[FR Doc.74-26150 Filed 11-11-74;8:45 am]

FIGURE 9-1
RECORD OF VISUAL DETERMINATION OF OPACITY

PAGE 1 of 2

COMPANY MFA
LOCATION MEXICO MISSOURI
TEST NUMBER
DATE 7/6/79
TYPE FACILITY MEAL PREP BLDG
CONTROL DEVICE BAGHOUSE

HOURS OF OBSERVATION 12/60
OBSERVER Roger Schumer
OBSERVER CERTIFICATION DATE 5/16/79
OBSERVER AFFILIATION PEI
POINT OF EMISSIONS 2' dia duct discharging downwards
HEIGHT OF DISCHARGE POINT 3'

	Initial			Final
CLOCK TIME	11:45			
OBSERVER LOCATION Distance to Discharge	20'			
Direction from Discharge	N			
Height of Observation Point	GROUND LEVEL			
BACKGROUND DESCRIPTION	GRAY METAL			
WEATHER CONDITIONS Wind Direction	FROM EAST			
Wind Speed	6-9			
Ambient Temperature	72°F			
SKY CONDITIONS (clear, overcast, % clouds, etc.)	SCATTERED CLOUDS			
PLUME DESCRIPTION Color	NONE VISIBLE			
Distance Visible				
OTHER INFORMATION				

SUMMARY OF AVERAGE OPACITY

Set Number	Time Start--End	Opacity Sum	Opacity Average

Readings ranged from ____ to ____ % opacity N.A.

The source was/was not in compliance with ____ at the time evaluation was made.

FIGURE 9-2 OBSERVATION RECORD PAGE 2 OF 2

COMPANY MFA
LOCATION MEXICO, MISSOURI
TEST NUMBER
DATE 7/6/74

OBSERVER Roger Schumer
TYPE FACILITY MEAL PREP BLDG
POINT OF EMISSIONS 2" duct discharging downwards

Hr.	Min.	Seconds 0	15	30	45	STEAM PLUME (check if applicable) Attached	Detached	COMMENTS
	0	0	0	0	0			
	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							
	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			
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FIGURE 9-2 OBSERVATION RECORD (Continued) PAGE ___ OF ___

COMPANY
LOCATION
TEST NUMBER
DATE

OBSERVER
TYPE FACILITY
POINT OF EMISSIONS

Hr.	Min.	Seconds 0	15	30	45	STEAM PLUME (check if applicable) Attached	Detached	COMMENTS
	30							
	31							
	32							
	33							
	34							
	35							
	36							
	37							
	38							
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[FR Doc.74-26150 Filed 11-11-74;8:45 am]

FIGURE 9-1
RECORD OF VISUAL DETERMINATION OF OPACITY

PAGE 1 of 2

COMPANY MFA
LOCATION MEXICO, MISSOURI
TEST NUMBER
DATE 7-6-79
TYPE FACILITY BEAN CONDITIONER
CONTROL DEVICE NONE

HOURS OF OBSERVATION 12 60
OBSERVER ROGER H. SCHUMER
OBSERVER CERTIFICATION DATE 5/14/79
OBSERVER AFFILIATION PEDCO
POINT OF EMISSIONS 1' SQUARE DUCT WITH HAT
HEIGHT OF DISCHARGE POINT 12' ABOVE ROOF

	Initial			Final
CLOCK TIME 12:53-1:05				
OBSERVER LOCATION Distance to Discharge	8'			
Direction from Discharge	NORTH			
Height of Observation Point	ROOF TOP			
BACKGROUND DESCRIPTION	BLUE SKY			
WEATHER CONDITIONS Wind Direction	FROM EAST			
Wind Speed	6-9			
Ambient Temperature	72°F			
SKY CONDITIONS (clear, overcast, % clouds, etc.)	SCATTERED CLOUDS			
PLUME DESCRIPTION Color	NONE VISIBLE.			
Distance Visible	—			
OTHER INFORMATION	—			

SUMMARY OF AVERAGE OPACITY

Set Number	Time Start--End	Opacity Sum	Opacity Average

Readings ranged from ____ to ____ % opacity

The source was/was not in compliance with ____ at the time evaluation was made. N/A

FIGURE 9-2 OBSERVATION RECORD PAGE 2 OF 2

COMPANY MFA
LOCATION MEXICO, MISSOURI
TEST NUMBER
DATE 7-6-79

OBSERVER ROGER SCHUMER
TYPE FACILITY BEAN CONDITIONER
POINT OF EMISSIONS Hog Hand with hat

Hr.	Min.	Seconds 0	15	30	45	STEAM PLUME (check if applicable) Attached	Detached	COMMENTS
	0	0	0	0	0			
	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							
	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			
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FIGURE 9-2 OBSERVATION RECORD (Continued) PAGE ___ OF ___

COMPANY
LOCATION
TEST NUMBER
DATE

OBSERVER
TYPE FACILITY
POINT OF EMISSIONS

Hr.	Min.	Seconds 0	15	30	45	STEAM PLUME (check if applicable) Attached	Detached	COMMENTS
	30							
	31							
	32							
	33							
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[FR Doc.74-26160 Filed 11-11-74;9:45 am]