To: Scott

Where Innovation Comes Naturally

GRAIN PROCESSING CORPORATION
1600 Oregon St., Muscatine, Iowa 52761-1494 USA • Phone 319-264-4265 • FAX 319-264-4289

FAX TRANSMISSION

DATE: 9-29-98

ATTN: Steve Stockdale

FROM: Al McDonald

Number of Pages (including this cover page):

Comments: Alcohol from GPC to Heinz – Tracy, CA

	Ship Date	W.G. (Wine Gallons)	P.G. (Grain Gallons)	
received MAY	4-11-97	28,814.7	~~54,205.4~~	
	5-7-97	28,666.0	53,925.8	
received JUN →	6-12-97	28,829.5	~~54,233.4~~	
received AUG →	7-25-97	28,740.3	54,065.6	
Recieved SEPT →	8-28-97	28,844.4	54,261.3	
* (never) RECEIVED OCT →	9-26-97	28,874.1	~~54,317.3~~	Full car returned to GPC 12-2-97
	10-21-97	6,909.3	~~12,997.7~~	
received NOV →	11-4-97 (last shipment)	6909.3	~~12,997.7~~	

According to Steve, shipments typically took ~3 weeks to reach TRACY

FAX NUMBER DIALED: 412-237-3543

If problems with transmission, please phone GPC at (319) 264-4265.

Wine gallons are actual gallons 95% ethanol

APRIL ACTUAL

FY 96 CASE PRODUCTION - TRACY

		95							95	96			96	
		ACT	ACT	ACT	ACT	ACT	ACT	ACT	ACT	ACT	ACT	ACT	ACT	ACT
VAR #	DESCRIPTION	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	TOTAL CS
540230	#10 HJH SPAGH SCE		5,951				6,063		6,477					18,491
541900	PIETRO'S PZ VP		7,803		5,796	6,551	1,093		7,146					28,389
569600	PAPA'S PZA TO GO			7,362			4,965		3,626				4,642	20,595
571500	#70 TOM JUICE			95,215	276,606	35,368								407,189
571703	#10 PP 26% TOM PST				8,982		8,785	4,522			9,033	4,877		36,199
572101	#10 PP PUREE FR			9,173		20,521	17,035							46,729
572103	#10 PP PUREE PS											11,358	3,872	15,230
572201	#10 PP SAUCE FR			11,773	22,651	17,368	2,031							53,823
572203	#10 PP SAUCE PS	9,309	4,305	3,378								11,523	9,649	38,164
572300	PAPA MURPHY'S			367										367
572401	#10 TOM SAUCE FR			41,883	77,986	81,382								201,251
572403	#10 TOM SAUCE PS	43,636												43,636
572701	#10 TOM PUREE FR			42,591	129,006	29,770	(4,704)							196,663
572703	#10 TOM PUREE PS													
572800	VP HNZ PREM PIZZA		6,846				5,101				4,923			16,870
573330	#10 HJH PIZZA SCE		3,640				3,711		8,797		7,069			23,217
573903	26%VOLPAK TOM PST				41,133	7,838	33,147					28,648	5,451	116,217
574300	VP CRUSHED TOMATOS			40,783	34,649	68,889								144,321
574400	VP HNZ PREM SPAG		7,497				5,941			4,387				17,825
575100	ALFIE'S PIZZA SCE			4,255									3,668	7,923
575800	3 GAL PIZZA TIME					34,354								34,354
576700	3 GAL PAPA ALDO'S			10,588	21,177									31,765
576703	PAPA ALDO'S PZ SC PS	14,953												14,953
576900	55 GAL HNZ CRSD TOM					1,864	1,209							3,073
577400	#10 MARINARA SCE												129	129
578100	#10 CHILI BASE						9,813		9,402	5,622				24,837
580203	2 1/4oz RM SERV - MEX									767				767
9241010	BULK CIDER VGR													
* 9241130	BULK WHITE VGR GAL.	359,759	322,412	383,256	252,981	222,205	241,555	292,301	321,832	485,317	358,408	356,473	476,667	4,073,166
9252100	26% PEAR PASTE						129,700							129,700
9252400	IBF PEAR BAGS													
9253160	21 % PH BULK PSTE													
9253170	26% RTP BULK PSTE			31,300	406,100	214,404								651,804
9253210	32 % TOM PASTE			1,376,189	988,193	1,549,117	841,864							4,755,363
9255000	32% TOM PST BAGS			478,265	3,013,937	3,129,301	1,288,457							7,909,960
9255200	DICED TOM IN PUREE													
TOTAL FINISHED GOODS		1,028,507	1,129,562	1,462,833	2,514,863	1,740,345	788,023	248,854	362,053	626,719	668,238	1,025,333	1,240,909	12,836,239
TOTAL WIP		359,759	322,412	2,269,010	4,661,211	5,115,027	2,501,576	292,301	321,832	485,317	358,408	356,473	476,667	17,519,993
TOTAL CASES / UNITS		1,388,266	1,451,974	3,731,843	7,176,074	6,855,372	3,289,599	541,155	683,885	1,112,036	1,026,646	1,381,806	1,717,576	30,356,232

APRIL ACTUAL

FY 97 FORECASTED CASES - TRACY

96 96 97 97

VAR #	DESCRIPTION	ACT MAY	ACT JUN	ACT JUL	ACT AUG	ACT SEP	ACT OCT	ACT NOV	ACT DEC	ACT JAN	ACT FEB	ACT MAR	ACT APR
572701	#10 TOM PUREE FR			1,552	22,854		20,838						
572703	#10 TOM PUREE PS										17,012	11,145	19,421
572800	VP HNZ PREM PIZZA	4,784			4,878	(288)	5,284			6,217		3,829	
573300	#10 HJH PIZZA SCE	3,581	3,632						6,453			3,129	3,724
573701	3 GAL VP TOM SCE - FR					2,996							
573703	3 GAL VOL PAK TOM SCE		137							3,405			
573801	3 GAL VP PUREE - FR					2,372	3,533						
573803	3 GAL VOL PAK PUREE		171				1,523		10,020	3,412		6,230	
573903	26%VOLPAK TOM PST		21,496	37,854			33,639			17,138			
574300	VP CRUSHED TOMATOS			65,823	76,087	44,261	57,598						
574400	VP HNZ PREM SPAG	4,678	7,637										
575100	ALFIE'S PIZZA SCE		6,665				3,109		3,312				
575801	3 GAL PIZZA TIME					51,001							
576701	3 GAL PAPA ALDO'S												
576703	PAPA ALDO'S PZ SC PS												
576900	55 GAL HNZ CRSD TOM												
577400	#10 HJH MARINARA		2,229										
578100	#10 CHILI BASE						4,685	9,683					
580201	2 1/4 oz KET - MEXICO FR												
580203	2 1/4 oz KET - MEXICO PS		1,409					1,981					
709900	BEG APPLE-BLUEBRY											7,529	3,542
710300	BEG APPLES											4,936	
710500	BEG APPLE -APRICOT											10,900	1,121
710600	BEG APPLE-BANANA											7,747	
711600	APPLE STRAINED								1,740	18,044			14,247
711700	APPLE JUICE												
711800	APPLE/GRAPE JUICE												
9241010	BULK CIDER VGR												
* 9241130	BULK WHITE VGR 100gl Equiv GAL	420,232	414,626	475,242	419,761	426,680	531,130	439,307	432,205	563,551	368,257	252,142	343,711
9250400	APPLE PUREE - 55 GAL						1,326,290	718,879					
9252100	28% PEAR PASTE												
9252400	IBF PEAR BAGS												
9253140	24 % NTSS BULK PSTE					30,500	92,300						
9253170	28% RTP BULK PSTE			676,400									
9253210	32 % TOM PASTE			1,681,160	1,112,968	1,121,581	899,225						
9255000	32% TOM PST BAGS			2,701,916	3,401,553	3,555,502	337,444						
9255200	DICED TOM IN PUREE												
TOTAL FINISHED GOODS		778,387	901,268	1,624,658	1,653,412	1,313,741	716,782	473,127	638,273	1,100,639	597,636	725,779	892,432
TOTAL WIP		420,232	414,626	5,534,718	4,934,282	5,134,263	3,186,389	1,158,186	432,205	563,551	368,257	252,142	343,711

FY 98 FORECASTED CASES - TRACY

97 98

VAR #	DESCRIPTION	ACTUAL MAY	ACTUAL JUN	ACTUAL JUL	ACTUAL AUG	ACTUAL SEP	ACTUAL OCT	ACTUAL NOV	ACTUAL DEC	ACTUAL JAN	FRCST FEB	FRCST MAR	FRCST APR	FRCST TOTAL CS
540200	#10 HJH SPAGH SCE		9,002											9,002
560900	STRAW HAT PIZZA VP					21,041								21,041
568400	55 GAL CRUSHED TOMATO	91,439												91,439
569800	PAPA'S PZA TO GO	1,854	12,994				7,015		18,149					40,012
571500	#70 TOM JUICE			101,114	185,271	166,205	(200)							452,391
571703	#10 PP 26% TOM PST	12,961		9,176	5,870	10,493		15,700	15,187					69,188
572101	#10 PP PUREE FR			7,311		18,490								25,801
572103	#10 PP PUREE PS	2,722	6,379					8,929	9,265	18,390				44,685
572201	#10 PP SAUCE FR			12,784	10,015	(192)								22,607
572203	#10 PP SAUCE PS	9,579	7,325				21,502	14,575	17,180	23,020				93,261
572300	PAPA MURPHY'S													
572401	#10 TOM SAUCE FR			48,717	49,776									98,493
572403	#10 TOM SAUCE PS	10,476	19,231				80,184	47,758	26,288					183,937
572701	#10 TOM PUREE FR			40,215		26,077								66,292
572703	#10 TOM PUREE PS		10,561	1,585				81,410	35,600					129,156
572800	VP HNZ PREM PIZZA	4,335	6,572				15,445							28,302
573300	#10 HJH PIZZA SCE		7,192											7,192
573701	3 GAL VP TOM SCE - FR													
573703	3 GAL VOL PAK TOM SCE			3,942			7,721							11,663
573801	3 GAL VP PUREE - FR													
573803	3 GAL VOL PAK PUREE	6,269	11,480	10,626			26,997							55,371
573903	26%VOLPAK TOM PST	24,882	14,605	8,424			43,864	57,283						147,038
574300	VP CRUSHED TOMATOS			98,073	158,683	14,614								271,370
574400	VP HNZ PREM SPAG		3,642				8,472	17,470						27,584
575100	ALFIE'S PIZZA SCE						11,056							11,056
575801	3 GAL PIZZA TIME				429	39,029								39,458
576701	3 GAL PAPA ALDO'S													
576703	PAPA ALDO'S PZ SC PS													
576900	55 GAL HNZ CRSD TOM					1,053								1,053
577400	#10 HJH MARINARA													
578100	#10 CHILI BASE													
580201	2 1/4 oz KET - MEXICO FR													
580203	2 1/4 oz KET - MEXICO PS	1,661												1,661
709300	BEG APPLE-BLUEBRY									9,301				9,301
710300	BEG APPLES									5,445				5,445
710500	BEG APPLE -APRICOT									5,189				5,189
710600	BEG APPLE-BANANA									6,106				6,106
710700	BEG PEARS-RASP													
711600	APPLE STRAINED	21,192						4,638	28,338					54,168
711700	APPLE JUICE						15,581							15,581
711800	APPLE/GRAPE JUICE						3,992							3,992
9241130	BULK WHITE VGR GAL.	208,549	140,264	176,366	240,337	275,067	274,697	131,916						1,447,196
9250400	APPLE PUREE - 55 GAL		298,365											298,365
9252100	26% PEAR PASTE													
9252400	IBF PEAR BAGS													
9253170	26% BULK PSTE			195,200	361,400	85,800								642,400
9255060	24% ROUGH PST BAGS			28,103										28,103
9253210	32 % TOM PASTE			1,433,654	1,028,682	1,073,265	(71,869)							3,463,732
9255000	32% TOM PST BAGS			2,058,519	3,545,968	2,849,469	71,869							8,525,825
9255200	DICED TOM IN PUREE					1,170,127								1,170,127
TOTAL FINISHED GOODS		951,177	1,123,058	1,510,301	1,734,770	1,569,202	1,363,028	1,106,464	343,958	239,518				9,941,476
TOTAL WIP		208,549	438,629	3,891,842	5,176,397	5,453,728	274,697	131,916						15,575,749
TOTAL CASES / UNITS		1,159,726	1,561,687	5,402,143	6,911,167	7,022,930	1,637,725	1,238,380	343,958	239,518				25,517,224

THE Cranbrook GROUP

May 12, 1998

Steven Howie
San Joaquin Valley Unified Air Pollution Control District
4230 Kiernan Avenue, Suite 130
Modesto, CA 95356-9321

Re: H. J. Heinz Facility, Tracy, CA

Dear Mr. Howie:

Cranbrook Associates, LLC purchased the Heinz property on November 20, 1997. Heinz remained in possession and control of the facility until February 28, 1998 at which time Cranbrook Associates, LLC took over control of the day to day activities at the site. Heinz stopped production activities (and air emissions) at the site on January 31, 1998. The month of February was used as a transition period for final equipment disposition, etc.

The enclosed applications are being submitted to deal with the various air emission permits held by H.J. Heinz Co. The following permits are being cancelled by Heinz (see attached letter from Don Kirk of Heinz):

N-403- 1-0	Diesel engine for standby power generator
N-403-13-0	Vinegar storage tanks (27)
N-403-14-0	Alcohol storage tank
N-403-17-0	Five cook tanks
N-403-18-0	Ketchup deaerator
N-403-19-0	Ketchup deaerator
N-403-20-0	Ketchup deaerator

The remaining permits are being transferred to Cranbrook Associates, LLC and are listed as follows:

N-403-2-1	No. 1 Boiler
N-403-3-1	No. 2 Boiler
N-403-4-1	No. 3 Boiler
N-403-5-1	No. 4 Boiler
N-403-6-1	No. 5 Boiler
N-403-7-1	No. 6 Boiler
N-403-8-0	Vinegar generator and associated tanks
N-403-9-0	Vinegar generator and associated tanks
N-403-10-0	Vinegar generator and associated tanks
N-403-11-0	Vinegar acetator and associated tanks
N-403-12-0	Vinegar acetator and associated tanks

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Executive Offices • 2950 Buskirk Avenue, Suite 330, Walnut Creek, CA 94596 • Phone (510) 933-2232 • Fax (510) 933-2950
Administrative Offices • 2020 Standiford Avenue, Suite E2, Modesto, CA 95350 • Phone (209) 549-4960 • Fax (209) 549-4963

N-403-15-0 Diesel engine for west fire pump
N-403-16-0 Diesel engine for east fire pump

Of the permits listed above which are to be transferred to Cranbrook Associates, LLC, only the diesel engines for the fire pumps are ultimately being retained. The remaining permits are submitted for ERC banking pursuant to the attached application.

Also enclosed are the required checks for each application. Please call me at **(209) 549-4960 ext. 12** if you have any questions or need any further information. Don Kirk will eventually provide us with the technical data to support the ERC application.

Very truly yours,

CRANBROOK ASSOCIATES, LLC

James F. Devenport

Enclosures

Cc: Don Kirk

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San Joaquin Valley
Air Pollution Control District

COPY

March 23, 1999

Cranbrook Associates, LLC
Attn: James Devenport
2020 Standiford Avenue, Suite E-2
Modesto, CA 95350

Re: Notice of Receipt of Complete Application - Emission Reduction Credits
Project Number: 980337

Dear Mr. Devenport:

The District has completed a preliminary review of your application for Emission Reduction Credits (ERCs) resulting from the shut-down of boilers and vinegar manufacturing equipment, at 757 11th Street in Tracy, CA.

Based on this preliminary review, the application appears to be complete. However, during processing of your application, the District may request additional information to clarify, correct, or otherwise supplement, the information on file.

Pursuant to District Rule 3010, section 3.0, your application may be subject to an hourly Engineering Evaluation Fee. If the applicable fees exceed the submitted application filing fee, the District will notify you at the conclusion of our review.

Thank you for your cooperation. Should you have any questions, please contact Mr. Anthony Mendes at (209) 545-7000.

Sincerely,

Seyed Sadredin
Director of Permit Services

Anthony J. Mendes
Permit Services Manager

MJS

David L. Crow
Executive Director/Air Pollution Control Officer

Northern Region Office
4230 Kiernan Avenue, Suite 130
Modesto, CA 95356-9321
(209) 557-6400 • FAX (209) 557-6475

Central Region Office
1990 East Gettysburg Avenue
Fresno, CA 93726-0244
(559) 230-6000 • FAX (559) 230-6061

Southern Region Office
2700 M Street, Suite 275
Bakersfield, CA 93301-2370
(661) 326-6900 • FAX (661) 326-6985

ERC Application Evaluation
Project #: 980337
Application #'s: N-140-1, N-140-2, N-140-3, N-140-4 & N-140-5

Engineer: Mark Schonhoff
Date: May 15, 2000

Company Name: Cranbrook Associates, LLC
Mailing Address: 2020 Standiford Avenue, Suite E-2
Modesto, CA 95350

Contact Name: James Devenport
Phone: (209) 549-4960 extension 12

Date Application Received: May 12, 1998
Date Application Deemed Complete: March 23, 1999

I. Summary:

The applicant is proposing to receive the following quantities of ERC's for the shut down of boilers, vinegar acetators and vinegar generators.

	Quarter 1	Quarter 2	Quarter 3	Quarter 4	Total
NOx (lb)	1,430	1,456	23,453	1,849	28,188
CO (lb)	151	163	18,035	404	18,753
VOC (lb)	61,372	51,627	55,228	46,690	214,917
SOx (lb)	24	24	391	31	470
PM10 (lb)	302	308	4,952	391	5,953

II. Applicable Rules:

Rule 2301: Emission Reduction Credit Banking (Adopted September 19, 1991; Amended March 11, 1992; Amended December 17, 1992)

III. Location Of Reductions:

757 11th Street
Tracy, CA

IV. Method Of Generating Reductions:

The ERC's were generated by shutting down 6 boilers, three vinegar generators, two vinegar acetators and the associated tanks.

V. ERC Calculations:

A. Assumptions and Emission Factors:

NOx:

The boilers were source tested for NOx on 7/23 through 7/25 1996 and 7/22 through 7/24 1997. The ppm and lb/MMBtu values are from the source test reports and the $lb/10^6$ ft^3 values were calculated assuming a natural gas heating value of 1000 Btu/scf.

1996 Source Test Results (Best Environmental 7/23/96 - 7/25/96):

	Boiler 1 (N-4026-1)	Boiler 2 (N-4026-2)	Boiler 3 (N-4026-3)	Boiler 4 (N-4026-4)	Boiler 5 (N-4026-5)	Boiler 6 (N-4026-6)
NOx - ppm @ 3% O_2	37.2	36.8	34.9	33.7	32.0	38.3
NOx - lb/MMBtu ($lb/10^6 ft^3$)	0.0452 (45.2)	0.0448 (44.8)	0.0425 (42.5)	0.0410 (41.0)	0.0390 (39.0)	0.0466 (46.6)

1997 Source Test Results (Best Environmental 7/22/97 - 7/24/97):

	Boiler 1 (N-4026-1)	Boiler 2 (N-4026-2)	Boiler 3 (N-4026-3)	Boiler 4 (N-4026-4)	Boiler 5 (N-4026-5)	Boiler 6 (N-4026-6)
NOx ppm @ 3% O_2	34.5	37.2	33.2	38.4	34.4	39.4
NOx - lb/MMBtu ($lb/10^6 ft^3$)	0.042 (42.0)	0.045 (45.0)	0.040 (40.0)	0.047 (47.0)	0.042 (42.0)	0.048 (48.0)

District rule 4305 (Boilers, Steam Generators and Process Heaters) was in effect during the baseline period, and would have allowed a NOx emission concentration of no more than 30 ppm @ 3% O_2 (0.036 lb/MMBtu). As shown in the above tables, the actual NOx emission concentrations were in excess of the emission concentration that would have ultimately been allowed by the rule.

The boilers were however group II units as defined in District rule 4305, the NOx emission concentrations were shown by source testing to be within 0.025 lb/MMBtu of the ultimate rule limit of 0.036 lb/MMBtu and Authority to Construct applications to limit the NOx emissions to 0.036 lb/MMBtu were received prior to June 16, 1997. The units were therefore in compliance with the applicable requirements of rule 4305 (refer to section 7.1.2).

The Historical Actual Emissions (HAE) are the emissions that actually occurred during the baseline period and will be calculated utilizing the above emission factors.

The Actual Emission Reductions (AER) must be surplus (District rule 2201 - New and Modified Stationary Source Review), they will therefore be discounted to 30 ppm @ 3% O_2 (36.0 lb/MMcf).

CO:

The boilers were source tested for CO on 7/23 through 7/25 1996 and 7/22 through 7/24 1997. The ppm and lb/MMBtu values are from the source test reports and the lb/10^6 ft^3 values were calculated assuming a natural gas heating value of 1000 Btu/scf.

1996 Source Test Results (Best Environmental 7/23/96 - 7/25/96):

	Boiler 1 (N-4026-1)	Boiler 2 (N-4026-2)	Boiler 3 (N-4026-3)	Boiler 4 (N-4026-4)	Boiler 5 (N-4026-5)	Boiler 6 (N-4026-6)
CO - ppm @ 3% O_2	1.1	1.2	1.1	0.6	4.6	93.9
CO - lb/MMBtu (lb/10^6 ft^3)	0.0008 (0.80)	0.0009 (0.90)	0.0008 (0.80)	0.0004 (0.40)	0.0034 (3.4)	0.0695 (69.5)

1997 *Source Test Results (Best Environmental 7/22/97 - 7/24/97):*

	Boiler 1 (N-4026-1)	Boiler 2 (N-4026-2)	Boiler 3 (N-4026-3)	Boiler 4 (N-4026-4)	Boiler 5 (N-4026-5)	Boiler 6 (N-4026-6)
CO - ppm @ 3% O_2	2.45	1.08	1.07	15.5	8.94	104.48
CO - lb/MMBtu (lb/10^6 ft^3)	0.002 (2.0)	0.001 (1.0)	0.001 (1.0)	0.011 (11.0)	0.007 (7.0)	0.077 (77.0)

District rule 4305 (Boilers, Steam Generators and Process Heaters) was in effect during the baseline period, and would have allowed a CO emission concentration of no more than 400 ppm @ 3% O_2 . As shown in the above tables, the actual CO emission concentrations were less than would have been allowed by the rule. So that the actual emission reductions calculated are real, the source test values as opposed to the rule limit will be utilized to calculate the AER's.

VOC, SOx and PM10:

The boilers were not source tested for VOC, SOx or PM10. The baseline period emissions will be calculated utilizing emission factors from EPA Document AP-42, table 1.4-2 (3/98).

VOC: 5.5 lb/10^6 scf
SOx: 0.6 lb/10^6 scf
PM10: 7.6 lb/10^6 scf

Vinegar Manufacturing:

The facility utilized both generators and acetators to manufacture vinegar. The VOC emission factors for each type of process are different. The facility kept records of the facility-wide vinegar production, but did not keep records of how much vinegar was produced utilizing each type of process. It will therefore be assumed that all of the vinegar was produced utilizing the process with the lowest emission factor. The process with the lowest VOC emission factor was the acetator process which had an emission factor of 0.057 lb VOC/gallon of vinegar produced. Refer to appendix C of this document for the emission factor calculations.

Summary Of Emission Factors:

Boilers (HAE Purposes):

Year	Pollutant	Boiler 1 (N-4026-1)	Boiler 2 (N-4026-2)	Boiler 3 (N-4026-3)	Boiler 4 (N-4026-4)	Boiler 5 (N-4026-5)	Boiler 6 (N-4026-6)
1996	NOx (lb/10^6 scf)	45.2	44.8	42.5	41.0	39.0	46.6
1997	NOx (lb/10^6 scf)	42.0	45.0	40.0	47.0	42.0	48.0
1996	CO (lb/10^6 scf)	0.80	0.90	0.80	0.40	3.4	69.5
1997	CO (lb/10^6 scf)	2.0	1.0	1.0	11.0	7.0	77.0
1996	VOC (lb/10^6 scf)	5.5	5.5	5.5	5.5	5.5	5.5
1997	VOC (lb/10^6 scf)	5.5	5.5	5.5	5.5	5.5	5.5
1996	SOx (lb/10^6 scf)	0.6	0.6	0.6	0.6	0.6	0.6
1997	SOx (lb/10^6 scf)	0.6	0.6	0.6	0.6	0.6	0.6
1996	PM10 (lb/10^6 scf)	7.6	7.6	7.6	7.6	7.6	7.6
1997	PM10 (lb/10^6 scf)	7.6	7.6	7.6	7.6	7.6	7.6

Boilers (AER Purposes)

Year	Pollutant	Boiler 1 (N-4026-1)	Boiler 2 (N-4026-2)	Boiler 3 (N-4026-3)	Boiler 4 (N-4026-4)	Boiler 5 (N-4026-5)	Boiler 6 (N-4026-6)
1996	NOx (lb/10^6 scf)	36.0	36.0	36.0	36.0	36.0	36.0
1997	NOx (lb/10^6 scf)	36.0	36.0	36.0	36.0	36.0	36.0
1996	CO (lb/10^6 scf)	0.80	0.90	0.80	0.40	3.4	69.5
1997	CO (lb/10^6 scf)	2.0	1.0	1.0	11.0	7.0	77.0
1996	VOC (lb/10^6 scf)	5.5	5.5	5.5	5.5	5.5	5.5
1997	VOC (lb/10^6 scf)	5.5	5.5	5.5	5.5	5.5	5.5
1996	SOx (lb/10^6 scf)	0.6	0.6	0.6	0.6	0.6	0.6
1997	SOx (lb/10^6 scf)	0.6	0.6	0.6	0.6	0.6	0.6
1996	PM10 (lb/10^6 scf)	7.6	7.6	7.6	7.6	7.6	7.6
1997	PM10 (lb/10^6 scf)	7.6	7.6	7.6	7.6	7.6	7.6

Vinegar Manufacturing:

VOC = 0.057 lb/gal of vinegar production

B. Baseline Period Determination and Data:

Baseline Period Determination:

The District has determined that the consecutive two year period immediately preceding the banking application is not representative of normal source operation.

The application for ERCs was received on May 12, 1998 and the cessation of operations occurred January 31, 1998. Since the application was submitted within *180 days of the cessation of operations, the baseline period will be the eight* complete calendar quarters immediately preceding the cessation of operations. The baseline period will be quarter 1 of 1996 through quarter 4 of 1997.

Baseline Period Data:

Boiler Fuel Usages:

N-4026-1:

	Quarter 1 (10^3 ft^3)	Quarter 2 (10^3 ft^3)	Quarter 3 (10^3 ft^3)	Quarter 4 (10^3 ft^3)
1996	19,899	18,284	122,454	21,683
1997	18,470	6,550	108,256	20,256

N-4026-2:

	Quarter 1 (10^3 ft^3)	Quarter 2 (10^3 ft^3)	Quarter 3 (10^3 ft^3)	Quarter 4 (10^3 ft^3)
1996	0	4,087	115,623	11,053
1997	0	3,945	102,454	8,726

N-4026-3:

	Quarter 1 (10^3 ft^3)	Quarter 2 (10^3 ft^3)	Quarter 3 (10^3 ft^3)	Quarter 4 (10^3 ft^3)
1996	0	663	115,380	12,676
1997	0	6,213	100,997	0

N-4026-4:

	Quarter 1 (10^3 ft^3)	Quarter 2 (10^3 ft^3)	Quarter 3 (10^3 ft^3)	Quarter 4 (10^3 ft^3)
1996	13,990	10,218	65,772	3,619
1997	14,555	18,000	64,121	12,517

N-4026-5:

	Quarter 1 (10^3 ft^3)	Quarter 2 (10^3 ft^3)	Quarter 3 (10^3 ft^3)	Quarter 4 (10^3 ft^3)
1996	9,435	9,977	69,232	3,610
1997	11,947	11,931	62,973	11,642

N-4026-6:

	Quarter 1 (10^3 ft^3)	Quarter 2 (10^3 ft^3)	Quarter 3 (10^3 ft^3)	Quarter 4 (10^3 ft^3)
1996	0	0	282,833	8,320
1997	0	0	237,646	0

Total Vinegar Production (N-4026-7, N-4026-8, N-4026-9, N-4026-10 & N-4026-11):

	Quarter 1 (gal)	Quarter 2 (gal)	Quarter 3 (gal)	Quarter 4 (gal)
1996	1,200,198	1,311,525	1,321,683	1,402,642
1997	1,183,950	692,534	691,770	406,613

C. Historical Actual Emissions:

Refer to appendix A of this document for complete calculations.

NOx:

	Quarter 1 (lb)	Quarter 2 (lb)	Quarter 3 (lb)	Quarter 4 (lb)
1996	1,841	1,846	34,195	2,691
1997	1,962	2,048	30,263	2,321
Average	1,902	1,947	32,229	2,506

CO:

	Quarter 1 (lb)	Quarter 2 (lb)	Quarter 3 (lb)	Quarter 4 (lb)
1996	54	57	20,213	629
1997	281	305	19,865	268
Average	168	181	20,039	449

VOC:

	Quarter 1 (lb)	Quarter 2 (lb)	Quarter 3 (lb)	Quarter 4 (lb)
1996	68,650	74,995	79,578	80,286
1997	67,732	39,731	43,151	23,469
Average	68,191	57,363	61,365	51,878

SOx:

	Quarter 1 (lb)	Quarter 2 (lb)	Quarter 3 (lb)	Quarter 4 (lb)
1996	26	26	463	37
1997	27	28	406	32
Average	27	27	435	35

PM10:

	Quarter 1 (lb)	Quarter 2 (lb)	Quarter 3 (lb)	Quarter 4 (lb)
1996	329	329	5,862	463
1997	342	354	5,141	404
Average	336	342	5,502	434

D. Actual Emission Reductions:

In the case of shutdowns AER = HAE unless they must be reduced such that they are surplus.

As stated in section V.A of this document, the pre-shutdown emission factor for NOx must be reduced to 30 ppmv @ 3% O_2 (0.036 lb/MMBtu) for rule 4305 compliance. For CO, VOC, SOx and PM10, the HAEs meet the definition of AER and no reduction is necessary. For CO, VOC, SOx and PM10, AER = HAE.

The boilers were group II units as defined in District rule 4305, the NOx emission concentrations were shown by source testing to be within 0.025 lb/MMBtu of the ultimate rule limit of 0.036 lb/MMBtu and Authority to Construct applications to limit the NOx emissions to 0.036 lb/MMBtu were received prior to June 16, 1997. The units were therefore in compliance with the applicable requirements of rule 4305 (refer to section 7.1.2).

The AER's are shown on the following table. Refer to Appendix B of this document for detailed NOx AER calculations. Refer to Appendix A of this document for detailed CO, VOC, SOx and PM10 HAE/AER calculations.

	Quarter 1 (lb)	Quarter 2 (lb)	Quarter 3 (lb)	Quarter 4 (lb)
NOx	1,589	1,618	26,059	2,054
CO	168	181	20,039	449
VOC	68,191	57,363	61,365	51,878
SOx	27	27	435	35
PM10	336	342	5,502	434

E. Air Quality Improvement Deduction:

Per District rule 2201, section 6.5, a 10% air quality improvement deduction must be applied to the AER's prior to banking. The air quality improvement deductions are as follows:

	Quarter 1 (lb)	Quarter 2 (lb)	Quarter 3 (lb)	Quarter 4 (lb)
NOx	159	162	2,606	205
CO	17	18	2,004	45
VOC	6,819	5,736	6,137	5,188
SOx	3	3	44	4
PM10	34	34	550	43

F. Increase In Permitted Emissions:

No IPE associated with this project.

G. Bankable Emissions Reductions:

The bankable reductions are the AER's minus the Air Quality Improvement Deduction.

	Quarter 1	Quarter 2	Quarter 3	Quarter 4
NOx (lb)	1,430	1,456	23,453	1,849
CO (lb)	151	163	18,035	404
VOC (lb)	61,372	51,627	55,228	46,690
SOx (lb)	24	24	391	31
PM10 (lb)	302	308	4,952	391

VI. Compliance:

A. Real Reductions:

The reductions were generated by shutting down emission units. Had the emission units not been shut down the emissions for which ERCs are being proposed could still be occurring. Therefore, the reductions are real.

B. Enforceable Reductions:

The Permits To Operate have been surrendered to the District. Operation of the equipment without a permits would result in enforcement action being taken. Therefore, the reductions are enforceable.

C. Quantifiable Reductions:

The baseline emissions were calculated utilizing District approved emission factors, actual baseline period fuel usages and actual baseline period alcohol usages. Therefore, the reductions are quantifiable.

D. Permanent Reductions:

The Permits To Operate have been surrendered to the District. Operation of the equipment without permits would result in enforcement action being taken. Therefore, the reductions are permanent.

E. Surplus Reductions:

Boilers:

The boilers would have been subject to the NOx and CO emission concentration limits of District rule 4305. Source testing showed that the NOx concentrations were in excess of those allowed by the rule and that the CO emissions were lower than required by the rule. The NOx emission factors utilized to calculate the bankable reductions were reduced to the level required by the rule. The CO emissions concentrations did not require adjustment. VOC, SOx and PM10 reductions were not required by any rules or regulations. Therefore, the reductions are surplus.

Note:

The boilers were group II units as defined in District rule 4305, the NOx emission concentrations were shown by source testing to be within 0.025 lb/MMBtu of the ultimate rule limit of 0.036 lb/MMBtu and Authority to Construct applications to limit the NOx emissions to 0.036 lb/MMBtu were received prior to June 16, 1997. The units were therefore in compliance with the applicable requirements of rule 4305 (refer to section 7.1.2).

Vinegar Manufacturing Equipment:

The emission reductions were made voluntarily and were not required by any present or pending regulation. Therefore the reductions are surplus.

F. Timeliness:

The facility was shut down on January 31, 1998 and the ERC application was submitted on May 12, 1998. The application was submitted before the 180 day deadline imposed by District rule 2301 Section 4.2.3. Therefore, the application was made in a timely fashion.

VII. Recommendation:

Issue Emission Reduction Credit Certificates to Cranbrook Associates, LLC for NOx, CO, VOC, SOx and PM10 in the following amounts:

	Quarter 1	Quarter 2	Quarter 3	Quarter 4
NOx (lb)	1,430	1,456	23,453	1,849
CO (lb)	151	163	18,035	404
VOC (lb)	61,372	51,627	55,228	46,690
SOx (lb)	24	24	391	31
PM10 (lb)	302	308	4,952	391

Appendix A
HAE Calculations

Appendix A
HAE Calculations

1996 HAEs:

Boiler 1 (N-4026-1)

Quarter	Pollutant	EF (lb/10^6 ft^3)	Fuel Usage (10^3 ft^3/qtr)	HAE (lb/qtr)
1	NOx	45.2	19,899	899
1	CO	0.8	19,899	16
1	VOC	5.5	19,899	109
1	SOx	0.6	19,899	12
1	PM10	7.6	19,899	151

Quarter	Pollutant	EF (lb/10^6 ft^3)	Fuel Usage (10^3 ft^3/qtr)	HAE (lb/qtr)
2	NOx	45.2	18,284	826
2	CO	0.8	18,284	15
2	VOC	5.5	18,284	101
2	SOx	0.6	18,284	11
2	PM10	7.6	18,284	139

Quarter	Pollutant	EF (lb/10^6 ft^3)	Fuel Usage (10^3 ft^3/qtr)	HAE (lb/qtr)
3	NOx	45.2	122,454	5,535
3	CO	0.8	122,454	98
3	VOC	5.5	122,454	673
3	SOx	0.6	122,454	73
3	PM10	7.6	122,454	931

Quarter	Pollutant	EF (lb/10^6 ft^3)	Fuel Usage (10^3 ft^3/qtr)	HAE (lb/qtr)
4	NOx	45.2	21,683	980
4	CO	0.8	21,683	17
4	VOC	5.5	21,683	119
4	SOx	0.6	21,683	13
4	PM10	7.6	21,683	165

Boiler 2 (N-4026-2)

Quarter	Pollutant	EF (lb/106 ft3)	Fuel Usage (103 ft3/qtr)	HAE (lb/qtr)
1	NOx	44.8	0	0
1	CO	0.9	0	0
1	VOC	5.5	0	0
1	SOx	0.6	0	0
1	PM10	7.6	0	0

Quarter	Pollutant	EF (lb/10^6 ft^3)	Fuel Usage (10^3 ft^3/qtr)	HAE (lb/qtr)
2	NOx	44.8	4,087	183
2	CO	0.9	4,087	4
2	VOC	5.5	4,087	22
2	SOx	0.6	4,087	2
2	PM10	7.6	4,087	31

Quarter	Pollutant	EF (lb/10^6 ft^3)	Fuel Usage (10^3 ft^3/qtr)	HAE (lb/qtr)
3	NOx	44.8	115,623	5,180
3	CO	0.9	115,623	104
3	VOC	5.5	115,623	636
3	SOx	0.6	115,623	69
3	PM10	7.6	115,623	879

Quarter	Pollutant	EF (lb/10^6 ft^3)	Fuel Usage (10^3 ft^3/qtr)	HAE (lb/qtr)
4	NOx	44.8	11,053	495
4	CO	0.9	11,053	10
4	VOC	5.5	11,053	61
4	SOx	0.6	11,053	7
4	PM10	7.6	11,053	84

Boiler 3 (N-4026-3)

Quarter	Pollutant	EF (lb/106 ft3)	Fuel Usage (103 ft3/qtr)	HAE (lb/qtr)
1	NOx	42.5	0	0
1	CO	0.8	0	0
1	VOC	5.5	0	0
1	SOx	0.6	0	0
1	PM10	7.6	0	0

Quarter	Pollutant	EF (lb/10^6 ft^3)	Fuel Usage (10^3 ft^3/qtr)	HAE (lb/qtr)
2	NOx	42.5	663	28
2	CO	0.8	663	1
2	VOC	5.5	663	4
2	SOx	0.6	663	0
2	PM10	7.6	663	5

Quarter	Pollutant	EF (lb/10^6 ft^3)	Fuel Usage (10^3 ft^3/qtr)	HAE (lb/qtr)
3	NOx	42.5	115,380	4,904
3	CO	0.8	115,380	92
3	VOC	5.5	115,380	635
3	SOx	0.6	115,380	69
3	PM10	7.6	115,380	877

Quarter	Pollutant	EF (lb/10^6 ft^3)	Fuel Usage (10^3 ft^3/qtr)	HAE (lb/qtr)
4	NOx	42.5	12,676	539
4	CO	0.8	12,676	10
4	VOC	5.5	12,676	70
4	SOx	0.6	12,676	8
4	PM10	7.6	12,676	96

Boiler 4 (N-4026-4)

Quarter	Pollutant	EF (lb/106 ft3)	Fuel Usage (103 ft3/qtr)	HAE (lb/qtr)
1	NOx	41	13,990	574
1	CO	0.4	13,990	6
1	VOC	5.5	13,990	77
1	SOx	0.6	13,990	8
1	PM10	7.6	13,990	106

Quarter	Pollutant	EF (lb/10^6 ft^3)	Fuel Usage (10^3 ft^3/qtr)	HAE (lb/qtr)
2	NOx	41	10,218	419
2	CO	0.4	10,218	4
2	VOC	5.5	10,218	56
2	SOx	0.6	10,218	6
2	PM10	7.6	10,218	78

Quarter	Pollutant	EF (lb/10^6 ft^3)	Fuel Usage (10^3 ft^3/qtr)	HAE (lb/qtr)
3	NOx	41	65,772	2,697
3	CO	0.4	65,772	26
3	VOC	5.5	65,772	362
3	SOx	0.6	65,772	39
3	PM10	7.6	65,772	500

Quarter	Pollutant	EF (lb/10^6 ft^3)	Fuel Usage (10^3 ft^3/qtr)	HAE (lb/qtr)
4	NOx	41	3,619	148
4	CO	0.4	3,619	1
4	VOC	5.5	3,619	20
4	SOx	0.6	3,619	2
4	PM10	7.6	3,619	28

Boiler 5 (N-4026-5)

Quarter	Pollutant	EF (lb/106 ft3)	Fuel Usage (103 ft3/qtr)	HAE (lb/qtr)
1	NOx	39	9,435	368
1	CO	3.4	9,435	32
1	VOC	5.5	9,435	52
1	SOx	0.6	9,435	6
1	PM10	7.6	9,435	72

Quarter	Pollutant	EF (lb/10^6 ft^3)	Fuel Usage (10^3 ft^3/qtr)	HAE (lb/qtr)
2	NOx	39	9,977	389
2	CO	3.4	9,977	34
2	VOC	5.5	9,977	55
2	SOx	0.6	9,977	6
2	PM10	7.6	9,977	76

Quarter	Pollutant	EF (lb/10^6 ft^3)	Fuel Usage (10^3 ft^3/qtr)	HAE (lb/qtr)
3	NOx	39	69,232	2,700
3	CO	3.4	69,232	235
3	VOC	5.5	69,232	381
3	SOx	0.6	69,232	42
3	PM10	7.6	69,232	526

Quarter	Pollutant	EF (lb/10^6 ft^3)	Fuel Usage (10^3 ft^3/qtr)	HAE (lb/qtr)
4	NOx	39	3,610	141
4	CO	3.4	3,610	12
4	VOC	5.5	3,610	20
4	SOx	0.6	3,610	2
4	PM10	7.6	3,610	27

Boiler 6 (N-4026-6)

Quarter	Pollutant	EF (lb/106 ft3)	Fuel Usage (103 ft3/qtr)	HAE (lb/qtr)
1	NOx	46.6	0	0
1	CO	69.5	0	0
1	VOC	5.5	0	0
1	SOx	0.6	0	0
1	PM10	7.6	0	0

Quarter	Pollutant	EF (lb/10^6 ft^3)	Fuel Usage (10^3 ft^3/qtr)	HAE (lb/qtr)
2	NOx	46.6	0	0
2	CO	69.5	0	0
2	VOC	5.5	0	0
2	SOx	0.6	0	0
2	PM10	7.6	0	0

Quarter	Pollutant	EF (lb/10^6 ft^3)	Fuel Usage (10^3 ft^3/qtr)	HAE (lb/qtr)
3	NOx	46.6	282,833	13,180
3	CO	69.5	282,833	19,657
3	VOC	5.5	282,833	1,556
3	SOx	0.6	282,833	170
3	PM10	7.6	282,833	2,150

Quarter	Pollutant	EF (lb/10^6 ft^3)	Fuel Usage (10^3 ft^3/qtr)	HAE (lb/qtr)
4	NOx	46.6	8,320	388
4	CO	69.5	8,320	578
4	VOC	5.5	8,320	46
4	SOx	0.6	8,320	5
4	PM10	7.6	8,320	63

Vinegar Generators & Acetators (N-4026-7, N-4026-8, N-4026-9, N-4026-10 & N-4026-11)

1996

Quarter	Pollutant	EF (lb/gal vinegar prod.)	Vinegar Prod. (gal/qtr)	HAE (lb/qtr)
1	VOC	0.057	1,200,198	68,411
2	VOC	0.057	1,311,525	74,757
3	VOC	0.057	1,321,683	75,336
4	VOC	0.057	1,402,642	79,951

1997 HAE's:

Boiler 1 (N-4026-1)

Quarter	Pollutant	EF (lb/10^6 ft^3)	Fuel Usage (10^3 ft^3/qtr)	HAE (lb/qtr)
1	NOx	42.0	18,470	776
1	CO	2.0	18,470	37
1	VOC	5.5	18,470	102
1	SOx	0.6	18,470	11
1	PM10	7.6	18,470	140

Quarter	Pollutant	EF (lb/10^6 ft^3)	Fuel Usage (10^3 ft^3/qtr)	HAE (lb/qtr)
2	NOx	42.0	6,550	275
2	CO	2.0	6,550	13
2	VOC	5.5	6,550	36
2	SOx	0.6	6,550	4
2	PM10	7.6	6,550	50

Quarter	Pollutant	EF (lb/10^6 ft^3)	Fuel Usage (10^3 ft^3/qtr)	HAE (lb/qtr)
3	NOx	42.0	108,256	4,547
3	CO	2.0	108,256	217
3	VOC	5.5	108,256	595
3	SOx	0.6	108,256	65
3	PM10	7.6	108,256	823

Quarter	Pollutant	EF (lb/10^6 ft^3)	Fuel Usage (10^3 ft^3/qtr)	HAE (lb/qtr)
4	NOx	42.0	20,256	851
4	CO	2.0	20,256	41
4	VOC	5.5	20,256	111
4	SOx	0.6	20,256	12
4	PM10	7.6	20,256	154

Boiler 2 (N-4026-2)

Quarter	Pollutant	EF (lb/10^6 ft^3)	Fuel Usage (10^3 ft^3/qtr)	HAE (lb/qtr)
1	NOx	45.0	0	0
1	CO	1.0	0	0
1	VOC	5.5	0	0
1	SOx	0.6	0	0
1	PM10	7.6	0	0

Quarter	Pollutant	EF (lb/10^6 ft^3)	Fuel Usage (10^3 ft^3/qtr)	HAE (lb/qtr)
2	NOx	45.0	3,945	178
2	CO	1.0	3,945	4
2	VOC	5.5	3,945	22
2	SOx	0.6	3,945	2
2	PM10	7.6	3,945	30

Quarter	Pollutant	EF (lb/10^6 ft^3)	Fuel Usage (10^3 ft^3/qtr)	HAE (lb/qtr)
3	NOx	45.0	102,454	4,610
3	CO	1.0	102,454	102
3	VOC	5.5	102,454	563
3	SOx	0.6	102,454	61
3	PM10	7.6	102,454	779

Quarter	Pollutant	EF (lb/10^6 ft^3)	Fuel Usage (10^3 ft^3/qtr)	HAE (lb/qtr)
4	NOx	45.0	8,726	393
4	CO	1.0	8,726	9
4	VOC	5.5	8,726	48
4	SOx	0.6	8,726	5
4	PM10	7.6	8,726	66

Boiler 3 (N-4026-3)

Quarter	Pollutant	EF (lb/10^6 ft^3)	Fuel Usage (10^3 ft^3/qtr)	HAE (lb/qtr)
1	NOx	40.0	0	0
1	CO	1.0	0	0
1	VOC	5.5	0	0
1	SOx	0.6	0	0
1	PM10	7.6	0	0

Quarter	Pollutant	EF (lb/10^6 ft^3)	Fuel Usage (10^3 ft^3/qtr)	HAE (lb/qtr)
2	NOx	40.0	6,213	249
2	CO	1.0	6,213	6
2	VOC	5.5	6,213	34
2	SOx	0.6	6,213	4
2	PM10	7.6	6,213	47

Quarter	Pollutant	EF (lb/10^6 ft^3)	Fuel Usage (10^3 ft^3/qtr)	HAE (lb/qtr)
3	NOx	40.0	100,997	4,040
3	CO	1.0	100,997	101
3	VOC	5.5	100,997	555
3	SOx	0.6	100,997	61
3	PM10	7.6	100,997	768

Quarter	Pollutant	EF (lb/10^6 ft^3)	Fuel Usage (10^3 ft^3/qtr)	HAE (lb/qtr)
4	NOx	40.0	0	0
4	CO	1.0	0	0
4	VOC	5.5	0	0
4	SOx	0.6	0	0
4	PM10	7.6	0	0

Boiler 4 (N-4026-4)

Quarter	Pollutant	EF (lb/10^6 ft^3)	Fuel Usage (10^3 ft^3/qtr)	HAE (lb/qtr)
1	NOx	47.0	14,555	684
1	CO	11.0	14,555	160
1	VOC	5.5	14,555	80
1	SOx	0.6	14,555	9
1	PM10	7.6	14,555	111

Quarter	Pollutant	EF (lb/10^6 ft^3)	Fuel Usage (10^3 ft^3/qtr)	HAE (lb/qtr)
2	NOx	47.0	18,000	846
2	CO	11.0	18,000	198
2	VOC	5.5	18,000	99
2	SOx	0.6	18,000	11
2	PM10	7.6	18,000	137

Quarter	Pollutant	EF (lb/10^6 ft^3)	Fuel Usage (10^3 ft^3/qtr)	HAE (lb/qtr)
3	NOx	47.0	64,121	3,014
3	CO	11.0	64,121	705
3	VOC	5.5	64,121	353
3	SOx	0.6	64,121	38
3	PM10	7.6	64,121	487

Quarter	Pollutant	EF (lb/10^6 ft^3)	Fuel Usage (10^3 ft^3/qtr)	HAE (lb/qtr)
4	NOx	47.0	12,517	588
4	CO	11.0	12,517	138
4	VOC	5.5	12,517	69
4	SOx	0.6	12,517	8
4	PM10	7.6	12,517	95

Boiler 5 (N-4026-5)

Quarter	Pollutant	EF (lb/10^6 ft^3)	Fuel Usage (10^3 ft^3/qtr)	HAE (lb/qtr)
1	NOx	42.0	11,947	502
1	CO	7.0	11,947	84
1	VOC	5.5	11,947	66
1	SOx	0.6	11,947	7
1	PM10	7.6	11,947	91

Quarter	Pollutant	EF (lb/10^6 ft^3)	Fuel Usage (10^3 ft^3/qtr)	HAE (lb/qtr)
2	NOx	42.0	11,931	501
2	CO	7.0	11,931	84
2	VOC	5.5	11,931	66
2	SOx	0.6	11,931	7
2	PM10	7.6	11,931	91

Quarter	Pollutant	EF (lb/10^6 ft^3)	Fuel Usage (10^3 ft^3/qtr)	HAE (lb/qtr)
3	NOx	42.0	62,973	2,645
3	CO	7.0	62,973	441
3	VOC	5.5	62,973	346
3	SOx	0.6	62,973	38
3	PM10	7.6	62,973	479

Quarter	Pollutant	EF (lb/10^6 ft^3)	Fuel Usage (10^3 ft^3/qtr)	HAE (lb/qtr)
4	NOx	42.0	11,642	489
4	CO	7.0	11,642	81
4	VOC	5.5	11,642	64
4	SOx	0.6	11,642	7
4	PM10	7.6	11,642	88

Boiler 6 (N-4026-6)

Quarter	Pollutant	EF (lb/10^6 ft^3)	Fuel Usage (10^3 ft^3/qtr)	HAE (lb/qtr)
1	NOx	48.0	0	0
1	CO	77.0	0	0
1	VOC	5.5	0	0
1	SOx	0.6	0	0
1	PM10	7.6	0	0

Quarter	Pollutant	EF (lb/10^6 ft^3)	Fuel Usage (10^3 ft^3/qtr)	HAE (lb/qtr)
2	NOx	48.0	0	0
2	CO	77.0	0	0
2	VOC	5.5	0	0
2	SOx	0.6	0	0
2	PM10	7.6	0	0

Quarter	Pollutant	EF (lb/10^6 ft^3)	Fuel Usage (10^3 ft^3/qtr)	HAE (lb/qtr)
3	NOx	48.0	237,646	11,407
3	CO	77.0	237,646	18,299
3	VOC	5.5	237,646	1,307
3	SOx	0.6	237,646	143
3	PM10	7.6	237,646	1,806

Quarter	Pollutant	EF (lb/10^6 ft^3)	Fuel Usage (10^3 ft^3/qtr)	HAE (lb/qtr)
4	NOx	48.0	0	0
4	CO	77.0	0	0
4	VOC	5.5	0	0
4	SOx	0.6	0	0
4	PM10	7.6	0	0

Vinegar Generators & Acetators (N-4026-7, N-4026-8, N-4026-9, N-4026-10 & N-4026-11)

1997

Quarter	Pollutant	EF (lb/gal vinegar prod.)	Vinegar Prod. (gal/qtr)	HAE (lb/qtr)
1	VOC	0.057	1,183,950	67,485
2	VOC	0.057	692,534	39,474
3	VOC	0.057	691,770	39,431
4	VOC	0.057	406,613	23,177

Summary Of HAEs:

1996

	NOx (lb/qtr)	CO (lb/qtr)	VOC (lb/qtr)	SOx (qtr)	PM10 (qtr)
Quarter 1	1,841	54	68,650	26	329
Quarter 2	1,846	57	74,995	26	329
Quarter 3	34,195	20,213	79,578	463	5,862
Quarter 4	2,691	629	80,286	37	463

1997

	NOx (lb/qtr)	CO (lb/qtr)	VOC (lb/qtr)	SOx (lb/qtr)	PM10 (lb/qtr)
Quarter 1	1,962	281	67,732	27	342
Quarter 2	2,048	305	39,731	28	354
Quarter 3	30,263	19,865	43,151	406	5,141
Quarter 4	2,321	268	23,469	32	404

Total

	NOx (lb/qtr)	CO (lb/qtr)	VOC (lb/qtr)	SOx (lb/qtr)	PM10 (lb/qtr)
Quarter 1	3,803	334	136,382	53	671
Quarter 2	3,894	362	114,726	54	683
Quarter 3	64,458	40,078	122,729	869	11,003
Quarter 4	5,012	898	103,755	68	867

NOx AERs:

EF 36 lb/10^6 ft^3 of fuel usage

	Boiler 1	Boiler 2	Boiler 3	Boiler 4	Boiler 5	Boiler 6	Total
Quarter 1, 1996 (lb)	716	0	0	504	340	0	1560
Quarter 2, 1996 (lb)	658	147	24	368	359	0	1556
Quarter 3, 1996 (lb)	4408	4162	4154	2368	2492	10182	27767
Quarter 4, 1996 (lb)	781	398	456	130	130	300	2195

	Boiler 1	Boiler 2	Boiler 3	Boiler 4	Boiler 5	Boiler 6	Total
Quarter 1, 1997 (lb)	665	0	0	524	430	0	1619
Quarter 2, 1997 (lb)	236	142	224	648	430	0	1679
Quarter 3, 1997 (lb)	3897	3688	3636	2308	2267	8555	24352
Quarter 4, 1997 (lb)	729	314	0	451	419	0	1913

Ave. Qtr 1, 1996 & 1997: 1589 lb
Ave. Qtr 2, 1996 & 1997: 1618 lb
Ave. Qtr 3, 1996 & 1997: 26059 lb
Ave. Qtr 4, 1996 & 1997: 2054 lb

Appendix B
NOx AER Calculations

NOx AERs:

EF 36 lb/10^6 ft^3 of fuel usage

	Boiler 1	Boiler 2	Boiler 3	Boiler 4	Boiler 5	Boiler 6	Total
Quarter 1, 1996 (lb)	716	0	0	504	340	0	1560
Quarter 2, 1996 (lb)	658	147	24	368	359	0	1556
Quarter 3, 1996 (lb)	4408	4162	4154	2368	2492	10182	27767
Quarter 4, 1996 (lb)	781	398	456	130	130	300	2195

	Boiler 1	Boiler 2	Boiler 3	Boiler 4	Boiler 5	Boiler 6	Total
Quarter 1, 1997 (lb)	665	0	0	524	430	0	1619
Quarter 2, 1997 (lb)	236	142	224	648	430	0	1679
Quarter 3, 1997 (lb)	3897	3688	3636	2308	2267	8555	24352
Quarter 4, 1997 (lb)	729	314	0	451	419	0	1913

Ave. Qtr 1, 1996 & 1997: 1589 lb
Ave. Qtr 2, 1996 & 1997: 1618 lb
Ave. Qtr 3, 1996 & 1997: 26059 lb
Ave. Qtr 4, 1996 & 1997: 2054 lb

Appendix C
Vinegar Manufacturing Emission Factor Calculations

Vinegar Generators (N-4026-7-0, N-4026-8-0 & N-4026-9-0):

The applicant reported, during the processing of the application for Northern Region Project 960044, that 190,043 gallons of 95% ethyl alcohol yielded 1,484,517 gallons of vinegar.

Ethyl Alcohol (EtOH) Concentration:	92.4% by wt. (95% by Volume)
EtOH density:	6.78 lb/gal
Residual EtOH in vinegar:	0.4% by weight (applicant, proj. 960044)
Density of produced vinegar:	8.45 lb/gal (applicant, proj. 960044)
MW of EtOH:	46.07
MW of acetic acid:	60.05
Acetic acid content of produced vinegar:	100 g/l (applicant, proj. 960044)

190,043 gallons 95% EtOH → 1,484,517 gallons vinegar

(190,043 gal)(6.78 lb/gal)(0.924) → 1,484,517 gallons vinegar

1,190,566 lb EtOH → 1,484,517 gallons vinegar

0.802 lb EtOH → 1 gallon vinegar

0.802 lb EtOH → (1 gal vinegar)(100 g/l)(3.785 l/gal)(1 lb/453.6 g)

0.802 lb EtOH → 0.834 lb Acetic Acid

$CH_3CH_2OH + O_2 \rightarrow CH_3COOH + H_2O$
1 mole EtOH → 1 mole acetic acid

To produce 0.834 lb acetic acid the following minimum amount of EtOH would be required:

(0.834 lb)[(46.07 lb EtOH/lb mol) / (60.05 lb acetic acid/lb mol)] = 0.640 lb EtOH

Residual EtOH = (8.45 lb vinegar/gal)(0.004 lb EtOH/lb vinegar)
= 0.034 lb EtOH/gal vinegar

Actual quantity of EtOH to produce 1 gal vinegar:	0.802 lb
Theoretical quantity of ETOH to produce 1 gal vinegar:	0.640 lb
Residual EtOH in vinegar:	0.034 lb

EtOH lost per gal vinegar produced:

0.802 lb EtOH - 0.64 lb EtOH - 0.034 lb EtOH
= 0.128 lb EtOH lost/gal vinegar produced

EF_{VOC} *(generators) 0.128 lb/gal vinegar produced*

Acetator Emission Factor (N-4026-10-0 & N-4026-11-0):

The applicant reported, during the processing of the application for Northern Region Project 960044, that 291,938 gallons of 95% ethyl alcohol yielded 2,501,288 gallons of vinegar.

Ethyl Alcohol Concentration:	92.4% by wt. (95% by Volume)
Ethyl Alcohol Density:	6.78 lb/gal
Residual EtOH in vinegar:	0.4% by weight (applicant, proj. 960044)
Density of 10% acetic acid:	8.45 lb/gal (applicant, proj. 960044)
MW of EtOH:	46.07
MW of acetic acid:	60.05

Acetic acid content of produced vinegar: 100 g/l (applicant, proj. 960044)

291,938 gallons 95% EtOH → 2,501,288 gallons vinegar

(291,938 gal)(6.68 lb/gal)(0.924) → 2,501,288 gallons vinegar

1,828,910 lb EtOH → 2,501,288 gallons vinegar

0.731 lb EtOH → 1 gallon vinegar

0.731 lb EtOH → (1 gal vinegar)(100 g/l)(3.785 l/gal)(1 lb/453.6 g)

0.731 lb EtOH → 0.834 lb Acetic Acid

$CH_3CH_2OH + O_2 \rightarrow CH_3COOH + H_2O$
1 mole EtOH → 1 mole acetic acid

To produce 0.0834 lb acetic acid the following minimum amount of EtOH would be required:

(0.834 lb)[(46.07 lb EtOH/lb mol) / (60.05 lb acetic acid/lb mol)] = 0.640 lb EtOH

Residual EtOH = (8.45 lb vinegar/gal)(0.004 lb EtOH/lb vinegar)
= 0.034 lb EtOH/gal vinegar

Actual quantity of EtOH to produce 1 gal vinegar:	0.731 lb
Theoretical quantity of ETOH to produce 1 gal vinegar:	0.640 lb
Residual EtOH in vinegar:	0.034 lb

EtOH lost per gal vinegar produced:

0.731 lb EtOH - 0.640 lb EtOH - 0.034 lb EtOH
= 0.057 lb EtOH lost/gal vinegar produced

EF_{VOC} (acetators) 0.057 lb/gal vinegar produced

San Joaquin Valley
Unified Air Pollution Control District

APPLICATION FOR:

[X] EMISSION REDUCTION CREDIT (ERC)
[ ] CONSOLIDATION OF ERC CERTIFICATES
[ ] ERC RE-ISSUE AFTER PARTIAL USE
[ ] ERC TRANSFER OF OWNERSHIP

1. **ERC TO BE ISSUED TO:**
Cranbrook Associates, LLC

2. **MAILING ADDRESS:**
Street/P.O. Box: 2020 Standiford Avenue, Suite E-2
City: Modesto State: CA Zip Code: 95350

3. **LOCATION OF REDUCTION:**
Street: 757 11th Street
City: Tracy, CA 95376

4. **DATE OF REDUCTION:** 1-31-98

5. **PERMIT NO(S):** See Attached **EXISTING ERC NO(S):**

6. **METHOD RESULTING IN EMISSION REDUCTION:**
[X] SHUTDOWN [ ] RETROFIT [ ] PROCESS CHANGE [ ] OTHER
DESCRIPTION:

(Use additional sheets if necessary)

7. **REQUESTED ERCs (In Pounds Per Calendar Quarter):** TO BE DETERMINED

	VOC	NOx	CO	PM10	SOx	OTHER
1st QTR						
2nd QTR						
3rd QTR						
4th QTR						
TOTAL COST	$	$	$	$	$	$

8. **SIGNATURE OF APPLICANT:**

TYPE OR PRINT TITLE OF APPLICANT:
Cranbrook Associates, LLC Member

9. **TYPE OR PRINT NAME OF APPLICANT:**
Cranbrook Associates, LLC by James F. Devenport

DATE: 5-6-98

TELEPHONE NO: (209)549-4960 x12

FOR APCD USE ONLY:

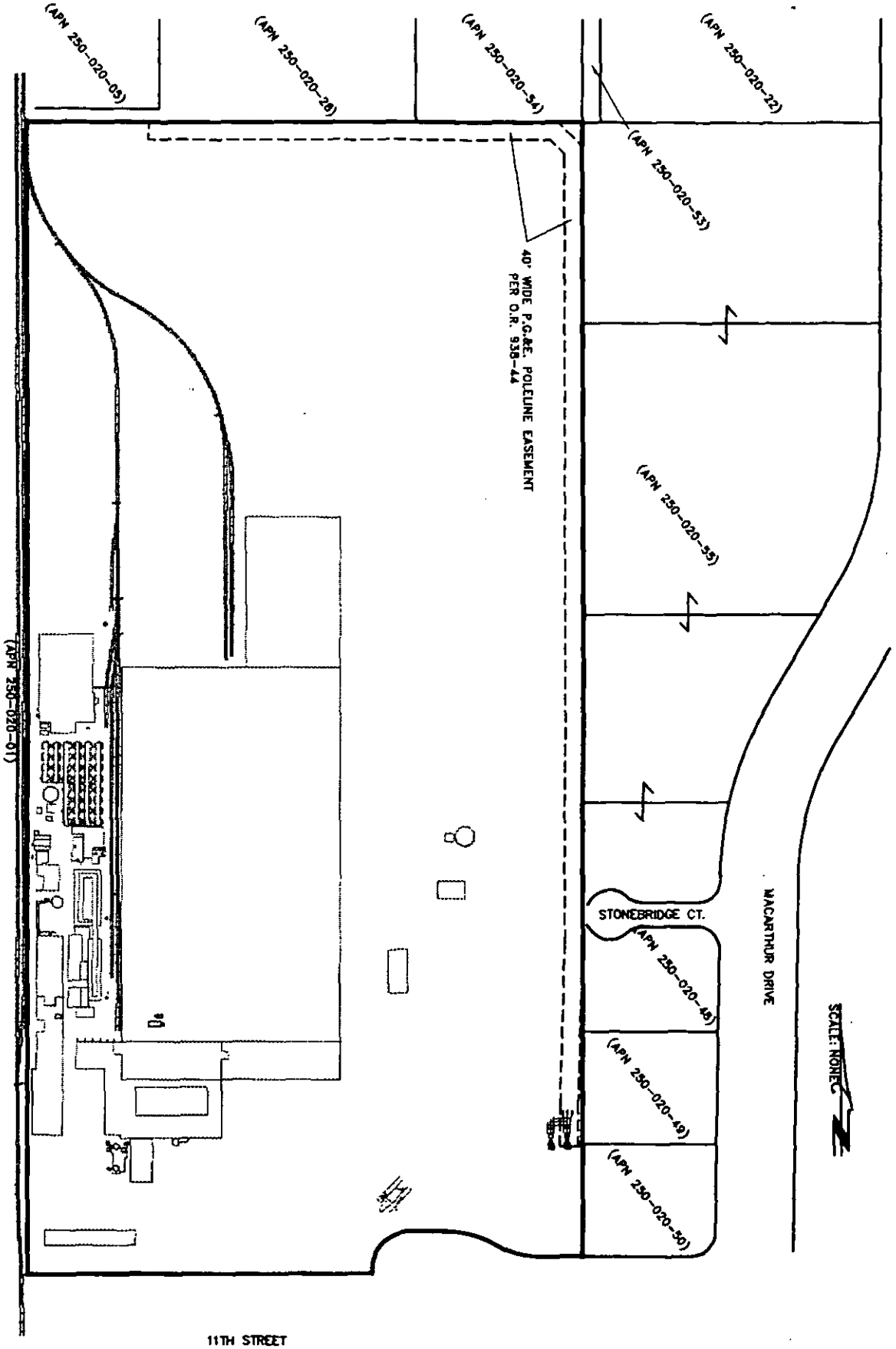
DATE STAMP:
RECEIVED
MAY 12 1998
SAN JOAQUIN VALLEY UNIFIED A.P.C.D. NO. REGION

FILING FEE RECEIVED: $ 650.- / CK # 001168
DATE PAID: 5-12-98 (OTC)
PROJECT NO.: 980337

A026
~~403~~

San Joaquin Valley Unified Air Pollution Control District
Application for Emission Reduction Credit (ERC)
List of Permits to be Banked

N-403-2-1	No. 1 Boiler
N-403-3-1	No. 2 Boiler
N-403-4-1	No. 3 Boiler
N-403-5-1	No. 4 Boiler
N-403-6-1	No. 5 Boiler
N-403-7-1	No. 6 Boiler
N-403-8-0	Vinegar generator and associated tanks
N-403-9-0	Vinegar generator and associated tanks
N-403-10-0	Vinegar generator and associated tanks
N-403-11-0	Vinegar acetator and associated tanks
N-403-12-0	Vinegar acetator and associated tanks



EASTGATE BUSINESS PARK
(FORMER HEINZ PROPERTY)
757 E. 11th STREET
TRACY, CALIFORNIA
(APN 250-020-08)

(2100) CHECK DATE : 05/12/98 CHECK NO. : 001168

Invoice No.	Inv. Date	Amount	Discount	Description	Voucher No.	Net Amount
	05/12/98	650.00	0.00	Bank Application Fee	00341	650.00
TOTAL		650.00	0.00			650.00

(2100)

Cranbrook Associates, LLC
2020 Standiford Avenue, Suite E-2
Modesto, CA 95350-6531

The Mechanics Bank
1350 N. Main Street
Walnut Creek CA 94596

90-203/1211
121102036

DATE	CHECK NO.	AMOUNT
05/12/98	001168	$*******650.00*

SIX HUNDRED FIFTY AND NO/100 DOLLARS **********

PAY TO THE ORDER OF

SJVUAPCD
4230 Kiernan Ave. Ste 130
Modesto, CA 95356

⑈001168⑈ ⑆121102036⑆ 014⑈015080⑈

San Joaquin Valley
Air Pollution Control District

Northern Regional Office * 4230 Kiernan Ave., Suite 130 * Modesto, CA 95356

Emission Reduction Credit Certificate
N-140-1

Issued To: Cranbrook Associates, LLC
Issue Date: May 25, 2000

Location of Reduction: 757 11th Street
Tracy, CA

For VOC Reductions In The Amount Of:

Quarter 1	Quarter 2	Quarter 3	Quarter 4
61,372 lb	51,627 lb	55,228 lb	46,690 lb

[ ] Conditions Attached

Method Of Reduction
[X] Shutdown of Entire Stationary Source
[ ] Shutdown of Emissions Unit
[ ] Other:

David L. Crow, APCO

Seyed Sadredin
Director of Permit Services

San Joaquin Valley
Air Pollution Control District

Northern Regional Office * 4230 Kiernan Ave., Suite 130 * Modesto, CA 95356

Emission Reduction Credit Certificate
N-140-2

Issued To: Cranbrook Associates, LLC
Issue Date: May 25, 2000

Location of Reduction: 757 11th Street
Tracy, CA

For NOx Reductions In The Amount Of:

Quarter 1	Quarter 2	Quarter 3	Quarter 4
1,430 lb	1,456 lb	23,453 lb	1,849 lb

[ ] Conditions Attached

Method Of Reduction
[X] Shutdown of Entire Stationary Source
[ ] Shutdown of Emissions Unit
[ ] Other:

David L. Crow, APCO

Seyed Sadredin
Director of Permit Services

San Joaquin Valley
Air Pollution Control District

Northern Regional Office * 4230 Kiernan Ave., Suite 130 * Modesto, CA 95356

Emission Reduction Credit Certificate
N-140-3

Issued To: Cranbrook Associates, LLC
Issue Date: May 25, 2000

Location of Reduction: 757 11th Street
Tracy, CA

For CO Reductions In The Amount Of:

Quarter 1	Quarter 2	Quarter 3	Quarter 4
151 lb	163 lb	18,035 lb	404 lb

[ ] Conditions Attached

Method Of Reduction
[X] Shutdown of Entire Stationary Source
[ ] Shutdown of Emissions Unit
[ ] Other:

David L. Crow, APCO

Seyed Sadredin
Director of Permit Services

San Joaquin Valley
Air Pollution Control District

Northern Regional Office * 4230 Kiernan Ave., Suite 130 * Modesto, CA 95356

Emission Reduction Credit Certificate
N-140-4

Issued To: Cranbrook Associates, LLC
Issue Date: May 25, 2000

Location of Reduction: 757 11th Street
Tracy, CA

For PM10 Reductions In The Amount Of:

Quarter 1	Quarter 2	Quarter 3	Quarter 4
302 lb	308 lb	4,952 lb	391 lb

[ ] Conditions Attached

Method Of Reduction
[X] Shutdown of Entire Stationary Source
[ ] Shutdown of Emissions Unit
[ ] Other:

David L. Crow, APCO

Seyed Sadredin
Director of Permit Services

San Joaquin Valley
Air Pollution Control District

Northern Regional Office * 4230 Kiernan Ave., Suite 130 * Modesto, CA 95356

Emission Reduction Credit Certificate
N-140-5

Issued To: Cranbrook Associates, LLC
Issue Date: May 25, 2000

Location of Reduction: 757 11th Street
Tracy, CA

For SOx Reductions In The Amount Of:

Quarter 1	Quarter 2	Quarter 3	Quarter 4
24 lb	24 lb	391 lb	31 lb

[ ] Conditions Attached

Method Of Reduction
[X] Shutdown of Entire Stationary Source
[ ] Shutdown of Emissions Unit
[ ] Other:

David L. Crow, APCO

Seyed Sadredin
Director of Permit Services

COPY

SAN JOAQUIN VALLEY APCD
FEES

FACILITY NO. 4026

PROJECT NO. 980337

Cranbrook Associates, LLC
Attn: James Devenport
4701 Sisk Road, Suite 101
Modesto, CA 95356

LOCATION: 757 11th Street, Tracy, CA

BILLING FOR: Emission Reduction Credit Application Review

BILLING DATE: 5/25/2000

TOTAL FEES:	$	3,274.50
CREDIT:	$	650.00
BALANCE DUE:	**$**	**2,624.50**

THE ABOVE TOTALS ARE BASED ON THE FOLLOWING ITEMIZED LISTING

DESCRIPTION	TOTAL COST
59.0 HOURS @ $55.50/HR	$ 3,274.50

PLEASE RETURN A COPY OF THIS BILL WITH THE AMOUNT DUE WITHIN 30 DAYS TO:

SAN JOAQUIN VALLEY APCD
4230 KIERNAN AVE., SUITE 130
MODESTO, CA 95356

mjs

RECEIVED
JUN - 5 2000
SAN JOAQUIN VALLEY
UNIFIED A.P.C.D.
NO. REGION

POST MARK 6/7/00 REVENUE CODE 4160-00
INVOICE NO# 980337 CK. AMOUNT 2624.50
CK NO. 2131 ENTERED

(2100)

Cranbrook Associates, LLC
4701 Sisk Road, Suite 101
Modesto, CA 95356

The Mechanics Bank
1350 N. Main Street
Walnut Creek CA 94596

90-203/1211
121102036

DATE	CHECK NO	AMOUNT
06/07/00	002131	$*****2,624.50*

TWO THOUSAND SIX HUNDRED TWENTY-FOUR AND 50/100 DOLLARS ********

PAY
TO THE
ORDER OF SJVAPCD
4230 Kiernan Ave. Ste 130
Modesto, CA 95356

⑈002131⑈ ⑆121102036⑆ 014⑈015080⑈

209-200-6061

L8234 May 31

NOTICE OF FINAL ACTION FOR THE ISSUANCE OF EMISSION REDUCTION CREDITS

NOTICE IS HEREBY GIVEN that the Air Pollution Control Officer has issued Emission Reduction Credits to Cranbrook Associates, LLC for emission reductions generated by the shut down of boilers and vinegar manufacturing equipment, at 757 11th Street, in Tracy, CA. The quantity of ERCs to be issued is 28,188 pounds per year of NOx, 18,753 pounds per year of CO, 214,917 pounds per year of VOC, 470 pounds per year of SOx and 5,956 pounds per year of PM10.

All comments received following the District's preliminary decision on this project were considered.

Comments received by the District during the public notice period resulted in the correction of typographical errors. These changes were minor and did not affect the basis for issuance of the above referenced ERCs.

The application for review for Project #980337 is available for public inspection at the SAN JOAQUIN VALLEY AIR POLLUTION CONTROL DISTRICT, 4230 Kierman Avenue, Suite 130, Modesto, CA 95356.

Mark
Schonhoff

RECEIVED
MAY 30 2000
SAN JOAQUIN VALLEY
UNIFIED A.P.C.D.
NO. REGION

Douglas Hopper,

PLEASE PROOFREAD NOTICE
AND ADVISE ASAP by 10:00 am, Tuesday, 5/30-00
IF THERE ARE ANY CHANGES.
THANK YOU, THE RECORD, STOCKTON
(209) 546-8214 FAX (209) 943-8560

Thanks.
Debbie

PROJECT ROUTING FORM

PROJECT NUMBER: 980337 FACILITY ID: 403 ERC PERMIT NOs: A-0-1,2,3,4,5

APPLICANT NAME: H.J. HEINZ CO.

PREMISE ADDRESS: 757 - 11TH STREET, TRACY

PRELIMINARY REVIEW	ENGR	DATE	SUPR	DATE
A. Application Deemed Incomplete				
B. Application Deemed Complete [ ] Awaiting CB Offsets				
C. Application Pending Denial				
D. Application Denied				

ENGINEERING EVALUATION	INIT	DATE
E. Engineering Evaluation Complete		
F. Supervising Engineer Approval		
G. Compliance Division Approval [ ] Not Required		
H. Permit Services Manager Approval		

Director Review: [ ] Not Required [ ] Required

CLERICAL STAFF: Perform tasks as indicated below. Initial and date when completed.

[ ] **PRELIMINARY REVIEW**
- [ ] _____ Mail Incompleteness Letter to the Applicant.
- [ ] _____ Mail Completeness Letter to the Applicant.
- [ ] _____ Mail Intent to Deny Letter to the Applicant **(Certified Mail)**.
- [ ] _____ Mail Denial Letter to the Applicant **(Certified Mail)**.

[ ] **PROJECTS NOT REQUIRING PUBLIC NOTIFICATION**

[ ] PRELIMINARY DISPOSITION:
- [ ] _____ Mail Imminent Denial Letter to the Applicant **(Certified Mail)**.

[ ] FINAL DISPOSITION:
- [ ] _____ Mail ATC(s) to Distribution.
- [ ] _____ *Mail Denial Letter to the Applicant* **(Certified Mail)**.

[ ] **PROJECTS REQUIRING PUBLIC NOTIFICATION**

[ ] PRELIMINARY DECISION:
- [ ] _____ Deliver Ad to the Newspaper NOT LATER THAN _____
- [ ] _____ Mail copies of Cover Letter and Engineering Evaluation to Distribution.

[ ] FINAL DECISION:
- [ ] _____ Deliver Ad to the Newspaper NOT LATER THAN _____
- [ ] _____ Mail copies of Cover Letter and ATC(s) to Distribution.
- [ ] _____ Mail copies of Cover Letter to Distribution.

DISTRIBUTION

[ ] _____ APPLICANT
[ ] _____ ENGINEER
[ ] _____ COMPLIANCE
[ ] _____ PREMISE FILE

[ ] _____ EPA - 75 Hawthorne St., San Francisco, CA 94105 Attn: A-3-4
[ ] _____ ARB - Stationary Source Div. Chief, PO Box 2815, Sacramento, CA 95812
[ ] _____ SJVUAPCD - 1999 Tuolumne St., Fresno, CA 93721 Attn: Seyed Sadredin

[ ] _____ BLDG DEPT _____ [ ] _____ OTHER _____

[ ] _____ FIRE DEPT _____ [ ] _____ SCHOOL _____

SAN JOAQUIN VALLEY UNIFIED APCD
Permit Services Division
Applications for Authority to Construct (ATC) or Emission Reduction Credits (ERCs)
Breakdown of Processing Time

Company Name: Cranbrook Associates LLC
Facility ID: 4026
Project Numbers: 980337
Project Description: ERCs for the shut down of Heinz

Code	Date	Time Spent (hours)	Initials
3,4,5	6/24/98	3	
4,11	7/1/98	4	
4,11	3/15/99	6	
4,11	3/16/99	6	
4,11	3/17/99	5	
4,11	3/22/99	8	
4,11,8	3/23/99	4.5	
11,12	7/12/99	5.5	
11,12	7/13/99	4	
11,12	7/14/99	3.5	
99	10/19/99	4.5	
99	10/25/99	3.5	
11,12	3/30/00	2	
11,12,19	3/31/00	1	
11,12	5/8/00	2	
7/20	5/15/00	4.5	
TOTAL		67	

Activity Code List

01- Pre-Application Meeting (Phone)
02- Pre-Application Meeting (In person)
03- Application Log-in
04- Preliminary Review
05- Deficiency Letter
06- Verbal/telephone request for information
07- Billing
08- Completeness Letter
09- Post Application Meeting
10- BACT Determination
11- Emissions Calculations
12- Compliance Determination
13- Project Desc, Flow Diagram, Equipment listing
14- Risk Assessment
15- CEQA Review
16- Draft Conditions
17- Prepare ATC
18- Prepare ERC
19- Prepare Preliminary Notice
20- Prepare Final Notice
99- Reworking of Engineering Evaluation

TOTAL BILLING HOURS	59

The rework of the engineering evaluation that was performed on 10/19/99 and 10/25/99 will not be billed.

SAN JOAQUIN VALLEY APCD
FEES

FACILITY NO. 4026

PROJECT NO. 980337

Cranbrook Associates, LLC
Attn: James Devenport
4701 Sisk Road, Suite 101
Modesto, CA 95356

LOCATION: 757 11th Street, Tracy, CA

BILLING FOR: Emission Reduction Credit Application Review

BILLING DATE: 5/25/2000

TOTAL FEES:	$	3,274.50
CREDIT:	$	650.00
BALANCE DUE:	**$**	**2,624.50**

THE ABOVE TOTALS ARE BASED ON THE FOLLOWING ITEMIZED LISTING

DESCRIPTION	TOTAL COST
59.0 HOURS @ $55.50/HR	$ 3,274.50

PLEASE RETURN A COPY OF THIS BILL WITH THE AMOUNT DUE WITHIN 30 DAYS TO:

SAN JOAQUIN VALLEY APCD
4230 KIERNAN AVE., SUITE 130
MODESTO, CA 95356

mjs

CRANBROOK ASSOCIATES, LLC

FACSIMILE TRANSMITTAL SHEET

TO: Mr. Mark Schonhoff	FROM: Dawnetta Masterpole
COMPANY: San Joaquin Valley Air Pollution Control District.	DATE: May 10, 2000
FAX NUMBER: (209) 557-6475.	TOTAL NO. OF PAGES INCLUDING COVER: 1
PHONE NUMBER: (209) 557-6448	SENDER'S PHONE NUMBER: (209) 549-4960 X10
RE: Address Change	SENDER'S FAX NUMBER: (209) 549-4963

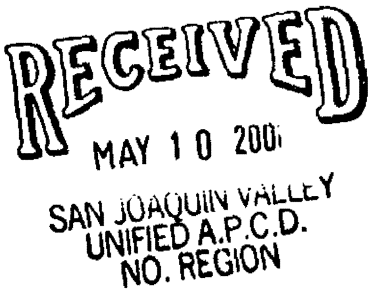
URGENT FOR REVIEW PLEASE COMMENT PLEASE REPLY PLEASE RECYCLE

NOTES/COMMENTS:

Dear Mr. Schonhoff:

As we discussed this morning, Mr. James F. Devenport of Cranbrook Associates, LLC, has moved to a new address. Previously his correspondence has been sent to the old address of:

2020 Standiford Ave.
Modesto, CA 95350



His new address for the purpose of receiving correspondence is:

Mr. James F. Devenport
Cranbrook Associates, LLC
4701 Sisk Road, Suite 101
Modesto, CA 95356.

Thanks,

Dawnetta Masterpole

M. Schonhoff

RECEIVED
APR 19 2000
ADMN. SERVICES
S.J.V.U.A.P.C.D.

PROOF of PUBLICATION

Notice

STATE OF CALIFORNIA
COUNTY OF SAN JOAQUIN } ss.

THE UNDERSIGNED SAYS:

I am a citizen of the United States and a resident of San Joaquin County; I am over the age of eighteen years, and not a party to or interested in the above-entitled matter. I am the principal clerk of the printer of THE RECORD, a newspaper of general circulation, printed and published daily in the City of Stockton, County of San Joaquin and which newspaper has been adjudged a newspaper of general circulation by the Superior Court of the County of San Joaquin, State of California, under the date of February 25, 1952, File Number 52857, San Joaquin County Records; that the notice, of which the annexed is a printed copy (set in type not smaller than nonpareil), has been published in each regular and entire issue of said newspaper and not in any supplement thereof on the following dates, to-wit: April 13, 2000

all in the year 2000

I declare under penalty of perjury that the foregoing is true and correct.

Executed on April 13, 2000
at Stockton, California

Sandra Johansen
Signature

LS824 April 13
NOTICE OF PRELIMINARY DECISION FOR THE PROPOSED ISSUANCE OF EMISSION REDUCTION CREDITS

NOTICE IS HEREBY GIVEN that the San Joaquin Valley Air Pollution Control District solicits public comment on the proposed issuance of Emission Reduction Credits (ERCs) to Cranbrook Associates, LLC for the shut down of boilers and vinegar manufacturing equipment at 757 11th Street in Tracy, CA. The quantity of ERCs proposed for banking is: 29,168 pounds per year of NOx, 18,733 pounds per year of CO, 214,917 pounds per year of VOC, 470 pounds per year of SOx and 5,953 pounds per year of PM10. The analysis of the regulatory basis for this proposed action, Project #960337, is available for public inspection at the address below. Written comments on this project must be submitted within 30 days of the publication date of this notice to SEYED SADREDIN, DIRECTOR OF PERMIT SERVICES, SAN JOAQUIN VALLEY AIR POLLUTION CONTROL DISTRICT, 4230 KIERNAN AVENUE, SUITE 130, MODESTO, CA 95356.

RECEIVED
APR 20 2000
SAN JOAQUIN VALLEY
UNIFIED A.P.C.D.
NO. REGION

√ NORTHERN REGION

_ CENTRAL REGION
_ SOUTHERN REGION

ERC/PUBLIC NOTICE CHECK LIST

PROJECT# 980337 MODEMED FILE NAME: CRA80337.PBC.doc

REQST.	COMPL.	
__	__	ERC TRANSFER OF PREVIOUSLY BANKED CREDITS
√	__	ERC PRELIMINARY PUBLIC NOTICE
__	__	ERC FINAL PUBLIC NOTICE
__	__	NSR/CEQA PRELIMINARY PUBLIC NOTICE
__	__	NSR/CEQA FINAL PUBLIC NOTICE

ENCLOSED DOCUMENTS REQUIRE:

√ __ Enter Correct Date, Print All Documents from MODEMED File and Obtain Directors Signature

√ __ Send **Preliminary** Notice Letters to CARB, EPA and Applicant; Including the Following Attachments:
- √ Application Evaluation
- √ Other: Preliminary Public Notice

√ __ Send ***Preliminary*** Public Notice for Publication to The Record - San Joaquin County

√ __ Send Signed Copies of ***Preliminary*** Notice Letters to Regional Office
Attn: Anthony Mendes

__ __ Director's Signature and District Seal Embossed on ERC Certificates

__ __ Director's Signature on Cover Letter and Mail Cover Letter & ERC Certificates by Certified Mail to:
- __ Applicant:_____
- __ Applicant and Additional Addressees (see cover letters)

__ __ Send Copies of Signed and Seal Embossed ERC Certificates and Signed cover letter to Regional Office Attn: Anthony Mendes

__ __ Other Special Instructions (please specify)_____

Date Completed _____/By_____

Date Added to Seyed's Directory: 3/31/00
Upon Completion FAX to Regional Office Attn: Mark Schonhoff

DONALD G. KIRK
1573 KING CHARLES DRIVE
PITTSBURGH, PA 15237
TELEPHONE 412-366-8164
E-MAIL <d.g.kirk@worldnet.att.net>
February 28, 2000

Mr. Mark Schonhoff
Permit Services
San Joaquin Valley Unified Air Pollution Control District
4230 Kiernan Avenue, Suite 130
Modesto, CA 95356

Dear Mark:

As promised, I am clarifying a question related to calculation of VOC emission credits for the Cranbrook facility at Tracy.

I have questioned Heinz personnel further regarding product residual alcohol levels from acetator production, and have found that acetators such as those at Tracy, which are controlled by "Alcograph" systems, produce residuals only slightly lower than the default value of 0.5% by volume (0.4% by weight) which you had proposed. This is contrary to values of 0.2% by volume (0.16% by weight) which the company had previously provided. The lower values are not applicable to this type of control system. I apologize for any confusion or delay caused by this error.

It is our understanding that the district will use a factor of 0.057 lb. ethanol emitted per gal. vinegar produced, as calculated in your 12/9/99 E-mail to me. Emissions will be calculated by multiplying that factor by actual factory vinegar production for 1996 and 1997, as provided in Tables II & III of my 10/14/98 letter to you.

This calculation will not fully represent normal emissions from combined acetator and generator production, and Cranbrook reserves the right to again propose alternate calculation methods following receipt of the district's proposed values.

Your cooperation in developing these procedures has been much appreciated, and it has been a pleasure to work with you on this project.

Sincerely,

Donald G. Kirk

Donald G. Kirk

cc: Jim Devenport - Cranbrook, Scott Krall - Heinz, Josh Margolis - Cantor Fitzgerald

DONALD G. KIRK
1573 KING CHARLES DRIVE
PITTSBURGH, PA 15237
TELEPHONE 412-366-8164
E-MAIL <d.g.kirk@worldnet.att.net>

February 4, 2000

Mr. Mark Schonhoff
Permit Services
San Joaquin Valley Unified Air Pollution Control District
4230 Kiernan Avenue, Suite 130
Modesto, CA 95356

Dear Mark:

As follow up to our recent telephone conversation I have attached calculations for VOC factor and VOC credits using a previously suggested method that your office may find acceptable. To put the present method in perspective, the history of factors (in lb.eth./gal.vin.) is listed below:

1. Generator factor = 0.128 (Your 12/2/99 E-mail, from 1993 data)
2. Acetator factor = 0.057 (Your 12/9/99 E-mail, from 1993 data)
3. Acetator factor = 0.077 (My correction of your 12/9/99 E-mail per 12/14/99 letter)
4. Combined factor =0.096 (My 12/14/99 letter, using total 1993 production and an assumed combined residual)
5. Combined factor =0.083 (Attachment A, using total 1993 production and assuming that residual is maximum generator value)

The current proposal is Case No. 5 above, with the calculation shown in Attachment A, and resulting credits calculated in Attachment B.

This current submission also removes consideration of any production averaging period other than calendar years 1996-97, based on your insistence that no alternates will be considered. Therefore it is assumed that whatever factor is chosen will be applied to 1996-97 production data, and the credits in Attachment B are done on that basis.

Please let me know if you have questions or comments. I would appreciate knowing your final decision before it goes public.

Sincerely,

Donald G. Kirk

cc: Jim Devenport - Cranbrook, Scott Krall - Heinz, Josh Margolis - Cantor Fitzgerald

ATTACHMENT A
VOC EMISSION FACTOR FOR VINEGAR PRODUCTION
CRANBROOK FACILITY - TRACY, CALIFORNIA

Ethanol: Concentration 95% by volume, 92.4% by weight
Density 6.78 lb./gal.
Molecular weight = 46.07

Vinegar: Acetic acid concentration 100 g./l.
Density = 8.45 lb./gal.
Residual ethanol concentration = 0.5% by vol., 0.4% by weight for generator
0.2% by vol., 0.16% by weight for acetator
Molecular weight of acetic acid = 60.05

Production: (Based on 1993 data from permit applications for vinegar production units)
Ethanol used = 291,938 gal. (acetator) + 190,043 gal. (generator)
= 481,981 gal. (total)
Vinegar produced = 2,501,288 gal. (acetator) + 1,484,517 gal. (generator)
= 3,985,805 gal. (total)

Ethanol used = (481,981 gal. eth./3,985,805 gal. vin.)(6.78 lb./gal.)(0.924)
= 0.757 lb. eth./gal.vin.

Theoretical ethanol required
= (100 g./l.)(3.785 l./gal.)(1 lb./453.6 g.)(46.07 g. eth./60.05 g. acetic acid)
= 0.640 lb. eth/gal. vin.

Ethanol residual in vinegar (For most conservative assumption, use generator basis)
= (8.45 lb./gal.)(0.004) = 0.034 lb. eth/gal. vin.

Ethanol emitted = eth. used - theor. eth. required - residual eth. in product
= 0.757 - 0.640 - 0.034 = 0.083 lb. eth./gal.vin.

ATTACHMENT B
VOC EMISSION CREDIT CALCULATIONS
CRANBROOK FACILITY - TRACY, CALIFORNIA

Quarter	Lb.-Boilers	Lb.-Vinegar	Lb.-Total	Lb.-Credits
1 - 96	214	99,600		
2 - 96	218	108,900		
3 - 96	3813	109,700		
4 - 96	302	116,400		
1 - 97	223	98,300		
2 - 97	231	57,500		
3 - 97	3348	57,400		
4 - 97	273	33,700		
1 - Avg.	200	99,000	99,200	89,100
2 - Avg.	200	83,200	83,400	75,100
3 - Avg.	3600	83,600	87,200	78,500
4 - Avg.	300	75,100	75,400	67,900
Total	4300	340,900	345,200	310,600

FACTORS

Boilers: 5.5 lb./MMCF Emissions = fuel use x factor
Fuel use data from 7/2/98 letter.

Vinegar: 0.083 lb./gal. vinegar produced Emissions = vinegar production x factor
Factor derived in Attachment A.
Production data from 10/14/98 letter, Tables II and III.

Credits = (boiler emissions + vinegar emissions) x 0.90
10% reserved for air quality improvement.

DONALD G. KIRK
1573 KING CHARLES DRIVE
PITTSBURGH, PA 15237
TELEPHONE 412-366-8164
E-MAIL <d.g.kirk@worldnet.att.net>
December 14,1999

Mr. Mark Schonhoff
Permit Services
San Joaquin Valley Unified Air Pollution Control District
4230 Kiernan Avenue, Suite 130
Modesto, CA 95356

Dear Mark:

I have reviewed the information on air emissions at the Cranbrook (former Heinz U.S.A.) facility at Tracy which you recently provided by telephone and E-Mail. I am providing comments and alternate calculations in the following material.

Please review this material and respond by telephone or E-Mail as soon as you have opportunity. I plan to be away from home January 3-26, and would like to have some direction on this project before I leave if possible. In any event, I will be easily reachable by telephone and will advise you of the number before I go.

BOILER EMISSIONS (NOx, CO, SOx, PM10)

I have reviewed the emission factors which you used to calculate emissions and emission credits for the six boilers. I have confirmed the factors and listed the calculation results on Table I, attached. The figures seem to agree well with those which you apparently gave by telephone to Jim Devenport. The fuel use data used in the calculations is taken from my letter to you dated July 2, 1998. I presume that the credits that the district will propose are essentially the same as those in Table I. Please advise if that is not the case.

VOC EMISSIONS - BOILERS AND VINEGAR PRODUCTION

There is no problem with the VOC factor chosen for the boilers. I have reviewed your calculations for vinegar emission factors which you provided by E-Mail. The calculation methods and physical constants used are correct. Your results as transmitted were:

Generators - 0.128 lb. ethanol emitted per gal. vinegar produced
Acetators - 0.057 lb. ethanol emitted per gal. vinegar produced

You suggested using the acetator factor for all production as a default measure, since data are not available to confirm the relative amounts produced by generators and acetators.

I have two reactions to the proposal:

1. The acetator factor proposed is not correct, because it was calculated using a residual ethanol value of 0.4%, which is characteristic of product from generators. If we are going to use the acetator factor, it must be based on the correct acetator residual of 0.16%. If this change is made, the factor will be 0.077 lb./gal. rather than 0.057 lb./gal.

2. Rather than use an acetator factor as a default as you have proposed, I recommend that you use an overall factor calculated from actual total inputs and productions for both processes together. This should be a defensible factor that will reflect real world conditions. I have done that and shown the results in Tables II and III, and suggest that you consider that as an alternate approach. Further discussion follows.

The alternate factor is calculated in Table III, with a result of 0.096 lb. ethanol per gal. vinegar. The ethanol and vinegar data used are the same 1993 figures which you took from the permit applications for your factor calculations. They are representative of normal operation, and deserve to be used for this purpose.

Please note that the calculation in Table III involves using the demonstrated acetator:generator production ratio of 63:37 to calculate the residual ethanol level, yielding an intermediate result of 0.25%, between the extremes of 0.4% for generators and 0.16% for acetators. As you noted, recent data are not available to confirm this split, but the 1995-97 data make a strong case that it is still true.

If the 63:37 ratio residual ethanol figure does not have credibility with EPA or others, the logical default would be to retain the overall factor, but recalculate it using the more conservative 0.4% residual characteristic of generators. That calculation results in a factor of 0.083 lb. ethanol per gal. vinegar, 14% less than the recommended factor.

Table II shows the results of deriving VOC emission credits from the accepted boiler factor and the recommended overall vinegar factor of 0.096, using production data from Tables I, II and III of my October 14, 1998 letter. The results are averaged for 1996-97 calendar years as per normal practice. They are also compiled using an alternative two year period of July 1995 to June 1996. This latter period better reflects normal operation, and avoids the atypical latter half of 1997 when the generators were completely shut down. It is recommended that this alternate period be used to reflect actual conditions.

This opportunity to provide input to the emission credit calculation process on behalf of Cranbrook is much appreciated. I hope that any disagreements can be resolved before a formal proposal is circulated for public comment. I look forward to your comments, or to a counter-proposal if so indicated.

Sincerely,

Donald G. Kirk

Donald G. Kirk

cc: Jim Devenport - Cranbrook
Scott Krall - Heinz U.S.A.
Josh Margolis - Cantor Fitzgerald

TABLE I
BOILER EMISSION CREDIT CALCULATIONS
CRANBROOK FACILITY - TRACY, CALIFORNIA

Quarter	Lb. NOx	Lb. CO	Lb. SOx	Lb. PM10
1 - 96	1404	48	23	296
2 - 96	1424	52	24	301
3 - 96	24958	18199	416	5269
4 - 96	1975	566	33	417
1 - 97	1457	252	24	308
2 - 97	1511	275	25	319
3 - 97	21916	17879	365	4627
4 - 97	1786	241	30	377
1 - Avg.	1431	150	24	302
2 - Avg.	1468	164	25	310
3 - Avg.	23437	18039	391	4948
4 - Avg.	1881	404	32	397
Total	28217	18757	472	5957

FACTORS

NOx: 36.0 lb./MMCF (Rule 4305 limits credits to 30 ppm.)

CO: 1996 No.1 0.8 lb./MMCF (Based on annual stack tests)
2 0.9
3 0.8
4 0.4
5 3.4
6 69.5

1997 No.1 2.0
2 1.0
3 1.0
4 11.0
5 7.0
6 77.0

SOx: 0.6 lb./MMCF (AP-42)

PM10: 7.6 lb./MMCF (AP-42)

NOTE: Credits = fuel use x factor x 0.90 (10% reserved for air quality improvement)

TABLE II
VOC EMISSION CREDIT CALCULATIONS
CRANBROOK FACILITY - TRACY, CALIFORNIA

Quarter	Lb.-Boilers	Lb.-Vinegar	Lb.-Total	Lb.-Credits
3 - 95		82400		
4 - 95		82100		
1 - 96	214	115200		
2 - 96	218	125900		
3 - 96	3813	126900		
4 - 96	302	134700		
1 - 97	223	113700		
2 - 97	231	66500		
3 - 97	3348	66400		
4 - 97	273	39000		
1 - Avg.	200	114500	114700	103200
2 - Avg.	200	96200	96400	86800
3 - Avg.	3600	96700 104700*	100300 108300*	90300 97500*
4 - Avg.	300	86900 108400*	87200 108700*	78500 97800*
Total	4300	394300 423800*	398600 428100*	358800 385300*

FACTORS

* Alternate two year period, 3rd.Q 95 - 2nd.Q 97, reflecting normal vinegar operation.

Boilers: 5.5 lb./MMCF (AP-42) (Emissions = fuel use x factor)

Vinegar: 0.096 lb./gal. vinegar produced (Emissions = vinegar production x factor)
(Overall factor for combined acetator and generator production. See Table III)

NOTE: Credits = (boiler emissions + vinegar emissions) x 0.90
(10% reserved for air quality improvement)

TABLE III
VOC EMISSION FACTOR FOR VINEGAR PRODUCTION
CRANBROOK FACILITY

Ethanol: Concentration 95% by volume, 92.4% by weight
Density 6.78 lb./gal.
Molecular weight = 46.07

Vinegar: Acetic acid concentration 100 g./l.
Density = 8.45 lb./gal.
Residual ethanol concentration = 0.5% by vol., 0.4% by weight for generator
0.2% by vol., 0.16% by weight for acetator
Molecular weight of acetic acid = 60.05

Production: (Based on 1993 data from permit applications for vinegar production units)
Ethanol used = 291,938 gal. (acetator) + 190,043 gal. (generator)
= 481,981 gal. (total)
Vinegar produced = 2,501,288 gal. (acetator) + 1,484,517 gal. (generator)
= 3,985,805 gal. (total)

Ethanol used = (481,981 gal. eth./3,985,805 gal. vin.)(6.78 lb./gal.)(0.924)
= 0.757 lb. eth./gal. vin.

Theoretical ethanol required
= (100g./l.)(3.785 l./gal.)(1 lb./453.6 g.)(46.07 g. eth./60.05 g. acetic acid)
= 0.640 lb. eth./gal. vin.

Ethanol residual in vinegar
= (8.45 lb./gal.)[(0.63)(0.0016) + (0.37)(0.004)]
= 0.021 lb. eth./gal. vin.
(Above based on 63% acetator, 37% generator in 1993 production mix, similar to 62:38 ratio demonstrated in 1995-97 data.)

Ethanol emitted = eth. used - theor. eth. required - residual eth. in product
= 0.757 - 0.640 - 0.021 = 0.096 lb. eth./gal. vin.

EMPNO	DDATE	PROJ	HOURS	CODE	PTYPE	PAYR	FACID
5436	06/24/1998	980337	3	2	1	1	4026
5436	07/01/1998	980337	2	6	1	1	4206
5436	07/01/1998	980337	2	6	1	1	403
5436	03/15/1999	980337	6	11	1	1	4026
5436	03/17/1999	980337	5	11	1	1	4026
5436	03/22/1999	980337	8	11	1	1	4026
5436	03/23/1999	980337	4.5	11	1	1	4026
5436	03/16/1999	980337	6	11	1	1	0
5436	07/12/1999	980337	5.5	6	1	1	4026
5436	07/13/1999	980337	4	6	1	1	4026
5436	07/14/1999	980337	3.5	6	1	1	4026
5436	10/19/1999	980337	4.5	6	1	1	4026
5436	10/25/1999	980337	3.5	6	1	1	4026
5436	03/30/2000	980337	2	6	1	1	4026
5436	03/31/2000	980337	1	6	1	1	4026
5436	05/08/2000	980337	2	6	1	1	4026

A. Mendes.

San Joaquin Valley
Air Pollution Control District

April 10, 2000

Matt Haber, Chief
Permits Office, Air Division
U.S. E.P.A. - Region IX
75 Hawthorne Street
San Francisco, CA 94105

Re: Notice of Preliminary Decision - Emission Reduction Credits
Project Number: 980337

Dear Mr. Haber:

Enclosed for your review and comment is the District's analysis of Cranbrook Associates LLC's application for Emission Reduction Credits (ERCs) resulting from the shut down of boilers and vinegar manufacturing equipment , at 757 11th Street in Tracy, CA. The quantity of ERCs proposed for banking is 28,188 pounds per year of NOx, 18,753 pounds per year of CO, 214,917 pounds per year of VOC, 470 pounds per year of SOx and 5,953 pounds per year of PM10.

Also enclosed is the public notice of this decision which will be published approximately three days from the date of this letter. Please submit your written comments on this project within the 30-day public comment period which begins on the date of publication of the public notice.

If you have any questions regarding this matter, please contact Mr. Mark Schonhoff of Permit Services at (209) 557-6448.

Sincerely,

Seyed Sadredin
Director of Permit Services

SS:MJS/dt

Enclosures

c: Anthony Mendes, Permit Services Manager, Northern Region

San Joaquin Valley
Air Pollution Control District

April 10, 2000

Raymond Menebroker, Chief
Project Assessment Branch
Stationary Source Division
California Air Resources Board
P. O. Box 2815
Sacramento, CA 95812-2815

Re: Notice of Preliminary Decision - Emission Reduction Credits
Project Number: 980337

Dear Mr. Menebroker:

Enclosed for your review and comment is the District's analysis of Cranbrook Associates LLC's application for Emission Reduction Credits (ERCs) resulting from the shut down of boilers and vinegar manufacturing equipment , at 757 11th Street in Tracy, CA. The quantity of ERCs proposed for banking is 28,188 pounds per year of NOx, 18,753 pounds per year of CO, 214,917 pounds per year of VOC, 470 pounds per year of SOx and 5,953 pounds per year of PM10.

Also enclosed is the public notice of this decision which will be published approximately three days from the date of this letter. Please submit your written comments on this project within the 30-day public comment period which begins on the date of publication of the public notice.

If you have any questions regarding this matter, please contact Mr. Mark Schonhoff of Permit Services at (209) 557-6448.

Sincerely,

Seyed Sadredin
Director of Permit Services

SS:MJS/dt

Enclosures

c: Anthony Mendes, Permit Services Manager, Northern Region

David L. Crow
Executive Director/Air Pollution Control Officer

Northern Region Office
4230 Kiernan Avenue, Suite 130
Modesto, CA 95356-9321
(209) 557-6400 • FAX (209) 557-6475

Central Region Office
1990 East Gettysburg Avenue
Fresno, CA 93726-0244
(559) 230-6000 • FAX (559) 230-6061

Southern Region Office
2700 M Street, Suite 275
Bakersfield, CA 93301-2370
(661) 326-6900 • FAX (661) 326-6985

San Joaquin Valley
Air Pollution Control District

April 10, 2000

Cranbrook Associates, LLC
Attn: James Devenport
2020 Standiford Avenue, Suite E-2
Modesto, CA 95350

Re: Notice of Preliminary Decision - Emission Reduction Credits
Project Number: 980337

Dear Mr. Devenport:

Enclosed for your review and comment is the District's analysis of Cranbrook Associates LLC's application for Emission Reduction Credits (ERCs) resulting from the shut down of boilers and vinegar manufacturing equipment , at 757 11th Street in Tracy, CA. The quantity of ERCs proposed for banking is 28,188 pounds per year of NOx, 18,753 pounds per year of CO, 214,917 pounds per year of VOC, 470 pounds per year of SOx and 5,953 pounds per year of PM10.

Also enclosed is the public notice of this decision which will be published approximately three days from the date of this letter. Please submit your written comments on this project within the 30-day public comment period which begins on the date of publication of the public notice.

If you have any questions regarding this matter, please contact Mr. Mark Schonhoff of Permit Services at (209) 557-6448.

Sincerely,

Seyed Sadredin
Director of Permit Services

SS:MJS/dt

Enclosures

c: Anthony Mendes, Permit Services Manager, Northern Region

David L. Crow
Executive Director/Air Pollution Control Officer

Northern Region Office
4230 Kiernan Avenue, Suite 130
Modesto, CA 95356-9321
(209) 557-6400 • FAX (209) 557-6475

Central Region Office
1990 East Gettysburg Avenue
Fresno, CA 93726-0244
(559) 230-6000 • FAX (559) 230-6061

Southern Region Office
2700 M Street, Suite 275
Bakersfield, CA 93301-2370
(661) 326-6900 • FAX (661) 326-6985

The Record - San Joaquin County

NOTICE OF PRELIMINARY DECISION
FOR THE PROPOSED ISSUANCE OF
EMISSION REDUCTION CREDITS

NOTICE IS HEREBY GIVEN that the San Joaquin Valley Air Pollution Control District solicits public comment on the proposed issuance of Emission Reduction Credits (ERCs) to Cranbrook Associates, LLC for the shut down of boilers and vinegar manufacturing equipment, at 757 11th Street in Tracy, CA. The quantity of ERCs proposed for banking is 28,188 pounds per year of NOx, 18,753 pounds per year of CO, 214,917 pounds per year of VOC, 470 pounds per year of SOx and 5,953 pounds per year of PM10.

The analysis of the regulatory basis for this proposed action, Project #980337, is available for public inspection at the District office at the address below. Written comments on this project must be submitted within 30 days of the publication date of this notice to **SEYED SADREDIN, DIRECTOR OF PERMIT SERVICES, SAN JOAQUIN VALLEY AIR POLLUTION CONTROL DISTRICT, 4230 KIERNAN AVENUE, SUITE 130, MODESTO, CA 95356.**

TELEPHONE RECORD FORM

Project # 980337

Date/Time/ Initials	Names of All Persons Involved and Conversation Record
12/30/98	MJS spoke w/ Don Kirk - he said no by-products are formed by the alcohol. All alcohol unaccounted for was emitted as alcohol. - vinegar op. shut-down prior to the boilers because vinegar mfg was only a small part of the op. and the amount in stock would be enough to complete operations. The "market" vinegar prod. was probably shifted to another plant. - Generators shut-down before acetators because acetators are more efficient. - Even though the application proposes ERC's for the shut-down of the vinegar storage tanks & the 40,000 gallon alcohol storage tank he don't want to pursue them. Don't want to pursue because his calcs indicate the reductions are very small & it wouldn't be worth searching ~~for the~~ records for the data that would be needed to positively calc the reductions. He will have Scott Krall of Heinz (412)237-5955 set the right person @ the vinegar institute in touch w/ me to discuss the by-product issue.

Also discussed the baseline period. I told him its normally 2 yr immediately prior to the complete app. date. And we have already charged it to the ~~date of last prod~~ over

8 complete calendar quarters immediately preceding the plant shut-down. Told him we will consider another 2 yr period within the last 5 yr. would need 10 yr data though. & will consider ~~#~~ picking the 2 consecutive yr period closest to the 10 yr avg. Mr. Kirk seemed like he won't want to pursue because of the difficulty of finding records.

TELEPHONE RECORD FORM

Project # 980337

Date/Time/ Initials	Names of All Persons Involved and Conversation Record
	M&S Spoke w/ Pam Chumley of the Vinegar Institute. Told her that Heinz has ~~to~~ stated basically the following:
	Some amount of alcohol (VOC) is added to the process.
	- Part is converted to ~~a~~ acetic acid
	- Part remains in the vinegar as alcohol
	- The rest is emitted
	asked her if any of the alcohol that was assumed to have been emitted may have actually been converted to some by-product that remainded in the vinegar - This would lower the emission estimate.
	She said she doubted that would occur because the specs ~~are~~ for vinegar are fairly tight.
4/14/00	M&S spoke w/ Ed Pike to verify that EPA received the project. He said yes. We ~~had~~ discussed the project
4/14/00	M&S called Alex Krichevsky of CARB to see if he received the project. Left voice mail message w/ project number.

TELEPHONE RECORD FORM

Project # _____

Date/Time/ Initials	Names of All Persons Involved and Conversation Record
5/4	Al Gafari of Carb called. said he is the CARB reviewer. Al pointed out some typographical errors & some problems with the 1996 VOC HAE's & 3rd Qtr 1996 NOx HAE. I told him I would check them out & get back to him
5/8/00	MK's spoke w/ Al Gafari. MK told Al the typos will be corrected but that all of the HAE's seem correct. We went through them & he concurred that the HAE's are correct. He asked if we required alcohol purchase records. I said no. We accepted their production records (Vinegar).
5/8/00	MK's called Ed Pike to see if the EPA will have comments. Left voice mail message w/ the company name, SJVAPCD project # and told him the notice is due 5/12/00
5/15	Ed Pike called to see if the certificates have been issued yet. I said no, but they will be issued soon. Ed said he is going to get out his chemistry book & check the generator & accelator emission factors. He is happy w/ the NOx being discounted to 30 ppm.

COPY

San Joaquin Valley Unified Air Pollution Control District

June 24, 1998

Cranbrook Associates, LLC
Attn: James Davenport
2020 Standiford Avenue, Suite 210
Modesto, CA 95350

Re: Notice of Incomplete Application - Emission Reduction Credits
Project Number: 980337

Dear Mr. Davenport:

The District has completed a preliminary review of your application for Emission Reduction Credits (ERCs) resulting from the shutdown of emission units, at 757 11th Street in Tracy, CA.

Based on this preliminary review, the application has been determined to be incomplete. The following information is required prior to further processing:

mid 95 1/
mid 97

1. For the vinegar generating systems previously operated under District Permits to Operate N-403-8-0, N-403-9-0 and N-403-10-0 please provide records of the actual ethyl alcohol consumption for the first quarter of 1996 through the fourth quarter of 1997. Please break this information down by month or calendar quarter. If the data is not from actual usage records please state how it was arrived at.

2. For the acetators previously operated under District Permits to Operate N-403-11-0 and N-403-12-0 please provide the actual ethyl alcohol consumption for the first quarter of 1996 through the fourth quarter of 1997. Please break this information down by month or calendar quarter. If the data is not from actual usage records please state how it was arrived at.

David L. Crow
Executive Director/Air Pollution Control Officer
1999 Tuolumne Street, Suite 200 • Fresno, CA 93721 • (209) 497-1000 • FAX (209) 233-2057

Northern Region
4230 Kiernan Avenue, Suite 130 • Modesto, CA 95356
(209) 545-7000 • Fax (209) 545-8652

Central Region
1999 Tuolumne Street, Suite 200 • Fresno, CA 93721
(209) 497-1000 • Fax (209) 233-2057

Southern Region
2700 M Street, Suite 275 • Bakersfield, CA 93301
(805) 862-5200 • Fax (805) 862-5201

3. For the boilers previously operated under District Permits to Operate N-403-2-1, N-403-3-1, N-403-4-1, N-403-5-1, N-403-6-1 and N-403-7-1 please submit records of the type and quantity fuel burned during the first quarter of 1996 through the fourth quarter of 1997. Please provide separate records for each boiler and break them down by month or calendar quarter. If the fuel usage data is not from actual usage records please state how it was arrived at.

In response, please refer to the above project number, and send to the attention of Mark Schonhoff.

Please submit the requested information within 90 days. The District will not be able to process your application until this information is received. Please note that the District's Small Business Assistance Office is available to all applicants. If you would like our SBA office's assistance in responding to this letter, please contact them at (209) 545-7070.

Thank you for your cooperation in this matter. Should you have any questions, please contact Mark Schonhoff of Permit Services at (209) 545-7000.

Sincerely,

Seyed Sadredin
Director of Permit Services

Anthony J. Mendes
Permit Services Manager

MJS

cc: SBA

Heinz U.S.A.

Division of H.J. Heinz Company

P.O. Box 57
Pittsburgh, Pennsylvania 15230-0057
Telephone: 412-237-5757

FAX NUMBER:
412-237-5883

FACSIMILE COVER SHEET

DATE: 2-1-99

FAX NUMBER: 209-545-8652

COMPANY: San Joaquin Valley Unified A.P.C. District

ATTENTION: Mark Schonhoff

CC:

FROM: Scott M. Krall

PHONE NUMBER: 412-237-5951

TIME:

NUMBER OF PAGES: 1
(Including cover sheet)

BRIEF MESSAGE: MARK, PER YOUR REQUEST

VINEGAR Institute

Ms. Pam Chumley

5775 Peachtree - Dunwoody RD

Atlanta, Ga 30342

404-252-3663

Scott Krall

If you do not receive all pages or have difficulty in receiving, please call the above number.

Post-it® Fax Note 7671	Date 7/2/98	# of pages ▶ 9
To Mark Schonhoff	From Don Kirk	
Co./Dept. SJVUAPCD	Co. Heinz U.S.A.	
Phone #	Phone #	
Fax # 209-545-8652	Fax #	

JULY 2, 1998

TO: MARK SCHONHOFF - SJVUAPCD

FROM: DON KIRK - HEINZ U.S.A.

SUBJECT: BOILER EMISSIONS - TRACY FACILITY

Attached are fuel use records and emissions calculations for the determination of ERCs to be awarded to Cranbrook Associates on the retirement of the boiler permits. Values for NOx and CO were determined from the most recent source test (7/31/97 report, copy attached), while the remainder were determined using AP-42 factors. Copies of monthly gas use summaries from the boiler computer system are available for verification if you need them.

The vinegar production and alcohol purchase data are taking longer to retrieve. Scott Krall (412-237-5951) will contact you regarding that information when it is available.

cc: Jim Devenport - Cranbrook Associates
Scott Krall

DONALD G. KIRK
1573 KING CHARLES DRIVE
PITTSBURGH, PA 15237
TELEPHONE 412-366-8164
October 14, 1998

Mr. Mark Schonhoff
Permit Services
San Joaquin Valley Unified Air Pollution Control District
4230 Kiernan Avenue, Suite 130
Modesto, CA 95356

Dear Mark:

Cranbrook Associates, LLC has retained my services to provide the information requested in the June 24, 1998 letter from Anthony J. Mendes to James Devenport. The boiler gas use information and emission calculations have already been submitted with my memo dated July 2, 1998. The requested alcohol use and vinegar production information is attached to this letter. These two submissions should complete the information needed to quantify the actual emissions to be assigned to Cranbrook as a result of the cancellation of the Permits to Operate for these units and transfer of credits.

The attached data reflect actual overall alcohol receipts and vinegar production. The data were not allocated between packed generators and acetators, and a credible process for calculated allocations was established and explained in the attached. The results shown have a high credibility over long periods, but show some significant short term inconsistencies. Suggestions for overcoming this problem are included.

Please note that the packed generators were shut down in June 1997, and the acetators were shut down in November of that year. Thus, operation during the last half of 1997 is not representative, and the District is urged to consider using the alternate period 7/95 - 6/97 as the basis for actual emissions.

In our telephone conversations, I had indicated a possible inconsistency between observed unit efficiencies and losses calculated by material balance. Fortunately, the two methods have indicated excellent agreement in the attached data, and there is no problem. I had also noted that stack tests on acetators conducted at other factories tended to significantly underestimate emissions, and their use is not recommended. Stack tests on packed generators are useless because of the large proportion of uncaptured fugitive emissions.

If there are technical questions or problems with the attached, please contact me at the above address or phone. Please send the completed emissions documentations to Cranbrook under the care of Mr. Devenport.

Sincerely,
Donald G. Kirk
Donald G. Kirk

cc: Jim Devenport - Cranbrook
Scott Krall - Heinz U.S.A.

GAS USE SUMMARY - BOILERS
HEINZ U.S.A. - TRACY, CALIFORNIA
(MONTHLY TOTALS IN MCF)

Boiler Permit	No. 1 N-403-2	No. 2 N-403-3	No. 3 N-403-4	No. 4 N-403-5	No. 5 (start) N-403-6	No. 6 N-403-7	Total	
MONTH	MCF	MCF	MCF	MCF	MCF	MCF	MCF	
1 - 96	2684	0	0	6383	4947	0	14014	
2	5881	0	0	3962	2362	0	12205	43,324
3	11334	0	0	3645	2126	0	17105	
4	921	0	0	6892	6878	0	14691	
5	13210	0	0	0	463	0	13673	43,949
6	4153	4807	663	3326	2636	0	15585	
7	42342	39799	39502	24717	23726	96082	265168	
8	40755	38796	38664	24019	23232	95014	260480	770,294
9	39357	37028	37214	17036	22274	91737	244646	
10	4487	11053	7709	2214	3610	8320	37393	
11	5719	0	4967	0	0	0	10686	60,961
12	11477	0	0	1405	0	0	12882	
1 - 97	5144	0	0	7571	6968	0	19683	
2	6164	0	0	4772	2226	0	13162	44,972
3	7162	0	0	2212	2753	0	12127	
4	3411	0	0	6025	4316	0	13752	
5	2669	0	0	6607	4276	0	13552	46,639
6	470	3945	6213	5368	3339	0	19335	
7	32241	30802	32207	20480	19412	72899	208041	
8	43528	41518	41540	26190	26166	100737	279679	676,427
9	32487	30134	27230	17451	17395	64010	188707	
10	7655	5569	0	5468	5162	0	23854	
11	3824	0	0	7049	6480	0	19345	55,133
12	8777	3157	0	0	0	0	11934	

NITROGEN OXIDE EMISSIONS - BOILERS
HEINZ U.S.A. - TRACY, CALIFORNIA
(MONTHLY TOTALS IN POUNDS)

Boiler Permit	No. 1 N-403-2	No. 2 N-403-3	No. 3 N-403-4	No. 4 N-403-5	No. 5 N-403-6	No. 6 N-403-7	Total
MONTH	Lb. NOx	Lb. NOx	Lb. NOx	Lb. NOx	Lb. NOx	Lb. NOx	Lb. NOx
1 - 96	119	0	0	309	219	0	647
2	260	0	0	192	105	0	557
3	502	0	0	176	94	0	772
4	41	0	0	334	305	0	608
5	585	0	0	0	21	0	606
6	184	223	27	161	117	0	712
7	1875	1845	1627	1197	1051	4750	12345
8	1805	1798	1593	1163	1029	4697	12085
9	1743	1725	1533	341	987	4535	10864
10	199	512	318	107	160	411	1707
11	253	0	205	0	0	0	458
12	508	0	0	68	9	0	585
1 - 97	229	0	0	367	309	0	905
2	273	0	0	231	99	0	603
3	317	0	0	107	122	0	546
4	151	0	0	292	191	0	634
5	118	0	0	320	189	0	627
6	21	183	256	162	148	0	770
7	1428	1428	1327	991	860	3604	9638
8	1928	1924	1711	1268	1159	4980	12970
9	1439	1397	1122	845	770	3165	8738
10	339	258	0	265	229	0	1091
11	169	0	0	341	289	0	799
12	389	146	0	0	0	0	535
Factor	0.042	0.045	0.040	0.047	0.042	0.048	

Factor = lb. NOx/MMBtu, based on 7/31/97 source test report

Lb. NOx = MCF x 1.03 MMBtu/MCF x factor

CARBON MONOXIDE EMISSIONS - BOILERS
HEINZ U.S.A. - TRACY, CALIFORNIA
(MONTHLY TOTALS IN POUNDS)

Boiler Permit	No. 1 N-403-2	No. 2 N-403-3	No. 3 N-403-4	No. 4 N-403-5	No. 5 N-403-6	No. 6 N-403-7	Total
MONTH	Lb. CO	Lb. CO	Lb. CO	Lb. CO	Lb. CO	Lb. CO	Lb. CO
1 - 96	6	0	0	72	36	0	114
2	12	0	0	45	17	0	74
3	23	0	0	41	15	0	79
4	2	0	0	78	50	0	130
5	27	0	0	0	3	0	30
6	9	5	1	38	19	0	72
7	87	41	41	280	171	7620	8240
8	84	40	40	272	168	7536	8140
9	81	38	38	193	161	7276	7787
10	9	11	8	25	26	660	739
11	12	0	5	0	0	0	17
12	24	0	0	16	0	0	40
1 - 97	11	0	0	86	50	0	147
2	13	0	0	54	16	0	83
3	15	0	0	35	20	0	70
4	7	0	0	68	31	0	106
5	5	0	0	75	31	0	111
6	1	4	6	61	24	0	96
7	66	32	33	232	140	5782	6285
8	90	43	43	297	187	7989	8649
9	67	31	28	198	125	5077	5526
10	16	6	0	62	37	0	115
11	8	0	0	80	47	0	135
12	18	3	0	0	0	0	21
Factor	0.002	0.001	0.001	0.011	0.007	0.077	

Factor = lb. CO/MMBtu, based on 7/31/97 source test report

Lb. CO = MCF x 1.03 MMBtu/MCF x factor

SULFUR DIOXIDE EMISSIONS - BOILERS
HEINZ U.S.A. - TRACY, CALIFORNIA
(MONTHLY TOTALS IN POUNDS)

Boiler Permit	No. 1 N-403-2	No. 2 N-403-3	No. 3 N-403-4	No. 4 N-403-5	No. 5 N-403-6	No. 6 N-403-7	Total
MONTH	Lb. SO2	Lb. SO2	Lb. SO2	Lb. SO2	Lb. SO2	Lb. SO2	Lb. SO2
1 - 96	2	0	0	4	3	0	9
2	4	0	0	2	1	0	9
3	7	0	0	2	1	0	10
4	1	0	0	4	4	0	9
5	8	0	0	0	0	0	8
6	2	3	0	2	2	0	9
7	25	24	24	15	14	58	160
8	24	23	23	14	14	57	155
9	23	22	22	10	13	55	145
10	3	7	5	1	2	5	23
11	3	0	3	0	0	0	6
12	7	0	0	1	0	0	8
1 - 97	3	0	0	5	4	0	12
2	4	0	0	3	1	0	8
3	4	0	0	1	2	0	7
4	2	0	0	4	3	0	9
5	2	0	0	4	3	0	9
6	0	2	4	3	2	0	11
7	19	18	19	12	12	44	134
8	26	25	25	16	16	60	168
9	19	18	16	10	10	38	111
10	5	3	0	3	3	0	14
11	2	0	0	4	4	0	10
12	5	2	0	0	0	0	7
Factor	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	

Factor = lb. SO2/MCF, based on 1/95 AP-42

Lb. SO2 = MCF x factor

PARTICULATE MATTER EMISSIONS - BOILERS
HEINZ U.S.A. - TRACY, CALIFORNIA
(MONTHLY TOTALS IN POUNDS)

Boiler Permit	No. 1 N-403-2	No. 2 N-403-3	No. 3 N-403-4	No. 4 N-403-5	No. 5 N-403-6	No. 6 N-403-7	Total
MONTH	Lb. PM	Lb. PM	Lb. PM	Lb. PM	Lb. PM	Lb. PM	Lb. PM
1 - 96	17	0	0	40	31	0	88
2	36	0	0	25	15	0	76
3	70	0	0	23	13	0	106
4	6	0	0	43	43	0	92
5	82	0	0	0	3	0	85
6	26	30	4	21	16	0	97
7	263	247	245	153	147	480	1535
8	253	241	240	149	144	475	1502
9	244	230	231	106	138	459	1408
10	22	69	48	14	22	42	217
11	28	0	31	0	0	0	59
12	71	0	0	9	0	0	80
1 - 97	32	0	0	47	43	0	122
2	38	0	0	30	14	0	82
3	44	0	0	14	17	0	75
4	21	0	0	37	27	0	85
5	17	0	0	41	27	0	85
6	3	24	39	33	21	0	120
7	200	191	200	127	120	364	1202
8	270	257	258	162	162	504	1613
9	201	187	169	106	108	320	1091
10	47	35	0	34	32	0	148
11	24	0	0	44	40	0	108
12	54	20	0	0	0	0	74
Factor	0.0062	0.0062	0.0062	0.0062	0.0062	0.005	

Factor = lb. PM/MCF, based on 1/95 AP-42

Lb. PM = MCF x factor

VOLATILE ORGANIC COMPOUND EMISSIONS - BOILERS
HEINZ U.S.A. - TRACY, CALIFORNIA
(MONTHLY TOTALS IN POUNDS)

Boiler Permit	No. 1 N-403-2	No. 2 N-403-3	No. 3 N-403-4	No. 4 N-403-5	No. 5 N-403-6	No. 6 N-403-7	Total
MONTH	Lb. VOC	Lb. VOC	Lb. VOC	Lb. VOC	Lb. VOC	Lb. VOC	Lb. VOC
1 -96	8	0	0	18	14	0	40
2	16	0	0	11	7	0	34
3	32	0	0	10	6	0	48
4	3	0	0	19	19	0	41
5	37	0	0	0	1	0	38
6	12	13	2	9	7	0	43
7	119	111	111	69	66	135	611
8	114	109	108	67	65	133	596
9	110	104	104	48	62	128	556
10	13	31	22	6	10	11	93
11	16	0	14	0	0	0	30
12	32	0	0	4	0	0	36
1 -97	14	0	0	21	20	0	55
2	17	0	0	13	6	0	36
3	20	0	0	6	8	0	34
4	10	0	0	17	12	0	39
5	7	0	0	18	12	0	37
6	1	11	17	15	9	0	63
7	90	86	90	57	54	102	479
8	122	116	116	73	73	141	641
9	91	84	76	49	49	90	439
10	21	16	0	15	14	0	66
11	11	0	0	20	18	0	49
12	25	9	0	0	0	0	34
	0.0028	0.0028	0.0028	0.0028	0.0028	0.0014	

Factor = lb. non-methane TOC/MCF, based on 1/95 AP-42

Lb. VOC = MCF x factor

BEST ENVIRONMENTAL, INC.
15890 Foothill Boulevard
San Leandro, California 94578
(510) 278-4011 FAX (510) 278-4018

July 31, 1997

Heinz, USA
1062 Progress Street
Pittsburgh, PA 15230

Attn: Mr. Roger Frazer

Subject: Heinz Emissions Compliance Test on six boilers. Permit to Operate (PTO) numbers N-403-2-1, N-403-3-1, N-403-4-1, N-403-5-1, N-403-6-1 and N-403-7-1.

Test Dates: July 22, 23 & 24th, 1997.

Sampling Locations: Outlet stacks of boilers No. 1, 2, 3, 4, 5 and 6 located at Heinz USA, 757 East 11th St., Tracy, CA. Boilers 1, 2, 3 and 6 have sampling ports located 8 diameters downstream and 2 diameters upstream from any flow disturbance. Boilers 4 and 5 have sampling ports located 1 diameter downstream and 2 diameters upstream from any flow disturbance

Sampling Personnel: Dan Cartner of BEST ENVIRONMENTAL, Inc.

Observing Personnel: The San Joaquin Unified Air Pollution Control District was notified but was not present for the test.

Process Description: Heinz USA operates six boilers to provide steam for processing tomatoes. The boilers are equipped with flue gas recirculation for NOx control. Each boiler is equipped with a separate fuel gas meter. For more information on each boiler please refer to the Permits To Operate located in the appendix of this report.

Test Program: Boiler emissions were continuously monitored for CO_2, O_2, CO and NOx concentration at the boiler stack outlets. Triplicate forty minute runs were performed on each boiler with calibrations before and after each run. Testing for each boiler was performed at high load. Due to limited access and poor geometric configuration for each stack exhaust, flow rates were calculated from the fuel rate and exhaust O_2. Fuel rates were obtained from the control panel for each boiler. All boilers were fired at the maximum fuel rate during their perspective test runs. Heat input was calculated to be lower than the MMbtu/hr boiler ratings indicated on the PTO.

Sampling Methods: The following Source Test Methods of the California Air Resources Board (CARB) and the U.S. Environmental Protection Agency were used:

Method 1-100	CO_2, O_2, CO, NOx Continuous Sampling
Method 19	Stack Gas Volumetric Flow Rate using Fuel Rate & O_2

Instrumentation:

Summit Model 702D NDIR CO_2 Analyzer
Siemens Oxymat Paramagnetic O_2 Analyzer
TECO Model 10S Chemiluminescent NOx Analyzer
TECO Model 48 NDIR GFC CO Analyzer
Hewlett-Packard Model 7132 Strip Chart Recorders

Test Results: Tables 1, 2, 3, 4, 5 and 6 presents the emissions results for Boilers 1, 2, 3, 4, 5 and 6, respectively. Individual test run results and averages are shown for ppm concentrations, lbs/MMBtu emission factors and lbs/hr as well as lbs/day emission rates. The emission limits designated by SJVUAPCD for each boiler are also contained in the tables. All six boilers passed compliance for NOx and CO. A summary table for all six boilers is presented below.

Boiler #	1	2	3	4	5	6
NOx ppm @3% O_2	34.5	37.2	33.2	38.4	34.4	39.4
District Limit	44.3	44.3	44.3	44.3	44.3	44.3
NOx lbs/day	70.57	74.91	68.34	48.85	43.92	177.6
District Limit	121	121	121	67	67	251
NOx lbs/ MMbtu	0.042	0.045	0.040	0.047	0.042	0.048
District Limit	0.054	0.054	0.054	0.054	0.054	0.054
CO ppm @3% O_2	2.45	1.08	1.07	15.5	8.94	104.5
District Limit	161.8	161.8	161.8	161.8	161.8	161.8
CO lbs/day	3.05	1.33	1.34	12.0	6.94	286.3
District Limit	268	268	268	148	148	556
CO lbs/ MMbtu	0.002	0.001	0.001	0.011	0.007	0.077
District Limit	0.120	0.120	0.120	0.120	0.120	0.120

Comments: Calculations, strip chart recordings, field data sheets, calibration gas certifications and copies of the Permits to Operate are contained in the appendices to this report.

If there are any questions concerning this report, please contact Dan Cartner at (510) 278-4011.

Submitted by,

Dan Cartner
Source Test Manager

Reviewed by,

Regan Best
Project Manager

ERC Application Evaluation
Project#: 980337
Application #'s: N-140-1, N-140-2, N-140-3, N-140-4 & N-140-5

Engineer: Mark Schonhoff
Date: May 15, 2000

Company Name: Cranbrook Associates, LLC
Mailing Address: 2020 Standiford Avenue, Suite E-2
Modesto, CA 95350

Contact Name: James Devenport
Phone: (209) 549-4960 extension 12

Date Application Received: May 12, 1998
Date Application Deemed Complete: March 23, 1999

I. Summary:

The applicant is proposing to receive the following quantities of ERC's for the shut down of boilers, vinegar acetators and vinegar generators.

	Quarter 1	Quarter 2	Quarter 3	Quarter 4	Total
NOx (lb)	1,430	1,456	23,453	1,849	28,188
CO (lb)	151	163	18,035	404	18,753
VOC (lb)	61,372	51,627	55,228	46,690	214,917
SOx (lb)	24	24	391	31	470
PM10 (lb)	302	308	4,952	391	5,953

II. Applicable Rules:

Rule 2301: Emission Reduction Credit Banking (Adopted September 19, 1991; Amended March 11, 1992; Amended December 17, 1992)

III. Location Of Reductions:

757 11th Street
Tracy, CA

IV. Method Of Generating Reductions:

The ERC's were generated by shutting down 6 boilers, three vinegar generators, two vinegar acetators and the associated tanks.

V. ERC Calculations:

A. Assumptions and Emission Factors:

NOx:

The boilers were source tested for NOx on 7/23 through 7/25 1996 and 7/22 through 7/24 1997. The ppm and lb/MMBtu values are from the source test reports and the lb/10^6 ft^3 values were calculated assuming a natural gas heating value of 1000 Btu/scf.

1996 Source Test Results (Best Environmental 7/23/96 • 7/25/96):

	Boiler 1 N-4026-1	Boiler 2 N-4026-2	Boiler 3 N-4026-3	Boiler4 N-4026-4	Boiler 5 N-4026-5	Boiler6 N-4026-6
NOx - ppm @ 3% 02	37.2	36.8	34.9	33.7	32.0	38.3
NOx - lb/MMBtu lb/10^6 ft^3			0.0425 42.5		0.0390 39.0	0.0466 46.6

1997 Source Test Results (Best Environmental 7/22/97 • 7/24/97):

	Boiler 1 (N-4026-1)	Boiler 2 (N-4026-2)	Boiler 3 (N-4026-3)	Boiler4 (N-4026-4)	Boiler 5 (N-4026-5)	Boiler 6 (N-4026-6
NOx ppm @ 3% 0_2	34.5	37.2	33.2	38.4	34.4	39.4
NOx - lb/MMBtu lb/$10^6 ft^3$	0.042 (42.0	0.045 (45.0	0.040 (40.0)	0.047 (47.0)	0.042 (42.0)	0.048 (48.0

District rule 4305 (Boilers, Steam Generators and Process Heaters) was in effect during the baseline period, and would have allowed a NOx emission concentration of no more than 30 ppm@ 3% 0_2 (0.036 lb/MMBtu). As shown in the above tables, the actual NOx emission concentrations were in excess of the emission concentration that would have ultimately been allowed by the rule.

The boilers were however group II units as defined in District rule 4305, the NOx emission concentrations were shown by source testing to be within 0.025 lb/MMBtu of the ultimate rule limit of 0.036 lb/MMBtu and Authority to Construct applications to limit the NOx emissions to 0.036 lb/MMBtu were received prior to June 16, 1997. The units were therefore in compliance with the applicable requirements of rule 4305 (refer to section 7.1.2).

The Historical Actual Emissions (HAE) are the emissions that actually occurred during the baseline period and will be calculated utilizing the above emission factors.

The Actual Emission Reductions (AER) must be surplus (District rule 2201 - New and Modified Stationary Source Review), they will therefore be discounted to 30 ppm @ 3% 02 (36.0 lb/MMcf).

CO:

The boilers were source tested for CO on 7/23 through 7/25 1996 and 7/22 through 7/24 1997. The ppm and lb/MMBtu values are from the source test reports and the lb/10^6 ft^3 values were calculated assuming a natural gas heating value of 1000 Btu/scf.

1996 Source Test Results (Best Environmental 7/23/96 - 7/25/96):

	Boiler 1 N-4026-1	Boiler 2 N-4026-2	Boiler 3 N-4026-3	Boiler4 N-4026-4	Boiler 5 N-4026-5	Boiler 6 N-4026-6
CO-ppm@3% 0_2	1.1	1.2	1.1	0.6	4.6	93.9
CO - lb/MMBtu lb/10^6 ft^3	0.0008 0.80	0.0009 0.90	0.0008 0.80			0.0695 69.5

1997 Source Test Results (Best Environmental 7/22/97 - 7/24/97):

	Boiler 1 (N-4026-1)	Boiler 2 (N-4026-2)	Boiler 3 (N-4026-3)	Boiler4 (N-4026-4)	Boiler 5 (N-4026-5)	Boiler6 (N-4026-6)
CO-ppm@3% 0_2	2.45	1.08	1.07	15.5	8.94	104.48
CO - lb/MMBtu (lb/10^6 ft^3)	0.002 (2.0) .	0.001 (1.0)	0.001 (1.0)	0.011 (11.0)	0.007 (7.0)	0.077 (77.0)

District rule 4305 (Boilers, Steam Generators and Process Heaters) was in effect during the baseline period, and would have allowed a CO emission concentration of no more than 400 ppm @ 3% 0_2. As shown in the above tables, the actual CO emission concentrations were less than would have been allowed by the rule. So that the actual emission reductions calculated are real, the source test values as opposed to the rule limit will be utilized to calculate the AER's.

VOC, SOx and PM10:

The boilers were not source tested for VOC, SOx or PM10. The baseline period emissions will be calculated utilizing emission factors from EPA Document AP-42, table 1.4-2 (3/98).

VOC: 5.5 lb/10^6 scf
SOx: 0.6 lb/10^6 scf
PM10: 7.6 lb/10^6 scf

Vinegar Manufacturing:

The facility utilized both generators and acetators to manufacture vinegar. The voe emission factors for each type of process are different. The facility kept records of the facility-wide vinegar production, but did not keep records of how much vinegar was produced utilizing each type of process. It will therefore be assumed that all of the vinegar was produced utilizing the process with the lowest emission factor. The process with the lowest voe emission factor was the acetator process which had an emission factor of 0.057 lb voe/gallon of vinegar produced. Refer to appendix e of this document for the emission factor calculations.

Summary Of Emission Factors:

Boilers (HAE Purposes):

Year	Pollutant	Boiler 1 (N-4026-1l	Boiler 2 (N-4026-2)	Boiler 3 (N-4026-3)	Boiler4 (N-4026-4)	Boiler 5 (N-4026-5)	Boiler 6 (N-4026-6)
1996	NOx (lb/10° scf)	45.2	44.8	42.5	41.0	39.0	46.6
1997	NOx (lb/10° sc fl	42.0	45.0	40.0	47.0	42.0	48.0
1996	CO Clb/10" scf	0.80	0.90	0.80	0.40	3.4	69.5
1997	CO /lb/10° sci	2.0	1.0	1.0	11.0	7.0	77.0
1996	VOE (lb/10° scfl	5.5	5.5	5.5	5.5	5.5	5.5
1997	VOE (lb/10° scfl	5.5	5.5	5.5	5.5	5.5	5.5
1996	SOx (lb/10° scfl	0.6	0.6	0.6	0.6	0.6	0.6
1997	SOx 0b/10" scfl	0.6	0.6	0.6	0.6	0.6	0.6
1996	PM10 (lb/10° set)	7.6	7.6	7.6	7.6	7.6	7.6
1997	PM10 (lb/10° scf)	7.6	7.6	7.6	7.6	7.6	7.6

Boilers (AER Purposes)

Year	Pollutant	Boiler 1 (N-4026-1)	Boiler 2 (N-4026-2)	Boiler 3 (N-4026-3)	Boiler4 (N-4026-4)	Boiler 5 (N-4026-5)	Boiler 6 (N-4026-6)
1996	NOx lb/10° scfl	36.0	36.0	36.0	36.0	36.0	36.0
1997	NOx lb/10° scf)	36.0	36.0	36.0	36.0	36.0	36.0
1996	CO (lb/10° set)	0.80	0.90	0.80	0.40	3.4	69.5
1997	CO (lb/10° scll	2.0	1.0	1.0	11.0	7.0	77.0
1996	VOE lb/10° scll	5.5	5.5	5.5	5.5	5.5	5.5
1997	VOE lb/10° sc r)	5.5	5.5	5.5	5.5	5.5	5.5
1996	SOx lb/10° sc	0.6	0.6	0.6	0.6	0.6	0.6
1997	SOx lb/10° sc	0.6	0.6	0.6	0.6	0.6	0.6
1996	PM10 (lb/10° sci)	7.6	7.6	7.6	7.6	7.6	7.6
1997	PM10 (lb/10" sctn	7.6	7.6	7.6	7.6	7.6	7.6

Vinegar Manufacturing:

VOC = 0.057 lb/gal of vinegar production

B. Baseline Period Determination and Data:

Baseline Period Determination:

The District has determined that the consecutive two year period immediately preceding the banking application is not representative of normal source operation.

The application for ERCs was received on May 12, 1998 and the cessation of operations occurred January 31, 1998. Since the application was submitted within 180 days of the cessation of operations, the baseline period will be the eight complete calendar quarters immediately preceding the cessation of operations. The baseline period will be quarter 1 of 1996 through quarter 4 of 1997.

Baseline Period Data:

Boiler Fuel Usages:

N-4026-1:

	Quarter 1 (10° ff\	Quarter 2 (10° ft°)	Quarter 3 (10° ft°)	Quarter 4 (10° ft")
1996	19,899	18,284	122,454	21,683
1997	18,470	6,550	108,256	20,256

N-4026-2:

	Quarter 1 (10° ft°)	Quarter 2 (10° ft°) ·	Quarter 3 /10° ft°)	Quarter 4 /10° *W)*
1996	0	4,087	115,623	11,053
1997	0	3,945	102,454	8,726

N-4026-3:

	Quarter 1 /10° ft°)	Quarter 2 /10° ft°)	Quarter 3 (10° ft")	Quarter 4 /10° ft°)
1996	0	663	115,380	12,676
1997	0	6,213	100,997	0

N-4026-4:

	Quarter 1 /10" ft"l	Quarter 2 /1O" fl")	Quarter 3 /1O" ft"l	Quarter 4 /1O" ft"l
1996	13,990	10,218	65,772	3,619
1997	14,555	18,000	64,121	12,517

N-4026-5:

	Quarter 1 /1O" ft")	Quarter 2 /1O" ft")	Quarter 3 /1O" fl"l	Quarter 4 /1O" ft"\
1996	9,435	9,977	69,232	3,610
1997	11,947	11,931	62,973	11,642

N-4026-6:

	Quarter 1 /1O" ft")	Quarter 2 (10° ft")	Quarter 3 110^3 ft°\	Quarter 4 110^3 ft^3 \
1996	0	0	282,833	8,320
1997	0	0	237,646	0

Total Vinegar Production (N-4026-7, N-4026-8, N-4026-9, N-4026-10 & N-4026-11):

	Quarter **1** (qal)	Quarter 2 /aall	Quarter 3 /aall	Quarter 4 lnal)
1996	1,200,198	1,311,525	1,321,683	1,402,642
1997	1,183,950	692,534	691,770	406,613

C. Historical Actual Emissions:

Refer to appendix A of this document for complete calculations.

NOx:

	Quarter 1 (lb)	Quarter 2 (lb)	Quarter 3 /lbl	Quarter 4 /lb\
1996	1,841	1,846	34,195	2,691
1997	1,962	2,048	30,263	2,321
Averaqe	1,902	1,947	32,229	2,506

CO:

	Quarter 1 /lb\	Quarter 2 /lb\	Quarter 3 /lb\	Quarter 4 /lb\
1996	54	57	20,213	629
1997	281	305	19,865	268
Averaqe	168	181	20,039	449

voe:

	Quarter 1 (lb)	Quarter 2 (lb)	Quarter 3 (lb)	Quarter 4 (lb)
1996	68,650	74,995	79,578	80,286
1997	67,732	39,731	43,151	23,469
Averaae	68,191	57,363	61,365	51,878

SOx:

	Quarter 1 (lb)	Quarter 2 (lb)	Quarter 3 (lb)	Quarter 4 (lb)
1996	26	26	463	37
1997	27	28	406	32
Averaae	27	27	435	35

PM10:

	Quarter 1 (lb)	Quarter 2 (lb)	Quarter 3 (lb)	Quarter 4 (lb)
1996	329	329	5,862	463
1997	342	354	5,141	404
Averaae	336	342	5,502	434

D. Actual Emission Reductions:

In the case of shutdowns AER = HAE unless they must be reduced such that they are surplus.

As stated in section V.A of this document, the pre-shutdown emission factor for NOx must be reduced to 30 ppmv @ 3% 0_2 (0.036 lb/MMBtu) for rule 4305 compliance. For CO, VOC, SOx and PM10, the HAEs meet the definition of AER and no reduction is necessary. For CO, voe, SOx and PM10, AER = HAE.

The boilers were group II units as defined in District rule 4305, the NOx emission concentrations were shown by source testing to be within 0.025 lb/MMBtu of the ultimate rule limit of 0.036 lb/MMBtu and Authority to Construct applications to limit the NOx emissions to 0.036 lb/MMBtu were received prior to June 16, 1997. The units were therefore in compliance with the applicable requirements of rule 4305 (refer to section 7.1.2).

The AER's are shown on the following table. Refer to Appendix B of this document for detailed NOx AER calculations. Refer to Appendix A of this document for detailed CO, VOC, SOx and PM10 HAE/AER calculations.

	Quarter 1 (lb)	Quarter 2 (lb)	Quarter 3 (lb)	Quarter 4 (lb)
NOx	1,589	1,618	26,059	2,054
CO	168	181	20,039	449
VOC	68,191	57,363	61,365	51,878
SOx	27	27	435	35
PM10	336	342	5,502	434

E. Air Quality Improvement Deduction:

Per District rule 2201, section 6.5, a 10% air quality improvement deduction must be applied to the AER's prior to banking. The air quality improvement deductions are as follows:

	Quarter 1 (lb)	Quarter 2 (lb)	Quarter 3 (lb)	Quarter 4 (lb)
NOx	159	162	2,606	205
CO	17	18	2,004	45
VOC	6,819	5,736	6,137	5,188
SOx	3	3	44	4
PM10	34	34	550	43

F. Increase In Permitted Emissions:

No IPE associated with this project.

G. Bankable Emissions Reductions:

The bankable reductions are the AER's minus the Air Quality Improvement Deduction.

	Quarter 1	Quarter2	Quarter 3	Quarter4
NOx (lb)	1,430	1,456	23,453	1,849
CO (lb)	151	163	18,035	404
VOC (lbl	61,372	51,627	55,228	46,690
SOx (lb)	24	24	391	31
PM10 (lb)	302	308	4,952	391

VI. Compliance:

A. Real Reductions:

The reductions were generated by shutting down emIssIon units. Had the emission units not been shut down the emissions for which ERCs are being proposed could still be occurring. Therefore, the reductions are real.

B. Enforceable Reductions:

The Permits To Operate have been surrendered to the District. Operation of the equipment without a permits would result in enforcement action being taken. Therefore, the reductions are enforceable.

C. Quantifiable Reductions:

The baseline emissions were calculated utilizing District approved emIssIon factors, actual baseline period fuel usages and actual baseline period alcohol usages. Therefore, the reductions are quantifiable.

D. Permanent Reductions:

The Permits To Operate have been surrendered to the District. Operation of the equipment without permits would result in enforcement action being taken. Therefore, the reductions are permanent.

E. Surplus Reductions:

Boilers:

The boilers would have been subject to the NOx and CO emission concentration limits of District rule 4305. Source testing showed that the NOx concentrations were in excess of those allowed by the rule and that the CO emissions were lower than required by the rule. The NOx emission factors utilized to calculate the bankable reductions were reduced to the level required by the rule. The CO emissions concentrations did not require adjustment. VOC, SOx and PM10 reductions were not required by any rules or regulations. Therefore, the reductions are surplus.

Note:

The boilers were group II units as defined in District rule 4305, the NOx emission concentrations were shown by source testing to be within 0.025 lb/MMBtu of the ultimate rule limit of 0.036 lb/MMBtu and Authority to Construct applications to limit the NOx emissions to 0.036 lb/MMBtu were received prior to June 16, 1997. The units were therefore in compliance with the applicable requirements of rule 4305 (refer to section 7.1.2).

Vinegar Manufacturing Equipment:

The emission reductions were made voluntarily and were not required by any present or pending regulation. Therefore the reductions are surplus.

F. Timeliness:

The facility was shut down on January 31, 1998 and the ERC application was submitted on May 12, 1998. The application was submitted before the 180 day deadline imposed by District rule 2301 Section 4.2.3. Therefore, the application was made in a timely fashion.

VII. Recommendation:

Issue Emission Reduction Credit Certificates to Cranbrook Associates, LLC for NOx, CO, voe, SOx and PM10 in the following amounts:

	Quarter **1**	Quarter 2	Quarter 3	Quarter4
NOx (lb)	1,430	1,456	23,453	1,849
CO /lb\	151	163	18,035	404
voe Ob\	61,372	51,627	55,228	46,690
SOx /lb\	24	24	391	31
PM10 /lb\	302	308	4,952	391

Appendix A
HAE Calculations .

Appendix A
HAE Calculations

1996 HAEs:

Boiler 1 (N-4026-1)

Quarter	Pollutant	EF (lb/10^6 tt^3)	Fuel Usage (10^3 ft^3/qtr)	HAE (lb/qtr)
1	NOx	45.2	19,899	899
1	CO	0.8	19,899	16
	VOC	5.5	19,899	109
	SOx	0.6	19,899	12
	PM10	7.6	19,899	151

Quarter	Pollutant	EF (lb/10^6 ft^3)	Fuel Usage (10^3 tt^3/qlr)	HAE (lb/qtr)
2	NOx	45.2	18,284	826
2	CO	0.8	18,284	15
2	VOC	5.5	18,284	101
2	SOx	0.6	18,284	11
2	PM10	7.6	18,284	139

Quarter	Pollutant	EF (lb/10^6 ft^3)	Fuel Usage (10^3 ft^3/qtr)	HAE (lb/qlr)
3	NOx	45.2	122,454	5,535
3	CO	0.8	122,454	98
3	VOC	5.5	122,454	673
3	SOx	0.6	122,454	73
3	PM10	7.6	122,454	931

Quarter	Pollutant	EF (lb/10^6 ft^3)	Fuel Usage (10^3 tt^3/qtr)	HAE (lb/qtr)
4	NOx	45.2	21,683	980
4	CO	0.8	21,683	17
4	VOC	5.5	21,683	119
4	SOx	0.6	21,683	13
4	PM10	7.6	21,683	165

Boiler 2 (N-4026-2)

Quarter	Pollutant	EF (lb/106 ft3)	Fuel Usage (103 ft3/qtr)	HAE (lb/qtr)
1	NOx	44.8	0	0
	co	0.9	0	0
	voe	5.5	0	0
	SOx	0.6	0	0
	PM10	7.6	0	0

Quarter	Pollutant	EF (1b/10g ft^3)	Fuel Usage (10^3 ft^3/qtr)	HAE (lb/qtr)
2	NOx	44.8	4,087	183
2	co	0.9	4,087	4
2	voe	5.5	4,087	22
2	SOx	0.6	4,087	2
2	PM10	7.6	4,087	31

Quarter	Pollutant	EF (lb/1Ou ft^3)	Fuel Usage (10^3 ft^3/qtr)	HAE (lb/qtr)
3	NOx	44.8	115,623	5,180
3	co	0.9	115,623	104
3	voe	5.5	115,623	636
3	sox	0.6	115,623	69
3	PM10	7.6	115,623	879

Quarter	Pollutant	EF (lb/1Ou ft^3)	Fuel Usage (10^3 ft^3/qtr)	HAE (lb/qtr)
4	NOx	44.8	11,053	495
4	co	0.9	11,053	10
4	voe	5.5	11,053	61
4	sox	0.6	11,053	7
4	PM10	7.6	11,053	84

Boiler 3 (N-4026-3)

Quarter	Pollutant	EF (lb/106 ft3)	Fuel Usage (103 ft3/qtr)	HAE (lb/qtr)
1	NOx	42.5	0	0
1	co	0.8	0	0
1	voe	5.5	0	0
1	sox	0.6	0	0
1	PM10	7.6	0	0

Quarter	Pollutant	EF (lb/10^8 ft!)	Fuel Usage (10! ft!/qtr)	HAE (lb/qtr)
2	NOx	42.5	663	28
2	co	0.8	663	1
2	voe	5.5	663	4
2	sox	0.6	663	0
2	PM10	7.6	663	5

Quarter	Pollutant	EF (lb/10^8 ft!)	Fuel Usage (10!ft!/qtr)	HAE (lb/qtr)
3	NOx	42.5	115,380	4,904
3	co	0.8	115,380	92
3	voe	5.5	115,380	635
3	SOx	0.6	115,380	69
3	PM10	7.6	115,380	877

Quarter	Pollutant	EF (lb/10^8 ft!)	Fuel Usage (10! ft!/qtr)	HAE (lb/qtr)
4	NOx	42.5	12,676	539
4	co	0.8	12,676	10
4	voe	5.5	12,676	70
4	sox	0.6	12,676	8
4	PM10	7.6	12,676	96

Boiler 4 (N-4026-4)

Quarter	Pollutant	EF (lb/106 ft3)	Fuel Usage (103 ft3/qtr)	HAE (lb/qtr)
1	*NOx*	41	13,990	574
1	CO	0.4	13,990	6
	VOC	5.5	13,990	77
	sax	0.6	13,990	8
	PM10	7.6	13,990	106

Quarter	Pollutant	EF (1b/10B tt ^{3})	Fuel Usage (10^3 tt ^{3}iq tr)	HAE (lb/qtr)
2	*NOx*	41	10,218	419
2	CO	0.4	10,218	4
2	VOC	5.5	10,218	56
2	*SOx*	0.6	10,218	6
2	PM10	7.6	10,218	78

Quarter	Pollutant	EF (lb/1OB tt^3)	Fuel Usage (10^3 tt^3/qtr)	HAE (lb/qtr)
3	*NOx*	41	65,772	2,697
3	CO	0.4	65,772	26
3	VOC	5.5	65,772	362
3	*SOx*	0.6	65,772	39
3	PM10	7.6	65,772	500

Quarter	Pollutant	EF (1b/10B t t^3)	Fuel Usage (10^3 t t^3/qtr)	HAE (lb/qtr)
4	*NOx*	41	3,619	148
4	CO	0.4	3,619	1
4	VOC	5.5	3,619	20
4	*SOx*	0.6	3,619	2
4	PM10	7.6	3,619	28

Boiler 5 (N-4026-5)

Quarter	Pollutant	EF (lb/106 ft3)	Fuel Usage (103 ft3/qtr)	HAE (lb/qtr)
1	NOx	39	9,435	368
1	co	3.4	9,435	32
1	voe	5.5	9,435	52
1	SOx	0.6	9,435	6
1	PM10	7.6	9,435	72

Quarter	Pollutant	EF (lb/10^8 ft^3)	Fuel Usage (10^3 ft^3/qtr)	HAE (lb/qtr)
2	NOx	39	9,977	389
2	co	3.4	9,977	34
2	voe	5.5	9,977	55
2	SOx	0.6	9,977	6
2	PM10	7.6	9,977	76

Quarter	Pollutant	EF (lb/10^8 tt ^{3})	Fuel Usage (10^3 ft^3/qtr)	HAE (lb/qtr)
3	NOx	39	69,232	2,700
3	co	3.4	69,232	235
3	voe	5.5	69,232	381
3	SOx	0.6	69,232	42
3	PM10	7.6	69,232	526

Quarter	Pollutant	EF (lb/10^8 ft^3)	Fuel Usage (10^3 tt^3/qtr)	HAE (lb/qtr)
4	NOx	39	3,610	141
4	co	3.4	3,610	12
4	voe	5.5	3,610	20
4	sox	0.6	3,610	2
4	PM10	7.6	3,610	27

Boiler 6 (N-4026-6)

Quarter	Pollutant	EF (lb/106 ft3)	Fuel Usage (103 ft3/qtr)	HAE (lb/qtr)
1	NOx	46.6	0	0
1	CO	69.5	0	0
1	VOC	5.5	0	0
1	SOx	0.6	0	0
1	PM10	7.6	0	0

Quarter	Pollutant	EF (lb/10^{1} ft)	Fuel Usage (10:! tt'tqtr)	HAE (lb/qtr)
2	NOx	46.6	0	0
2	CO	69.5	0	0
2	VOC	5.5	0	0
2	SOx	0.6	0	0
2	PM10	7.6	0	0

Quarter	Pollutant	EF (1b/10B ft)	Fuel Usage (10! tt'tqtr)	HAE (lb/qtr)
3	NOx	46.6	282,833	13,180
3	CO	69.5	282,833	19,657
3	VOC	5 .5	282,833	1,556
3	SOx	0.6	282,833	170
3	PM10	7.6	282,833	2,150

Quarter	Pollutant	EF (lb/10^{8} ft:!)	Fuel Usage (10:! ft:!/qtr)	HAE (lb/qtr)
4	NOx	46.6	8,320	388
4	CO	69.5	8,320	578
4	VOC	5.5	8,320	46
4	SOx	0.6	8,320	5
4	PM10	7.6	8,320	63

Vinegar Generators & Acetators (N-4026-7, N-4026-8, N-4026-9, N-4026-10 & N-4026-11)

1996

Quarter	Pollutant	EF (lb/gal vinegar prod.)	Vinegar Prod. (gal/qtr)	HAE (lb/qtr)
1	voe	0.057	1.200,198	68,411
2	voe	0.057	1,311,525	74,757
3	voe	0.057	1,321,683	75,336
4	voe	0.057	1,402,642	79,951

1997 HAE's:

Boiler 1 (N-4026-1)

Quarter	Pollutant	EF llb/1OB ft^{1})	Fuel Usage 11O^{1} tt^{1}/qtr)	HAE llb/qtr)
1	NOx	42.0	18,470	776
1	CO	2.0	18,470	37
1	SOx	0.6	18,470	11
1	PM10	7.6	18,470	140

Quarter	Pollutant	EF l1b/10B tt^{1})	Fuel Usage 110^{1} ft^{1}/qtr)	HAE llb/qtr)
2	NOx	42.0	6,550	275
2	CO	2.0	6,550	13
2	VOC	5.5	6,550	36
2	SOx	0.6	6,550	4
2	PM10	7.6	6,550	50

Quarter	Pollutant	EF l1b/10B tt^{1})	Fuel Usage 110^{1} tbqtr)	HAE llb/qtr)
3	NOx	42.0	108,256	4,547
3	CO	2.0	108,256	217
3	VOC	5.5	108,256	595
3	SOx	0.6	108,256	65
3	PM10	7.6	108,256	823

Quarter	Pollutant	EF llb/1OB tt^{1})	Fuel Usage 110^{1} tt^{1}/qtr)	HAE llb/qtr)
4	NOx	42.0	20,256	851
4	CO	2.0	20,256	41
4	VOC	5.5	20,256	111
4	SOx	0.6	20,256	12
4	PM10	7.6	20,256	154

Boiler 2 (N-4026-2)

Quarter	**Pollutant**	EF (lb/1OB ft ^{3})	Fuel Usage (10^3 ft ^{3}/qtr)	HAE (lb/qtr)
1	NOx	45.0	0	0
1	co	1.0	0	0
1	voe	5.5	0	0
1	sox	0.6	0	0
1	PM10	7.6	0	0

Quarter	**Pollutant**	EF (lb/1OB tt ^{3})	Fuel Usage (10^3 ft ^{3}/qtr)	HAE (lb/qtr)
2	NOx	45.0	3,945	178
2	co	1.0	3,945	4
2	voe	5.5	3,945	22
2	SOx	0.6	3,945	2
2	PM10	7.6	3,945	30

Quarter	Pollutant	EF (lb/1OB ft ^{3})	Fuel Usage (1ol ftl/qtr)	HAE (lb/qtr)
3	NOx	45.0	102,454	4,610
3	co	1.0	102,454	102
3	voe	5.5	102,454	563
3	sox	0.6	102,454	61
3	PM10	7.6	102,454	779

Quarter	**Pollutant**	EF (lb/1OB ftl)	Fuel Usage (1o^3 tt ^{3}/qtr)	HAE (lb/qtr)
4	NOx	45.0	8,726	393
4	co	1.0	8,726	9
4	voe	5.5	8,726	48
4	SOx	0.6	8,726	5
4	PM10	7.6	8,726	66

Boiler 3 (N-4026-3)

Quarter	Pollutant	EF (1b/10B ft ^{3})	Fuel Usage (10^3 ft^3/qtr)	HAE (lb/qtr)
1	NOx	40.0	0	0
	co	1.0	0	0
	voe	5.5	0	0
	SOx	0.6	0	0
	PM10	7.6	0	0

Quarter	Pollutant	EF (lb/1OB ft^3)	Fuel Usage (1O^3 tt^3/qtr)	HAE (lb/qtr)
2	NOx	40.0	6,213	249
2	co	1.0	6,213	6
2	voe	5.5	6,213	34
2	SOx	0.6	6,213	4
2	PM10	7.6	6,213	47

Quarter	Pollutant	EF (1b/10B ft^3)	Fuel Usage (10^3 ft^3/qtr)	HAE (lb/qtr)
3	NOx	40.0	100,997	4,040
3	co	1.0	100,997	101
3	voe	5.5	100,997	555
3	sox	0.6	100,997	61
3	PM10	7.6	100,997	768

Quarter	Pollutant	EF (lb/1OB ft^3)	Fuel Usage (10^3 ft^3/qtr)	HAE (lb/qtr)
4	NOx	40.0	0	0
4	co	1.0	0	0
4	voe	5.5	0	0
4	sox	0.6	0	0
4	PM10	7.6	0	0

Boiler 4 (N-4026-4)

Quarter	Pollutant	EF (1b/10B ft!)	Fuel Usage (10! ftl/qtr)	HAE (lb/qtr)
1	NOx	47.0	14,555	684
1	co	11.0	14,555	160
1	voe	5.5	14,555	80
1	SOx	0.6	14,555	9
1	PM10	7.6	14,555	111

Quarter	Pollutant	EF (1b/10B ft!)	Fuel Usage (10! ftl/qtr)	HAE (lb/qtr)
2	NOx	47.0	18,000	846
2	co	11.0	18,000	198
2	voe	5.5	18,000	99
2	sox	0.6	18,000	11
2	PM10	7.6	18,000	137

Quarter	Pollutant	EF (1b/10B ft!)	Fuel Usage (10! ftl/qtr)	HAE (lb/qtr)
3	NOx	47.0	64,121	3,014
3	co	11.0	64,121	705
3	voe	5.5	64,121	353
3	SOx	0.6	64,121	38
3	PM10	7.6	64,121	487

Quarter	Pollutant	EF (1b/10B ft!)	Fuel Usage (10! ftl/qtr)	HAE (lb/qtr)
4	NOx	47.0	12,517	588
4	co	11.0	12,517	138
4	voe	5.5	12,517	69
4	SOx	0.6	12,517	8
4	PM10	7.6	12,517	95

Boiler 5 (N-4026-5)

Quarter	Pollutant	EF (lb/10^8 ft^3)	Fuel Usage (10^3 ft^3/qtr)	HAE (lb/qtr)
1	NOx	42.0	11,947	502
	co	7.0	11,947	84
	voe	5.5	11,947	66
	sox	0.6	11,947	7
	PM10	7.6	11,947	91

Quarter	Pollutant	EF (lb/10^8 ft^3)	Fuel Usage (10^3 tt^3/qtr)	HAE (lb/qtr)
2	NOx	42.0	11,931	501
2	co	7.0	11,931	84
2	voe	5.5	11,931	66
2	SOx	0.6	11,931	7
2	PM10	7.6	11,931	91

Quarter	Pollutant	EF (lb/10^8 ft^3)	Fuel Usage (10^3 ft^3/qtr)	HAE (lb/qtr)
3	NOx	42.0	62,973	2,645
3	co	7.0	62,973	441
3	voe	5.5	62,973	346
3	SOx	0.6	62,973	38
3	PM10	7.6	62,973	479

Quarter	Pollutant	EF (lb/10^8 ft^3)	Fuel Usage (10^3 ft^3/qtr)	HAE (lb/qtr)
4	NOx	42.0	11,642	489
4	co	7.0	11,642	81
4	voe	5.5	11,642	64
4	sox	0.6	11,642	7
4	PM10	7.6	11,642	88

Boiler 6 (N-4026-6)

Quarter	Pollutant	EF (lb/1OB ftl)	Fuel Usage (10l ftl/qtr)	HAE (lb/qtr)
	NOx	48.0	0	0
	co	77.0	0	0
	voe	5.5	0	0
	SOx	0.6	0	0
	PM10	7.6	0	0

Quarter	Pollutant	EF (lb/1OB ftl)	Fuel Usage (10l ftl/qtr)	HAE (lb/qtr)
2	NOx	48.0	0	0
2	co	77.0	0	0
2	voe	5.5	0	0
2	SOx	0.6	0	0
2	PM10	7.6	0	0

Quarter	Pollutant	EF (lb/1OB ftl)	Fuel Usage (10l ftl/qtr)	HAE (lb/qtr)
3	NOx	48.0	237,646	11,407
3	co	77.0	237,646	18,299
3	voe	5.5	237,646	1,307
3	sox	0.6	237,646	143
3	PM10	7.6	237,646	1,806

Quarter	Pollutant	EF (1b/10B ftl)	Fuel Usage (10l ftl/qtr)	HAE (lb/qtr)
4	NOx	48.0	0	0
4	co	77.0	0	0
4	voe	5.5	0	0
4	SOx	0.6	0	0
4	PM10	7.6	0	0

Vinegar **Generators** & **Acetators (N-4026-7, N-4026-8, N-4026-9,** N-4026-10 & **N-4026-11)**

1997

Quarter	Pollutant	.EF (lb/gal vinegar prod.)	Vinegar Prod. (gal/qtr)	HAE (lb/qtr)
1	voe	0.057	1,183,950	67,485
2	voe	0.057	692,534	39,474
3	voe	0.057	691,770	39,431
4	voe	0.057	406,613	23,177

Summary Of HAEs:

1996

	NOx (lb/qtr)	CO (lb/qtr)	VOC (lb/qtr)	SOx (qtr)	PM10 (qtr)
Quarter 1	1,841	54	68,650	26	329
Quarter 2	1,846	57	74,995	26	329
Quarter 3	34,195	20,213	79,578	463	5,862
Quarter 4	2,691	629	80,286	37	463

1997

	NOx (lb/qtr)	CO (lb/qtr)	VOC (lb/qtr)	SOx (lb/qtr)	PM10 (lb/qtr)
Quarter 1	1,962	281	67,732	27	342
Quarter 2	2,048	305	39,731	28	354
Quarter 3	30,263	19,865	43,151	406	5,141
Quarter 4	2,321	268	23,469	32	404

Total

	NOx (lb/qtr)	CO (lb/qtr)	VOC (lb/qtr)	SOx (lb/qtr)	PM10 (lb/qtr)
Quarter 1	3,803	334	136,382	53	671
Quarter 2	3,894	362	114,726	54	683
Quarter 3	64,458	40,078	122,729	869	11,003
Quarter 4	5,012	898	103,755	68	867

NOxAERs:

EF 36 lb/10^6 ft^3 of fuel usage

	Boiler 1	Boiler 2	Boiler 3	Boiler 4	Boiler 5	Boiler 6	Total
Quarter 1, 1996 (lb)	716	0	0	504	340	0	1560
Quarter 2, 1996 (lb)	658	147	24	368	359	0	1556
Quarter 3, 1996 (lb)	4408	4162	4154	2368	2492	10182	27767
Quarter 4, 1996 (lb)	781	398	456	130	130	300	2195

	Boiler 1	Boiler 2	Boiler 3	Boiler 4	Boiler 5	Boiler 6	Total
Quarter 1, 1997 (lb)	665	0	0	524	430	0	1619
Quarter 2, 1997 (lb)	236	142	224	648	430	0	1679
Quarter 3, 1997 (lb)	3897	3688	3636	2308	2267	8555	24352
Quarter 4, 1997 (lb)	729	314	0	451	419	0	1913

Ave. Qtr 1, 1996 & 1997:	1589 lb
Ave. Qtr 2, 1996 & 1997:	1618 lb
Ave. Qtr 3, 1996 & 1997:	26059 lb
Ave. Qtr 4, 1996 & 1997:	2054 lb

Appendix B
NOx AER Calculations

NOx AERs:

EF 36 lb/ 10^6 ft^3 of fuel usage

	Boiler 1	Boiler 2	Boiler 3	Boiler 4	Boiler 5	Boiler 6	Total
Quarter 1, 1996 (lb)	716	0	0	504	340	0	1560
Quarter 2, 1996 (lb)	658	147	24	368	359	0	1556
Quarter 3, 1996 (lb)	4408	4162	4154	2368	2492	10182	27767
Quarter 4, 1996 (lb)	781	398	456	130	130	300	2195

	Boiler 1	Boiler 2	Boiler 3	Boiler 4	Boiler 5	Boiler 6	Total
Quarter 1, 1997 (lb)	665	0	0	524	430	0	1619
Quarter 2, 1997 (lb)	236	142	224	648	430	0	1679
Quarter 3, 1997 (lb)	3897	3688	3636	2308	2267	8555	24352
Quarter 4, 1997 (lb)	729	314	0	451	419	0	1913

Ave. Qtr 1, 1996 & 1997: 1589 lb
Ave. Qtr 2, 1996 & 1997: 1618 lb
Ave. Qtr 3, 1996 & 1997: 26059 lb
Ave. Qtr 4, 1996 & 1997: 2054 lb

Appendix C
Vinegar Manufacturing Emission Factor Calculations

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Vinegar Generators (N-4026-7-0, N-4026-8-0 & N-4026-9-0):

The applicant reported, during the processing of the application for Northern Region Project 960044, that 190,043 gallons of 95% ethyl alcohol yielded 1,484,517 gallons of vinegar.

Ethyl Alcohol (EtOH) Concentration:	92.4% by wt. (95% by Volume)
EtOH density:	6.78 lb/gal
Residual EtOH in vinegar:	0.4% by weight (applicant, proj. 960044)
Density of produced vinegar:	8.45 lb/gal (applicant, proj. 960044)
MW of EtOH:	46.07
MW of acetic acid:	60.05

Acetic acid content of produced vinegar: 100 g/l (applicant, proj. 960044)

190,043 gallons 95% EtOH 1,484,517 gallons vinegar

(190,043 gal)(6.78 lb/gal)(0.924) 1,484,517 gallons vinegar

1,190,566 lb EtOH 1,484,517 gallons vinegar

0.802 lb EtOH 1 gallon vinegar

0.802 lb EtOH (1 gal vinegar)(100 g/l)(3.785 l/gal)(1 lb/453.6 g)

0.802 lb EtOH 0.834 lb Acetic Acid

$CH_3CH_2OH + O_2 \rightarrow CH_3COOH + H_2O$

1 mole EtOH 1 mole acetic acid

To produce 0.834 lb acetic acid the following minimum amount of EtOH would.be required:

(0.834 lb)[(46.07 lb EtOH/lb mol) / (60.05 lb acetic acid/lb mol)) = 0.640 lb EtOH

Residual EtOH = (8.45 lb vinegar/gal)(0.004 lb EtOH/lb vinegar)
= 0.034 lb EtOH/gal vinegar

Actual quantity of EtOH to produce 1 gal vinegar:	0.802 lb
Theoretical quantity of ETOH to produce **1** gal vinegar:	0.640 lb
Residual EtOH in vinegar:	0.034 lb

EtOH lost per gal vinegar produced:

0.802 lb EtOH - 0.64 lb EtOH - 0.034 lb EtOH
= 0.128 lb EtOH lost/gal vinegar produced

EFvoc (generators) 0.128 lb/gal vinegar produced

Acetator Emission Factor (N-4026-10-0 & N-4026-11-0):

The applicant reported, during the processing of the application for Northern Region Project 960044, that 291,938 gallons of 95% ethyl alcohol yielded 2,501,288 gallons of vinegar.

Ethyl Alcohol Concentration:	92.4% by wt. (95% by Volume)
Ethyl Alcohol Density:	6.78 lb/gal
Residual EtOH in vinegar:	0.4% by weight (applicant, proj. 960044)
Density of 10% acetic acid:	8.45 lb/gal (applicant, proj. 960044)
MW of EtOH:	46.07
MW of acetic acid:	60.05

Acetic acid content of produced vinegar: 100 g/l (applicant, proj. 960044)

291,938 gallons 95% EtOH 2,501,288 gallons vinegar

(291,938 gal)(6.68 lb/gal)(0.924) 2,501,288 gallons vinegar

1,828,910 lb EtOH 2,501,288 gallons vinegar

0.731 lb EtOH 1 gallon vinegar

0.731 lb EtOH (1 gal vinegar)(100 g/l)(3.785 l/ga1)(1 lb/453.6 g)

0.731 lb EtOH 0.834 lb Acetic Acid

$CH_3CH_2OH + O_2 \rightarrow CH_3COOH + H_2O$
1 mole EtOH 1 mole acetic acid

To produce 0.0834 lb acetic acid the following minimum amount of EtOH would be required:

(0.834 lb)[(46.07 lb EtOH/lb mol) / (60.05 lb acetic acid/lb mol)] = 0.640 lb EtOH

Residual EtOH = (8.45 lb vinegar/gal)(0.004 lb EtOH/lb vinegar)
= 0.034 lb EtOH/gal vinegar

Actual quantity of EtOH to produce 1 gal vinegar:	0.731 lb
Theoretical quantity of ETOH to produce 1 gal vinegar:	0.640 lb
Residual EtOH in vinegar:	0.034 lb

EtOH lost per gal vinegar produced:

0.731 lb EtOH - 0.640 lb EtOH - 0.034 lb EtOH
=0.057 lb EtOH lost/gal vinegar produced

EFvoc (acetators) 0.057 lb/gal vinegar produced

San Joaquin Valley
Air Pollution Control District

May 25, 2000

CERTIFIED

Cranbrook Associates, LLC
Attn: James Devenport
4701 Sisk Road, Suite 101
Modesto, CA 95356

Re: Notice of Final Action - Emission Reduction Credits
Project Number: 980337

Dear Mr. Devenport:

The Air Pollution Control Officer has issued Emission Reduction Credits (ERCs) to Cranbrook Associates, LLC for emission reductions generated by the shut down of boilers and vinegar manufacturing equipment, at 757 11th Street in Tracy, CA. The quantity of ERCs to be issued is 28,188 pounds per year of NOx, 18,753 pounds per year of CO, 214,917 pounds per year of VOC, 470 pounds per year of SOx and 5,953 pounds per year of PM10.

Enclosed are the ERC Certificates and a copy of the notice of final action to be published approximately three days from the date of this letter.

Notice of the District's preliminary decision to issue the ERC Certificates was published on April 13, 2000. The District's analysis of the proposal was also sent to CARB and US EPA Region IX on April 10, 2000. All comments received following the District's preliminary decision on this project were considered.

Comments received by the District during the public notice period resulted in the correction of typographical errors. These changes were minor and did not affect the basis for issuance of the above referenced ERCs.

Also enclosed is an invoice for the engineering evaluation fees pursuant to District Rule 3010. Please remit the amount owed, along with a copy of the attached invoice, within 30 days.

David L. Crow
Executive Director/Air Pollution Control Officer

Northern Region Office
4230 Kiernan Avenue, Suite 130
Modesto, CA 95356-9321
(209) 557-6400 • FAX (209) 557-6475

Central Region Office
1990 East Gettysburg Avenue
Fresno, CA 93726-0244
(559) 230-6000 • FAX (559) 230-6061

Southern Region Office
2700 M Street, Suite 275
Bakersfield, CA 93301-2370
(661) 326-6900 • FAX (661) 326-6985

Thank you for your cooperation in this matter. If you have any questions, please contact Mr. Anthony Mendes at (209) 557-6400.

Sincerely,

Seyed Sadredin
Director of Permit Services

SS:MJS/cp

Enclosures

c: Mr. Anthony Mendes, Permit Services Manager, Northern Region

San Joaquin Valley
Air Pollution Control District

May 25, 2000

Raymond Menebroker, Chief
Project Assessment Branch
Stationary Source Division
California Air Resources Board
PO Box 2815
Sacramento, CA 95812-2815

Re: Notice of Final Action - Emission Reduction Credits
Project Number: 980337

Dear Mr. Menebroker:

Thank you for your comments on the above project. Following are the District's specific responses to your comments:

Comment:

The ERC Application Review contained typographical errors.

District Response:

The District corrected the typographical errors as requested.

The Air Pollution Control Officer has issued Emission Reduction Credits (ERCs) to Cranbrook Associates, LLC for emission reductions generated by the shut down of boilers and vinegar manufacturing equipment, at 757 11th Street in Tracy, CA. The quantity of ERCs to be issued is 28,188 pounds per year of NOx, 18,753 pounds per year of CO, 214,917 pounds per year of VOC, 470 pounds per year of SOx and 5,953 pounds per year of PM10.

Enclosed are copies of the ERC Certificates and a copy of the notice of final action to be published approximately three days from the date of this letter.

We trust that the above response satisfies your concerns and appreciate your concurrence on this project. On the other hand, if you disagree with the District's position, we would appreciate your prompt response detailing your concerns.

David L. Crow
Executive Director/Air Pollution Control Officer

If you have any questions, regarding the above response, or require additional clarification, please contact Mr. Anthony Mendes at (209) 557-6400.

Sincerely,

Seyed Sadredin
Director of Permit Services

SS:MJS/cp

Enclosures

c: Mr. Anthony Mendes, Permit Services Manager, Northern Region

San Joaquin Valley
Air Pollution Control District

May 25, 2000

Matt Haber, Chief
Permits Office, Air Division
U.S. E.P.A. - Region IX
75 Hawthorne Street
San Francisco, CA 94105

Re: Notice of Final Action - Emission Reduction Credits
Project Number: 980337

Dear Mr. Haber:

The Air Pollution Control Officer has issued Emission Reduction Credits (ERCs) to Cranbrook Associates, LLC for emission reductions generated by the shut down of boilers and vinegar manufacturing equipment, at 757 11th Street in Tracy, CA. The quantity of ERCs to be issued is 28,188 pounds per year of NOx, 18,753 pounds per year of CO, 214,917 pounds per year of VOC, 470 pounds per year of SOx and 5,953 pounds per year of PM10.

Enclosed are copies of the ERC Certificates and a copy of the notice of final action to be published approximately three days from the date of this letter.

Notice of the District's preliminary decision to issue the ERC Certificates was published on April 13, 2000. The District's analysis of the proposal was also sent to CARB and US EPA Region IX on April 10, 2000. All comments received following the District's preliminary decision on this project were considered.

Comments received by the District during the public notice period resulted in the correction of typographical errors. These changes were minor and did not affect the basis for issuance of the above referenced ERCs.

David L. Crow
Executive Director/Air Pollution Control Officer

Northern Region Office
4230 Kiernan Avenue, Suite 130
Modesto, CA 95356-9321
(209) 557-6400 • FAX (209) 557-6475

Central Region Office
1990 East Gettysburg Avenue
Fresno, CA 93726-0244
(559) 230-6000 • FAX (559) 230-6061

Southern Region Office
2700 M Street, Suite 275
Bakersfield, CA 93301-2370
(661) 326-6900 • FAX (661) 326-6985

Thank you for your cooperation in this matter. If you have any questions, please contact Mr. Anthony Mendes at (209) 557-6400.

Sincerely,

Seyed Sadredin
Director of Permit Services

SS:MJS/cp

Enclosures

c: Mr. Anthony Mendes, Permit Services Manager, Northern Region

The Record – San Joaquin County

NOTICE OF FINAL ACTION
FOR THE ISSUANCE OF
EMISSION REDUCTION CREDITS

NOTICE IS HEREBY GIVEN that the Air Pollution Control Officer has issued Emission Reduction Credits to Cranbrook Associates, LLC for emission reductions generated by the shut down of boilers and vinegar manufacturing equipment, at 757 11th Street, in Tracy, CA. The quantity of ERCs to be issued is 28,188 pounds per year of NOx, 18,753 pounds per year of CO, 214,917 pounds per year of VOC, 470 pounds per year of SOx and 5,953 pounds per year of PM10.

All comments received following the District's preliminary decision on this project were considered.

Comments received by the District during the public notice period resulted in the correction of typographical errors. These changes were minor and did not affect the basis for issuance of the above referenced ERCs.

The application review for Project #980337 is available for public inspection at the **SAN JOAQUIN VALLEY AIR POLLUTION CONTROL DISTRICT, 4230 Kiernan Avenue, Suite 130, Modesto, CA 95356.**

July XX, 1999

Cranbrook Associates, LLC
Attn: James Devenport
2020 Standiford Avenue, Suite E-2
Modesto, CA 95350

Re: Notice of Preliminary Decision - Emission Reduction Credits
Project Number: 980337

Dear Mr. Devenport:

Enclosed for your review and comment is the District's analysis of Cranbrook Associates LLC's application for Emission Reduction Credits (ERCs) resulting from the shut down of boilers and vinegar manufacturing equipment , at 757 11th Street in Tracy, CA. The quantity of ERCs proposed for banking is 28,188 pounds per year of NOx, 18,753 pounds per year of CO, 214,917 pounds per year of VOC, 470 pounds per year of SOx and 5,953 pounds per year of PM10.

Also enclosed is the public notice of this decision which will be published approximately three days from the date of this letter. Please submit your written comments on this project within the 30-day public comment period which begins on the date of publication of the public notice.

If you have any questions regarding this matter, please contact Mark Schonhoff of Permit Services at (209) 557-6448.

Sincerely,

Seyed Sadredin
Director of Permit Services

SS:MJS/dt
Enclosures

c: Anthony Mendes, Permit Services Manager

July XX, 1999

Raymond Menebroker, Chief
Project Assessment Branch
Stationary Source Division
California Air Resources Board
P. O. Box 2815
Sacramento, CA 95812-2815

Re: Notice of Preliminary Decision - Emission Reduction Credits
Project Number: 980337

Dear Mr. Menebroker:

Enclosed for your review and comment is the District's analysis of Cranbrook Associates LLC's application for Emission Reduction Credits (ERCs) resulting from the shut down of boilers and vinegar manufacturing equipment , at 757 11th Street in Tracy, CA. The quantity of ERCs proposed for banking is 28,188 pounds per year of NOx, 18,753 pounds per year of CO, 214,917 pounds per year of VOC, 470 pounds per year of SOx and 5,953 pounds per year of PM10.

Also enclosed is the public notice of this decision which will be published approximately three days from the date of this letter. Please submit your written comments on this project within the 30-day public comment period which begins on the date of publication of the public notice.

If you have any questions regarding this matter, please contact Mark Schonhoff of Permit Services at (209) 557-6448.

Sincerely,

Seyed Sadredin
Director of Permit Services

SS:MJS/dt
Enclosures
c: Anthony Mendes, Permit Services Manager

July XX, 1999

Matt Haber, Chief
Permits Office
Air Division
U.S. E.P.A. - Region IX
75 Hawthorne Street
San Francisco, CA 94105

Re: Notice of Preliminary Decision - Emission Reduction Credits
Project Number: 980337

Dear Mr. Haber:
Enclosed for your review and comment is the District's analysis of Cranbrook Associates LLC's application for Emission Reduction Credits (ERCs) resulting from the shut down of boilers and vinegar manufacturing equipment , at 757 11th Street in Tracy, CA. The quantity of ERCs proposed for banking is 28,188 pounds per year of NOx, 18,753 pounds per year of CO, 214,917 pounds per year of VOC, 470 pounds per year of SOx and 5,953 pounds per year of PM10.

Also enclosed is the public notice of this decision which will be published approximately three days from the date of this letter. Please submit your written comments on this project within the 30-day public comment period which begins on the date of publication of the public notice.

If you have any questions regarding this matter, please contact Mark Schonhoff of Permit Services at (209) 557-6448.

Sincerely,

Seyed Sadredin
Director of Permit Services

SS:MJS/dt
Enclosures

c: Anthony Mendes, Permit Services Manager

The Record - San Joaquin County

NOTICE OF PRELIMINARY DECISION
FOR THE PROPOSED ISSUANCE OF
EMISSION REDUCTION CREDITS

NOTICE IS HEREBY GIVEN that the San Joaquin Valley Air Pollution Control District solicits public comment on the proposed issuance of Emission Reduction Credits (ERCs) to Cranbrook Associates, LLC for the shut down of boilers and vinegar manufacturing equipment, at 757 11th Street in Tracy, CA. The quantity of ERCs proposed for banking is 28,188 pounds per year of NOx, 18,753 pounds per year of CO, 214,917 pounds per year of VOC, 470 pounds per year of SOx and 5,953 pounds per year of PM10.

The analysis of the regulatory basis for this proposed action, Project #980337, is available for public inspection at the District office at the address below. Written comments on this project must be submitted within 30 days of the publication date of this notice to **SEYED SADREDIN, DIRECTOR OF PERMIT SERVICES, SAN JOAQUIN VALLEY AIR POLLUTION CONTROL DISTRICT, 4230 KIERNAN AVENUE, SUITE 130, MODESTO, CA 95356.**

140-1,2,3,4 & 5

EMISSION REDUCTION CREDIT (ERC) PRELIMINARY REVIEW WORKSHEET

1. ERC to be issued to: Cranbrook Associates

Location of reduction: 757 11th St. Tracy, CA

Contact Name: Jim Davenport Phone (209) 549-4960 x 12

2. Type of ERC source: (a) Permitted point source [X] (b) Un-permitted point source [ ] (c) Area source [ ]

3. Method resulting in emission reduction:

I. Shutdown [X]; If permitted source specify permit number(s) of shutdown units: N-4026-1-0 N-4026-2-0, N-4026-3-0, N-4026-4-0, N-4026-5-0, N-4026-6-0 N-4026-7-0, N-4026-8-0, N-4026-9-0, N-4026-10-0, N-4026-11-0

(a) Date of surrender of the operating permit(s): ~~01/14/98~~ ; if section a. does not apply state (b) Date last emissions from the source for which ERC are requested: 12/31/97

II. Retrofit [ ]; If permitted source specify permit number(s) of modified units: _____

(a) ATC application(s) completeness date: _____; if the ATC is renewed specify date of completeness of renewal application: _____

III. Process change [ ]; If permitted source specify permit number(s) of modified units: _____

(a) ATC application(s) completeness date: _____; if the ATC is renewed specify date of completeness of renewal application: _____

IV: Other [ ]; specify:

4a. Baseline period:

I. Shutdown: The baseline emissions shall be selected from a period as prescribed in Rule 2201 immediately preceding the banking application: 1st quarter of 19 96 through 4th quarter of 19 97

II. Retrofit/Process change: The baseline emissions shall be selected from a period as prescribed in Rule 2201 immediately preceding completeness date of the ATC application: _____ quarter of 19 _____ through _____ quarter of 19 _____

III. Retrofit/Process change(renewal): The baseline emissions shall be selected from a period as prescribed in Rule 2201 immediately preceding the completeness date of the ATC renewal application: _____ quarter of 19 _____ through _____ quarter of 19 _____

4b. The baseline period selected in section 4a. is (check one):

1. [ ] Two consecutive years of operation immediately prior to the submission of the complete application.

2. [X] Another time period of at least two consecutive years within five years immediately prior to the submission of the complete application. 8 complete calendar quarters prior to shutdown

3. [ ] Other: Specify

4c. Baseline period proposed by the applicant if other than specified in section 4a:

5. Timeliness:

I. Shutdown: (a) Date of shutdown *(from section 3)*: 6/24/98; (b) Date of application: 5/12/98 [X] Within 180 days [ ] Not within 180 days

II. Retrofit/Process change: (a) Date of initial start-up (from Change Order): _____ (b) Date of application: _____ [ ] Within 180 days [ ] Not within 180 days

III. Other: Specify

6. If ERCs requested are from performance based limits, does the PTO has enforceable conditions (see District policy NSR/ERC 21-2)? [ ] Yes [ ] No N/A

7. Is appropriate filing fee paid: [X] Yes [ ] No

8.

San Joaquin Valley Unified APCD

Conditions for Permit Unit: N-4026-1-0

Permit Exp: 03/31/2002

LEGAL OWNER OR OPERATOR: CRANBROOK ASSOCIATES, LLC

LOCATION: 757 11TH STREET, TRACY

MAILING ADDR: 2020 STANDIFORD AVE., STE. E-2, MODESTO, CA, 95350-6531

EQUIPMENT DESCRIPTION:

BOILER #1: BABCOCK AND WILCOX, 93.3 MMBTU/HR

CONDITIONS

1. {114}Particulate matter emissions from any combustion source shall not exceed 0.1 grains/dscf (calculated to 12% carbon dioxide). [District Rule 4301]

2. {107}Source testing to demonstrate compliance with permit conditions and all rules and regulations shall be conducted within 90 days of initial start-up and on a biennial basis (every two years) thereafter. [District Rule 1081]

3. {109}Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified 30 days prior to any compliance source test, and a source test plan must be submitted for approval 15 days prior to testing. [District Rule 1081]

4. {110}The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081]

5. NOx emissions for the boiler shall not exceed 44.3 PPMV @ 3% O2 and 0.054 lb/MMBTU using natural gas and shall not exceed 93.4 PPMV @ 3% O2 and 0.12 lb/MMBTU using #2 fuel oil.

6. The NOx emissions shall not exceed 121 pounds per day when fired on natural gas and 269 pounds per day when fired on #2 fuel oil.

7. The boiler shall only be fired on natural gas or #2 fuel oil.

8. A log of natural gas and #2 fuel oil usage shall be kept on site and shall be made available for District inspection upon request.

9. #2 fuel oil shall only be used in the event of a curtailment of natural gas or for testing purposes.

conditions continue on next page

These terms and conditions are part of the facilitywide Permit to Operate.

10. CO emissions for the boiler shall not exceed 161.8 PPMV @3% O2 and 0.12 lb/MMBTU using natural gas and shall not exceed 153 PPMV @ 3% O2 and 0.12 lb/MMBTU using #2 fuel oil.

11. The total CO emissions shall not exceed 268 pounds during any one day.

These terms and conditions are part of the facilitywide Permit to Operate.

San Joaquin Valley Unified APCD

Conditions for Permit Unit: N-4026-2-0

Permit Exp: 03/31/2002

LEGAL OWNER OR OPERATOR: CRANBROOK ASSOCIATES, LLC

LOCATION: 757 11TH STREET, TRACY

MAILING ADDR: 2020 STANDIFORD AVE., STE. E-2, MODESTO, CA, 95350-6531

EQUIPMENT DESCRIPTION:

BOILER #2: BABCOCK AND WILCOX, 93.3 MMBTU/HR

CONDITIONS

1. {114}Particulate matter emissions from any combustion source shall not exceed 0.1 grains/dscf (calculated to 12% carbon dioxide). [District Rule 4301]

2. {107}Source testing to demonstrate compliance with permit conditions and all rules and regulations shall be conducted within 90 days of initial start-up and on a biennial basis (every two years) thereafter. [District Rule 1081]

3. {109}Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified 30 days prior to any compliance source test, and a source test plan must be submitted for approval 15 days prior to testing. [District Rule 1081]

4. {110}The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081]

5. NOx emissions for the boiler shall not exceed 44.3 PPM @ 3% O2 and 0.054 lb/MMBTU using natural gas and shall not exceed 93.4 PPM @ 3% O2 and 0.12 lb/MMBTU using #2 fuel oil.

6. Total NOx emissions shall not exceed 121 pounds per day when fired on natural gas and 269 pounds per day when fired on #2 fuel oil.

7. CO emissions for the boiler shall not exceed 161.8 PPM @ 3% O2 and 0.12 lb/MMBTU using natural gas and shall not exceed 153 PPM @ 3% O2 and 0.12 lb/MMBTU using #2 fuel oil.

8. Total CO emissions shall not exceed 268 pounds during any one day.

9. The boiler shall only be fired on natural gas or #2 fuel oil.

conditions continue on next page

These terms and conditions are part of the facilitywide Permit to Operate.

10. #2 fuel oil shall only be used in the event of a curtailment of natural gas or for testing purposes.

11. A log of natural gas and #2 fuel oil usage shall be kept on site and shall be made available for District inspection upon request.

These terms and conditions are part of the facilitywide Permit to Operate.

San Joaquin Valley Unified APCD

Conditions for Permit Unit: N-4026-3-0

Permit Exp: 03/31/2002

LEGAL OWNER OR OPERATOR: CRANBROOK ASSOCIATES, LLC

LOCATION: 757 11TH STREET, TRACY

MAILING ADDR: 2020 STANDIFORD AVE., STE. E-2, MODESTO, CA, 95350-6531

EQUIPMENT DESCRIPTION:

BOILER #3: BABCOCK AND WILCOX, 93.3 MMBTU/HR

CONDITIONS

1. {14}Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201]

2. {107}Source testing to demonstrate compliance with permit conditions and all rules and regulations shall be conducted within 90 days of initial start-up and on a biennial basis (every two years) thereafter. [District Rule 1081]

3. {109}Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified 30 days prior to any compliance source test, and a source test plan must be submitted for approval 15 days prior to testing. [District Rule 1081]

4. {110}The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081]

5. NOx emissions for the boiler shall not exceed 44.3 PPM @ 3% O2 and 0.054 lb/MMBTU using natural gas and shall not exceed 93.4 PPM @ 3% O2 and 0.12 lb/MMBTU using #2 fuel oil.

6. Total NOx emissions shall not exceed 121 pounds per day when fired on natural gas and 269 pounds per day when fired on #2 fuel oil.

7. CO emissions for the boiler shall not exceed 161.8 PPM @ 3% O2 and 0.12 lb/MMBTU using natural gas and shall not exceed 153 PPM @ 3% O2 and 0.12 lb/MMBTU using #2 fuel oil.

8. Total CO emissions shall not exceed 268 pounds during any one day.

9. The boiler shall only be fired on natural gas and #2 fuel oil.

conditions continue on next page

These terms and conditions are part of the facilitywide Permit to Operate.

10. #2 fuel oil shall only be used in the event of a curtailment of natural gas or for testing puposes.

11. A log of natural gas and #2 fuel oil usage shall be kept on site and shall be made available for District inspection upon request.

These terms and conditions are part of the facilitywide Permit to Operate.

San Joaquin Valley Unified APCD

Conditions for Permit Unit: N-4026-4-0

Permit Exp: 03/31/2002

LEGAL OWNER OR OPERATOR: CRANBROOK ASSOCIATES, LLC

LOCATION: 757 11TH STREET, TRACY

MAILING ADDR: 2020 STANDIFORD AVE., STE. E-2, MODESTO, CA, 95350-6531

EQUIPMENT DESCRIPTION:

BOILER #4: BABCOCK AND WILCOX, 51.5 MMBTU/HR

CONDITIONS

1. {58}Particulate matter emissions from any single source operation shall be no more than 0.1 gr/dscf and visible emissions from any single emission point shall be less than 20% opacity. [District Rules 4101 and 4201]

2. {107}Source testing to demonstrate compliance with permit conditions and all rules and regulations shall be conducted within 90 days of initial start-up and on a biennial basis (every two years) thereafter. [District Rule 1081]

3. {109}Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified 30 days prior to any compliance source test, and a source test plan must be submitted for approval 15 days prior to testing. [District Rule 1081]

4. {110}The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081]

5. NOx emissions for the boiler shall not exceed 44.3 PPM @ 3% O2 and 0.054 lb/MMBTU using natural gas.

6. Total NOx emissions shall not exceed 67 pounds per day.

7. The boiler shall be fired on natural gas only.

8. Total CO emissions shall not exceed 148 pounds during any one day.

9. CO emissions for the boiler shall not exceed 161.8 PPM @ 3% O2 and 0.12 lb/MMBTU using natural gas.

conditions continue on next page

These terms and conditions are part of the facilitywide Permit to Operate.

10. A log of natural gas usage shall be kept on site and shall be made available for District inspection upon request.

These terms and conditions are part of the facilitywide Permit to Operate.

San Joaquin Valley Unified APCD

Conditions for Permit Unit: N-4026-5-0

Permit Exp: 03/31/2002

LEGAL OWNER OR OPERATOR: CRANBROOK ASSOCIATES, LLC

LOCATION: 757 11TH STREET, TRACY

MAILING ADDR: 2020 STANDIFORD AVE., STE. E-2, MODESTO, CA, 95350-6531

EQUIPMENT DESCRIPTION:

BOILER #5: BABCOCK AND WILCOX, 51.5 MMBTU/HR

CONDITIONS

1. {14}Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201]

2. {107}Source testing to demonstrate compliance with permit conditions and all rules and regulations shall be conducted within 90 days of initial start-up and on a biennial basis (every two years) thereafter. [District Rule 1081]

3. {109}Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified 30 days prior to any compliance source test, and a source test plan must be submitted for approval 15 days prior to testing. [District Rule 1081]

4. {110}The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081]

5. NOx emissions for the boiler shall not exceed 44.3 PPM @ 3% O2 and 0.054 lb/MMBTU using natural gas.

6. Total NOx emissions shall not exceed 67 pounds per day.

7. The boiler shall be fired on natural gas only.

8. Total CO emissions shall not exceed 148 pounds during any one day.

9. CO emissions for the boiler shall not exceed 161.8 PPM @ 3% O2 and 0.12 lb/MMBTU using natural gas.

conditions continue on next page

These terms and conditions are part of the facilitywide Permit to Operate.

10. A log of natural gas usage shall be kept on site and shall be made available for District inspection upon request.

These terms and conditions are part of the facilitywide Permit to Operate.

San Joaquin Valley Unified APCD

Conditions for Permit Unit: N-4026-6-0

Permit Exp: 03/31/2002

LEGAL OWNER OR OPERATOR: CRANBROOK ASSOCIATES, LLC

LOCATION: 757 11TH STREET, TRACY

MAILING ADDR: 2020 STANDIFORD AVE., STE. E-2, MODESTO, CA, 95350-6531

EQUIPMENT DESCRIPTION:

BOILER #6: BABCOCK AND WILCOX, 193 MMBTU/HR

CONDITIONS

1. {14}Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201]

2. {107}Source testing to demonstrate compliance with permit conditions and all rules and regulations shall be conducted within 90 days of initial start-up and on a biennial basis (every two years) thereafter. [District Rule 1081]

3. {109}Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified 30 days prior to any compliance source test, and a source test plan must be submitted for approval 15 days prior to testing. [District Rule 1081]

4. {110}The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081]

5. NOx emissions for the boiler shall not exceed 44.3 PPM @ 3% O2 and 0.054 lb/MMBTU using natural gas.

6. Total NOx emissions shall not exceed 251 pounds per day.

7. The boiler shall be fired on natural gas only.

8. Total CO emissions shall not exceed 556 pounds during any one day.

9. CO emissions for the boiler shall not exceed 161.8 PPM @ 3% O2 and 0.12 lb/MMBTU using natural gas.

conditions continue on next page

These terms and conditions are part of the facilitywide Permit to Operate.

10. A log of natural gas usage shall be kept on site and shall be made available for District inspection upon request.

These terms and conditions are part of the facilitywide Permit to Operate.

San Joaquin Valley Unified APCD

Conditions for Permit Unit: N-4026-7-0

Permit Exp: 03/31/2002

LEGAL OWNER OR OPERATOR: CRANBROOK ASSOCIATES, LLC

LOCATION: 757 11TH STREET, TRACY

MAILING ADDR: 2020 STANDIFORD AVE., STE. E-2, MODESTO, CA, 95350-6531

EQUIPMENT DESCRIPTION:

ONE 6,000 GALLON VINEGAR GENERATOR SERVED BY TWO ACCUMULATION TANKS AND A NUTRIENT MIX TANK (THE TWO ACCUMULATION TANKS AND THE NUTRIENT MIX TANK ALSO SERVE N-403-9-0 AND N-403-10-0)

CONDITIONS

1. See facility-wide requirements for requirements applicable to this permit unit. [District Rule 2080]

These terms and conditions are part of the facilitywide Permit to Operate.

San Joaquin Valley Unified APCD

Conditions for Permit Unit: N-4026-8-0

Permit Exp: 03/31/2002

LEGAL OWNER OR OPERATOR: CRANBROOK ASSOCIATES, LLC

LOCATION: 757 11TH STREET, TRACY

MAILING ADDR: 2020 STANDIFORD AVE., STE. E-2, MODESTO, CA, 95350-6531

EQUIPMENT DESCRIPTION:

ONE 6,000 GALLON VINEGAR GENERATOR SERVED BY TWO ACCUMULATION TANKS AND ONE NUTRIENT MIX TANK (THE TWO ACCUMULATION TANKS AND THE NUTRIENT MIX TANK ALSO SERVE N-403-8-0 AND N-403-10-0)

CONDITIONS

1. See facility-wide requirements for requirements applicable to this permit unit. [District Rule 2080]

These terms and conditions are part of the facilitywide Permit to Operate.

San Joaquin Valley Unified APCD

Conditions for Permit Unit: N-4026-9-0

Permit Exp: 03/31/2002

LEGAL OWNER OR OPERATOR: CRANBROOK ASSOCIATES, LLC

LOCATION: 757 11TH STREET, TRACY

MAILING ADDR: 2020 STANDIFORD AVE., STE. E-2, MODESTO, CA, 95350-6531

EQUIPMENT DESCRIPTION:

ONE 9,000 GALLON VINEGAR GENERATOR SERVED BY TWO ACCUMULATION TANKS AND A NUTRIENT MIX TANK (THE TWO ACCUMULATION TANKS AND THE NUTRIENT MIX TANK ALSO SERVE N-403-8-0 AND N-403-9-0)

CONDITIONS

1. See facility-wide requirements for requirements applicable to this permit unit. [District Rule 2080]

These terms and conditions are part of the facilitywide Permit to Operate.

San Joaquin Valley Unified APCD

Conditions for Permit Unit: N-4026-10-0

Permit Exp: 03/31/2002

LEGAL OWNER OR OPERATOR: CRANBROOK ASSOCIATES, LLC

LOCATION: 757 11TH STREET, TRACY

MAILING ADDR: 2020 STANDIFORD AVE., STE. E-2, MODESTO, CA, 95350-6531

EQUIPMENT DESCRIPTION:

FRINGS MODEL V-1200 VINEGAR ACETATOR SERVED BY ONE ACETATOR MIX TANK, ONE ACETATOR CHARGE TANK AND ONE DOSING TANK (THE ACETATOR MIX TANK, THE ACETATOR CHARGE TANK AND THE DOSING TANK ALSO SERVE N-403-12-0)

CONDITIONS

1. See facility-wide requirements for requirements applicable to this permit unit. [District Rule 2080]

These terms and conditions are part of the facilitywide Permit to Operate.

San Joaquin Valley Unified APCD

Conditions for Permit Unit: N-4026-11-0

Permit Exp: 03/31/2002

LEGAL OWNER OR OPERATOR: CRANBROOK ASSOCIATES, LLC

LOCATION: 757 11TH STREET, TRACY

MAILING ADDR: 2020 STANDIFORD AVE., STE. E-2, MODESTO, CA, 95350-6531

EQUIPMENT DESCRIPTION:

FRINGS MODEL V-1200 VINEGAR ACETATOR SERVED BY ONE ACETATOR MIX TANK, ONE ACETATOR CHARGE TANK AND ONE DOSING TANK (THE ACETATOR MIX TANK, THE ACETATOR CHARGE TANK AND THE DOSING TANK ALSO SERVE N-403-11-0)

CONDITIONS

1. See facility-wide requirements for requirements applicable to this permit unit. [District Rule 2080]

These terms and conditions are part of the facilitywide Permit to Operate.

TABLE 1

Heinz / Tracy
Boiler #1

TEST	Run #1	Run #2	Run #3	Average	District
TEST LOCATION	OUTLET	OUTLET	OUTLET		Limit
FUEL	Natural Gas	Natural Gas	Natural Gas		
TEST TIME	0940-1020	1031-1121	1142-1212		
TEST DATE	07-22-97	07-22-97	07-22-97		
MMBtu/hr	70.0	69.8	70.0	69.9	
Flow Rate, DSCFM	12,241	12,243	12,309	12,265	
O_2, %	3.75	3.80	3.85	3.80	
CO_2, %	9.54	9.54	9.56	9.55	
NOx, ppm	31.9	31.9	35.1	33.0	
NOx, ppm @3% O_2	33.3	33.4	36.8	**34.5**	**44.3**
NOx, lbs/hr	2.84	2.84	3.14	2.94	
NOx, lbs/day	68.14	68.23	75.35	**70.57**	**121.0**
NOx, lbs/MMBtu	0.040	0.040	0.045	**0.042**	**0.054**
CO, ppm	2.00	2.50	2.51	2.34	
CO, ppm @3% O_2	2.09	2.62	2.63	**2.45**	**161.8**
CO, lbs/hr	0.11	0.14	0.14	0.13	
CO, lbs/day	2.60	3.25	3.28	**3.05**	**268.0**
CO, lbs/MMBtu	0.002	0.002	0.002	**0.002**	**0.120**

WHERE,

CO = Carbon Monoxide (MW=28)
NOx = Oxides of Nitrogen (MW=46)
ppm = Parts Per Million Concentration
DSCFM = Dry Standard Cubic Feet Per Minute
Std. Temp (Tstd) = 60 °F
Fd = EPA F factor for natural gas = 8710
lbs/hr = pounds per hour emission rate
MMBtu = Million Btu

CALCULATIONS,

lbs/hr = ppm * DSCFM * MW * 8.223E-5 / (Tstd + 460)
ppm @ 3% O_2 = ppm * 17.9 / (20.9-stack O_2)
lbs/MMBtu = Fd * M.W.* ppm * 2.59E-9 * (20.9/(20.9-%O_2))

TABLE 2

Heinz / Tracy
Boiler #2

TEST	Run #1	Run #2	Run #3	Average	District
TEST LOCATION	OUTLET	OUTLET	OUTLET		Limit
FUEL	Natural Gas	Natural Gas	Natural Gas		
TEST TIME	1233-1313	1324-1404	1412-1452		
TEST DATE	07-22-97	07-22-97	07-22-97		
MMBtu/hr	68.7	69.0	69.0	68.9	
Flow Rate, DSCFM	12,488	12,484	12,522	12,498	
O_2, %	4.39	4.33	4.38	4.37	
CO_2, %	9.23	9.23	9.10	9.19	
NOx, ppm	34.2	34.3	34.5	34.3	
NOx, ppm @3% O_2	37.1	37.0	37.4	37.2	44.3
NOx, lbs/hr	3.11	3.11	3.14	3.12	
NOx, lbs/day	74.64	74.66	75.42	74.91	121.0
NOx, lbs/MMBtu	0.045	0.045	0.045	0.045	0.054
CO, ppm	1.00	1.00	1.00	1.00	
CO, ppm @3% O_2	1.08	1.08	1.08	1.08	161.8
CO, lbs/hr	0.06	0.06	0.06	0.06	
CO, lbs/day	1.33	1.33	1.33	1.33	268.0
CO, lbs/MMBtu	0.001	0.001	0.001	0.001	0.120

WHERE,

CO = Carbon Monoxide (MW=28)
NOx = Oxides of Nitrogen (MW=46)
ppm = Parts Per Million Concentration
DSCFM = Dry Standard Cubic Feet Per Minute
Std. Temp (Tstd) = 60 °F
Fd = EPA F factor for natural gas = 8710
lbs/hr = pounds per hour emission rate
MMBtu = Million Btu

CALCULATIONS,

lbs/hr = ppm * DSCFM * MW * 8.223E-5 / (Tstd + 460)
ppm @ 3% O_2 = ppm * 17.9 / (20.9-stack O_2)
lbs/MMBtu = Fd * M.W.* ppm * 2.59E-9 * (20.9/(20.9-%O_2))

TABLE 3

Heinz / Tracy
Boiler #3

TEST	Run #1	Run #2	Run #3	Average	District
TEST LOCATION	OUTLET	OUTLET	OUTLET		Limit
FUEL	Natural Gas	Natural Gas	Natural Gas		
TEST TIME	0905-0945	0955-1035	1045-1125		
TEST DATE	07-23-97	07-23-97	07-23-97		
MMBtu/hr	70.2	70.6	70.3	70.4	
Flow Rate, DSCFM	12,597	12,671	12,546	12,605	
O_2, %	4.19	4.19	4.09	4.15	
CO_2, %	9.43	9.43	9.40	9.42	
NOx, ppm	31.3	30.7	31.2	31.1	
NOx, ppm @3% O_2	33.5	32.8	33.3	33.2	44.3
NOx, lbs/hr	2.87	2.83	2.85	2.85	
NOx, lbs/day	68.81	67.80	68.41	68.34	121.0
NOx, lbs/MMBtu	0.041	0.040	0.040	0.040	0.054
CO, ppm	1.00	1.00	1.01	1.00	
CO, ppm @3% O_2	1.07	1.07	1.07	1.07	161.8
CO, lbs/hr	0.06	0.06	0.06	0.06	
CO, lbs/day	1.34	1.35	1.34	1.34	268.0
CO, lbs/MMBtu	0.001	0.001	0.001	0.001	0.120

WHERE,

CO = Carbon Monoxide (MW=28)
NOx = Oxides of Nitrogen (MW=46)
ppm = Parts Per Million Concentration
DSCFM = Dry Standard Cubic Feet Per Minute
Std. Temp (Tstd) = 60 °F
Fd = EPA F factor for natural gas = 8710
lbs/hr = pounds per hour emission rate
MMBtu = Million Btu

CALCULATIONS,

lbs/hr = ppm * DSCFM * MW * 8.223E-5 / (Tstd + 460)
ppm @ 3% O_2 = ppm * 17.9 / (20.9-stack O_2)
lbs/MMBtu = Fd * M.W.* ppm * 2.59E-9 * (20.9/(20.9-%O_2))

TABLE 4

Heinz / Tracy
Boiler #4

TEST	Run #1	Run #2	Run #3	Average	District
TEST LOCATION	OUTLET	OUTLET	OUTLET		Limit
FUEL	Natural Gas	Natural Gas	Natural Gas		
TEST TIME	0910-0950	1002-1042	1050-1130		
TEST DATE	07-24-97	07-24-97	07-24-97		
MMBtu/hr	43.7	43.5	43.4	43.5	
Flow Rate, DSCFM	6,705	6,666	6,601	6,658	
O_2, %	1.36	1.34	1.19	1.30	
CO_2, %	10.94	10.98	11.15	11.02	
NOx, ppm	41.8	41.9	42.4	42.0	
NOx, ppm @3% O_2	38.3	38.4	38.5	38.4	44.3
NOx, lbs/hr	2.04	2.03	2.03	2.04	
NOx, lbs/day	48.95	48.77	48.83	48.85	124.0
NOx, lbs/MMBtu	0.046	0.046	0.047	0.047	0.054
CO, ppm	14.13	16.76	20.05	16.98	
CO, ppm @3% O_2	12.95	15.34	18.21	15.50	161.8
CO, lbs/hr	0.42	0.49	0.59	0.50	
CO, lbs/day	10.07	11.87	14.06	12.00	268.0
CO, lbs/MMBtu	0.010	0.011	0.013	0.011	0.120

WHERE,

CO = Carbon Monoxide (MW=28)
NOx = Oxides of Nitrogen (MW=46)
ppm = Parts Per Million Concentration
DSCFM = Dry Standard Cubic Feet Per Minute
Std. Temp (Tstd) = 60 °F
Fd = EPA F factor for natural gas = 8710
lbs/hr = pounds per hour emission rate
MMBtu = Million Btu

CALCULATIONS,

lbs/hr = ppm * DSCFM * MW * 8.223E-5 / (Tstd + 460)
ppm @ 3% O_2 = ppm * 17.9 / (20.9-stack O_2)
lbs/MMBtu = Fd * M.W.* ppm * 2.59E-9 * (20.9/(20.9-%O_2))

TABLE 5

Heinz / Tracy
Boiler #5

TEST	Run #1	Run #2	Run #3	Average	District
TEST LOCATION	OUTLET	OUTLET	OUTLET		Limit
FUEL	Natural Gas	Natural Gas	Natural Gas		
TEST TIME	1140-1220	1227-1307	1314-1354		
TEST DATE	07-24-97	07-24-97	07-24-97		
MMBtu/hr	43.6	43.6	43.7	43.6	
Flow Rate, DSCFM	6,737	6,737	6,752	6,742	
O_2, %	1.50	1.50	1.50	1.50	
CO_2, %	10.88	10.94	10.95	10.92	
NOx, ppm	37.6	37.3	37.0	37.3	
NOx, ppm @3% O_2	34.7	34.4	34.2	34.4	44.3
NOx, lbs/hr	1.84	1.83	1.82	1.83	
NOx, lbs/day	44.26	43.86	43.64	43.92	67.0
NOx, lbs/MMBtu	0.042	0.042	0.041	0.042	0.054
CO, ppm	9.02	10.02	10.02	9.69	
CO, ppm @3% O_2	8.32	9.25	9.24	8.94	161.8
CO, lbs/hr	0.27	0.30	0.30	0.29	
CO, lbs/day	6.45	7.18	7.19	6.94	148.0
CO, lbs/MMBtu	0.006	0.007	0.007	0.007	0.120

WHERE,

CO = Carbon Monoxide (MW=28)
NOx = Oxides of Nitrogen (MW=46)
ppm = Parts Per Million Concentration
DSCFM = Dry Standard Cubic Feet Per Minute
Std. Temp (Tstd) = 60 °F
Fd = EPA F factor for natural gas = 8710
lbs/hr = pounds per hour emission rate
MMBtu = Million Btu

CALCULATIONS,

lbs/hr = ppm * DSCFM * MW * 8.223E-5 / (Tstd + 460)
ppm @ 3% O_2 = ppm * 17.9 / (20.9-stack O_2)
lbs/MMBtu = Fd * M.W.* ppm * 2.59E-9 * (20.9/(20.9-%O_2))

TABLE 6

Heinz / Tracy
Boiler #6

TEST	Run #1	Run #2	Run #3	Average	District
TEST LOCATION	OUTLET	OUTLET	OUTLET		Limit
FUEL	Natural Gas	Natural Gas	Natural Gas		
TEST TIME	1140-1220	1231-1311	1320-1400		
TEST DATE	07-23-97	07-23-97	07-23-97		
MMBtu/hr	153.9	153.9	153.9	153.9	
Flow Rate, DSCFM	26,696	26,604	26,574	26,625	
O_2, %	3.61	3.55	3.53	3.56	
CO_2, %	9.73	9.83	9.83	9.80	
NOx, ppm	37.9	38.3	38.5	38.2	
NOx, ppm @3% O_2	39.2	39.5	39.6	39.4	44.3
NOx, lbs/hr	7.36	7.41	7.43	7.40	
NOx, lbs/day	176.56	177.82	178.41	177.59	251.0
NOx, lbs/MMBtu	0.048	0.048	0.048	0.048	0.054
CO, ppm	98.29	101.96	103.37	101.21	
CO, ppm @3% O_2	101.74	105.18	106.50	104.48	161.8
CO, lbs/hr	11.62	12.01	12.16	11.93	
CO, lbs/day	278.85	288.27	291.90	286.34	556.0
CO, lbs/MMBtu	0.075	0.078	0.079	0.077	0.120

WHERE,

CO = Carbon Monoxide (MW=28)
NOx = Oxides of Nitrogen (MW=46)
ppm = Parts Per Million Concentration
DSCFM = Dry Standard Cubic Feet Per Minute
Std. Temp (Tstd) = 60 °F
Fd = EPA F factor for natural gas = 8710
lbs/hr = pounds per hour emission rate
MMBtu = Million Btu

CALCULATIONS,

lbs/hr = ppm * DSCFM * MW * 8.223E-5 / (Tstd + 460)
ppm @ 3% O_2 = ppm * 17.9 / (20.9-stack O_2)
lbs/MMBtu = Fd * M.W.* ppm * 2.59E-9 * (20.9/(20.9-%O_2))

TABLE 1

Heinz / Tracy
BOILER #1 EMISSIONS TEST

RUN #	1	2	3	AVERAGE	District
TEST DATE	7-23-96	7-23-96	7-23-96		Limit
TEST LOCATION	OUTLET	OUTLET	OUTLET		
TEST TIME	1146-1226	1347-1427	1432-1512		
FUEL	Nat. Gas	Nat. Gas	Nat. Gas		
STEAM LOAD, lbs/hr	55,000	55,000	55,000	55,000	
FLOWRATE, sdcfm	12,896	12,896	12,896	12,896	
O2, %	4.39	4.24	4.22	4.28	
CO2, %	9.3	9.3	9.3	9.3	
NOx, ppm	35.3	34.1	34.3	34.5	
NOx @3% O2, ppm	38.2	36.6	36.8	37.2	44.3
NOx, lbs/hr	3.31	3.19	3.21	3.24	
NOx, lbs/day	79.3	76.6	77.1	77.7	121.0
NOx, lbs/mmBTU	0.0465	0.0445	0.0447	0.0452	0.054
CO, ppm	1.0	1.0	1.0	1.0	
CO @3% O2, ppm	1.1	1.1	1.1	1.1	161.8
CO, lbs/hr	0.06	0.06	0.06	0.06	
CO, lbs/day	1.4	1.4	1.4	1.4	268.0
CO, lbs/mmBTU	0.0008	0.0008	0.0008	0.0008	0.120

Note: The boiler has a maximum steam load capacity of 57,000 lbs/hr.

WHERE,

CO = Carbon Monoxide (M.W.= 28)
NOx = Oxides of Nitrogen (M.W.= 46)
ppm = Parts Per Million Concentration
lbs/mmBTU = Pounds per Million BTU Emission Factor
lbs/hr = Pounds Per Hour Emission Rate
SDCFM = Standard Dry Cubic Feet Per Minute
< = Less Than the Detection Limit of the Analyzer

Calculations,

ppm corr.3% O2 = (17.9/(20.9-O2)) x ppm of pollutant
lbs/mmBTU = PPM x M.W. x 8710 x 2.6e-9 x (20.9 / 20.9 - %O2)
lbs/hr = ppm x SDCFM x 1.58e-7 x M.W.

TABLE 2

Heinz / Tracy
BOILER #2 EMISSIONS TEST

RUN #	1	2	3	AVERAGE	District
TEST DATE	7-24-96	7-24-96	7-24-96		Limit
TEST LOCATION	OUTLET	OUTLET	OUTLET		
TEST TIME	0815-0855	0905-0945	0957-1037		
FUEL	Nat. Gas	Nat. Gas	Nat. Gas		
STEAM LOAD, lbs/hr	56,400	56,400	56,400	56,400	
FLOWRATE, sdcfm	12,652	12,809	12,887	12,783	
O2, %	4.83	4.90	4.89	4.87	
CO2, %	9.2	9.2	9.0	9.1	
NOx, ppm	33.0	33.3	32.7	33.0	
NOx @3% O2, ppm	36.8	37.2	36.6	36.8	44.3
NOx, lbs/hr	3.03	3.10	3.06	3.06	
NOx, lbs/day	72.8	74.3	73.5	73.6	121.0
NOx, lbs/mmBTU	0.0447	0.0453	0.0445	0.0448	0.054
CO, ppm	1.0	1.1	1.0	1.0	
CO @3% O2, ppm	1.1	1.3	1.1	1.2	161.8
CO, lbs/hr	0.06	0.06	0.06	0.06	
CO, lbs/day	1.3	1.5	1.4	1.4	268.0
CO, lbs/mmBTU	0.0008	0.0009	0.0008	0.0009	0.120

Note: The boiler has a maximum steam load capacity of 57,000 lbs/hr.

WHERE,

CO = Carbon Monoxide (M.W.= 28)
NOx = Oxides of Nitrogen (M.W.= 46)
ppm = Parts Per Million Concentration
lbs/mmBTU = Pounds per Million BTU Emission Factor
lbs/hr = Pounds Per Hour Emission Rate
SDCFM = Standard Dry Cubic Feet Per Minute
< = Less Than the Detection Limit of the Analyzer

Calculations,

ppm corr.3% O2 = (17.9/(20.9-O2)) x ppm of pollutant
lbs/mmBTU = PPM x M.W. x 8710 x 2.6e-9 x (20.9 / 20.9 - %O2)
lbs/hr = ppm x SDCFM x 1.58e-7 x M.W.

TABLE 3

Heinz / Tracy
BOILER #3 EMISSIONS TEST

RUN #	1	2	3	AVERAGE	District
TEST DATE	7-24-96	7-24-96	7-24-96		Limit
TEST LOCATION	OUTLET	OUTLET	OUTLET		
TEST TIME	1045-1125	1140-1310	1230-1310		
FUEL	Nat. Gas	Nat. Gas	Nat. Gas		
STEAM LOAD, lbs/hr	55,600	55,600	55,600	55,600	
FLOWRATE, sdcfm	12,152	12,152	12,152	12,152	
O2, %	4.43	4.19	4.11	4.24	
CO2, %	9.4	9.4	9.4	9.4	
NOx, ppm	33.0	32.2	32.3	32.5	
NOx @3% O2, ppm	35.8	34.5	34.4	34.9	44.3
NOx, lbs/hr	2.91	2.85	2.85	2.87	
NOx, lbs/day	69.9	68.3	68.4	68.8	121.0
NOx, lbs/mmBTU	0.0436	0.0420	0.0418	0.0425	0.054
CO, ppm	1.0	1.0	1.0	1.0	
CO @3% O2, ppm	1.1	1.1	1.1	1.1	161.8
CO, lbs/hr	0.05	0.05	0.05	0.05	
CO, lbs/day	1.3	1.3	1.3	1.3	268.0
CO, lbs/mmBTU	0.0008	0.0008	0.0008	0.0008	0.120

Note: The boiler has a maximum steam load capacity of 57,000 lbs/hr.

WHERE,

CO = Carbon Monoxide (M.W.= 28)
NOx = Oxides of Nitrogen (M.W.= 46)
ppm = Parts Per Million Concentration
lbs/mmBTU = Pounds per Million BTU Emission Factor
lbs/hr = Pounds Per Hour Emission Rate
SDCFM = Standard Dry Cubic Feet Per Minute
< = Less Than the Detection Limit of the Analyzer

Calculations,

ppm corr.3% O2 = (17.9/(20.9-O2)) x ppm of pollutant
lbs/mmBTU = PPM x M.W. x 8710 x 2.6e-9 x (20.9 / 20.9 - %O2)
lbs/hr = ppm x SDCFM x 1.58e-7 x M.W.

TABLE 4

Heinz / Tracy
BOILER #4 EMISSIONS TEST

RUN #	1	2	3	AVERAGE	District
TEST DATE	7-25-96	7-25-96	7-25-96		Limit
TEST LOCATION	OUTLET	OUTLET	OUTLET		
TEST TIME	0955-1035	1045-1125	1135-1215		
FUEL	Nat. Gas	Nat. Gas	Nat. Gas		
STEAM LOAD, lbs/hr	36,200	36,200	36,200	36,200	
FLOWRATE, sdcfm	7,070	7,078	7,078	7,075	
O2, %	2.58	2.57	2.62	2.59	
CO2, %	10.4	10.4	10.4	10.4	
NOx, ppm	34.2	34.2	35.2	34.5	
NOx @3% O2, ppm	33.4	33.3	34.4	**33.7**	**44.3**
NOx, lbs/hr	1.76	1.76	1.81	1.77	
NOx, lbs/day	42.1	42.2	43.4	**42.6**	**67.0**
NOx, lbs/mmBTU	0.0406	0.0406	0.0419	**0.0410**	**0.054**
CO, ppm	0.6	0.5	0.8	0.6	
CO @3% O2, ppm	0.5	0.5	0.7	**0.6**	**161.8**
CO, lbs/hr	0.02	0.02	0.02	0.02	
CO, lbs/day	0.4	0.4	0.6	**0.5**	**148.0**
CO, lbs/mmBTU	0.0004	0.0004	0.0005	**0.0004**	**0.120**

WHERE,

CO = Carbon Monoxide (M.W.= 28)
NOx = Oxides of Nitrogen (M.W.= 46)
ppm = Parts Per Million Concentration
lbs/mmBTU = Pounds per Million BTU Emission Factor
lbs/hr = Pounds Per Hour Emission Rate
SDCFM = Standard Dry Cubic Feet Per Minute
< = Less Than the Detection Limit of the Analyzer

Calculations,

ppm corr.3% O2 = (17.9/(20.9-O2)) x ppm of pollutant
lbs/mmBTU = PPM x M.W. x 8710 x 2.6e-9 x (20.9 / 20.9 - %O2)
lbs/hr = ppm x SDCFM x 1.58e-7 x M.W.

TABLE 5

Heinz / Tracy
BOILER #5 EMISSIONS TEST

RUN #	1	2	3	AVERAGE	District
TEST DATE	7-25-96	7-25-96	7-25-96		Limit
TEST LOCATION	OUTLET	OUTLET	OUTLET		
TEST TIME	1225-1305	1313-1353	1405-1445		
FUEL	Nat. Gas	Nat. Gas	Nat. Gas		
STEAM LOAD, lbs/hr	35,300	35,300	35,300	35,300	
FLOWRATE, sdcfm	6,897	6,879	6,844	6,873	
O2, %	1.94	1.81	1.85	1.87	
CO2, %	10.5	10.5	10.5	10.5	
NOx, ppm	34.1	34.1	34.0	34.1	
NOx @3% O2, ppm	32.2	32.0	31.9	32.0	44.3
NOx, lbs/hr	1.71	1.71	1.69	1.70	
NOx, lbs/day	41.1	40.9	40.5	40.8	67.0
NOx, lbs/mmBTU	0.0392	0.0389	0.0388	0.0390	0.054
CO, ppm	4.8	4.9	5.0	4.9	
CO @3% O2, ppm	4.5	4.6	4.7	4.6	161.8
CO, lbs/hr	0.15	0.15	0.15	0.15	
CO, lbs/day	3.5	3.6	3.7	3.6	148.0
CO, lbs/mmBTU	0.0033	0.0034	0.0035	0.0034	0.120

WHERE,

CO = Carbon Monoxide (M.W. = 28)
NOx = Oxides of Nitrogen (M.W. = 46)
ppm = Parts Per Million Concentration
lbs/mmBTU = Pounds per Million BTU Emission Factor
lbs/hr = Pounds Per Hour Emission Rate
SDCFM = Standard Dry Cubic Feet Per Minute
< = Less Than the Detection Limit of the Analyzer

Calculations,

ppm corr.3% O2 = (17.9/(20.9-O2)) x ppm of pollutant
lbs/mmBTU = PPM x M.W. x 8710 x 2.6e-9 x (20.9 / 20.9 - %O2)
lbs/hr = ppm x SDCFM x 1.58e-7 x M.W.

TABLE 6

Heinz / Tracy
BOILER #6 EMISSIONS TEST

RUN #	1	2	3	AVERAGE	District
TEST DATE	7-24-96	7-24-96	7-24-96		Limit
TEST LOCATION	OUTLET	OUTLET	OUTLET		
TEST TIME	1328-1408	1417-1457	1505-1545		
FUEL	Nat. Gas	Nat. Gas	Nat. Gas		
STEAM LOAD, lbs/hr	130,000	130,000	130,000	130,000	
FLOWRATE, sdcfm	26,729	26,666	26,761	26,719	
O2, %	3.97	3.94	3.99	3.97	
CO2, %	9.5	9.5	9.5	9.5	
NOx, ppm	35.8	36.3	36.8	36.3	
NOx @3% O2, ppm	37.8	38.3	38.9	38.3	44.3
NOx, lbs/hr	6.95	7.04	7.15	7.04	
NOx, lbs/day	166.8	168.8	171.6	169.1	251.0
NOx, lbs/mmBTU	0.0460	0.0466	0.0473	0.0466	0.054
CO, ppm	86.2	90.5	89.7	88.8	
CO @3% O2, ppm	91.1	95.5	94.9	93.9	161.8
CO, lbs/hr	10.19	10.68	10.62	10.50	
CO, lbs/day	244.6	256.2	254.8	251.9	556.0
CO, lbs/mmBTU	0.0675	0.0707	0.0703	0.0695	0.120

WHERE,

CO = Carbon Monoxide (M.W.= 28)
NOx = Oxides of Nitrogen (M.W.= 46)
ppm = Parts Per Million Concentration
lbs/mmBTU = Pounds per Million BTU Emission Factor
lbs/hr = Pounds Per Hour Emission Rate
SDCFM = Standard Dry Cubic Feet Per Minute
< = Less Than the Detection Limit of the Analyzer

Calculations,

ppm corr.3% O2 = (17.9/(20.9-O2)) x ppm of pollutant
lbs/mmBTU = PPM x M.W. x 8710 x 2.6e-9 x (20.9 / 20.9 - %O2)
lbs/hr = ppm x SDCFM x 1.58e-7 x M.W.

Generators

190,043 gals 95% EtOH → 1,484,517 gals vinegar

(190,043 gals)(6.78 lb/gal)(0.924) → 1,484,517

1,190,566 lb EtOH → 1,484,517 gal vinegar

0.802 lb EtOH → 1 gal vinegar

0.802 → (1 gal vinegar)(100 g/l)(3.785 l/gal)(1 lb/453.6 g)

0.802 lb EtOH → 0.834 lb Acetic Acid

$CH_3CH_2OH + O_2 \longrightarrow CH_3COOH + H_2O$

1 mole EtOH → 1 mole Acetic Acid

To produce 0.834 lb Acetic Acid:

$$(0.834\ \text{lb})\left(\frac{46.07\ \text{lb EtOH/lb·mol}}{60.05\ \text{lb Acetic/lb·mol}}\right) = 0.640\ \text{lb EtOH}$$

Residual EtOH in vinegar 0.4% by wt

$$\left(8.45\ \frac{\text{lb vinegar}}{\text{gal}}\right)\left(0.004\ \frac{\text{lb EtOH}}{\text{lb vinegar}}\right) = 0.034\ \frac{\text{lb EtOH}}{\text{gal vinegar}}$$

0.802 lb EtOH to produce 1 gal vinegar (actual)
− 0.640 lb EtOH to produce 1 gal vinegar (theoretical)
− 0.034 lb EtOH residual in vinegar
0.128 lb EtOH lost per gal vinegar produced

Steve Sable MCI Worldcom 46,205

3790 916 537 1560 57,982

104,187

Vinegar Produced		Alcohol Consumed
1,200,198	1	140,517
1,131,525	2	153,506
1,321,683	3	155,902
1,402,642	4	161,650
5,056,048 gals vinegar		611,575 gals EtOH

Acetator = 0.1167 gals alcohol — gal vinegar

Generator = 0.1280 gals alcohol — gal vinegar

$\frac{199,000}{0.1280}$ = 1,554,688 gals vinegar/yr

$\frac{324,000}{0.1167}$ = 2,776,350 gals vinegar/yr

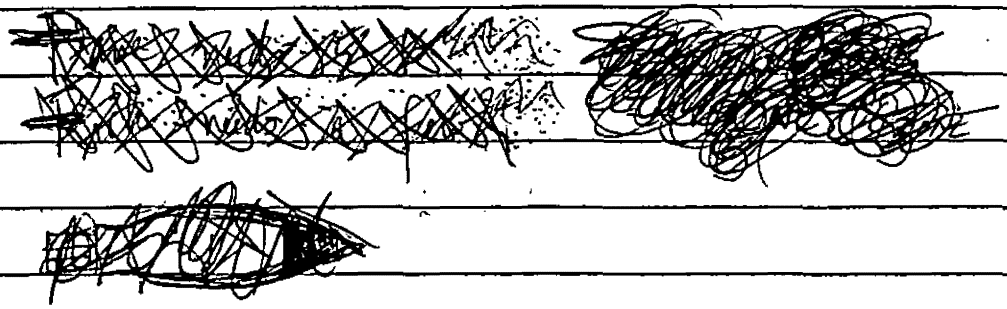
Max Production = 4,331,038 gals vinegar/yr

523,000 gals EtOH per facility claim

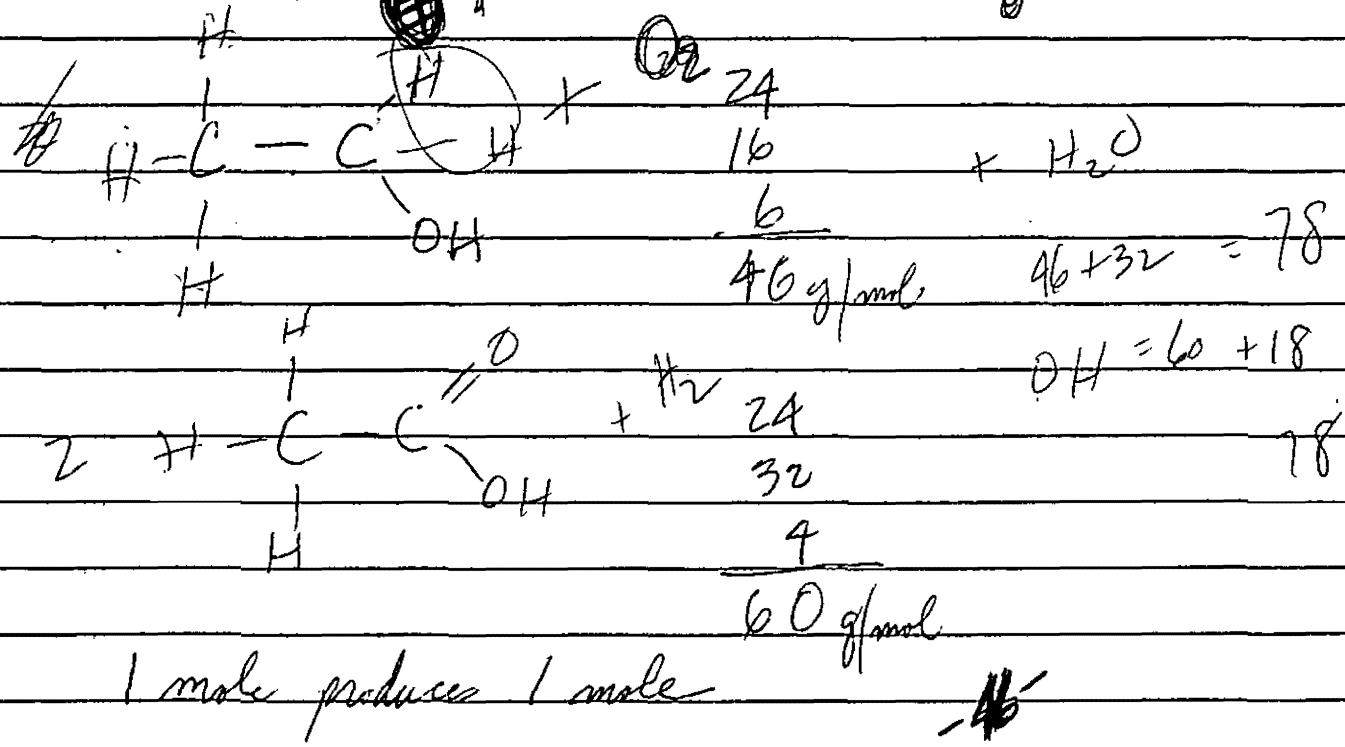
0.034 lb EtOH/gal vinegar

0.004 lb EtOH/lb vinegar

139,133 gals alcohol



✓ PERC facility files - discuss with R McVaigh



1 mole produces 1 mole

46

.802 lb VOC = 1 gal vinegar

- .004

.798 lb VOC = 1 gal vinegar

$\left(\frac{46}{60}\right)\left(.868\right)$

1,288,492 lb EtOH → 1,484,5[illegible] gal

0.868 lb EtOH → 1 gal vinegar

(100 g/l)(3.785 l/gal)(1/453.6/g

.868 lb EtOH → 378.3 g 0.834 lb Acetic

- 0.665 → 0.834 lb Acetic (100% conversion)

0.203 lb EtOH - 0.034 remaining = 0.169

Applicant's 2/4 proposed EF calc. method. Per Anthony stay w/ the 0.05 1/2 EF.

Ethyl Alcohol Conc. : 92.4% by wt (95% by vol)
Ethyl Alcohol density: 6.78 lb/gal
Residual Et OH in vinegar: 0.4% by wt. (generator)
0.16% by wt. (acetator)
Density of 10% acetic acid: 8.45 lb/gal
MW of EtOH: 46.07
MW of acetic acid: 60.05

From Proj 960040, the 1990 throughputs were:
EtOH (generator) = 190,043 gal → 1,484,517 gal Vinegar
EtOH (acetator) = 291,938 gal → 2,501,288 gal vinegar

(190,043 gal EtOH)(6.78 lb/gal)(0.924) → 1,484,517 gal vinegar
(291,938 gal EtOH)(6.78 lb/gal)(0.924) → 2,501,288 gal vinegar
3,019,967 lb EtOH → 3,985,805 gal Vinegar
0.758 lb EtOH → 1 gal Vinegar (acetic Acid)

$0.758 \text{ lb Et OH} \rightarrow (1 \text{ gal Vinegar})\left(100 \frac{\text{g}}{\text{d}}\right)\left(3.785 \frac{\text{d}}{\text{gal}}\right)\left(\frac{1 \text{ lb}}{453.6 \text{ g}}\right)$

0.758 lb EtOH → 0.834 lb Vinegar

$CH_3CH_2OH + O_2 \rightarrow CH_3COOH + H_2O$

1 MOL EtOH → 1 MOL Acetic Acid

$CH_3CH_2OH + O_2 \rightarrow CH_3COOH + H_2O$

1 Mol EtOH → 1 Mol Acetic Acid

To produce 0.834 lb acetic acid the following amount of EtOH would be required:

$$(0.834 \text{ lb acetic Acid})\left[\frac{(46.07 \text{ lb EtOH})}{\text{lb Mol}} / \frac{(60.05 \text{ lb acetic Acid})}{\text{lb Mol}}\right]$$

$$= 0.640 \text{ lb EtOH}$$

Residual EtOH (assuming generator residual of 0.4%)

$$\left(8.45 \frac{\text{lb Vinegar}}{\text{gal}}\right)\left(0.004 \frac{\text{lb EtOH}}{\text{lb Vinegar}}\right) = 0.034 \frac{\text{lb EtOH}}{\text{gal Vinegar}}$$

Actual Quantity of EtOH to produce 1 gal Vinegar = 0.758 lb

Theoretical Quantity of EtOH to produce 1 gal Vinegar = 0.640 lb

Residual EtOH in Vinegar = 0.034 lb

$$EF = 0.758 - 0.640 - 0.034 = 0.084 \frac{\text{lb EtOH}}{\text{gal Vinegar}}$$

Acetators

291,938 gals 95% EtOH → 2,501,288 gals vinegar

(291,938 gals)(6.78 lb/gal)(0.924) → 2,501,288

1,828,910 lb EtOH → 2,501,288

0.731 lb EtOH → 1 gal vinegar

0.731 → (1 gal)(100 g/l)(3.785 l/gal)(1 lb/453.6 g)

0.731 lb EtOH → 0.834 lb Acetic Acid

Same Chemistry

0.731 lb EtOH to produce 1 gal vinegar (actual)
−0.640 lb EtOH to produce 1 gal vinegar (theoretical)
−0.034 lb EtOH residual in vinegar
0.057 lb EtOH lost per gal vinegar produced

Vinegar Produced Quarter 1

1996: 1,200,198 gals ✓
1997: 1,183,950 gals ✓
Avg: 1,192,074 gals

Quarter 2

1996: 1,311,525 gals ✓

1997: 692,524 gals ✓

Avg: 1,002,025 gals

Quarter 3

1996: 1,321,683 gals ✓

1997: 691,770 gals ✓

Avg: 1,006,727 gals

Quarter 4

1996: 1,402,642 gals ✓

1997: 406,613 gals ✓

Avg: 904,628 gals

AER

All Acetator:

	1	2	3	4
VOC	67,948	57,115	57,383	51,564

38% Generator; 62% acetator

VOC	100,110	84,150	84,545	75,971

$$8.45 \frac{\cancel{lb}}{\cancel{gal}} \cdot 453.69 \frac{\cancel{gal}}{\cancel{lb}} \quad 3.785 \, \Omega$$

TABLE 1
H.J. HEINZ / Tracy, CA
BOILER #1 COMPLIANCE TEST

RUN #	1	2	3	AVERAGE	LIMIT
TEST DATE	7-12-94	7-12-94	7-12-94		
TEST LOCATION	OUTLET	OUTLET	OUTLET		
TEST TIME	1030-1110	1125-1205	1215-1255		
FUEL	Nat. Gas	Nat. Gas	Nat. Gas		
UNIT LOAD, mmBTU/hr	75	75	75	75	
FLOWRATE, SDCFM	13,654	13,654	13,654	13,654	
O2, %	4.60	4.50	4.40	4.50	
CO2, %	8.9	9.0	9.0	8.9	
H2O, %	24.6	24.6	24.6	24.6	
NOx, ppm	33.4	32.7	33.0	33.0	
NOx @3% O2, ppm	36.7	35.7	35.8	36.1	44.3
NOx, lbs/hr	3.27	3.20	3.23	3.24	
NOx, lbs/24hr day	78.5	76.9	77.6	77.68	121.0
NOx,lbs/mmBTU @O2	0.0444	0.0432	0.0434	0.0437	0.054
CO, ppm	2.0	2.0	2.0	2.0	
CO @3% O2, ppm	2.2	2.2	2.2	2.2	161.8
CO, lbs/hr	0.12	0.12	0.12	0.12	
CO, lbs/24hr day	2.9	2.9	2.9	2.86	268.0
CO,lbs/mmBTU @O2	0.0016	0.0016	0.0016	0.0016	0.12

WHERE,

CO = Carbon Monoxide (M.W.= 28)
NOx = Oxides of Nitrogen (M.W.= 46)
ppm = Parts Per Million Concentration
mmBTU = Million BTU
lbs/hr = Pounds Per Hour Emission Rate
SDCFM = Standard Dry Cubic Feet Per Minute
Fd = EPA F factor for natural gas = 8710

Calculations,

ppm corr.3% O2 = (17.9/(20.9-O2)) x ppm of pollutant
lbs/mmBTU = Fd x Mol. Wt. x ppm x 2.59e-9 x (20.9/(20.9-%O2))
lbs/hr = ppm x SDCFM x 1.56e-7 x Mol. Wt.

TABLE 2
H.J. HEINZ / Tracy, CA
BOILER #2 COMPLIANCE TEST

RUN #	1	2	3	AVERAGE	LIMIT
TEST DATE	7-12-94	7-12-94	7-12-94		
TEST LOCATION	OUTLET	OUTLET	OUTLET		
TEST TIME	1325-1405	1420-1500	1513-1553		
FUEL	Nat. Gas	Nat. Gas	Nat. Gas		
UNIT LOAD, mmBTU/hr	77	77	77	77	
FLOWRATE, SDCFM	13,537	13,537	13,537	13,537	
O2, %	3.90	3.90	4.10	3.97	
CO2, %	9.3	9.3	9.1	9.2	
H2O, %	16.6	16.6	16.6	16.6	
NOx, ppm	32.1	32.8	32.4	32.4	
NOx @3% O2, ppm	33.8	34.5	34.5	34.3	44.3
NOx, lbs/hr	3.12	3.19	3.15	3.15	
NOx, lbs/24hr day	74.8	76.5	75.5	75.61	121.0
NOx,lbs/mmBTU @O2	0.0410	0.0418	0.0418	0.0415	0.054
CO, ppm	12.8	14.1	17.0	14.6	
CO @3% O2, ppm	13.5	14.8	18.1	15.5	161.8
CO, lbs/hr	0.76	0.83	1.01	0.87	
CO, lbs/24hr day	18.2	20.0	24.1	20.77	268.0
CO,lbs/mmBTU @O2	0.0099	0.0109	0.0134	0.0114	0.12

WHERE,

CO = Carbon Monoxide (M.W.= 28)
NOx = Oxides of Nitrogen (M.W.= 46)
ppm = Parts Per Million Concentration
mmBTU = Million BTU
lbs/hr = Pounds Per Hour Emission Rate
SDCFM = Standard Dry Cubic Feet Per Minute
Fd = EPA F factor for natural gas = 8710

Calculations,

ppm corr.3% O2 = (17.9/(20.9-O2)) x ppm of pollutant
lbs/mmBTU = Fd x Mol. Wt. x ppm x 2.59e-9 x (20.9/(20.9-%O2))
lbs/hr = ppm x SDCFM x 1.56e-7 x Mol. Wt.

TABLE 3
H.J. HEINZ / Tracy, CA
BOILER #3 COMPLIANCE TEST

RUN #	1	2	3	AVERAGE	LIMIT
TEST DATE	7-12-94	7-12-94	7-12-94		
TEST LOCATION	OUTLET	OUTLET	OUTLET		
TEST TIME	1325-1405	1420-1500	1513-1553		
FUEL	Nat. Gas	Nat. Gas	Nat. Gas		
UNIT LOAD, mmBTU/hr	79	79	79	79	
FLOWRATE, SDCFM	13,948	13,948	13,948	13,948	
O2, %	3.90	3.91	4.00	3.94	
CO2, %	9.3	9.3	9.2	9.3	
H2O, %	16.3	16.3	16.3	16.3	
NOx, ppm	35.4	35.5	35.4	35.4	
NOx @3% O2, ppm	37.3	37.4	37.5	37.4	44.3
NOx, lbs/hr	3.54	3.55	3.54	3.55	
NOx, lbs/24hr day	85.0	85.3	85.0	85.12	121.0
NOx,lbs/mmBTU @O2	0.0452	0.0453	0.0454	0.0453	0.054
CO, ppm	< 2.0	< 2.0	< 2.0	< 2.0	
CO @3% O2, ppm	< 2.1	< 2.1	< 2.1	< 2.1	161.8
CO, lbs/hr	< 0.12	< 0.12	< 0.12	< 0.12	
CO, lbs/24hr day	< 2.9	< 2.9	< 2.9	< 2.92	268.0
CO,lbs/mmBTU @O2	< 0.0016	< 0.0016	< 0.0016	< 0.0016	0.12

Note: The CO concentration of 2.0 ppm represents the analyzer detection limit.

WHERE,

CO = Carbon Monoxide (M.W.= 28)
NOx = Oxides of Nitrogen (M.W.= 46)
ppm = Parts Per Million Concentration
< = Less Than
lbs/hr = Pounds Per Hour Emission Rate
SDCFM = Standard Dry Cubic Feet Per Minute
Fd = EPA F factor for natural gas = 8710
mmBTU = Million BTU

Calculations,

ppm corr.3% O2 = (17.9/(20.9-O2)) x ppm of pollutant
lbs/mmBTU = Fd x Mol. Wt. x ppm x 2.59e-9 x (20.9/(20.9-%O2))
lbs/hr = ppm x SDCFM x 1.56e-7 x Mol. Wt.

TABLE 4
H.J. HEINZ / Tracy, CA
BOILER #4 COMPLIANCE TEST

RUN #	1	2	3	AVERAGE	LIMIT
TEST DATE	7-11-94	7-11-94	7-11-94		
TEST LOCATION	OUTLET	OUTLET	OUTLET		
TEST TIME	1700-1740	1755-1835	1845-1925		
FUEL	Nat. Gas	Nat. Gas	Nat. Gas		
UNIT LOAD, mmBTU/hr	44	44	44	44	
FLOWRATE, SDCFM	8,907	8,907	8,907	8,907	
O2, %	6.10	6.10	6.30	6.17	
CO2, %	8.3	8.2	8.1	8.2	
H2O, %	17.0	17.0	17.0	17.0	
NOx, ppm	32.2	30.5	30.8	31.2	
NOx @3% O2, ppm	38.9	36.9	37.8	37.9	44.3
NOx, lbs/hr	2.06	1.95	1.97	1.99	
NOx, lbs/24hr day	49.4	46.8	47.2	47.81	64.0
NOx,lbs/mmBTU @O2	0.0472	0.0447	0.0458	0.0459	0.054
CO, ppm	< 2.0	< 2.0	< 2.0	< 2.0	
CO @3% O2, ppm	< 2.4	< 2.4	< 2.5	< 2.4	161.8
CO, lbs/hr	< 0.08	< 0.08	< 0.08	< 0.08	
CO, lbs/24hr day	< 1.9	< 1.9	< 1.9	< 1.87	148.0
CO,lbs/mmBTU @O2	< 0.0018	< 0.0018	< 0.0018	< 0.0018	0.12

Note: The CO concentration of 2.0 ppm represents the analyzer detection limit.

WHERE,

CO = Carbon Monoxide (M.W.= 28)
NOx = Oxides of Nitrogen (M.W.= 46)
ppm = Parts Per Million Concentration
< = Less Than
lbs/hr = Pounds Per Hour Emission Rate
SDCFM = Standard Dry Cubic Feet Per Minute
Fd = EPA F factor for natural gas = 8710
mmBTU = Million BTU

Calculations,

ppm corr.3% O2 = (17.9/(20.9-O2)) x ppm of pollutant
lbs/mmBTU = Fd x Mol. Wt. x ppm x 2.59e-9 x (20.9/(20.9-%O2))
lbs/hr = ppm x SDCFM x 1.56e-7 x Mol. Wt.

TABLE 5
H.J. HEINZ / Tracy, CA
BOILER #5 COMPLIANCE TEST

RUN #	1	2	3	AVERAGE	LIMIT
TEST DATE	7-11-94	7-11-94	7-11-94		
TEST LOCATION	OUTLET	OUTLET	OUTLET		
TEST TIME	1105-1145	1155-1235	1255-1335		
FUEL	Nat. Gas	Nat. Gas	Nat. Gas		
UNIT LOAD, mmBTU/hr	50	50	50	50	
FLOWRATE, SDCFM	9,488	9,488	9,488	9,488	
O2, %	5.40	5.30	4.80	5.17	
CO2, %	8.5	8.5	8.8	8.6	
H2O, %	16.0	16.0	16.0	16.0	
NOx, ppm	31.2	30.6	31.5	31.1	
NOx @3% O2, ppm	36.0	35.1	35.0	35.4	44.3
NOx, lbs/hr	2.12	2.08	2.14	2.12	
NOx, lbs/24hr day	51.0	50.0	51.5	50.82	67.0
NOx,lbs/mmBTU @O2	0.0437	0.0425	0.0424	0.0429	0.054
CO, ppm	1.7	2.7	3.2	2.5	
CO @3% O2, ppm	2.0	3.1	3.6	2.9	161.8
CO, lbs/hr	0.07	0.11	0.13	0.10	
CO, lbs/24hr day	1.7	2.7	3.2	2.52	148.0
CO,lbs/mmBTU @O2	0.0014	0.0023	0.0026	0.0021	0.12

WHERE,

CO = Carbon Monoxide (M.W.= 28)
NOx = Oxides of Nitrogen (M.W.= 46)
ppm = Parts Per Million Concentration
mmBTU = Million BTU
lbs/hr = Pounds Per Hour Emission Rate
SDCFM = Standard Dry Cubic Feet Per Minute
Fd = EPA F factor for natural gas = 8710

Calculations,

ppm corr.3% O2 = (17.9/(20.9-O2)) x ppm of pollutant
lbs/mmBTU = Fd x Mol. Wt. x ppm x 2.59e-9 x (20.9/(20.9-%O2))
lbs/hr = ppm x SDCFM x 1.56e-7 x Mol. Wt.

TABLE 6
H.J. HEINZ / Tracy, CA
BOILER #6 COMPLIANCE TEST

RUN #	1	2	3	AVERAGE	LIMIT
TEST DATE	7-11-94	7-11-94	7-11-94		
TEST LOCATION	OUTLET	OUTLET	OUTLET		
TEST TIME	1400-1440	1450-1530	1545-1625		
FUEL	Nat. Gas	Nat. Gas	Nat. Gas		
UNIT LOAD, mmBTU/hr	194	194	194	194	
FLOWRATE, SDCFM	33,822	33,822	33,822	33,822	
O2, %	3.80	3.80	3.70	3.77	
CO2, %	9.4	9.4	9.4	9.4	
H2O, %	17.3	17.3	17.3	17.3	
NOx, ppm	37.6	37.5	37.5	37.5	
NOx @3% O2, ppm	39.4	39.3	39.0	39.2	44.3
NOx, lbs/hr	9.13	9.10	9.10	9.11	
NOx, lbs/24hr day	219.0	218.4	218.4	218.63	251.0
NOx,lbs/mmBTU @O2	0.0477	0.0476	0.0473	0.0475	0.054
CO, ppm	112.1	112.5	112.5	112.4	
CO @3% O2, ppm	117.3	117.8	117.1	117.4	161.8
CO, lbs/hr	16.56	16.62	16.62	16.60	
CO, lbs/24hr day	397.5	398.9	398.9	398.41	556.0
CO,lbs/mmBTU @O2	0.0865	0.0869	0.0863	0.0866	0.12

WHERE,

Load = 100.5 %.

CO = Carbon Monoxide (M.W.= 28)
NOx = Oxides of Nitrogen (M.W.= 46)
ppm = Parts Per Million Concentration
< = Less Than
lbs/hr = Pounds Per Hour Emission Rate
SDCFM = Standard Dry Cubic Feet Per Minute
Fd = EPA F factor for natural gas = 8710
mmBTU = Million BTU

Calculations,

ppm corr.3% O2 = (17.9/(20.9-O2)) x ppm of pollutant
lbs/mmBTU = Fd x Mol. Wt. x ppm x 2.59e-9 x (20.9/(20.9-%O2))
lbs/hr = ppm x SDCFM x 1.56e-7 x Mol. Wt.

COPY

San Joaquin Valley Unified Air Pollution Control District

June 4, 1997

H J Heinz Co.
Roger Frazer
PO Box 57
Tracy, CA 95378-0057

Re: Emission control plan for facility located at 757 East 11th Street in Tracy, CA.

Dear Mr. Frazer:

This letter is to confirm that the San Joaquin Valley Unified Air Pollution Control District has received your emission control plan for the above referenced facility. All of the information required by Rule 4305, Section 6.4 appears to be contained in your plan.

Thank you for your cooperation. Should you have any questions, please contact Mr. Paul Andrew Hensleigh of Permit Services at (209) 545-7000.

Sincerely,

Seyed Sadredin
Director of Permit Services

Anthony Mendes
Permit Services Manager
ss/am/pah

c: Compliance Division - SJVUAPCD

David L. Crow
Executive Director/Air Pollution Control Officer
1999 Tuolumne Street, Suite 200 • Fresno, CA 93721 • (209) 497-1000 • FAX (209) 233-3567

Northern Region
4230 Kiernan Avenue, Suite 130 • Modesto, CA 95356
(209) 545-7000 • FAX (209) 545-8652

Central Region
1999 Tuolumne Street, Suite 200 • Fresno, CA 93721
(209) 497-1000 • Fax (209) 233-2057

Southern Region
2700 M Street, Suite 275 • Bakersfield, CA 93301
(805) 862-5200 • Fax (805) 862-5201

BOILER EMISSION CONTROL PLAN

FACILITY NAME: Heinz U.S.A.

PTO Number	Fuel Type & HHV	Annual Fuel Consumption (Btu/yr)	Current NOx Emission Level (lbs/mmBtu)	Method	Plan of actions
N-403-4	Natural Gas 1026 Btu/scf	132,000 million Btu	0.0425	Source Test CARB Method 100	Utilize steam injection Retain existing burners (No FGR)
N-403-5	Natural Gas 1026 Btu/scf	96,000 million Btu	0.0410	Source Test CARB Method 100	Replace burners with COEN QLN units. Retain existing FGR.
N-403-6	Natural Gas 1026 Btu/scf	95,000 million Btu	0.0390	Source Test CARB Method 100	Replace burners with COEN QLN units Retain existing FGR.
N-403-7	Natural Gas 1026 Btu/scf	299,000 million Btu	0.0466	Source Test CARB Method 100	Replace burners with COEN QLN units. Retain existing FGR.

San Joaquin Valley Unified Air Pollution Control District
Supplemental Form

RECEIVED
JUN 02 1997
SAN JOAQUIN VALLEY
UNIFIED A.P.C.D.
NO. REGION

BOILER EMISSION CONTROL PLAN

FACILITY NAME: HEINZ U.S.A.

LOCATION OF EQUIPMENT: 757 East 11th Street, Tracy, CA

This form is intended to clarify the requirements of the Emissions Control Plan as required by District Rule 4305 (12/19/96). Per Section 6.4 of this rule, the owner of any unit subject to this rule shall submit an Emissions Control Plan which contains the following information:

1. Permit to Operate Number
2. Fuel types used and the Higher Heating Value (HHV). Please identify primary as well as any curtailment fuels. If you do not specify a Higher Heating Value (HHV) for the fuels used, the District will assume the following default values: natural gas - 1,000 Btu/scf, LPG - 91,500 Btu/gal, distillate oil - 140,000 Btu/gal.
3. Annual fuel consumption (Btu/yr). Please specify the amount of each fuel burned during the previous calendar year.
4. The current NOx emission level (and the method used to determine the level). The first choice for the method should be from the results of a source test on this unit. If a source test value is not available, the second choice would be an estimate from the burner manufacturer for this model unit. The third choice would be to use standard EPA emission factors for this type of unit (available from the District's Regional Small Business Assistance Offices).
5. The plan of action, including a schedule of increments of progress, which will be taken to satisfy the requirements of Section 5.0 and the compliance schedule of Section 7.0.

PTO Number	Fuel Type & HHV	Annual Fuel Consumption (Btu/yr)	Current NOx Emission Level (lbs/mmBtu)	Method	Plan of actions
N-403-2	Natural Gas 1026 Btu/scf	186,000 million Btu	0.0452	Source Test CARB Method 100	Utilize steam injection Retain existing burners (No FGR)
N-403-3	Natural Gas 1026 Btu/scf	135,000 million Btu	0.0448	Source Test CARB Method 100	Utilize steam injection Retain existing burners (No FGR)

(use reverse for additional units if necessary)

SIGNATURE:	TYPE OR PRINT TITLE:	
	Industrial Engineer	
TYPE OR PRINT NAME: Roger Frazer	DATE: 5/27/97	TELEPHONE NO: (209)832-4230

V. ERC Calculations:

A. Assumptions and Emission Factors:

NOx:

The boilers were source tested for NOx on 7/23 through 7/25 1996 and 7/22 through7/24 1997. *The ppm and lb/MMBtu values are from the source test reports and the lb/10^6 ft3* values were calculated assuming a natural gas heating value of 1020 Btu/scf (AP-42 table 1.4.2).

1996 Source Test Results (Best Environmental 7/23/96 - 7/25/96):

	Boiler 1 (N-4026-1)	Boiler 2 (N-4026-2)	Boiler 3 (N-4026-3)	Boiler 4 (N-4026-4)	Boiler 5 (N-4026-5)	Boiler 6 (N-4026-6)
NOx (ppm @ 15% O_2)	37.2	36.8	34.9	33.7	32.0	38.3
NOx - lb/MMBtu (lb/10^6 ft^3)	0.0452 (46.1)	0.0448 (45.7)	0.0425 (43.4)	0.0410 (41.8)	0.0390 (39.8)	0.0466 (47.5)

1997 Source Test Results (Best Environmental 7/22/97 - 7/24/97):

	Boiler 1 (N-4026-1)	Boiler 2 (N-4026-2)	Boiler 3 (N-4026-3)	Boiler 4 (N-4026-4)	Boiler 5 (N-4026-5)	Boiler 6 (N-4026-6)
NOx (ppm @ 15% O_2)	34.5	37.2	33.2	38.4	34.4	39.4
NOx - lb/MMBtu (lb/$10^6$$ft^3$)	0.042 (42.8)	0.045 (45.9)	0.040 (40.8)	0.047 (47.9)	0.042 (42.8)	0.048 (49.0)

District rule 4305 (Boilers, Steam Generators and Process Heaters) was in effect during the baseline period, and would have allowed a NOx emisison concentration of no more than 30 ppm @ 3% O_2 (0.036 lb/'MMBtu). As shown in the above table, the actual NOx emissions were in excess of the emission concentration that would have been allowed. The Historical Actual Emissions (HAE) are the emissions that actually occurred during the baseline period and will be calculated utilizing the above emission factors. The Actual Emission Reductions (AER) must be surplus (District rule 2201 - New and Modified Stationary Source Review), they will therefore be discounted to 30 ppm @ 3% O_2.

EF_{NOx}: (0.36 lb/10^6 Btu)(1,020 Btu/scf) = 36.7 lb/10^6 *scf*

CO:

The boilers were source tested for COon 7/23 through 7/25 1996 and 7/22 through7/24 1997. The ppm and lb/MMBtu values are from the source test reports and the lb/10^6 ft3 values were calculated assuming a natural gas heating value of 1020 Btu/scf (AP-42 table 1.4.2).

1996 Source Test Results (Best Environmental 7/23/96 - 7/25/96):

	Boiler 1 (N-4026-1)	Boiler 2 (N-4026-2)	Boiler 3 (N-4026-3)	Boiler 4 (N-4026-4)	Boiler 5 (N-4026-5)	Boiler 6 (N-4026-6)
CO (ppm @ 15% O_2)	1.1	1.2	1.1	0.6	4.6	93.9
CO - lb/MMBtu ($lb/10^6$ ft^3)	0.0008 (0.816)	0.0009 (0.918)	0.0008 (0.816)	0.0004 (0.408)	0.0034 (3.47)	0.0695 (70.89)

1997 Source Test Results (Best Environmental 7/22/97 - 7/24/97):

	Boiler 1 (N-4026-1)	Boiler 2 (N-4026-2)	Boiler 3 (N-4026-3)	Boiler 4 (N-4026-4)	Boiler 5 (N-4026-5)	Boiler 6 (N-4026-6)
CO (ppm @ 15% O_2)	2.45	1.08	1.07	15.5	8.94	104.48
CO - lb/MMBtu ($lb/10^6$ ft^3)	0.002 (2.04)	0.001 (1.02)	0.001 (1.02)	0.011 (11.22)	0.007 (7.14)	0.077 (78.54)

District rule 4305 (Boilers, Steam Generators and Process Heaters) was in effect during the baseline period, and would have allowed a CO emisison concentration of no more than 400 ppm @ 3% O_2 . As shown in the above table, the actual CO emission concentrations were less than would have been allowed by the rule. So that the actual emission reductions calculated are real, the source test values as opposed to the rule limit will be utilized to calculate the AER's.

VOC, SOx and PM10:

The boilers were not source tested for VOC, SOx or PM10. The baseline period emissions will be calculated utilizing emission factors from EPA Document AP-42, table 1.4-2 (3/98).

VOC: 5.5 $lb/10^6$ scf
SOx: 0.6 $lb/10^6$ scf
PM10: 7.6 $lb/10^6$ scf

Vinegar Generators (N-4026-7-0, N-4026-8-0 & N-4026-9-0):

Ethyl Alcohol Consumption Capacity: 199,000 gal/yr (all 3 generators combined)
Ethyl Alcohol Concentration: 92.4% by wt. (95% by Volume)

Ethyl Alcohol Density: 6.78 lb/gal

Ethyl Alcohol Consumption Capacity:

(199,000 gal. alcohol/yr)(6.78 lb alcohol/gal alcohol) x
(0.924 lb VOC/lb alcohol) = 1,246,679.3 lb VOC/yr

∴ 1,246,679.3 pounds of VOC per year is added to the generators

Vinegar Produced:

The applicant reported, during the application for Northern Region Project 960044,that 190,043 gallons of 95% alcohol yielded 1,484,517 gallons of acetic acid (vinegar). Therefore 199,000 gallons of ethyl alcohol will yield:

(1,484,517 gal/yr)(199,000/190,043) = 1,554,484 gal vinegar/yr

The acetic acid content of the vinegar produced is 100 g of acetic acid per liter of vinegar. Therefore the acetic acid production is:

(1,554,484 gal vinegar/yr)(100 g acetic acid/liter vinegar) X
(1 lb/453.6 g)(3.785 liter/gal) = 1,297,116.8 lb acetic acid/yr

Quantity of Ethyl Alcohol Converted To Acetic Acid:

MW Of Ethyl Alcohol: 46.07
MW Of Acetic Acid: 60.05

(1,297,116.8 lb acetic acid/yr) X
(46.07 ethyl alcohol/60.07 lb acetic acid) = 994,808.9 lb/yr

Alcohol Remaining In The Finished Vinegar:

Vinegar is a 10% solution of acetic acid
Vinegar contains 0.4% by weight of ethyl alcohol
Density of 10% acetic acid is 8.45 lb/gal
Vinegar production capacity is 1,554,484 gallons per year

Quantity of ethyl alcohol in the finished vinegar:

(1,554,484 gal vinegar/yr)(8.45 lb vinegar/gal vinegar) X
(0.004 lb ethyl alcohol/lb vinegar) = 52,541.6 lb ethyl alcohol/yr

Ethyl Alcohol Inventory:

1,246,679.3 lb/yr is added
994,808.9 lb/yr is converted to acetic acid
52,541.6 lb/yr remains in the vinegar

Ethyl Alcohol Lost:

1,246,679.3 lb/yr - 994,808.9 lb/yr - 52,541.6 lb/yr = 199,328.8 lb/yr

It will be assumed that all that is emitted is ethyl alcohol. No acetic acid will be emitted because it's solubility in water is high.

Emission Factor

(199,328.8 lb VOC/yr) / (199,000 gal alcohol/yr) = 1.0 lb VOC/gal alcohol

Acetator Emission Factor (N-4026-10-0 & N-403-11-0):

Ethyl Alcohol Consumption Capacity:	324,000 gal/yr (both acetators combined)
Ethyl Alcohol Concentration:	92.4% by wt. (95% by Volume)
Ethyl Alcohol Density:	6.78 lb/gal

Ethyl Alcohol Consumption Capacity:

(324,000 gal alcohol/yr)(6.78 lb alcohol/gal alcohol) x
(0.924 lb VOC/lb alcohol) = 2,029,769.3 lb VOC/yr

∴ 2,029,769.3 pounds of VOC/yr is added to the acetators

Vinegar Produced:

The applicant reported, during the processing of Northern Region project 960044, that 291,938 gallons of 95% alcohol yielded 2,501,288 gallons of acetic acid (vinegar). Therefore 324,000 gallons of ethyl alcohol will yield:

(2,501,288 gal/yr)(324,000/291,938) = 2,775,991.2 gal vinegar/yr
Acetic acid is the only VOC in vinegar. The acetic acid content of the vinegar produced is 100 g of acetic acid per liter of vinegar. Therefore the acetic acid production is:

(2,775,991.2 gal vinegar/yr)(100 g acetic acid/liter vinegar) X
(1 lb/453.6 g)(3.785 l/gal) = 2,316,386 lb acetic acid/yr

Quantity of Ethyl Alcohol Converted To Acetic Acid:

MW Of Ethyl Alcohol: 46.07
MW Of Acetic Acid: 60.05

(2,316,386 lb acetic acid/yr) X
(46.07 ethyl alcohol/60.07 lb acetic acid) = 1,776,525.8 lb/yr

Alcohol Remaining In The Finished Vinegar:

Vinegar is a 10% solution of acetic acid
Vinegar contains 0.4% by weight of ethyl alcohol
Density of 10% acetic acid is 8.45 lb/gal
Vinegar production capacity is 2,775,991.2 gallons per year

Quantity of ethyl alcohol in the finished vinegar:

(2,775,991.2 gal vinegar/yr)(8.45 lb vinegar/gal vinegar) X
(0.004 lb ethyl alcohol/lb vinegar) = 93,828.5 lb ethyl alcohol/yr

Ethyl Alcohol Inventory:

2,029,769.3 lb/yr is added
1,776,525.8 lb/yr is converted to acetic acid
93,828.5 lb/yr remains in the vinegar

Ethyl Alcohol Lost:

2,029,769.3 lb/yr - 1,776,525.8 lb/yr - 93,828.5 lb/yr = 159,415 lb/yr

Emission Factor

(159,415 lb VOC/yr) / (324,000 gal alcohol/yr) = 0.49 lb VOC/gal alcohol

Summary Of Emission Factors:

Boilers (HAE Purposes):

Year	Pollutant	Boiler 1 (N-4026-1)	Boiler 2 (N-4026-2)	Boiler 3 (N-4026-3)	Boiler 4 (N-4026-4)	Boiler 5 (N-4026-5)	Boiler 6 (N-4026-6)
1996	NOx (lb/10^6 scf)	46.1	45.7	43.4	41.8	39.8	47.5
1997	NOx (lb/10^6 scf)	46.1	45.7	43.4	41.8	39.8	49.0
1996	CO (lb/10^6 scf)	0.816	0.918	0.816	0.408	3.47	70.89
1997	CO (lb/10^6 scf)	2.04	1.02	1.02	11.22	7.14	78.54
1996	VOC (lb/10^6 scf)	5.5	5.5	5.5	5.5	5.5	5.5
1997	VOC (lb/10^6 scf)	5.5	5.5	5.5	5.5	5.5	5.5
1996	SOx (lb/10^6 scf)	0.6	0.6	0.6	0.6	0.6	0.6
1997	SOx (lb/10^6 scf)	0.6	0.6	0.6	0.6	0.6	0.6
1996	PM10 (lb/10^6 scf)	7.6	7.6	7.6	7.6	7.6	7.6
1997	PM10 (lb/10^6 scf)	7.6	7.6	7.6	7.6	7.6	7.6

Boilers (AER Purposes)

Year	Pollutant	Boiler 1 (N-4026-1)	Boiler 2 (N-4026-2)	Boiler 3 (N-4026-3)	Boiler 4 (N-4026-4)	Boiler 5 (N-4026-5)	Boiler 6 (N-4026-6)
1996	NOx (lb/10^6 scf)	36.72	36.72	36.72	36.72	36.72	36.72
1997	NOx (lb/10^6 scf)	36.72	36.72	36.72	36.72	36.72	36.72
1996	CO (lb/10^6 scf)	0.816	0.918	0.816	0.408	3.47	70.89
1997	CO (lb/10^6 scf)	2.04	1.02	1.02	11.22	7.14	78.54
1996	VOC (lb/10^6 scf)	5.5	5.5	5.5	5.5	5.5	5.5
1997	VOC (lb/10^6 scf)	5.5	5.5	5.5	5.5	5.5	5.5
1996	SOx (lb/10^6 scf)	0.6	0.6	0.6	0.6	0.6	0.6
1997	SOx (lb/10^6 scf)	0.6	0.6	0.6	0.6	0.6	0.6
1996	PM10 (lb/10^6 scf)	7.6	7.6	7.6	7.6	7.6	7.6
1997	PM10 (lb/10^6 scf)	7.6	7.6	7.6	7.6	7.6	7.6

Vinegar Generators (N-4026-7-0, N-406-8-0 & N-406-9-0):

VOC: 1.0 lb/gallon of alcohol added

Vinegar Acetators (N-406-10-0 & N-4026-11-0):

VOC: 0.49 lb/gallon of alcohol added

B. Baseline Period Determination and Data:

Baseline Period Determination:

The first choice for the baseline period is the two consecutive year period immediately preceding the submission of the ERC application which was May 12, 1998. The eight complete calendar quarters prior to the ERC application date are quarter 2 of 1996 through calendar quarter 1 of 1998. The plant, however began reducing production in preparation for permanently shutting down during 1997, and ceased emitting operations on January 1, 1998. The first quarter of beginning of 1998 was not representative of normal source operation and will not be part of the baseline period. Therefore, the first consideration for the baseline period, calendar years 1995 and 1996, will not be used.

The rule and policy state that the second consideration for the baseline period is another two consecutive year period in the five years immediately preceding the submission of the ERC application provided that period is more representative of normal source operation. Another two year period within the last five years, calendar years 1996 and 1997, was determined to be more representative of normal source operation and will be used as the baseline period.

1996 Emissions

Boiler 1 (N-4026-1)

Quarter	Pollutant	EF (lb/10^6 ft^3)	Fuel Usage (10^3 ft^3/qtr)	HAE (lb/qtr)
1	NOx	46.1	19,899	917
1	CO	0.816	19,899	16
1	VOC	5.5	19,899	109
1	SOx	0.6	19,899	12
1	PM10	7.6	19,899	151

Quarter	Pollutant	EF (lb/10^6 ft^3)	Fuel Usage (10^3 ft^3/qtr)	HAE (lb/qtr)
2	NOx	46.1	18,284	843
2	CO	0.816	18,284	15
2	VOC	5.5	18,284	101
2	SOx	0.6	18,284	11
2	PM10	7.6	18,284	139

Quarter	Pollutant	EF (lb/10^6 ft^3)	Fuel Usage (10^3 ft^3/qtr)	HAE (lb/qtr)
3	NOx	46.1	122,454	5,645
3	CO	0.816	122,454	100
3	VOC	5.5	122,454	673
3	SOx	0.6	122,454	73
3	PM10	7.6	122,454	931

Quarter	Pollutant	EF (lb/10^6 ft^3)	Fuel Usage (10^3 ft^3/qtr)	HAE (lb/qtr)
4	NOx	46.1	21,683	1,000
4	CO	0.816	21,683	18
4	VOC	5.5	21,683	119
4	SOx	0.6	21,683	13
4	PM10	7.6	21,683	165

Boiler 2 (N-4026-2)

Quarter	Pollutant	EF (lb/10^6 ft^3)	Fuel Usage (10^3 ft^3/qtr)	HAE (lb/qtr)
1	NOx	45.7	0	0
1	CO	0.918	0	0
1	VOC	5.5	0	0
1	SOx	0.6	0	0
1	PM10	7.6	0	0

Quarter	Pollutant	EF (lb/10^6 ft^3)	Fuel Usage (10^3 ft^3/qtr)	HAE (lb/qtr)
2	NOx	45.7	4,087	187
2	CO	0.918	4,087	4
2	VOC	5.5	4,087	22
2	SOx	0.6	4,087	2
2	PM10	7.6	4,087	31

Quarter	Pollutant	EF (lb/10^6 ft^3)	Fuel Usage (10^3 ft^3/qtr)	HAE (lb/qtr)
3	NOx	45.7	115,623	5,284
3	CO	0.918	115,623	106
3	VOC	5.5	115,623	636
3	SOx	0.6	115,623	69
3	PM10	7.6	115,623	879

Quarter	Pollutant	EF (lb/10^6 ft^3)	Fuel Usage (10^3 ft^3/qtr)	HAE (lb/qtr)
4	NOx	45.7	11,053	505
4	CO	0.918	11,053	10
4	VOC	5.5	11,053	61
4	SOx	0.6	11,053	7
4	PM10	7.6	11,053	84

Boiler 3 (N-4026-3)

Quarter	Pollutant	EF (lb/10^6 ft^3)	Fuel Usage (10^3 ft^3/qtr)	HAE (lb/qtr)
1	NOx	43.4	0	0
1	CO	0.816	0	0
1	VOC	5.5	0	0
1	SOx	0.6	0	0
1	PM10	7.6	0	0

Quarter	Pollutant	EF (lb/10^6 ft^3)	Fuel Usage (10^3 ft^3/qtr)	HAE (lb/qtr)
2	NOx	43.4	663	29
2	CO	0.816	663	1
2	VOC	5.5	663	4
2	SOx	0.6	663	0
2	PM10	7.6	663	5

Quarter	Pollutant	EF (lb/10^6 ft^3)	Fuel Usage (10^3 ft^3/qtr)	HAE (lb/qtr)
3	NOx	43.4	115,380	5,007
3	CO	0.816	115,380	94
3	VOC	5.5	115,380	635
3	SOx	0.6	115,380	69
3	PM10	7.6	115,380	877

Quarter	Pollutant	EF (lb/10^6 ft^3)	Fuel Usage (10^3 ft^3/qtr)	HAE (lb/qtr)
4	NOx	43.4	12,676	550
4	CO	0.816	12,676	10
4	VOC	5.5	12,676	70
4	SOx	0.6	12,676	8
4	PM10	7.6	12,676	96

Boiler 4 (N-4026-4)

Quarter	Pollutant	EF (lb/10^6 ft^3)	Fuel Usage (10^3 ft^3/qtr)	HAE (lb/qtr)
1	NOx	41.8	13,990	585
1	CO	0.408	13,990	6
1	VOC	5.5	13,990	77
1	SOx	0.6	13,990	8
1	PM10	7.6	13,990	106

Quarter	Pollutant	EF (lb/10^6 ft^3)	Fuel Usage (10^3 ft^3/qtr)	HAE (lb/qtr)
2	NOx	41.8	10,218	427
2	CO	0.408	10,218	4
2	VOC	5.5	10,218	56
2	SOx	0.6	10,218	6
2	PM10	7.6	10,218	78

Quarter	Pollutant	EF (lb/10^6 ft^3)	Fuel Usage (10^3 ft^3/qtr)	HAE (lb/qtr)
3	NOx	41.8	65,772	2,749
3	CO	0.408	65,772	27
3	VOC	5.5	65,772	362
3	SOx	0.6	65,772	39
3	PM10	7.6	65,772	500

Quarter	Pollutant	EF (lb/10^6 ft^3)	Fuel Usage (10^3 ft^3/qtr)	HAE (lb/qtr)
4	NOx	41.8	3,619	151
4	CO	0.408	3,619	1
4	VOC	5.5	3,619	20
4	SOx	0.6	3,619	2
4	PM10	7.6	3,619	28

Boiler 5 (N-4026-5)

Quarter	Pollutant	EF (lb/10^6 ft^3)	Fuel Usage (10^3 ft^3/qtr)	HAE (lb/qtr)
1	NOx	39.8	9,435	376
1	CO	3.47	9,435	33
1	VOC	5.5	9,435	52
1	SOx	0.6	9,435	6
1	PM10	7.6	9,435	72

Quarter	Pollutant	EF (lb/10^6 ft^3)	Fuel Usage (10^3 ft^3/qtr)	HAE (lb/qtr)
2	NOx	39.8	9,977	397
2	CO	3.47	9,977	35
2	VOC	5.5	9,977	55
2	SOx	0.6	9,977	6
2	PM10	7.6	9,977	76

Quarter	Pollutant	EF (lb/10^6 ft^3)	Fuel Usage (10^3 ft^3/qtr)	HAE (lb/qtr)
3	NOx	39.8	69,232	2,755
3	CO	3.47	69,232	240
3	VOC	5.5	69,232	381
3	SOx	0.6	69,232	42
3	PM10	7.6	69,232	526

Quarter	Pollutant	EF (lb/10^6 ft^3)	Fuel Usage (10^3 ft^3/qtr)	HAE (lb/qtr)
4	NOx	39.8	3,610	144
4	CO	3.47	3,610	13
4	VOC	5.5	3,610	20
4	SOx	0.6	3,610	2
4	PM10	7.6	3,610	27

Boiler 6 (N-4026-6)

Quarter	Pollutant	EF (lb/10^6 ft^3)	Fuel Usage (10^3 ft^3/qtr)	HAE (lb/qtr)
1	NOx	47.5	0	0
1	CO	70.89	0	0
1	VOC	5.5	0	0
1	SOx	0.6	0	0
1	PM10	7.6	0	0

Quarter	Pollutant	EF (lb/10^6 ft^3)	Fuel Usage (10^3 ft^3/qtr)	HAE (lb/qtr)
2	NOx	47.5	0	0
2	CO	70.89	0	0
2	VOC	5.5	0	0
2	SOx	0.6	0	0
2	PM10	7.6	0	0

Quarter	Pollutant	EF (lb/10^6 ft^3)	Fuel Usage (10^3 ft^3/qtr)	HAE (lb/qtr)
3	NOx	47.5	282,833	13,435
3	CO	70.89	282,833	20,050
3	VOC	5.5	282,833	1,556
3	SOx	0.6	282,833	170
3	PM10	7.6	282,833	2,150

Quarter	Pollutant	EF (lb/10^6 ft^3)	Fuel Usage (10^3 ft^3/qtr)	HAE (lb/qtr)
4	NOx	47.5	8,320	395
4	CO	70.89	8,320	590
4	VOC	5.5	8,320	46
4	SOx	0.6	8,320	5
4	PM10	7.6	8,320	63

Vinegar Generators (N-4026-7, N-4026-8 & N-4026-9)

1996

Quarter	Pollutant	EF (lb/gal alcohol)	alcohol (gal/qtr)	HAE (lb/qtr)
1	VOC	1.0	53,396	53,396
2	VOC	1.0	58,332	58,332
3	VOC	1.0	59,243	59,243
4	VOC	1.0	61,427	61,427

Vinegar Acetators (N-4026-10 & N-4026-11)

1996

Quarter	Pollutant	EF (lb/gal alcohol)	alcohol (gal/qtr)	HAE (lb/qtr)
1	VOC	0.49	87,121	42,689
2	VOC	0.49	95,174	46,635
3	VOC	0.49	96,659	47,363
4	VOC	0.49	100,223	49,109

1997 Emissions

Boiler 1 (N-4026-1)

Quarter	Pollutant	EF (lb/10^6 ft^3)	Fuel Usage (10^3 ft^3/qtr)	HAE (lb/qtr)
1	NOx	42.8	18,470	791
1	CO	2.04	18,470	38
1	VOC	5.5	18,470	102
1	SOx	0.6	18,470	11
1	PM10	7.6	18,470	140

Quarter	Pollutant	EF (lb/10^6 ft^3)	Fuel Usage (10^3 ft^3/qtr)	HAE (lb/qtr)
2	NOx	42.8	6,550	280
2	CO	2.04	6,550	13
2	VOC	5.5	6,550	36
2	SOx	0.6	6,550	4
2	PM10	7.6	6,550	50

Quarter	Pollutant	EF (lb/10^6 ft^3)	Fuel Usage (10^3 ft^3/qtr)	HAE (lb/qtr)
3	NOx	42.8	108,256	4,633
3	CO	2.04	108,256	221
3	VOC	5.5	108,256	595
3	SOx	0.6	108,256	65
3	PM10	7.6	108,256	823

Quarter	Pollutant	EF (lb/10^6 ft^3)	Fuel Usage (10^3 ft^3/qtr)	HAE (lb/qtr)
4	NOx	42.8	20,256	867
4	CO	2.04	20,256	41
4	VOC	5.5	20,256	111
4	SOx	0.6	20,256	12
4	PM10	7.6	20,256	154

Boiler 2 (N-4026-2)

Quarter	Pollutant	EF (lb/10^6 ft^3)	Fuel Usage (10^3 ft^3/qtr)	HAE (lb/qtr)
1	NOx	45.9	0	0
1	CO	1.02	0	0
1	VOC	5.5	0	0
1	SOx	0.6	0	0
1	PM10	7.6	0	0

Quarter	Pollutant	EF (lb/10^6 ft^3)	Fuel Usage (10^3 ft^3/qtr)	HAE (lb/qtr)
2	NOx	45.9	3,945	181
2	CO	1.02	3,945	4
2	VOC	5.5	3,945	22
2	SOx	0.6	3,945	2
2	PM10	7.6	3,945	30

Quarter	Pollutant	EF (lb/10^6 ft^3)	Fuel Usage (10^3 ft^3/qtr)	HAE (lb/qtr)
3	NOx	45.9	102,454	4,703
3	CO	1.02	102,454	105
3	VOC	5.5	102,454	563
3	SOx	0.6	102,454	61
3	PM10	7.6	102,454	779

Quarter	Pollutant	EF (lb/10^6 ft^3)	Fuel Usage (10^3 ft^3/qtr)	HAE (lb/qtr)
4	NOx	45.9	8,726	401
4	CO	1.02	8,726	9
4	VOC	5.5	8,726	48
4	SOx	0.6	8,726	5
4	PM10	7.6	8,726	66

Boiler 3 (N-4026-3)

Quarter	Pollutant	EF (lb/10^6 ft^3)	Fuel Usage (10^3 ft^3/qtr)	HAE (lb/qtr)
1	NOx	40.8	0	0
1	CO	1.02	0	0
1	VOC	5.5	0	0
1	SOx	0.6	0	0
1	PM10	7.6	0	0

Quarter	Pollutant	EF (lb/10^6 ft^3)	Fuel Usage (10^3 ft^3/qtr)	HAE (lb/qtr)
2	NOx	40.8	6,213	253
2	CO	1.02	6,213	6
2	VOC	5.5	6,213	34
2	SOx	0.6	6,213	4
2	PM10	7.6	6,213	47

Quarter	Pollutant	EF (lb/10^6 ft^3)	Fuel Usage (10^3 ft^3/qtr)	HAE (lb/qtr)
3	NOx	40.8	100,997	4,121
3	CO	1.02	100,997	103
3	VOC	5.5	100,997	555
3	SOx	0.6	100,997	61
3	PM10	7.6	100,997	768

Quarter	Pollutant	EF (lb/10^6 ft^3)	Fuel Usage (10^3 ft^3/qtr)	HAE (lb/qtr)
4	NOx	40.8	0	0
4	CO	1.02	0	0
4	VOC	5.5	0	0
4	SOx	0.6	0	0
4	PM10	7.6	0	0

Boiler 4 (N-4026-4)

Quarter	Pollutant	EF (lb/10^6 ft^3)	Fuel Usage (10^3 ft^3/qtr)	HAE (lb/qtr)
1	NOx	47.9	14,555	697
1	CO	11.22	14,555	163
1	VOC	5.5	14,555	80
1	SOx	0.6	14,555	9
1	PM10	7.6	14,555	111

Quarter	Pollutant	EF (lb/10^6 ft^3)	Fuel Usage (10^3 ft^3/qtr)	HAE (lb/qtr)
2	NOx	47.9	18,000	862
2	CO	11.22	18,000	202
2	VOC	5.5	18,000	99
2	SOx	0.6	18,000	11
2	PM10	7.6	18,000	137

Quarter	Pollutant	EF (lb/10^6 ft^3)	Fuel Usage (10^3 ft^3/qtr)	HAE (lb/qtr)
3	NOx	47.9	64,121	3,071
3	CO	11.22	64,121	719
3	VOC	5.5	64,121	353
3	SOx	0.6	64,121	38
3	PM10	7.6	64,121	487

Quarter	Pollutant	EF (lb/10^6 ft^3)	Fuel Usage (10^3 ft^3/qtr)	HAE (lb/qtr)
4	NOx	47.9	12,517	600
4	CO	11.22	12,517	140
4	VOC	5.5	12,517	69
4	SOx	0.6	12,517	8
4	PM10	7.6	12,517	95

Boiler 5 (N-4026-5)

Quarter	Pollutant	EF (lb/10^6 ft^3)	Fuel Usage (10^3 ft^3/qtr)	HAE (lb/qtr)
1	NOx	42.8	11,947	511
1	CO	7.14	11,947	85
1	VOC	5.5	11,947	66
1	SOx	0.6	11,947	7
1	PM10	7.6	11,947	91

Quarter	Pollutant	EF (lb/10^6 ft^3)	Fuel Usage (10^3 ft^3/qtr)	HAE (lb/qtr)
2	NOx	42.8	11,931	511
2	CO	7.14	11,931	85
2	VOC	5.5	11,931	66
2	SOx	0.6	11,931	7
2	PM10	7.6	11,931	91

Quarter	Pollutant	EF (lb/10^6 ft^3)	Fuel Usage (10^3 ft^3/qtr)	HAE (lb/qtr)
3	NOx	42.8	62,973	2,695
3	CO	7.14	62,973	450
3	VOC	5.5	62,973	346
3	SOx	0.6	62,973	38
3	PM10	7.6	62,973	479

Quarter	Pollutant	EF (lb/10^6 ft^3)	Fuel Usage (10^3 ft^3/qtr)	HAE (lb/qtr)
4	NOx	42.8	11,642	498
4	CO	7.14	11,642	83
4	VOC	5.5	11,642	64
4	SOx	0.6	11,642	7
4	PM10	7.6	11,642	88

Boiler 6 (N-4026-6)

Quarter	Pollutant	EF (lb/10^6 ft^3)	Fuel Usage (10^3 ft^3/qtr)	HAE (lb/qtr)
1	NOx	49	0	0
1	CO	78.54	0	0
1	VOC	5.5	0	0
1	SOx	0.6	0	0
1	PM10	7.6	0	0

Quarter	Pollutant	EF (lb/10^6 ft^3)	Fuel Usage (10^3 ft^3/qtr)	HAE (lb/qtr)
2	NOx	49	0	0
2	CO	78.54	0	0
2	VOC	5.5	0	0
2	SOx	0.6	0	0
2	PM10	7.6	0	0

Quarter	Pollutant	EF (lb/10^6 ft^3)	Fuel Usage (10^3 ft^3/qtr)	HAE (lb/qtr)
3	NOx	49	237,646	11,645
3	CO	78.54	237,646	18,665
3	VOC	5.5	237,646	1,307
3	SOx	0.6	237,646	143
3	PM10	7.6	237,646	1,806

Quarter	Pollutant	EF (lb/10^6 ft^3)	Fuel Usage (10^3 ft^3/qtr)	HAE (lb/qtr)
4	NOx	49	0	0
4	CO	78.54	0	0
4	VOC	5.5	0	0
4	SOx	0.6	0	0
4	PM10	7.6	0	0

Vinegar Generators (N-4026-7, N-4026-8 & N-4026-9)

1997

Quarter	Pollutant	EF (lb/gal alcohol)	alcohol (gal/qtr)	HAE (lb/qtr)
1	VOC	1.0	50,444	50,444
2	VOC	1.0	28,174	28,174
3	VOC	1.0	0	0
4	VOC	1.0	0	0

Vinegar Acetators (N-4026-10 & N-4026-11)

1997

Quarter	Pollutant	EF (lb/gal alcohol)	alcohol (gal/qtr)	HAE (lb/qtr)
1	VOC	0.49	82,303	40,328
2	VOC	0.49	45,967	22,524
3	VOC	0.49	0	0
4	VOC	0.49	0	0

Summary Of Emissions:

1996

	NOx (lb/qtr)	CO (lb/qtr)	VOC (lb/qtr)	SOx (qtr)	PM10 (qtr)
Quarter 1	1,878	55	96,324	26	329
Quarter 2	1,883	58	105,205	26	329
Quarter 3	34,876	20,617	110,848	463	5,862
Quarter 4	2,745	642	110,872	37	463

1997

	NOx (lb/qtr)	CO (lb/qtr)	VOC (lb/qtr)	SOx (lb/qtr)	PM10 (lb/qtr)
Quarter 1	1,999	286	91,020	27	342
Quarter 2	2,088	311	50,954	28	354
Quarter 3	30,868	20,262	3,720	406	5,141
Quarter 4	2,365	274	292	32	404

Total

	NOx (lb/qtr)	CO (lb/qtr)	VOC (lb/qtr)	SOx (lb/qtr)	PM10 (lb/qtr)
Quarter 1	3,877	341	187,343	53	671
Quarter 2	3,970	369	156,159	54	683
Quarter 3	65,744	40,879	114,568	869	11,003
Quarter 4	5,110	916	111,164	68	867

NOx AERs:

EF 36.7 lb/10^6 ft^3 of fuel usage

	Boiler 1	Boiler 2	Boiler 3	Boiler 4	Boiler 5	Boiler 6	Total
Quarter 1, 1996 (lb)	730	0	0	513	346	0	1590
Quarter 2, 1996 (lb)	671	150	24	375	366	0	1587
Quarter 3, 1996 (lb)	4494	4243	4234	2414	2541	10380	28306
Quarter 4, 1996 (lb)	796	406	465	133	132	305	2237

	Boiler 1	Boiler 2	Boiler 3	Boiler 4	Boiler 5	Boiler 6	Total
Quarter 1, 1997 (lb)	678	0	0	534	438	0	1650
Quarter 2, 1997 (lb)	240	145	228	661	438	0	1712
Quarter 3, 1997 (lb)	3973	3760	3707	2353	2311	8722	24826
Quarter 4, 1997 (lb)	743	320	0	459	427	0	1950

Ave. Qtr 1, 1996 & 1997: 1620 lb
Ave. Qtr 2, 1996 & 1997: 1649 lb
Ave. Qtr 3, 1996 & 1997: 26566 lb
Ave. Qtr 4, 1996 & 1997: 2094 lb

VINEGAR PRODUCTION DATA AND EMISSION CALCULATIONS
HEINZ U.S.A., TRACY, CALIFORNIA

BASIC DATA

Basic alcohol and vinegar data are shown in Tables I, II, and III, attached. The tables include calculated overall yields in gallons of vinegar produced per gallon of alcohol used. Also attached are the crude data sheets which serve as the original sources of the information used:

- Alcohol User's Report, 7/95 - 6/96 (2 pages)
- Alcohol User's Report, 7/96 - 6/97 (2 pages)
- Grain Processing Corp. communication on alcohol shipments, 4/97 - 11/97
- Fiscal Year 96 (5/95 - 4/96) Case Production, showing total vinegar production
- Fiscal Year 97 (5/96 - 4/97) Case Production, showing total vinegar production
- Fiscal Year 98 (5/97 - 4/98) Case Production, showing total vinegar production

Please note that alcohol received and used is expressed in gallons of 95% ethanol by volume (92.4% by weight). Both received and used data are available for 7/95 - 6/97, while only received data are available for the period after 6/97. Vinegar figures represent actual gallons converted to a 100 grain (100 grams acetic acid per liter) concentration basis.

Data are given for the 30 month period 7/95 - 12/97. Normal emission credit assignment procedures utilize the last two calendar years of operation (1996 and 1997), but the District has the option of using a more representative two year period when circumstances dictate. The packed generators were shut down in June 1997 and the acetators were shut down in November 1997. Therefore, the last half of 1997 does not reflect representative operation, and the District is encouraged to use the period 7/95 - 6/97 as a more representative two years.

DATA ALLOCATION TO PACKED GENERATORS AND ACETATORS

Neither the alcohol receipt/use nor vinegar production records separate packed generator from acetator throughput. Some appropriate assumptions were used to make an allocation between the two systems, and the results are presented in Tables IV, V, and VI, attached. The allocation procedure is described below:

- A presumptive basis for allocation is the maximum capacities for the two sets of units as given in the emissions permit application submitted 1/22/96:

  Packed generators (3 units) - 199,000 gal./yr. (38% of total capacity)
  Acetators (2 units) - 324,000 gal./yr. (62% of total capacity)

- A second assumption involves the normal efficiencies of the two units. Vinegar generation efficiency is the percentage of alcohol which is converted to acetic acid in the product. From studies at the Heinz Holland, Michigan factory, expected efficiencies are 82% for packed generators and 92% for acetators.

- The theoretical acetic acid yield at 100% efficiency is calculated as follows:

  Ethanol concentration in alcohol = (conc.)(density) = (0.924)(6.78 lb./gal.) = 6.26 lb./gal.

  Acetic acid equivalent in alcohol = (CH_3COOH/C_2H_5OH)(ethanol conc.) = (60/46)(6.26)
  = 8.17 lb. ac.acid/gal. alc.

  Acetic acid concentration in vinegar = (100g./l.)(3.785 l./gal.)(1 lb./454 g.) = 0.834 lb./gal.

  Theoretical yield = $\frac{\text{(8.17 lb. ac.acid/gal. alc)}}{\text{(0.834 lb. ac.acid/gal. vin.)}}$ = 9.79 gal. vin./gal. alc.

- Probable yields for packed generators and acetators are calculated as follows:

  Packed generators - (9.79)(0.82) = 8.03 gal. vin./gal. alc.

  Acetators - (9.79)(0.92) = 9.01 gal. vin./gal. alc.

- At a 38/62 split based on capacities, the overall yield would be (8.03)(0.38) + (9.01)(0.62) = 8.64 gal. vin./gal. alc. This value agrees well with the average of 8.62 for the yields for 7/95 - 6/97 on Tables I, II, and III, and will be used as the primary allocation basis.

- For the months 7/95 - 5/97, alcohol used was allocated 38% to packed generators and 62% to acetators. For each alcohol use, vinegar production was calculated from the above probable yields (8.03 or 9.01 gal. vin./gal. alc.). The two calculated vinegar production figures (packed generator and acetator) were added together. The actual reported total vinegar production was divided by the above sum of calculated productions to yield a correction factor. Each calculated vinegar production figure was multiplied by the factor to result in a final allocated production. For example, the calculations for 7/95 are:

  Alcohol used = 43363 gal.

  Alcohol allocation is: Generator - (43363)(0.38) = 16,478 gal.
  Acetator - (43363)(0.62) = 26,885 gal.

  Calculated vinegar yield is: Generator - (16478)(8.03) = 132,318 gal.
  Acetator - (26885)(9.01) = 242,234 gal.
  Total 374,552 gal.

  Actual vinegar production is 383,256, factor = 383,256/374,552 = 1.023238

  Allocated vinegar production is: Generator - (132318)(1.023238) = 135,393 gal.
  Acetator - (242,234)(1.023238) = 247,863 gal.
  Total 383,256 gal.

- For the period 7/97 - 11/97, all production is from acetators. Actual vinegar production figures are used, and alcohol used is calculated using a yield factor of 8.97, which is the average acetator yield from all previous months.

EMISSION CALCULATIONS

Emission calculations can be done for a selected time period by determining the ethanol equivalent of the acetic acid in product and determining the residual ethanol in product, and subtracting both of these from the ethanol in the alcohol used. Example calculations are given below for 3rd quarter 1995 for both acetators and packed generators. Please note that residual ethanol in product is consistently 0.2% by volume (0.16% by weight) for acetators and 0.5% by volume (0.4% by weight) for packed generators.

ACETATOR CALCULATION:

$EF = \frac{44,579}{65,027} = .685 \frac{lb}{gal}$

Gal. alcohol used = 65,027

Lb. ethanol used = (65,027)(6.26 lb./gal.) = 407,069 [See P.2 for concentration calculation]

Gal. vinegar produced = 555,182

Lb. acetic acid in vinegar = (555,182)(0.834 lb./gal.) = 463,022 [See P.2 for conc. calc.]

Lb. ethanol equivalent in vinegar = (463,022)(46/60) = 354,984

Lb. ethanol residual in vinegar = (555,182)(8.45 lb./gal.)(0.0016) = 7,506 [Vin. dens. = 8.45]

Lb. ethanol in emissions = 407,069 - 354,984 - 7,506 = 44,579

PACKED GENERATOR CALCULATION:

Gal. alcohol used = 39,855

Lb. ethanol used = (39,855)(6.26 lb./gal.) = 249,492 [See P.2 for conc. calc.]

$EF = \frac{45,337}{39,855} = 1.14$

Gal. vinegar produced = 303,260

Lb. acetic acid in vinegar = (303,260)(0.834 lb./gal.) = 252,919 [See P.2 for conc. calc.]

Lb. ethanol equivalent in vinegar = (252,919)(46/60) = 193,905

Lb. ethanol residual in vinegar = (303,260)(8.45 lb./gal.)(0.004) = 10,250 [Vin. dens. = 8.45]

Lb. ethanol in emissions = 249,492 - 193,905 - 10,250 = 45,337

When the vinegar yields (gal. vin./gal. alc.) are reviewed, it is obvious that there is significant variability from month to month. It is also apparent that the figures for some months are in excess of 9.79, which is equivalent to 100% efficiency. If an emissions calculation were made for such a month, the result would be negative. The reason for this apparent inconsistency is not known, but the problem may be a result of infrequent or inaccurate inventory measurements, which correct themselves over time. Therefore, it is important that material balance calculations be carried out on time intervals of at least a quarter in length. Such a frequency will provide reasonably representative results and will satisfy the District requirement that emission credits be reckoned on a quarterly basis. Another option would be to run the material balance on a larger data segment, such as a year, develop a factor of pounds emissions per gallon of alcohol, and then apply the factor to alcohol use for each month or quarter of the year.

Please note that the assumed "normal" efficiencies of 92% for acetators and 82% for generators would result in yields of 9.01 and 8.03 gal. vin./gal. alc., respectively. The data in Tables IV, V, and VI show averages of 8.97 (91.6%) and 8.01 (81.8%) for the period studied, confirming that the allocation assumptions are reasonable.

TABLE I
VINEGAR PRODUCTION DATA, 7/95 - 12/95
HEINZ U.S.A., TRACY, CALIFORNIA

MONTH	ALCOHOL RECEIVED (GAL.)	ALCOHOL USED (GAL.)		VINEGAR PRODUCED (GAL.)		Gal vin / Gal alc
7/95	56014	43363	÷	383256	=	8.84
8/95	27999	30960		252981		8.17
9/95	28015	30559		222205		7.27
3rd Quarter	112028	104882		858442		8.18
10/95	28002	22521		241555		10.73
11/95	27999	37737		292301		7.75
12/95	56004	41730		321832		7.71
4th Quarter	112005	101988		855688		8.39
6 Mo. Total	224033	206870		1714130		8.29

Alcohol is 95% ethanol by volume (92.4% by weight).

Vinegar is equivalent gallons of 100 grain (100 g./l. acetic acid).

TABLE II
VINEGAR PRODUCTION DATA, 1996
HEINZ U.S.A., TRACY, CALIFORNIA

MONTH	ALCOHOL RECEIVED (GAL.)	ALCOHOL USED (GAL.)	VINEGAR PRODUCED (GAL.)	Gal vin / Gal alc
1/96	33967	52293	485317	9.28
2/96	62263	44316	358408	8.09
3/96	28009	43908	356473	8.04
1st Quarter	124239	140517	1200198	8.54
4/96	62351	47569	476667	10.02
5/96	57439	54627	420232	7.69
6/96	28696	51310	414626	8.08
2nd Quarter	148486	153506	1311525	8.54
7/96	57653	49577	475242	9.59
8/96	57481	55616	419761	7.55
9/96	57510	50709	426680	8.41
3rd Quarter	172644	155902	1321683	8.48
10/96	57466	55087	531130	9.64
11/96	57555	50016	439307	8.78
12/96	42347	56547	432205	7.64
4th Quarter	157368	161650	1402642	8.68
1st 6 Mo.	272725	294023	2511723	8.54
2nd 6 Mo.	330012	317552	2724325	8.58
Year Total	602737	611575	5236048	8.56

Alcohol is 95% ethanol by volume (92.4% by weight).

Vinegar is equivalent gallons of 100 grain (100 g./l. acetic acid)

TABLE III
VINEGAR PRODUCTION DATA, 1997
HEINZ U.S.A., TRACY, CALIFORNIA

MONTH	ALCOHOL RECEIVED (GAL.)	ALCOHOL USED (GAL.)	VINEGAR PRODUCED (GAL.)	Gal vin / Gal alc
1/97	64243	58768	563551	9.59
2/97	28666	40551	368257	9.08
3/97	28815	33428	252142	7.54
1st Quarter	121724	132747	1183950	8.92
4/97	28770	31892	343711	10.78
5/97	57481	25266	208549	8.25
6/97	0	16983	140264	8.26
2nd Quarter	86251	74141	692524	9.34
7/97	28830	-----	176366	-----
8/97	28740	-----	240337	-----
9/97	28844	-----	275067	-----
3rd Quarter	86414	-0-	691770	-----
10/97	0	-----	274697	-----
11/97	13819	-----	131916	-----
12/97	0	0	0	-----
4th Quarter	13819	-0-	406613	-----
1st 6 Mo.	207975	206888	1876474	9.07
2nd 6 Mo.	100233	-----	1098383	-----
Year Total	308208	-----	2974857	-----

Alcohol is 95% ethanol by volume (92.4% by weight).

Vinegar is equivalent gallons of 100 grain (100 g./l. acetic acid).

TABLE IV
ALLOCATED VINEGAR PRODUCTION DATA, 7/95 - 12/95
HEINZ U.S.A., TRACY, CALIFORNIA

	ACETATORS 62%			GENERATORS 35%		
Month	Alcohol Used (Gal.)	Vinegar Produced (Gal.)	Gal vin Gal alc	Alcohol Used (Gal.)	Vinegar Produced (Gal.)	Gal vin Gal alc
7/95	26885	247863	9.22	16478	135393	8.22
8/95	19195	163609	8.52	11765	89372	7.60
9/95	18947	143710	7.58	11612	78495	6.76
3rd Quarter	65027	555182	8.54	39855	303260	7.61
10/95	13963	156621	11.19	8558	85334	9.97
11/95	23397	189041	8.08	14340	103260	7.20
12/95	25873	208142	8.04	15857	113690	7.17
4th Quarter	63233	553404	8.75	38755	302284	7.80
6 Mo. Total	128260	1108586	8.64	78610	605544	7.70

TABLE V
ALLOCATED VINEGAR PRODUCTION DATA, 1996
HEINZ U.S.A., TRACY, CALIFORNIA

	ACETATORS			GENERATORS		
Month	Alcohol Used (Gal.)	Vinegar Produced (Gal.)	Gal Vin / Gal Alc	Alcohol Used (Gal.)	Vinegar Produced (Gal.)	Gal Vin / Gal Alc
1/96	32422	313872	9.68	19871	171445	8.63
2/96	27476	231794	8.44	16840	126614	7.52
3/96	27223	230542	8.47	16685	125931	7.55
1st Quarter	87121	776208	8.91	53396	423990	7.94
4/96	29493	308278	10.45	18076	168389	9.32
5/96	33869	271779	8.02	20758	148453	7.15
6/96	31812	268150	8.43	19498	146476	7.51
2nd Quart'r	95174	848207	8.91	58332	463318	7.94
7/96	30738	307350	10.00	18840	167892	8.91
8/96	34482	271476	7.87	21134	148285	7.02
9/96	31440	275950	8.78	19269	150730	7.82
3rd Quarter	96660	854776	8.84	59243	466907	7.88
10/96	34154	343499	10.06	20933	187631	8.96
11/96	31010	284114	9.16	19006	155192	8.17
12/96	35059	279519	7.97	21488	152686	7.11
4th Quarter	100223	907132	9.05	61427	495509	8.07
1st 6 Mo.	182295	1624415	8.91	111728	887308	7.94
2nd 6 Mo.	196883	1761908	8.95	120670	962416	7.98
Year Total	379178	3386323	8.93	232398	1849724	7.96

324,000

199,000

379,178 / 3386323 = .112 gal Alc / gal vinegar

232,390 / 1,849,724 = .126 gal alcohol / gal vinegar

Max possible use = 324,000 gal/12] alcohol
reported use = 379,178 gal/yr

max poss. prod = 324,000 / .1167 = 2,776,350

reported prod = 3,386,323

199,000 gal alcohol / yr ÷ .126 gal alcohol / gal vinegar = 1,579,365 gal vinegar / yr

max poss use = 199,000 gal/yr] alcohol
reported use = 232,398 gal/yr

max poss prod = 1,579,365 gal vinegar/yr
reported production = 1,849,724 gal vinegar/yr

TABLE VI
ALLOCATED VINEGAR PRODUCTION DATA, 1997
HEINZ U.S.A., TRACY, CALIFORNIA

	ACETATORS			GENERATORS		
Month	Alcohol Used (Gal.)	Vinegar Produced (Gal.)	Gal Vin Gal Alc	Alcohol Used (Gal.)	Vinegar Produced (Gal.)	Gal Vin Gal Alc
1/97	36436	364464	10.00	22332	199087	8.91
2/97	25142	238166	9.47	15409	130091	8.44
3/97	20725	163065	7.87	12703	89077	7.01
1st Quarter	82303	765695	9.30	50444	418255	8.29
4/97	19773	222288	11.24	12119	121423	10.02
5/97	15666	134874	8.61	9602	73675	7.67
6/97	16983	140264	8.26	0	0	-----
2nd Quart'r	52422	497426	9.49	21721	195098	8.98
7/97	19662	176366	8.97	0	0	-----
8/97	26797	240337	8.97	0	0	-----
9/97	30665	275067	8.97	0	0	-----
3rd Quarter	77124	691770	8.97	0	0	-----
10/97	30624	274697	8.97	0	0	-----
11/97	14706	131916	8.97	0	0	-----
12/97	0	0	-----	0	0	-----
4th Quarter	45330	406613	8.97	0	0	-----
1st 6 Mo.	134725	1263121	9.38	72165	613353	8.50
2nd 6 Mo.	122453	1098383	8.97	0	0	-----
Year Total	257179	2361504	9.18	72165	613353	8.50

$\frac{257,179}{2361,504} = 0.109 \frac{\text{gal alcohol}}{\text{gal vinegar}}$

$\frac{72,165}{613,353} = 0.118 \frac{\text{gal alcohol}}{\text{gal vinegar}}$

DEPARTMENT OF THE TREASURY – BUREAU OF ALCOHOL, TOBACCO AND FIREARMS

USER'S REPORT OF DENATURED ALCOHOL OR RUM

(See instructions on back — prepare in duplicate)

1. REPORT FOR
☐ MONTH OF _____, 19___
☒ FISCAL YEAR ENDING JUNE 30, 19___

2. NAME AND ADDRESS OF PERMITTEE *(Number, Street, City, State, ZIP Code)*

1995
GAL.

3. INDUSTRIAL USE PERMIT
NO.

4. THIS REPORT COVERS ONLY *(Check one)*
☒ SPECIALLY DENATURED ALCOHOL (SDA)
☐ SPECIALLY DENATURED RUM (SDR)
☐ RECOVERED COMPLETELY DENATURED ALCOHOL
☐ RECOVERED ARTICLES

PART I – SUMMARY OF TRANSACTIONS

ITEM		FORMULA NUMBER NO. July (a)	NO. Aug. (b)	NO. Sept (c)	NO. Oct (d)	NO. Nov. (e)	NO. Dec. (f)	TOTAL (g)
1. ON HAND BEGINNING OF PERIOD	a. New	9603.0	21254.	18293.	15749.	21250.	11492.	
	b. Recovered							
2. RECEIVED		56014.0	27999.	28015.0	28002.0	27999.	50004.0	
3. RECOVERED IN ORIGINAL DENATURED STATE								
4. RECOVERED IN OTHER THAN ORIGINAL DENATURED STATE								
5. GAINS								
6.								
7. TO BE ACCOUNTED FOR *(Total lines 1 through 6)*		64617.0	49253.	46308.0	43751.	49249.	61496.	
8. USED	a. New	43363.0	30960.	30559.0	27621.0	37757.0	41130.0	
	b. Recovered							
9. RECOVERED SPIRITS SHIPPED TO DENATURER								
10. LOSSES ON PREMISES								
11.								
12. ON HAND END OF PERIOD	a. New	21254.0	18293.0	15749.0	21250.0	11492.0	25366.0	
	b. Recovered							
13. ACCOUNTED FOR *(Total lines 8 through 12)*		64617.0	49253.0	46308.0	43751.0	49249.0	61496.0	

PART II – MONTHLY SUMMARY OF LOSSES

	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	TOTAL
1. LOSSES IN TRANSIT ATF FORM 1473 (5110.16)													
2. LOSSES ON PREMISES													

ATF FORM 1482 (5150.18) (12-78) EDITION OF 12/77 MAY BE USED.

DEPARTMENT OF THE TREASURY – BUREAU OF ALCOHOL, TOBACCO AND FIREARMS

USER'S REPORT OF DENATURED ALCOHOL OR RUM

(See instructions on back — prepare in duplicate)

1. REPORT FOR
☐ MONTH OF _____, 19__
☐ FISCAL YEAR ENDING JUNE 30, 19__

2. NAME AND ADDRESS OF PERMITTEE *(Number, Street, City, State, ZIP Code)*

1996 GAL.

3. INDUSTRIAL USE PERMIT NO.

4. THIS REPORT COVERS ONLY *(Check one)*
☐ SPECIALLY DENATURED ALCOHOL (SDA)
☐ SPECIALLY DENATURED RUM (SDR)
☐ RECOVERED COMPLETELY DENATURED ALCOHOL
☐ RECOVERED ARTICLES

PART I – SUMMARY OF TRANSACTIONS

ITEM	FORMULA NUMBER NO. Jan (a)	NO. Feb. (b)	NO. March (c)	NO. Apr. (d)	NO. May (e)	NO. June (f)	TOTAL (g)
1. ON HAND BEGINNING OF PERIOD a. New	25560	7440	25387	9198	24270	27052	
b. Recovered							
2. RECEIVED	33967	6263	28069	62361	57459	28465	
3. RECOVERED IN ORIGINAL DENATURED STATE							
4. RECOVERED IN OTHER THAN ORIGINAL DENATURED STATE							
5. GAINS							
6.							
7. TO BE ACCOUNTED FOR *(Total lines 1 through 6)*	59733	19703	53456	71559	81729	55517	
8. USED a. New	52293	44316	43908	47189	54620	51309	
b. Recovered							
9. RECOVERED SPIRITS SHIPPED TO DENATURER							
10. LOSSES ON PREMISES							
11.							
12. ON HAND END OF PERIOD a. New	7440	25387	9198	24370	27052	4168	
b. Recovered							
13. ACCOUNTED FOR *(Total lines 8 through 12)*	59733	19703	53456	71559	81729	55517	

PART II – MONTHLY SUMMARY OF LOSSES

	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	TOTAL
1. LOSSES IN TRANSIT ATF FORM 1473 (5110.16)													
2. LOSSES ON PREMISES													

ATF FORM 1482 (5150.18) (12-78) EDITION OF 12/77 MAY BE USED.

DEPARTMENT OF THE TREASURY – BUREAU OF ALCOHOL, TOBACCO AND FIREARMS

USER'S REPORT OF DENATURED ALCOHOL OR RUM

(See instructions on back — prepare in duplicate)

1. REPORT FOR
☐ MONTH OF June, 1996
☒ FISCAL YEAR ENDING JUNE 30, 19 ___

2. NAME AND ADDRESS OF PERMITTEE *(Number, Street, City, State, ZIP Code)*

1996 GAL.

3. INDUSTRIAL USE PERMIT NO.

4. THIS REPORT COVERS ONLY *(Check one)*
☒ SPECIALLY DENATURED ALCOHOL (SDA)
☐ SPECIALLY DENATURED RUM (SDR)
☐ RECOVERED COMPLETELY DENATURED ALCOHOL
☐ RECOVERED ARTICLES

PART I – SUMMARY OF TRANSACTIONS

ITEM	FORMULA NUMBER NO. July (a)	NO. Aug (b)	NO. Sept. (c)	NO. Oct. (d)	NO. Nov. (e)	NO. Dec (f)	TOTAL (g)
1. ON HAND BEGINNING OF PERIOD a. New	448.0	1254.5	1469.0	2120.0	2358.9	2128.0	
b. Recovered							
2. RECEIVED	5763.2	5748.7	5750.3	5746.8	5755.0	4230.0	
3. RECOVERED IN ORIGINAL DENATURED STATE							
4. RECOVERED IN OTHER THAN ORIGINAL DENATURED STATE							
5. GAINS							
6.							
7. TO BE ACCOUNTED FOR *(Total lines 1 through 6)*	6212	7002.2	7219.3	7866.8	8114.4.0	6358.0	
8. USED a. New	4957.7	5546.2	5099.3	5508.8	5001.6.0	5647.0	
b. Recovered							
9. RECOVERED SPIRITS SHIPPED TO DENATURER							
10. LOSSES ON PREMISES		BC					
11.							
12. ON HAND END OF PERIOD a. New	1254.5	1469.0	2120.0	2358.9	2128.0	1692.8.0	
b. Recovered							
13. ACCOUNTED FOR *(Total lines 8 through 12)*	6212.2	7002.2	7219.3	7866.8	8114.4.0	7339.8.0	

PART II – MONTHLY SUMMARY OF LOSSES

	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	TOTAL
1. LOSSES IN TRANSIT ATF FORM 1473 (5110.16)													
2. LOSSES ON PREMISES													

ATF FORM 1482 (5160.18) (12-78) EDITION OF 12/77 MAY BE USED.

DEPARTMENT OF THE TREASURY - BUREAU OF ALCOHOL, TOBACCO AND FIREARMS

USER'S REPORT OF DENATURED ALCOHOL OR RUM

(See instructions on back — prepare in duplicate)

1. REPORT FOR
☐ MONTH OF _____ 19__
☒ FISCAL YEAR ENDING JUNE 30, 19__

2. NAME AND ADDRESS OF PERMITTEE *(Number, Street, City, State, ZIP Code)*

1997

3. INDUSTRIAL USE PERMIT NO.

4. THIS REPORT COVERS ONLY *(Check one)*
☐ SPECIALLY DENATURED ALCOHOL (SDA)
☐ SPECIALLY DENATURED RUM (SDR)
☐ RECOVERED COMPLETELY DENATURED ALCOHOL
☐ RECOVERED ARTICLES

PART I – SUMMARY OF TRANSACTIONS

ITEM	FORMULA NUMBER NO. Jan (a)	NO. Feb. (b)	NO. March (c)	NO. Apr. (d)	NO. May (e)	NO. June (f)	TOTAL (g)
1. ON HAND BEGINNING OF PERIOD a. New	16928.0	22403.0	10518.0	5905.0	2783.0	34996.0	
b. Recovered							
2. RECEIVED	6243.0	28666.0	28814.7	28770.0	57480.7	-0-	150,981.4
3. RECOVERED IN ORIGINAL DENATURED STATE							
4. RECOVERED IN OTHER THAN ORIGINAL DENATURED STATE							
5. GAINS							BC
6.							
7. TO BE ACCOUNTED FOR *(Total lines 1 through 6)*	23171.0	51069.0	39332.7	34675.0	60263.7	34996.0	
8. USED a. New	5876.8.0	40651.0	33420.7	31892.0	25265.7	16983.0	124,439.4
b. Recovered							
9. RECOVERED SPIRITS SHIPPED TO DENATURER							
10. LOSSES ON PREMISES							
11.							
12. ON HAND END OF PERIOD a. New	22403.0	10518.0	5905.0	2783.0	34998.0	18013.0	
b. Recovered							
13. ACCOUNTED FOR *(Total lines 8 through 12)*	23171.0	51069.0	39332.7	34675.0	60263.7	34996.0	

PART II – MONTHLY SUMMARY OF LOSSES

	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	TOTAL
1. LOSSES IN TRANSIT ATF FORM 1473 (5110.16)													
2. LOSSES ON PREMISES													

ATF FORM 1482 (5150.18) (12-78) EDITION OF 12/77 MAY BE USED.