Southwest Cheese Co., LLC
P. O. Box 1509
1141 Curry Road 4
Clovis, NM 88101
Tel: 575.742.9200
Fax: 575.769.1494

6 September 2024

New Mexico Environmental Department
Air Quality Bureau
525 Camino do los Marquez, Suite 1
Santa Fe, N.M. 87505

RE: Title V Air Quality Permit Application

Dear EPA Region 6:

Southwest Cheese is pleased to submit our Title V Air Quality Permit Application in accordance with NMED instruction. Please find the attached Universal Air Quality Permit Application and reporting documents.

- Universal Air Quality Permit Application
- Section 2: Landscape Tables
- Application Body
- Compliance Assurance Monitoring Plan

Should you have any questions please contact our Environmental Manager, Savannah Strenk, at 575-366-6650 or via email at sstrenk@southwestcheese.com.

Sincerely,

Cormac O'Kelly
EHS & Engineering Manager

Attach:

Universal Air Quality Permit Application and reporting documents.

Mail Application To:

New Mexico Environment Department
Air Quality Bureau
Permits Section
525 Camino de los Marquez, Suite 1
Santa Fe, New Mexico, 87505

Phone: (505) 476-4300
Fax: (505) 476-4375
www.env.nm.gov/aqb

For Department use only:

RECEIVED
SEP 09 2024
Air Quality Bureau

AIRS No.:

Universal Air Quality Permit Application

Use this application for NOI, NSR, or Title V sources.

Use this application for: the initial application, modifications, technical revisions, and renewals. For technical revisions, complete Sections, 1-A, 1-B, 2-E, 3, 9 and any other sections that are relevant to the requested action; coordination with the Air Quality Bureau permit staff prior to submittal is encouraged to clarify submittal requirements and to determine if more or less than these sections of the application are needed. Use this application for streamline permits as well. See Section 1-I for submittal instructions for other permits.

This application is submitted as (check all that apply): ☐ Request for a No Permit Required Determination (no fee)
☐ **Updating** an application currently under NMED review. Include this page and all pages that are being updated (no fee required).
Construction Status: ☐ Not Constructed ☑ Existing Permitted (or NOI) Facility ☐ Existing Non-permitted (or NOI) Facility
Minor Source: ☐ a NOI 20.2.73 NMAC ☐ 20.2.72 NMAC application or revision ☐ 20.2.72.300 NMAC Streamline application
Title V Source: ☐ Title V (new) ☐ Title V renewal ☐ TV minor mod. ☑ TV significant mod. TV Acid Rain: ☐ New ☐ Renewal
PSD Major Source: ☐ PSD major source (new) ☐ minor modification to a PSD source ☐ a PSD major modification

Acknowledgements:

☑ I acknowledge that a pre-application meeting is available to me upon request. ☑ Title V Operating, Title IV Acid Rain, and NPR applications have no fees.

☐ $500 NSR application Filing Fee enclosed OR ☐ The full permit fee associated with 10 fee points (required w/ streamline applications)

☐ Check No.: in the amount of

☑ I acknowledge the required submittal format for the hard copy application is printed double sided 'head-to-toe', 2-hole punched (except the Sect. 2 landscape tables is printed 'head-to-head'), numbered tab separators. Incl. a copy of the check on a separate page.

☐ This facility qualifies to receive assistance from the Small Business Environmental Assistance program (SBEAP) and qualifies for 50% of the normal application and permit fees. Enclosed is a check for 50% of the normal application fee which will be verified with the Small Business Certification Form for your company.

☐ This facility qualifies to receive assistance from the Small Business Environmental Assistance Program (SBEAP) but does not qualify for 50% of the normal application and permit fees. To see if you qualify for SBEAP assistance and for the small business certification form go to https://www.env.nm.gov/aqb/sbap/small_business_criteria.html).

Citation: Please provide the **low level citation** under which this application is being submitted: **20.2.72.219.D.1.a NMAC**
(e.g. application for a new minor source would be 20.2.72.200.A NMAC, one example for a Technical Permit Revision is 20.2.72.219.B.1.b NMAC, a Title V acid rain application would be: 20.2.70.200.C NMAC)

Section 1 – Facility Information

Section 1-A: Company Information

		AI # if known (see 1st 3 to 5 #s of permit IDEA ID No.): AIRS No. 35-009-0014	Updating Permit/NOI #: 3008-M5 and P280-M2
1	Facility Name: Southwest Cheese Company	Plant primary SIC Code (4 digits): 2022, 2023	
		Plant NAIC code (6 digits): 311513	
a	Facility Street Address (If no facility street address, provide directions from a prominent landmark): 1411 Curry Road 4, Clovis, NM 88101		
	Plant Operator Company Name: Southwest Cheese Company LLC	Phone/Fax: 575-742-9282 / 575-769-1494	
a	Plant Operator Address: 1141 Curry Road, Clovis, NM 88101		
b	Plant Operator's New Mexico Corporate ID or Tax ID: 03-003613005		

3	Plant Owner(s) name(s): Southwest Cheese Company LLC	Phone/Fax: 575-742-9200 / 575-769-1494
a	Plant Owner(s) Mailing Address(s): P.O. Box 1509 Clovis, NM 88102	
4	Bill To (Company): SWC Accounts Payable	Phone/Fax: 575-742-9200 / 575-769-1494
a	Mailing Address: P.O. Box 1509, Clovis, NM 88102	E-mail: mattwilliams@southwestcheese.com
5	☑ Preparer: Tetra Tech ☑ Consultant: Sara Lubchenco	Phone/Fax: 251-599-0715
a	Mailing Address: 115 Inverness Dr E Ste 300, Englewood, CO 80112	E-mail: sara.lubchenco@tetratech.com
6	Plant Operator Contact: Cormac O'Kelly	Phone/Fax: 575-742-9282
a	Address: 1141 Curry Road, Clovis, NM 88101	E-mail: cormacokelly@southwestcheese.com
7	Air Permit Contact: Cormac O'Kelly	Title: Environmental Manager
a	E-mail: cormacokelly@southwestcheese.com	Phone/Fax: 575-742-9282
b	Mailing Address: 1141 Curry Road, Clovis, NM 88101	
c	The designated Air permit Contact will receive all official correspondence (i.e. letters, permits) from the Air Quality Bureau.	

Section 1-B: Current Facility Status

1.a	Has this facility already been constructed? ☑ Yes ☐ No	1.b If yes to question 1.a, is it currently operating in New Mexico? ☑ Yes ☐ No
2	If yes to question 1.a, was the existing facility subject to a Notice of Intent (NOI) (20.2.73 NMAC) before submittal of this application? ☐ Yes ☑ No	If yes to question 1.a, was the existing facility subject to a construction permit (20.2.72 NMAC) before submittal of this application? ☑ Yes ☐ No
3	Is the facility currently shut down? ☐ Yes ☑ No	If yes, give month and year of shut down (MM/YY):
4	Was this facility constructed before 8/31/1972 and continuously operated since 1972? ☐ Yes ☑ No	
5	If Yes to question 3, has this facility been modified (see 20.2.72.7.P NMAC) or the capacity increased since 8/31/1972? ☐Yes ☐No ☐N/A	
6	Does this facility have a Title V operating permit (20.2.70 NMAC)? ☑ Yes ☐ No	If yes, the permit No. is: NSR Permit 3008-M5 Title V Permit P280-M2
7	Has this facility been issued a No Permit Required (NPR)? ☐ Yes ☑ No	If yes, the NPR No. is:
8	Has this facility been issued a Notice of Intent (NOI)? ☐ Yes ☑ No	If yes, the NOI No. is:
9	Does this facility have a construction permit (20.2.72/20.2.74 NMAC)? ☑ Yes ☐ No	If yes, the permit No. is: 3008-M5
10	Is this facility registered under a General permit (GCP-1, GCP-2, etc.)? ☐ Yes ☑ No	If yes, the register No. is:

Section 1-C: Facility Input Capacity & Production Rate

1	What is the facility's maximum input capacity, specify units (reference here and list capacities in Section 20, if more room is required)			
a	Current	Hourly:	Daily: 15MM lb/day milk	Annually:
b	Proposed	Hourly:	Daily:	Annually:
2	What is the facility's maximum production rate, specify units (reference here and list capacities in Section 20, if more room is required)			
a	Current	Hourly:	Daily: N/A	Annually:
b	Proposed	Hourly:	Daily: N/A	Annually:

Section 1-D: Facility Location Information

	Section: 13	Range: 35N	Township: 1N	County: Curry	Elevation (ft): 4165
2	UTM Zone: ☐ 12 or ☑ 13			Datum: ☐ NAD 27 ☑ NAD 83 ☐ WGS 84	
a	UTM E (in meters, to nearest 10 meters): 663640			UTM N (in meters, to nearest 10 meters): 3798500	
b	**AND** Latitude (deg., min., sec.): 34° 18' 53.5" N			Longitude (deg., min., sec.): 103° 13' 17.5" W	
3	Name and zip code of nearest New Mexico town: Clovis 88101				
4	Detailed Driving Instructions from nearest NM town (attach a road map if necessary): From Clovis, South on US 70, then West on Curry Road 4.				
5	The facility is 6.8 (distance) miles south (direction) of Clovis (nearest town).				
6	Status of land at facility (check one): ☑ Private ☐ Indian/Pueblo ☐ Federal BLM ☐ Federal Forest Service ☐ Other (specify)				
7	List all municipalities, Indian tribes, and counties within a ten (10) mile radius (20.2.72.203.B.2 NMAC) of the property on which the facility is proposed to be constructed or operated: Curry and Roosevelt Counties, Clovis, Portales, and Texico				
8	**20.2.72** NMAC applications **only**: Will the property on which the facility is proposed to be constructed or operated be closer than 50 km (31 miles) to other states, Bernalillo County, or a Class I area (see www.env.nm.gov/aqb/modeling/class1areas.html)? ☐ Yes ☐ No (20.2.72.206.A.7 NMAC) If yes, list all with corresponding distances in kilometers: N/A				
9	Name nearest Class I area: Salt Creek Wilderness Area				
10	Shortest distance (in km) from facility boundary to the boundary of the nearest Class I area (to the nearest 10 meters): 130.0				
11	Distance (meters) from the perimeter of the Area of Operations (AO is defined as the plant site inclusive of all disturbed lands, including mining overburden removal areas) to nearest residence, school or occupied structure: 322 meters south				
12	Method(s) used to delineate the Restricted Area: Fencing "**Restricted Area**" is an area to which public entry is effectively precluded. Effective barriers include continuous fencing, continuous walls, or other continuous barriers approved by the Department, such as rugged physical terrain with steep grade that would require special equipment to traverse. If a large property is completely enclosed by fencing, a restricted area within the property may be identified with signage only. Public roads cannot be part of a Restricted Area.				
13	Does the owner/operator intend to operate this source as a portable stationary source as defined in 20.2.72.7.X NMAC? ☐ Yes ☑ No A portable stationary source is not a mobile source, such as an automobile, but a source that can be installed permanently at one location or that can be re-installed at various locations, such as a hot mix asphalt plant that is moved to different job sites.				
14	Will this facility operate in conjunction with other air regulated parties on the same property? ☑ No ☐ Yes If yes, what is the name and permit number (if known) of the other facility?				

Section 1-E: Proposed Operating Schedule (The 1-E.1 & 1-E.2 operating schedules may become conditions in the permit.)

1	Facility **maximum** operating ($\frac{\text{hours}}{\text{day}}$): 24	($\frac{\text{days}}{\text{week}}$): 7	($\frac{\text{weeks}}{\text{year}}$): 52	($\frac{\text{hours}}{\text{year}}$): 8760			
2	Facility's maximum daily operating schedule (if less than 24 $\frac{\text{hours}}{\text{day}}$)? Start:		AM PM	End:	AM PM		
3	Month and year of anticipated start of construction: N/A						
4	Month and year of anticipated construction completion: N/A						
5	Month and year of anticipated startup of new or modified facility: N/A						
6	Will this facility operate at this site for more than one year? ☑ Yes ☐ No						

Section 1-F: Other Facility Information

1	Are there any current Notice of Violations (NOV), compliance orders, or any other compliance or enforcement issues related to this facility? ☐ Yes ☑ No If yes, specify:

a	If yes, NOV date or description of issue:		NOV Tracking No:
b	Is this application in response to any issue listed in 1-F, 1 or 1a above? ☐ Yes ☑ No If Yes, provide the 1c & 1d info below:		
c	Document Title:	Date:	Requirement # (or page # and paragraph #):
d	Provide the required text to be inserted in this permit:		
2	Is air quality dispersion modeling or modeling waiver being submitted with this application? ☑ Yes ☐ No		
3	Does this facility require an "Air Toxics" permit under 20.2.72.400 NMAC & 20.2.72.502, Tables A and/or B? ☐ Yes ☑ No		
4	Will this facility be a source of federal Hazardous Air Pollutants (HAP)? ☑ Yes ☐ No		
a	If Yes, what type of source? ☐ **Major** (☐ ≥10 tpy of any single HAP **OR** ☐ ≥25 tpy of any combination of HAPS) **OR** ☑ **Minor** (☐ <10 tpy of any single HAP **AND** ☑ <25 tpy of any combination of HAPS)		
5	Is any unit exempt under 20.2.72.202.B.3 NMAC? ☐ Yes ☑ No		
a	If yes, include the name of company providing commercial electric power to the facility: _____ Commercial power is purchased from a commercial utility company, which specifically does not include power generated on site for the sole purpose of the user.		

Section 1-G: Streamline Application

(This section applies to 20.2.72.300 NMAC Streamline applications only)

1	☐ I have filled out Section 18, "Addendum for Streamline Applications."	☑ N/A (This is not a Streamline application.)

Section 1-H: Current Title V Information - Required for all applications from TV Sources

(Title V-source required information for all applications submitted pursuant to 20.2.72 NMAC (Minor Construction Permits), or 20.2.74/20.2.79 NMAC (Major PSD/NNSR applications), and/or 20.2.70 NMAC (Title V))

1	Responsible Official (R.O.) Eric Denton (20.2.70.300.D.2 NMAC):	Phone:575-742-9265
a	R.O. Title: Chief Executive Officer, Southwest Cheese	R.O. e-mail: EDenton@southwestcheese.com
b	R.O. Address: 1141 Curry Road, Clovis, NM 88101	
2	Alternate Responsible Official (20.2.70.300.D.2 NMAC):	Phone:
a	A. R.O. Title:	A. R.O. e-mail:
b	A. R. O. Address:	
3	Company's Corporate or Partnership Relationship to any other Air Quality Permittee (List the names of any companies that have operating (20.2.70 NMAC) permits and with whom the applicant for this permit has a corporate or partnership relationship): N/A	
4	Name of Parent Company ("Parent Company" means the primary name of the organization that owns the company to be permitted wholly or in part.): N/A	
a	Address of Parent Company:	
5	Names of Subsidiary Companies ("Subsidiary Companies" means organizations, branches, divisions or subsidiaries, which are owned, wholly or in part, by the company to be permitted.): N/A	
6	Telephone numbers & names of the owners' agents and site contacts familiar with plant operations:	
7	Affected Programs to include Other States, local air pollution control programs (i.e. Bernalillo) and Indian tribes: Will the property on which the facility is proposed to be constructed or operated be closer than 80 km (50 miles) from other states, local pollution control programs, and Indian tribes and pueblos (20.2.70.402.A.2 and 20.2.70.7.B)? If yes, state which ones and provide the distances in kilometers: The facility is located 15 km west of the New Mexico/Texas state line.	

Section 1-I – Submittal Requirements

Each 20.2.73 NMAC (**NOI**), a 20.2.70 NMAC (**Title V**), a 20.2.72 NMAC (**NSR** minor source), or 20.2.74 NMAC (**PSD**) application ckage shall consist of the following:

Hard Copy Submittal Requirements:

1) One hard copy **original signed and notarized application package** **printed double sided** **'head-to-toe'** **2-hole punched** as we bind the document on top, not on the side; except Section 2 (landscape tables), which should be head-to-head. Please use **numbered tab separators** in the hard copy submittal(s) as this facilitates the review process. For NOI submittals only, hard copies of UA1, Tables 2A, 2D & 2F, Section 3 and the signed Certification Page are required. Please include a copy of the check on a separate page.

2) If the application is for a minor NSR, PSD, NNSR, or Title V application, include one working hard **copy** for Department use. This copy should be printed in book form, 3-hole punched, and **must be double sided**. Note that this is in addition to the head-to-to 2-hole punched copy required in 1) above. Minor NSR Technical Permit revisions (20.2.72.219.B NMAC) only need to fill out Sections 1-A, 1-B, 3, and should fill out those portions of other Section(s) relevant to the technical permit revision. TV Minor Modifications need only fill out Sections 1-A, 1-B, 1-H, 3, and those portions of other Section(s) relevant to the minor modification. NMED may require additional portions of the application to be submitted, as needed.

3) The entire NOI or Permit application package, including the full modeling study, should be submitted electronically. Electronic files for applications for NOIs, any type of General Construction Permit (GCP), or technical revisions to NSRs must be submitted with compact disk (CD) or digital versatile disc (DVD). For these permit application submittals, **two** CD copies are required (in sleeves, not crystal cases, please), with additional CD copies as specified below. NOI applications require only a single CD submittal. Electronic files for other New Source Review (construction) permits/permit modifications or Title V permits/permit modifications can be submitted on CD/DVD or sent through AQB's secure file transfer service.

Electronic files sent by (check one):

☐ CD/DVD attached to paper application

☒ secure electronic transfer. Air Permit Contact Name Cormac O'Kelly

Email cormacokelly@southwestcheese.com

Phone number 575-742-9282

a. If the file transfer service is chosen by the applicant, after receipt of the application, the Bureau will email the applicant with instructions for submitting the electronic files through a secure file transfer service. Submission of the electronic files through the file transfer service needs to be completed within 3 business days after the invitation is received, so the applicant should ensure that the files are ready when sending the hard copy of the application. The applicant will not need a password to complete the transfer. **Do not use the file transfer service for NOIs, any type of GCP, or technical revisions to NSR permits.**

4) Optionally, the applicant may submit the files with the application on compact disk (CD) or digital versatile disc (DVD) following the instructions above and the instructions in 5 for applications subject to PSD review.

5) If **air dispersion modeling** is required by the application type, include the **NMED Modeling Waiver** and/or electronic air dispersion modeling report, input, and output files. The dispersion modeling ***summary report only*** should be submitted as hard copy(ies) unless otherwise indicated by the Bureau.

6) If the applicant submits the electronic files on CD and the application is subject to PSD review under 20.2.74 NMAC (PSD) or NNSR under 20.2.79 NMC include,
   a. one additional CD copy for US EPA,
   b. one additional CD copy for each federal land manager affected (NPS, USFS, FWS, USDI) and,
   c. one additional CD copy for each affected regulatory agency other than the Air Quality Bureau.

   If the application is submitted electronically through the secure file transfer service, these extra CDs do not need to be submitted.

Electronic Submittal Requirements [in addition to the required hard copy(ies)]:

All required electronic documents shall be submitted as 2 separate CDs or submitted through the AQB secure file transfer service. Submit a single PDF document of the entire application as submitted and the individual documents comprising the application.

2) The documents should also be submitted in Microsoft Office compatible file format (Word, Excel, etc.) allowing us to access the text and formulas in the documents (copy & paste). Any documents that cannot be submitted in a Microsoft Office compatible

format shall be saved as a PDF file from within the electronic document that created the file. If you are unable to provide Microsoft office compatible electronic files or internally generated PDF files of files (items that were not created electronically: i.e. brochures, maps, graphics, etc,), submit these items in hard copy format. We must be able to review the formulas and inputs that calculated the emissions.

3) It is preferred that this application form be submitted as 4 electronic files (3 MSWord docs: Universal Application section 1 [UA1], Universal Application section 3-19 [UA3], and Universal Application 4, the modeling report [UA4]) and 1 Excel file of the tables (Universal Application section 2 [UA2]). Please include as many of the 3-19 Sections as practical in a single MS Word electronic document. Create separate electronic file(s) if a single file becomes too large or if portions must be saved in a file format other than MS Word.

4) The electronic file names shall be a maximum of 25 characters long (including spaces, if any). The format of the electronic Universal Application shall be in the format: "A-3423-FacilityName". The "A" distinguishes the file as an application submittal, as opposed to other documents the Department itself puts into the database. Thus, all electronic application submittals should begin with "A-". Modifications to existing facilities should use the core permit number (i.e. '3423') the Department assigned to the facility as the next 4 digits. Use 'XXXX' for new facility applications. The format of any separate electronic submittals (additional submittals such as non-Word attachments, re-submittals, application updates) and Section document shall be in the format: "A-3423-9-description", where "9" stands for the section # (in this case Section 9-Public Notice). Please refrain, as much as possible, from submitting any scanned documents as this file format is extremely large, which uses up too much storage capacity in our database. Please take the time to fill out the header information throughout all submittals as this will identify any loose pages, including the Application Date (date submitted) & Revision number (0 for original, 1, 2, etc.; which will help keep track of subsequent partial update(s) to the original submittal. Do not use special symbols (#, @, etc.) in file names. The footer information should not be modified by the applicant.

Table of Contents

Table 2-A: Regulated Emission Sources

Unit and stack numbering must correspond throughout the application package. If applying for a NOI under 20.2.73 NMAC, equipment exemptions under 2.72.202 NMAC do not apply.

Unit Number[1]	Source Description	Manufacturer	Model #	Serial #	Maximum or Rated Capacity[3] (Specify Units)	Requested Permitted Capacity[3] (Specify Units)	Date of Manufacture or Reconstruction[2] / Date of Installation /Construction[2]	Controlled by Unit # / Emissions vented to Stack #	Source Classification Code (SCC)	For Each Piece of Equipment, Check One	RICE Ignition Type (CI, SI, 4SLB, 4SRB, 2SLB)[4]	Replacing Unit No.
BLR1	Steam Heating Boiler	Cleaver-Brooks	CBL700-1200-1500ST	OL103875	50.215 MMBtu/hr	50.215 MMBtu/hr	10/2004 10/2004	- BLR1	3-020-3099	✓ Existing (unchanged) To be Removed New/Additional Replacement Unit To Be Modified To be Replaced		
BLR2	Steam Heating Boiler	Cleaver-Brooks	CBL700-1200-1500ST	OL103874	50.215 MMBtu/hr	50.215 MMBtu/hr	10/2004 10/2004	- BLR2	3-020-3099	✓ Existing (unchanged) To be Removed New/Additional Replacement Unit To Be Modified To be Replaced		
BLR3	Steam Heating Boiler	Cleaver-Brooks	CBL700-1200-1500ST	OL103876	50.215 MMBtu/hr	50.215 MMBtu/hr	10/2004 10/2004	- BLR3	3-020-3099	✓ Existing (unchanged) To be Removed New/Additional Replacement Unit To Be Modified To be Replaced		
DRY1	Whey Drier Heater	CPS	Corbett Whey Dryer Htr.	S-090402	18 MMBtu/hr	18 MMBtu/hr	1/2005 1/2005	DBH1 CYC1 DRY1	3-020-3010	✓ Existing (unchanged) To be Removed New/Additional Replacement Unit To Be Modified To be Replaced		
BLR4	Biogas Reheat Boiler	Cleaver-Brooks	CBL700-300-30HW	OL103946	12.55 MMBtu/hr	12.55 MMBtu/hr	9/2004 9/2004	- BLR4	3-020-3099	✓ Existing (unchanged) To be Removed New/Additional Replacement Unit To Be Modified To be Replaced		
FLR1	Flare Pilot Flame	Varec	WG224W S614001	SP78214	25.43 MMBtu/hr	25.43 MMBtu/hr	9/2004 9/2004	FLR1 FLR1	3-020-3099	✓ Existing (unchanged) To be Removed New/Additional Replacement Unit To Be Modified To be Replaced		
ROAD	Delivery Truck Traffic	N/A	N/A	N/A	464/day 169,360/yr	464/day 169,360/yr	N/A N/A	- -	3-030-0834	✓ Existing (unchanged) To be Removed New/Additional Replacement Unit To Be Modified To be Replaced		
BLR5	Steam Heating Boiler	Cleaver-Brooks	CBEX 800	T5817-1-1	33.472 MMBtu/hr	33.472 MMBtu/hr	12/2016 5/2017	- BLR5	3-020-3099	✓ Existing (unchanged) To be Removed New/Additional Replacement Unit To Be Modified To be Replaced		
DRY2	Whey Drier Heater	CFR	Vertical U-Tube	H120DPL16 2314	14.0 MMBtu/hr	14.0 MMBtu/hr	11/2016 1/2017	DBH2 CYC2 DRY2	3-020-3010	✓ Existing (unchanged) To be Removed New/Additional Replacement Unit To Be Modified To be Replaced		
WPC1	Whey Powder Conveyor	PPS	VR-18-8-3T	P16129-GA-107	N/A	N/A	11/2016 1/2017	PRBH1 PRBH1	3-020-3010	✓ Existing (unchanged) To be Removed New/Additional Replacement Unit To Be Modified To be Replaced		
SSH1	Start/Stop Hopper	CFR	36019	19333	N/A	N/A	11/2016 1/2017	SSHBH1 SSHBH1	3-020-3010	✓ Existing (unchanged) To be Removed New/Additional Replacement Unit To Be Modified To be Replaced		
SDG1	Standby Diesel-Fired Emergency Generator	Caterpillar	3516 BDITA	5SJ00498	2,598 BHP	2,598 BHP	1/1998 9/2005	- -	2-020-0401	✓ Existing (unchanged) To be Removed New/Additional Replacement Unit To Be Modified To be Replaced	CI	
SDG2	Standby Diesel-Fired Emergency Generator for Waste Treatment	Cummins	VTA-28-G5	25300844	900 BHP	900 BHP	2/2005 9/2005	- -	2-020-0401	✓ Existing (unchanged) To be Removed New/Additional Replacement Unit To Be Modified To be Replaced	CI	
FP01	Standby Diesel-Fired Fire Pump	John Deere	6068HF C28	PE6068L277 568	183 BHP	183 BHP	8/2015 11/2015	- -	2-020-0401	✓ Existing (unchanged) To be Removed New/Additional Replacement Unit To Be Modified To be Replaced	CI	
SCR1	Biogas Scrubber	Envirotech Systems, Inc.	N/A	N/A	N/A	N/A	7/18 7/18	- -	2-020-0401	Existing (unchanged) To be Removed New/Additional Replacement Unit ✓ To Be Modified To be Replaced		

[1] Unit numbers must correspond to unit numbers in the previous permit unless a complete cross reference table of all units in both permits is provided.

[2] Specify dates required to determine regulatory applicability.

[3] To properly account for power conversion efficiencies, generator set rated capacity shall be reported as the rated capacity of the engine in horsepower, not the kilowatt capacity of the generator set.

[4] "4SLB" means four stroke lean burn engine, "4SRB" means four stroke rich burn engine, "2SLB" means two stroke lean burn engine, "CI" means compression ignition, and "SI" means spark ignition

Table 2-B: Insignificant Activities[1] (20.2.70 NMAC) OR Exempted Equipment (20.2.72 NMAC)

All 20.2.70 NMAC (Title V) applications must list all Insignificant Activities in this table. All 20.2.72 NMAC applications must list Exempted Equipment in this table. If equipment listed on this table is exempt under 20.2.72.202.B.5, include emissions calculations and emissions totals for 202.B.5 "similar functions" units, operations, and activities in Section 6, Calculations. Equipment and activities exempted under 20.2.72.202 NMAC may not necessarily be Insignificant under 20.2.70 NMAC (and vice versa). Unit & stack numbering must be consistent throughout the application package. Per Exemptions Policy 02-012.00 (see http://www.env.nm.gov/aqb/permit/aqb_pol.html), 20.2.72.202.B NMAC Exemptions do not apply, but 20.2.72.202.A NMAC exemptions do apply to NOI facilities under 20.2.73 NMAC. List 20.2.72.301.D.4 NMAC Auxiliary Equipment for Streamline applications in Table 2-A. The List of Insignificant Activities (for TV) can be found online at http://www.env.nm.gov/aqb/forms/InsignificantListTitleV.pdf . TV sources may elect to enter both TV Insignificant Activities and Part 72 Exemptions on this form.

Unit Number	Source Description	Manufacturer	Model No.	Max Capacity	List Specific 20.2.72.202 NMAC Exemption (e.g. 20.2.72.202.B.5)	Date of Manufacture /Reconstruction[2]	For Each Piece of Equipment, Check One
			Serial No.	Capacity Units	Insignificant Activity citation (e.g. IA List Item #1.a)	Date of Installation /Construction[2]	
	660 Gallon Diesel Fuel Tank for Emergency Generator			660		2005	✓ Existing (unchanged) / New/Additional / To Be Modified; To be Removed / Replacement Unit / To be Replaced
				Gallons	IA list Item #1.a	2005	
	280 Gallon Diesel Fuel Tank for Emergency Fire Pump			280			✓ Existing (unchanged) / New/Additional / To Be Modified; To be Removed / Replacement Unit / To be Replaced
				Gallons	IA list Item #1.a, Item 5		
	1,125 Gallon Diesel Fuel Tank for Emergency Generator			1,125			✓ Existing (unchanged) / New/Additional / To Be Modified; To be Removed / Replacement Unit / To be Replaced
				Gallons	IA list Item #1.a		
	57 Fuel Burning Heaters firing Natural Gas < 5 MMBtu/hr			< 5			✓ Existing (unchanged) / New/Additional / To Be Modified; To be Removed / Replacement Unit / To be Replaced
				MMBtu/hr	IA list Item #3		
	500 Gallon Used Oil Bulk Storage Tank			500			✓ Existing (unchanged) / New/Additional / To Be Modified; To be Removed / Replacement Unit / To be Replaced
				Gallons	IA list Item #1.a		
							Existing (unchanged) / New/Additional / To Be Modified; To be Removed / Replacement Unit / To be Replaced
							Existing (unchanged) / New/Additional / To Be Modified; To be Removed / Replacement Unit / To be Replaced
							Existing (unchanged) / New/Additional / To Be Modified; To be Removed / Replacement Unit / To be Replaced
							Existing (unchanged) / New/Additional / To Be Modified; To be Removed / Replacement Unit / To be Replaced
							Existing (unchanged) / New/Additional / To Be Modified; To be Removed / Replacement Unit / To be Replaced
							Existing (unchanged) / New/Additional / To Be Modified; To be Removed / Replacement Unit / To be Replaced
							Existing (unchanged) / New/Additional / To Be Modified; To be Removed / Replacement Unit / To be Replaced

[1] Insignificant activities exempted due to size or production rate are defined in 20.2.70.300.D.6, 20.2.70.7.Q NMAC, and the NMED/AQB List of Insignificant Activities, dated September 15, 2008. Emissions from these insignificant activities do not need to be reported, unless specifically requested.

[2] Specify date(s) required to determine regulatory applicability.

Table 2-C: Emissions Control Equipment

Unit and stack numbering must correspond throughout the application package. Only list control equipment for TAPs if the TAP's maximum uncontrolled emissions rate is over its respective threshold as listed in 20.2.72 NMAC, Subpart V, Tables A and B. In accordance with 20.2.72.203.A(3) and (8) NMAC, 20.2.70.300.D(5)(b) and (e) NMAC, and 20.2.73.200.B(7) NMAC, the permittee shall report all control devices and list each pollutant controlled by the control device regardless if the applicant takes credit for the reduction in emissions.

Control Equipment Unit No.	Control Equipment Description	Date Installed	Controlled Pollutant(s)	Controlling Emissions for Unit Number(s)[1]	Efficiency (% Control by Weight)	Method used to Estimate Efficiency
DBH1	Simatek 70-40 Baghouse	12/15/2004	TSP, PM10, PM2.5	DRY1	99.9%	Manufacturer
CYC1	CPS Cyclone [inline with whey dryer (DRY1) and baghouse (DBH1)]	1/2005	TSP, PM10, PM2.5	DRY1	N/A[2]	Manufacturer
BRBH1	Duralife DCMC1-4-15 Baghouse	1/15/2005	TSP, PM10, PM2.5	Bagging Room Dust Collector, vented inside	99.9%, 100% to outside air	Manufacturer
WRBHI	Nucon DC-PW01-01 Baghouse	12/2004	TSP, PM10, PM2.5	Dry Milk Powder Room Dust Collector, vented inside	99.9%, 100% to outside air	Manufacturer
FLR1	Varec Flare WG224WS614001	9/2004	H2S, CH4	Anaerobic treatment alternate disposal method	98%	Estimate
DBH2	CFR 1816-1 Reverse Pulse-Jet Cleaning Design	1/25/2017	TSP, PM10, PM2.5	DRY2	~99% 0.01 grains/scf	Manufacturer
CYC2	CPS Cyclone [inline with whey dryer (DRY2) and baghouse (DBH2)]	1/25/2017	TSP, PM10, PM2.5	DRY2	N/A[2]	Manufacturer
PRBH1	Powder Receiver Baghouse	1/25/2017	TSP, PM10, PM2.5	Whey Powder Conveyor, WPC1	~99% 0.01 grains/scf	Manufacturer
SSHBH1	Start/Stop Hopper Baghouse	1/25/2017	TSP, PM10, PM2.5	Start/Stop Hopper, SSH1	~99% 0.01 grains/scf	Manufacturer
BLR1	Built-In Lo-NOx Burners and Flue Gas Recirculation	10/13/2004	NOx	BLR1	N/A[2]	N/A
BLR2	Built-In Lo-NOx Burners and Flue Gas Recirculation	10/13/2004	NOx	BLR2	N/A[2]	N/A
BLR3	Built-In Lo-NOx Burners and Flue Gas Recirculation	10/13/2004	NOx	BLR3	N/A[2]	N/A
BLR4	Built-In Lo-NOx Burners	9/27/2004	NOx	BLR4	N/A[2]	N/A
BLR5	Built-In Lo-NOx Burners and Flue Gas Recirculation	5/4/2017	NOx	BLR5	N/A[2]	N/A
SCR1	Biogas Scrubber	7/1/2018	H2S	N/A	N/A	N/A

[1] List each control device on a separate line. For each control device, list all emission units controlled by the control device.

[2] The controls are part of the equipment, and therefore there is no specific reduction percentage.

Table 2-D: Maximum Emissions (under normal operating conditions)

☐ **This Table was intentionally left blank because it would be identical to Table 2-E.**

Maximum Emissions are the emissions at maximum capacity and prior to (in the absence of) pollution control, emission-reducing process equipment, or any other emission reduction. Calculate the hourly emissions using the worst case hourly emissions for each pollutant. For each pollutant, calculate the annual emissions as if the facility were operating at maximum plant capacity without pollution controls for 8760 hours per year, unless otherwise approved by the Department. List Hazardous Air Pollutants (HAP) & Toxic Air Pollutants (TAPs) in Table 2-I. Unit & stack numbering must be consistent throughout the application package. Fill all cells in this table with the emission numbers or a "-" symbol. A "-" symbol indicates that emissions of this pollutant are not expected. Numbers shall be expressed to at least 2 decimal points (e.g. 0.41, 1.41, or 1.41E-4).

Unit No.	NOx		CO		VOC		SOx		TSP[1]		PM10[1]		PM2.5[1]		H_2S		Lead	
	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr
BLR2	1.8	7.7	1.9	8.2	0.2	0.8	0.03	0.1	0.4	1.6	0.4	1.6	0.4	1.6	-	-	2.46E-05	1.08E-04
BLR3	1.8	7.7	1.9	8.2	0.2	0.8	0.03	0.1	0.4	1.6	0.4	1.6	0.4	1.6	-	-	2.46E-05	1.08E-04
DRY1	1.93	8.5	8.6	37.5	0.1	0.4	0.02	0.09	0.1	0.6	0.1	0.6	0.14	0.61	-	-	8.80E-06	3.85E-05
BLR1 [2,3]	1.76	7.70	1.88	8.25	0.18	0.79	12.90	56.51	0.38	1.65	0.38	1.65	0.38	1.65	-	-	2.46E-05	1.08E-04
FLR1 [1,2]	1.73	7.58	9.41	41.22	3.56	15.59			0.10	0.44	0.10	0.44	0.10	0.44	6.8	29.8	-	-
BLR4	1.46	6.41	1.88	8.24	0.05	0.20	0.01	0.03	0.31	1.35	0.31	1.35	0.31	1.35	-	-	6.15E-06	2.69E-05
DBH1 [4]	-	-	-	-	-	-	-	-	3000	13300	2100	9200	2100	9200	-	-	-	-
ROAD	-	-	-	-	-	-	-	-	1.7	4.8	0.3	1.0	0.1	0.2	-	-	-	-
BLR5	1.2	5.1	1.3	5.5	0.1	0.5	0.02	0.1	0.3	1.1	0.3	1.1	0.3	1.1	-	-	1.64E-05	7.19E-05
DRY2	0.8	3.7	2.6	11.3	0.1	0.3	0.02	0.1	0.1	0.5	0.1	0.5	0.1	0.5	-	-	2.47E-08	1.08E-07
DBH2 [4]	-	-	-	-	-	-	-	-	160	690	160	690	160	690	-	-	-	-
PRBH1 [4]	-	-	-	-	-	-	-	-	29	128	29	128	29	128	-	-	-	-
SSHBH1 [4]	-	-	-	-	-	-	-	-	3.6	15.8	3.6	15.8	3.6	15.8	-	-	-	-
SDG1	3.3	14.5	0.9	3.9	-	-	0.002	0.008	0.1	0.5	0.1	0.5	0.1	0.5	-	-	-	-
SDG2	1.1	5.0	0.3	1.3			0.001	0.003	0.04	0.2	0.04	0.2	0.04	0.2	-	-	-	-
FP01	0.3	1.5	0.1	0.3	-	-	0.0001	0.001	0.02	0.1	0.02	0.1	0.02	0.1	-	-	-	-
															-	-	-	-
Totals[3]	16	71	29	129	4	19	13	57	3196	14147	2295	10043	2295	10042	7	30	9.05E-05	3.96E-04

[1] **Condensable Particulate Matter:** Include condensable particulate matter emissions for PM10 and PM2.5 if the source is a combustion source. Do not include condensable particulate matter for TSP unless TSP is set equal to PM10 and PM2.5.

Note 2: The source-by-source worst-case scenario emissions were calculated assuming only BLR1 and/or FLR1 could operate on biogas.

Note 3: At the Clovis Plant, only **three** of the four process steam heating boilers, BRL1 ,BLR2, BLR 3 or BLR5 provides steam at any one time. The other boilers are on standby mode operating approximately 10% load. Permit 3008-M4 does not limit fuel consumption but does limit boiler use to two at any one time. Therefore, the pollutant emissions, for facility-wide potential to emit purposes, is limited to the three highest emitting boilers only.

Note 4: Baghouse maximum emissions were estimated based on current permitted limits and manufacturer indicated control efficiencies. Maximum emissions esimtated this way appear to be well in excess of total product captured by these units in reality.

Table 2-E: Requested Allowable Emissions

Unit & stack numbering must be consistent throughout the application package. Fill all cells in this table with the emission numbers or a "-" symbol. A "-" symbol indicates that emissions of this pollutant are not expected. Numbers shall be expressed to at least 2 decimal points (e.g. 0.41, 1.41, or 1.41E^{-4}).

Unit No.	NOx		CO		VOC		SOx		TSP[1]		PM10[1]		PM2.5[1]		H_2S		Lead	
	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr
BLR2[2,4]	1.76	7.7	1.88	8.2	0.18	0.8	0.03	0.1	0.38	1.6	0.38	1.6	0.38	1.6	-	-	2.46E-05	1.08E-04
BLR3[2,4]	1.76	7.7	1.88	8.2	0.18	0.8	0.03	0.1	0.38	1.6	0.38	1.6	0.38	1.6	-	-	2.46E-05	1.08E-04
DRY1[4]	1.93	8.5	8.56	37.5	0.10	0.4	0.020	0.1	0.14	0.6	0.14	0.6	0.14	0.6	-	-	8.80E-06	3.85E-05
BLR1[2,3,4]	1.76	7.7	1.88	8.2	0.18	0.8	12.90	56.5	0.38	1.6	0.38	1.6	0.38	1.6	-	-	2.46E-05	1.08E-04
FLR1[1,2,4]	1.73	7.6	9.41	41.2	3.56	15.6			0.10	0.4	0.10	0.4	0.10	0.4	2.04	8.9	-	-
BLR4[4]	1.46	6.4	1.88	8.2	0.05	0.2	0.0075	0.0	0.31	1.4	0.31	1.4	0.31	1.4	-	-	6.15E-06	2.69E-05
DBH1[4]	-	-	-	-	-	-	-	-	3.0	13.3	2.10	9.2	2.10	9.2	-	-	-	-
ROAD[5]	-	-	-	-	-	-	-	-	1.65	4.8	0.33	1.0	0.081	0.2	-	-	-	-
BLR5[6]	1.17	5.1	1.26	5.5	0.12	0.5	0.020	0.09	0.25	1.1	0.25	1.1	0.25	1.1	-	-	1.64E-05	7.19E-05
DRY2[7]	0.84	3.7	2.58	11.3	0.078	0.3	0.015	0.067	0.11	0.5	0.11	0.5	0.11	0.5	-	-	2.47E-08	1.08E-07
DBH2[7]	-	-	-	-	-	-	-	-	1.60	6.9	1.60	6.9	1.60	6.9	-	-	-	-
PRBH1[7]	-	-	-	-	-	-	-	-	0.29	1.3	0.29	1.3	0.29	1.3	-	-	-	-
SSHBH1[7]	-	-	-	-	-	-	-	-	0.04	0.2	0.04	0.2	0.04	0.2	-	-	-	-
SDG1	3.32	14.5	0.88	3.9	0.09	0.4	0.002	0.008	0.10	0.5	0.10	0.5	0.10	0.5	-	-	-	-
SDG2	1.14	5.0	0.30	1.3	0.03	0.1	0.0006	0.0027	0.04	0.2	0.04	0.2	0.04	0.2	-	-	-	-
FP01	0.35	1.5	0.07	0.3	0.03	0.1	0.0001	0.001	0.02	0.1	0.02	0.1	0.02	0.1	-	-	-	-
SCR1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Totals[3]	16.17	70.82	29.46	129.02	4.49	19.67	13.01	56.99	8.55	35.10	6.33	27.15	6.08	26.42	2.041	8.94	9.05E-05	3.96E-04

[1] **Condensable Particulate Matter:** Include condensable particulate matter emissions for PM10 and PM2.5 if the source is a combustion source. Do not include condensable particulate matter for TSP unless TSP is set equal to PM10 and PM2.5.

Note 2: The source-by-source worst-case scenario emissions were calculated assuming BLR1 and FLR1 could operate on biogas.

Note 3: At the Clovis Plant, only **three** of the four process steam heating boilers, BRL1 ,BLR2, BLR 3 or BLR5 provides steam at any one time. The other boilers are on standby mode operating approximately 10% load. Permit 3008-M4 does not limit fuel consumption but does limit boiler use to two at any one time. Therefore, the pollutant emissions, for facility-wide potential to emit purposes, is limited to the three highest emitting boilers only.

Note 4: Scrubber will remove H2S. No increase in emissions for the inclusion of this unit.

Current Limits (3008-M5)	70.8	129	19.7	34.3		27.2	26.4	0.4		

Table 2-F: Additional Emissions during Startup, Shutdown, and Routine Maintenance (SSM)

✓ SWC is not requested SSM provisions as part of this permit application. If you are required to report GHG emissions as described in Section 6a, include any GHG emissions during Startup, Shutdown, and/or Scheduled Maintenance (SSM) in Table 2-P. Provide an explanations of SSM emissions in Section 6 and 6a.

All applications for facilities that have emissions during routine our predictable startup, shutdown or scheduled maintenance (SSM)[1], including NOI applications, must include in this table the Maximum Emissions during routine or predictable startup, shutdown and scheduled maintenance (20.2.7 NMAC, 20.2.72.203.A.3 NMAC, 20.2.73.200.D.2 NMAC). In Section 6 and 6a, provide emissions calculations for all SSM emissions reported in this table. Refer to "Guidance for Submittal of Startup, Shutdown, Maintenance Emissions in Permit Applications (https://www.env.nm.gov/aqb/permit/aqb_pol.html) for more detailed instructions. Numbers shall be expressed to at least 2 decimal points (e.g. 0.41, 1.41, or 1.41E-4).

Unit No.	NOx		CO		VOC		SOx		TSP[2]		PM10[2]		PM2.5[2]		H_2S		Lead	
	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr
BLR1																		
BLR2																		
BLR3																		
DRY1																		
BLR4																		
FLR1																		
DBH1																		
ROAD																		
BLR5																		
DRY2																		
DBH2																		
PRBH1																		
SSHBH1																		
SDG1																		
SDG2																		
FP01																		
Totals																		

[1] **For instance**, if the short term steady-state Table 2-E emissions are 5 lb/hr and the SSM rate is 12 lb/hr, enter 7 lb/hr in this table. If the annual steady-state Table 2-E emissions are 21.9 TPY, and the number of scheduled SSM events result in annual emissions of 31.9 TPY, enter 10.0 TPY in the table below.

[1] **Condensable Particulate Matter:** Include condensable particulate matter emissions for PM10 and PM2.5 if the source is a combustion source. Do not include condensable particulate matter for TSP unless TSP is set equal to PM10 and PM2.5.

Table 2-G: Stack Exit and Fugitive Emission Rates for Special Stacks

✓ I have elected to leave this table blank because this facility does not have any stacks/vents that split emissions from a single source or combine emissions from more than one source listed in table 2-A. Additionally, the emission rates of all stacks match the Requested allowable emission rates stated in Table 2-E.

Use this table to list stack emissions (requested allowable) from split and combined stacks. List Toxic Air Pollutants (TAPs) and Hazardous Air Pollutants (HAPs) in Table 2-I. List all fugitives that are associated with the normal, routine, and non-emergency operation of the facility. Unit and stack numbering must correspond throughout the application package. Refer to Table 2-E for instructions on use of the "-" symbol and on significant figures.

Stack No.	Serving Unit Number(s) from Table 2-A	NOx		CO		VOC		SOx		TSP		PM10		PM2.5		□ H_2S or □ Lead	
		lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr
Totals:																	

Table 2-H: Stack Exit Conditions

Unit and stack numbering must correspond throughout the application package. Include the stack exit conditions for each unit that emits from a stack, including blowdown venting parameters and tank emissions. If the facility has multiple operating scenarios, complete a separate Table 2-H for each scenario and, for each, type scenario name here:

Stack Number	Serving Unit Number(s) from Table 2-A	Orientation (H-Horizontal V=Vertical)	Rain Caps (Yes or No)	Height Above Ground (ft)	Temp. (F)	Flow Rate		Moisture by Volume (%)	Velocity (ft/sec)	Inside Diameter or L x W (ft)
						(acfs)	(dscfs)			
BLR1	BLR1	V	No	52	240	210	114	10	29.7	3.00
BLR2	BLR2	V	No	52	240	210	114	10	29.7	3.00
BLR3	BLR3	V	No	52	240	210	114	10	29.7	3.00
DRY1	DRY1	H	*No*	95	319	75	36	10	*0.003*	2.00
DBH1	DRY1	V	No	96	137.5	750	540	21	59.7	4.00
BLR4	BLR4	V	No	35	340	61.4	39.90	10	28.1	1.67
FLR1	FLR1	V	No	16	1831	280	52.2	N/A	65.6	2.33 (0.71 mtr)
BLR5	BLR5	V	No	52	*240*	152.6	95.45	10	48.6	2.00
DRY2	DRY2	V	No	102	*318*	56.5	34.0	10	*52.8*	1.17
DBH2	DRY2	V	No	103	190	480.3	305.87	21	67.9	3.00
PRBH1	PRBH1	V	No	102.8	90	71.4	56.7	N/A	66.8	1.17
SSHBH1	SSHBH1	V	No	103	90	8.9	7.00	N/A	16.4	0.83
SDG1	SDG1	V	Yes	14	847	253	89.4	13	328.0	1
SDG2	SDG2	V	Yes	16	700	84	33.4	13	480	0.42
FP01	FP01	H	No	14	770	4	1.5	13	27.9	0.42

Stack temperature, flow rate, and diameter for BLR1 are from April 2006 and October 2008 Kramer and Associates source test reports, and match previous submittals.

Stack temperature, flow rate, and diameter for DRY1 are from April 2006 Kramer and Associates source test report and match previous submittals.

Stack temperature, flow rate, and diameter for DBH1, BLR2, and BLR3 are from November 2005 Kramer and Associates source test report and match previous submittals.

Stack temperature, flow rate, and diameter for DRY2, DBH2, PRBH1, and SSHBH1 are from 2/29/16 "Dryer System Air Emission Source Points" specification sheet from CFR.

Flare hight listed is the actual height of the flare. Flare temperature and flow match previous submittals.

Flow rate for BLR5 was calculated from the maximum rated capacity 33.7 MMBtu/hr and the "F" factors from EPA-450/2-78-042a. Stack Diameter is from Cleaver Brooks "Boiler Book" for the CBEX 800 Model boiler. Stack temperatures for BLR5 and DRY2 are unknown but assumed similar to existing boilers and dryer.

Table 2-I: Stack Exit and Fugitive Emission Rates for HAPs and TAPs

In the table below, report the Potential to Emit for each HAP from each regulated emission unit listed in Table 2-A, only if the entire facility emits the HAP at a rate greater than or equal to one (1) ton per year For each such emission unit, HAPs shall be reported to the nearest 0.1 tpy. Each facility-wide Individual HAP total and the facility-wide Total HAPs shall be the sum of all HAP sources calculated to the nearest 0.1 ton per year. Per 20.2.72.403.A.1 NMAC, facilities not exempt [see 20.2.72.402.C NMAC] from TAP permitting shall report each TAP that has an uncontrolled emission rate in excess of its pounds per hour screening level specified in 20.2.72.502 NMAC. TAPs shall be reported using one more significant figure than the number of significant figures shown in the pound per hour threshold corresponding to the substance. Use the HAP nomenclature as it appears in Section 112 (b) of the 1990 CAAA and the TAP nomenclature as it listed in 20.2.72.502 NMAC. Include tank-flashing emissions estimates of HAPs in this table. For each HAP or TAP listed, fill all cells in this table with the emission numbers or a "-" symbol. A "-" symbol indicates that emissions of this pollutant are not expected or the pollutant is emitted in a quantity less than the threshold amounts described above.

Stack No.	Unit No.(s)	Total HAPs		Hexane ✓ HAP or ☐ TAP		Provide Pollutant Name Here ☐ HAP or ☐ TAP		Provide Pollutant Name Here ☐ HAP or ☐ TAP		Provide Pollutant Name Here ☐ HAP or ☐ TAP		Provide Pollutant Name Here ☐ HAP or ☐ TAP		Provide Pollutant Name Here ☐ HAP or ☐ TAP		Provide Pollutant Name Here ☐ HAP or ☐ TAP		Provide Pollutant Name Here ☐ HAP or ☐ TAP	
		lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr
BLR1	BLR1	0.086	0.38	0.09	0.38														
BLR2	BLR2	0.086	0.38	0.09	0.38														
BLR3	BLR3	0.086	0.38	0.09	0.38														
DRY1	DRY1	0.032	0.14	0.03	0.14														
BLR4	BLR4	0.022	0.10	0.02	0.10														
FLR1	FLR1	2.04	0.20	0.04	0.20														
DBH1	DBH1																		
ROAD	ROAD																		
BLR5	BLR5	0.059	0.26	0.059	0.26														
DRY2	DRY2	0.025	0.11	0.025	0.11														
DBH2	DBH2																		
PRBH1	PRBH1																		
SSHBH1	SSHBH1																		
SDG1	SDG1																		
SDG2	SDG2																		
FP01	FP01																		
Totals:		2.384	1.701	0.388	1.701														

Table 2-J: Fuel

Specify fuel characteristics and usage. Unit and stack numbering must correspond throughout the application package.

Unit No.	Fuel Type (No. 2 Diesel, Natural Gas, Coal, ...)	Specify Units				
		Lower Heating Value	Hourly Usage	Annual Usage	% Sulfur	% Ash
BLR1	Biogas and Natural Gas	600 - 990.5 Btu/scf	22,227 scf/hr biogas and/or 47,941 scf/hr NG	194.7 MMscf/yr biogas and/or 420.0 MMscf/yr NG	≤0.40 scf H_2S per 100 scf biogas or ≤0.75 gr H_2S per100 scf NG	0
BLR2	Natural Gas	990.5 Btu/scf	47,941 scf/hr	420.0 MMscf/yr NG	≤0.75 gr H_2S per100 scf NG	0
BLR3	Natural Gas	990.5 Btu/scf	47,941 scf/hr	420.0 MMscf/yr NG	≤0.75 gr H_2S per 100 scf NG	0
DRY1	Natural Gas	990.5 Btu/scf	17,647 scf/hr	154.6 MMscf/yr NG	≤0.75 gr H_2S per100 scf NG	0
BLR4	Natural Gas	990.5 Btu/scf	20,241 scf/hr biogas or 12,304 scf/hr NG	107.8 MMscf/yr NG	≤0.75 gr H_2S per 100 scf NG	0
FLR1	Biogas	600 Btu/scf	38,530 scf/hr	337.5 MMscf/yr	≤0.40 scf H_2S per100 scf biogas	0
BLR5	Natural Gas	990.5 Btu/scf	33,039 scf/hr	289.4 MMscf/yr	≤0.75 gr H_2S per 100 scf NG	0
DRY2	Natural Gas	990.5 Btu/scf	13,725 scf/hr	120.2 MMscf/yr	≤0.75 gr H_2S per100 scf NG	0
SDG1	Diesel	137,000 Btu/gal	132.7 gal/hr	66,372 gal/yr	15ppm ULSD	0
SDG2	Diesel	137,000 Btu/gal	45.7 gal/hr	22,850 gal/yr	15ppm ULSD	0
FP01	Diesel	137,000 Btu/gal	9.4 gal/hr	4,675 gal/yr	15ppm ULSD	0

Hourly fuel consumption rate is estimated from the rated firing capacity of each unit divided by 1020 Btu/scf HHV for natural gas or 620 Btu/scf assumed HHV for biogas. Annual fuel consumption is hourly consumption * 8760 hr/yr. Maxumum BLR1 and FLR1 fuel consumption for biogas are both based on the permit limit of 924,720 scf/day biogas production.

Fuel H_2S content is taken from the permit limits listed in Air Quality Permit No. 3008-M3-R3.

Table 2-P: Greenhouse Gas Emissions

Applications submitted under 20.2.70, 20.2.72, & 20.2.74 NMAC are required to complete this Table. Power plants, Title V major sources, and PSD major sources must report and calculate all GHG emissions for each unit. Applicants must report potential emission rates in short tons per year (see Section 6.a for assistance). Include GHG emissions during Startup, Shutdown, and Scheduled Maintenance in this table. For minor source facilities that are not power plants, are not Title V, or are not PSD, there are three options for reporting GHGs 1) report GHGs for each individual piece of equipment; 2) report all GHGs from a group of unit types, for example report all combustion source GHGs as a single unit and all venting GHG as a second separate unit; OR 3) check the following box By checking this box, the applicant acknowledges the total CO2e emissions are less than 75,000 tons per year.

		CO_2 ton/yr	N_2O ton/yr	CH_4 ton/yr	SF_6 ton/yr	PFC/HFC ton/yr[2]									Total GHG Mass Basis ton/yr[4]	Total CO_2e ton/yr[5]
Unit No.	**GWPs [1]**	**1**	**298**	**25**	**22,800**	**footnote 3**										
BLR1	**mass GHG**	25,728	0.0473	0.4868											25,728	
	CO_2e	25,728	14.1	12.2												25,754
BLR2	**mass GHG**	25,728	0.0473	0.4868											25,728	
	CO_2e	25,728	14.1	12.2												25,754
BLR3	**mass GHG**	25,728	0.0473	0.4868											25,728	
	CO_2e	25,728	14.1	12.2												25,754
DRY1	**mass GHG**	9,222	0.0169	0.1745											9,223	
	CO_2e	9,222	5.0	4.4												9,232
BLR4	**mass GHG**	6,430	0.0118	0.1217											6,430	
	CO_2e	6,430	3.5	3.0												6,437
FLR1	**mass GHG**	12,786	0.1548	0.7858											12,787	
	CO_2e	12,786	46.1	19.6												12,852
BLR5	**mass GHG**	17,150	0.0315	0.3245											17,150	
	CO_2e	17,150	9.4	8.1												17,167
DRY2	**mass GHG**	7,173	0.0132	0.136											7,173	
	CO_2e	7,173	3.9	3.4												7,180
SDG1	**mass GHG**	741	0.0060	0.0301											741	
	CO_2e	741	1.8	0.8												744
SDG2	**mass GHG**	255	0.0021	0.010											255	
	CO_2e	255	0.6	0.3												256
FP01	**mass GHG**	52	0.0004	0.0021											52	
	CO_2e	52	0.1	0.1												52
	mass GHG															
	CO_2e															
	mass GHG															
	CO2e															
Total[6]	**mass GHG**	115,559	0.35	2.8											115,562	
	CO_2e	115,559	104.4	68.8												115,732

[1] **GWP** (Global Warming Potential): Applicants must use the most current GWPs codified in Table A-1 of 40 CFR part 98. GWPs are subject to change, therefore, applicants need to check 40 CFR 98 to confirm GWP values.

[2] For **HFCs** or **PFCs** describe the specific HFC or PFC compound and use a separate column for each individual compound.

[3] For each new compound, enter the appropriate GWP for each HFC or PFC compound from Table A-1 in 40 CFR 98.

[4] Green house gas emissions on a **mass basis** is the ton per year green house gas emission before adjustment with its GWP.

[5] **CO_2e** means Carbon Dioxide Equivalent and is calculated by multiplying the TPY mass emissions of the green house gas by its GWP.

[6] Note: At the Clovis Plant, only **three** of the four process steam heating boilers, BRL1 ,BLR2, BLR 3 or BLR5 provides steam at any one time. The other boilers are on standby mode operating approximately 10% load. Permit 3008-M4 does not limit fuel consumption but does limit boiler use to two at any one time. Therefore, the pollutant emissions, for facility-wide potential to emit purposes, is limited to the three highest emitting boilers only.

Fourteen calculation tabs present emission calculations

Emission Source	Calculation Tab Name
BLR1	BLR1 Calcs
BLR2 & BLR3	BLR2, BLR3 Calcs
BLR4	BLR4 Calcs
BLR5	BLR5 Calcs
DRY1 & DBH1	DRY1 Calcs
DRY2 & DBH2	DRY2 Calcs
FLR1	FLR1 Calcs
PRBH1 & SSHBH1	PRBH1, SSHBH1 Calcs
ROAD	Truck Calcs
BLR1, BLR4, FLR1 (SO2 from biogas)	Existing Sc Biogas SO2 Calcs
HAP & GHG	Facility-Wide HAP & GHG
SDG1	SDG1 Calcs
SDG2	SDG2 Calcs
FP01	FP01 Calcs

Southwest Cheese, Boiler #1 (BLR1)

Uncontrolled and Controlled Emissions:

	NOX lb/hr	NOX ton/yr	CO lb/hr	CO ton/yr	VOC lb/hr	VOC ton/yr	SO2 lb/hr	SO2 ton/yr	TSP lb/hr	TSP ton/yr	PM10 lb/hr	PM10 ton/yr
BLR1	1.76	7.70	1.88	8.25	0.18	0.79	See biogas SO2 tab		0.38	1.65	0.38	1.65

	PM2.5 lb/hr	PM2.5 ton/yr	Lead lb/hr	Lead ton/yr	CO2e lb/hr	CO2e ton/yr
BLR1	0.38	1.65	2.46E-05	1.08E-04	5880	25754

Emission factors for NOx, CO, VOC, TSP, PM10 and PM2.5 are from Cleaver Brooks.
Emission factors based on maximum PPM values converted to lb/MMBtu.

Boiler Specifications:

Make/Model: Cleaver Brooks CBL-700-1200-150
Fuel: Natural Gas
Heat Input: 50.215 MMBtu/hr
Max Fuel Consumption: 431.3 MMScf/yr

Note: BLR1 employs both low NOx burners and flue gas recirculation, which are considered intrinsic to the operation of the unit and are not being considered as add-on control devices.

Criteria Pollutant Emission Factors: Estimated Based on Permitted Emission Factors

NOx lb/MMBtu	CO lb/MMBtu	VOC lb/MMBtu	SO2 lb/MMBtu	TSP lb/MMBtu	PM10 lb/MMBtu	PM2.5 lb/MMBtu
0.0350	0.0375	0.0036	-	0.0075	0.0075	0.0075

Assumed that PM2.5 = PM10 = TSP as was done in previous permit applications.

Greenhouse Gas Emission Factors

EPA Center for Corporate Climate Leadership
Emission Factors for Greenhouse Gas Inventories Accessed 8/2/16
https://www.epa.gov/sites/production/files/2015-12/documents/emission-factors_nov_2015.pdf

	Heat Cont. Btu/scf	CO2 g/scf	CH4 g/scf	N2O g/scf	CO2e g/scf	CO2e lb/MMBtu
Natural Gas	1026	54.44	0.00103	0.0001	54.50	117.10
Non-Landfill BioGas	655	34.106	0.002096	0.000413	34.28	115.38

Where the GWP of gasses is: CO2 =1 CH4 = 25 N2O = 298
and emission factors are converted to units of lb/MMBtu using 453.6 grams/lb and the listed fuel heat contents.

HAP Emission Factors: AP-42 Section 1.4 "Natural Gas Combustion", 7/98 edition

https://www3.epa.gov/ttn/chief/ap42/ch01/final/c01s04.pdf Accessed 8/2/16

	lb/MMscf	lb/MMBtu
2-Methylnaphthalene	2.40E-05	2.35E-08
3-Methylchloranthrene	1.80E-06	1.76E-09
7,12-Dimethylbenz(a)anthracene	1.60E-05	1.57E-08
Acenaphthene	1.80E-06	1.76E-09
Acenaphthylene	1.80E-06	1.76E-09
Anthracene	2.40E-06	2.35E-09
Benz(a)anthracene	1.80E-06	1.76E-09
Benzene	2.10E-03	2.06E-06
Benzo(a)pyrene	1.20E-06	1.18E-09
Benzo(b)fluoranthen	1.80E-06	1.76E-09
Benzo(g,h,i)perylene	1.20E-06	1.18E-09
Benzo(k)fluoranthene	1.80E-06	1.76E-09
Chrysene	1.80E-06	1.76E-09
Dibenzo(a,h)anthracene	1.20E-06	1.18E-09
Dichlorobenzene	1.20E-03	1.18E-06
Fluoranthene	3.00E-06	2.94E-09
Fluorene	2.80E-06	2.75E-09
Formaldehyde	7.50E-02	7.35E-05
Hexane	1.80E+00	1.76E-03
Indeno(1,2,3-cd)pyrene	1.80E-06	1.76E-09
Naphthalene	6.10E-04	5.98E-07
Phenanathrene	1.70E-05	1.67E-08
Pyrene	5.00E-06	4.90E-09
Toluene	3.40E-03	3.33E-06
Total		**1.85E-03**

[1] Where the typical higher heating value of natural gas cited in AP-42 Section 1.4 is 1020 Btu/scf

Lead Emission Factor: AP-42 Section 1.4 "Natural Gas Combustion", 7/98 edition

https://www3.epa.gov/ttn/chief/ap42/ch01/final/c01s04.pdf Accessed 8/2/16

	lb/MMscf	lb/MMBtu
Lead	5.00E-04	4.90E-07

Southwest Cheese, Boiler #2 and Boiler #3 (BLR2, BLR3)

Uncontrolled and Controlled Emissions:

	NOX lb/hr	NOX ton/yr	CO lb/hr	CO ton/yr	VOC lb/hr	VOC ton/yr	SO2 lb/hr	SO2 ton/yr	TSP lb/hr	TSP ton/yr	PM10 lb/hr	PM10 ton/yr
BLR2, BLR3	1.76	7.70	1.88	8.25	0.18	0.79	0.03	0.13	0.38	1.65	0.38	1.65

	PM2.5 lb/hr	PM2.5 ton/yr	Lead lb/hr	Lead ton/yr	CO2e lb/hr	CO2e ton/yr
BLR2, BLR3	0.38	1.65	2.46E-05	1.08E-04	5880	25754

Emission factors for NOx, CO, VOC, TSP, PM10 and PM2.5 are from Cleaver Brooks.
Emission factors based on maximum PPM values converted to lb/MMBtu.

Boiler Specifications:

Make/Model: Cleaver Brooks CBL-700-1200-150
Fuel: Natural Gas
Heat Input: 50.215 MMBtu/hr
Max Fuel Consumption: 431.3 MMScf/yr per boiler

Note: BLR2 and BLR3 employ both low NOx burners and flue gas recirculation, which are considered intrinsic to the operation of the units and are not being considered as add-on control devices.

Criteria Pollutant Emission Factors: Estimated Based on Permitted Emission Factors

NOx lb/MMBtu	CO lb/MMBtu	VOC lb/MMBtu	SO2 lb/MMBtu	TSP lb/MMBtu	PM10 lb/MMBtu	PM2.5 lb/MMBtu
0.0350	0.0375	0.0036	0.0006	0.0075	0.0075	0.0075

Assumed that PM2.5 = PM10 = TSP as was done in previous permit applications.

Greenhouse Gas Emission Factors

EPA Center for Corporate Climate Leadership
Emission Factors for Greenhouse Gas Inventories Accessed 8/2/16
https://www.epa.gov/sites/production/files/2015-12/documents/emission-factors_nov_2015.pdf

	Heat Cont. Btu/scf	CO2 g/scf	CH4 g/scf	N2O g/scf	CO2e g/scf	CO2e lb/MMBtu
Natural Gas	1026	54.44	0.00103	0.0001	54.50	117.10
Non-Landfill BioGas	655	34.106	0.002096	0.000413	34.28	115.38

Where the GWP of gasses is: CO2 =1 CH4 = 25 N2O = 298
and emission factors are converted to units of lb/MMBtu using 453.6 grams/lb and the listed fuel heat contents.

HAP Emission Factors: AP-42 Section 1.4 "Natural Gas Combustion", 7/98 edition

https://www3.epa.gov/ttn/chief/ap42/ch01/final/c01s04.pdf Accessed 8/2/16

	lb/MMscf	lb/MMBtu
2-Methylnaphthalene	2.40E-05	2.35E-08
3-Methylchloranthrene	1.80E-06	1.76E-09
7,12-Dimethylbenz(a)anthracene	1.60E-05	1.57E-08
Acenaphthene	1.80E-06	1.76E-09
Acenaphthylene	1.80E-06	1.76E-09
Anthracene	2.40E-06	2.35E-09
Benz(a)anthracene	1.80E-06	1.76E-09
Benzene	2.10E-03	2.06E-06
Benzo(a)pyrene	1.20E-06	1.18E-09
Benzo(b)fluoranthen	1.80E-06	1.76E-09
Benzo(g,h,i)perylene	1.20E-06	1.18E-09
Benzo(k)fluoranthene	1.80E-06	1.76E-09
Chrysene	1.80E-06	1.76E-09
Dibenzo(a,h)anthracene	1.20E-06	1.18E-09
Dichlorobenzene	1.20E-03	1.18E-06
Fluoranthene	3.00E-06	2.94E-09
Fluorene	2.80E-06	2.75E-09
Formaldehyde	7.50E-02	7.35E-05
Hexane	1.80E+00	1.76E-03
Indeno(1,2,3-cd)pyrene	1.80E-06	1.76E-09
Naphthalene	6.10E-04	5.98E-07
Phenanathrene	1.70E-05	1.67E-08
Pyrene	5.00E-06	4.90E-09
Toluene	3.40E-03	3.33E-06
Total		**1.85E-03**

[1] Where the typical higher heating value of natural gas cited in AP-42 Section 1.4 is 1020 Btu/scf

Lead Emission Factor: AP-42 Section 1.4 "Natural Gas Combustion", 7/98 edition

https://www3.epa.gov/ttn/chief/ap42/ch01/final/c01s04.pdf Accessed 8/2/16

	lb/MMscf	lb/MMBtu
Lead	5.00E-04	4.90E-07

Southwest Cheese, Boiler #4 (BLR4)

Uncontrolled and Controlled Emissions:

	NOX lb/hr	NOX ton/yr	CO lb/hr	CO ton/yr	VOC lb/hr	VOC ton/yr	SO2 lb/hr	SO2 ton/yr	TSP lb/hr	TSP ton/yr	PM10 lb/hr	PM10 ton/yr
BLR4	1.46	6.41	1.88	8.24	0.05	0.20	0.0075	0.03	0.31	1.35	0.31	1.35

	PM2.5 lb/hr	PM2.5 ton/yr	Lead lb/hr	Lead ton/yr	CO2e lb/hr	CO2e ton/yr
BLR4	0.31	1.35	6.15E-06	2.69E-05	1470	6437

Emission factors for NOx, CO, VOC, TSP, PM10 and PM2.5 are from Cleaver Brooks.
Emission factors based on maximum PPM values converted to lb/MMBtu.

Boiler Specifications:

Make/Model: Cleaver Brooks CB-700-300-030
Fuel: Natural Gas
Heat Input: 12.55 MMBtu/hr
Max Fuel Consumption: 107.8 MMScf/yr

Criteria Pollutant Emission Factors: Estimated Based on Permitted Emission Factors

NOx lb/MMBtu	CO lb/MMBtu	VOC lb/MMBtu	SO2 lb/MMBtu	TSP lb/MMBtu	PM10 lb/MMBtu	PM2.5 lb/MMBtu
0.117	0.150	0.004	0.0006	0.025	0.025	0.025

Assumed that PM2.5 = PM10 = TSP as was done in previous permit applications.

Greenhouse Gas Emission Factors

EPA Center for Corporate Climate Leadership
Emission Factors for Greenhouse Gas Inventories Accessed 8/2/16
https://www.epa.gov/sites/production/files/2015-12/documents/emission-factors_nov_2015.pdf

	Heat Cont. Btu/scf	CO2 g/scf	CH4 g/scf	N2O g/scf	CO2e g/scf	CO2e lb/MMBtu
Natural Gas	1026	54.44	0.00103	0.0001	54.50	117.10
Non-Landfill BioGas	655	34.106	0.002096	0.000413	34.28	115.38

Where the GWP of gasses is: CO2 =1 CH4 = 25 N2O = 298
and emission factors are converted to units of lb/MMBtu using 453.6 grams/lb and the listed fuel heat contents.

HAP Emission Factors: AP-42 Section 1.4 "Natural Gas Combustion", 7/98 edition

https://www3.epa.gov/ttn/chief/ap42/ch01/final/c01s04.pdf Accessed 8/2/16

	lb/MMscf	lb/MMBtu
2-Methylnaphthalene	2.40E-05	2.35E-08
3-Methylchloranthrene	1.80E-06	1.76E-09
7,12-Dimethylbenz(a)anthracene	1.60E-05	1.57E-08
Acenaphthene	1.80E-06	1.76E-09
Acenaphthylene	1.80E-06	1.76E-09
Anthracene	2.40E-06	2.35E-09
Benz(a)anthracene	1.80E-06	1.76E-09
Benzene	2.10E-03	2.06E-06
Benzo(a)pyrene	1.20E-06	1.18E-09
Benzo(b)fluoranthen	1.80E-06	1.76E-09
Benzo(g,h,i)perylene	1.20E-06	1.18E-09
Benzo(k)fluoranthene	1.80E-06	1.76E-09
Chrysene	1.80E-06	1.76E-09
Dibenzo(a,h)anthracene	1.20E-06	1.18E-09
Dichlorobenzene	1.20E-03	1.18E-06
Fluoranthene	3.00E-06	2.94E-09
Fluorene	2.80E-06	2.75E-09
Formaldehyde	7.50E-02	7.35E-05
Hexane	1.80E+00	1.76E-03
Indeno(1,2,3-cd)pyrene	1.80E-06	1.76E-09
Naphthalene	6.10E-04	5.98E-07
Phenanathrene	1.70E-05	1.67E-08
Pyrene	5.00E-06	4.90E-09
Toluene	3.40E-03	3.33E-06
Total		**1.85E-03**

[1] Where the typical higher heating value of natural gas cited in AP-42 Section 1.4 is 1020 Btu/scf

Lead Emission Factor: AP-42 Section 1.4 "Natural Gas Combustion", 7/98 edition

https://www3.epa.gov/ttn/chief/ap42/ch01/final/c01s04.pdf Accessed 8/2/16

	lb/MMscf	lb/MMBtu
Lead	5.00E-04	4.90E-07

Southwest Cheese, Boiler #5 (BLR5)

Uncontrolled and Controlled Emissions:

	NOX lb/hr	NOX ton/yr	CO lb/hr	CO ton/yr	VOC lb/hr	VOC ton/yr	SO2 lb/hr	SO2 ton/yr	TSP lb/hr	TSP ton/yr	PM10 lb/hr	PM10 ton/yr
BLR5	1.17	5.13	1.26	5.50	0.12	0.53	0.020	0.088	0.25	1.10	0.25	1.10

	PM2.5 lb/hr	PM2.5 ton/yr	Lead lb/hr	Lead ton/yr	CO2e lb/hr	CO2e ton/yr
BLR5	0.25	1.10	1.64E-05	7.19E-05	3919	17167

Emission factors for NOx, CO, VOC, TSP, PM10 and PM2.5 are from Cleaver Brooks.
Emission factors based on maximum PPM values converted to lb/MMBtu.

Boiler Specifications: Drawing M6.0.3 released for construction on 7/8/16

Make/Model Cleaver Brooks CBEX 800 Firetube Boiler
800 BHP
33000 scf fuel/hr
27 MMBtu/hr output
Assuming 1020 Btu/scf HHV (AP-42 Section 1.4 default), this works out to:
33.472 MMBtu/hr input nameplate rating

Note: BLR5 employs both low NOx burners and flue gas recirculation, which are considered intrinsic to the operation of the unit and are not being considered as add-on control devices.

Criteria Pollutant Emission Factors: Cleaver Brooks Boiler Book Accessed 8/1/16
http://www.cleaverbrooks.com/Products-and-Solutions/Boilers/Firetube/CBEX-Premium/CBEX-Premium-100-800-HP-Boiler-Book.aspx

	NOx lb/MMBtu	CO lb/MMBtu	VOC lb/MMBtu	SO2 lb/MMBtu	TSP lb/MMBtu	PM10 lb/MMBtu	PM2.5 lb/MMBtu
Premium 800 30 ppm	0.035	0.038	0.0036	0.00060	0.0075	0.0075	0.0075

Assumed that PM2.5 = PM10 = TSP as was done in previous permit applications.

Greenhouse Gas Emission Factors

EPA Center for Corporate Climate Leadership
Emission Factors for Greenhouse Gas Inventories Accessed 8/2/16
https://www.epa.gov/sites/production/files/2015-12/documents/emission-factors_nov_2015.pdf

	Heat Cont. Btu/scf	CO2 g/scf	CH4 g/scf	N2O g/scf	CO2e g/scf	CO2e lb/MMBtu
Natural Gas	1026	54.44	0.0010	0.00010	54.50	117.10
Non-Landfill BioGas	655	34.11	0.0021	0.00041	34.28	115.38

Where the GWP of gasses is: CO2 =1 CH4 = 25 N2O = 298
and emission factors are converted to units of lb/MMBtu using 453.6 grams/lb and the listed fuel heat contents.

HAP Emission Factors: AP-42 Section 1.4 "Natural Gas Combustion", 7/98 edition

https://www3.epa.gov/ttn/chief/ap42/ch01/final/c01s04.pdf Accessed 8/2/16

	lb/MMscf	lb/MMBtu
2-Methylnaphthalene	2.40E-05	2.35E-08
3-Methylchloranthrene	1.80E-06	1.76E-09
7,12-Dimethylbenz(a)anthracene	1.60E-05	1.57E-08
Acenaphthene	1.80E-06	1.76E-09
Acenaphthylene	1.80E-06	1.76E-09
Anthracene	2.40E-06	2.35E-09
Benz(a)anthracene	1.80E-06	1.76E-09
Benzene	2.10E-03	2.06E-06
Benzo(a)pyrene	1.20E-06	1.18E-09
Benzo(b)fluoranthen	1.80E-06	1.76E-09
Benzo(g,h,i)perylene	1.20E-06	1.18E-09
Benzo(k)fluoranthene	1.80E-06	1.76E-09
Chrysene	1.80E-06	1.76E-09
Dibenzo(a,h)anthracene	1.20E-06	1.18E-09
Dichlorobenzene	1.20E-03	1.18E-06
Fluoranthene	3.00E-06	2.94E-09
Fluorene	2.80E-06	2.75E-09
Formaldehyde	7.50E-02	7.35E-05
Hexane	1.80E+00	1.76E-03
Indeno(1,2,3-cd)pyrene	1.80E-06	1.76E-09
Naphthalene	6.10E-04	5.98E-07
Phenanathrene	1.70E-05	1.67E-08
Pyrene	5.00E-06	4.90E-09
Toluene	3.40E-03	3.33E-06
Total		**1.85E-03**

[1] Where the typical higher heating value of natural gas cited in AP-42 Section 1.4 is 1020 Btu/scf

Lead Emission Factor: AP-42 Section 1.4 "Natural Gas Combustion", 7/98 edition

https://www3.epa.gov/ttn/chief/ap42/ch01/final/c01s04.pdf Accessed 8/2/16

	lb/MMscf	lb/MMBtu
Lead	5.00E-04	4.90E-07

Southwest Cheese, Dryer #1 (DRY1) and Dryer System Baghouse (DBH1)

Uncontrolled Emissions:

	NOX lb/hr	NOX ton/yr	CO lb/hr	CO ton/yr	VOC lb/hr	VOC ton/yr	SO2 lb/hr	SO2 ton/yr	TSP lb/hr	TSP ton/yr	PM10 lb/hr	PM10 ton/yr
DRY1	1.93	8.45	8.56	37.5	0.10	0.44	0.020	0.088	0.14	0.61	0.14	0.61
DBH1									3000	13300	2100	9200

	PM2.5 lb/hr	PM2.5 ton/yr	Lead lb/hr	Lead ton/yr	CO2e lb/hr	CO2e ton/yr	HAP lb/hr	HAP ton/yr
DRY1	0.14	0.61	8.80E-06	3.85E-05	2108	9232	0.033	0.15
DBH1	2100	9200						

DBH1 Control Rate:
0.999 TSP/PM10/PM2.5

Based on manufacturer's estimation of 99.9% control rate.

Controlled Emissions:

	NOX lb/hr	NOX ton/yr	CO lb/hr	CO ton/yr	VOC lb/hr	VOC ton/yr	SO2 lb/hr	SO2 ton/yr	TSP lb/hr	TSP ton/yr	PM10 lb/hr	PM10 ton/yr
DRY1	1.93	8.45	8.56	37.5	0.10	0.44	0.020	0.088	0.14	0.61	0.14	0.61
DBH1									3.0	13.3	2.1	9.2

	PM2.5 lb/hr	PM2.5 ton/yr	Lead lb/hr	Lead ton/yr	CO2e lb/hr	CO2e ton/yr	HAP lb/hr	HAP ton/yr
DRY1	0.14	0.61	8.80E-06	3.85E-05	2108	9232	0.033	0.15
DBH1	2.1	9.2						

DRY1 **Indirect Heater Combustion Exhaust**

Make/Model	CPS Corbett Whey Dryer Heater	
Capacity	18	MMBtu/hr
Flow @ Std Cnd	294.12	scfm

Criteria Pollutant Emission Factors

NOx	0.11	lb/MMBtu
CO	0.48	lb/MMBtu
VOC	0.0056	lb/MMBtu
SOx	0.0011	lb/MMBtu
PM	0.0078	lb/MMBtu

Source: back-calculated from permitted rates.

Greenhouse Gas Emission Factors

EPA Center for Corporate Climate Leadership
Emission Factors for Greenhouse Gas Inventories Accessed 8/2/16
https://www.epa.gov/sites/production/files/2015-12/documents/emission-factors_nov_2015.pdf

	Heat Cont. Btu/scf	CO2 g/scf	CH4 g/scf	N2O g/scf	CO2e g/scf	CO2e lb/MMBtu
Natural Gas	1026	54.44	0.00103	0.0001	54.50	117.10
Non-Landfill BioGas	655	34.106	0.002096	0.000413	34.28	115.38

Where the GWP of gasses is: CO2 =1 CH4 = 25 N2O = 298
and emission factors are converted to units of lb/MMBtu using 453.6 grams/lb and the listed fuel heat contents.

HAP Emission Factors: AP-42 Section 1.4 "Natural Gas Combustion", 7/98 edition

https://www3.epa.gov/ttn/chief/ap42/ch01/final/c01s04.pdf Accessed 8/2/16

	lb/MMscf	lb/MMBtu
2-Methylnaphthalene	2.40E-05	2.35E-08
3-Methylchloranthrene	1.80E-06	1.76E-09
7,12-Dimethylbenz(a)anthracene	1.60E-05	1.57E-08
Acenaphthene	1.80E-06	1.76E-09
Acenaphthylene	1.80E-06	1.76E-09
Anthracene	2.40E-06	2.35E-09
Benz(a)anthracene	1.80E-06	1.76E-09
Benzene	2.10E-03	2.06E-06
Benzo(a)pyrene	1.20E-06	1.18E-09
Benzo(b)fluoranthen	1.80E-06	1.76E-09
Benzo(g,h,i)perylene	1.20E-06	1.18E-09
Benzo(k)fluoranthene	1.80E-06	1.76E-09
Chrysene	1.80E-06	1.76E-09
Dibenzo(a,h)anthracene	1.20E-06	1.18E-09
Dichlorobenzene	1.20E-03	1.18E-06
Fluoranthene	3.00E-06	2.94E-09
Fluorene	2.80E-06	2.75E-09
Formaldehyde	7.50E-02	7.35E-05
Hexane	1.80E+00	1.76E-03
Indeno(1,2,3-cd)pyrene	1.80E-06	1.76E-09
Naphthalene	6.10E-04	5.98E-07
Phenanathrene	1.70E-05	1.67E-08
Pyrene	5.00E-06	4.90E-09
Toluene	3.40E-03	3.33E-06
Total		**1.85E-03**

Footnote to HAP emission factor table on previous page:

[1] Where lb/MMBtu = lb/MMcf/1020 Btu/cf

1020 Btu is the typical higher heating value of natural gas cited in AP-42 Section 1.4.

Manufacturer particulate loading guaranteed at

Lead Emission Factor: AP-42 Section 1.4 "Natural Gas Combustion", 7/98 edition

https://www3.epa.gov/ttn/chief/ap42/ch01/final/c01s04.pdf Accessed 8/2/16

	lb/MMscf	lb/MMBtu
Lead	5.00E-04	4.90E-07

CYC1 Cyclone Limits baghouse loading but is not considered in emissions calculations. Primary purpose is to collect product and is not

considered an air emissions control device.

DBH1 **Dryer Main Baghouse**

Make/Model Simatek 70-40 Baghouse
Flow @ Std Cnd 77 scfm

Note: Uncontorlled emissions back-calculated assuming 99.9% control and permitted emissions limits. This value is likely very conservative as the majority of the whey protein is collected via the cyclone units and the uncontrolled PM emissions from this baghouse alone represent 56% of the total whey product produced by both dryers.

Criteria Pollutant Emission Factor

Manufacturer's guaranteed particulate loading rate guaranteed to be
0.01 grains/scf (+/- 0.005) which typically is about 99% control of PM one micron or larger.
Emission rates based on current permit limits.
Baghouse flow determined from maximum flow (given in m3/hr) obtained from simatek website.

Southwest Cheese, Dryer #2 (DRY2) and Dryer System Baghouse (DBH2)

Uncontrolled Emissions:

	NOX lb/hr	NOX ton/yr	CO lb/hr	CO ton/yr	VOC lb/hr	VOC ton/yr	SO2 lb/hr	SO2 ton/yr	TSP lb/hr	TSP ton/yr	PM10 lb/hr	PM10 ton/yr
DRY2	0.84	3.68	2.58	11.3	0.08	0.34	0.02	0.067	10.92	47.83	10.92	47.83
DBH2									160.0	690.0	160.0	690.0

	PM2.5 lb/hr	PM2.5 ton/yr	Lead lb/hr	Lead ton/yr	CO2e lb/hr	CO2e ton/yr	HAP lb/hr	HAP ton/yr
DRY2	10.92	47.83	2.47E-08	1.08E-07	1639	7180	0.03	0.11
DBH2	160.0	690.0						

DBH2 Control Rate:
0.99 TSP/PM10/PM2.5

Based on manufacturer's estimation of 99% control rate.

Controlled Emissions:

	NOX lb/hr	NOX ton/yr	CO lb/hr	CO ton/yr	VOC lb/hr	VOC ton/yr	SO2 lb/hr	SO2 ton/yr	TSP lb/hr	TSP ton/yr	PM10 lb/hr	PM10 ton/yr
DRY2	0.8	3.7	2.6	11.3	0.08	0.34	0.02	0.07	0.11	0.48	0.11	0.48
DBH2									1.6	6.9	1.6	6.9

	PM2.5 lb/hr	PM2.5 ton/yr	Lead lb/hr	Lead ton/yr	CO2e lb/hr	CO2e ton/yr	HAP lb/hr	HAP ton/yr
DRY2	0.11	0.48	2.47E-08	1.08E-07	1639	7180	0.03	0.11
DBH2	1.6	6.9						

DRY2 **Indirect Heater Combustion Exhaust**

Make/Model	Preheat Inc	Vertical U-Tube Dryer
Capacity	14	MMBtu/hr
Flow Rate Actual		acfm @ 318F
Flow @ Std Cnd	3388	scfm
Stack DIA	14	inch

Criteria Pollutant Emission Factors

NOx	0.06	lb/MMBtu	From Maxon (burner manufacturer) ref: 8/24/16 CFR data sheet for Dryer System
CO	0.184	lb/MMBtu	From Maxon (burner manufacturer) ref: 8/24/16 CFR data sheet for Dryer System
VOC	0.0056	lb/MMBtu	Permit 3008-M3-R3 for DRY1, and similar to factor used for natural gas boiler BLR5
SOx	0.0011	lb/MMBtu	Permit 3008-M3-R3 for DRY1, and similar to factor used for natural gas boiler BLR5
PM	0.0078	lb/MMBtu	Permit 3008-M3-R3 for DRY1, and similar to factor used for natural gas boiler BLR5

Greenhouse Gas Emission Factors

EPA Center for Corporate Climate Leadership
Emission Factors for Greenhouse Gas Inventories Accessed 8/2/16
https://www.epa.gov/sites/production/files/2015-12/documents/emission-factors_nov_2015.pdf

	Heat Cont. Btu/scf	CO2 g/scf	CH4 g/scf	N2O g/scf	CO2e g/scf	CO2e lb/MMBtu
Natural Gas	1026	54.44	0.00103	0.0001	54.50	117.10
Non-Landfill BioGas	655	34.106	0.002096	0.000413	34.28	115.38

Where the GWP of gasses is: CO2 =1 CH4 = 25 N2O = 298
and emission factors are converted to units of lb/MMBtu using 453.6 grams/lb and the listed fuel heat contents.

HAP Emission Factors: AP-42 Section 1.4 "Natural Gas Combustion", 7/98 edition

https://www3.epa.gov/ttn/chief/ap42/ch01/final/c01s04.pdf Accessed 8/2/16

	lb/MMscf	lb/MMBtu
2-Methylnaphthalene	2.40E-05	2.35E-08
3-Methylchloranthrene	1.80E-06	1.76E-09
7,12-Dimethylbenz(a)anthracene	1.60E-05	1.57E-08
Acenaphthene	1.80E-06	1.76E-09
Acenaphthylene	1.80E-06	1.76E-09
Anthracene	2.40E-06	2.35E-09
Benz(a)anthracene	1.80E-06	1.76E-09
Benzene	2.10E-03	2.06E-06
Benzo(a)pyrene	1.20E-06	1.18E-09
Benzo(b)fluoranthen	1.80E-06	1.76E-09
Benzo(g,h,i)perylene	1.20E-06	1.18E-09
Benzo(k)fluoranthene	1.80E-06	1.76E-09
Chrysene	1.80E-06	1.76E-09
Dibenzo(a,h)anthracene	1.20E-06	1.18E-09
Dichlorobenzene	1.20E-03	1.18E-06
Fluoranthene	3.00E-06	2.94E-09
Fluorene	2.80E-06	2.75E-09
Formaldehyde	7.50E-02	7.35E-05
Hexane	1.80E+00	1.76E-03
Indeno(1,2,3-cd)pyrene	1.80E-06	1.76E-09
Naphthalene	6.10E-04	5.98E-07
Phenanathrene	1.70E-05	1.67E-08
Pyrene	5.00E-06	4.90E-09
Toluene	3.40E-03	3.33E-06
Total		**1.85E-03**

Footnote to HAP emission factor table on previous page:

[1] Where lb/MMBtu = lb/MMcf/1020 Btu/cf
1020 Btu is the typical higher heating value of natural gas cited in AP-42 Section 1.4.

Lead Emission Factor: AP-42 Section 1.4 "Natural Gas Combustion", 7/98 edition

https://www3.epa.gov/ttn/chief/ap42/ch01/final/c01s04.pdf Accessed 8/2/16

	lb/MMscf	lb/MMBtu
Lead	5.00E-04	4.90E-07

CYC2 **Cyclone** Limits baghouse loading but is not considered in emissions calculations.

DBH2 **Dryer Main Baghouse**

Make/Model	CFR Model 18610-1 Reverse Pulse Jet Baghouse
Bags	277 Bags, 6" DIA x 13' long, 5664 sq ft cloth, polyester
Flow Rate Actual	28,817 acfm @ 190F corrected for temperature and Clovis elevation and humidity
Flow @ Std Cnd	18,352 scfm
Stack DIA	36 inch

Criteria Pollutant Emission Factor

Particulate Loading 0.01 grains/scf (+/- 0.005) which typically is about 99% control of PM one micron or larger.

lb/hr = (scf/min) * (60 min/hr) * (0.01 gr/scf) / (7000 gr/lb)

Southwest Cheese, Flare (FLR1)

Uncontrolled Emissions:

	NOX lb/hr	NOX ton/yr	CO lb/hr	CO ton/yr	VOC lb/hr	VOC ton/yr	SO2 lb/hr	SO2 ton/yr	TSP lb/hr	TSP ton/yr	PM10 lb/hr	PM10 ton/yr
FLR1	1.73	7.58	9.41	41.22	3.56	15.59	7.71	33.77	0.10	0.44	0.10	0.44

	PM2.5 lb/hr	PM2.5 ton/yr	H2S lb/hr	H2S ton/yr
FLR1	0.10	0.44	6.80	29.79

FLR1 Control Rate:
0.70 H2S

SCR1 Control Rate:
0.00 H2S

Controlled Emissions:

	NOX lb/hr	NOX ton/yr	CO lb/hr	CO ton/yr	VOC lb/hr	VOC ton/yr	SO2 lb/hr	SO2 ton/yr	TSP lb/hr	TSP ton/yr	PM10 lb/hr	PM10 ton/yr
FLR1	1.73	7.58	9.41	41.2	3.56	15.59	7.71	33.77	0.10	0.44	0.10	0.44

	PM2.5 lb/hr	PM2.5 ton/yr	H2S lb/hr	H2S ton/yr
FLR1	0.10	0.44	2.04	8.94

FLR1

Make/Model	Varec WG224WS614001
Capacity	25.43 MMBtu/hr
Flow @ Std Cnd	415.52 scfm

Criteria Pollutant Emission Factors

NOx	0.068 lb/MMBtu
CO	0.37 lb/MMBtu
VOC	0.14 lb/MMBtu
SOx	0.30 lb/MMBtu
PM	0.0039 lb/MMBtu
H2S	0.0802 lb/MMBtu

SSM Emissions - Scrubber Only

Scrubber Event Assumptions

Hours per Maintenance Event	8
Number of Events per Year	52
H2S (TPY)	0.42
H2S (lb/hr)	2.04

SSM Emissions - Scrubber and Flare

Scrubber and Flare Event Assumptions

SSM Emissions - Flare

Scrubber Event Assum

Hours per Maintenance Event	8
Number of Events per Year	52
H2S (TPY)	1.41
H2S (lb/hr)	6.80

Southwest Cheese, Whey Transfer Baghouses (PRBH1, SSHBH1)

PRBH1 & SSHBH1 Control Rate:
0.99 TSP/PM10/PM2.5

Based on manufacturer's estimation of 99% control rate.

Uncontrolled Emissions:

	NOX lb/hr	NOX ton/yr	CO lb/hr	CO ton/yr	VOC lb/hr	VOC ton/yr	SO2 lb/hr	SO2 ton/yr	TSP lb/hr	TSP ton/yr	PM10 lb/hr	PM10 ton/yr
PRBH1									29.1	127.6	29.1	127.6
SSHBH1									3.6	15.8	3.6	15.8

	PM2.5 lb/hr	PM2.5 ton/yr	Lead lb/hr	Lead ton/yr	CO2e lb/hr	CO2e ton/yr	HAP lb/hr	HAP ton/yr
PRBH1	29.1	127.6						
SSHBH1	3.6	15.8						

Controlled Emissions:

	NOX lb/hr	NOX ton/yr	CO lb/hr	CO ton/yr	VOC lb/hr	VOC ton/yr	SO2 lb/hr	SO2 ton/yr	TSP lb/hr	TSP ton/yr	PM10 lb/hr	PM10 ton/yr
PRBH1									0.29	1.28	0.29	1.28
SSHBH1									0.04	0.16	0.04	0.16

	PM2.5 lb/hr	PM2.5 ton/yr	Lead lb/hr	Lead ton/yr	CO2e lb/hr	CO2e ton/yr	HAP lb/hr	HAP ton/yr
PRBH1	0.29	1.28						
SSHBH1	0.04	0.16						

Notes: Flow rates and baghouse outlet particulate loading are taken from the 2/29/2016 specification sheet from CFR: " Dryer System Air Emission Source Points". Emissions are estimated from particulate loading and flow rate in scfm. As was done in previous permit applications, all baghouse emissions are conservatively assumed to be PM2.5.

lb/hr = (scf/min) * (60 min/hr) * (0.01 gr/scf) / (7000 gr/lb)

PRBH1 Powder Receiver Baghouse

Make/Model	CFR Model 18610-2 Reverse Pulse-Jet Cleaning Design
Bags	58 Bags, 6" DIA x 12' long, 1099 sq ft cloth, polyester
Flow Rate Actual	4,285 acfm @ 90F corrected for temperature and Clovis elevation and humidity
Flow @ Std Cnd	3,400 scfm
Particulate Loading	0.01 grains/scf (+/- 0.005) which typically is about 99% control of PM one micron or larger.
Stack DIA	14 inch

SSHBH1 Start/Stop Hopper Baghouse

Make/Model	CFR Model 18610-3 Reverse Pulse-Jet Cleaning Design
Bags	13 Bags, 6" DIA x 1 mtr long, 158 sq ft cloth, polyester
Flow Rate Actual	536 acfm @ 90F corrected for temperature and Clovis elevation and humidity
Flow @ Std Cnd	420 scfm
Particulate Loading	0.01 grains/scf (+/- 0.005) which typically is about 99% control of PM one micron or larger.
Stack DIA	10 inch

Southwest Cheese, In-Plant Truck Traffic (ROAD)

Current Permit Limit

464 trucks per day

112,785 trucks per year (309 avg. trucks/day * 365 days/year)

Proposed Truck Emission Estimate

	NOX lb/hr	NOX ton/yr	CO lb/hr	CO ton/yr	VOC lb/hr	VOC ton/yr	SO2 lb/hr	SO2 ton/yr
ROAD								

	TSP lb/hr	TSP ton/yr	PM10 lb/hr	PM10 ton/yr	PM2.5 lb/hr	PM2.5 ton/yr
ROAD	1.65	4.82	0.33	0.96	0.081	0.24

Note: AP-42 Section 13.2.1 has been updated since the previous permit application emissions estimate.

Paved Road Fugitive Dust Estimate for Trucks

Methodology: AP-42 Section 13.2.1 "Paved Roads"

https://www3.epa.gov/ttn/chief/ap42/ch13/final/c13s0201.pdf Accessed 7/28/16

This AP-42 Section has been updated since the previous estimate of fugitive emissions from truck traffic at SWC.

The January 2011 version of Equation 2 is: $E_{ext} = [\, k\,(sL)^{0.91} \times (W)^{1.02}\,]\,(1 - P/4N)$

and the updated k factors are below.

	PM2.5	PM10	PM30	
k	0.00054	0.0022	0.011	Particle Size Multiplier from Table 13.2.1-1
sL	0.6	0.6	0.6	Baseline silt Loading Default Value from Table 13.2.1-2, assumes negligible use of antiskid abrasive.
W	23.96	23.96	23.96	Per-vehicle average weight in tons. Average of loaded/unloaded weights, weighted by VMT/day.
P	70	70	70	NMED Value (# of Precipitation Days over 0.01 inches per year)
N	365	365	365	number of days in the averaging period (e.g., 365 for annual)

lb/VMT	0.0082	0.034	0.17	
Max lb/hr	0.081	0.33	1.65	assuming 464 trucks per day drive a total of 236 VMT in 24 hours
Max tpy	0.24	0.96	4.82	assuming 464 trucks per day drive a total of 236 VMT/day for 365 days
annual lb/hr	0.054	0.22	1.10	assuming 309 trucks per day drive a total of 236 VMT/day for 365 days

Estimate of Maximum Daily Traffic and Maximum Hourly Emissions by Route

Routes	Curr. Avg. Trucks/day	Future Avg. Trucks/day	x 1.5 Prop. Lim.	Average (ton)	Round Trip (mtr)	VMT mi/day	Normalize Weight	VMT Percentage	TSP lb/hr	PM10 lb/hr	PM2.5 lb/hr
Milk (full)	204.3	247.65	371.5	40.0	233.3	53.87	2154.79	23%	0.64	0.13	0.031
Milk (empty)				15.0	408.2	94.24	1413.53	40%	0.41	0.082	0.020
WWTP	4	4	6.0	27.5	2589.4	9.66	265.54	4%	0.078	0.016	0.0038
40 Material	2	2	3.0	22.5	904.8	1.69	37.96	1%	0.011	0.0022	0.00054
RAW	17	17	25.5	22.5	904.8	14.34	322.64	6%	0.094	0.019	0.0046
WPC/I	2.1	2.1	3.2	27.5	1785.6	3.50	96.13	1%	0.028	0.0056	0.0014
Slop	2	2	3.0	27.5	2333.4	4.35	119.64	2%	0.035	0.0070	0.0017
Chemicals	2	2	3.0	27.5	2314.2	4.31	118.66	2%	0.035	0.0070	0.0017
640 Material	4	4	6.0	22.5	1292.7	4.82	108.46	2%	0.032	0.0063	0.0016
Cheese	22.9	28.25	42.4	22.5	1702.2	44.83	1008.65	19%	0.29	0.059	0.014
Total Daily	260	309	**464**			235.60	5646.01	100%	1.65	0.33	0.081

23.96 tons overall weighed average truck

85,993 miles in 365 days per year

Proposed Daily Limit on Trucks **464 Trucks per day**

Existing and proposed daily truck permit limits use a 1.5 factor of safety on average truck traffic.

The lb/hr emission estimate is 1/24 the emissions from daily truck limit.

Note that full and empty milk trucks travel by different routes, so emissions are calculated separately for full and empty milk trucks.

Expected Average Annual Trucks and Miles			
	Current Avg	Future Avg.	
Annual	95,010	112,785	Trucks per year
Annual	48,955	57,329	Miles per year

Where expected annual Trucks and expected annual miles is 365 days * average daily

Estimate of Average Truck Weight per Route

Truck Route	Empty Distance (m)	Full Distance (m)	Route Total (m)	Unloaded Weight (ton)	Load Weight (ton)	Weighted Average (ton)
Milk (full)		233.33	233.33	15	25	40.0
Milk (empty)	408.17		408.17	15	25	15.0
WWTP	1294.71	1294.71	2589.42	15	25	27.5
40' Material	452.395	452.395	904.79	15	15	22.5
RAW	452.395	452.395	904.79	15	15	22.5
WPC/I	892.82	892.82	1785.64	15	25	27.5
Slop	1166.71	1166.71	2333.42	15	25	27.5
Chemicals	1157.11	1157.11	2314.22	15	25	27.5
640' Materia	646.35	646.35	1292.7	15	15	22.5
Cheese	851.09	851.09	1702.18	15	15	22.5

Where the weighted average truck weight on each route is calculated as
(unloaded weight)(unloaded distance) + (loaded weight)(loaded distance) / (total distance) = Truck Weight for this route

Soutl..vest Cheese, Revision to SO_2 Representations for Biogas Combustion in FLR1, BLR1 and NG-Only in BLR4

Worst-Case Operating Scenario 1 (BLR1/FLR1)	0.2% H_2S in biogas. All biogas flared (FLR1). Boiler 1 (BLR1) running concurrently on natural gas at full capacity.
Worst-Case Operating Scenario 2 (BLR1/FLR1)	0.2% H_2S in biogas. Biogas use in Boiler 1 (BLR1) maximum 30% of boiler heat input.
BLR4 Operation	No biogas burned in Boiler 4 (BLR4). Natural gas firing only.

Fuel and H_2S Combustion Data

Biogas Production

Parameter	Source
924,720 scf/day	Current permit; 38,530 scf/hr
38,530 scf/hr	Current permit
0.20% H_2S by volume	Revision
660 Btu/ft^3 (HHV basis)	Current permit

Natural Gas

Parameter	Source
0.75 grain H_2S per 100 scf	Transwestern Pipeline Company, LLC Tari
1,020 Btu/ft^3 (HHV basis)	Current permit

Combustion Equation	2 H_2S + 3 O_2 --> 2 SO_2 + 2 H_2O

H_2S Molecular Weight (lb/lbmol)	34
SO_2 Molecular Weight (lb/lbmol)	64

Gas constant	R	0.73 ft^3 * atm/(R * lbmol)	
Pressure	P	1 atm	
Temperature	T	68 F	528 R
Molar volume	V/n	385.2 ft^3/lbmol	

Boiler 1 heat input capacity:	50.215 MMBtu/hr
Boiler 4 heat input capacity:	12.55 MMBtu/hr

Boiler 4 SO2 Emissions from Natural Gas Only

BLR4 - Natural Gas

Fuel input (ft^3/hr)	12,304
H_2S Input from NG (lb/hr)	0.0132
SO_2 (lb/hr)	0.0248
SO_2 (ton/yr)	0.109

Scenario 1 SO_2 Emissions

FLR1 - Biogas

Fuel input (ft^3/hr)	38,530
H_2S input (ft^3/hr)	77.1
H_2S input (lbmol/hr)	0.200
SO_2 (lb/hr)	12.8
SO_2 (ton/yr)	56.1

BLR1 - Natural Gas

Fuel input (ft^3/hr)	49,230
H_2S input (lb/hr)	0.053
SO_2 (lb/hr)	0.0993
SO_2 (ton/yr)	0.435

Scenario 2 SO_2 Emissions

BLR1 - Biogas/Natural Gas

Biogas heat load capacity (30%) and fuel input rate	15.06 MMBtu/hr 22,825 ft^3/hr
Natural gas heat input (70%) and fuel input rate	35.15 MMBtu/hr 34,461 ft^3/hr

H_2S Input from NG (lb/hr)	0.0369
H_2S Input from Biogas (ft^3/hr)	45.7
H_2S Input from Biogas (lbmol/hr)	0.119
H_2S Input from Biogas (lb/hr)	4.03
H_2S Input from Both Fuels (lb/hr)	4.07
SO_2 (lb/hr)	7.7
SO_2 (ton/yr)	33.5

FLR1 - Remaining Biogas

38,530 ft^3/hr biogas produced
(22,825) ft^3/hr biogas routed to BLR1
15,705 ft^3/hr remaining biogas, to route to FLR1

Uncontrolled

H_2S Input from Biogas (ft^3/hr)	31.4
H_2S Input from Biogas (lbmol/hr)	0.082
SO_2 (lb/hr)	5.22
SO_2 (ton/yr)	22.9

Southwest Cheese, Facility-Wide Greenhouse Gas Emissions

Greenhouse Gas Emission Factors

EPA Center for Corporate Climate Leadership
Emission Factors for Greenhouse Gas Inventories Accessed 7/19/18
https://www.epa.gov/sites/production/files/2015-12/documents/emission-factors_nov_2015.pdf

	Heat Cont. Btu/scf	CO2 g/scf	CH4 g/scf	N2O g/scf	CO2e g/scf	CO2e lb/MMBtu
Natural Gas	1026	54.44	0.00103	0.0001	54.50	117.10
Non-Landfill BioGas	655	34.106	0.002096	0.000413	34.28	115.38
	Heat Cont. MMBtu/gal	CO2 kg/MMBtu	CH4 g/MMBtu	N2O g/MMBtu	CO2e kg/MMBtu	CO2e lb/MMBtu
Diesel Fuel	0.138	73.96	3.0	0.60	74.21	163.61

Where the GWP of gasses is: CO2 =1 CH4 = 25 N2O = 298
and emission factors are converted to units of lb/MMBtu using 453.6 grams/lb and the listed fuel heat contents.

Facility-Wide GHG Potential Emissions

	MMBtu/hr	CO2 tpy	CH4 tpy	N2O tpy	CO2e tpy
BLR1	50.215	25,728	0.487	0.047	25,754
BLR2	50.215	25,728	0.487	0.047	25,754
BLR3	50.215	25,728	0.487	0.047	25,754
DRY1	18	9,222	0.174	0.017	9,232
BLR4	12.55	6,430	0.122	0.012	6,437
FLR1	25.43	12,786	0.786	0.155	12,852
BLR5	33.472	17,150	0.324	0.032	17,167
DRY2	14	7,173	0.136	0.013	7,180
SDG1	18.19	741	0.030	0.006	744
SDG2	6.26	255	0.010	0.002	256
FP01	1.28	52	0.002	0.000	52
Total	249.7	115,559	2.753	0.350	115,732

Note: At the Clovis Plant, three of the four process steam heating boilers, BRL1 ,BLR2, BLR 3 or BLR5 provides steam at any one time. The other boiler is on standby mode operating approximately 10% load. Permit 3008-M5 is requested to not limit fuel consumption but does limit boiler use to two at any one time. Therefore, the pollutant emissions, for facility-wide potential to emit purposes, is limited based on that.

Southwest Cheese, Facility-Wide HAP Emissions

HAP Emission Factors: AP-42 Section 1.4 "Natural Gas Combustion", 7/98 edition
https://www3.epa.gov/ttn/chief/ap42/ch01/final/c01s04.pdf Accessed 8/2/16

	lb/MMscf	lb/MMBtu
2-Methylnaphthalene	2.40E-05	2.35E-08
3-Methylchloranthrene	1.80E-06	1.76E-09
7,12-Dimethylbenz(a)anthracene	1.60E-05	1.57E-08
Acenaphthene	1.80E-06	1.76E-09
Acenaphthylene	1.80E-06	1.76E-09
Anthracene	2.40E-06	2.35E-09
Benz(a)anthracene	1.80E-06	1.76E-09
Benzene	2.10E-03	2.06E-06
Benzo(a)pyrene	1.20E-06	1.18E-09
Benzo(b)fluoranthen	1.80E-06	1.76E-09
Benzo(g,h,i)perylene	1.20E-06	1.18E-09
Benzo(k)fluoranthene	1.80E-06	1.76E-09
Chrysene	1.80E-06	1.76E-09
Dibenzo(a,h)anthracene	1.20E-06	1.18E-09
Dichlorobenzene	1.20E-03	1.18E-06
Fluoranthene	3.00E-06	2.94E-09
Fluorene	2.80E-06	2.75E-09
Formaldehyde	7.50E-02	7.35E-05
Hexane	1.80E+00	1.76E-03
Indeno(1,2,3-cd)pyrene	1.80E-06	1.76E-09
Naphthalene	6.10E-04	5.98E-07
Phenanathrene	1.70E-05	1.67E-08
Pyrene	5.00E-06	4.90E-09
Toluene	3.40E-03	3.33E-06
Total		**1.85E-03**

[1] Where the typical higher heating value of natural gas cited in AP-42 Section 1.4 is 1020 Btu/scf.

HAP Emission Factors: AP-42 Section 3.4 "Large Diesel Engines", 10/96
https://www3.epa.gov/ttn/chief/ap42/ch03/final/c03s04.pdf

	lb/MMBtu
Acetaldehyde	2.52E-05
Acrolein	7.88E-06
Benzene	7.76E-04
Formaldehyde	7.89E-05
Naphthalene	1.30E-04
Polycyclic Aromatic Hydrocarbons	2.12E-04
Toluene	2.81E-04
Xylenes	1.93E-04
Total	**1.70E-03**

HAP Emission Factors: AP-42 Section 3.3 "Diesel Engines", 10/96
https://www3.epa.gov/ttn/chief/ap42/ch03/final/c03s04.pdf

	lb/MMBtu
Acetaldehyde	7.67E-04
Acrolein	9.25E-05
Benzene	9.33E-04
1,3-Butadiene	3.91E-05
Formaldehyde	1.18E-03
Naphthalene	8.48E-05
Polycyclic Aromatic Hydrocarbons	1.68E-04
Toluene	4.09E-04
Xylenes	2.85E-04
Total	**3.96E-03**

Facility-Wide HAP Emissions

	BLR1	BLR2	BLR3	BLR4	BLR5	DRY1	DRY2	FLR1	SDG1	SDG2	FP01	
Maximum Firing Rate →	48.9 MMBtu/hr	48.9 MMBtu/hr	48.9 MMBtu/hr	12.55 MMBtu/hr	33.7 MMBtu/hr	18 MMBtu/hr	14 MMBtu/hr	25.43 MMBtu/hr	18.19 MMBtu/hr	6.26 MMBtu/hr	1.28 MMBtu/hr	Total
	lb/yr	lb/yr	lb/yr	lb/yr	lb/yr	lb/yr	lb/yr	lb/yr	lb/yr	lb/yr	lb/yr	lb/yr
1,3-Butadiene	-	-	-	-	-	-	-	-	-	-	0.0250	0.0250
2-Methylnaphthalene	0.0101	0.0101	0.0101	0.0026	0.0069	0.0037	0.0029	0.0052	-	-	-	0.0346
3-Methylchloranthrene	0.0008	0.0008	0.0008	0.0002	0.0005	0.0003	0.0002	0.0004	-	-	-	0.0026
7,12-Dimethylbenz(a)anthracene	0.0067	0.0067	0.0067	0.0017	0.0046	0.0025	0.0019	0.0035	-	-	-	0.0231
Acenaphthene	0.0008	0.0008	0.0008	0.0002	0.0005	0.0003	0.0002	0.0004	-	-	-	0.0026
Acenaphthylene	0.0008	0.0008	0.0008	0.0002	0.0005	0.0003	0.0002	0.0004	-	-	-	0.0026
Acetaldehyde	-	-	-	-	-	-	-	-	0.2292	0.0789	0.4909	0.7990
Acrolein	-	-	-	-	-	-	-	-	0.0717	0.0247	0.0592	0.1555
Anthracene	0.0010	0.0010	0.0010	0.0003	0.0007	0.0004	0.0003	0.0005	-	-	-	0.0035
Benz(a)anthracene	0.0008	0.0008	0.0008	0.0002	0.0005	0.0003	0.0002	0.0004	-	-	-	0.0026
Benzene	0.8819	0.8819	0.8819	0.2263	0.6078	0.3246	0.2525	0.4586	7.0577	2.4289	0.5971	13.1097
Benzo(a)pyrene	0.0005	0.0005	0.0005	0.0001	0.0003	0.0002	0.0001	0.0003	-	-	-	0.0017
Benzo(b)fluoranthen	0.0008	0.0008	0.0008	0.0002	0.0005	0.0003	0.0002	0.0004	-	-	-	0.0026
Benzo(g,h,i)perylene	0.0005	0.0005	0.0005	0.0001	0.0003	0.0002	0.0001	0.0003	-	-	-	0.0017
Benzo(k)fluoranthene	0.0008	0.0008	0.0008	0.0002	0.0005	0.0003	0.0002	0.0004	-	-	-	0.0026
Chrysene	0.0008	0.0008	0.0008	0.0002	0.0005	0.0003	0.0002	0.0004	-	-	-	0.0026
Dibenzo(a,h)anthracene	0.0005	0.0005	0.0005	0.0001	0.0003	0.0002	0.0001	0.0003	-	-	-	0.0017
Dichlorobenzene	0.5040	0.5040	0.5040	0.1293	0.3473	0.1855	0.1443	0.2621	-	-	-	1.7291
Fluoranthene	0.0013	0.0013	0.0013	0.0003	0.0009	0.0005	0.0004	0.0007	-	-	-	0.0043
Fluorene	0.0012	0.0012	0.0012	0.0003	0.0008	0.0004	0.0003	0.0006	-	-	-	0.0040
Formaldehyde	31.5	31.5	31.5	8.1	21.7	11.6	9.0176	16.3799	0.7176	0.2470	0.7552	109.7898
Hexane	756	756	756	194	521	278	216.4235	393.1179	-	-	-	2,593.6814
Hydrogen Sulfide	-	-	-	-	-	-	-	#########	-	-	-	#########
Indeno(1,2,3-cd)pyrene	0.0008	0.0008	0.0008	0.0002	0.0005	0.0003	0.0002	0.0004	-	-	-	0.0026
Naphthalene	0.2562	0.2562	0.2562	0.0657	0.1765	0.0943	0.0733	0.1332	1.1824	0.4069	0.0543	2.5225
Phenanathrene	0.0071	0.0071	0.0071	0.0018	0.0049	0.0026	0.0020	0.0037	-	-	-	0.0245
Polycyclic Aromatic Hydrocarbons	-	-	-	-	-	-	-	-	1.9281	0.6636	0.1075	2.6992
Pyrene	0.0021	0.0021	0.0021	0.0005	0.0014	0.0008	0.0006	0.0011	-	-	-	0.0072
Toluene	1.4279	1.4279	1.4279	0.3665	0.9840	0.5256	0.4088	0.7426	2.5557	0.8795	0.2618	8.5962
Xylenes	-	-	-	-	-	-	-	-	1.7553	0.6041	0.1824	2.5418
Total	791	791	791	203	545	291	226	18,286	14	5	2	21,943.6

At the Clovis Plant, only two of the four process steam heating boilers, BRL1 ,BLR2, BLR 3 or BLR5 provides steam at any one time. The other boilers are on standby mode operating approximately 10% load. Permit 3008-M4 does not limit fuel consumption but does limit boiler use to two at any one time. Therefore, the pollutant emissions, for facility-wide potential to emit purposes, is limited to the two highest emitting boilers only.

Southwest Cheese, Generator Emissions (SDG1)

Make: Caterpillar
Model: 3516
Manufacturer HP: 2598

POLLUTANT NAME	EF (lb/MMBtu)	EF (g/hp-hr)	EF Source[1]	Emissions (tpy)
PM	0.1	0.318	EPA AP-42	0.45
PM_{10}	0.1	0.318	EPA AP-42	0.45
CO	0.85	2.699	EPA AP-42	3.86
SOx	Formula	5.50E-03	EPA AP-42	0.008
NOx	3.2	10.160	EPA AP-42	14.55
HC	0.09	0.286	EPA AP-42	0.41

Calculation Summary

Total hp-hr as Requested =	1,299,000
Annual Fuel Consumption (gal) =	66,372
"Full Standby" fuel consumption (gal/hr) =	132.7
Energy Consumption (MMBtu/hr) =	18.2
Requested Operating Hours =	500
Fuel (Btu/gal) =	137,000
Fuel Sulfur Content (%) =	0.0015%
BSFC (Btu/hp-hr) =	7,000
Total (MMBtu) =	9,093

NOTES:

1.) "EPA AP-42" emission factors are from Vol. 1, 5th Edition, Section 3.4, Table 3.4-1.
AP-42 emission factors are given in units of lbs/MMBtu, which were converted using the following equation:
EF (g/hp-hr) = EF (lb/MMBtu) x 453.6 g/lb x 132.7 gal/hr x 7000 Btu/hp-hr ÷ 2598 hp ÷ 1,000,000 Btu/MMBtu

HAP Emissions Estimates

HAP NAME	HAP EF[1] (lb/MMBtu)	HAP (lb/yr)
Acetaldehyde	2.52E-05	0.23
Acrolein	7.88E-06	0.07
Benzene	7.76E-04	7.06
Formaldehyde	7.89E-05	0.72
Naphthalene	1.30E-04	1.18
Polycyclic Aromatic Hydrocarbon	2.12E-04	1.93
Toluene	2.81E-04	2.56
Xylenes	1.93E-04	1.75
TOTAL HAPs Emissions (lbs.)		**15.5**

NOTES:

1.) HAP emissions factors from Tables 3.4-3 and 3.4-4 of AP-42 for large diesel engines.

Southwest Cheese, Generator Emissions (SDG2)

Make: Cummins
Model: VTA-28-G5
Manufacturer HP: 900

POLLUTANT NAME	EF (lb/MMBtu)	EF (g/hp-hr)	EF Source[1]	Emissions (tpy)
PM	0.1	0.316	EPA AP-42	0.16
PM_{10}	0.1	0.316	EPA AP-42	0.16
CO	0.85	2.682	EPA AP-42	1.33
SOx	Formula	5.50E-03	EPA AP-42	0.003
NOx	3.2	10.097	EPA AP-42	5.01
HC	0.09	0.284	EPA AP-42	0.14

Calculation Summary

Total hp-hr as Requested =	450,000
Annual Fuel Consumption (gal) =	22,850
"Full Standby" fuel consumption (gal/hr) =	45.7
Energy Consumption (MMBtu/hr) =	6.3
Requested Operating Hours =	500
Fuel (Btu/gal) =	137,000
Fuel Sulfur Content (%) =	0.0015%
BSFC (Btu/hp-hr) =	6,957
Total (MMBtu) =	3,130

NOTES:

1.) "EPA AP-42" emission factors are from Vol. 1, 5th Edition, Section 3.4, Table 3.4-1.
AP-42 emission factors are given in units of lbs/MMBtu, which were converted using the following equation:
EF (g/hp-hr) = EF (lb/MMBtu) x 453.6 g/lb x 132.7 gal/hr x 7000 Btu/hp-hr ÷ 900 hp ÷ 1,000,000 Btu/MMBtu

HAP Emissions Estimates

HAP NAME	HAP EF[1] (lb/MMBtu)	HAP (lb/yr)
Acetaldehyde	2.52E-05	0.08
Acrolein	7.88E-06	0.02
Benzene	7.76E-04	2.43
Formaldehyde	7.89E-05	0.25
Naphthalene	1.30E-04	0.41
Polycyclic Aromatic Hydrocarbons	2.12E-04	0.66
Toluene	2.81E-04	0.88
Xylenes	1.93E-04	0.60
TOTAL HAPs Emissions (lbs.)		**5.3**

NOTES:

1.) HAP emissions factors from Tables 3.4-3 and 3.4-4 of AP-42 for large diesel engines.

Southwest Cheese, Generator Emissions (FP01)

Make: John Deere
Model: 6068HF285
Manufacturer HP: 183

POLLUTANT NAME	EF (lb/MMBtu)	EF (g/hp-hr)	EF Source[1]	Emissions (tpy)
PM	0.31	0.984	EPA AP-42	0.10
PM_{10}	0.31	0.984	EPA AP-42	0.10
CO	0.95	3.016	EPA AP-42	0.30
SOx^2	1.21E-05	5.50E-03	EPA AP-42	0.0006
NOx+HC	4.77	15.145	EPA AP-42	1.53
HC	0.36	1.143	EPA AP-42	0.12

Calculation Summary

Total hp-hr as Requested =	91,500
Annual Fuel Consumption (gal) =	4,675
"Full Standby" fuel consumption (gal/hr) =	9.4
Energy Consumption (MMBtu/hr) =	1.3
Requested Operating Hours =	500
Fuel (Btu/gal) =	137,000
Fuel Sulfur Content (%) =	0.0015%
BSFC (Btu/hp-hr) =	7,000
Total (MMBtu) =	641

NOTES:

1.) "EPA AP-42" emission factors are from Vol. 1, 5th Edition, Section 3.3, Table 3.3-1.
AP-42 emission factors are given in units of lbs/MMBtu, which were converted using the following equation:
EF (g/hp-hr) = EF (lb/MMBtu) x 453.6 g/lb x 132.7 gal/hr x 7000 Btu/hp-hr ÷ 183 hp ÷ 1,000,000 Btu/MMBtu

2.) EPA AP-42 Emission factor for SOx from Vol. 1, 5th Edition, Table 3.4-1 and assuming ULSD is consumed in the engine

HAP Emissions Estimates

HAP NAME	HAP EF[1] (lb/MMBtu)	HAP (lb/yr)
Acetaldehyde	7.67E-04	0.49
Acrolein	9.25E-05	0.06
Benzene	9.33E-04	0.60
1,3-Butadiene	3.91E-05	0.03
Formaldehyde	1.18E-03	0.76
Naphthalene	8.48E-05	0.05
Polycyclic Aromatic Hydrocarbon	1.68E-04	0.11
Toluene	4.09E-04	0.26
Xylenes	2.85E-04	0.18
TOTAL HAPs Emissions (lbs.)		**2.54**

NOTES:

1.) HAP emissions factors from Table 3.3-2 of AP-42 for diesel industrial engines.

Section 3

Application Summary

The **Application Summary** shall include a brief description of the facility and its process, the type of permit application, the applicable regulation (i.e. 20.2.72.200.A.X, or 20.2.73 NMAC) under which the application is being submitted, and any air quality permit numbers associated with this site. If this facility is to be collocated with another facility, provide details of the other facility including permit number(s). In case of a revision or modification to a facility, provide the lowest level regulatory citation (i.e. 20.2.72.219.B.1.d NMAC) under which the revision or modification is being requested. Also describe the proposed changes from the original permit, how the proposed modification will affect the facility's operations and emissions, de-bottlenecking impacts, and changes to the facility's major/minor status (both PSD & Title V).

Routine or predictable emissions during Startup, Shutdown, and Maintenance (SSM): Provide an overview of how SSM emissions are accounted for in this application. Refer to "Guidance for Submittal of Startup, Shutdown, Maintenance Emissions in Permit Applications (http://www.env.nm.gov/aqb/permit/app_form.html) for more detailed instructions on SSM emissions.

Southwest Cheese Company (SWC) is applying for a modification to Title V Operating Permit 3008-M2 and NSR 3008-M5 for the Clovis Plant, currently operating under construction Permit 3008-M5, most recently modified on April 2, 2024. SWC has retained Tetra Tech to help prepare the modification application. The facility conducts typical cheese production activities by processing milk, cream, and starter to produce cheese, whey protein concentrate, and whey protein isolate. The current permit 3008M5 authorizes the equipment shown below, from Table 1.a. of the permit. Existing sources are three 49.8 mmBtu/hr steam heating boilers (BLR1, BLR2, and BLR3), a 33.7 mmBtu/hr steam heating boiler (BLR5), an 18 mmBtu/hr natural-gas-fired whey dryer heater (DRY1), a 14 mmBtu/hr natural-gas-fired whey dryer heater (DRY2), a 12.55 mmBtu/hr natural gas wastewater treatment plant reheat boiler (BLR4), a 2,598 BHP Caterpillar 3516B standby emergency generator, a 900 BHP Cummins standby emergency generator, a 180 BHP John Deere standby fire pump, and a biogas flare (FLR1). Particulate emissions from the whey dryer heaters are controlled by two cyclones (CYC1 and CYC2) and two dust collectors (DBH1 and DBH2). Emissions from two whey transfer points will be controlled by a powder receiver baghouse (PRBH1) and a start/stop hopper baghouse (SSHBH1). Truck traffic capacity (ROAD) on-site is limited to 464 trucks per day. Of the permitted emissions sources, two are authorized to combust biogas as fuel: one process boiler (BLR1) and the anaerobic digester biogas flare (FLR1). The facility also operates a scrubber to remove H2S from the biogas stream. This source is included in the permit and application due to its classification of a control device but This is to modify the facility's Title V permit to reflect the most recent NSR permit issued by NMED on April 2, 2024.

This application is requesting the following modifications to the permit:

- Increase the biogas H2S concentration to 2,000 ppm. The current permit limit is 1,200 ppm.
- Align the pipeline quality natural gas H2S concentration to align with the Transwestern Pipeline Company, LLC's tariff sheet value of 0.75 grains H2S per 100 standard cubic feet (scf). The current permit limit is 0.25 grains H2S per 100 scf.
- Revision of the flare control efficiency from 98% to 70%.
- For inclusiveness, this application will also include the biogas scrubber which was included in a minor NSR permit application submitted to NMED in April 2023. The vendor has not provided verified H2S reduction guarantees for the unit. Upon guidance from NMED, the scrubber is included in the permit application but there is no reduction in biogas included in this permit modification nor in the supporting emission calculations.
- Revision to the CAM Plan. Specifically, removal of the daily opacity observation requirement for the dryer baghouse systems and relying on pressure data as the initial compliance metric.

Table 3-1 lists the equipment from Table 1.a. "Regulated Equipment List" in SWC Air Quality Permit No. 3008-M5.

The site will remain a true minor source for PSD. Title V status is major.

SWC Clovis Plant is located in Township 1N, Range 35E, Section 13, approximately 6.8 miles south of the center of Clovis in Curry County, New Mexico. The Universal Transverse Mercator (UTM) coordinates for the site are UTM E 663,640 meters East and 3,798,500 meters North with NAD83 datum at an elevation of approximately 4,165 feet above mean sea level.

Routine or Predictable Emissions During Startup, Shutdown, and Maintenance (SSM):

No startup, shutdown, or maintenance emissions are predicted for this facility that would be greater than the proposed allowable emissions.

If you have any questions about this permit application, please call Sara Lubchenco-Burson (Tetra Tech, Inc.) at (251) 599-0715 or Cormac O'Kelly at 575-742-9282.

Table 3-1 Regulated Equipment List from Permit No. 3008-M5

Unit No.	Source Description	Make Model	Serial No.	Capacity
BLR1	Steam Heating Boiler	Cleaver Brooks CBL700-1200-1500ST	OL103875	50.215 MMBtu/hr
BLR2	Steam Heating Boiler	Cleaver Brooks CBL700-1200-1500ST	OL103874	50.215 MMBtu/hr
BLR3	Steam Heating Boiler	Cleaver Brooks CBL700-1200-1500ST	OL103876	50.215 MMBtu/hr
BLR4	Hot Water Generator	Cleaver Brooks CBL-700-300-30HW	OL103946	12.55 MMBtu/hr
BLR5	Steam Heating Boiler	Cleaver-Brooks CBEX 800	T5817-1-1	33.472 MMBtu/hr
DRY1	Whey Dryer Heater	CPS Corbett Whey Dryer Heater	S-090402	18 MMBtu/hr
DRY2	Whey Dryer Heater	CFR Vertical U-Tube	H120DPL162314	14.0 MMBtu/hr
WPC1	Whey Powder Conveyor	PPS VR-18-8-3T	NA	NA
SSH1	Start/Stop Hopper	CFR	19333-0003	NA
FLR1	Anaerobic Digester Biogas Flare	Varec WG224WS614001	SP78214	25.43 MMBtu/hr
ROAD	Truck Traffic	NA	NA	464 Trucks/day
SDG1	Standby Emergency Generator	Caterpillar 3516 BDITA	5SJ00498	2,598 bhp
SDG2	Standby Emergency Generator	Cummins VTA-28-G5	25300844	900 bhp
FP01	Standby Fire Pump	John Deere 6068HFC28	PE6068L277568	183 bhp
SCR1	Biogas Scrubber	Envirotech Systems, Inc.	N/A	N/A

NA: Not Applicable

Section 4

Process Flow Sheet

A **process flow sheet** and/or block diagram indicating the individual equipment, all emission points and types of control applied to those points. The unit numbering system should be consistent throughout this application.

Figures 4-1 through 4-3 show the proposed process equipment, and Figure 4-4 shows the existing operations. Figure 4-4 is provided for reference; this figure can be found in NMED permit application documents on file.

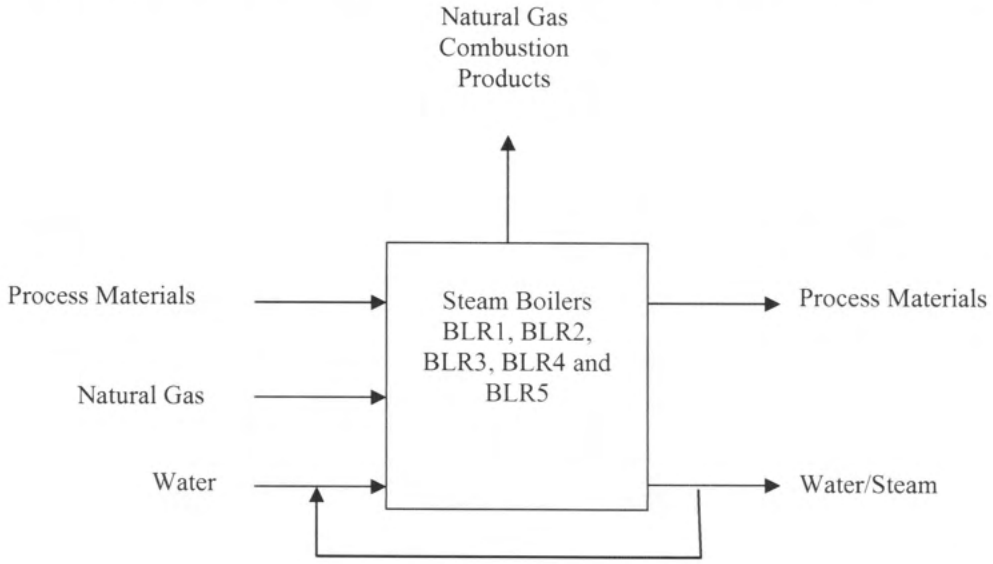

Figure 4-1. Boiler Process

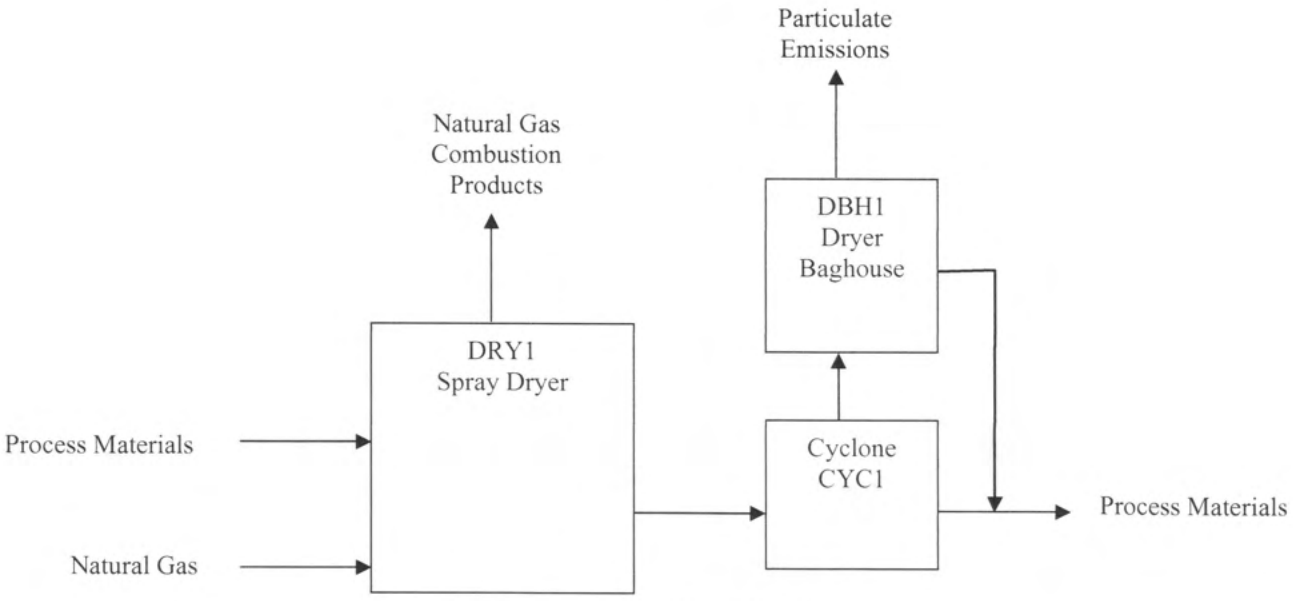

Figure 4-2. Dryer Process

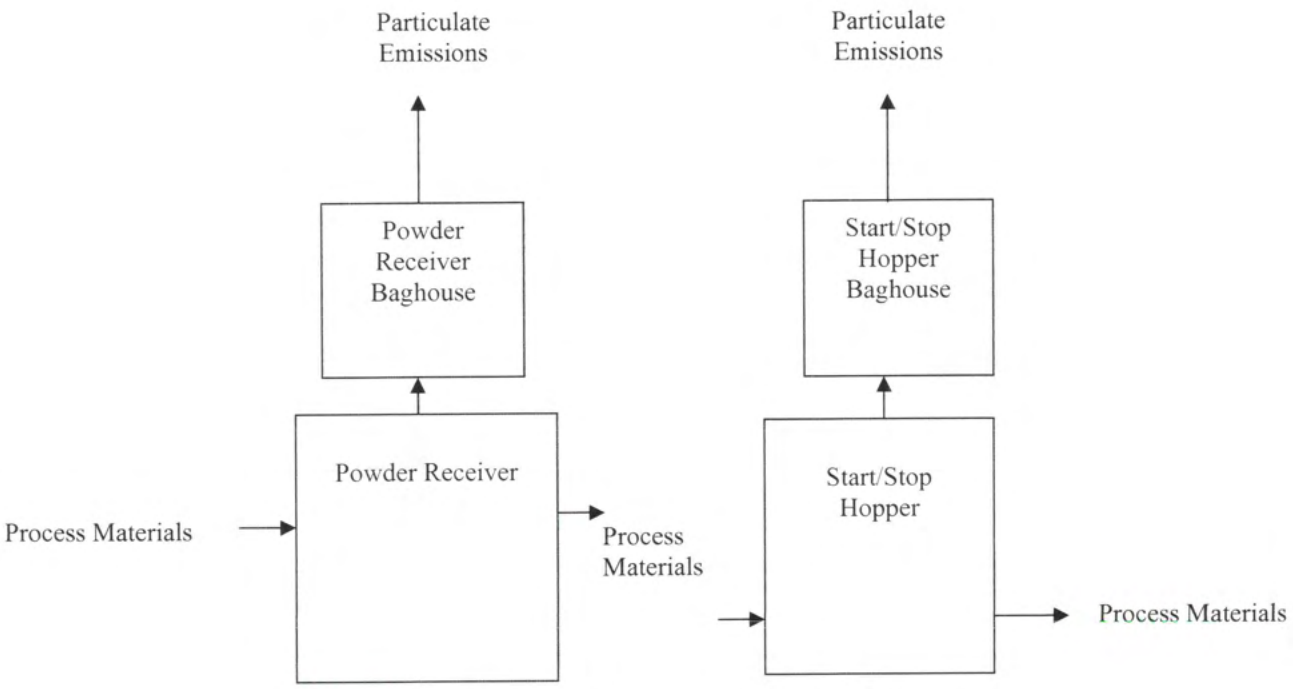

Figure 4-3. Whey Transfer Points Processes

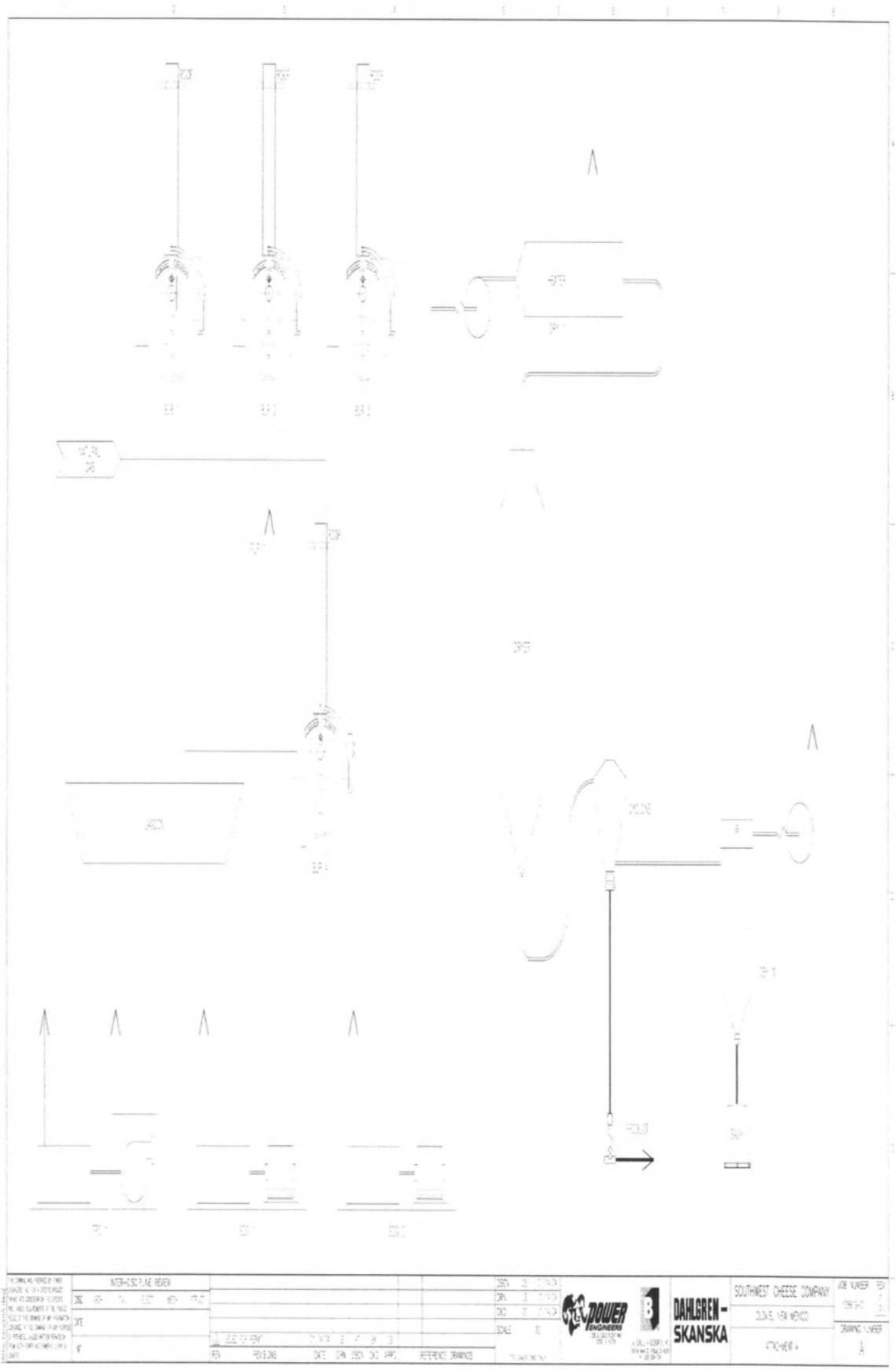

Figure 4-4. Current Permitted Units Process

Section 5

Plot Plan Drawn To Scale

A **plot plan drawn to scale** showing emissions points, roads, structures, tanks, and fences of property owned, leased, or under direct control of the applicant. This plot plan must clearly designate the restricted area as defined in UA1, Section 1-D.12. The unit numbering system should be consistent throughout this application.

Plot plan documents are enclosed in this section in Figures 5-1 and 5-2.

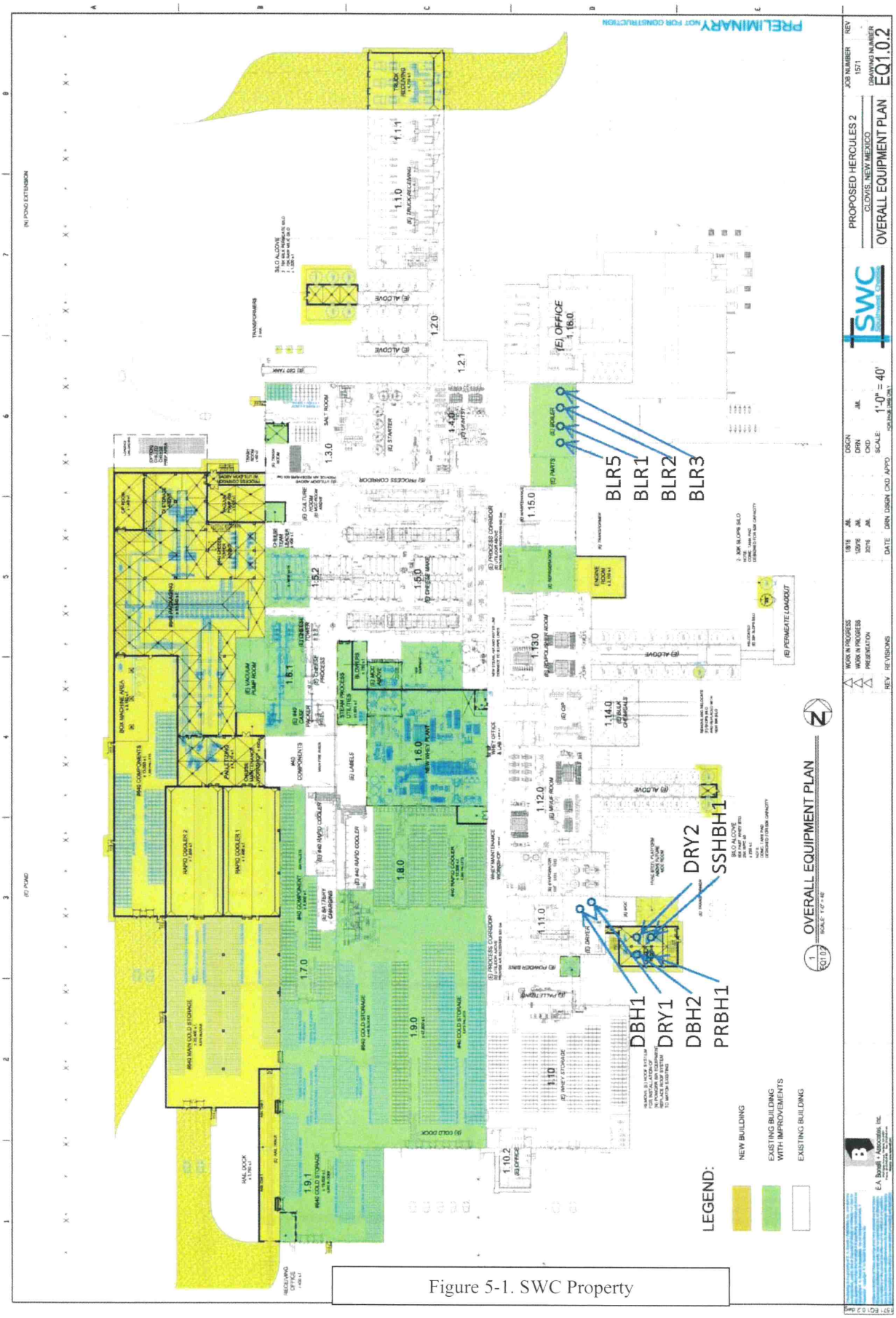

Figure 5-1. SWC Property

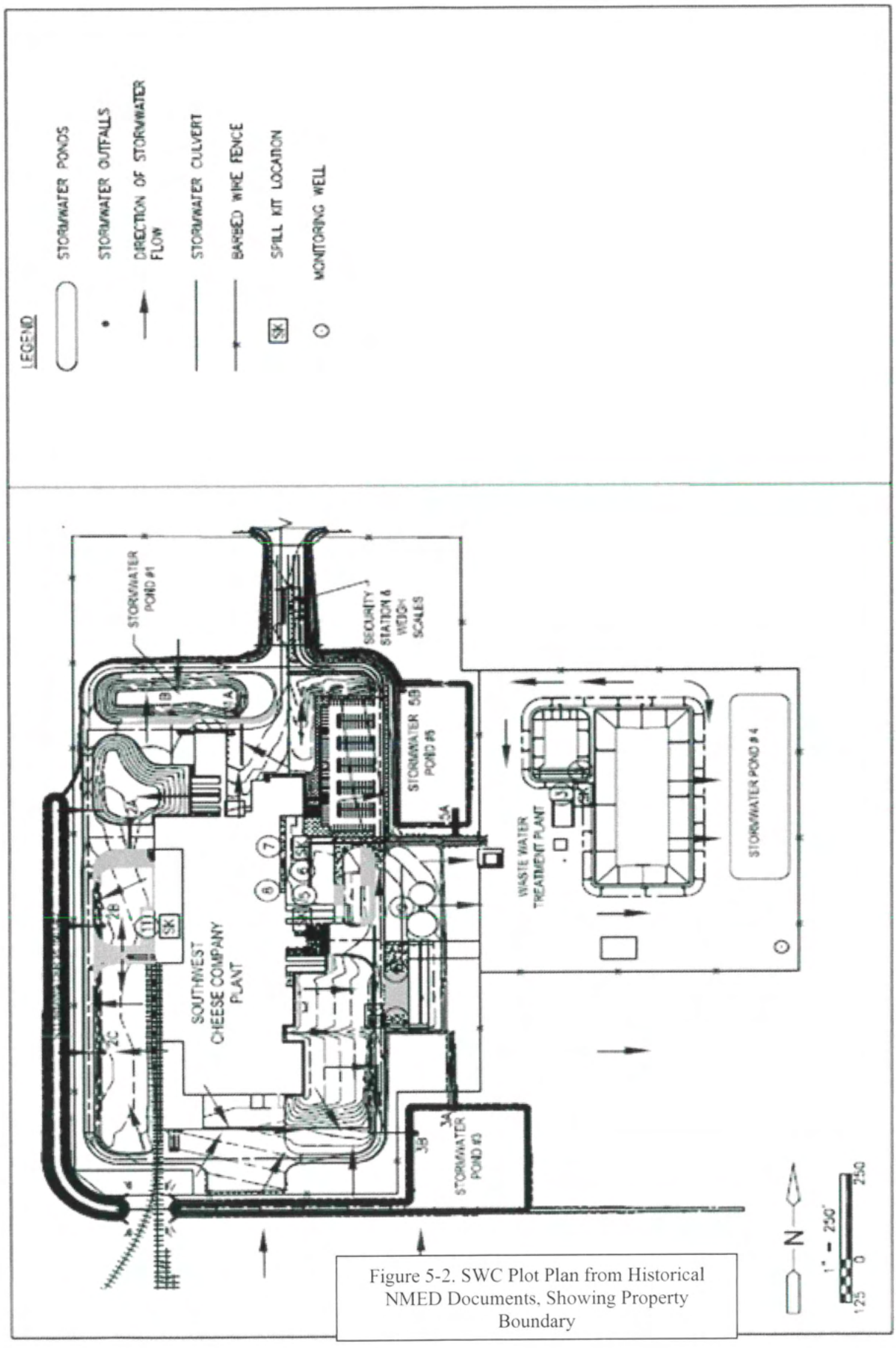

Figure 5-2. SWC Plot Plan from Historical NMED Documents, Showing Property Boundary

Section 6

All Calculations

Show all calculations used to determine both the hourly and annual controlled and uncontrolled emission rates. All calculations shall be performed keeping a minimum of three significant figures. Document the source of each emission factor used (if an emission rate is carried forward and not revised, then a statement to that effect is required). If identical units are being permitted and will be subject to the same operating conditions, submit calculations for only one unit and a note specifying what other units to which the calculations apply. All formulas and calculations used to calculate emissions must be submitted. The "Calculations" tab in the UA2 has been provided to allow calculations to be linked to the emissions tables. Add additional "Calc" tabs as needed. If the UA2 or other spread sheets are used, all calculation spread sheet(s) shall be submitted electronically in Microsoft Excel compatible format so that formulas and input values can be checked. Format all spread sheets and calculations such that the reviewer can follow the logic and verify the input values. Define all variables. If calculation spread sheets are not used, provide the original formulas with defined variables. Additionally, provide subsequent formulas showing the input values for each variable in the formula. All calculations, including those calculations are imbedded in the Calc tab of the UA2 portion of the application, the printed Calc tab(s), should be submitted under this section.

Tank Flashing Calculations: The information provided to the AQB shall include a discussion of the method used to estimate tank-flashing emissions, relative thresholds (i.e., NOI, permit, or major source (NSPS, PSD or Title V)), accuracy of the model, the input and output from simulation models and software, all calculations, documentation of any assumptions used, descriptions of sampling methods and conditions, copies of any lab sample analysis. If Hysis is used, all relevant input parameters shall be reported, including separator pressure, gas throughput, and all other relevant parameters necessary for flashing calculation.

SSM Calculations: It is the applicant's responsibility to provide an estimate of SSM emissions or to provide justification for not doing so. In this Section, provide emissions calculations for Startup, Shutdown, and Routine Maintenance (SSM) emissions listed in the Section 2 SSM and/or Section 22 GHG Tables and the rational for why the others are reported as zero (or left blank in the SSM/GHG Tables). Refer to "Guidance for Submittal of Startup, Shutdown, Maintenance Emissions in Permit Applications (http://www.env.nm.gov/aqb/permit/app_form.html) for more detailed instructions on calculating SSM emissions. If SSM emissions are greater than those reported in the Section 2, Requested Allowables Table, modeling may be required to ensure compliance with the standards whether the application is NSR or Title V. Refer to the Modeling Section of this application for more guidance on modeling requirements.

Glycol Dehydrator Calculations: The information provided to the AQB shall include the manufacturer's maximum design recirculation rate for the glycol pump. If GRI-Glycalc is used, the full input summary report shall be included as well as a copy of the gas analysis that was used.

Road Calculations: Calculate fugitive particulate emissions and enter haul road fugitives in Tables 2-A, 2-D and 2-E for:

1. If you transport raw material, process material and/or product into or out of or within the facility and have PER emissions greater than 0.5 tpy.
2. If you transport raw material, process material and/or product into or out of the facility more frequently than one round trip per day.

Significant Figures:

A. All emissions standards are deemed to have at least two significant figures, but not more than three significant figures.

B. At least 5 significant figures shall be retained in all intermediate calculations.

C. In calculating emissions to determine compliance with an emission standard, the following rounding off procedures shall be used:

(1) If the first digit to be discarded is less than the number 5, the last digit retained shall not be changed;

(2) If the first digit discarded is greater than the number 5, or if it is the number 5 followed by at least one digit other than the number zero, the last figure retained shall be increased by one unit; **and**

(3) If the first digit discarded is exactly the number 5, followed only by zeros, the last digit retained shall be rounded upward if it is an odd number, but no adjustment shall be made if it is an even number.

(4) The final result of the calculation shall be expressed in the units of the standard.

Control Devices: In accordance with 20.2.72.203.A(3) and (8) NMAC, 20.2.70.300.D(5)(b) and (e) NMAC, and 20.2.73.200.B(7) NMAC, the permittee shall report all control devices and list each pollutant controlled by the control device

regardless if the applicant takes credit for the reduction in emissions. The applicant can indicate in this section of the application if they chose to not take credit for the reduction in emission rates. For notices of intent submitted under 20.2.73 NMAC, only uncontrolled emission rates can be considered to determine applicability unless the state or federal Acts require the control. This information is necessary to determine if federally enforceable conditions are necessary for the control device, and/or if the control device produces its own regulated pollutants or increases emission rates of other pollutants.

6.1 Boiler Combustion Emissions

The external combustion sources potential emissions were estimated based on natural gas firing, input capacity, and emission factors. One unit will burn biogas. Emission factors were taken from the following sources, as provided in Section 7.

- Criteria pollutants – manufacturer data/Cleaver Brooks.
- Speciated hazardous air pollutants – AP-42 Section 1.4.
- Greenhouse gases – EPA Center for Corporate Climate Leadership, November 2015.

Example calculation methods are shown below for hourly and annual emission estimates.

Emissions (lb/hr):

*= [rated capacity (Btu/hr) * emission factor (lb/10^6 ft^3)] / [fuel heating value (Btu/ft^3) * 10^6 ft^3]*

Emissions (tons/yr):

*= [emissions (lb/hr) * 8760 (hr/yr)] / 2000 (lb/ton)*

Where applicable, the AP-42 Section 1-4 default natural gas heating value of 1020 Btu/scf HHV for the facility's pipeline quality natural gas was used. This is the value that has historically been used in this permit and amendments for this facility.

Maximum potential emissions are based on this unit operating 8760 hours per year. This operating schedule represents the worst case emissions from the unit. Requested annual emissions are based on worst-case assumptions on how the boilers at the site will operate as a group.

Three of the four boilers can fully operate at the same time instead of the currently permitted two of the four boilers. The permitted boilers at the site will not run concurrently. See operational statement in Section 7 for details.

6.2 Dryer Combustion Emissions

The external combustion sources potential emissions were also estimated based on input capacity and emission factors. Emission factors were taken from the following sources, as provided in Section 7.

- Criteria pollutants NOx and CO – manufacturer data/from Maxon
- Criteria pollutants VOC, SO_x, and PM – prior permit application (3008-M3-R3, 2012) for similar unit (DRY1). These factors are similar to natural gas boiler (BLR5) emission factors.
- Speciated hazardous air pollutants – AP-42 Section 1.4.
- Greenhouse gases – EPA Center for Corporate Climate Leadership, November 2015

Example calculation methods are shown below for hourly and annual emission estimates.

Emissions (lb/hr):

*= [rated capacity (Btu/hr) * emission factor (lb/10^6 ft^3)] / [fuel heating value (Btu/ft^3) * 10^6 ft^3]*

Emissions (tons/yr):

*= [emissions (lb/hr) * 8760 (hr/yr)] / 2000 (lb/ton)*

Where applicable, the AP-42 Section 1-4 default natural gas heating value of 1020 Btu/scf HHV for the facility's pipeline quality natural gas was used. This is the value that has historically been used in this permit and amendments for this facility.

Maximum potential emissions are based on this unit operating 8760 hours per year. This operating schedule represents the worst case emissions from the unit.

The dryer combustion stack will not have an add-on control device.

6.3 Dryer Cyclone-Baghouse-System Emissions

As product is sprayed into the dryer (DRY2) for drying, particulates will be generated. Of the particulates that do not fall out by gravity, the larger and heavier of these will be removed by a cyclone (CYC2), before the stream enters the baghouse (DBH2) where smaller particulates are further removed. The cyclone limits the particulate loading in the air flowing to the bag house, helping the baghouse to operate more efficiently, but does not directly effect the air emissions.

The overall control from this cyclone-baghouse system, as provided by the system manufacturer/CFR, is: 0.01 grains per dry standard cubic foot. This corresponds to approximately 99 percent control of particulates of one micron in diameter and larger.

The maximum flow rate of the system in terms of scfm was provided by the manufacturer.

Example calculation methods are shown below for hourly and annual emission estimates.

Emissions (lb/hr):

*= flow rate (scfm) * 60 (min/hr) * emission factor (0.01 grains/scf) / 7000 (grains/lb)*

Emissions (tons/yr):

*= [emissions (lb/hr) * 8760 (hr/yr)] / 2000 (lb/ton)*

Requested allowable emissions are based on this unit operating 8760 hours per year. This operating schedule represents the worst case emissions from the unit.

See operational statement in Section 7 for details on how the proposed and existing dryer are expected to be operated.

Note that the whey particulate emissions from the dryer baghouse (DBH2) are separate from the combustion-product emissions from the dryer combustion stack (DRY2).

6.4 Whey-Transfer-Point Baghouse Emissions

As dried product is conveyed, there will be two transfers which will emit particulates, and which will be controlled by baghouses. These two controlled emission points are at the Powder Receiver Baghouse (PRBH1) and the Start/Stop Hopper Baghouse (SSHBH1).

According to the manufacturer, the control at each baghouse will be 0.01 grains per standard cubic foot. As with the dryer baghouse (DBH2), this corresponds to approximately 99 percent control of particulate greater than 1 micron in size.

Flow rates for each whey transfer point baghouse were provided by the manufacturer, with the higher of the two flow rates being at the powder receiver baghouse (PRBH1).

Example calculation methods are shown below for hourly and annual emission estimates.

Emissions (lb/hr):

*= flow rate (scfm) * 60 (min/hr) * emission factor (0.01 grains/scf) / 7000 (grains/lb)*

Emissions (tons/yr):

*= [emissions (lb/hr) * 8760 (hr/yr)] / 2000 (lb/ton)*

Requested allowable emissions are based on this unit operating 8760 hours per year. This operating schedule represents the worst case emissions from the baghouses. However, the actual operation will be less.

6.5 On-Site On-Road Truck Traffic

Cheese production will result in transfers in and out of materials and product by truck at the facility. This in-plant traffic will generate a small amount of fugitive dust emissions from the road surfaces inside the facility boundary.

The permit limit for trucks is 464 trucks per day.

Milk trucks will come into the plant, empty the contents at the new unloading area, then exit the plant (empty) on a separate road. Therefore, in the case of milk trucks, separate road distances and vehicle weights were used for incoming versus outgoing trucks.

Emission factors from AP-42 Section 12.3.1 were utilized to estimate emissions. This section of AP-42, Paved Roads, has been updated since the original road emissions were estimated for this permit, so all of existing and new proposed truck traffic emissions were estimated/re-estimated.

Emission calculations were done as follows:

$$E_{ext}\ (lb/VMT) = [\ k\ (sL)^{0.91}\ x\ (W)^{1.02}\ ]\ (1 - P/4N)$$

Where E_{ext} represents emissions in pounds per vehicle mile travelled, and the equation variables are described below. The numerical values utilized in the equation for each particulate size range, is also shown.

	PM2.5	PM10	PM30	
k	0.00054	0.0022	0.011	Particle Size Multiplier from Table 13.2.1-1
sL	0.6	0.6	0.6	Baseline silt Loading Default Value from Table 13.2.1-2, assumes negligible use of antiskid abrasive.
W	23.96	23.96	23.96	Per-vehicle average weight in tons. Average of loaded/unloaded weights, weighted by VMT/day.
P	70	70	70	NMED Value (# of Precipitation Days over 0.01 inches per year)
N	365	365	365	number of days in the averaging period (e.g., 365 for annual)

This table is reiterated in the related emission calculation spreadsheet. The k and sL (grams per square meter) values were taken from AP-42. The W values (same for each particulate size) were calculated based on loaded and unloaded vehicle weights, and are taken from previous permit application estimates. The P values were taken from NMED, and N was assigned 365 to represent an annual averaging period.

The numbers of vehicle types and loads and the distance traveled for each were tabulated for this estimate and can be reviewed in the related emission calculation spreadsheet.

After estimating E_{ext}, the hourly and annual emissions were estimated as follows.

Emissions (lb/hr):

$$= E_{ext}\ (lb/VMT)\ *\ maximum\ daily\ VMT\ (VMT/day)\ /\ 24\ (hours/day)$$

Emissions (tons/yr):

$$= E_{ext}\ (lb/VMT)\ *\ maximum\ annual\ VMT\ (VMT/year)\ /\ 2000\ (lb/ton)$$

The hourly emissions were based on daily maximum truck throughputs and a 24-hour day. Annual emissions were based on annual maximum truck throughputs. Calculation spreadsheets are enclosed.

6.6 Revisions to Emission Representations for Existing Permitted Equipment

SO_2 from Existing Sources that Burn Biogas

As represented in prior permit application documents, combustion of biogas in Boiler 1, Boiler 4, and/or Flare 1, produces emissions of SO_2/SOx based directly on the amount of hydrogen sulfide (H_2S) in the incoming biogas. The current permit limits H_2S content in the biogas to 1,200 ppm. This application is requesting an increase to 2,000 ppm.

For the burning of biogas in Boiler 1 and Flare 1, two worst-case scenarios were estimated. The first – Scenario 1 - assumes all of the produced biogas being burned in the flare while a full load of natural gas is burned concurrently in Boiler 1. The second – Scenario 2 - assumes biogas being burned at maximum capacity in Boiler 1 (30% of Boiler 1's capacity), with the remainder of Boiler 1's capacity being fueled by natural gas, and the rest of the biogas going to the flare. The control efficiency of the flare is also reduced from 98% to 70% to align with manufacturer recommendations.

The assumption that Boiler 1 can only utilize biogas up to a maximum of 30% of its capacity, is a revision in this permit application. Prior representations were that Boiler 1 could run up to half its capacity on biogas. The new assumption is a more accurate reflection of Boiler 1's maximum biogas load.

Calculation spreadsheets are enclosed which show the revised maximum SO_2 emissions from both of these worst-case scenarios. Both scenarios were utilized in the modeled impacts analyses to predict worst-case impacts of SO_2 in Section 16. Example calculations are below.

Emissions (lb/hr):

= incoming H_2S in biogas and/or natural gas (lbmol/hr) x 1 lbmol SO_2 /1 lbmol H_2S combusted x 64 lb SO_2/lbmol SO_2

Emissions (tons/yr):

*= [emissions (lb/hr) * 8760 (hr/yr)] / 2000 (lb/ton)*

$PM_{2.5}$ and PM_{10} from Existing Dryer Baghouse

The existing-dryer baghouse, DBH1, controls particulate matter emissions of whey powder leaving the existing dryer. The current permit and historical permit applications have represented all sizes of particulate matter with the same control efficiency and emission rate. This generally overestimates emissions of smaller particulate matter as compared to total particulate matter.

When the existing-dryer baghouse, DBH1, was tested for TSP and PM_{10} in April 2007, the PM_{10} emissions were measured to be approximately half of the measured TSP emissions.

Based on that test result, a conservative assumption was made in order to more accurately represent maximum emissions of PM_{10} and $PM_{2.5}$ from DBH1. This assumption is that PM_{10}/$PM_{2.5}$ emitted from DBH1 will be equal to or less than 70% by weight of TSP emitted.

The summary table of results from the 2007 stack test report is provided in Section 7 for reference, and the simple ratio that was used to estimate PM_{10} and $PM_{2.5}$ from TSP is shown below.

The reduced DBH1 PM_{10} and $PM_{2.5}$ representations were utilized in the modeled impacts analyses to predict more accurate worst-case impacts of PM_{10} and $PM_{2.5}$. See Section 16.

Emissions (lb/hr):

= emissions TSP (lb/hr) x 0.7

Emissions (tons/yr):

= emissions (lb/hr) x 8760 (hr/yr) / 2000 (lb/ton)

See attached calculations.

Section 6.a

Green House Gas Emissions

(Submitting under 20.2.70, 20.2.72 20.2.74 NMAC)

Title V (20.2.70 NMAC), Minor NSR (20.2.72 NMAC), and PSD (20.2.74 NMAC) applicants must estimate and report greenhouse gas (GHG) emissions to verify the emission rates reported in the public notice, determine applicability to 40 CFR 60 Subparts, and to evaluate Prevention of Significant Deterioration (PSD) applicability. GHG emissions that are subject to air permit regulations consist of the sum of an aggregate group of these six greenhouse gases: carbon dioxide (CO_2), nitrous oxide (N_2O), methane (CH_4), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6).

Calculating GHG Emissions:

1. Calculate the ton per year (tpy) GHG mass emissions and GHG CO_2e emissions from your facility.
2. GHG mass emissions are the sum of the total annual tons of greenhouse gases without adjusting with the global warming potentials (GWPs). GHG CO_2e emissions are the sum of the mass emissions of each individual GHG multiplied by its GWP found in Table A-1 in 40 CFR 98 Mandatory Greenhouse Gas Reporting.
3. Emissions from routine or predictable start up, shut down, and maintenance must be included.
4. Report GHG mass and GHG CO_2e emissions in Table 2-P of this application. Emissions are reported in **short** tons per year and represent each emission unit's Potential to Emit (PTE).
5. All Title V major sources, PSD major sources, and all power plants, whether major or not, must calculate and report GHG mass and CO2e emissions for each unit in Table 2-P.
6. For minor source facilities that are not power plants, are not Title V, and are not PSD there are three options for reporting GHGs in Table 2-P: 1) report GHGs for each individual piece of equipment; 2) report all GHGs from a group of unit types, for example report all combustion source GHGs as a single unit and all venting GHGs as a second separate unit; 3) or check the following By checking this box, the applicant acknowledges the total CO2e emissions are less than 75,000 tons per year.

Sources for Calculating GHG Emissions:

- Manufacturer's Data
- AP-42 Compilation of Air Pollutant Emission Factors at http://www.epa.gov/ttn/chief/ap42/index.html
- EPA's Internet emission factor database WebFIRE at http://cfpub.epa.gov/webfire/
- 40 CFR 98 Mandatory Green House Gas Reporting except that tons should be reported in short tons rather than in metric tons for the purpose of PSD applicability.
- API Compendium of Greenhouse Gas Emissions Methodologies for the Oil and Natural Gas Industry. August 2009 or most recent version.
- Sources listed on EPA's NSR Resources for Estimating GHG Emissions at http://www.epa.gov/nsr/clean-air-act-permitting-greenhouse-gases:

Global Warming Potentials (GWP):
Applicants must use the Global Warming Potentials codified in Table A-1 of the most recent version of 40 CFR 98 Mandatory Greenhouse Gas Reporting. The GWP for a particular GHG is the ratio of heat trapped by one unit mass of the GHG to that of one unit mass of CO_2 over a specified time period.

"Greenhouse gas" for the purpose of air permit regulations is defined as the aggregate group of the following six gases: carbon dioxide, nitrous oxide, methane, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. **(20.2.70.7 NMAC, 20.2.74.7 NMAC).** You may also find GHGs defined in 40 CFR 86.1818-12(a).

Metric to Short Ton Conversion:
Short tons for GHGs and other regulated pollutants are the standard unit of measure for PSD and title V permitting programs. 40 CFR 98 Mandatory Greenhouse Reporting requires metric tons.

1 metric ton = 1.10231 short tons (per Table A-2 to Subpart A of Part 98 – Units of Measure Conversions)

GHG emissions were estimated for relevant existing and proposed sources. This was not done in prior permit applications, since in earlier applications, criteria pollutant potential emissions may have approached but did not exceed a Title V or other major source threshold. With this application, including representations made in earlier versions of the permit, the carbon monoxide potential emissions may exceed the Title V major source threshold of 100 tons per year. Therefore GHG emissions are included in this document.

GHG from combustion sources were estimated using emission factors from the EPA Center for Corporate Climate Leadership, Emission Factors for Greenhouse Gas Inventories, November 2015. Combustion produces the following GHGs: carbon dioxide (CO_2), methane (CH4), and nitrous oxide (N2O).

For external combustion sources (i.e. boilers, dryers), the emission factors in units of grams per standard cubic foot (g/scf) were divided by the fuel heating values in British Thermal Units per scf (Btu/scf) from the same reference. Then the maximum heater (or dryer) capacity was multiplied by the total to get the emission rates.

Example calculation methods are shown below for hourly and annual emission estimates.

Emissions (lb/hr):

*= emission factor (g/scf) / fuel heat content (Btu/scf) * maximum capacity (MM Btu/hr) / 453.6 (g/lb)*

Emissions (tons/yr):

*= [emissions (lb/hr) * maximum operating hours (8760 hr/yr)] / 2000 (lb/ton)*

To provide emissions in units of carbon dioxide equivalents, CO_2e, the mass emissions of each separate GHG were multiplied by its global warming potential (GWP) , from 40 CFR 98, and summed.

Greenhouse gas emissions from insignificant and exempted equipment as listed in Table 2-B were not included.

The greenhouse gas emissions are estimated in the emission calculations spreadsheets in the previous section (6).

Section 7

Information Used To Determine Emissions

Information Used to Determine Emissions shall include the following:

- ☑ If manufacturer data are used, include specifications for emissions units and control equipment, including control efficiencies specifications and sufficient engineering data for verification of control equipment operation, including design drawings, test reports, and design parameters that affect normal operation.
- ☑ If test data are used, include a copy of the complete test report. If the test data are for an emissions unit other than the one being permitted, the emission units must be identical. Test data may not be used if any difference in operating conditions of the unit being permitted and the unit represented in the test report significantly effect emission rates.
- ☑ If the most current copy of AP-42 is used, reference the section and date located at the bottom of the page. Include a copy of the page containing the emissions factors, and clearly mark the factors used in the calculations.
- ☐ If an older version of AP-42 is used, include a complete copy of the section.
- ☑ If an EPA document or other material is referenced, include a complete copy.
- ☐ Fuel specifications sheet.
- ☐ If computer models are used to estimate emissions, include an input summary (if available) and a detailed report, and a disk containing the input file(s) used to run the model. For tank-flashing emissions, include a discussion of the method used to estimate tank-flashing emissions, relative thresholds (i.e., permit or major source (NSPS, PSD or Title V)), accuracy of the model, the input and output from simulation models and software, all calculations, documentation of any assumptions used, descriptions of sampling methods and conditions, copies of any lab sample analysis.

Emission factor references enclosed:

HAP Emission Factors:
AP-42 Section 1.4 "Natural Gas Combustion", 7/98 edition.
https://www3.epa.gov/ttn/chief/ap42/ch01/final/c01s04.pdf. Accessed 8/2/16.

Paved Road Fugitive Dust Estimate for Trucks
AP-42 Section 13.2.1 "Paved Roads," 1/11 edition.
https://www3.epa.gov/ttn/chief/ap42/ch13/final/c13s0201.pdf. Accessed 7/28/16.

Dryer and Baghouse Specifications
"Dryer System Air Emission Source Points," specification sheet prepared by CFR for Southwest Cheese, 2/29/16.

Boiler Specifications
Drawing M6.0.3 Released for Construction 7/8/18 and Cleaver Brooks "Model CBEX 800 Boiler Book."
http://www.cleaverbrooks.com/Products-and-Solutions/Boilers/Firetube/CBEX-Premium/CBEX-Premium-100-800-HP-Boiler-Book.aspx.

Greenhouse Gas Emission Factors
EPA Center for Corporate Climate Leadership Emission Factors for Greenhouse Gas Inventories
https://www.epa.gov/sites/production/files/2015-12/documents/emission-factors_nov_2015.pdf. Accessed 8/2/16.

Combined Annual Emission Rates from Boilers
SWC Process Operation of Proposed Boiler Addition, 8/26/16.

Existing Dryer Baghouse, DBH1 Stack Test Results for PM/PM10
Stack Test Results Summary Table, 6/29/07, excerpt from June 2007 SWC Stack Test Report.

See attached references.

Section 8

Map(s)

A map such as a 7.5 minute topographic quadrangle showing the exact location of the source. The map shall also include the following:

The UTM or Longitudinal coordinate system on both axes	An indicator showing which direction is north
A minimum radius around the plant of 0.8km (0.5 miles)	Access and haul roads
Topographic features of the area	Facility property boundaries
The name of the map	The area which will be restricted to public access
A graphical scale	

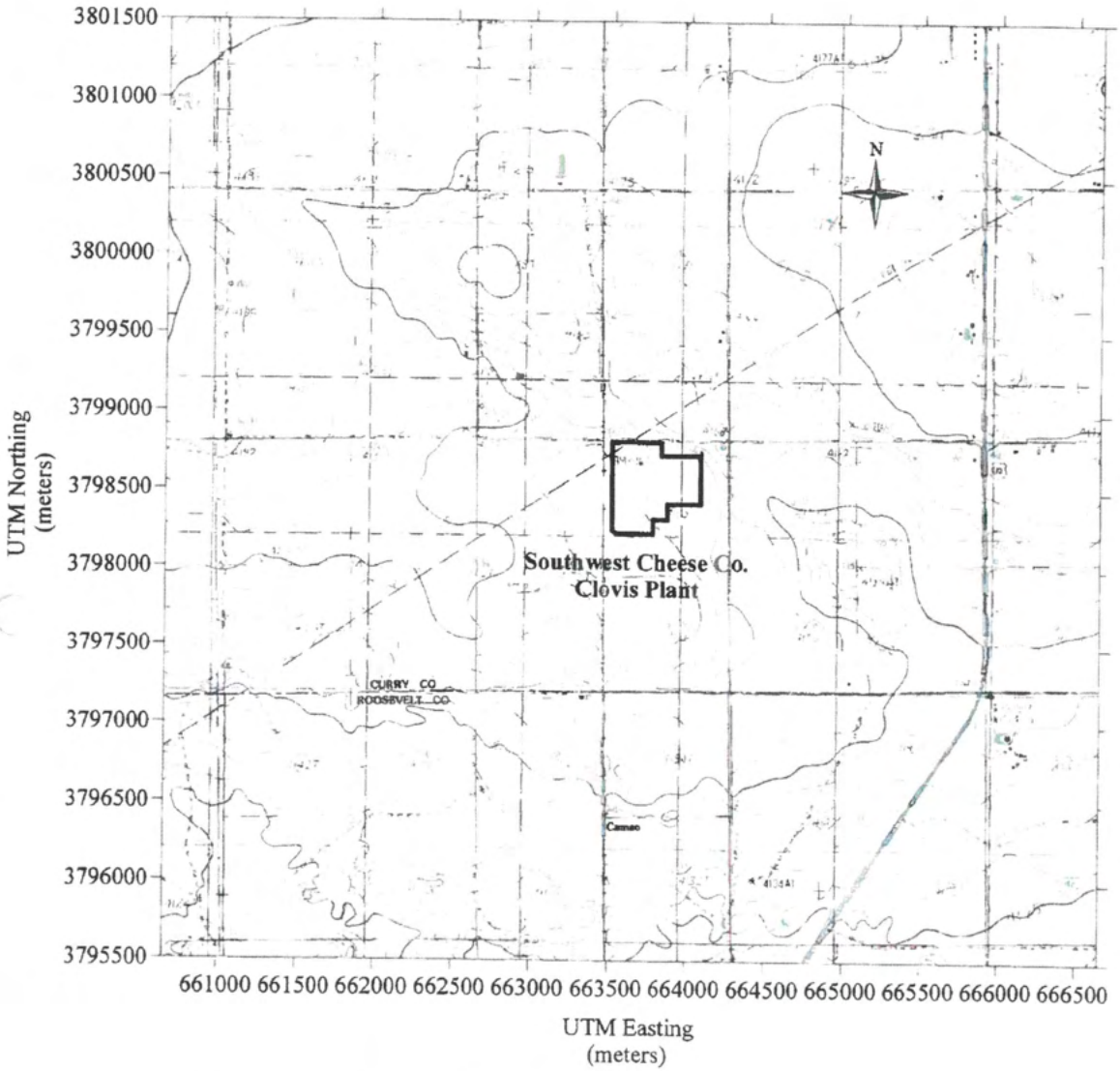

Figure F-1: 7 ½' Topo Map Showing 3 Kilometer Radius around Site Boundaries
7 ½' Quadrangles: Midway, Oasis State Park
NAD 83

Figure 8-1 SWC Area Map from Historical NMED Files

Section 9

Proof of Public Notice

(for NSR applications submitting under 20.2.72 or 20.2.74 NMAC)

(This proof is required by: 20.2.72.203.A.14 NMAC "Documentary Proof of applicant's public notice")

Public notice was completed as part of the NSR Application. Public notice is not required for this Title V modification.

☑ **I have read the AQB "Guidelines for Public Notification for Air Quality Permit Applications"**
This document provides detailed instructions about public notice requirements for various permitting actions. It also provides public notice examples and certification forms. Material mistakes in the public notice will require a re-notice before issuance of the permit.

Unless otherwise allowed elsewhere in this document, the following items document proof of the applicant's Public Notification. Please include this page in your proof of public notice submittal with checkmarks indicating which documents are being submitted with the application.

New Permit and **Significant Permit Revision** public notices must include all items in this list.

Technical Revision public notices require only items 1, 5, 9, and 10.

Per the Guidelines for Public Notification document mentioned above, include:

1. ☐ A copy of the certified letter receipts with post marks (20.2.72.203.B NMAC)
2. ☐ A list of the places where the public notice has been posted in at least four publicly accessible and conspicuous places, including the proposed or existing facility entrance. (e.g: post office, library, grocery, etc.)
3. ☐ A copy of the property tax record (20.2.72.203.B NMAC).
4. ☐ A sample of the letters sent to the owners of record.
5. ☐ A sample of the letters sent to counties, municipalities, and Indian tribes.
6. ☐ A sample of the public notice posted and a verification of the local postings.
7. ☐ A table of the noticed citizens, counties, municipalities and tribes and to whom the notices were sent in each group.
8. ☐ A copy of the public service announcement (PSA) sent to a local radio station and documentary proof of submittal.
9. ☐ A copy of the classified or legal ad including the page header (date and newspaper title) or its affidavit of publication stating the ad date, and a copy of the ad. When appropriate, this ad shall be printed in both English and Spanish.
10. ☐ A copy of the display ad including the page header (date and newspaper title) or its affidavit of publication stating the ad date, and a copy of the ad. When appropriate, this ad shall be printed in both English and Spanish.
11. ☐ A map with a graphic scale showing the facility boundary and the surrounding area in which owners of record were notified by mail. This is necessary for verification that the correct facility boundary was used in determining distance for notifying land owners of record.

Section 10

Written Description of the Routine Operations of the Facility

A written description of the routine operations of the facility. Include a description of how each piece of equipment will be operated, how controls will be used, and the fate of both the products and waste generated. For modifications and/or revisions, explain how the changes will affect the existing process. In a separate paragraph describe the major process bottlenecks that limit production. The purpose of this description is to provide sufficient information about plant operations for the permit writer to determine appropriate emission sources.

This section contains a description of the routine operations of the facility. There is a brief synopsis of equipment types and an explaining of the function of each piece of equipment. The equipment types are broken down into boilers, dryer heater, control equipment, emergency generators, and diesel-fired pump.

Current Permitted Equipment:

The main devices that are sources of regulated pollutants are the main process steam boilers (BLR1, BLR2, BLR3). These 48.9 mmBtu/hr boilers are manufactured by Cleaver Brooks and are standard boilers used in the cheese process industry. They are cycled for maintenance and operational purposes so that of the three boilers, only two operate at any one time, and the other is on standby. They are automatically controlled and utilize a low NOx burner design to minimize the production of NO_2. It is not expected that these boilers will be at full load at any time to allow for swings and transients. Permit Revision #3008-M3-R1 allowed ducting biogas production from the digester to the main process steam boiler (BLR1). Permit Revision #3008-M3-R3 increased the allowable biogas feed rate to BLR1. The burning of biogas in BLR1 reduced the amount of natural gas burned on site by combusting the biogas in a stable flame of natural gas, and reduced the need for the flaring of biogas. This reduced the amount of facility site emissions and used a source of energy that had been typically being flared.

Whey is dried in a spray dryer which has an 18 mmBtu/hr natural gas-fired heater element (DRY1). The dryer is manufactured by Corbett Industries. The heater element is the only source of combustion emissions and heats the air that is used to dry the whey product. The heater element has no emission control devices. Heated air that is used in the dryer will contain whey products generated during the drying process. The dryer is rated at 3040 pounds of whey an hour. To capture the dried whey that leaves the dryer, a cyclone and baghouse are used. Whey products and heated air enter the top of the dryer. Approximately 95% is of the product remains in the dryer. The 5% of the product not collected from the dryer is discharged into the cyclone unit (CYC1) where 4% of the product is collected and returned to the top of the dryer. The remaining 1 % of the product that is discharged from the cyclone is sent to the baghouse (DBH1) where approximately 0.9% is collected and returned to the top of the dryer unit.

There are two small baghouses that control dust from the bagging room (BRBH1) and the dry milk powder room (WRBH1). These two small baghouses do not vent outside as they are located in positive pressure rooms and vented to an adjoining room. These baghouses are designed to protect personnel working in these two areas. These two baghouses are not sources of air pollution.

Located at the wastewater treatment facility (WWTF) is a reheat boiler (BLR4) that is designed to combust both natural gas and biogas. The boiler is rated at 12.55 mmBtu/hr and is manufactured by Cleaver Brooks. The reheat boiler operates only when there is a demand for heat by the anaerobic digester.

The flare (FLR1) is manufactured by Varec. The flare is presently permitted to burn a maximum of 38,530 cubic feet of biogas in an hour. Biogas produced in the anaerobic digester may contain a maximum of 0.25% by volume of H_2S in the current permit. The conversion of the H_2S in the biogas will be burned with an efficiency of 100% converting it to SO_2. All biogas is combusted as fuel for Unit #1 steam process boiler (BLR1) and/or at the flare pilot flame (FLR1) and/or biogas reheat boiler (BLR4). Unit#1 steam process boiler (BRL1), flare pilot flame (FLR1), and biogas reheat boiler (BLR4) may operate concurrently or independently.

There are two emergency/standby electric diesel fired generators on site. These two generators are exempt under the NMAC 20.2.72 regulations. Caterpillar manufactured these generators. The larger emergency generator is rated at 2000 kW and the smaller is rated at 500 kW. These generators will only operate during power outage or during monthly manufacturer's recommended maintenance periods, but no more 500 hours per year. The larger generator will provide power to the main plant

in case of a power outage. The smaller generator provides power to the waste water treatment facility in the case of a power outage. Both generators will only burn low sulfur diesel fuel.

There is a code requirement for an emergency fire pump operated by a diesel-fired engine. The fire pump engine is exempt under the NMAC 20.2.72 regulations. The fire pump engine is a 300bhp John Deere certified pump engine. The engine will only operate during power outage or during monthly manufacturer's recommended maintenance periods, but no more than 500 hours per year. The operation of this diesel engine is for fire scenarios only and then only if there is a power outage, otherwise it will only run in maintenance mode. It is controlled automatically to operate during a power failure and low water header pressure simultaneously. This engine will burn only low sulfur diesel fuel.

On-site, on-road truck traffic (ROAD) is represented in the current permit as well.

Proposed Additions and Revisions to Permit:

With this significant permit revision application, SWC proposes to increase the facility H2S limit to 2,000 ppm. Additionally, SWC requests a revision to the CAM Plan monitoring requirements for the baghouse systems

In order to establish that impacts from criteria pollutants to the immediately surrounding areas will not be any cause for concern, SWC is providing some revised emission estimates for existing permitted equipment.

Section 11
Source Determination
Source submitting under 20.2.70, 20.2.72, 20.2.73, and 20.2.74 NMAC

Sources applying for a construction permit, PSD permit, or operating permit shall evaluate surrounding and/or associated sources (including those sources directly connected to this source for business reasons) and complete this section. Responses to the following questions shall be consistent with the Air Quality Bureau's permitting guidance, Single Source Determination Guidance, which may be found on the Applications Page in the Permitting Section of the Air Quality Bureau website.

Typically, buildings, structures, installations, or facilities that have the same SIC code, that are under common ownership or control, and that are contiguous or adjacent constitute a single stationary source for 20.2.70, 20.2.72, 20.2.73, and 20.2.74 NMAC applicability purposes. Submission of your analysis of these factors in support of the responses below is optional, unless requested by NMED.

A. Identify the emission sources evaluated in this section (list and describe)**:**

There are no sources adjacent to the source applying to this permit revision.

B. Apply the 3 criteria for determining a single source:

SIC Code: Surrounding or associated sources belong to the same 2-digit industrial grouping (2-digit SIC code) as this facility, OR surrounding or associated sources that belong to different 2-digit SIC codes are support facilities for this source.

☑ **Yes** ☐ **No**

Common Ownership or Control: Surrounding or associated sources are under common ownership or control as this source.

☑ **Yes** ☐ **No**

Contiguous or Adjacent: Surrounding or associated sources are contiguous or adjacent with this source.

☑ **Yes** ☐ **No**

C. Make a determination:

☑ The source, as described in this application, constitutes the entire source for 20.2.70, 20.2.72, 20.2.73, or 20.2.74 NMAC applicability purposes. If in "A" above you evaluated only the source that is the subject of this application, all "**YES**" boxes should be checked. If in "A" above you evaluated other sources as well, you must check **AT LEAST ONE** of the boxes "**NO**" to conclude that the source, as described in the application, is the entire source for 20.2.70, 20.2.72, 20.2.73, and 20.2.74 NMAC applicability purposes.

☐ The source, as described in this application, **does not** constitute the entire source for 20.2.70, 20.2.72, 20.2.73, or 20.2.74 NMAC applicability purposes (A permit may be issued for a portion of a source). The entire source consists of the following facilities or emissions sources (list and describe):

Section 12

Section 12.A
PSD Applicability Determination for All Sources

(Submitting under 20.2.72, 20.2.74 NMAC)

A PSD applicability determination for all sources. For sources applying for a significant permit revision, apply the applicable requirements of 20.2.74.AG and 20.2.74.200 NMAC and to determine whether this facility is a major or minor PSD source, and whether this modification is a major or a minor PSD modification. It may be helpful to refer to the procedures for Determining the Net Emissions Change at a Source as specified by Table A-5 (Page A.45) of the EPA New Source Review Workshop Manual to determine if the revision is subject to PSD review.

A. This facility is:

- ☑ **a minor PSD source before and after this modification (if so, delete C and D below).**
- ☐ **a major PSD source before this modification. This modification will make this a PSD minor source.**
- ☐ **an existing PSD Major Source that has never had a major modification requiring a BACT analysis.**
- ☐ **an existing PSD Major Source that has had a major modification requiring a BACT analysis**
- ☐ **a new PSD Major Source after this modification.**

B. **This facility is not one of the listed 20.2.74.501 Table I – PSD Source Categories. The "project" emissions** for this modification are **not significant, because the source is not currently major for PSD and because proposed emission increases are beneath the significance levels in 20.2.74.502 NMAC. The "project" emissions listed below do only result from changes described in this permit application, thus no emissions from other revisions to this facility. Also, specifically discuss whether this project results in "de-bottlenecking", or other associated emissions resulting in higher emissions. The project emissions (before netting) for this project are as follows [see Table 2 in 20.2.74.502 NMAC for a complete list of significance levels]:**

a. **NOx: 0 TPY**
b. **CO: 0 TPY**
c. **VOC: 0 TPY**
d. **SOx: 22.7 TPY**
e. **TSP (PM): 0 TPY**
f. **PM10: 0 TPY**
g. **PM2.5: 0 TPY**
h. **Fluorides: 0.0 TPY**
i. **Lead: 0.0 TPY**
j. **Sulfur compounds (listed in Table 2): 0.0 TPY**

E. If this is an existing PSD major source, or any facility with emissions greater than 250 TPY (or 100 TPY for 20.2.74.501 Table 1 – PSD Source Categories), determine whether any permit modifications are related, or could be considered a single project with this action, and provide an explanation for your determination whether a PSD modification is triggered. NA.

Section 13

Discussion Demonstrating Compliance with Each Applicable State & Federal Regulation

Provide a discussion demonstrating compliance with applicable state & federal regulation. If there is a state or federal regulation (other than those listed here) for your facility's source category that does not apply to your facility, but seems on the surface that it should apply, add the regulation to the appropriate table below and provide the analysis. Examples of regulatory requirements that may or may not apply to your facility include 40 CFR 60 Subpart OOO (crushers), 40 CFR 63 Subpart HHH (HAPs), or 20.2.74 NMAC (PSD major sources). We don't want a discussion of every non-applicable regulation, but if there is questionable applicability, explain why it does not apply. All input cells should be filled in, even if the response is 'No' or 'N/A'.

In the "Justification" column, identify the criteria that are critical to the applicability determination, numbering each. For each unit listed in the "Applies to Unit No(s)" column, after each listed unit, include the number(s) of the criteria that made the regulation applicable. For example, TK-1 & TK-2 would be listed as: TK-1 (1, 3, 4), TK-2 (1, 2, 4). Doing so will provide the applicability criteria for each unit, while also minimizing the length of these tables.

As this table will become part of the SOB, please do not change the any formatting in the table, especially the width of the table.

If this application includes any proposed exemptions from otherwise applicable requirements, provide a narrative explanation of these proposed exemptions. These exemptions are from specific applicable requirements, which are spelled out in the requirements themselves, not exemptions from 20.2.70 NMAC or 20.2.72 NMAC.

Table for Applicable STATE REGULATIONS:

STATE REGU-LATIONS CITATION	Title	Applies to Entire Facility	Applies to Unit No(s).	Federally Enforce-able	Does Not Apply	JUSTIFICATION: Identify the applicability criteria, numbering each (i.e. 1. Post 7/23/84, 2. 75 m^3, 3. VOL)
20.2.3 NMAC	Ambient Air Quality Standards NMAAQS	Yes		Yes		20.2.3 NMAC is a SIP approved regulation that limits the maximum allowable concentration of Total Suspended Particulates, Sulfur Compounds, Carbon Monoxide and Nitrogen Dioxide. Title V applications, see exemption at 20.2.3.9 NMAC
20.2.7 NMAC	Excess Emissions	Yes		Yes		All Title V major sources are subject to Air Quality Control Regulations, as defined in 20.2.7 NMAC, and are thus subject to the requirements of this regulation. Also listed as applicable in NSR Permit 3008-M5.
20.2.61.109 NMAC	Smoke & Visible Emissions		BLR1, BLR2, BLR3, BLR4, BLR5 DRY1, DRY2, FLR1	No		Engines and heaters are Stationary Combustion Equipment.
20.2.70 NMAC	Operating Permits	Yes		Yes		Source may become major for CO.
20.2.71 NMAC	Operating Permit Fees	Yes		Yes		A facility subject to 20.2.70 NMAC is in turn subject to 20.2.71 NMAC.
20.2.72 NMAC	Construction Permits			Yes		This facility is subject to 20.2.72 NMAC and NSR Permit number: 3008-R3-M3.
0.2.73 NMAC	NOI & Emissions Inventory Requirements	Yes		Yes		**Emissions Inventory Reporting:** 20.2.73.300 NMAC applies.

STATE REGULATIONS CITATION	Title	Applies to Entire Facility	Applies to Unit No(s).	Federally Enforceable	Does Not Apply	JUSTIFICATION: Identify the applicability criteria, numbering each (i.e. 1. Post 7/23/84, 2. 75 m^3, 3. VOL)
20.2.75 NMAC	Construction Permit Fees	Yes		Yes		This facility is subject to 20.2.72 NMAC and is in turn subject to 20.2.75 NMAC. N/A if subject to 20.2.71 NMAC.
20.2.77 NMAC	New Source Performance	Yes	BLR1, BLR2, BLR3, BLR5			This is a stationary source which is subject to the requirements of NSPS 40 CFR60.40c, Subpart Dc.

Table for Applicable FEDERAL REGULATIONS:

FEDERAL REGULATIONS CITATION	Title	Applies to Entire Facility	Applies to Unit No(s).	Federally Enforceable	Does Not Apply	JUSTIFICATION:
40 CFR 50	NAAQS	Yes		Yes		Defined as applicable at 20.2.70.7.E.11, Any national ambient air quality standard
NSPS 40 CFR 60, Subpart A	General Provisions		BLR1, BLR2, BLR3, BLR5	Yes		Applies if any other NSPS subpart applies.
NSPS 40 CFR60.40 c, Subpart Dc	Standards of Performance for **Small Industrial-Commercial-Institutional Steam Generating Units** the affected facility to which this subpart applies is each steam generating unit for which construction, modification, or reconstruction is commenced after June 9, 1989 and that has a maximum design heat input capacity of 29 megawatts (MW) (100 million British thermal units per hour (MMBtu/hr)) or		BLR1, BLR2, BLR3, BLR5			Establishes reporting and recordkeeping requirements for Units BLR 1, BLR2 BLR3, BLR4, and BLR5. Capacities of these units exceed the 10 mmBtu/hr threshold, but are less than 100 mmBtu/hr. Construction after 1989.

FEDERAL REGU-LATIONS ITATION	Title	Applies to Entire Facility	Applies to Unit No(s).	Federally Enforce-able	Does Not Apply	JUSTIFICATION:
	less, but greater than or equal to 2.9 MW (10 MMBtu/hr).					
NESHAP 40 CFR 63 Subpart ZZZZ	National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines	No	SDG1, SDG2, FP01	Yes		Establishes maintenance requirements, operating requirements, and emission standards for internal combustion engines.
NSPS 40 CFR 60 Subpart IIII	Standards of Performance for Stationary Compression Ignition Internal Combustion Engines	No	FP01	Yes		Establishes maintenance requirements, operating requirements, and emission standards for internal combustion engines manufactured after July 11, 2005.
40 CFR 64	**Compliance Assurance Monitoring**		DRY1, DRY2	Yes		

Section 14

Operational Plan to Mitigate Emissions

(Submitting under 20.2.70, 20.2.72, 20.2.74 NMAC)

☑ **Title V Sources** (20.2.70 NMAC)**:** By checking this box and certifying this application the permittee certifies that it has developed an **Operational Plan to Mitigate Emissions During Startups, Shutdowns, and Emergencies** defining the measures to be taken to mitigate source emissions during startups, shutdowns, and emergencies as required by 20.2.70.300.D.5(f) and (g) NMAC. This plan shall be kept on site to be made available to the Department upon request. This plan should not be submitted with this application.

☐ **NSR** (20.2.72 NMAC)**, PSD** (20.2.74 NMAC) **& Nonattainment** (20.2.79 NMAC) **Sources:** By checking this box and certifying this application the permittee certifies that it has developed an **Operational Plan to Mitigate Source Emissions During Malfunction, Startup, or Shutdown** defining the measures to be taken to mitigate source emissions during malfunction, startup, or shutdown as required by 20.2.72.203.A.5 NMAC. This plan shall be kept on site to be made available to the Department upon request. This plan should not be submitted with this application.

☐ **Title V** (20.2.70 NMAC)**, NSR** (20.2.72 NMAC)**, PSD** (20.2.74 NMAC) **& Nonattainment** (20.2.79 NMAC) **Sources:** By checking this box and certifying this application the permittee certifies that it has established and implemented a Plan to Minimize Emissions During Routine or Predictable Startup, Shutdown, and Scheduled Maintenance through work practice standards and good air pollution control practices as required by 20.2.7.14.A and B NMAC. This plan shall be kept on site or at the nearest field office to be made available to the Department upon request. This plan should not be submitted with this application.

Operational Plan to Mitigate Emissions

Startups and Shutdowns

For material processing equipment at the Southwest Cheese Company's Clovis Plant, Southwest Cheese Company will follow normal industry practices in minimizing emissions during startup and shutdown. All control equipment will be functioning correctly prior to production beginning. Fuel burning equipment will be maintained per plant maintenance schedules to ensure flare and boilers are functioning correctly during normal startups and shutdowns.

Malfunctions Operational Plan

During malfunctions, where excessive emissions are observed, malfunctioning processes will be shut down and repairs to equipment will be made with reasonable effort, including the use of off-shift and overtime labor as needed.

Section 15

Alternative Operating Scenarios

(Submitting under 20.2.70, 20.2.72, 20.2.74 NMAC)

Alternative Operating Scenarios: Provide all information required by the department to define alternative operating scenarios. This includes process, material and product changes; facility emissions information; air pollution control equipment requirements; any applicable requirements; monitoring, recordkeeping, and reporting requirements; and compliance certification requirements. Please ensure applicable Tables in this application are clearly marked to show alternative operating scenario.

As part of the wastewater treatment process, an anaerobic digester produces biogas. This biogas is combusted as fuel for Unit #1 steam process boiler (BLR1) and/or at the flare (FLR1). These two units may operate concurrently or independently, on biogas or natural gas as provided in this application.

At the Clovis Plant, generally only two of the four boilers, BLR1, BLR2, BLR3, or BLR5, provides steam at any one time. The other boilers are on Standby operating at approximately 10% load.

Of these boilers, only BLR5 is new with this application. The proposed new boiler, BLR5, as stated, will provide backup, and otherwise be on Standby operating at approximately 10% load.

Section 16

Air Dispersion Modeling

1) Minor Source Construction (20.2.72 NMAC) and Prevention of Significant Deterioration (PSD) (20.2.74 NMAC) ambient impact analysis (modeling): Provide an ambient impact analysis as required at 20.2.72.203.A(4) and/or 20.2.74.303 NMAC and as outlined in the Air Quality Bureau's Dispersion Modeling Guidelines found on the Planning Section's modeling website. If air dispersion modeling has been waived for one or more pollutants, attach the AQB Modeling Section modeling waiver approval documentation.
2) SSM Modeling: Applicants must conduct dispersion modeling for the total short term emissions during routine or predictable startup, shutdown, or maintenance (SSM) using realistic worst case scenarios following guidance from the Air Quality Bureau's dispersion modeling section. Refer to "Guidance for Submittal of Startup, Shutdown, Maintenance Emissions in Permit Applications (http://www.env.nm.gov/aqb/permit/app_form.html) for more detailed instructions on SSM emissions modeling requirements.
3) Title V (20.2.70 NMAC) ambient impact analysis: Title V applications must specify the construction permit and/or Title V Permit number(s) for which air quality dispersion modeling was last approved. Facilities that have only a Title V permit, such as landfills and air curtain incinerators, are subject to the same modeling required for preconstruction permits required by 20.2.72 and 20.2.74 NMAC.

What is the purpose of this application?	Enter an X for each purpose that applies
New PSD major source or PSD major modification (20.2.74 NMAC). See #1 above.	
New Minor Source or significant permit revision under 20.2.72 NMAC (20.2.72.219.D NMAC). See #1 above. **Note:** Neither modeling nor a modeling waiver is required for VOC emissions.	
Reporting existing pollutants that were not previously reported.	
Reporting existing pollutants where the ambient impact is being addressed for the first time.	
Title V application (new, renewal, significant, or minor modification. 20.2.70 NMAC). See #3 above.	
Relocation (20.2.72.202.B.4 or 72.202.D.3.c NMAC)	
Minor Source Technical Permit Revision 20.2.72.219.B.1.d.vi NMAC for like-kind unit replacements.	
Other: i.e. SSM modeling. See #2 above.	
This application does not require modeling since this is a No Permit Required (NPR) application.	
This application does not require modeling since this is a Notice of Intent (NOI) application (20.2.73 NMAC).	
This application does not require modeling according to 20.2.70.7.E(11), 20.2.72.203.A(4), 20.2.74.303, 20.2.79.109.D NMAC and in accordance with the Air Quality Bureau's Modeling Guidelines.	

Check each box that applies:

☐ See attached, approved modeling **waiver for all** pollutants from the facility.

☐ See attached, approved modeling **waiver for some** pollutants from the facility.

☐ Attached in Universal Application Form 4 (UA4) is a **modeling report for all** pollutants from the facility.

☐ Attached in UA4 is a **modeling report for some** pollutants from the facility.

☑ No modeling is required. Modeling was completed and approved by NMED with the NSR Application. This Title V Modification is to incorporate the NSR into the Title V permit.

Section 17

Compliance Test History

(Submitting under 20.2.70, 20.2.72, 20.2.74 NMAC)

To show compliance with existing NSR permits conditions, you must submit a compliance test history. The table below provides an example.

Compliance Test History Table

Unit No.	Test Description	Test Date
BLR1	Tested in accordance with EPA test methods for NOx, CO and SO2 as required by NSR Permit 3008-M3, Condition permit 6.a.	October 10, 2008
BLR1, BLR2, BLR3	Tested in accordance with EPA test methods for CO as required by NSR Permit 3008-M2. Condition 6.c.	March 25-26, 2008
BLR1, BLR2, BLR3	Tested in accordance with EPA test methods for NOx, CO, SO2,TSP, PM10, and VOC.	June 25-26, 2007
BLR 4	Tested in accordance with EPA test methods for NOx and CO.	June 27, 2007
DRY1	Tested in accordance with EPA test methods for NOx, CO, and SO2.	June 27, 2007
DBH1	Tested in accordance with EPA test methods for TSP and PM10.	June 29,2007
DRY1 and BLR1	Tested in accordance with EPA test methods for NOx and CO as required by NSR permit 3008-M1.	April 25 and 26, 2006
BLR2, BLR3, BLR4, DRY1	Tested in accordance with EPA test methods for NOx and CO as required by NSR permit 3008-M1.	November 8-10 2005
DBH1	Tested in accordance with EPA test methods for TSP and PM10 as required by NSR permit 3008-M1.	November 8-10 2005

Section 20

Other Relevant Information

Other relevant information. Use this attachment to clarify any part in the application that you think needs explaining. Reference the section, table, column, and/or field. Include any additional text, tables, calculations or clarifying information.

Additionally, the applicant may propose specific permit language for AQB consideration. In the case of a revision to an existing permit, the applicant should provide the old language and the new language in track changes format to highlight the proposed changes. If proposing language for a new facility or language for a new unit, submit the proposed operating condition(s), along with the associated monitoring, recordkeeping, and reporting conditions. In either case, please limit the proposed language to the affected portion of the permit.

SWC would appreciate expedited processing of this permit application, in order to meet the production schedule.

NMED application tables 2-K through 2-O were not included since they were not applicable.

Section 13 regulatory applicability was provided for proposed permit sources and not for historical or existing exempt or insignificant sources. It was assumed this information is already on file.

NMED application sections 18, 19 and 21were not included since they were not applicable.

Section 22: Certification

Company Name: Southwest Cheese Company

I, Eric Denton, hereby certify that the information and data submitted in this application are true and as accurate as possible, to the best of my knowledge and professional expertise and experience.

Signed this 9 day of September, 2024, upon my oath or affirmation, before a notary of the State of New Mexico.

*Signature

9-6-2024
Date

Eric Denton
Printed Name

Dir of Op's
Title

Scribed and sworn before me on this 06th day of September, 2024.

My authorization as a notary of the State of New Mexico expires on the 6th day of July, 2025.

Notary's Signature

9/6/2024
Date

Connie Hartman
Notary's Printed Name

STATE OF NEW MEXICO
NOTARY PUBLIC
CONNIE M. HARTMAN
Commission No: 1134877
Commission Expires: July 6, 2025

*For Title V applications, the signature must be of the Responsible Official as defined in 20.2.70.7.AE NMAC.

CAM Plan—Unit DBH 1

CAM Monitoring Protocols

40 CFR 64.2 states that the requirements of this part shall apply to an emissions unit at a major source if the unit satisfies *all* the following criteria:

1) The unit is subject to an emission limitation or standard for the applicable regulated air pollutant;

2) The unit uses a control device to achieve compliance with any such emission limitation or standard; and

3) The unit has potential pre-control device emissions of the applicable regulated air pollutant that are equal to or greater than 100 percent of the amount, in tons per year, required for a source to be classified as a major source.

The Whey Dryer Heater unit DRY1 controlled by Simatek 70-40 Baghouse unit DBH1 is subject to the CAM requirement.

Background

A. Emissions Unit

Description:	Whey Dryer Heater
Identification:	Unit DRY1
Facility:	Southwest Cheese Company – Clovis Plant

B. Applicable Regulation(s) and Pre-CAM Monitoring Requirements

Regulation(s): 40 CFR Part 64

Pre-CAM Monitoring Requirements: Per Title V Permit P280 Section A802, the baghouse shall be maintained and operated per the manufacturers specifications or the normal operating range as established by the permittee. The gauges will also be maintained, replaced, and calibrated as required in the manufacturer's specifications so that it consistently provides correct and accurate readings.

C. Control Technology and Potential Emissions Rates

Controls:	Simatek 70-40 Baghouse
Potential pre-control device emissions:	600 tpy PM (TSP)
Potential post-control device emissions:	99.9% controlled, 0.60 tpy PM (TSP)

Compliance Assurance Monitoring Plan

To remain compliant with the emissions limitations and standards of operations for the DBH1 Simatek 70-40 Baghouse, Southwest Cheese Company will conduct monitoring of the unit using two indicators: visible emissions and pressure differential readings. A pressure differential reading of between 300 and 500 millimeters (mm) of water column indicate the filters are operating as intended. These ranges will satisfy monitoring requirements by maintaining performance within the indicator ranges to achieve compliance with the applicable requirements.

Justification

a) Background

Southwest Cheese Company – Clovis Plant is a cheese production facility. The baghouse unit is used as the primary process waste collection system and an air pollutant control unit for the dryer activities at Southwest Cheese. Particulate matter (PM and PM_{10}) emissions are generated from the dryer activities and controlled by the baghouse.

b) Reasoning for Selection of Performance Indicators and Indicator Ranges:

Pressure differential was chosen as an indicator of performance because an increase in pressure differential from the normal level (manufacturer recommendation) can be an indicator of problems with the baghouse operation. A pressure differential reading of between 300 and 500 millimeters (mm) of water column indicate the filters are operating as intended. A pressure differential reading outside this threshold indicates that the filters are clogged and the baghouse will be shut down until corrective action is initiated.

	Indicator No. 1
	accordance with the manufacturer's recommendations.
C. QA/QC Practices and Criteria [64.3(b)(3)]	Prior to bringing the baghouse back online, a new pressure drop reading between 50 and 300 mm water column must be recorded to validate the baghouse is operating within the required range. Calibration for the manometers that show pressure differential shall be completed annually. Repairs shall be made as necessary according to manufacturer's recommendations.
C. Monitoring Frequency [64.3(b)(4)]	The pressure drop is monitored and recorded once per operating calendar day during operation.
D. Data Collection Procedures [64.3(b)(4)]	Records of the observed differential pressure value shall be recorded daily.
E. Averaging Period [64.3(b)(4)]	N/A

Monitoring Approach: Southwest Cheese Company – Clovis Plant, DBH1

	Indicator No. 1
I. Indicator [64.4(a)(1)]	Pressure Differential
II. Measurement Approach	A pressure differential measuring instrument (manometer) shall be read and recorded once each operating day, while the mission unit is in operation, to monitor the pressure drop across the filters of the baghouse.
III. Indicator Range [64.4(a)(2)]	An excursion is defined as any time the manometer reading for pressure drop outside the established operating standard of 50 to 300 mm water column. If the pressure drop deviates from the operating standard, the excursion triggers the source to immediately shut down the baghouse until maintenance and filter changes are complete. A log of any repairs, adjustments, shutdowns, and filter replacements shall be maintained and made available upon request.
IV. Performance Criteria A. Data Representativeness [64.3(b)(1)]	The pressure differential is monitored across the inlet and outlet of the baghouse.
B. Verification of Operational Status [64.3(b)(2)]	The baghouse and manometers were installed, and are operated, in