San Joaquin Valley
AIR POLLUTION CONTROL DISTRICT

HEALTHY AIR LIVING™

FEB 22 2011

Bruce Carter
Agri-Cel, Inc
PO Box 100
Delano, CA

Re: Notice of Preliminary Decision - Emission Reduction Credits
Project Number: S-1100008

Dear Mr. Carter:

Enclosed for your review and comment is the District's analysis of Agri-Cel, Inc's application for Emission Reduction Credits (ERCs) resulting from the shutdown of your entire EPS box manufacturing facility, at 391 Road 192 in Delano, CA. The quantity of ERCs proposed for banking is 640 pounds of nitrogen oxides (NOx) per year, 136 pounds of oxides of sulfur (SOx) per year, 360 pounds of particulate matter (PM10) per year, 250 pounds of carbon monoxide (CO) per year, and 248,657 pounds of volatile organic compounds (VOCs) per year.

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

Thank you for your cooperation in this matter. If you have any questions regarding this matter, please contact Mr. Stephen Leonard of Permit Services at (661) 392-5605.

Sincerely,

David Warner
Director of Permit Services

DW: SPL/cm

Enclosures

Seyed Sadredin
Executive Director/Air Pollution Control Officer

Northern Region
4800 Enterprise Way
Modesto, CA 95356-8718
Tel: (209) 557-6400 FAX: (209) 557-6475

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www.valleyair.org www.healthyairliving.com

San Joaquin Valley
AIR POLLUTION CONTROL DISTRICT

HEALTHY AIR LIVING™

FEB 22 2011

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

Re: Notice of Preliminary Decision - Emission Reduction Credits
Project Number: S-1100008

Dear Mr. Tollstrup:

Enclosed for your review and comment is the District's analysis of Agri-Cel, Inc's application for Emission Reduction Credits (ERCs) resulting from the shutdown of your entire EPS box manufacturing facility, at 391 Road 192 in Delano, CA. The quantity of ERCs proposed for banking is 640 pounds of nitrogen oxides (NOx) per year, 136 pounds of oxides of sulfur (SOx) per year, 360 pounds of particulate matter (PM10) per year, 250 pounds of carbon monoxide (CO) per year, and 248,657 pounds of volatile organic compounds (VOCs) per year.

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

Thank you for your cooperation in this matter. If you have any questions regarding this matter, please contact Mr. Stephen Leonard of Permit Services at (661) 392-5605.

Sincerely,

David Warner
Director of Permit Services

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FEB 22 2011

Gerardo C. Rios (AIR 3)
Chief, Permits Office
Air Division
U.S. E.P.A. - Region IX
75 Hawthorne Street
San Francisco, CA 94105

Re: Notice of Preliminary Decision - Emission Reduction Credits
Project Number: S-1100008

Dear Mr. Rios:

Enclosed for your review and comment is the District's analysis of Agri-Cel, Inc's application for Emission Reduction Credits (ERCs) resulting from the shutdown of your entire EPS box manufacturing facility, at 391 Road 192 in Delano, CA. The quantity of ERCs proposed for banking is 640 pounds of nitrogen oxides (NOx) per year, 136 pounds of oxides of sulfur (SOx) per year, 360 pounds of particulate matter (PM10) per year, 250 pounds of carbon monoxide (CO) per year, and 248,657 pounds of volatile organic compounds (VOCs) per year.

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

Thank you for your cooperation in this matter. If you have any questions regarding this matter, please contact Mr. Stephen Leonard of Permit Services at (661) 392-5605.

Sincerely,

David Warner
Director of Permit Services

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www.valleyair.org www.healthyairliving.com

Bakersfield Californian

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

NOTICE IS HEREBY GIVEN that the San Joaquin Valley Unified Air Pollution Control District solicits public comment on the proposed issuance of Emission Reduction Credits to Agri-Cel, Inc for the shutdown of your entire EPS box manufacturing facility, at 391 Road 192 in Delano, CA. The quantity of ERCs proposed for banking is 640 pounds of nitrogen oxides (NOx) per year, 136 pounds of oxides of sulfur (SOx) per year, 360 pounds of particulate matter (PM10) per year, 250 pounds of carbon monoxide (CO) per year, and 248,657 pounds of volatile organic compounds (VOCs) per year.

The analysis of the regulatory basis for this proposed action, Project #S-1100008, is available for public inspection at http://www.valleyair.org/notices/public_notices_idx.htm and the District office at the address below. Written comments on this project must be submitted within 30 days of the publication date of this notice to **DAVID WARNER, DIRECTOR OF PERMIT SERVICES, SAN JOAQUIN VALLEY UNIFIED AIR POLLUTION CONTROL DISTRICT, 34946 FLYOVER COURT, BAKERSFIELD, CA 93308.**

San Joaquin Valley Air Pollution Control District
ERC Application Review
Shutdown of EPS Box Manufacturing Facility

Facility Name:	Agri-Cel Inc (AGRI)	Date:	November 29, 2010
Mailing Address:	PO Box 100 Delano, CA 93216	Engineer:	Stephen Leonard
		Lead Engineer:	Richard Karrs
		Date:	December 13, 2010
Contact Person:	Mike Kelly, Vector Environmental		
Telephone:	661-323-1477, ext 205		
Project #:	S-1100008		
Submitted:	December 31, 2009		
Deemed Complete:	September 22, 2010		

I. Summary:

The primary business of this facility is the manufacture of molded expandable polystyrene (EPS) box container for packaging field grapes and wine bottles. The AGRI facility discontinued operation on July 10, 2009, and surrendered all of their Permits to Operate, with the exception of the emergency firewater pump permit S-848-10-0. The firewater pump is necessary to protect the buildings and property in the case of fire. Once the facility is sold, the fire system can be removed and the permit canceled, or the existing permit can be transferred to the new property owners. No manufacturing continues at the facility. AGRI has applied for emission reduction credit (ERC) banking certificates reflecting the historical actual emissions from the facility prior to the ramp down of production leading to the plant closure.

The following emission reductions have been found to qualify for ERC banking:

	NO_x [lb/qtr]	SO_x [lb/qtr]	PM_{10} [lb/qtr]	CO [lb/qtr]	VOC [lb/qtr]
1st Quarter	181	39	103	66	71,653
2nd Quarter	223	48	126	84	86,926
3rd Quarter	209	44	117	86	80,406
4th Quarter	27	5	14	14	9,672

II. Applicable Rules:

Rule 2201	New and Modified Stationary Source Review Rule (12/18/08)
Rule 2301	Emission Reduction Credit Banking (12/17/92)
Rule 4201	Particulate Matter Concentration (12/17/92)
Rule 4301	Fuel Burning Equipment (12/17/92)
Rule 4306	Boilers, Steam Generators and Process Heaters – Phase 3 (10/16/08)
Rule 4320	Advanced Emission Reduction Options for Boilers, Steam Generators, and Process Heaters Greater than 5.0 MMBtu/hr (10/16/08)
Rule 4682	Polystyrene Foam, Polyethylene, and Polypropylene Manufacturing (09/20/07)

III. Location of Reduction:

The physical location of the equipment involved with this application is 391 Road 192, Delano, CA.

IV. Method of Generating Reductions:

The emissions reduction is generated by the shutdown of: Polystyrene Pre-Expansion Operation #1 with Shared Thermal Oxidizer, S-848-2; Expanded Polystyrene Aging/Storage Operation #1, S-848-3; Expanded Polystyrene Molding Operation #1, S-848-4; Polystyrene Grinding Operation S-848-5 (No ERC is sought for the grinding operation); Polystyrene Pre-Expansion Operation #2, S-848-6; Expanded Polystyrene Aging/Storage Operation #2, S-848-7; Expanded Polystyrene Molding Operation #2, S-848-8; 7.5 MMBtu/hr Dixon Gas-Fired Boiler, S-848-9; 1200 BHP Diesel Fired Emergency Electrical Generator (No ERC is sought for the electrical generator); 10.5 MMBtu/hr Superior Seminole Gas-Fired Boiler, S-848-12; and 140 Acre Onsite Outdoor Storage Operation, S-848-13. The applicant surrendered their PTOs on July 10, 2009, as part of this application.

V. Calculations:

A. Assumptions and Emission Factors

Assumptions:

- Average pentane content of EPS beads utilized (P1) = 4% by weight. Each shipment received from the bead manufacturer included a pentane content analysis for that batch.
- Historical actual emissions (HAE) of fugitive VOC emissions from EPS processing lines are based on records of product throughput and measured "VOC Drop", measurements of the pentane content in the work in process (WIP) at different points along the manufacturing process. The VOC Drop was measured during a source test designed for that purpose. See Appendix G for a copy of the report.
- Historical actual VOC emissions from onsite storage are calculated from the pentane content of the EPS beads and monthly production rates, adjusted to account for the pentane emitted across the manufacturing processes.

- Emission factors utilized for the two boilers consider the lower of: source test data on the specific boiler, permitted emission factor, current or pending District Rule requirements, or AP-42. Natural gas SO_X emissions are based on the District's Policy on SO_X emissions from PUC quality natural gas, APR-1720.
- Emission factors utilized for the thermal oxidizer, when calculating HAE, consists of source test data for VOC exhaust emissions and AP-42 for NO_x, CO, and PM_{10}. When calculating creditable AER, the VOC emission factor is reduced down to the AP-42 natural gas combustion factor for only the supplemental fuel usage. This is due to the adjusted AER for Rule 4682 addressing 93% overall capture and control assessed to the production lines. Natural gas SO_X emissions are based on the District's Policy on SO_X emissions from PUC quality natural gas, APR-1720.
- HAE from boilers and thermal oxidizer based on source test and District derived emission factors and an allocated percentage of the actual natural gas fuel used.
- Actual fuel used for the boilers and the thermal oxidizer was determined from a "master meter" measuring the total natural gas volume routed to the production area. Fuel allocation based on the maximum heat input rating of each emissions unit with consideration to whether the unit was known to be operating during a given month.
- Fuel usage to the thermal oxidizer was estimated by prorating the total monthly fuel use for the three units by the ratio of the thermal oxidizer's heat input rating (0.7 MMBtu/hr) to the total heat input rate for the thermal oxidizer and both boilers (18.7 MMBtu/hr).
- Facility included two box manufacturing lines, with each line served by a separate boiler. The "Dixon Boiler" (7.5 MMBtu/hr) served Process Line #1, while the "Superior Seminole Boiler" (10.5 MMBtu/hr) served Process Line #2.
- Because boilers provide steam to the EPS process lines on demand, allocation of fuel burned in a given boiler is proportional to the amount of EPS processed by the line and the total fuel burned in both boilers.
- EPS molding operation equipment is not defined as "Controllable VOC Emissions Sources" per Rule 4682, Section 3.5.
- AGRI pre-expanders, pre-puff storage, aging silos, and box molds are vented to the thermal oxidizer, although there are no capture efficiency requirements on the process equipment permits.
- Thermal oxidizer carries a permit requirement VOC destruction efficiency of 95%.
- Source tested VOC destruction efficiency of thermal oxidizer shown to be 99.4%.
- Assumed VOC capture efficiency of enclosed pre-expansion units (P2) for HAE = 90% (Rule 4682 default for controllable VOC sources).
- VOC capture efficiency of enclosed aging silos (P3) for HAE = 90% (Rule 4682 default for controllable VOC sources).
- VOC capture efficiency of grape box molding operations (P4) for HAE = 50% (Project S-930646).
- Actual destruction efficiency of thermal oxidizer = 99.4% (Source test data)
- For determining bankable AER, overall control efficiency (capture and destruction) of enclosed pre-expansion units (P2) is adjusted from the HAE level of 89.4% to the Rule 4682 requirement of 93% minimum overall capture and control for manufacturing emissions, excluding finished product storage emissions.

- For determining bankable AER, overall control efficiency (capture and destruction) of enclosed aging silos (P3) is adjusted from the HAE level of 89.4% to the Rule 4682 requirement of 93% minimum overall capture and control for manufacturing emissions, excluding finished product storage emissions.
- For determining bankable AER, overall control efficiency (capture and destruction) of molding operations (P4) is adjusted from the HAE level of 49.8% to the Rule 4682 requirement of 93% minimum overall capture and control for manufacturing emissions, excluding finished product storage emissions.
- Onsite final product storage is uncontrolled.

Emission Factors:

See Appendices B-I, as listed following Section VII of this evaluation for historical data, approved emissions factors, historical actual emissions, and adjusted actual emissions reductions during the baseline period as described below.

B. Baseline Period Determination and Data

Agri-Cel submitted the application to the District on December 31, 2009. Although the application appeared complete in terms of data and information required, the District did request that the applicant provide the historical data as it applied to each permit unit and emissions unit. Also, the District requested further justification for the proposed baseline period. Pursuant to Rule 2301, the applicant provided the requested information within 90 days. However, changes in District staff resulted in the project being transferred to a different staff engineer for review, which, in turn, resulted in more time required for the new reviewing engineer to become familiar with the project. The District subsequently asked for clarification on the methodology the applicant used for deriving the distribution of fuel usage in the fuel fired equipment, since only a master meter to the production area was utilized. Also, the District requested confirmation that Agri-Cel was not seeking ERCs for the EPS scrap grinding operation. The applicant provided the clarifications requested and the District deemed the application as ready for final review on September 22, 2010.

Pursuant to District Rule 2201, Section 3.8, the baseline period for determining HAE shall be a period of time equal to either:

3.8.1 The two consecutive years of operation immediately prior to the submission date of the complete application; or

3.8.2 at least two consecutive years within the five years immediately prior to the submission date of the complete application if determined by the APCO as more representative of normal source operation; or

3.8.3 a shorter period of at least one year if the emissions unit has not been in operation for two years and this represents the full operational history of the emissions unit, including any replacement units; or

3.8.4 Zero years if an emissions unit has been in operation for less than one year (only for use when calculating AER).

For the purposes of this section, the submission of the complete application is considered to be December 31, 2009.

In order to meet demand for EPS grape boxes during the harvest season, boxes are made in advance throughout the year and stockpiled in onsite storage. The boxes are not purchased in advance by end-users (farmers). Typically, the supply is bought out during the harvest season and the facility can operate as normal replenishing inventory of finished boxes for the next year's harvest period.

In 2006, adverse weather conditions (above normal rain) occurred at a time during the growing season which resulted in a large amount of crop loss due to fungal rot. Consequently, the 2006 harvest revealed poor quality table grapes with much of the harvested grapes being diverted to wine making, not boxed and shipped to retail outlets.

This event left Agri-Cel with more than a year's worth of leftover inventory of manufactured boxes. Consequently, in 2007, the facility only manufactured a small amount of boxes, intending to sell off the 2006 inventory for the 2007 harvest demands. The 2007 table grape crop was also affected by weather conditions resulting in poor quality table grapes. This outcome, coupled with the rising cost of petroleum based products, including polystyrene, caused the demand for EPS grape boxes to further decline. Although physically and legally capable of operating, there was no equipment operated in 2008 and 2009 prior to permanent closure of the plant

It took approximately two years (2007 and 2008) for Agri-Cel's stockpiled inventory to be depleted. Agri-Cel had since laid off most of its employees and never returned to its prior level of activity. Ultimately, Agri-Cel made the business decision to close down their EPS molding operations.

Although equipment was not operated during the two years immediately prior to the submission of the complete application, Rule 2201 section 3.8.2, outlined above, allows for such circumstances through the use of a baseline period to be used for HAE calculations that falls within the five year period immediately prior to the submission date of the complete application, if it can be shown to be more representative of normal source operations. The District has obtained either: annual raw EPS bead material purchase records to approximate output of EPS, or actual production output routed to storage data. This information was obtained to provide a larger view of "normal operation" at the facility.

The following table contains the data and source, as obtained by the District:

Calendar Year	Tons of EPS material processed	Source of Data
1998	6,764	Nova Chemical Sales Records
1999	5,871	Nova Chemical Sales Records
2000	5,837	Nova Chemical Sales Records
2001	6,742	Nova Chemical Sales Records
2002	7,948	Nova Chemical Sales Records
2003	6,077	Nova Chemical Sales Records
2004	6,601	Nova Chemical Sales Records
2005	4,681	Finished Boxes to Storage#
2006	5,793	Finished Boxes to Storage
2007	712	Finished Boxes to Storage
2008	0	No Production Activity*
2009	0	No Production Activity
2010	0	Plant Closure

#Finished boxes to storage in this table includes an average 10% production scrap rate.
*Agri-Cel indicates the plant was open but excess inventory from 2006 was being sold off and new product was not being produced. Agri-Cel submitted the required annual emissions inventory information to the District for 2008, but it appears to be a duplicate of the data submitted for 2007, whereas actual production in 2008 was 0 tons.

Shaded area represents the five year baseline period window.

The Agri-Cel facility operated for approximately 20 years with the last two years of "normal" operation being the 2005 and 2006 production years. The APCO has determined that the two consecutive years within the five years immediately prior to the submission date of the complete banking application, representative of normal source operation, and serving as the baseline period for this project, shall be the calendar years 2005 and 2006.

C. Historical Actual Emissions (HAE)

Historical Emissions Summary by Quarter 2005 (lb/qtr)					
	NOx	SOx	PM10	CO	VOC
1st Quarter	197.52	31.31	83.50	85.43	61,531.03
2nd Quarter	272.31	43.17	115.11	117.77	82,825.39
3rd Quarter	326.94	51.83	138.21	141.40	100,720.08
4th Quarter	72.85	11.55	30.79	31.50	22,166.48

Historical Emissions Summary by Quarter 2006 (lb/qtr)					
	NO_x	SOx	PM10	CO	VOC
1st Quarter	315.28	54.64	145.72	60.29	108,377.43
2nd Quarter	357.59	61.98	165.27	68.38	123,360.94
3rd Quarter	261.55	45.33	120.88	50.01	89,877.49
4th Quarter	2.15	0.37	0.99	0.41	741.36

Averaged Emissions Summary During Baseline Period (lb/qtr)					
	NO_x	SOx	PM10	CO	VOC
1st Quarter	256	43	115	73	84,954
2nd Quarter	315	53	140	93	103,093
3rd Quarter	294	49	130	96	95,299
4th Quarter	38	6	16	16	11,454

D. Adjustments to HAE

Pursuant to Section 3.22 of Rule 2201, Historical Actual Emissions must be discounted for any emissions reduction which is:

- required or encumbered by any laws, rules, regulations, agreements, orders, or
- attributed to a control measure noticed for workshop, or proposed or contained in a State Implementation Plan, or
- proposed in the District Air Quality Plan for attaining the annual reductions required by the California Clean Air Act.
- Any Actual Emissions in excess of those required or encumbered by any laws, rules, regulations, orders, or permits. For units covered by a Specific Limiting Condition (SLC), the total overall HAE for all units covered by SLC must be discounted for any emissions in excess of that allowed by the SLC.

Rule 4682, "Polystyrene Foam, Polyethylene, and Polypropylene Manufacturing", amended September 20, 2007, requires that controllable VOC emissions from manufacturing operations be controlled and reduced by one of the listed options in Sections 5.3 through 5.5.

Adjustment for Rule 2201 – New and Modified Stationary Source Review Rule:

Section 2.0 states that this rule shall apply to all new stationary sources and all modifications to existing stationary sources which are subject to the District permit requirements and after construction emit, or may emit, one or more affected pollutants.

As discussed above, AGRI is proposing to receive emission reduction credits for the shutdown of the polystyrene processing operations at this location. This facility is not a new stationary source and the shutdown of this operation does not meet the definition of a modification. Therefore, outside of baseline period definitions, Rule 2201 does not apply at this time. The original permit for this facility was for a gas/oil fired boiler in 1984, which was converted to gas firing only and the permit subsequently canceled as permit exempt in 1994.

This operation was subject to District Rule 2201 when the original permits for the EPS processing equipment were issued starting in 1993, including best available control technology (BACT), daily emission limits, etc. Therefore, no adjustment to the calculated HAEs above is necessary for Rule 2201.

The finished product storage area at this facility was not previously permitted and was not previously subject to District Rule 2201 requirements Therefore, the HAEs may need to be discounted for any District Rule 2201 requirements that may have been applicable if the operation had been permitted in 1993 along with the rest of the AGRI equipment.

However, based on information that was available when the EPS processes were originally permitted in 1993, the District considered polystyrene foam product storage to be emissions sources of "minor significance" and exempt from permitting requirements in accordance with District Rule 2020, Exemptions, Sections 6.19 and 3.7 (sources with emissions of less than 2.0 pounds per day).

On November 15, 1999, the District received information and comments from the Environmental Protection Agency (EPA) regarding the processing of a project for a similar polystyrene foam production facility, Pactiv Corporation, in Fresno, CA. Based on the information and EPA's comments for that project, it was determined that the polystyrene foam product storage warehouse had VOC emissions greater than 2.0 pounds per day and should be subject to District permitting requirements. Therefore, it was determined that all polystyrene foam finished product storage operations lost their permit exemption based on the date of EPA's comments. Subsequently, when the following facilities applied for ATC or Title V permit modifications after that date, permits were issued for the finished product storage areas/warehouses: Pactiv Corporation Fresno (FID C-36) on 8/6/2002; Pactiv Corporation Visalia, now Pregis Innovative Packaging (FID S-334) on December 8, 2003; and Dart Container (FID N-257) on September 10, 2004.

When AGRI applied for a Title V permit in 2003, they were advised of the need to apply for a Permit to Operate the outdoor finished product storage operation which took place onsite on a 140 acre lot. Although, AGRI did not receive a Title V Permit following the evaluation of their facility emissions, they did subsequently apply for and receive their onsite storage permit, S-848-13, issued February 17, 2005, during District Project S-1044046.

Per District Rule 2020, Section 9, units that were previously exempt from permits requirements, which have now become subject to District Rule 2010, shall not be subject to District Rule 2201 (New and Modified Stationary Source Review Rule), until such time that the unit is modified. AGRI never performed any modifications to their polystyrene foam finished product storage operation. Therefore, this operation would never have been subject to the requirements of District Rule 2201 and no adjustments to the calculated HAEs are necessary.

Adjustment for Rule 4201 – Particulate Matter Concentration:

Section 3.1 prohibits discharge of dust, fumes, or total particulate matter into the atmosphere from any single source operation in excess of 0.1 grain per dry standard cubic foot.

F-Factor for NG: 8,578 dscf/MMBtu at 60 °F
PM_{10} Emission Factor: 0.0076 lb-PM10/MMBtu
Percentage of PM as PM_{10} in Exhaust: 100%
Exhaust Oxygen (O_2) Concentration: 3%

Excess Air Correction to F Factor = $\frac{20.9}{(20.9 - 3)} = 1.17$

$$GL = \left(\frac{0.0076\ lb - PM}{MMBtu} \times \frac{7{,}000\ grain}{lb - PM} \right) / \left(\frac{8{,}578\ ft^3}{MMBtu} \times 1.17 \right)$$

$$GL = 0.0053\ grain/dscf < 0.1\ grain/dscf$$

The emission factors used to calculate the actual PM emission concentration from the boilers and thermal oxidizer meet the requirements for this rule and no adjustment is necessary.

Adjustment for Rule 4301 – Fuel Burning Equipment:

This rule specifies maximum emission rates in lb/hr for SO_2, NO_2, and combustion contaminants (defined as total PM in Rule 1020) from indirect fired equipment.

District Rule 4301 Limits			
Pollutant	NO_2	Total PM	SO_2
Rule Limit (lb/hr)	140	10	200
Dixon Boiler (lb/hr)	0.133	0.046	0.021
Superior Seminole Boiler (lb/hr)	0.189	0.080	0.006

The emission factors used to calculate the historical actual emissions from the boilers and thermal oxidizer meet the requirements for this rule and no adjustment is necessary.

Adjustment for Rule 4306 – Boilers, Steam Generators and Process Heaters – Phase 3:

District Rule 4306, Section 5.1 requires natural gas fired boilers rated at ≤ 20 MMBtu/hr to comply with the following permit limits:

District Rule 4306 Limits		
Pollutant	NO_2	CO
Rule Limit (ppmv @ 3% O_2)	**15**	**400**
Dixon Boiler Permit (ppmv @ 3% O_2)	15	100
As Source Tested	9 (2005), 6 (2006)	0 (2005), 0 (2006)
Superior Seminole Boiler Permit (ppmv @ 3% O_2)	15	50
As Source Tested	14 (2006)	1 (2006)

As shown above, the emission factors used to calculate the HAE from the boilers meets the requirements for this rule and no adjustment is necessary.

Adjustment for Rule 4320 – Advanced Emission Reduction Options for Boilers, Steam Generators and Process Heaters Greater than 5.0 MMBtu/hr:

District Rule 4320, Section 5.2 requires natural gas fired boilers rated at > 5 MMBtu/hr ≤ 20 MMBtu/hr to comply with the following permit limits:

District Rule 4320 Limits		
Pollutant	NO_2	CO
Rule Limit (ppmv @ 3% O_2)	**9**	**400**
Dixon Boiler Permit (ppmv @ 3% O_2)	15	100
As Source Tested	9 (2005), 6 (2006)	0 (2005), 0 (2006)
Superior Seminole Boiler Permit (ppmv @ 3% O_2)	15	50
As Source Tested	14 (2006)	1 (2006)

As shown above, the Dixon Boiler would meet the NO_x and CO emissions limits that would be imposed by Rule 4320 if it were still operating. The Superior Seminole Boiler would meet the CO limit, but would not meet the NO_x limit that would be imposed by the rule if it were still operating. Therefore, the emission factor used in the Excel spreadsheets to determine HAE from the boilers based on permit, source test, or rule limit data will need to be adjusted on the Superior Seminole Boiler down to 9 ppmv NO_x @ 3% O_2 (0.011 lb-NO_x/MMBtu) to reflect allowable AER.

Adjustment for Rule 4682 – Polystyrene, Polyethylene and Polypropylene Products Manufacturing:

On and after September 10, 2010, the requirement of Section 5.3 requires that the operator shall not conduct any manufacturing operations, as defined in Section 3.10, unless one of the following emission reduction methods is met:

5.3.1 The operator demonstrates, to the satisfaction of the APCO, that the total product emissions do not exceed 2.4 pounds of VOC per 100 pounds of total material processed, calculated over a monthly period. The total product emissions include emissions from the manufacturing operation, after controls, plus the residual blowing agent in the finished product.

5.3.2 A blowing agent other than a VOC or trichlorofluoromethane (CFC -11) or dichlorodifluoromethane (CFC-12) is exclusively used.

5.3.3 An approved emission control system is installed and operating with manufacturing emissions vented only to the approved emission control system; and emissions from the final manufactured product are to be vented only to the approved emission control system for at least:

5.3.3.1 48 hours, in the case of expandable polystyrene molding operations that process more than 800,000 pounds per calendar year of raw material; or

5.3.3.2 24 hours, in the case of all other manufacturing operations.

5.3.3.3 The provisions of Sections 5.3.3.1 and 5.3.3.1 are not required for any facility that only manufactures polystyrene products and the highest concentration of the blowing agent in the product is 1.8 percent or less by weight, within 15 minutes after the completion of the final processing step, prior to any finished product storage. Verification of the concentration shall be demonstrated annually, pursuant to a protocol submitted to the District and subject to approval by the APCO.

5.3.4 The operator demonstrates to the satisfaction of the APCO that the manufacturing emissions are no greater than the facility emissions which would occur under Section 5.3.3, as calculated according to Section 5.5, and which does not include the use of trichlorofluoromethane (CFC -11) or dichlorodifluoromethane (CFC-12).

5.3.5 A control system that meets all of the following requirements shall be deemed as meeting the requirements of Section 5.3.4, unless the APCO determines that additional controls are required

5.3.5.1 The beads used in manufacturing have an annual-average VOC content of less than 4.2% per weight; and

5.3.5.2 The manufacturing emissions (not including finished product storage emissions) are controlled with an overall capture and control efficiency of at least 93% by weight.

Prior to closure of the plant, AGRI operated their EPS molding operation in a manner most closely associated with the Rule 4682 control option listed as Section 5.3.5 (but not documented to be in compliance with the overall capture and control efficiency requirement). At AGRI, the EPS beads utilized had an average pentane content of 4% and never exceeded the 4.2% required for Section 5.3.5.

The capture efficiencies of the enclosed and controlled polystyrene pre-expansion operation (P2) and enclosed aging silos (P3) were never a permit requirement, nor required by previous versions of Rule 4682 for EPS molding operations. It was assumed, but not documented, in District Project S940855 that all VOC was routed to the thermal oxidizer, with the thermal oxidizer having a VOC destruction efficiency of 95%. The molding operation was assessed a VOC capture efficiency of only 50% in that same District project, although the molds are sealed, with the vacuum lines vented to the thermal oxidizer and the molds are water chilled prior to opening to inhibit VOC release. An in-depth testing and evaluation of the molding operation would likely have shown a greater capture efficiency of VOC released during the steaming of beads within the mold while under negative pressure. Annual source testing of the thermal oxidizer system demonstrated a VOC destruction efficiency of approximately 99.4%.

Total Adjusted Historical Actual Emissions

Based on the discussions within Section V.E, there are additional adjustments made to the HAE (Appendix H) based on NO_x requirements of the Superior Seminole Boiler for future Rule 4320 requirements (July, 2012 compliance date) and to the overall capture and control efficiency of the EPS box manufacturing processing equipment for Rule 4682 requirements (93% overall capture and control, excluding storage of finished product). All necessary adjustments were made to the Excel spreadsheets calculating HAE in order to arrive at the allowable AER (Appendix I) for this ERC banking project.

E. Actual Emissions Reductions (AERs):

The total qualifying AERs are shown in the table below:

Qualifying AER During Baseline Period (lb/qtr)					
	NO_x	SOx	PM10	CO	VOC
1st Quarter	201	43	115	73	79,614
2nd Quarter	248	53	140	93	96,584
3rd Quarter	232	49	130	96	89,340
4th Quarter	30	6	16	16	10,747

F. Air Quality Improvement Deduction

The Air Quality Improvement Deduction (AQID) is 10% of the AER per Rule 2201, Sections 3.5 and 4.12.1, and is summarized as follows:

Air Quality Improvement Deduction (AQID) lb/qtr (AQID = AER x 10%)					
	NO_x	SOx	PM10	CO	VOC
1st Quarter	20	4	12	7	7,961
2nd Quarter	25	5	14	9	9,658
3rd Quarter	23	5	13	10	8,934
4th Quarter	3	1	2	2	1,075

G. Increases in Permitted Emissions (IPE)

No IPE is associated with this project.

H. Bankable Emissions Reductions Credits

The bankable emissions reductions credits, presented in following table, are determined by subtraction of the Air Quality Improvement Deduction (discussed in Section V.F) from the AER.

Bankable Emissions Reductions Credits					
	NO_x	SOx	PM10	CO	VOC
1st Quarter	181	39	103	66	71,653
2nd Quarter	223	48	126	84	86,926
3rd Quarter	209	44	117	86	80,406
4th Quarter	27	5	14	14	9,672

VI. Compliance:

Rule 2201 - New and Modified Stationary Source Review Rule:

To comply with the definition of Actual Emissions Reductions (Rule 2201, Section 3.2.1), the reductions must be real, enforceable, quantifiable, permanent, and surplus.

A. Real

The emissions reductions were generated by the shutdown of the Agri-Cel EPS box manufacturing facility. The emissions reductions were calculated from actual historic data and recognized emission factors or source test data. The associated permits for these units have been surrendered to the District. Therefore, the emission reductions are real.

B. Enforceable

The PTO's for Agri-Cel's polystyrene foam box production operations at this facility have been surrendered to the District. Operation of any of the equipment without a valid permit would subject the permittee to enforcement actions. Therefore, the reductions are enforceable.

C. Quantifiable

The reductions are quantifiable since they were calculated from historic production and fuel use data, source testing data, established and accepted emission factors, permitted limits, and methods according to District Rule 2201. Therefore, the reductions are quantifiable.

D. Permanent

The entire facility has been shutdown, with the exception of the firewater pump, and the PTOs have been surrendered to the District. Therefore, the reductions are permanent.

E. Surplus

To be considered surplus, Actual Emission Reductions shall be in excess, at the time the application for an Emission Reduction Credit or an Authority to Construct authorizing such reductions is deemed complete, of any emissions reduction which:

- Is required or encumbered by any laws, rules, regulations, agreements, orders, or

  No laws, rules, regulations, agreements or orders were responsible for the surrendering the facility's permits or their subsequent application for Emission Reduction Credits (ERCs).

- Is attributed to a control measure noticed for workshop, or proposed or contained in a State Implementation Plan, or

  District Rule 4320, "Advanced Emission Reduction Options For Boilers, Steam Generators, and Process Heaters Greater Than 5.0 MMBtu/Hr", has a future compliance deadline (July, 2012) that would require the Superior Seminole boiler, S-848-12, to reduce NO_x emissions to 9 ppmv @ 3% O_2.

  The HAE for the Superior Seminole boiler was adjusted to only allow an AER for reductions below this level.

  Rule 4682, "Polystyrene Foam, Polyethylene, and Polypropylene Manufacturing", requires that,

  "Sections 5.3 through 5.5 shall be effective on and after September 20, 2010.

  5.3 The operator shall not conduct any manufacturing operations, as defined in Section 3.0, unless one of the following emission reduction methods is met:

  5.3.1 The operator demonstrates, to the satisfaction of the APCO, that the total product emissions do not exceed 2.4 pounds of VOC per 100 pounds of total material processed, calculated over a monthly period. The total product emissions include emissions from the manufacturing operation, after controls, plus the residual blowing agent in the finished product.

  5.3.2 A blowing agent other than a VOC or trichlorofluoromethane (CFC-11) or dichlorofluoromethane (CFC-12) is exclusively used.

  5.3.3 An approved emission control system is installed and operating with manufacturing emissions vented only to the approved emission control system; and emissions from the final manufactured product are to be vented only to the approved emission control system for at least:

  5.3.3.1 48 hours, in the case of expandable polystyrene molding operations that process more than 800,000 pounds per calendar year of raw material; or

  5.3.3.2 24 hours, in the case of all other manufacturing operations.

  5.3.3.3 The provision of Section 5.3.3.1 or 5.3.3.2 are not required for any facility that only manufacturers polystyrene products and the highest concentration of the blowing agent in the product is 1.8 percent or less by weight, within 15 minutes after the completion of the final processing step, prior to any finished product storage. Verification of the concentration shall be demonstrated annually, pursuant to a protocol submitted to the District and subject to approval by the APCO.

5.3.4 The operator demonstrates to the satisfaction of the APCO that the manufacturing emissions are no greater than the facility emissions which would occur under Section 5.3.3, as calculated according to Section 5.5, and which does not include the use of trichlorofluoromethane (CFC-11) or dichlorodifluoromethane (CFC-12).

5.3.5 A control system that meets all of the following requirements shall be deemed as meeting the requirements of Section 5.3.4, unless the APCO determines that additional controls are required.

5.3.5.1 The beads used in manufacturing have an annual-average VOC content of less than 4.2% per weight; and

5.3.5.2 The manufacturing emissions (not including finished product storage emissions) are controlled with an overall capture and control efficiency of at least 93% by weight.

5.4 Operators subject to the provisions of Section 5.3.1, who exceed the limit based on the monthly calculation, shall be considered to have been in violation for each day of that monthly period.

5.5 Facility emissions that would occur under 5.3.3 shall be calculated using the following formula, or other formula approved by the APCO and EPA:

FE = [1- (0.90 x 0.95)] x [(P1+AS - P2) + (P2 - P3)]
Where

FE = Facility Emissions for Section 5.3.3
P1 = Amount of VOC in the received material
AS = Amount of VOC added to the material
P2 = Amount of VOC in the finished product, measured within 15 minutes after the final processing step, prior to finished product storage.

P3 = Amount of VOC in the finished product after warehousing for 48 hours (for facilities subject to Section 5.3.3.1.1) or 24 hrs (for all others). (P2 - P3) = 0 for products with residual VOC amounts of 1.8 percent or less by weight."

Prior to closure of the plant, AGRI operated their EPS molding operation in a manner most closely associated with the Rule 4682 control option listed as Section 5.3.5. The HAE was adjusted to reflect an AER based on 93% overall capture and control efficiency for the manufacturing processes following raw bead receiving up to finished product storage. Therefore the ERCs granted are only for surplus reductions.

- Is proposed in the APCO's adopted air quality plan pursuant to the California Clean Air Act.

  There are no additional control measures for EPS facilities in the APCO's adopted air quality plan.

F. Not used for the Approval of an Authority to Construct or as Offsets

The emission reduction credits generated by the shutdown of the EPS box manufacturing facility were not, and will not, be used for the approval of any Authority to Construct or as offsets. All Permits to Operate have been surrendered and there is no activity at the plant.

Rule 2301 – Emission Reduction Banking:

Section 5.5 states that ERC certificate applications shall be submitted within 180 days after the emission reduction occurs. The applicant surrendered the PTOs and had permanently ceased operation at this location on July 10, 2009, and surrendered their permits to the District on July 20, 2009. The ERC application was received on December 31, 2009, within the 180 day timeframe allowed. Therefore, the application was submitted in a timely fashion.

Section 6.1.2 states that if the emission reductions were created as a result of the shutdown of a permitted emissions unit, the relevant Permit(s) to Operate have been surrendered and voided. The Permits to Operate were surrendered and canceled by the District on July 20, 2009.

VII. Recommendation:

Issue Emission Reduction Credit (ERC) Certificates S-3493-1, '-2, '-3, '-4, and '-5 in the amounts shown below and on the draft ERC certificate contained in Appendix J.

Bankable Emissions Reductions Credits					
	NO_x	SOx	PM10	CO	VOC
1st Quarter	181	39	103	66	71,653
2nd Quarter	223	48	126	84	86,926
3rd Quarter	209	44	117	86	80,406
4th Quarter	27	5	14	14	9,672

List of Appendices

A. Surrendered Permits to Operate
B. Sample Natural Gas Usage Records
C. Sample EPS Bead Receiving and Pentane Content Records
D. Source Test Results for Dixon Boiler
E. Source Test Results for Superior Seminole Boiler
F. Source Test Results for Retox Thermal Oxidizer
G. 2006 Source Test Protocol and Results for Release of Pentane (VOC Drop) During Manufacturing Processes
H. Historical Actual Emissions (HAE) Spreadsheets During 2005 – 2006 Baseline Period
I. Adjusted Actual Emissions Reduction (AER) Qualifying for Banking During 2005 – 2006 Baseline Period
J. Draft ERC Certificates

Appendix A

Surrendered Permits to Operate

San Joaquin Valley
AIR POLLUTION CONTROL DISTRICT

Permit to Operate

FACILITY: S-848 **EXPIRATION DATE:** 02/28/2013

LEGAL OWNER OR OPERATOR: AGRI-CEL INC
MAILING ADDRESS: PO BOX 100
DELANO, CA 93216

FACILITY LOCATION: 391 ROAD 192
DELANO, CA

FACILITY DESCRIPTION: PLASTIC FOAM PRODUCTS

The Facility's Permit to Operate may include Facility-wide Requirements as well as requirements that apply to specific permit units.

This Permit to Operate remains valid through the permit expiration date listed above, subject to payment of annual permit fees and compliance with permit conditions and all applicable local, state, and federal regulations. This permit is valid only at the location specified above, and becomes void upon any transfer of ownership or location. Any modification of the equipment or operation, as defined in District Rule 2201, will require prior District approval. This permit shall be posted as prescribed in District Rule 2010.

Seyed Sadredin
Executive Director / APCO

David Warner
Director of Permit Services

San Joaquin Valley
Air Pollution Control District

PERMIT UNIT: S-848-2-13 **EXPIRATION DATE:** 02/28/2013

EQUIPMENT DESCRIPTION:
POLYSTYRENE PRE-EXPANSION OPERATION #1 WITH DUMP PLATFORM, TWO AUGERS, RECEIVING HOPPER, ENCLOSED PRE-EXPANDER VESSEL WITH DUST COLLECTOR, STEAM AGITATOR, ASPIRATOR (TO AGING SILOS/BINS), VAPOR PIPING FROM STEAM AGITATORS, AGING SILOS/BINS, PROMASS PRESS, AND MOLDING PRESS VACUUM LINES TO 0.7 MMBTU/HR RETOX 4.0 RTO95 THERMAL OXIDIZER

PERMIT UNIT REQUIREMENTS

1. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
2. No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101]
3. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201]
4. Steam agitator/pre-expander shall vent only to the RETOX thermal oxidizer. [District Rule 2201]
5. RETOX 4.0 RTO95 thermal oxidizer shall be equipped with operational temperature indicator/recorders. [District Rule 2201]
6. RETOX 4.0 RTO95 thermal oxidizer shall be maintained at a minimum temperature of 1,500 degrees Farenheit during all EPS processing. [District Rule 2201]
7. Flow rate to RETOX 4.0 thermal oxidizer shall not exceed 4,000 scfm. [District Rule 2201]
8. VOC destruction efficiency shall be maintained at no less than 95% by weight. [District Rule 2201]
9. Combined VOC emissions from S-848-2 and S-848-6 shall not exceed 39.6 lbs/day nor 10,257 lb/yr. [District Rule 2201]
10. Combined quarterly VOC emissions from S-848-2 and S-848-6 shall not exceed any of the following limits: Q1 - 2,997 lbs, Q2 - 3,502 lbs, Q3 - 3,631 lbs, and Q4 - 2,944 lbs. [District Rule 2201]
11. For EPS with a pentane content of 4.0% by weight or less the emission factor (controlled) is 0.065 lb VOC/100 lb EPS. For EPS with a pentane content no more than 1% by weight higher than that used to establish an emission factor, the VOC emission factor shall be established by proportionally increasing the existing VOC emission factor for the EPS pentane content. For EPS with a pentane content greater than 1% higher than that used to establish an existing VOC emission factor, a new VOC emission factor shall be determined through source testing. Source testing shall be conducted within 60 days of initiating the new value or within the run (at the higher pentane content) if the run is less than 60 days. VOC emissions factor (lb VOC/100 lbs EPS feed) is equal to the difference between the pentane content at the start and at the end of the permit unit as determined by District witnessed sampling and analysis multiplied by 0.05. [District Rule 2201]
12. Compliance with daily fugitive emissions limits shall be determined by multiplying the daily EPS throughput (in lbs) by the controlled VOC emission factor (lb VOC/100 lb EPS) for the EPS material processed. Compliance with quarterly and annual emissions limits shall be determined by totaling daily emissions for the quarter and calendar year. [District Rule 2201]
13. Permit units S-848-2 and S-848-6 include the following process points: P1 - receiving hopper (from newly opened pellet bag), and P2 - after steam agitation/pre-expansion, prior to the aging silos. [District Rule 2201]

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

14. The VOC content (by weight) of the EPS at process points P1 and P2 of either S-848-2 or S-848-6 shall be determined using test method SCAQMD Method 306-91, or an alternate method if approved by the District. [District Rule 2201]
15. Compliance source testing for VOC destruction efficiency shall be conducted annually for the RETOX 4.0 RTO95. [District Rule 2201]
16. Source testing shall be conducted to determine control system destruction efficiency using EPA methods 2, 2A, or 2D for measuring flow rates and EPA Method 18, 25, 25A, or 25C measuring total gaseous organic concentrations at the inlet and outlet of the thermal oxidizer. [District Rule 2201]
17. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081]
18. Sampling facilities for source testing shall be provided in accordance with the provisions of Rule 1081 (Source Sampling). [District Rule 1081]
19. Compliance source testing shall be conducted under conditions representative of normal operation. [District Rule 1081]
20. Compliance source testing shall be District witnessed or authorized. An ARB certified testing laboratory shall perform all of the required EPA test methods. [District Rule 1081]
21. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081]
22. Permittee shall maintain daily records of the thermal oxidizer temperatures. [District Rule 2201]
23. Permittee shall maintain accurate records of pentane content of EPS feed, daily throughput rates of EPS feed, and prorated and/or "pentane drop" source test VOC emissions factors (lb-VOC/100 lb EPS feed) used to calculate daily, quarterly and annual VOC emissions from EPS manufacturing process. [District Rule 2201]
24. All records shall be retained onsite for a period of at least 5 years and shall be made available for District inspection upon request. [District Rule 1070]

San Joaquin Valley
Air Pollution Control District

PERMIT UNIT: S-848-3-11 **EXPIRATION DATE:** 02/28/2013

EQUIPMENT DESCRIPTION:
EXPANDED POLYSTYRENE AGING/STORAGE OPERATION #1 WITH ENCLOSED AGING SILO WITH FOUR 3,273 CUBIC FOOT COMPARTMENTS AND UP TO SIX 704 CUBIC FOOT MATERIAL AGING BINS; WITH VAPOR PIPING TO THERMAL OXIDIZER(S) INCLUDED IN PTO S-848-2

PERMIT UNIT REQUIREMENTS

1. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
2. No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101]
3. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201]
4. Enclosed aging silo compartments shall vent only to the thermal oxidizer listed in S-848-2. [District Rule 2201]
5. Combined VOC emissions from S-848-3 and S-848-7 shall not exceed 18.0 lbs/day. [District Rule 2201]
6. Combined quarterly VOC emissions from S-848-3 and S-848-7 shall not exceed any of the following limits: Q1 - 1,362 lbs, Q2 - 1,592 lbs, Q3 - 1,650 lbs, and Q4 - 1,338 lbs. [District Rule 2201]
7. Combined EPS throughput from S-848-3 and S-848-7 shall not exceed 15,780,000 lbs/year. [District Rule 2201]
8. Permit units S-848-3 and S-848-7 include the following process points: P2 - after steam agitation/pre-expansion, prior to the aging silos and P3 - after aging silos, prior to the molding presses. [District Rule 2201]
9. The VOC drop, as P2 - P3, shall not exceed 0.007 lb-VOC/lb-EPS. [District Rule 2201]
10. Combined VOC emissions from S-848-3 and S-848-7 shall be calculated as follows: (combined EPS throughput of S-848-3 and S-848-7) x (VOC drop) x 0.05. [District Rule 2201]
11. The VOC content (by weight) of the EPS shall be source tested by May, 2006, at process points P2 and P3 of either S-848-3 or S-848-7 in order to determine the VOC drop. The second source test shall be performed within 12 months from date the previous source test is completed. [District Rule 2201]
12. The VOC content (by weight) of the EPS at process points P2 and P3 of either S-848-3 or S-848-7 shall be determined using test method SCAQMD Method 306-91, or an alternate method if approved by the District. [District Rule 2201]
13. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081]
14. Sampling facilities for source testing shall be provided in accordance with the provisions of Rule 1081 (Source Sampling). [District Rule 1081]
15. Compliance source testing shall be conducted under conditions representative of normal operation. [District Rule 1081]
16. Compliance source testing shall be District witnessed or authorized. An ARB certified testing laboratory shall perform all of the required EPA test methods. [District Rule 1081]
17. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081]

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

18. Permittee shall maintain daily, monthly, quarterly, and annual records of the total EPS throughput for S-848-3 and S-848-7, in lbs. [District Rules 2201 and 4682]
19. Permittee shall maintain daily, quarterly, and annual records of the total VOC emissions from S-848-3 and S-848-7, in lbs. [District Rule 2201]
20. All records shall be retained onsite for a period of at least 5 years and shall be made available for District inspection upon request. [District Rule 1070]

San Joaquin Valley
Air Pollution Control District

PERMIT UNIT: S-848-4-10 **EXPIRATION DATE:** 02/28/2013

EQUIPMENT DESCRIPTION:
EXPANDED POLYSTYRENE MOLDING OPERATION #1 WITH PNEUMATIC CONVEYING SYSTEM, 328 CU FT RESERVOIR BAG, AND TWO 22 CU FT AIRVEY TANKS, ALONG WITH TWELVE 22 CU FT FEED HOPPERS, AND 24 MOLDING PRESSES WITH VACUUM LINES VENTED TO PTO S-848-2 OXIDIZER(S)

PERMIT UNIT REQUIREMENTS

1. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
2. No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101]
3. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201]
4. Molding press vacuum lines shall be vented to the thermal oxidizer listed in S-848-2. [District Rule 2201]
5. Combined VOC emissions from S-848-4 and S-848-8 shall not exceed 113.5 lbs/day. [District Rule 2201]
6. Combined quarterly VOC emissions from S-848-4 and S-848-8 shall not exceed any of the following limits: Q1 - 8,583 lbs, Q2 - 10,029 lbs, Q3 - 10,398 lbs, and Q4 - 8,431 lbs. [District Rule 2201]
7. Permit units S-848-4 and S-848-8 include the following process points: P3 - after aging silos, prior to the molding presses and P4 - final product immediately after molding. [District Rule 2201]
8. Combined EPS throughput from S-848-4 and S-848-8 shall not exceed 15,780,000 lbs/year. [District Rule 2201]
9. The VOC drop, as P3 - P4, shall not exceed 0.004 lb-VOC/lb-EPS. [District Rule 2201]
10. Combined VOC emissions from S-848-4 and S-848-8 shall be calculated as follows: (combined EPS throughput of S-848-4 and S-848-8) x (VOC drop) x 0.525. [District Rule 2201]
11. The VOC content (by weight) of the EPS shall be source tested by May, 2006, at process points P3 and P4 of either S-848-4 or S-848-8 in order to determine the VOC drop. The second source test shall be performed within 12 months from date the previous source test is completed. [District Rule 2201]
12. The VOC content (by weight) of the EPS at process points P3 and P4 of either S-848-4 or S-848-8 shall be determined using test method SCAQMD Method 306-91, or an alternate method if approved by the District. [District Rule 2201]
13. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081]
14. Sampling facilities for source testing shall be provided in accordance with the provisions of Rule 1081 (Source Sampling). [District Rule 1081]
15. Compliance source testing shall be conducted under conditions representative of normal operation. [District Rule 1081]
16. Compliance source testing shall be District witnessed or authorized. An ARB certified testing laboratory shall perform all of the required EPA test methods. [District Rule 1081]
17. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081]

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

18. Permittee shall maintain daily, monthly, quarterly, and annual records of the total EPS throughput for S-848-4 and S-848-8, in lbs. [District Rules 2201 and 4682]
19. Permittee shall maintain daily, quarterly, and annual records of the total VOC emissions from S-848-4 and S-848-8, in lbs. [District Rule 2201]
20. All records shall be retained onsite for a period of at least 5 years and shall be made available for District inspection upon request. [District Rule 1070]

San Joaquin Valley
Air Pollution Control District

PERMIT UNIT: S-848-5-0 **EXPIRATION DATE:** 02/28/2013

EQUIPMENT DESCRIPTION:
POLYSTYRENE GRINDING OPERATION WITH HOPPER

PERMIT UNIT REQUIREMENTS

1. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
2. No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101]
3. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201]

San Joaquin Valley
Air Pollution Control District

PERMIT UNIT: S-848-6-9 **EXPIRATION DATE:** 02/28/2013

EQUIPMENT DESCRIPTION:
POLYSTYRENE PRE-EXPANSION OPERTION #2 W VAPOR PIPING FROM STEAM AGITATORS AND AGING SILOS/BINS TO PTO S-848-2 OXIDIZER(S). RECEIVING AND STAGING HOPPERS, SCREENING DEVICE WITH DUST COLLECTOR, ENCLOSED PRE-EXPANDER WITH DUST COLLECTOR, AND ASPIRATOR

PERMIT UNIT REQUIREMENTS

1. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
2. No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101]
3. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201]
4. Steam agitator/pre-expander shall vent only to the thermal oxidizer listed in S-848-2. [District Rule 2201]
5. VOC content of the raw EPS processed by S-848-2 and S-848-6 shall not exceed 4.0% by weight, based on a calendar quarter average. [District Rule 2201]
6. Combined VOC emissions from S-848-2 and S-848-6 shall not exceed 39.6 lbs/day. [District Rule 2201]
7. Combined quarterly VOC emissions from S-848-2 and S-848-6 shall not exceed any of the following limits: Q1 - 2,997 lbs, Q2 - 3,502 lbs, Q3 - 3,631 lbs, and Q4 - 2,944 lbs. [District Rule 2201]
8. Combined EPS throughput from S-848-2 and S-848-6 shall not exceed 15,780,000 lbs/year. [District Rule 2201]
9. Permit units S-848-2 and S-848-6 include the following process points: P1 - receiving hopper (from newly opened pellet bag), and P2 - after steam agitation/pre-expansion, prior to the aging silos. [District Rule 2201]
10. The VOC drop, as P1 - P2, shall not exceed 0.013 lb-VOC/lb-EPS. [District Rule 2201]
11. Combined VOC emissions from S-848-2 and S-848-6 shall be calculated as follows: (combined EPS throughput of S-848-2 and S-848-6) x (VOC drop) x 0.05. [District Rule 2201]
12. The VOC content (by weight) of the EPS shall be source tested by May, 2006, at process points P1 and P2 of either S-848-2 or S-848-6 in order to determine the VOC drop. A second source test shall be performed within 12 months from date the previous source test is completed. [District Rule 2201]
13. The VOC content (by weight) of the EPS at process points P1 and P2 of either S-848-2 or S-848-6 shall be determined using test method SCAQMD Method 306-91, or an alternate method if approved by the District. [District Rule 2201]
14. Compliance source testing for VOC destruction efficiency shall be conducted annually for the RETOX 4.0 RTO95. [District Rule 2201]
15. Source testing shall be conducted to determine control system destruction efficiency using EPA methods 2, 2A, or 2D for measuring flow rates and EPA Method 18, 25, 25A, or 25C measuring total gaseous organic concentrations at the inlet and outlet of the thermal oxidizer. [District Rule 2201]
16. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081]

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

17. Sampling facilities for source testing shall be provided in accordance with the provisions of Rule 1081 (Source Sampling). [District Rule 1081]
18. Compliance source testing shall be conducted under conditions representative of normal operation. [District Rule 1081]
19. Compliance source testing shall be District witnessed or authorized. An ARB certified testing laboratory shall perform all of the required EPA test methods. [District Rule 1081]
20. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081]
21. Permittee shall maintain daily records of the thermal oxidizer temperatures. [District Rule 2201]
22. Permittee shall maintain records of the VOC content (by weight) for each batch of raw EPS received for S-848-2 and S-848-6, based on manufacturer/supplier data. [District Rule 2201]
23. Permittee shall maintain records of the raw EPS VOC content, based on a calendar quarter average. Permittee shall calculate the calendar quarter average within 7 days from the end of that calendar quarter. [District Rule 2201]
24. Permittee shall maintain daily, monthly, quarterly, and annual records of the total EPS throughput for S-848-2 and S-848-6, in lbs. [District Rules 2201 and 4682]
25. Permittee shall maintain daily, quarterly, and annual records of the total VOC emissions from S-848-2 and S-848-6, in lbs. [District Rule 2201]
26. All records shall be retained onsite for a period of at least 5 years and shall be made available for District inspection upon request. [District Rule 1070]

San Joaquin Valley
Air Pollution Control District

PERMIT UNIT: S-848-7-8 **EXPIRATION DATE:** 02/28/2013

EQUIPMENT DESCRIPTION:
EXPANDED POLYSTYRENE AGING/STORAGE OPERATION #2 WITH UP TO TWO ENCLOSED AGING SILOS, EACH WITH FOUR 3,273 CUBIC FOOT COMPARTMENTS; WITH VAPOR PIPING TO THERMAL OXIDIZER(S)INCLUDED IN PTO S-848-2

PERMIT UNIT REQUIREMENTS

1. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
2. No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101]
3. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201]
4. Enclosed aging silo compartments shall vent only to the thermal oxidizer listed in S-848-2. [District Rule 2201]
5. Combined VOC emissions from S-848-3 and S-848-7 shall not exceed 18.0 lbs/day. [District Rule 2201]
6. Combined quarterly VOC emissions from S-848-3 and S-848-7 shall not exceed any of the following limits: Q1 - 1,362 lbs, Q2 - 1,592 lbs, Q3 - 1,650 lbs, and Q4 - 1,338 lbs. [District Rule 2201]
7. Combined EPS throughput from S-848-3 and S-848-7 shall not exceed 15,780,000 lbs/year. [District Rule 2201]
8. Permit units S-848-3 and S-848-7 include the following process points: P2 - after steam agitation/pre-expansion, prior to the aging silos and P3 - after aging silos, prior to the molding presses. [District Rule 2201]
9. The VOC drop, as P2 - P3, shall not exceed 0.007 lb-VOC/lb-EPS. [District Rule 2201]
10. Combined VOC emissions from S-848-3 and S-848-7 shall be calculated as follows: (combined EPS throughput of S-848-3 and S-848-7) x (VOC drop) x 0.05. [District Rule 2201]
11. The VOC content (by weight) of the EPS shall be source tested by May, 2006, at process points P2 and P3 of either S-848-3 or S-848-7 in order to determine the VOC drop. The second source test shall be performed within 12 months from date the previous source test is completed. [District Rule 2201]
12. The VOC content (by weight) of the EPS at process points P2 and P3 of either S-848-3 or S-848-7 shall be determined using test method SCAQMD Method 306-91, or an alternate method if approved by the District. [District Rule 2201]
13. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081]
14. Sampling facilities for source testing shall be provided in accordance with the provisions of Rule 1081 (Source Sampling). [District Rule 1081]
15. Compliance source testing shall be conducted under conditions representative of normal operation. [District Rule 1081]
16. Compliance source testing shall be District witnessed or authorized. An ARB certified testing laboratory shall perform all of the required EPA test methods. [District Rule 1081]
17. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081]

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

18. Permittee shall maintain daily, monthly, quarterly, and annual records of the total EPS throughput for S-848-3 and S-848-7, in lbs. [District Rules 2201 and 4682]
19. Permittee shall maintain daily, quarterly, and annual records of the total VOC emissions from S-848-3 and S-848-7, in lbs. [District Rule 2201]
20. All records shall be retained onsite for a period of at least 5 years and shall be made available for District inspection upon request. [District Rule 1070]

San Joaquin Valley
Air Pollution Control District

PERMIT UNIT: S-848-8-10 **EXPIRATION DATE:** 02/28/2013

EQUIPMENT DESCRIPTION:
EXPANDED POLYSTYRENE MOLDING OPERATION #2 WITH PNEUMATIC CONVEYING SYSTEM, TWO 328 CU FT SURGE TANKS, ALONG WITH TWELVE 22 CU FT FEED HOPPERS, AND 24 MOLDING PRESSES WITH VACUUM LINES VENTED TO PTO S-848-2 OXIDIZER(S)

PERMIT UNIT REQUIREMENTS

1. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
2. No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101]
3. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201]
4. Molding press vacuum lines shall be vented to the thermal oxidizer listed in S-848-2. [District Rule 2201]
5. Combined VOC emissions from S-848-4 and S-848-8 shall not exceed 113.5 lbs/day. [District Rule 2201]
6. Combined quarterly VOC emissions from S-848-4 and S-848-8 shall not exceed any of the following limits: Q1 - 8,583 lbs, Q2 - 10,029 lbs, Q3 - 10,398 lbs, and Q4 - 8,431 lbs. [District Rule 2201]
7. Permit units S-848-4 and S-848-8 include the following process points: P3 - after aging silos, prior to the molding presses and P4 - final product immediately after molding. [District Rule 2201]
8. Combined EPS throughput from S-848-4 and S-848-8 shall not exceed 15,780,000 lbs/year. [District Rule 2201]
9. The VOC drop, as P3 - P4, shall not exceed 0.004 lb-VOC/lb-EPS. [District Rule 2201]
10. Combined VOC emissions from S-848-4 and S-848-8 shall be calculated as follows: (combined EPS throughput of S-848-4 and S-848-8) x (VOC drop) x 0.525. [District Rule 2201]
11. The VOC content (by weight) of the EPS shall be source tested by May, 2006, at process points P3 and P4 of either S-848-4 or S-848-8 in order to determine the VOC drop. The second source test shall be performed within 12 months from date the previous source test is completed. [District Rule 2201]
12. The VOC content (by weight) of the EPS at process points P3 and P4 of either S-848-4 or S-848-8 shall be determined using test method SCAQMD Method 306-91, or an alternate method if approved by the District. [District Rule 2201]
13. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081]
14. Sampling facilities for source testing shall be provided in accordance with the provisions of Rule 1081 (Source Sampling). [District Rule 1081]
15. Compliance source testing shall be conducted under conditions representative of normal operation. [District Rule 1081]
16. Compliance source testing shall be District witnessed or authorized. An ARB certified testing laboratory shall perform all of the required EPA test methods. [District Rule 1081]
17. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081]

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

18. Permittee shall maintain daily, monthly, quarterly, and annual records of the total EPS throughput for S-848-4 and S-848-8, in lbs. [District Rules 2201 and 4682]
19. Permittee shall maintain daily, quarterly, and annual records of the total VOC emissions from S-848-4 and S-848-8, in lbs. [District Rule 2201]
20. All records shall be retained onsite for a period of at least 5 years and shall be made available for District inspection upon request. [District Rule 1070]

San Joaquin Valley
Air Pollution Control District

PERMIT UNIT: S-848-9-2 **EXPIRATION DATE:** 02/28/2013

EQUIPMENT DESCRIPTION:
7.5 MMBTU/HR NATURAL GAS-FIRED DIXON MODEL SK-10 BOILER WITH A POWER FLAME MODEL NVCR5-G-30 LOW NOX BURNER

PERMIT UNIT REQUIREMENTS

1. All equipment shall be maintained in good operating condition and shall be operated in a manner to minimize emissions of air contaminants into the atmosphere. [District Rule 2201]
2. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
3. No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101]
4. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201]
5. The unit shall only be fired on PUC-regulated natural gas. [District Rule 2201]
6. Emissions from the exhaust of this boiler shall not exceed any of the following limits: 15 ppmvd NOx @ 3% O2 or 0.018 lb-NOx/MMBtu; 100 ppmvd CO @ 3% O2 or 0.074 lb-CO/MMBtu; 0.004 lb-VOC/MMBtu; 0.012 lb-PM10/MMBtu; or 0.00285 lb-SOx/MMBtu. [District Rules 2201, 4305, and 4306]
7. All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. No determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0 of District Rule 4306. [District Rules 4305 and 4306]
8. Source testing to measure natural gas-combustion NOx and CO emissions from this unit shall be conducted within 60 days of initial start-up. [District Rules 2201, 4305 and 4306]
9. Source testing to measure natural gas-combustion NOx and CO emissions from this unit shall be conducted at least once every twelve (12) months. After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months. If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 4305 and 4306]
10. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305 and 4306]
11. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081]
12. NOx emissions for source test purposes shall be determined using EPA Method 7E or ARB Method 100 on a ppmv basis, or EPA Method 19 on a heat input basis. [District Rules 4305 and 4306]
13. CO emissions for source test purposes shall be determined using EPA Method 10 or ARB Method 100. [District Rules 4305 and 4306]
14. Stack gas oxygen (O2) shall be determined using EPA Method 3 or 3A or ARB Method 100. [District Rules 4305 and 4306]

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

15. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 4305 and 4306]
16. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081]
17. The permittee shall monitor and record the stack concentration of NOx, CO, and O2 at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305 and 4306]
18. If either the NOx or CO concentrations corrected to 3% O2, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rules 4305 and 4306]
19. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305 and 4306]
20. The permittee shall maintain records of: (1) the date and time of NOx, CO, and O2 measurements, (2) the O2 concentration in percent and the measured NOx and CO concentrations corrected to 3% O2, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305 and 4306]
21. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 4305, and 4306]

San Joaquin Valley
Air Pollution Control District

PERMIT UNIT: S-848-11-0 **EXPIRATION DATE:** 02/28/2013

EQUIPMENT DESCRIPTION:
1200 BHP DETROIT DIESEL MODEL R163-7K35 DIESEL-FIRED EMERGENCY STANDBY IC ENGINE POWERING AN ELECTRICAL GENERATOR

PERMIT UNIT REQUIREMENTS

1. The engine shall be equipped with a turbocharger and with an aftercooler or intercooler. [District NSR Rule]
2. This engine shall be equipped with an operational non-resettable elapsed time meter or other APCO approved alternative. [District Rule 4702 and 17 CCR 93115]
3. The engine shall be equipped with a positive crankcase ventilation (PCV) system or a crankcase emissions control device of at least 90% control efficiency. [District NSR Rule]
4. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
5. The exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap, roof overhang, or any other obstruction. [District Rule 4102]
6. This engine shall be operated using only CARB certified diesel fuel. [17 CCR 93115]
7. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201]
8. No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101]
9. Emissions shall not exceed 5.47 g NOx/bhp-hr or 0.07 g PM10/bhp-hr. [District NSR Rule and Rule 4102]
10. This engine shall be operated and maintained in proper operating condition as recommended by the engine manufacturer or emissions control system supplier. [District Rule 4702]
11. During periods of operation for maintenance, testing, and required regulatory purposes, the permittee shall monitor the operational characteristics of the engine as recommended by the manufacturer or emission control system supplier (for example: check engine fluid levels, battery, cables and connections; change engine oil and filters; replace engine coolant; and/or other operational characteristics as recommended by the manufacturer or supplier). [District Rule 4702]
12. This engine shall be operated only for testing and maintenance of the engine, required regulatory purposes, and during emergency situations. Operation of the engine for maintenance, testing, and required regulatory purposes shall not exceed 50 hours per calendar year. [District Rule 4702 and 17 CCR 93115]
13. An emergency situation is an unscheduled electrical power outage caused by sudden and reasonably unforeseen natural disasters or sudden and reasonably unforeseen events beyond the control of the permittee. [District Rule 4702]
14. This engine shall not be used to produce power for the electrical distribution system, as part of a voluntary utility demand reduction program, or for an interruptible power contract. [District Rule 4702]

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

15. The permittee shall maintain monthly records of emergency and non-emergency operation. Records shall include the number of hours of emergency operation, the date and number of hours of all testing and maintenance operations, the purpose of the operation (for example: load testing, weekly testing, rolling blackout, general area power outage, etc.) and records of operational characteristics monitoring. For units with automated testing systems, the operator may, as an alternative to keeping records of actual operation for testing purposes, maintain a readily accessible written record of the automated testing schedule. [District Rule 4702 and 17 CCR 93115]
16. The permittee shall maintain monthly records of the type of fuel purchased, the amount of fuel purchased, date when the fuel was purchased, signature of the permittee who received the fuel, and signature of the fuel supplier indicating that the fuel was delivered. [17 CCR 93115]
17. If this engine is located on the grounds of a K-12 school, or if this engine is located within 500 feet of the property boundary of a K-12 school, the engine shall not be operated for non-emergency purposes, including maintenance and testing, between 7:30 a.m. and 3:30 p.m. on days when school is in session. [17 CCR 93115]
18. If this engine is located on the grounds of a K-12 school, the engine shall not be operated for non-emergency purposes, including maintenance and testing, whenever there is a school sponsored activity. [17 CCR 93115]
19. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rule 4702 and 17 CCR 93115]

San Joaquin Valley
Air Pollution Control District

PERMIT UNIT: S-848-12-0 **EXPIRATION DATE:** 02/28/2013

EQUIPMENT DESCRIPTION:
10.5 MMBTU/HR NATURAL GAS-FIRED SUPERIOR SEMINOLE MARINE BOILER (MODEL NUMBER 6X-1250-S150-LNDG-145P) WITH INDUSTRIAL COMBUSTION MODEL LNDG-145-P-12 LOW NOX BURNER AND FGR

PERMIT UNIT REQUIREMENTS

1. No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101]
2. If the boiler exhibits visible emissions greater than 1/4 Ringelmann, District-witnessed compliance testing for particulate matter emissions shall be conducted by an independent testing laboratory. [District Rule 4201, District NSR Rule]
3. All combustion equipment (low NOx burner, FGR, etc.) shall be operated and maintained as intended by manufacturer. [District Rule 2201]
4. During normal operation, FGR system shall be utilized at all times when boiler is firing. [District Rules 2201, 4305]
5. Gas burned in this unit shall be Public Utility Commission (PUC) regulated natural gas only. [District Rule 2201]
6. Exhaust gas stack shall be equipped with adequate provisions facilitating the collection of gas samples consistent with EPA Test Methods. [District Rules 1081, 2201]
7. Emission rates shall not exceed any of the following: PM10: 0.0076 lb/MMBtu, NOx (as NO2): 15 ppmv @ 3% O2 or 0.018 lb/MMBtu, VOC: 0.0055 lb/MM Btu, CO: 50 ppmvd @ 3% O2 or 0.037 lb/MMBtu, or SOx 0.0006 lb/MMBtu. [District Rule 2201]
8. Compliance source testing for NOx and CO emission limits shall be conducted within 60 days of startup and not less than once every 12 months, except as provided below. [District Rules 2201 and 4305]
9. Source testing to demonstrate compliance with NOx and CO emission limits shall be conducted not less than once every 36 months if compliance is demonstrated on two consecutive annual tests. [District Rule 4305]
10. If permittee fails any compliance demonstration for NOx and CO emission limits when testing not less than once every 36 months, compliance with NOx and CO emission limits shall be demonstrated not less than once every 12 months. [District Rule 4305]
11. Source test results from an individual unit that is identical to this unit, in terms of rated capacity, operational conditions, fuel used, and control method, as approved by the APCO, will satisfy the NOx and CO source testing requirement. [District Rule 4305]
12. Compliance demonstration (source testing) shall be by District witnessed, or authorized, sample collection by ARB certified testing laboratory. [District Rule 1081]
13. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified 30 days prior to any compliance source test, and a source test plan must be submitted for approval 15 days prior to testing. [District Rule 1081]
14. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081]
15. Compliance source testing shall be conducted under conditions representative of normal operation. [District Rule 2201]

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

16. The following test methods shall be used: NOx (ppmv) - EPA Method 7E or ARB Method 100, NOx (lb/MMBtu) - EPA Method 19, CO (ppmv) - EPA Method 10 or ARB Method 100, and stack gas oxygen - EPA Method 3 or 3A or ARB Method 100. [District Rules 1081 and 4305]
17. The stack concentration of NOx (as NO2), CO, and O2 shall be measured at least on a monthly basis using District approved portable analyzers. [District Rule 4305]
18. If the NOx and/or CO concentrations, as measured by the portable analyzer, exceed the permitted emission limits, the permittee or third party shall notify the District and return the NOx and CO concentrations to the permitted emission limits as soon as possible but no longer than one (1) hour after detection. If the portable analyzer readings continue to exceed the permitted emission limits after (1) hour, the permittee shall conduct a source test within 60 days, of the first exceedance to demonstrate compliance with the permitted emission limits. [District Rule 4305]
19. The permittee shall maintain records of the date and time of NOx, CO, and O2 measurements, the measured NO2 and CO concentrations corrected to 3% O2, and the O2 concentration. The records shall also include a description of any corrective action taken to maintain the emissions in the acceptable range. These records shall be retained at the facility for a period of no less than two years and shall be made readily available for District inspection upon request. [District Rules 1070 and 4305]
20. All records required by this permit shall be retained on the premises for a period of two years and be made available for District inspection upon request. [District Rule 1070]

San Joaquin Valley
Air Pollution Control District

PERMIT UNIT: S-848-13-0 **EXPIRATION DATE:** 02/28/2013

EQUIPMENT DESCRIPTION:
140 ACRE OUTDOOR STORAGE OPERATION FOR EXPANDED POLYSTYRENE PRODUCED ONSITE

PERMIT UNIT REQUIREMENTS

1. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
2. No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101]
3. Permittee shall record the total amount of EPS product stored at the facility, in lbs/month. [District Rule 4682]
4. All records shall be retained for a period of at least 5 years and shall be made available for District inspection upon request. [District Rule 1070]

Appendix B

Sample Natural Gas Usage Records

2005 FUEL

2006 FUEL

Rate Detail Report
Agri-cel Inc
391 Road 192 Delano Ca 93215

MONTH USED	YEAR USED	TARIFF	TOTAL THERMS	TOTAL REVENUE	GNN_ID	BA_ID	TITLE
1	2005	GN-10	30191	21892.19	2539	1908181700	As Used
2	2005	GN-10	36221	25782.83	2539	1908181700	As Used
3	2005	GN-10	43452	29875.13	2539	1908181700	As Used
4	2005	GN-10	43263	34306.69	2539	1908181700	As Used
5	2005	GN-10	41324	33603.66	2539	1908181700	As Used
6	2005	GN-10	66878	47550.91	2539	1908181700	As Used
7	2005	GN-10	69280	54210.01	2539	1908181700	As Used
8	2005	GN-10	67615	50901.9	2539	1908181700	As Used
9	2005	GN-10	44957	43356.03	2539	1908181700	As Used
10	2005	GN-10	39660	45698.14	2539	1908181700	As Used
11	2005	GN-10	683	939.28	2539	1908181700	As Used
12	2005	GN-10	175	239.21	2539	1908181700	As Used
1	2006	GN-10	[illegible]	48820.39	2539	1908181700	As Used
2	2006	GN-10	[illegible]	56921.04	2539	1908181700	As Used
3	2006	GN-10	[illegible]	58591.21	2539	1908181700	As Used
3	2006	GSEL	0	0	2539	1908181700	As Used
4	2006	GN-10	[illegible]	52323.93	2539	1908181700	As Used
5	2006	GN-10	[illegible]	53993.95	2539	1908181700	As Used
6	2006	GN-10	[illegible]	43217.76	2539	1908181700	As Used
7	2006	GN-10	[illegible]	47528.69	2539	1908181700	As Used
8	2006	GN-10	[illegible]	38253.29	2539	1908181700	As Used
9	2006	GN-10	[illegible]	22971.91	2539	1908181700	As Used
10	2006	GN-10	[illegible]	686.49	2539	1908181700	As Used
11	2006	GN-10	[illegible]	107.87	2539	1908181700	As Used
12	2006	GN-10	[illegible]	220.13	2539	1908181700	As Used

Customer Name	Agri-Cal Inc		
Service Address	391 Road 192 Delano CA 93215 9598	**Date** 11/01/2005	**Amount** $44,902.55
Account Number	190-818-1700		
Old Account Number	18-5299-880-314-1		
Billing Period:	**From** 10/01/2005 **To** 11/01/2005	**Therms Used**	39,660

41910

SUMMARY OF BILLING CHARGES:

Description Of Charges		Amount
Customer Charge		15.29
Commodity Charge		45,682.85
State Mandated Charges		1,364.30
TOTAL CURRENT CHARGE	**Past Due If Not Paid By 11/28/05**	**$47,062.44**
PREVIOUS BALANCE		**$0.00**
TOTAL AMOUNT DUE		**$47,062.44**

** FOR QUESTIONS REGARDING THIS BILL, PLEASE CALL SUSANA SANTA MARIA AT (213) 244-4337

** YOUR ACCOUNT EXECUTIVE IS ALWAYS AVAILABLE TO PROVIDE SERVICE AND INFORMATION REGARDING YOUR ENERGY NEEDS. PLEASE CALL AUGUSTIN R PRIETO AT (661) 393-1957

24818
10/12/05

Southern California Gas Company A Sempra Energy utility*

P.O. Box C
Monterey Park, CA 91756
www.socalgas.com

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Appendix C

Sample EPS Bead Receiving and Pentane Content Records

AGRI-CEL, INC.

Material Pentane Levels - 2006

Jan-06				LBS. PENTANE
DATE	LOT NO.	QUANTITY	PENTANE %	TOTAL
1/9/06	BV4-01-1007	7	3.9	601.69
	"	9	3.9	773.60
1/10/06	"	9	3.9	773.60
	"	6	3.9	515.74
	"	4	3.9	343.82
1/12/06	"	5	3.9	429.78
	"	4	3.9	343.82
	BV4-01-1007	9	3.9	773.60
1/13/06	BV4-01-1006	9	3.9	773.60
1/14/06	BV4-01-1006	6	3.9	515.74
	"	4	3.9	343.82
	"	7	3.9	601.69
	"	4	3.9	343.82
1/15/06	BV4-01-1006	3	3.9	257.87
1/16/06	BV4-01-1006	5	3.9	429.78
	"	5	3.9	429.78
	"	7	3.9	601.69
	BV4-01-9969	6	3.9	515.74
1/17/06	BV4-01-9969	8	3.9	687.65
	"	8	3.9	687.65
	"	8	3.9	687.65
1/18/06	BV4-01-1080	7	3.9	601.69
	"	4	3.9	343.82
	"	8	3.9	687.65
1/19/06	BV4-01-1080	7	3.9	601.69
	"	6	3.9	515.74
	"	8	3.9	687.65
	"	2	3.9	171.91
1/20/06	BV4-01-1080	8	3.9	687.65
	"	9	3.9	773.60
1/21/06	BV4-01-1081	8	3.9	687.65
	"	7	3.9	601.69
	"	5	3.9	429.78
1/22/06	BV4-01-1081	7	3.9	601.69
	"	9	3.9	773.60
	"	7	3.9	601.69
1/23/06	BV4-01-1082	8	3.9	687.65
	"	9	3.9	773.60
	"	4	3.9	343.82
1/24/06	BV4-01-1082	5	3.9	429.78
		8	3.9	687.65
1/24/06	BV4-01-1076	7	3.9	601.69
1/25/06	BV4-01-1076	9	3.9	773.60
	"	9	3.9	773.60
	"	9	3.9	773.60
1/26/06	BV4-01-1079	6	3.9	515.74
1/26/06	BV4-01-1076	2	3.9	171.91
	BV4-01-1079	2	3.9	171.91
	"	7	3.9	601.69
1/27/06	BV4-01-1079	8	3.9	687.65
	"	10	3.9	859.56
	BV4-01-1079	9	3.9	773.60
1/28/06	BV4-01-1079	8	3.9	687.65
	"	3	3.9	257.87
1/28/06	BV4-01-1078	8	3.8	670.02

AGRI-CEL, INC.

Material Pentane Levels - 2006

1/29/06	BV4-011078	9	3.8	753.77
	"	8	3.8	670.02
	"	7	3.8	586.26
1/30/06	BV4-01-1077	7	3.8	586.26
	"	9	3.8	753.77
1/30/06	"	6	3.8	502.51
1/31/06	"	6	3.8	502.51
	"	8	3.8	670.02
1/31/06	BV4-01-1077	7	3.8	586.26
MONTH TOTAL		**433**	**249**	37053.65
	Total Pounds	**954,765**		
MONTH PENTANE %			3.88	3.88
Feb-06				**LBS. PENTANE**
DATE	**LOT NO.**	**QUANTITY**	**PENTAINE %**	**TOTAL**
2/1/06	BV4-01-1077	9	3.8	753.77
	"	9	3.8	753.77
2/1/06	"	7	3.8	586.26
2/2/06	BV4-01-1078	3	3.8	251.26
2/2/06	BV4-01-1093	2	3.9	171.91
	"	3	3.9	257.87
	"	9	3.9	773.60
2/3/06	BV4-01-1093	1	3.9	85.96
2/3/06	BV4-01-1094	7	3.9	601.69
	"	7	3.9	601.69
	"	5	3.9	429.78
2/4/06	BV4-01-1094	9	3.9	773.60
	"	7	3.9	601.69
	"	9	3.9	773.60
2/5/06	BV4-01-1094	2	3.9	171.91
2/5/06	BV4-01-1095	5	3.9	429.78
	"	7	3.9	601.69
	"	7	3.9	601.69
2/6/06	BV4-01-1095	9	3.9	773.60
2/6/06	BV4-01-1092	5	3.8	418.76
	"	7	3.8	586.26
2/7/06	BV4-01-1092	8	3.8	670.02
2/7/06	BV4-01-1101	1	3.8	83.75
	"	7	3.8	586.26
	"	8	3.8	670.02
2/8/06	BV4-01-1101	9	3.8	753.77
	"	6	3.8	502.51
	"	6	3.8	502.51
2/9/06	BV4-01-1101	8	3.8	670.02
2/9/06	BV4-01-1100	9	3.9	773.60
2/10/06	BV4-01-1100	6	3.9	515.74
	"	7	3.9	601.69
	"	10	3.9	859.56
2/11/06	BV4-01-1105	8	3.8	670.02
	"	8	3.8	670.02
	"	5	3.8	418.76
2/12/06	BV4-01-1105	7	3.8	586.26
	"	2	3.8	167.50
	BV4-01-1082	6	3.9	515.74
	"	9	3.9	773.60
2/13/06	BV401-1082	4	3.9	343.82

AGRI-CEL, INC.

Material Pentane Levels - 2006

2/13/06	BV4-01-1091	4	3.8	335.01
		7	3.8	586.26
	"	6	3.8	502.51
2/13/06	BV4-01-1093	2	3.9	171.91
2/14/06	BV4-01-1093	9	3.9	773.60
	"	7	3.9	601.69
	"	4	3.9	343.82
2/14/06	BV4-01-1102	2	3.9	171.91
2/15/06	BV4-01-1102	6	3.9	515.74
	"	8	3.9	687.65
	"	8	3.9	687.65
2/16/06	BV4-01-1102	9	3.9	773.60
	"	8	3.9	687.65
	"	5	3.9	429.78
2/17/06	BV4-01-1102	8	3.9	687.65
	"	8	3.9	687.65
2/17/06	BV4-01-1127	1	3.8	83.75
	"	6	3.8	502.51
2/18/06	BV4-01-1127	8	3.8	670.02
		7	3.8	586.26
	"	9	3.8	753.77
2/19/06	BV4-01-1127	7	3.8	586.26
	"	8	3.8	670.02
2/19/06	BV4-01-1106	8	3.8	670.02
2/20/06	"	7	3.8	586.26
	"	5	3.8	418.76
		5	3.8	418.76
2/21/06	BV4-01-1106	8	3.8	670.02
	"	1	3.8	83.75
	BV4-01-1105	6	3.8	502.51
	"	8	3.8	670.02
2/22/06	"	6	3.8	502.51
	BV4-01-1106	2	3.8	167.50
	"	8	3.8	670.02
		5	3.8	418.76
2/22/06	BV4-01-1104	2	3.8	167.50
2/23/06	BV4-01-1104	1	3.8	83.75
	BV4-01-1106	1	3.8	83.75
	BV4-01-1103	3	3.9	257.87
	BV4-01-1127	3	3.8	251.26
	BV4-01-1124	5	3.8	418.76
	"	6	3.8	502.51
2/24/06	"	7	3.8	586.26
	"	6	3.8	502.51
	"	7	3.8	586.26
2/25/06	BV4-01-1127	8	3.8	670.02
	"	7	3.8	586.26
	"	6	3.8	502.51
2/26/06	BV4-01-1128	8	3.8	670.02
	"	7	3.8	586.26
	"	7	3.8	586.26
2/27/06	BV4-01-1128	7	3.8	586.26
	"	8	3.8	670.02
	"	3	3.8	251.26
	BV4-01-1129	4	3.8	335.01
2/28/06	BV4-01-1129	8	3.8	670.02
	"	6	3.8	502.51

AGRI-CEL, INC.

Material Pentane Levels - 2006

	"	7	3.8	586.26
MONTH TOTAL		**606**	**264.2**	51254.02
	Total Pounds	**1,336,230**		
MONTH PENTANE %			2.67	3.84
Mar-05				**LBS. PENTANE**
DATE	**LOT NO.**	**QUANTITY**	**PENTAINE %**	**TOTAL**
3/1/06	BV4-01-1129	7	3.8	586.26
	"	7	3.8	586.26
	"	9	3.8	753.77
3/2/06	"	7	3.8	586.26
	"	8	3.8	670.02
3/2/06	BV4-01-1126	5	3.9	429.78
3/3/06	"	5	3.9	429.78
3/3/06	BV4-01-1130	1	3.9	85.96
3/3/06	BV4-01-1126	2	3.9	171.91
	BV4-01-1130	6	3.9	515.74
	"	9	3.9	773.60
3/4/06	"	8	3.9	687.65
	"	7	3.9	601.69
	"	6	3.9	515.74
	"	1	3.9	85.96
3/5/06	BV4-01-1136	8	4.0	705.28
	"	7	4.0	617.12
	"	7	4.0	617.12
3/6/06	BV4-01-1136	6	4.0	528.96
	"	8	4.0	705.28
	"	7	4.0	617.12
3/7/06	BV4-01-1136	9	4.0	793.44
	"	7	4.0	617.12
		8	4.0	705.28
3/8/06	BV4-01-1137	7	3.9	601.69
	"	7	3.9	601.69
	"	8	3.9	687.65
3/9/06	BV4-01-1137	7	3.9	601.69
	"	8	3.9	687.65
	"	7	3.9	601.69
3/10/06	"	6	3.9	515.74
	"	7	3.9	601.69
3/10/06	BV4-01-1138	8	3.9	687.65
3/11/06	"	8	3.9	687.65
	"	8	3.9	687.65
	"	8	3.9	687.65
3/12/06	"	7	3.9	601.69
	"	8	3.9	687.65
	"	7	3.9	601.69
	"	8	3.9	687.65
3/13/06	"	2	3.9	171.91
3/13/06	BV4-01-1139	6	3.8	502.51
	"	8	3.8	670.02
	"	6	3.8	502.51
3/14/06	"	8	3.8	670.02
	"	8	3.8	670.02
	"	6	3.8	502.51
3/15/06	"	8	3.8	670.02
	"	7	3.8	586.26

AGRI-CEL, INC.

Material Pentane Levels - 2006

	BV4-01 1140	8	3.8	670.02
3/16/06	"	7	3.8	586.26
	"	8	3.8	670.02
	"	8	3.8	670.02
3/17/06	"	7	3.8	586.26
	"	0	3.8	0.00
	"	7	3.8	586.26
3/18/06	"	4	3.8	335.01
	BV4-01-1141	3	3.9	257.87
	"	8	3.9	687.65
	"	7	3.9	601.69
3/19/06	"	8	3.9	687.65
	"	7	3.9	601.69
	"	5	3.9	429.78
3/20/06	"	8	3.9	687.65
	"	6	3.9	515.74
	"	8	3.9	687.65
3/21/06	BV4-01-1142	8	3.9	687.65
	"	7	3.9	601.69
	"	7	3.9	601.69
3/22/06	"	7	3.9	601.69
	"	4	3.9	343.82
	"	3	3.9	257.87
	BV4-01-1142	8	3.9	687.65
3/23/06	"	7	3.9	601.69
	"	7	3.9	601.69
	"	8	3.9	687.65
	BV4-01-1143	6	3.8	502.51
3/24/06	"	7	3.8	586.26
	"	8	3.8	670.02
	"	8	3.8	670.02
3/25/06	BV4-01-1143	8	3.8	670.02
	"	8	3.8	670.02
	"	7	3.8	586.26
	BV4-01-1107	1	3.9	85.96
3/26/06	"	7	3.9	601.69
	BV4-01-1125	7	3.8	586.26
	"	7	3.8	586.26
3/27/06	"	8	3.8	670.02
	"	7	3.8	586.26
	BV4-01-1153	4	3.9	343.82
	BV4-01-1125	4	3.8	335.01
3/28/06	BV4-01-1153	7	3.9	601.69
	shut down	0		0.00
3/29/06	BV4-01-1153	8	3.9	687.65
3/30/06	"	8	3.9	687.65
	"	8	3.9	687.65
	"	7	3.9	601.69
3/31/06	"	8	3.9	687.65
	"	7	3.9	601.69
	BV4-01-1154	1	3.9	85.96
	BV4-01-1153	4	3.9	343.82
	BV4-01-1154	3	3.9	257.87
MONTH TOTAL		**666**	**391.5**	56889.65
	Total Pounds	**1,468,530**	3.9	
MONTH PENTANE %			3.84	3.87
		Quarterly %	3.46	37.40

Appendix D

Source Test Results for Dixon Boiler

Agri-Cel Inc.
Dixon
Delano
30 MMBtu/hr
Permit Number: S-848-9-2
September 7, 2005

EMISSION CONSTITUENT	Averages	Limit
Oxides of Nitrogen		
NOx, ppm	**6.7**	
NOx, ppm @ 3% O2	**9.3**	15.0
NOx, lbs/MMBtu	**0.011**	0.018
Carbon Monoxide		
CO, ppm	**-0.7**	
CO, ppm @ 3% O2	**-1.0**	100.0
CO, lbs/MMBtu	**-0.001**	0.074
Oxygen %	**8.1**	

AEROS ENVIRONMENTAL, INC.

Summary Of Results

AGRI-CELL, Incorporated
Delano Facility
Dixon Boiler

Project 011-5065
August 17, 2006
Permit No. S-848-9-2

Pollutant	ppm	ppm @ 3% O_2	ppm @ 15% O_2	lb/MMBtu	Permit Limits
	4.8	6.9	2.3	0.0082	
NOx	3.6	5.3	1.7	0.0063	
	3.7	5.4	1.8	0.0065	
Mean	**4.0**	**5.9**	**1.9**	**0.0070**	**15 ppm @ 3% O_2**
	0.0	0.0	0.0	0.0000	
CO	0.0	0.0	0.0	0.0000	
	0.0	0.0	0.0	0.0000	
Mean	**0.0**	**0.0**	**0.0**	**0.0000**	**100 ppm @ 3% O_2**

Comments:

Appendix E

Source Test Results for Superior Seminole Boiler

AEROS ENVIRONMENTAL, INC.

Summary Of Results

AGRI-CELL, Incorporated
Delano Facility
Superior Seminole Boiler

Project 011-5065
August 17, 2006
Permit No. S-848-12-0

Pollutant	ppm	ppm @ 3% O_2	ppm @ 15% O_2	lb/MMBtu	Permit Limits
	13.7	13.6	4.5	0.0163	
NOx	14.3	14.6	4.8	0.0176	15 ppm @ 3% O_2
	14.6	15.0	4.9	0.0180	or
Mean	**14.2**	**14.4**	**4.7**	**0.0173**	**0.018 lb/MMBtu**
	3.3	3.3	1.1	0.0024	
CO	0.0	0.0	0.0	0.0000	50 ppm @ 3% O_2
	0.0	0.0	0.0	0.0000	or
Mean	**1.1**	**1.1**	**0.4**	**0.0008**	**0.037 lb/MMBtu**

Comments:

Appendix F

Source Test Results for Retox Thermal Oxidizer

AEROS ENVIRONMENTAL, INC.

Summary Of Results

AGRI-CEL, Incorporated
Delano Facility
RETOX 4.0 Thermal Oxidizer
Inlet and Outlet

Project 011-4504
July 7, 2005
Permit No. S-848-2-9

Pollutant	ppm	lb/hr	Permit Limits
	31.3	0.170	
Outlet	13.9	0.076	
C_3-C_{6+} as methane	9.3	0.051	
Mean	**18.2**	**0.099**	
	3337	17.3	
Inlet	3743	19.6	
C_3-C_{6+} as methane	3618	19.5	
Mean	**3566**	**18.8**	
		99.0	
% Removal		99.6	
Effeciency		99.7	
Mean		**99.4**	**95% Removal Efficiency**
Comments:			

AEROS ENVIRONMENTAL, INC.

Summary Of Results

AGRI-CEL, Incorporated
Delano Facility
Thermal Oxidizer
Inlet and Outlet

Project 011-4933
June 2, 2006
Permit No. S-848-2-9

Pollutant	ppm	lb/hr	Permit Limits
	30.1	0.159	
Outlet	65.8	0.346	
C_3-C_{6+} as methane	66.6	0.353	
Mean	**54.2**	**0.286**	
	5971	28.724	
Inlet	6411	31.625	
C_3-C_{6+} as methane	6203	29.081	
Mean	**6195**	**29.810**	
		99.4	
% Removal		98.9	
Effeciency		98.8	
Mean		**99.0**	**95% Removal Efficiency**

Comments:

Agri-Cel, Inc.
Facility Number: S-848
Project Number: S-1100008

Appendix G

2006 Source Test Protocol and Results for Release of Pentane (VOC Drop) During Manufacturing Processes

Source Test Report

for
Agri-Cel, Inc.
391 Road 192
Delano, CA 93216

In Support of Permits:

S-848-2-12
S-848-3-11
S-848-4-10
S-848-6-9
S-848-7-8
S-848-8-10

Submitted to:

San Joaquin Valley Air Pollution Control District
2700 M Street, Suite 275
Bakersfield, CA 93301-2370

Prepared by:

Eric Winegar, PhD
Applied Measurement Science
4764 Concord Drive
Fair Oaks, CA 95628

November 21, 2006
(Revision)

INTRODUCTION

The purpose of this report is to present the procedures and methods that were used to quantify the volatile organic emissions from the manufacturing processes at Agri-Cel, Inc., following the requirements set forth in six operating permits.

PERMITS

Plant #1:

S-848-2: pre-expander
S-848-3: aging silos
S-848-4: molding press

Plant #2:

S-848-6: pre-expander
S-848-7: aging silos
S-848-8: molding press

FACILITY

The Agri-Cel, Inc. facility is located at:

Agri-Cel, Inc.
391 Road 192
Delano, CA 92316

The facility contact is Bruce Carter, General Manager.
Phone: 661.725.1911,
Email: bruce_carter@agri-cel.com.

DESCRIPTION OF OPERATION

Agri-Cel, Inc. produces expanded polystyrene (EPS) boxes for use in packaging, shipping, and storage of fresh grapes of all varieties.

A detailed description of the process from the bead supplier, Nova Chemical, is contained in Appendix A. A summary of the process is listed below:

1. During their manufacture, raw polystyrene beads (~1 mm in diameter) of pentane as the expansion agent) are infused with n-pentane, on the order of 3.9% w/w%. This pentane content is certified by the manufacturer, Nova Chemical. Less than 1 percent of the n-pentane content is other isomers of pentane.
2. Beads are stored in sealed containers, thus limiting the losses during shipment and transport. Pentane content is assumed to remain at initial amount.

3. Beads are dumped from containers into a receiving hopper that transports them to the pre-expander.
4. Using steam, the pre-expander heats the beads rapidly, causing the pentane to vaporize (B.P. = 36.1 ºC/96.8 ºF) and expand. This expansion causes the polystyrene bead to expand from the initial size of approximately 1 mm in diameter to 4-5 mm in diameter. The beads are then dried in a fluid bed dryer and separated on a shaker table (Swaco). The pre-expander process is vented to the thermal oxidizer. The pre-expander process does not operate during the period from noon to 6 PM. All other processes are operated continuously, 24-hours per day.
5. The expanded beads are swept away from the pre-expander into several storage silos where they are aged in preparation for molding. The storage time varies depending on process conditions, from several hours up to a day. There are 12 silos in three separate enclosures of 4 silos each. Each of the enclosures is vented to the thermal oxidizer.
6. The aged expanded beads are then transported to secondary aging bins, immediately prior to being moved to the molding press line.
7. The final step in the process is molding, where portions of expanded beads are injected into molds, heated with steam, and molded into either box tops or box bottoms. The finished box part is then ejected onto a conveyor belt that brings it down to final assembly and packaging. The mold apparatus is vented through a vacuum line that is piped to the thermal oxidizer.

There are two plants with identical processes and equipment. During the test, only Plant #2 was in operation. The permits cite that either plant can be tested to determine the emissions, so only Plant #2 was tested.

TEST APPROACH SUMMARY

As outlined in the permits, the test approach consisted of the collection of bead samples at four points throughout the process. The bead samples were collected into sealed and refrigerated vials to ensure that no pentane is lost.

Description of the sampling points:

Bag = Sampled from inside the storage bags, at a depth of greater than 12 inches from the opening.

P/X = Sampled from the outlet of the storage bag as the beads are dropped into the feed tube leading to the pre-expander.

SWACO = At the exit point from the pre-expander. The beads are ejected from the cooling chamber and dropped into the vibrating table. The sample is collected at the point where the beads are dropped into the vibration table.

Airvey: The Airvey is the fabric funnel/nozzle that collects the beads that had been stored and aged in the silos, and directs them into points along the press line. It is a fabric nozzle/funnel approximately 5 feet tall with a zippered access point at the bottom, most narrow section. The samples were collected by opening the zipper and allowing beads that had accumulated at the zipper area to drop out, leaving fresh beads from the silo to then be sampled.

PRESS-LINE: This location consists of taking a freshly pressed box off the final process line and cutting small fragments that are put into the sample collection bottles.

The bead samples were analyzed using South Coast Air Quality Management District Method 306-91 in which a known aliquot of beads is dissolved in toluene and analyzed by gas chromatography with flame ionization detection to yield the pentane content.

The laboratory was Environmental Analytical Service (EAS) in San Luis Obispo. EAS is a well-respected air laboratory that has been in business for more than 20 years.

The VOC emissions for the various points were calculated as VOC drop, which is the difference between the pentane content at various points in the process. The VOC drop scheme originated from an analysis of previous test results conducted 13 years ago. The VOC drop process was incorporated into the permits based on the analysis by Brian Clements of SJVAPCD.

Figure 1 shows a schematic of this test approach.

The points labeled P1 to P4 are the test points.

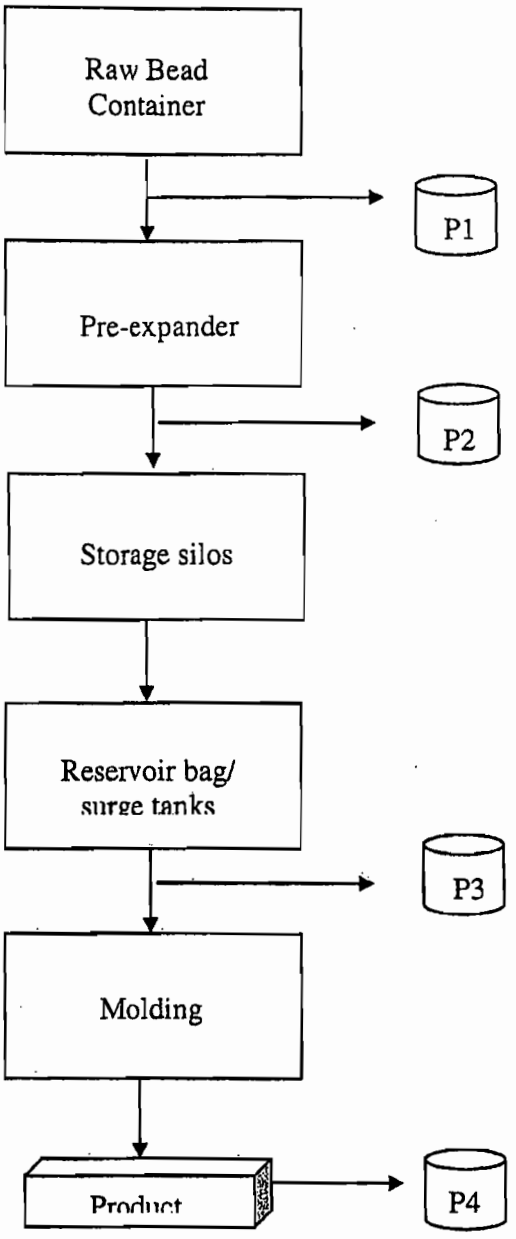

Figure 1. Process Diagram with Test Points

The process points are listed as P1-P4:

- P1—raw beads, or beads as they are being dumped into the hopper that serves the pre-expander. The beads were sampled from two locations to examine the raw beads. The first location was from the bags that had been placed in the stand that feeds the auger that carries the beads up from the bag stand to the pre—expander. The pre-expander has an open top holding bed that regulates the supply of bead to the pre-expander. The second location was from bags of raw beads that were standing in the plant waiting to be put into the hopper. The data from the two locations were indistinguishable.

- P2-after the pre-expander. This is called the Swaco. The beads are now approximately 2-3 mm in diameter and are immediately transferred to the silos for aging.

- P3-after the silo storage . Called pre-puff, the expanded beads are stored for several hours to age them prior to moving to the next step in the process. The pre-puff is stored in three two-story tall enclosures (called silos) each lined with four fabric bags. The storage period is approximately 8-20 hours.

- P4-the finished product. The final product is produced by injecting the aged pre-puff into a mold, injecting steam. The finished boxes are then stacked for shipment.

VOC DROP

The quantification of emissions from this process relies on the concept of the VOC drop. This concept follows the process and suggests that because of the physical nature of the process and the volatility of the expansion agent, there is necessarily a loss of VOC (pentane) throughout each step in the process. There are basically three major steps in the process (expansion, storage, and molding), so there must be four points to establish starting and ending points of reference.

P1: Raw Bead followed by Pre-expansion. This point establishes the starting point for VOC loss in the process. The pre-expansion process exposes the beads to steam and therefore as a pre-requisite of the expansion, must release pentane.

P2: Swaco followed by Silo Storage. The silo storage consists of relatively mild conditions where the warm pre-puff cool and age. VOCs are lost naturally, based on the initial above-ambient temperature as well as the vapor pressure of pentane at various temperatures (424 mm at 20°C; 615 mm at 30°C)

P3: Silo Storage followed by molding.

P4: Molding. The molding process consists of using steam to soften the pre-puff and to assist in the molding process. This heat encourages further volatilization of pentane.

Because of the nature of these processes, each of these process points must have a lower pentane content than the previous point, and the VOC drop calculation must be a positive value. Table 1 summarizes the previous discussion.

Table 1. Process Points, VOC Drop Calculation, and Emission Limits

Process Points		VOC Drop Calculation	Emission Limit (lb-VOC/lb-EPS)
P1--rec. hopper	P2--after p/x	P1-P2	0.013
P2--after p/x	P3--after silos	P2-P3	0.007
P3--after silos	P4--after molding	P3-P4	0.004

RESULTS FROM APRIL, 2006 TEST

Summary of Field Testing Conducted

A total of 39 samples were collected between on April 3 and 4, 2006. All samples were collected in triplicate, per the protocol (Appendix A). In addition, following a recalculation of the laboratory results after an initial reporting, a confirmatory partial re-test was conducted on April 26, 2006. The re-test was partial in regards to the protocol. These data are included in this report for reference. Following collection, the samples were submitted (shipped cold with blue ice) to EAS. Chain of custody records are included in Appendix C, Laboratory Reports.

Summary of Laboratory Analysis Conducted

The samples were analyzed for pentane and pentane isomers using Method SCAQMD 306-91, included in Appendix B. Only pentane was detected. Two sets of replicate analyses were performed with RSD of 3.6% and 3.4%. All the blanks, both field (3) and laboratory (4) were non-detect for pentane.

Following review of the initial test results, the final concentrations were re-calculated because the original data were reported based on an incorrect value for the density of n-pentane. See the discussion submitted by the laboratory director relating to this process in Appendix D. Both the original and corrected data are reported for completeness. However, only the corrected results were used in the final emissions calculations.

Figure 1 shows the calibration line used in the calculation of results, taken from Appendix D. The response factors used in the calculations are also included in Appendix D. All raw laboratory data sheets, including calculations and log books for preparation of standards, are included in Appendix D.

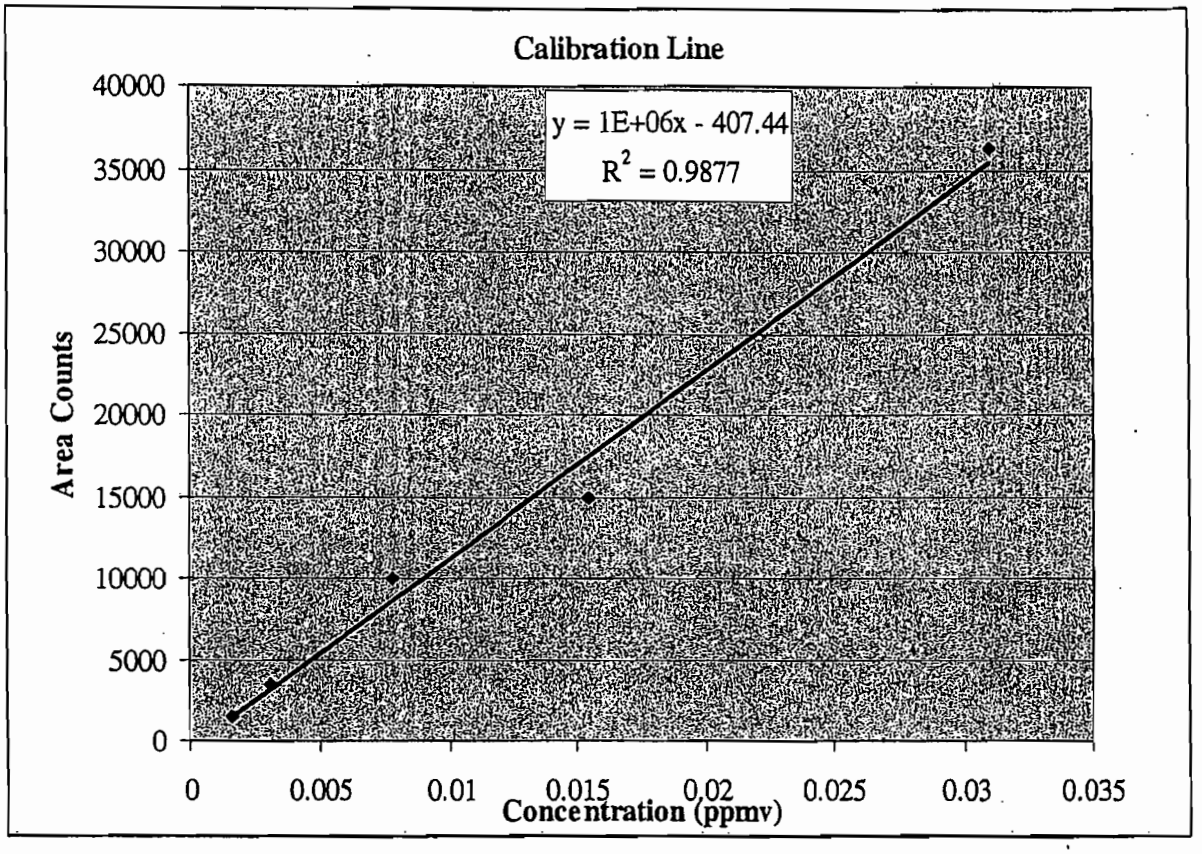

Figure 1. Laboratory Calibration Line

Tables 2a, 2b, and 2c contain the detailed results. Table 2a includes the original results, Table 2b contains the re-calculated results, and Table 2c contains the re-test results.

Table 2a. Detailed Data—Original Calculations

Date/Time	Location	Sample Number	Results (w/w%)	Average (w/w%)	RSD** (%)	P1 (w/w%)	P2 (w/w%)	P3 (w/w%)	P4 (w/w%)
4/3/06	P/X	0601	3.768	3.665	5.5%	3.665			
4/3/06	P/X	0602	3.792						
4/3/06	P/X	0603	3.434						
4/3/06	SWACO	0604	3.105	2.905	13.6%		2.905		
4/3/06	SWACO	0605	3.159						
4/3/06	SWACO	0606	2.45						
4/3/06	Silo/Airvey	0607	3.001	2.751	7.9%			2.751	
4/3/06	Silo/Airvey	0608	2.724/2.537*						
4/3/06	Silo/Airvey	0609	2.62						
4/3/06	Press line	0610	1.876	2.220	15.8%				2.220
4/3/06	Press line	0611	2.206						
4/3/06	Press line	0612	2.577						
4/4/06	P/X	0613	3.676/3.937*	4.012	6.1%	4.012			
4/4/06	P/X	0614	3.944						
4/4/06	P/X	0615	4.285						
4/4/06	SWACO	0616	3.473	3.526	1.4%		3.526		
4/4/06	SWACO	0617	3.53						
4/4/06	SWACO	0618	3.574						
4/4/06	Silo/Airvey	0619	3.377	3.213	5.9%			3.213	
4/4/06	Silo/Airvey	0620	3.006						
4/4/06	Silo/Airvey	0621	3.255						
4/4/06	Press line	0622	2.628	2.802	5.4%				2.802
4/4/06	Press line	0623	2.867						
4/4/06	Press line	0624	2.912						
4/4/06	P/X	0625	3.894	3.822	2.8%	3.822			
4/4/06	P/X	0626	3.701						
4/4/06	P/X	0627	3.871						
4/4/06	SWACO	0628	3.495	3.439	2.1%		3.439		
4/4/06	SWACO	0629	3.359						
4/4/06	SWACO	0630	3.462						
4/4/06	Silo/Airvey	0631	2.933	2.955	1.6%			2.955	
4/4/06	Silo/Airvey	0632	2.924						
4/4/06	Silo/Airvey	0633	3.009						
4/4/06	Press line	0634	2.478	2.477	1.6%				2.478
4/4/06	Press line	0635	2.437						
4/4/06	Press line	0636	2.516						
4/4/06	Blank	0637	ND***						
4/4/06	Blank	0638	ND***						
4/4/06	Blank	0639	ND***						

All results are reported in weight percent (w/w%)
*Duplicate pair
**RSD means Relative Standard Deviation
***ND means Non-detect

Table 2b. Detailed Data—Corrected

Date/Time	Location	Sample Number	Results (w/w%)	Average (w/w%)	RSD** (%)	P1 (w/w%)	P2 (w/w%)	P3 (w/w%)	P4 (w/w%)
4/3/06	P/X	0601	3.039	2.956	5.5%	2.956			
4/3/06	P/X	0602	3.059						
4/3/06	P/X	0603	2.770						
4/3/06	SWACO	0604	2.504	2.343	13.6%		2.343		
4/3/06	SWACO	0605	2.548						
4/3/06	SWACO	0606	1.976						
4/3/06	Silo/Airvey	0607	2.421	2.219	7.9%			2.219	
4/3/06	Silo/Airvey	0608	2.122						
4/3/06	Silo/Airvey	0609	2.113						
4/3/06	Press line	0610	1.513	1.790	15.8%				1.790
4/3/06	Press line	0611	1.779						
4/3/06	Press line	0612	2.079						
4/4/06	P/X	0613	3.070	3.236	6.1%	3.236			
4/4/06	P/X	0614	3.181						
4/4/06	P/X	0615	3.456						
4/4/06	SWACO	0616	2.801	2.844	1.4%		2.844		
4/4/06	SWACO	0617	2.847						
4/4/06	SWACO	0618	2.883						
4/4/06	Silo/Airvey	0619	2.724	2.591	5.9%			2.591	
4/4/06	Silo/Airvey	0620	2.425						
4/4/06	Silo/Airvey	0621	2.625						
4/4/06	Press line	0622	2.120	2.260	5.4%				2.260
4/4/06	Press line	0623	2.313						
4/4/06	Press line	0624	2.349						
4/4/06	P/X	0625	3.141	3.083	2.8%	3.083			
4/4/06	P/X	0626	2.985						
4/4/06	P/X	0627	3.122						
4/4/06	SWACO	0628	2.819	2.774	2.1%		2.774		
4/4/06	SWACO	0629	2.709						
4/4/06	SWACO	0630	2.792						
4/4/06	Silo/Airvey	0631	2.366	2.384	1.6%			2.384	
4/4/06	Silo/Airvey	0632	2.358						
4/4/06	Silo/Airvey	0633	2.427						
4/4/06	Press line	0634	1.999	1.998	1.6%				1.999
4/4/06	Press line	0635	1.966						
4/4/06	Press line	0636	2.029						
4/4/06	Blank	0637	ND***						
4/4/06	Blank	0638	ND***						
4/4/06	Blank	0639	ND***						

All results are reported in weight percent (w/w%)
*Duplicate pair
**RSD means Relative Standard Deviation
***ND means Non-detect

Table 2c. Detailed Data—Re-Test

Date/Time	Location	Sample Number	Results (w/w %)	Average (w/w %)	RSD** (%)	P1 (w/w %)	P2 (w/w %)	P3 (w/w %)	P4 (w/w %)
4/26/2006	P/X	06-201	3.571	3.614	1.5%	3.614			
4/26/2006	P/X	06-202	3.598						
4/26/2006	P/X	06-203	3.673						
4/26/2006	SWACO	06-204	3.47	3.639	4.0%		3.639		
4/26/2006	SWACO	06-205	3.721						
4/26/2006	SWACO	06-206	3.725						
4/26/2006	Silo/Airvey	06-207	3.264	3.297	0.9%			3.297	
4/26/2006	Silo/Airvey	06-208	3.315						
4/26/2006	Silo/Airvey	06-209	3.312						
4/26/2006	Press line	06-210	2.882	3.192	11.9%				3.192
4/26/2006	Press line	06-211	3.078						
4/26/2006	Press line	06-212	3.615						

All results are reported in weight percent (w/w%)
*Duplicate pair
**RSD means Relative Standard Deviation

Table 3 shows the averages from the corrected values.

Table 3 Averages at Emission Points
(All values are pentane w/w%)

Test	Location	P1	P2	P3	P4
Run 1	P/X	2.956			
	SWACO		2.343		
	Silo/Airvey			2.219	
	Press line				1.790
Run 2	P/X	3.236			
	SWACO		2.844		
	Silo/Airvey			2.591	
	Press line				2.260
Run 3	P/X	3.083			
	SWACO		2.774		
	Silo/Airvey			2.384	
	Press line				1.999

Table 4 contains a summary of the calculated emission point results. It also shows the relative standard deviation (RSD) of the test results, which were all under 12%, indicating excellent sampling and analysis precision.

Table 4. Summary of Results
(pentane conc. w/w%)

	P1	P2	P3	P4
Avg	3.092	2.653	2.398	2.017
RSD	4.5%	10.2%	7.8%	11.7%

Table 5 shows the final calculation of the VOC drop, demonstrating compliance with the emission limits for each emission point. The values are reported to two significant figures so that the difference between each amount can be more easily seen.

Table 5. Emission Calculations
(lb-VOC/lb-EPS)

VOC Drop	Limit	Test Results	Emission Limit Conformity
P1-P2	0.013	0.0044	Yes
P2-P3	0.007	0.0026	Yes
P3-P4	0.004	0.0038	Yes

These data demonstrate compliance with the emission limits as specified in the above-referenced operating permits.

CONCLUSIONS

The data presented in Table 5 show that the processes tested per the specified methods demonstrated compliance with emission limits as cited in the applicable permits.

Appendix A

Source Test Protocol

Source Test Protocol

For

Agri-Cel, Inc.
391 Road 192
Delano, CA 93216

In Support of Permits:

S-848-2-12
S-848-3-11
S-848-4-10
S-848-6-9
S-848-7-8
S-848-8-10

Submitted to:

Glenn Slitor
San Joaquin Valley Air Pollution Control District
2700 M Street, Suite 275
Bakersfield, CA 93301-2370

Prepared by:

Eric Winegar, PhD
Applied Measurement Science
4764 Concord Drive
Fair Oaks, CA 95628

March 14, 2006

Introduction

The purpose of this document is to present the procedures and methods that will be used to quantify the volatile organic emissions from the manufacturing processes at Agri-Cel, Inc., following the requirements set forth in six permits.

Facility

The Agri-Cel, Inc. facility is located at:

Agri-Cel, Inc.
391 Road 192
Delano, CA 92316

The facility contact is: Bruce Carter, General Manager.
Phone: 661.725.1911,
Email: bruce_carter@agri-cel.com.

Permits

The relevant permits are:

Plant #1:

S-848-2:	pre-expander
S-848-3:	aging silos
S-848-4:	molding press

Plant #2:

S-848-6:	pre-expander
S-848-7:	aging silos
S-848-8:	molding press

Description of Operation

Agri-Cel, Inc. produces expanded polystyrene (EPS) boxes for use in packaging, shipping, and storage of fresh grapes of all varieties. The process entails the following steps:

8. During their manufacture, polystyrene beads are infused with n-pentane, on the order of 3.9% w/w%. This pentane content is certified by the manufacturer, Nova Chemical. Less than 1 percent of the n-pentane content is other isomers of pentane.
9. Beads are stored in sealed containers, thus limiting the losses during shipment and transport. Pentane content is assumed to remain at initial amount.

10. Beads are dumped from containers into a receiving hopper that transports them to the pre-expander.
11. Using steam, the pre-expander heats the beads rapidly, causing the pentane to vaporize (B.P. = 36.1 ºC/96.8 ºF) and expand. This expansion causes the polystyrene bead to expand from the initial size of approximately 1 mm in diameter to 4-5 mm in diameter. The beads are then dried in a fluid bed dryer and separated on a shaker table (Swaco). The pre-expander process is vented to the thermal oxidizer. The pre-expander process does not operate during the period from noon to 6 PM. All other processes are operated continuously, 24-hours per day.
12. The expanded beads are swept away from the pre-expander into several storage silos where they are aged in preparation for molding. The storage time varies depending on process conditions, from several hours up to a day. There are 12 silos in three separate enclosures of 4 silos each. Each of the enclosures is vented to the thermal oxidizer.
13. The aged expanded beads are then transported to secondary aging bins, immediately prior to being moved to the molding press line.
14. The final step in the process is molding, where portions of expanded beads are injected into molds, heated with steam, and molded into either box tops or box bottoms. The finished box part is then ejected onto a conveyor belt that brings it down to final assembly and packaging. The mold apparatus is vented through a vacuum line that is piped to the thermal oxidizer.

There are two plants with identical processes and equipment. The permits cite that either plant can be tested to determine the emissions; only Plant #1 will be tested.

Test Approach Summary

As outlined in the test permits, the test approach will consist of the collection of bead samples at four points throughout the process. The bead samples are collected into sealed and refrigerated vials to ensure that no pentane is lost.

The bead samples will be analyzed using South Coast Air Quality Management District Method 306-91 in which a known aliquot of beads is dissolved in toluene and analyzed by gas chromatography with flame ionization detection to yield the pentane content.

The VOC emissions for the various points are calculated as VOC drop, which is the difference between the pentane content at various points in the process.

Figure 1 shows a schematic of this test approach.

The points labeled P1 to P4 are the test points.

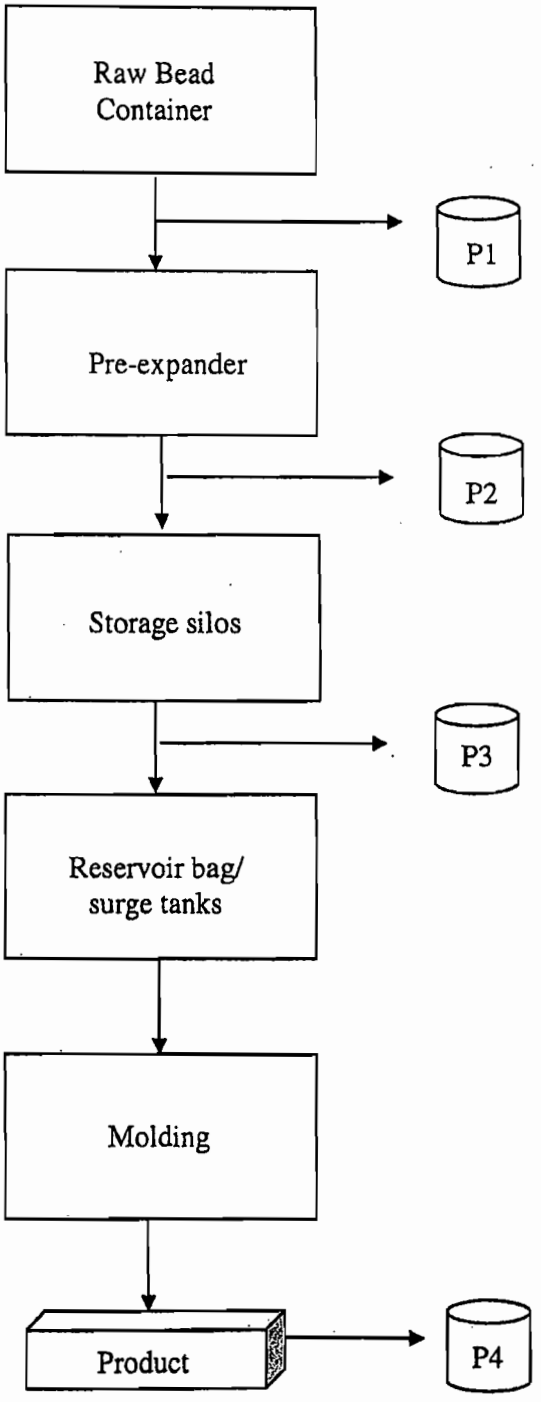

Figure 1. Process Diagram with Test Points

Table 1 contains a summary of the test approach. In this approach, bead samples will be collected in three eight-hour periods over 24-hours. During each of these periods, a set of triplicate samples will be collected at the various process points. Blank samples will be collected for quality assurance.

Table 1. Test Scheme

Samples				
	Every 8 hours for 24 hours			
	Period			
Site	1	2	3	Total
P1-hopper	3	3	3	9
P2-P/X	3	3	3	9
P3-Silos	3	3	3	9
P4-Line	3	3	3	9
Blanks				4
QA (lab reps)				4

The total number of samples is 43.

The previous test program included samples once every 6 hours, collected in triplicate as well. Due to the high degree of precision of that test, it was concluded that the test process is sufficiently precise to all fewer data points while maintaining adequate overall data quality.

The test precision is represented in the following table:

Table 2. 2005 Test Precision

2005 Avg.	Std Dev.	RSD	n
3.596	0.265	7.4%	15
2.81	0.143	5.1%	14
2.23	0.140	6.3%	10
1.90	0.142	7.5%	14

Avg = Average
Std Dev = Standard Deviation
RSD = Relative Standard Deviation
n = number of samples

These data show that each of the test location had a single-digit precision for sample collection and analysis. This level of precision suggests a stable process and a representative sampling procedure. Therefore, it is concluded that fewer samples would still maintain sufficient number and quality of data for a correct calculation of emissions.

In addition, the procedure for sample collection at point P3 will be performed as determined in the re-testing conducted following the initial test in 2005. The re-test indicated that the sampling location at point P3 was satisfactory, but that the purging of overly aged expanded beads was inadequate. Therefore, care will be taken to ensure that freshly aged beads are sampled from deep inside the bead stream. The re-test indicated that with the correct refined sampling procedures, the precision was similar to that of the other locations.

Analysis Method

The sampled beads will be analyzed by using South Coast Air Quality Management District Method 306-91. This method specifies the following summary of procedures:

- Collection of aliquots of beads into tared vials that are crimp-sealed and refrigerated to avoid losses;
- Dissolution of the beads into toluene;
- Analysis by gas chromatography with flame ionization detection;
- Multipoint calibration using a prepared pentane standard; and
- Use of hexane as an internal standard in quantitation.

The full method is appended to this test plan.

This method is not approved by CARB nor the San Joaquin Valley APCD. However, it has been in use by SCAQMD for many years and is one of their approved methods.

Reporting

A test report will be prepared that presents the relevant information on test, following SJVAPCD guidance. This report will be submitted within 60 days of the test, as required by District regulations. Table 3 lists the permit conditions and the calculations that would be performed to produce the total VOC emissions.

Test Method and Contractor Certification

The bead testing described in this test plan does not encompass the usual source test scenario, with vents and emission rates, etc. Therefore, the ATC conditions have been interpreted such that the usual requirement for CARB approved test contractors and methods is applicable only to the thermal oxidizer compliance tests. It is our understanding that the ATC cites the use of compliance testing by approved contractors only for the VOC destruction efficiency. The SCAQMD is not a CARB method, nor are there any approved test contractors who are approved for this method. Therefore, it falls outside of the normal compliance test scheme.

The testing described above will be conducted by Dr. Eric Winegar of Applied Measurement Science. Dr. Winegar is an experienced air quality scientist, with more than 17 years of experience, including gas chromatographic analysis. While not a CARB-certified contractor, Dr. Winegar has sufficient experience to conduct this test successfully, as he has previously conducted the original test on which the current permit

conditions are based. He has also conducted several other tests at Agri-Cel over the past 12 years, so he is well-versed in their processes.

Contact information:

Eric D Winegar, PhD
4764 Concord Drive
Fair Oaks, CA 95628
916.965.7050
916.965.7055 fax
ericwinegar@earthlink.net
www.airmeasurement.com

Table 3. Permit Conditions for VOC Testing

Permit Conditions							
					VOC Drop		
Permit Number	Plant	Designation	Process Points		Calculation	Amount (lb-VOC/lb-EPS)	Analysis Method
S-848-2-12	1	p/x	P1--rec. hopper	P2--after p/x	P1-P2	0.013	SCAQMD 306-91
S-848-3-11	1	silos	P2--after p/x	P3--silo exit	P2-P3	0.007	SCAQMD 306-91
S-848-4-10	1	press line	P3--after silos	P4--after molding	P3-P4	0.004	SCAQMD 306-91
S S-848-6-9	2	p/x	P1--rec. hopper	P2--after p/x	P1-P2	0.013	SCAQMD 306-91
S-848-7-8	2	silos	P2--after p/x	P3--silo exit	P2-P3	0.007	SCAQMD 306-91
S-848-8-10	2	press line	P3--after silos	P4--after molding	P3-P4	0.004	SCAQMD 306-91

Appendix B

South Coast Air Quality Management District Test Method 306-91

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

APPLIED SCIENCE & TECHNOLOGY DIVISION

LABORATORY SERVICES BRANCH

SCAQMD METHOD 306-91

ANALYSIS OF PENTANES IN EXPANDABLE STYRENE POLYMERS

Original:	Approved June 1, 1991 Revised February 1993
This copy:	Retyped at NOVA Chemicals Inc. for print quality and conversion to electronic medium. 2003

SCAQMD METHOD 306-91

ANALYSIS OF PENTANE IN EXPANDABLE STYRENE POLYMERS

This is a method for analyzing isopentane, n-pentane, and cyclopentane in expandable styrene polymers. It is applicable to samples regulated by rules under Regulation XI.

CONTENTS

SCAQMD METHOD 306-91

ANALYSIS OF PENTANES IN EXPANDABLE STYRENE POYMERS

1. Principle

1.1 The pentane isomers in expandable styrene polymers are dissolved in toluene, then analyzed by gas chromatography (GC) with flame ionization detection. The weight percent pentanes in the expandable polystyrene polymer can be determined by this method.

2. Apparatus

2.1 Gas chromatograph equipped with a liquid injection system and a flame ionization detector

2.2 Electronic integrator

2.3 Analytical balance capable of weighing to 0.1 mg

2.4 GC column, 8 ft. x 1/8 in. O.D. stainless steel packed with 100/120 mesh Porapak^{R} Q, is recommended. Other columns that quantitatively resolve the individual pentanes and the internal standards may be used.

2.5 Glass syringe, 100 mL (calibrated with water), 25 mL, and 500 uL

2.6 Glass micro syringe, 10 uL and 2.0 uL, each with 0.1 uL graduations

2.7 Vials, crimp top, clear glass, 30 mL and 120 mL, cleaned according to Section 4.1

2.8 Septa, Teflon^{R}-faced, to fit vials

2.9 Seals, tear-away to fit vials

2.10 Plastic bags, with seals

2.11 Labels

2.12 Rubber gloves

3. Reagents

3.1 Isopentane, reagent grade

3.2 n-Pentane, 99.6%

3.3 Cyclopentane, reagent grade

3.4 n-Hexane, "Baker Instra – Analyzed," for trace organic analysis by GC

3.5 Toluene, reagent grade

3.6 Toluene solution: To 3785 mL toluene, add 12 mL n-hexane and mix well. The n-hexane in this solution is the internal standard.

3.7 Acetone, pentane-free

4. Procedure

4.1 Preparation of Vials

4.1.1 Use dry, clean rubber gloves to handle vials and samples in the execution of this section, and Section 4.2 in order to minimize contamination.

4.1.2 Rinse vials, seals, and septa three times with pentane-free acetone. Air dry for about one hour under a clean hood.

4.1.3 Transfer septa into a desiccator.

4.1.4 Dry vials and seals in an oven at 105°C for one hour. Allow to cool to room temperature in a desiccator.

4.1.5 Attach a unique identification label to each vial.

4.1.6 Transfer vials and seals to a desiccator and allow to equilibrate for one hour.

4.1.7 Weigh together, a labeled vial, a septum, and a seal (taken from the desiccator). Record weight in laboratory notebook.

4.1.8 Place tared vial, septum, and seal in a plastic bag. Seal the plastic bag.

4.1.9 The vials are ready for use in sampling of expandable polystyrene samples (see Appendix I).

4.2 Preparation of Sample

4.2.1 Samples are collected as in Appendix I.

4.2.2 Allow vial to attain room temperature.

4.2.3 Wipe the outside surfaces of the vial with Kimwipes^{R}.

4.2.4 Allow to equilibrate in a desiccator for one hour.

4.2.5 For unexpanded beads, weigh 1 gram aliquot of the sample from Section 4.2.4 (record weight of aliquot as Ws) into a clean 30mL vial with crimp top Teflon^{R} septum, cap and seal and immediately proceed to Section 4.2.7.

4.2.6 For prepuff and molded part samples:

4.2.6.1 Weigh total sample from Section 4.2.4.

4.2.6.2 Subtract the tare weight obtained in Section 4.1.7 from that obtained in 4.2.6.1. The resulting value is the sample weight (Ws).

4.2.6.3 Proceed to Section 4.2.7.

4.2.7 Add exactly 25 mL of toluene solution (Sec. 3.6) through the septum with the aid of a syringe. Mix to dissolve sample.

4.3 Preparation of Standards

4.3.1 With the aid of a syringe, add exactly 100 mL of toluene solution through the septum of an empty, capped 120 mL vial. Similarly, add exactly:

200 uL isopentane, which makes a 0.143% w/w solution (equivalent to 0.124 grams isopentane in the standard).

200 uL n-pentane, which makes a 0.144% w/w solution (equivalent to 0.125 grams n-pentane in the standard)

200 uL cyclopentane, which makes a 0.173% w/w solution (equivalent to 0.150 grams cyclopentane in the standard).

4.3.2 Calibration standards prepared in 4.3.1 have been determined to be stable for one week.

4.4 Calibration and Analysis

4.4.1 The opening conditions for the gas chromatograph are:

N_2 carrier gas flow rate:	25 mL/min.
Injection port temperature:	150°C
Detector temperature:	200°C

Oven program:
Hold at 150°C for 16 min.
Ramp 10°C/min to 170°C
Hold at 170°C for 12 min.
Ramp 20°C/min to 230°C
Hold at 230°C for 15 min.
GC range: 2^4
Attenuation: 2^4

4.4.2 A 0.5 uL aliquot of the standard solution from 4.3.1 is introduced into the GC system where it is separated into component compounds.

4.4.3 Determine the peak height of each component in the standard.

4.4.4 A 0.5 uL aliquot of the sample from 4.2.7 is introduced into the GC where it is separated into component compounds.

4.4.5 Determine the peak height of each component.

5. Calculations

5.1 The response factor (RF) of each component is calculated using the following formula:

$$RF = \frac{C_{csl} \; x \; H_{isl}}{V_{isl} \; x \; H_{csl}}$$

Where:
C_{csl} = Weight of compound in the standard mix, g (Sec. 4.3.1).
H_{csl} = Measured peak height of the compound in the standard mix.
H_{isl} = Measured peak height of the internal standard in the standard mix.
V_{isl} = Volume internal standard in the standard mix, mL.

5.2 The concentration of each component in percent by weight is calculated by the following:

$$\text{Concentration, (\% w/w)} = RF \times \frac{H_{cs2} \times V_{is2}}{W_s \times H_{is2}} \times 100$$

Where:

RF	=	Response factor of component (Sec. 5.1)
Hcs2	=	Measured peak height of component in the sample
His2	=	Measured peak height of internal standard in the sample
Ws	=	Weight of sample, g (Sec 4.2.5 or 4.2.6.2)
Vis2	=	Volume of internal standard in the sample, mL

6. Quality Control

6.1 Prepare a 5-point calibration curve to determine linearity monthly.

6.1.1 Use prepared standard solution from Section 4.3.1 for one of the calibration points and as the stock solution for the preparation of other calibration standards.

6.1.2 Prepare other calibration standards as follows:

6.1.2.1 Mix one volume of stock standard with 19 volumes of toluene solution.

6.1.2.2 Mix one volume of stock standard with 9 volumes of toluene solution.

6.1.2.3 Mix one volume of stock standard with 3 volumes of toluene solution.

6.1.2.4 Mix one volume of stock standard with 1 volume of toluene solution.

6.1.3 Inject 0.5 uL aliquots of each calibration standard.

6.1.4 Determine the peak height of each component.

6.1.5 Determine the linear range of the method.

6.2 Prepare calibration standards weekly.

6.3 Determine initial average response factor for each standard.

6.4 The GC system is checked daily with a calibration standard. Prepared calibration standard 6.1.2.2 is recommended.

6.5 The calibration check is repeated if the response of the instrument has changed by more than 10% from those obtained in 6.3.

6.6 If the response is still out of tolerance, remedial action is initiated, and new calibration factors calculated.

6.7 System blanks are analyzed daily after the calibration is completed, and whenever necessary, between samples to check for contamination and/or carry over from previous injection. Diluent treated as a sample constitutes a system blank. The linearity check standard is analyzed after the system blank.

6.8 Duplicate runs are performed on all samples until enough data are gathered to construct a control chart (30 samples). This control chart will be used to determine if duplicate runs are in control and if remedial action is necessary.

6.9 For manual injection, if the duplicate runs vary by more than ± 10%, another duplicate run is performed. If the variation is still more than 10%, remedial action is initiated. For laboratories with auto-samplers, if duplicate runs vary by more than ± 5%, remedial action is initiated.

6.10 If the drift of retention times results in peak misidentification, all instrument parameters are checked and reset in order to obtain original retention times. Retention time criteria are established during the initial calibration.

6.11 Every tenth unexpanded bead sample taken should be prepared in triplicate and analyzed as follows:

6.11.1 One preparation is analyzed as a regular sample.

6.11.2 A second preparation is analyzed as a duplicate.

6.11.3 The third preparation is spiked with standard and analyzed as the spike sample. The amount of spike recovered should be within 10% of the theoretical value.

6.12 To obtain an instrument limit of detection, use prepared standard (6.1.2.1) or a standard which is within a factor of 20 of the estimated limit of detection. Limit of detection is three times the standard deviation of a minimum of twenty runs.

Appendix I
Method for the Sampling of Expandable Polystyrene for Pentane Analysis

1. **Introduction**

   1.1 This procedure describes a method of sampling expandable polystyrene for pentane analysis.

   1.2 This procedure is a modification of Method No. 1 submitted to the District by the Society of the Plastics Industry, Inc.

2. **Sample Collection**

   2.1 Equipment

      2.1.1 Hand crimper

      2.1.2 Tared 30 mL vials with septa and seals

   2.2 Procedure

      2.2.1 Remove vial from the plastic bag, add sample as follows: For unexpanded beads, prepuff and molded part samples, fill the vial to the top with sample. Bead samples must be taken within 5 minutes after opening a carton and from at least 6 inches beneath the surface of the beads.

      Select representative section of the molded part for the sample. Avoid edges and sections of poor fusion. Do not take sample from edges that have been hot wire cut.

      2.2.2 Immediately set a septum over the top of the vial with the Teflon^{R} side toward the samples, place a seal over it and crimp tightly.

      2.2.3 Label the sample properly.

      2.2.4 Keep sample in a container at <4°C (40°F) whenever feasible, for transport to the laboratory.

      2.2.5 Return sample to the laboratory for analysis.

Appendix H

Historical Actual Emissions (HAE) Spreadsheets During 2005 – 2006 Baseline Period

Agri-Cel Historical Actual Emissions (2005)

Actual Emissions by Quarter (2005)

Emissions Summary by Quarter (2005)						
Process	NOx	VOC	CO	SOx	PM10	PM2.5
1st Quarter	197.52	61,531.03	85.43	31.31	83.50	83.50
2nd Quarter	272.31	82,825.39	117.77	43.17	115.11	115.11
3rd Quarter	326.94	100,720.08	141.40	51.83	138.21	138.21
4th Quarter	72.85	22,166.48	31.50	11.55	30.79	30.79
Total 2005	869.62	267,242.97	376.10	137.85	367.61	367.61

Actual Emissions - First Quarter (2005)

Process Unit	NOx Lb/Quarter	VOC Lb/Quarter	CO Lb/Quarter	SOx Lb/Quarter	PM10 Lb/Quarter	PM2.5 Lb/Quarter
Line1	--------	2,035.98	--------	--------	--------	--------
Line2	--------	3,071.91	--------	--------	--------	--------
Storage	--------	56313.14	--------	--------	--------	--------
Oxidizer	41.13	58.16	34.55	1.17	3.13	3.13
Dixon	46.37	16.86	0.00	12.01	32.04	32.04
Superior	110.03	34.98	50.88	18.13	48.34	48.34
Total	197.52	61,531.03	85.43	31.31	83.50	83.50

Actual Emissions - Second Quarter (2005)

Process Unit	NOx Lb/Quarter	VOC Lb/Quarter	CO Lb/Quarter	SOx Lb/Quarter	PM10 Lb/Quarter	PM2.5 Lb/Quarter
Line1	--------	2,806.92	--------	--------	--------	--------
Line2	--------	4,235.12	--------	--------	--------	--------
Storage	--------	75631.69	--------	--------	--------	--------
Oxidizer	56.70	80.19	47.63	1.62	4.31	4.31
Dixon	63.92	23.25	0.00	16.56	44.17	44.17
Superior	151.69	48.23	70.15	24.99	66.64	66.64
Total	272.31	82,825.39	117.77	43.17	115.11	115.11

Actual Emissions - Third Quarter (2005)

Process Unit	NOx Lb/Quarter	VOC Lb/Quarter	CO Lb/Quarter	SOx Lb/Quarter	PM10 Lb/Quarter	PM2.5 Lb/Quarter
Line1	------	3,370.04	------	------	------	------
Line2	------	5,084.77	------	------	------	------
Storage	------	92083.18	------	------	------	------
Oxidizer	68.07	96.27	57.18	1.94	5.17	5.17
Dixon	76.75	27.91	0.00	19.88	53.03	53.03
Superior	182.12	57.90	84.22	30.00	80.01	80.01
Total	326.94	100,720.08	141.40	51.83	138.21	138.21

Actual Emissions - Fourth Quarter (2005)

Process Unit	NOx Lb/Quarter	VOC Lb/Quarter	CO Lb/Quarter	SOx Lb/Quarter	PM10 Lb/Quarter	PM2.5 Lb/Quarter
Line1	------	750.87	------	------	------	------
Line2	------	1,132.92	------	------	------	------
Storage	------	20242.12	------	------	------	------
Oxidizer	15.17	21.45	12.74	0.43	1.15	1.15
Dixon	17.10	6.22	0.00	4.43	11.81	11.81
Superior	40.58	12.90	18.76	6.68	17.83	17.83
Total	72.85	22,166.48	31.50	11.55	30.79	30.79

Agri-Cel Historical Actual Emissions (2006)

Actual Emissions by Quarter (2006)

Emissions Summary by Quarter (2006)						
Process	NOx	VOC	CO	SOx	PM10	PM2.5
1st Quarter	315.28	108,377.43	60.29	54.64	145.72	145.72
2nd Quarter	357.59	123,360.94	68.38	61.98	165.27	165.27
3rd Quarter	261.55	89,877.49	50.01	45.33	120.88	120.88
4th Quarter	2.15	741.36	0.41	0.37	0.99	0.99
Total 2005	936.57	322,357.21	179.09	162.32	432.86	432.86

Agri-Cel Historical Actual Emissions (2006)

Actual Emissions - First Quarter (2006)

Process Unit	NOx Lb/Quarter	VOC Lb/Quarter	CO Lb/Quarter	SOx Lb/Quarter	PM10 Lb/Quarter	PM2.5 Lb/Quarter
Line1	---	3,734.50	---	---	---	---
Line2	---	5,634.66	---	---	---	---
Storage	---	98624.57	---	---	---	---
Oxidizer	71.77	293.24	60.29	2.05	5.45	5.45
Dixon	51.49	29.42	0.00	20.97	55.91	55.91
Superior	192.02	61.05	0.00	31.63	84.35	84.35
Total	315.28	108,377.43	60.29	54.64	145.72	145.72

Actual Emissions - Second Quarter (2006)

Process Unit	NOx Lb/Quarter	VOC Lb/Quarter	CO Lb/Quarter	SOx Lb/Quarter	PM10 Lb/Quarter	PM2.5 Lb/Quarter
Line1	---	4,235.62	---	---	---	---
Line2	---	6,390.76	---	---	---	---
Storage	---	112299.36	---	---	---	---
Oxidizer	81.40	332.58	68.38	2.32	6.19	6.19
Dixon	58.40	33.37	0.00	23.78	63.41	63.41
Superior	217.78	69.24	0.00	35.88	95.67	95.67
Total	357.59	123,360.94	68.38	61.98	165.27	165.27

Agri-Cel Historical Actual Emissions (2006)

Actual Emissions - Third Quarter (2006)

Process Unit	NOx Lb/Quarter	VOC Lb/Quarter	CO Lb/Quarter	SOx Lb/Quarter	PM10 Lb/Quarter	PM2.5 Lb/Quarter
Line1	-------	3,098.04	-------	-------	-------	-------
Line2	-------	4,674.37	-------	-------	-------	-------
Storage	-------	81786.77	-------	-------	-------	-------
Oxidizer	59.54	243.26	50.01	1.70	4.52	4.52
Dixon	42.72	24.41	0.00	17.39	46.38	46.38
Superior	159.29	50.64	0.00	26.24	69.98	69.98
Total	261.55	89,877.49	50.01	45.33	120.88	120.88

Actual Emissions - Fourth Quarter (2006)

Process Unit	NOx Lb/Quarter	VOC Lb/Quarter	CO Lb/Quarter	SOx Lb/Quarter	PM10 Lb/Quarter	PM2.5 Lb/Quarter
Line1	-------	25.48	-------	-------	-------	-------
Line2	-------	38.44	-------	-------	-------	-------
Storage	-------	674.82	-------	-------	-------	-------
Oxidizer	0.49	2.00	0.41	0.01	0.04	0.04
Dixon	0.35	0.20	0.00	0.14	0.38	0.38
Superior	1.31	0.42	0.00	0.22	0.58	0.58
Total	2.15	741.36	0.41	0.37	0.99	0.99

Agri-Cel Production Rates and Fuel Use During Baseline Period (2005 and 2006)

Production and Fuel Use During 2005

Facility Production During Period		Monthly Fuel Use	Total EPS Processed	Process Line #1 EPS	Process Line #2 EPS	Total Product to Storage	Monthly Fuel Use (MMBtu/Month)		
Year	Month	Therms/Month	Tons/Month	Tons/Month	Tons/Month	Tons/Month	Shared Oxidizer	Dixon Boiler Process Line 1	Superior Boiler Process Line 2
2005	1	30,191.00	265.58	105.86	159.72	265.58	113.01	1,158.35	1,747.74
2005	2	36,221.00	318.63	127.00	191.62	318.63	135.59	1,389.71	2,096.81
2005	3	43,452.00	382.24	152.36	229.88	382.24	162.65	1,667.14	2,515.40
2005	4	43,263.00	380.58	151.70	228.88	380.58	161.95	1,659.89	2,504.46
2005	5	41,324.00	363.52	144.90	218.62	363.52	154.69	1,585.49	2,392.22
2005	6	66,878.00	588.31	234.50	353.81	588.31	250.35	2,565.94	3,871.52
2005	7	69,280.00	609.44	242.92	366.52	609.44	259.34	2,658.09	4,010.57
2005	8	67,615.00	594.80	237.08	357.71	594.80	253.10	2,594.21	3,914.18
2005	9	44,957.00	395.48	157.64	237.84	395.48	168.29	1,724.88	2,602.53
2005	10	39,660.00	348.88	139.06	209.82	348.88	148.46	1,521.65	2,295.89
2005	11	683.00	6.01	2.39	3.61	6.01	2.56	26.20	39.54
2005	12	175.00	1.54	0.61	0.93	1.54	0.66	6.71	10.13
Annual Rates		483,699.00	4,255.00	1,696.02	2,558.98	4,255.00	1,810.64	18,558.28	28,000.98

Note: Monthly fuel use was obtained from the Southern California Gas Company invoices. The oxidizer, and boilers are the only gas fired equipment used at the facility. During 2005 the combined EPS throughput rate was reported. Therefore, the production rate for each process line was calculated using the line percentage rates reported during 2006 (about 40% of the EPS is typically processed by Line #1 and 60% by Line #2).

Agri-Cel Production Rates and Fuel Use During Baseline Period (2005 and 2006)

Production and Fuel Use During 2006

Facility Production During Period		Monthly Fuel Use	Total EPS Processed	Process Line #1 EPS	Process Line #2 EPS	Total Product to Storage	Monthly Fuel Use (MMBtu/Month)		
Year	Month	Therms/Month	Tons/Month	Tons/Month	Tons/Month	Tons/Month	Shared Oxidizer	Dixon Boiler Process Line 1	Superior Boiler Process Line 2
2006	1	47,027.00	434.80	173.31	261.49	434.80	176.04	1,804.30	2,722.36
2006	2	68,485.00	633.20	252.39	380.81	633.20	256.36	2,627.59	3,964.55
2006	3	76,219.00	704.71	280.89	423.82	704.71	285.31	2,924.33	4,412.26
2006	4	73,560.00	680.12	271.09	409.03	680.12	275.36	2,822.31	4,258.34
2006	5	74,089.00	685.02	273.04	411.97	685.02	277.34	2,842.60	4,288.96
2006	6	69,810.00	645.45	257.27	388.18	645.45	261.32	2,678.43	4,041.25
2006	7	73,711.00	681.52	271.65	409.87	681.52	275.92	2,828.10	4,267.08
2006	8	54,483.00	503.74	- 200.79	302.95	503.74	203.95	2,090.37	3,153.98
2006	9	30,861.00	285.34	113.73	171.60	285.34	115.52	1,184.06	1,786.52
2006	10	1,035.00	9.57	3.81	5.76	9.57	3.87	39.71	59.92
2006	11	83.00	0.77	0.31	0.46	0.77	0.31	3.18	4.80
2006	12	190.00	1.76	0.70	1.06	1.76	0.71	7.29	11.00
Annual Rates		569,553.00	5,266.00	2,099.00	3,167.00	5,266.00	2,132.02	21,852.27	32,971.01

Note: Monthly fuel use was obtained from the Southern California Gas Company invoices. The oxidizer, and boilers are the only gas fired equipment used at the facility.

VOC Emissions From Processing Line #1 (2005 and 2006)

Process Factors for VOC Emissions Line #1 (2005)

Drop Point Emissions From Process Line #1	Emission Factor Reference	Drop Point Process Emission Factors			Total
		VOC (P1-P2) Lb/Ton EPS*	VOC (P2-P3) Lb/Ton EPS*	VOC(P3-P4) Lb/Ton EPS*	Drop Point Lb/Ton EPS*
	Permit	26.000000	14.000000	8.000000	48.000000
	Source Test	8.800000	5.200000	7.600000	21.600000

*Source test and permit use lb-VOC/lb-EPS units

EPS Production Rates and VOC Emissions From Line #1 (2005)

Facility Production During Period		Process Line #1 EPS Tons/Month	Controlled Drop Point Process Emissions (HAE)			Total VOC Lb/Month
Year	Month		VOC (P1-P2) Lb/Month	VOC (P2-P3) Lb/Month	VOC (P3-P4) Lb/Month	
2005	1	105.86	97.81	57.80	403.88	559.49
2005	2	127.00	117.35	69.34	484.54	671.24
2005	3	152.36	140.78	83.19	581.28	805.24
2005	4	151.70	140.17	82.83	578.75	801.74
2005	5	144.90	133.88	79.11	552.81	765.81
2005	6	234.50	216.68	128.04	894.66	1,239.37
2005	7	242.92	224.46	132.63	926.79	1,283.88
2005	8	237.08	219.06	129.45	904.52	1,253.03
2005	9	157.64	145.65	86.07	601.41	833.13
2005	10	139.06	128.49	75.93	530.55	734.97
2005	11	2.39	2.21	1.31	9.14	12.66
2005	12	0.61	0.57	0.34	2.34	3.24
Annual Rates		1,696.02	1,567.12	926.03	6,470.66	8,963.81

Note: The test results from the November 21, 2006 source test were used to quantify fugitive VOC emissions because the results of the 2005 source test were inconclusive and were questioned by the District.

VOC Emissions From Processing Line #1 (2005 and 2006)

Process Factors for VOC Emissions Line #1 (2006)

Drop Point Emissions From Process Line #1	Emission Factor Reference	Drop Point Process Emission Factors			Total
		VOC (P1-P2) Lb/Ton EPS*	VOC (P2-P3) Lb/Ton EPS*	VOC(P3-P4) Lb/Ton EPS*	Drop Point Lb/Ton EPS*
	Permit	26.000000	14.000000	8.000000	48.000000
	Source Test	8.800000	5.200000	7.600000	21.600000

*Source test and permit use lb-VOC/lb-EPS units

EPS Production Rates and VOC Emissions From Line #1 (2006)

Facility Production During Period		Process Line #1 EPS Tons/Month	Controlled Drop Point Process Emissions (HAE)			Total VOC Lb/Month
Year	Month		VOC (P1-P2) Lb/Month	VOC (P2-P3) Lb/Month	VOC (P3-P4) Lb/Month	
2006	1	173.31	160.14	94.63	661.22	915.98
2006	2	252.39	233.21	137.81	962.92	1,333.94
2006	3	280.89	259.55	153.37	1,071.66	1,484.58
2006	4	271.09	250.49	148.02	1,034.28	1,432.79
2006	5	273.04	252.29	149.08	1,041.72	1,443.09
2006	6	257.27	237.72	140.47	981.55	1,359.74
2006	7	271.65	251.01	148.32	1,036.40	1,435.73
2006	8	200.79	185.53	109.63	766.05	1,061.21
2006	9	113.73	105.09	62.10	433.92	601.10
2006	10	3.81	3.52	2.08	14.55	20.16
2006	11	0.31	0.28	0.17	1.17	1.62
2006	12	0.70	0.65	0.38	2.67	3.70
Annual Rates		2,099.00	1,939.48	1,146.05	8,008.10	11,093.63

Note: The test results from the 2006 source test were used to quantify fugitive VOC emissions.

VOC Emissions From Processing Line #2 (2005 and 2006)

Process Factors for VOC Emissions Line #2 (2005)

Drop Point Emissions From Process Line #2	Emission Factor Reference	Controlled Drop Point Process Emission Factors			Total
		VOC (P1-P2) Lb/Ton EPS*	VOC (P2-P3) Lb/Ton EPS*	VOC(P3-P4) Lb/Ton EPS*	Drop Point Lb/Ton EPS*
	Permit	26.000000	14.000000	8.000000	48.000000
	Source Test	8.800000	5.200000	7.600000	21.600000

*Source test and permit use lb-VOC/lb-EPS units

EPS Production Rates and VOC Emissions From Line #2 (2005)

Facility Production During Period		Process Line #2 EPS Tons/Month	Drop Point Fugitive Emissions			Total VOC Lb/Month
Year	Month		VOC (P1-P2) Lb/Month	VOC (P2-P3) Lb/Month	VOC (P3-P4) Lb/Month	
2005	1	159.72	147.58	87.21	609.38	844.17
2005	2	191.62	177.06	104.63	731.09	1,012.78
2005	3	229.88	212.41	125.51	877.04	1,214.96
2005	4	228.88	211.49	124.97	873.22	1,209.68
2005	5	218.62	202.01	119.37	834.09	1,155.46
2005	6	353.81	326.92	193.18	1,349.87	1,869.98
2005	7	366.52	338.67	200.12	1,398.35	1,937.14
2005	8	357.71	330.53	195.31	1,364.75	1,890.58
2005	9	237.84	219.77	129.86	907.42	1,257.04
2005	10	209.82	193.87	114.56	800.50	1,108.93
2005	11	3.61	3.34	1.97	13.79	19.10
2005	12	0.93	0.86	0.51	3.53	4.89
Annual Rates		2,558.98	2,364.50	1,397.20	9,763.02	13,524.72

Note: The test results from the November 21, 2006 source test were used to quantify fugitive VOC emissions because the results of the 2005 source test were inconclusive and were questioned by the District.

VOC Emissions From Processing Line #2 (2005 and 2006)

Process Factors for VOC Emissions Line #2 (2006)

Drop Point Emissions From Process Line #2	Emission Factor Reference	Controlled Drop Point Process Emission Factors			Total
		VOC (P1-P2) Lb/Ton EPS*	VOC (P2-P3) Lb/Ton EPS*	VOC(P3-P4) Lb/Ton EPS*	Drop Point Lb/Ton EPS*
	Permit	26.000000	14.000000	8.000000	48.000000
	Source Test	8.800000	5.200000	7.600000	21.600000

*Source test and permit use lb-VOC/lb-EPS units

EPS Production Rates and VOC Emissions From Line #2 (2006)

Facility Production During Period		Process Line #1 EPS	Drop Point Fugitive Emissions			Total
Year	Month	Tons/Month	VOC (P1-P2) Lb/Month	VOC (P2-P3) Lb/Month	VOC (P3-P4) Lb/Month	VOC Lb/Month
2006	1	261.49	241.62	142.78	997.65	1,382.05
2006	2	380.81	351.87	207.92	1,452.87	2,012.66
2006	3	423.82	391.61	231.40	1,616.94	2,239.95
2006	4	409.03	377.94	223.33	1,560.53	2,161.81
2006	5	411.97	380.66	224.94	1,571.76	2,177.35
2006	6	388.18	358.68	211.95	1,480.98	2,051.60
2006	7	409.87	378.72	223.79	1,563.74	2,166.25
2006	8	302.95	279.93	165.41	1,155.83	1,601.17
2006	9	171.60	158.56	93.70	654.70	906.95
2006	10	5.76	5.32	3.14	21.96	30.42
2006	11	0.46	0.43	0.25	1.76	2.44
2006	12	1.06	0.98	0.58	4.03	5.58
Annual Rates		3,167.00	2,926.31	1,729.18	12,082.74	16,738.23

Note: The test results from the 2006 source test were used to quantify fugitive VOC emissions.

VOC Emissions From Product Storage (2005 and 2006)

EPS Bead Pentane Content and VOC emissions From Storage (2005)

Facility Production During Period		Total EPS Processed	EPS Bead Ave Pentane	Pentane Released During Manufacturing Process			VOC Storage Emissions	
Year	Month	Tons/Month	% w/w	P1-P2 Lb/Month	P2-P3 Lb/Month	P3-P4 Lb/Month	Uncontrolled Lb/Month	
2005	1	265.58	3.88	2,337.14	1,381.04	2,018.44	14,872.70	
2005	2	318.63	4.08	2,803.93	1,656.87	2,421.58	19,117.72	
2005	3	382.24	4.00	3,363.70	1,987.64	2,905.01	22,322.71	
2005	4	380.58	4.04	3,349.07	1,978.99	2,892.37	22,530.08	
2005	5	363.52	3.82	3,198.96	1,890.30	2,762.74	19,920.82	
2005	6	588.31	3.90	5,177.14	3,059.22	4,471.17	33,180.79	
2005	7	609.44	3.89	5,363.09	3,169.10	4,631.76	34,250.63	
2005	8	594.80	4.02	5,234.20	3,092.93	4,520.44	34,973.96	
2005	9	395.48	3.97	3,480.20	2,056.48	3,005.63	22,858.60	
2005	10	348.88	3.92	3,070.15	1,814.18	2,651.49	19,816.43	
2005	11	6.01	3.90	52.87	31.24	45.66	338.86	
2005	12	1.54	3.90	13.55	8.01	11.70	86.82	
Annual Rates		4,255.00	3.94	37,444.00	22,126.00	32,338.00	244,270.13	

Note: EPS Bead pentane content was obtained form the bead manufacturer's information provided for each shipment (Lot) of EPS beads delivered to the Agri-Cel Facility. Storage (off gassing) emissions are calculated by difference between the initial pentane content of the beads and the pentane drop (fugitive pentane and pentane vented to thermal oxidizer) during manufacturing. This is consistent with the District assumption that 100% of the pentane remaining in the product is released during storage.

VOC Emissions From Product Storage (2005 and 2006)

EPS Bead Pentane Content and VOC emissions From Storage (2006)

Facility Production During Period		Total EPS Processed	EPS Bead Ave Pentane	Pentane Released During Manufacturing Process			VOC Storage Emissions	
				P1-P2	P2-P3	P3-P4	Uncontrolled	
Year	Month	Tons/Month	% w/w	Lb/Month	Lb/Month	Lb/Month	Lb/Month	
2006	1	434.80	3.88	3,826.28	2,260.98	3,304.51	24,349.05	
2006	2	633.20	3.84	5,572.18	3,292.65	4,812.33	34,952.74	
2006	3	704.71	3.87	6,201.44	3,664.49	5,355.79	39,322.77	
2006	4	680.12	3.84	5,985.10	3,536.65	5,168.95	37,542.87	
2006	5	685.02	3.87	6,028.14	3,562.08	5,206.12	38,223.87	
2006	6	645.45	3.91	5,679.98	3,356.35	4,905.44	36,532.62	
2006	7	681.52	3.85	5,997.38	3,543.91	5,179.56	37,756.24	
2006	8	503.74	3.87	4,432.93	2,619.46	3,828.44	28,108.78	
2006	9	285.34	3.87	2,510.96	1,483.75	2,168.55	15,921.75	
2006	10	9.57	3.87	84.21	49.76	72.73	533.98	
2006	11	0.77	3.87	6.75	3.99	5.83	42.82	
2006	12	1.76	3.87	15.46	9.13	13.35	98.02	
Annual Rates		5,266.00	3.87	46,340.80	27,383.20	40,021.60	293,385.52	

Note: EPS Bead pentane content was obtained form the bead manufacturer's information provided for each shipment (Lot) of EPS beads delivered to the Agri-Cel Facility. Storage (off gassing) emissions are calculated by difference between the initial pentane content of the beads and the pentane drop (fugitive pentane and pentane vented to thermal oxidizer) during manufacturing. This is consistent with the District assumption that 100% of the pentane remaining in the product is released during storage.

Actual Emissions From Oxidizer During Baseline Period

2005 - Baseline Period Fuel and Emissions

RETOX Oxidizer	Factor Reference	Process Emission Factors (Lb/MMBtu)					
		NOx	VOC	CO	SOx	PM10	PM25
	Permit Limit	------	------	------	------	-------	-------
Max. Heat Input Rate (0.7 MMBtu/Hr)	AP42	0.1000	0.0055	0.0823	0.0006	0.0074	0.0074
	Source Test	------	0.1414	------	------	------	------
	Factor Used	0.1000	0.1414	0.0840	0.0029	0.0076	0.0076

Criteria Pollutant Emissions (Lb/Month) During 2005								
Baseline Period		Retox Oxidizer	NOx	VOC	CO	SOx	PM10	PM2.5
Year	Month	MMBtu/Month	Lb/Month	Lb/Month	Lb/Month	Lb/Month	Lb/Month	Lb/Month
2005	1	113.01	11.30	15.98	9.49	0.32	0.86	0.86
2005	2	135.59	13.56	19.18	11.39	0.39	1.03	1.03
2005	3	162.65	16.27	23.00	13.66	0.46	1.24	1.24
2005	4	161.95	16.19	22.90	13.60	0.46	1.23	1.23
2005	5	154.69	15.47	21.88	12.99	0.44	1.18	1.18
2005	6	250.35	25.03	35.41	21.03	0.71	1.90	1.90
2005	7	259.34	25.93	36.68	21.78	0.74	1.97	1.97
2005	8	253.10	25.31	35.80	21.26	0.72	1.92	1.92
2005	9	168.29	16.83	23.80	14.14	0.48	1.28	1.28
2005	10	148.46	14.85	21.00	12.47	0.42	1.13	1.13
2005	11	2.56	0.26	0.36	0.21	0.01	0.02	0.02
2005	12	0.66	0.07	0.09	0.06	0.00	0.00	0.00
Total		1,810.64	181.06	256.08	152.09	5.16	13.76	13.76

Note: The unit was only tested for VOC emissions. The emissions factor is derived from the hourly emission rate measured during source testing by the heat input rating of the emission units. The emissions of NOX, CO and PM10 were calculated using EPA AP42 emissions factors (PM2.5 is assumed to be equal to PM10).

Actual Emissions From Oxidizer During Baseline Period

2006 - Baseline Period Fuel and Emissions

RETOX Oxidizer	Factor Reference	Process Emission Factors (Lb/MMBtu)					
		NOx	VOC	CO	SOx	PM10	PM25
	Permit Limit	-------	------	------	------	------	------
Max. Heat Input Rate (0.7 MMBtu/Hr)	AP42	0.1000	0.0055	0.0840	0.0006	0.0076	0.0074
	Source Test	------	0.4086	------	------	------	------
	Factor Used	0.1000	0.4086	0.0840	0.0029	0.0076	0.0076

Criteria Pollutant Emissions (Lb/Month) During 2005								
Baseline Period		Retox Oxidizer	NOx	VOC	CO	SOx	PM10	PM2.5
Year	Month	MMBtu/Month	Lb/Month	Lb/Month	Lb/Month	Lb/Month	Lb/Month	Lb/Month
2006	1	176.04	17.60	71.92	14.79	0.50	1.34	1.34
2006	2	256.36	25.64	104.74	21.53	0.73	1.95	1.95
2006	3	285.31	28.53	116.57	23.97	0.81	2.17	2.17
2006	4	275.36	27.54	112.50	23.13	0.78	2.09	2.09
2006	5	277.34	27.73	113.31	23.30	0.79	2.11	2.11
2006	6	261.32	26.13	106.77	21.95	0.74	1.99	1.99
2006	7	275.92	27.59	112.73	23.18	0.79	2.10	2.10
2006	8	203.95	20.39	83.33	17.13	0.58	1.55	1.55
2006	9	115.52	11.55	47.20	9.70	0.33	0.88	0.88
2006	10	3.87	0.39	1.58	0.33	0.01	0.03	0.03
2006	11	0.31	0.03	0.13	0.03	0.00	0.00	0.00
2006	12	0.71	0.07	0.29	0.06	0.00	0.01	0.01
Total		2,132.02	213.20	871.08	179.09	6.08	16.20	16.20

Note: The unit was only tested for VOC emissions. The emissions factor is derived from the hourly emission rate measured during source testing by the heat input rating of the emission units. The emissions of NOX, CO and PM10 were calculated using EPA AP42 emissions factors (PM2.5 is assumed to be equal to PM10).

Actual Emissions From Dixon Boiler During Baseline Period

2005 - Baseline Period Fuel and Emissions

Dixon Boiler	Factor Reference	Process Emission Factors (Lb/MMBtu)					
		NOx	VOC	CO	SOx	PM10	PM25
	Permit Limit	0.0180	0.0040	0.0740	0.0029	0.0120	0.0120
Max. Heat Input Rate (7.5 MMBtu/Hr)	Rule 4306	0.0180	-------		-------	-------	-------
	Source Test	0.0110	-------	0.0000	-------	-------	-------
	Factor Used	0.0110	0.0040	0.0000	0.0029	0.0076	0.0076

Criteria Pollutant Emissions (Lb/Month) During 2005								
Baseline Period		Dixon Boiler	NOx	VOC	CO	SOx	PM10	PM2.5
Year	Month	MMBtu/Month	Lb/Month	Lb/Month	Lb/Month	Lb/Month	Lb/Month	Lb/Month
2005	1	1,158.35	12.74	4.63	0.00	3.30	8.80	8.80
2005	2	1,389.71	15.29	5.56	0.00	3.96	10.56	10.56
2005	3	1,667.14	18.34	6.67	0.00	4.75	12.67	12.67
2005	4	1,659.89	18.26	6.64	0.00	4.73	12.62	12.62
2005	5	1,585.49	17.44	6.34	0.00	4.52	12.05	12.05
2005	6	2,565.94	28.23	10.26	0.00	7.31	19.50	19.50
2005	7	2,658.09	29.24	10.63	0.00	7.58	20.20	20.20
2005	8	2,594.21	28.54	10.38	0.00	7.39	19.72	19.72
2005	9	1,724.88	18.97	6.90	0.00	4.92	13.11	13.11
2005	10	1,521.65	16.74	6.09	0.00	4.34	11.56	11.56
2005	11	26.20	0.29	0.10	0.00	0.07	0.20	0.20
2005	12	6.71	0.07	0.03	0.00	0.02	0.05	0.05
Total		18,558.28	204.14	74.23	0.00	52.89	141.04	141.04

Note: Factors used for NOx and CO are from the source test dated September 7, 2005. The permitted limits were used for calculating the emissions of SOx, VOC and PM10 since the unit is not source tested for these constituents. The emissions of PM2.5 are assumed to be equal to PM10.

Actual Emissions From Dixon Boiler During Baseline Period

2006 - Baseline Period Fuel and Emissions --------

Dixon Boiler	Factor Reference	Process Emission Factors (Lb/MMBtu)					
		NOx	VOC	CO	SOx	PM10	PM25
	Permit Limit	0.0180	0.0040	0.0740	0.0029	0.0120	0.0120
Max. Heat Input Rate (7.5 MMBtu/Hr)	Rule 4306	0.0180	--------		-------	-------	-------
	Source Test	0.0070	-------	0.0000	-------	-------	-------
	Factor Used	0.0070	0.0040	0.0000	0.0029	0.0076	0.0120

Criteria Pollutant Emissions (Lb/Month) During 2006								
Baseline Period		Dixon Boiler	NOx	VOC	CO	SOx	PM10	PM2.5
Year	Month	MMBtu/Month	Lb/Month	Lb/Month	Lb/Month	Lb/Month	Lb/Month	Lb/Month
2006	1	1,804.30	12.63	7.22	0.00	5.14	13.71	13.71
2006	2	2,627.59	18.39	10.51	0.00	7.49	19.97	19.97
2006	3	2,924.33	20.47	11.70	0.00	8.33	22.22	22.22
2006	4	2,822.31	19.76	11.29	0.00	8.04	21.45	21.45
2006	5	2,842.60	19.90	11.37	0.00	8.10	21.60	21.60
2006	6	2,678.43	18.75	10.71	0.00	7.63	20.36	20.36
2006	7	2,828.10	19.80	11.31	0.00	8.06	21.49	21.49
2006	8	2,090.37	14.63	8.36	0.00	5.96	15.89	15.89
2006	9	1,184.06	8.29	4.74	0.00	3.37	9.00	9.00
2006	10	39.71	0.28	0.16	0.00	0.11	0.30	0.30
2006	11	3.18	0.02	0.01	0.00	0.01	0.02	0.02
2006	12	7.29	0.05	0.03	0.00	0.02	0.06	0.06
Total		21,852.27	152.97	87.41	0.00	62.28	166.08	166.08

Note: Factors used for NOx and CO are from the source test dated August 17, 2006. The permitted limits were used for calculating the emissions of SOx, VOC and PM10 since the unit is not source tested for these constituents. The emissions of PM2.5 are assumed to be equal to PM10.

Actual Emissions From Superior Boiler During Baseline Period

2005 - Baseline Period Fuel and Emissions

Superior Boiler	Factor Reference	Process Emission Factors (Lb/MMBtu)					
		NOx	VOC	CO	SOx	PM10	PM25
Max. Heat Input Rate (10.5 MMBtu/Hr)	Permit Limit	0.0180	0.0055	0.0740	0.0029	0.0076	0.0076
	Rule 4306	0.0180	-------		-------	-------	-------
	Source Test	0.0173	-------	0.0080	-------	-------	-------
	Factor Used	0.0173	0.0055	0.0080	0.0029	0.0076	0.0076

Criteria Pollutant Emissions (Lb/Month) During 2005								
Baseline Period		Superior Boiler	NOx	VOC	CO	SOx	PM10	PM2.5
Year	Month	MMBtu/Month	Lb/Month	Lb/Month	Lb/Month	Lb/Month	Lb/Month	Lb/Month
2005	1	1,747.74	30.24	9.61	13.98	4.98	13.28	13.28
2005	2	2,096.81	36.27	11.53	16.77	5.98	15.94	15.94
2005	3	2,515.40	43.52	13.83	20.12	7.17	19.12	19.12
2005	4	2,504.46	43.33	13.77	20.04	7.14	19.03	19.03
2005	5	2,392.22	41.39	13.16	19.14	6.82	18.18	18.18
2005	6	3,871.52	66.98	21.29	30.97	11.03	29.42	29.42
2005	7	4,010.57	69.38	22.06	32.08	11.43	30.48	30.48
2005	8	3,914.18	67.72	21.53	31.31	11.16	29.75	29.75
2005	9	2,602.53	45.02	14.31	20.82	7.42	19.78	19.78
2005	10	2,295.89	39.72	12.63	18.37	6.54	17.45	17.45
2005	11	39.54	0.68	0.22	0.32	0.11	0.30	0.30
2005	12	10.13	0.18	0.06	0.08	0.03	0.08	0.08
Total		28,000.98	484.42	154.01	224.01	79.80	212.81	212.81

Note: The unit was not tested during 2005. Therefore the emissions factors reported in the August 17, 2006 source. tested were used to calculate the NOx and CO emission. The emissions of SOx, VOC and PM10/PM2.5 were calculated using the permitted emission limits since the unit is not tested for SOx, VOC and PM10/PM2.5.

Actual Emissions From Superior Boiler During Baseline Period

2006 - Baseline Period Fuel and Emissions

Superior Boiler	Factor Reference	Process Emission Factors (Lb/MMBtu)					
		NOx	VOC	CO	SOx	PM10	PM25
	Permit Limit	0.0180	0.0055	0.0740	0.0029	0.0076	0.0076
Max. Heat Input Rate (10.5 MMBtu/Hr)	Rule 4306	0.0180	--------		--------	--------	--------
	Source Test	0.0173	--------	0.0000	--------	--------	--------
	Factor Used	0.0173	0.0055	0.0000	0.0029	0.0076	0.0076

Criteria Pollutant Emissions (Lb/Month) During 2006								
Baseline Period		Superior Boiler	NOx	VOC	CO	SOx	PM10	PM2.5
Year	Month	MMBtu/Month	Lb/Month	Lb/Month	Lb/Month	Lb/Month	Lb/Month	Lb/Month
2006	1	2,722.36	47.10	14.97	0.00	7.76	20.69	20.69
2006	2	3,964.55	68.59	21.81	0.00	11.30	30.13	30.13
2006	3	4,412.26	76.33	24.27	0.00	12.57	33.53	33.53
2006	4	4,258.34	73.67	23.42	0.00	12.14	32.36	32.36
2006	5	4,288.96	74.20	23.59	0.00	12.22	32.60	32.60
2006	6	4,041.25	69.91	22.23	0.00	11.52	30.71	30.71
2006	7	4,267.08	73.82	23.47	0.00	12.16	32.43	32.43
2006	8	3,153.98	54.56	17.35	0.00	8.99	23.97	23.97
2006	9	1,786.52	30.91	9.83	0.00	5.09	13.58	13.58
2006	10	59.92	1.04	0.33	0.00	0.17	0.46	0.46
2006	11	4.80	0.08	0.03	0.00	0.01	0.04	0.04
2006	12	11.00	0.19	0.06	0.00	0.03	0.08	0.08
Total		32,971.01	570.40	181.34	0.00	93.97	250.58	250.58

Note: Factors used for NOx and CO are from the source test dated August 17, 2006. The permitted limits were used for calculating the emissions of SOx, VOC and PM10 since the unit is not source tested for these constituents. The emissions of PM2.5 are assumed to be equal to PM10.

Appendix I

Adjusted Actual Emissions Reduction (AER) Spreadsheets During 2005 – 2006 Baseline Period

Agri-Cel Actual Emission Reducions

Two Year Average Actual Emission Reductions

Two Year Average Emissions by Quarter (2005 and 2006)						
Quarter	NOx Lb/Qtr	VOC Lb/Qtr	CO Lb/Qtr	SOx Lb/Qtr	PM10 Lb/Qtr	PM2.5 Lb/Qtr
1st Quarter	201.40	79,613.92	72.86	42.98	114.61	114.61
2nd Quarter	247.68	96,583.67	93.07	52.57	140.19	140.19
3rd Quarter	232.08	89,340.07	95.71	48.58	129.54	129.54
4th Quarter	29.87	10,747.37	15.96	5.96	15.89	15.89
Average	711.03	276,285.04	277.60	150.09	400.24	400.24

Actual Emissions Reductions (2005)

Emissions Summary by Quarter (2005)						
Quarter	NOx Lb/Qtr	VOC Lb/Qtr	CO Lb/Qtr	SOx Lb/Qtr	PM10 Lb/Qtr	PM2.5 Lb/Qtr
1st Quarter	157.45	57,828.51	85.43	31.31	83.50	83.50
2nd Quarter	217.07	77,720.88	117.77	43.17	115.11	115.11
3rd Quarter	260.62	94,591.50	141.40	51.83	138.21	138.21
4th Quarter	58.07	20,800.99	31.50	11.55	30.79	30.79
Total 2005	693.22	250,941.89	376.10	137.85	367.61	367.61

Actual Emissions Reductions (2006)

Emissions Summary by Quarter (2006)						
Quarter	NOx Lb/Qtr	VOC Lb/Qtr	CO Lb/Qtr	SOx Lb/Qtr	PM10 Lb/Qtr	PM2.5 Lb/Qtr
1st Quarter	245.36	101,399.33	60.29	54.64	145.72	145.72
2nd Quarter	278.28	115,446.46	68.38	61.98	165.27	165.27
3rd Quarter	203.54	84,088.64	50.01	45.33	120.88	120.88
4th Quarter	1.67	693.75	0.41	0.37	0.99	0.99
Total 2006	728.85	301,628.19	179.09	162.32	432.86	432.86

Agri-Cel Adjusted Actual Emission Reductions (2005)

Adjusted Actual Emission Reductions by Quarter (2005)

Emissions Summary by Quarter (2005)						
Process	NOx	VOC	CO	SOx	PM10	PM2.5
1st Quarter	157.45	57,828.51	85.43	31.31	83.50	83.50
2nd Quarter	217.07	77,720.88	117.77	43.17	115.11	115.11
3rd Quarter	260.62	94,591.50	141.40	51.83	138.21	138.21
4th Quarter	58.07	20,800.99	31.50	11.55	30.79	30.79
Total 2005	693.22	250,941.89	376.10	137.85	367.61	367.61

Actual Emissions - First Quarter (2005)

Process Unit	NOx Lb/Quarter	VOC Lb/Quarter	CO Lb/Quarter	SOx Lb/Quarter	PM10 Lb/Quarter	PM2.5 Lb/Quarter
Line1	-------	582.46	-------	-------	-------	-------
Line2	-------	878.82	-------	-------	-------	-------
Storage	-------	56313.14	-------	-------	-------	-------
Oxidizer	41.13	2.26	34.55	1.17	3.13	3.13
Dixon	46.37	16.86	0.00	12.01	32.04	32.04
Superior	69.96	34.98	50.88	18.13	48.34	48.34
Total	157.45	57,828.51	85.43	31.31	83.50	83.50

Actual Emissions - Second Quarter (2005)

Process Unit	NOx Lb/Quarter	VOC Lb/Quarter	CO Lb/Quarter	SOx Lb/Quarter	PM10 Lb/Quarter	PM2.5 Lb/Quarter
Line1	-------	803.01	-------	-------	-------	-------
Line2	-------	1,211.59	-------	-------	-------	-------
Storage	-------	75631.69	-------	-------	-------	-------
Oxidizer	56.70	3.12	47.63	1.62	4.31	4.31
Dixon	63.92	23.25	0.00	16.56	44.17	44.17
Superior	96.45	48.23	70.15	24.99	66.64	66.64
Total	217.07	77,720.88	117.77	43.17	115.11	115.11

Actual Emissions - Third Quarter (2005)

Process Unit	NOx Lb/Quarter	VOC Lb/Quarter	CO Lb/Quarter	SOx Lb/Quarter	PM10 Lb/Quarter	PM2.5 Lb/Quarter
Line1	-------	964.11	-------	-------	-------	-------
Line2	-------	1,454.66	-------	-------	-------	-------
Storage	-------	92083.18	-------	-------	-------	-------
Oxidizer	68.07	3.74	57.18	1.94	5.17	5.17
Dixon	76.75	27.91	0.00	19.88	53.03	53.03
Superior	115.80	57.90	84.22	30.00	80.01	80.01
Total	260.62	94,591.50	141.40	51.83	138.21	138.21

Actual Emissions - Fourth Quarter (2005)

Process Unit	NOx Lb/Quarter	VOC Lb/Quarter	CO Lb/Quarter	SOx Lb/Quarter	PM10 Lb/Quarter	PM2.5 Lb/Quarter
Line1	-------	214.81	-------	-------	-------	-------
Line2	-------	324.11	-------	-------	-------	-------
Storage	-------	20242.12	-------	-------	-------	-------
Oxidizer	15.17	0.83	12.74	0.43	1.15	1.15
Dixon	17.10	6.22	0.00	4.43	11.81	11.81
Superior	25.80	12.90	18.76	6.68	17.83	17.83
Total	58.07	20,800.99	31.50	11.55	30.79	30.79

Agri-Cel Adjusted Actual Emission Reductions (2006)

Adjusted Actual Emission Reductions by Quarter (2006)

Emissions Summary by Quarter (2006)						
Process	NOx	VOC	CO	SOx	PM10	PM2.5
1st Quarter	245.36	101,399.33	60.29	54.64	145.72	145.72
2nd Quarter	278.28	115,446.46	68.38	61.98	165.27	165.27
3rd Quarter	203.54	84,088.64	50.01	45.33	120.88	120.88
4th Quarter	1.67	693.75	0.41	0.37	0.99	0.99
Total 2005	728.85	301,628.19	179.09	162.32	432.86	432.86

Agri-Cel Adjusted Actual Emission Reductions (2006)

Actual Emissions - First Quarter (2006)

Process Unit	NOx Lb/Quarter	VOC Lb/Quarter	CO Lb/Quarter	SOx Lb/Quarter	PM10 Lb/Quarter	PM2.5 Lb/Quarter
Line1	---	1,068.37	---	---	---	---
Line2	---	1,611.97	---	---	---	---
Storage	---	98624.57	---	---	---	---
Oxidizer	71.77	3.95	60.29	2.05	5.45	5.45
Dixon	51.49	29.42	0.00	20.97	55.91	55.91
Superior	122.09	61.05	0.00	31.63	84.35	84.35
Total	245.36	101,399.33	60.29	54.64	145.72	145.72

Actual Emissions - Second Quarter (2006)

Process Unit	NOx Lb/Quarter	VOC Lb/Quarter	CO Lb/Quarter	SOx Lb/Quarter	PM10 Lb/Quarter	PM2.5 Lb/Quarter
Line1	---	1,211.73	---	---	---	---
Line2	---	1,828.28	---	---	---	---
Storage	---	112299.36	---	---	---	---
Oxidizer	81.40	4.48	68.38	2.32	6.19	6.19
Dixon	58.40	33.37	0.00	23.78	63.41	63.41
Superior	138.47	69.24	0.00	35.88	95.67	95.67
Total	278.28	115,446.46	68.38	61.98	165.27	165.27

Agri-Cel Adjusted Actual Emission Reductions (2006)

Actual Emissions - Third Quarter (2006)

Process Unit	NOx Lb/Quarter	VOC Lb/Quarter	CO Lb/Quarter	SOx Lb/Quarter	PM10 Lb/Quarter	PM2.5 Lb/Quarter
Line1	--------	886.29	--------	--------	--------	--------
Line2	--------	1,337.25	--------	--------	--------	--------
Storage	--------	81786.77	--------	--------	--------	--------
Oxidizer	59.54	3.27	50.01	1.70	4.52	4.52
Dixon	42.72	24.41	0.00	17.39	46.38	46.38
Superior	101.28	50.64	0.00	26.24	69.98	69.98
Total	203.54	84,088.64	50.01	45.33	120.88	120.88

Actual Emissions - Fourth Quarter (2006)

Process Unit	NOx Lb/Quarter	VOC Lb/Quarter	CO Lb/Quarter	SOx Lb/Quarter	PM10 Lb/Quarter	PM2.5 Lb/Quarter
Line1	--------	7.29	--------	--------	--------	--------
Line2	--------	11.00	--------	--------	--------	--------
Storage	--------	674.82	--------	--------	--------	--------
Oxidizer	0.49	0.03	0.41	0.01	0.04	0.04
Dixon	0.35	0.20	0.00	0.14	0.38	0.38
Superior	0.83	0.42	0.00	0.22	0.58	0.58
Total	1.67	693.75	0.41	0.37	0.99	0.99

Agri-Cel Production Rates and Fuel Use During Baseline Period (2005 and 2006)

Production and Fuel Use During 2005

Facility Production During Period		Monthly Fuel Use	Total EPS Processed	Process Line #1 EPS	Process Line #2 EPS	Total Product to Storage	Monthly Fuel Use (MMBtu/Month)		
							Shared	Dixon Boiler	Superior Boiler
Year	Month	Therms/Month	Tons/Month	Tons/Month	Tons/Month	Tons/Month	Oxidizer	Process Line 1	Process Line 2
2005	1	30,191.00	265.58	105.86	159.72	265.58	113.01	1,158.35	1,747.74
2005	2	36,221.00	318.63	127.00	191.62	318.63	135.59	1,389.71	2,096.81
2005	3	43,452.00	382.24	152.36	229.88	382.24	162.65	1,667.14	2,515.40
2005	4	43,263.00	380.58	151.70	228.88	380.58	161.95	1,659.89	2,504.46
2005	5	41,324.00	363.52	144.90	218.62	363.52	154.69	1,585.49	2,392.22
2005	6	66,878.00	588.31	234.50	353.81	588.31	250.35	2,565.94	3,871.52
2005	7	69,280.00	609.44	242.92	366.52	609.44	259.34	2,658.09	4,010.57
2005	8	67,615.00	594.80	237.08	357.71	594.80	253.10	2,594.21	3,914.18
2005	9	44,957.00	395.48	157.64	237.84	395.48	168.29	1,724.88	2,602.53
2005	10	39,660.00	348.88	139.06	209.82	348.88	148.46	1,521.65	2,295.89
2005	11	683.00	6.01	2.39	3.61	6.01	2.56	26.20	39.54
2005	12	175.00	1.54	0.61	0.93	1.54	0.66	6.71	10.13
Annual Rates		483,699.00	4,255.00	1,696.02	2,558.98	4,255.00	1,810.64	18,558.28	28,000.98

Note: Monthly fuel use was obtained from the Southern California Gas Company invoices. The oxidizer, and boilers are the only gas fired equipment used at the facility. During 2005 the combined EPS throughput rate was reported. Therefore, the production rate for each process line was calculated using the line percentage rates reported during 2006 (about 40% of the EPS is typically processed by Line #1 and 60% by Line #2).

Agri-Cel Production Rates and Fuel Use During Baseline Period (2005 and 2006)

Production and Fuel Use During 2006

Facility Production During Period		Monthly Fuel Use	Total EPS Processed	Process Line #1 EPS	Process Line #2 EPS	Total Product to Storage	Monthly Fuel Use (MMBtu/Month)		
Year	Month	Therms/Month	Tons/Month	Tons/Month	Tons/Month	Tons/Month	Shared Oxidizer	Dixon Boiler Process Line 1	Superior Boiler Process Line 2
2006	1	47,027.00	434.80	173.31	261.49	434.80	176.04	1,804.30	2,722.36
2006	2	68,485.00	633.20	252.39	380.81	633.20	256.36	2,627.59	3,964.55
2006	3	76,219.00	704.71	280.89	423.82	704.71	285.31	2,924.33	4,412.26
2006	4	73,560.00	680.12	271.09	409.03	680.12	275.36	2,822.31	4,258.34
2006	5	74,089.00	685.02	273.04	411.97	685.02	277.34	2,842.60	4,288.96
2006	6	69,810.00	645.45	257.27	388.18	645.45	261.32	2,678.43	4,041.25
2006	7	73,711.00	681.52	271.65	409.87	681.52	275.92	2,828.10	4,267.08
2006	8	54,483.00	503.74	200.79	302.95	503.74	203.95	2,090.37	3,153.98
2006	9	30,861.00	285.34	113.73	171.60	285.34	115.52	1,184.06	1,786.52
2006	10	1,035.00	9.57	3.81	5.76	9.57	3.87	39.71	59.92
2006	11	83.00	0.77	0.31	0.46	0.77	0.31	3.18	4.80
2006	12	190.00	1.76	0.70	1.06	1.76	0.71	7.29	11.00
Annual Rates		569,553.00	5,266.00	2,099.00	3,167.00	5,266.00	2,132.02	21,852.27	32,971.01

Note: Monthly fuel use was obtained from the Southern California Gas Company invoices. The oxidizer, and boilers are the only gas fired equipment used at the facility.

Adjusted VOC Emissions From Processing Line #1 (2005 and 2006)

Process Factors for VOC Emissions Line #1 (2005)

Drop Point Emissions From Process Line #1	Emission Factor Reference	Drop Point Process Emission Factors			Total
		VOC (P1-P2) Lb/Ton EPS*	VOC (P2-P3) Lb/Ton EPS*	VOC(P3-P4) Lb/Ton EPS*	Drop Point Lb/Ton EPS*
	Permit	26.000000	14.000000	8.000000	48.000000
	Source Test	8.800000	5.200000	7.600000	21.600000

*Source test and permit use lb-VOC/lb-EPS units

EPS Production Rates and VOC Emissions From Line #1 (2005)

Facility Production During Period		Process Line #1 EPS Tons/Month	Adjusted Drop Point Process Emissions (AER)			Total VOC Lb/Month
Year	Month		VOC (P1-P2) Lb/Month	VOC (P2-P3) Lb/Month	VOC (P3-P4) Lb/Month	
2005	1	105.86	65.21	38.53	56.32	160.06
2005	2	127.00	78.23	46.23	67.57	192.03
2005	3	152.36	93.85	55.46	81.05	230.37
2005	4	151.70	93.44	55.22	80.70	229.36
2005	5	144.90	89.26	52.74	77.09	219.08
2005	6	234.50	144.45	85.36	124.75	354.56
2005	7	242.92	149.64	88.42	129.23	367.30
2005	8	237.08	146.04	86.30	126.13	358.47
2005	9	157.64	97.10	57.38	83.86	238.34
2005	10	139.06	85.66	50.62	73.98	210.26
2005	11	2.39	1.48	0.87	1.27	3.62
2005	12	0.61	0.38	0.22	0.33	0.93
Annual Rates		1,696.02	1,044.75	617.35	902.28	2,564.38

Note: The test results from the November 21, 2006 source test were used to quantify fugitive VOC emissions because the results of the 2005 source test were inconclusive and were questioned by the District.

Adjusted VOC Emissions From Processing Line #1 (2005 and 2006)

Process Factors for VOC Emissions Line #1 (2006)

Drop Point Emissions From Process Line #1	Emission Factor Reference	Drop Point Process Emission Factors			Total
		VOC (P1-P2) Lb/Ton EPS*	VOC (P2-P3) Lb/Ton EPS*	VOC(P3-P4) Lb/Ton EPS*	Drop Point Lb/Ton EPS*
	Permit	26.000000	14.000000	8.000000	48.000000
	Source Test	8.800000	5.200000	7.600000	21.600000

*Source test and permit use lb-VOC/lb-EPS units

EPS Production Rates and VOC Emissions From Line #1 (2006)

Facility Production During Period		Process Line #1 EPS Tons/Month	Adjusted Drop Point Process Emissions (AER)			Total VOC Lb/Month
Year	Month		VOC (P1-P2) Lb/Month	VOC (P2-P3) Lb/Month	VOC (P3-P4) Lb/Month	
2006	1	173.31	106.76	63.09	92.20	262.05
2006	2	252.39	155.47	91.87	134.27	381.62
2006	3	280.89	173.03	102.25	149.44	424.71
2006	4	271.09	166.99	98.68	144.22	409.89
2006	5	273.04	168.19	99.39	145.26	412.84
2006	6	257.27	158.48	93.65	136.87	389.00
2006	7	271.65	167.34	98.88	144.52	410.74
2006	8	200.79	123.69	73.09	106.82	303.59
2006	9	113.73	70.06	41.40	60.51	171.97
2006	10	3.81	2.35	1.39	2.03	5.77
2006	11	0.31	0.19	0.11	0.16	0.46
2006	12	0.70	0.43	0.25	0.37	1.06
Annual Rates		2,099.00	1,292.98	764.04	1,116.67	3,173.69

Note: The test results from the 2006 source test were used to quantify fugitive VOC emissions.

Adjusted VOC Emissions From Processing Line #2 (2005 and 2006)

Process Factors for VOC Emissions Line #2 (2005)

Drop Point Emissions From Process Line #2	Emission Factor Reference	Controlled Drop Point Process Emission Factors			Total
		VOC (P1-P2) Lb/Ton EPS*	VOC (P2-P3) Lb/Ton EPS*	VOC(P3-P4) Lb/Ton EPS*	Drop Point Lb/Ton EPS*
	Permit	26.000000	14.000000	8.000000	48.000000
	Source Test	8.800000	5.200000	7.600000	21.600000

*Source test and permit use lb-VOC/lb-EPS units

EPS Production Rates and VOC Emissions From Line #2 (2005)

Facility Production During Period		Process Line #2 EPS Tons/Month	Drop Point Fugitive Emissions			Total VOC Lb/Month
Year	Month		VOC (P1-P2) Lb/Month	VOC (P2-P3) Lb/Month	VOC (P3-P4) Lb/Month	
2005	1	159.72	98.39	58.14	84.97	241.50
2005	2	191.62	118.04	69.75	101.94	289.74
2005	3	229.88	141.61	83.68	122.30	347.58
2005	4	228.88	140.99	83.31	121.76	346.07
2005	5	218.62	134.67	79.58	116.31	330.56
2005	6	353.81	217.95	128.79	188.23	534.97
2005	7	366.52	225.78	133.41	194.99	554.18
2005	8	357.71	220.35	130.21	190.30	540.86
2005	9	237.84	146.51	86.57	126.53	359.62
2005	10	209.82	129.25	76.37	111.62	317.25
2005	11	3.61	2.23	1.32	1.92	5.46
2005	12	0.93	0.57	0.34	0.49	1.40
Annual Rates		2,558.98	1,576.33	931.47	1,361.38	3,869.18

Note: The test results from the November 21, 2006 source test were used to quantify fugitive VOC emissions because the results of the 2005 source test were inconclusive and were questioned by the District.

Adjusted VOC Emissions From Processing Line #2 (2005 and 2006)

Process Factors for VOC Emissions Line #2 (2006)

Drop Point Emissions From Process Line #2	Emission Factor Reference	Controlled Drop Point Process Emission Factors			Total
		VOC (P1-P2) Lb/Ton EPS*	VOC (P2-P3) Lb/Ton EPS*	VOC(P3-P4) Lb/Ton EPS*	Drop Point Lb/Ton EPS*
	Permit	26.000000	14.000000	8.000000	48.000000
	Source Test	8.800000	5.200000	7.600000	21.600000

*Source test and permit use lb-VOC/lb-EPS units

EPS Production Rates and VOC Emissions From Line #2 (2006)

Facility Production During Period		Process Line #1 EPS Tons/Month	Drop Point Fugitive Emissions			Total VOC Lb/Month
Year	Month		VOC (P1-P2) Lb/Month	VOC (P2-P3) Lb/Month	VOC (P3-P4) Lb/Month	
2006	1	261.49	161.08	95.18	139.11	395.38
2006	2	380.81	234.58	138.62	202.59	575.79
2006	3	423.82	261.07	154.27	225.47	640.81
2006	4	409.03	251.96	148.89	217.60	618.45
2006	5	411.97	253.77	149.96	219.17	622.90
2006	6	388.18	239.12	141.30	206.51	586.93
2006	7	409.87	252.48	149.19	218.05	619.72
2006	8	302.95	186.62	110.27	161.17	458.06
2006	9	171.60	105.71	62.46	91.29	259.46
2006	10	5.76	3.55	2.09	3.06	8.70
2006	11	0.46	0.28	0.17	0.25	0.70
2006	12	1.06	0.65	0.38	0.56	1.60
Annual Rates		3,167.00	1,950.87	1,152.79	1,684.84	4,788.50

Note: The test results from the 2006 source test were used to quantify fugitive VOC emissions.

Adjusted VOC Emissions From Product Storage (2005 and 2006)

EPS Bead Pentane Content and VOC emissions From Storage (2005)

Facility Production During Period		Total EPS Processed	EPS Bead Ave Pentane	Pentane Released During Manufacturing Process			VOC Storage Emissions	
Year	Month	Tons/Month	% w/w	P1-P2 Lb/Month	P2-P3 Lb/Month	P3-P4 Lb/Month	Uncontrolled Lb/Month	
2005	1	265.58	3.88	2,337.14	1,381.04	2,018.44	14,872.70	
2005	2	318.63	4.08	2,803.93	1,656.87	2,421.58	19,117.72	
2005	3	382.24	4.00	3,363.70	1,987.64	2,905.01	22,322.71	
2005	4	380.58	4.04	3,349.07	1,978.99	2,892.37	22,530.08	
2005	5	363.52	3.82	3,198.96	1,890.30	2,762.74	19,920.82	
2005	6	588.31	3.90	5,177.14	3,059.22	4,471.17	33,180.79	
2005	7	609.44	3.89	5,363.09	3,169.10	4,631.76	34,250.63	
2005	8	594.80	4.02	5,234.20	3,092.93	4,520.44	34,973.96	
2005	9	395.48	3.97	3,480.20	2,056.48	3,005.63	22,858.60	
2005	10	348.88	3.92	3,070.15	1,814.18	2,651.49	19,816.43	
2005	11	6.01	3.90	52.87	31.24	45.66	338.86	
2005	12	1.54	3.90	13.55	8.01	11.70	86.82	
Annual Rates		4,255.00	3.94	37,444.00	22,126.00	32,338.00	244,270.13	

Note: EPS Bead pentane content was obtained form the bead manufacturer's information provided for each shipment (Lot) of EPS beads delivered to the Agri-Cel Facility. Storage (off gassing) emissions are calculated by difference between the initial pentane content of the beads and the pentane drop (fugitive pentane and pentane vented to thermal oxidizer) during manufacturing. This is consistent with the District assumption that 100% of the pentane remaining in the product is released during storage.

Adjusted VOC Emissions From Product Storage (2005 and 2006)

EPS Bead Pentane Content and VOC emissions From Storage (2006)

Facility Production During Period		Total EPS Processed	EPS Bead Ave Pentane	Pentane Released During Manufacturing Process			VOC Storage Emissions	
				P1-P2	P2-P3	P3-P4	Uncontrolled	
Year	Month	Tons/Month	% w/w	Lb/Month	Lb/Month	Lb/Month	Lb/Month	
2006	1	434.80	3.88	3,826.28	2,260.98	3,304.51	24,349.05	
2006	2	633.20	3.84	5,572.18	3,292.65	4,812.33	34,952.74	
2006	3	704.71	3.87	6,201.44	3,664.49	5,355.79	39,322.77	
2006	4	680.12	3.84	5,985.10	3,536.65	5,168.95	37,542.87	
2006	5	685.02	3.87	6,028.14	3,562.08	5,206.12	38,223.87	
2006	6	645.45	3.91	5,679.98	3,356.35	4,905.44	36,532.62	
2006	7	681.52	3.85	5,997.38	3,543.91	5,179.56	37,756.24	
2006	8	503.74	3.87	4,432.93	2,619.46	3,828.44	28,108.78	
2006	9	285.34	3.87	2,510.96	1,483.75	2,168.55	15,921.75	
2006	10	9.57	3.87	84.21	49.76	72.73	533.98	
2006	11	0.77	3.87	6.75	3.99	5.83	42.82	
2006	12	1.76	3.87	15.46	9.13	13.35	98.02	
Annual Rates		5,266.00	3.87	46,340.80	27,383.20	40,021.60	293,385.52	

Note: EPS Bead pentane content was obtained form the bead manufacturer's information provided for each shipment (Lot) of EPS beads delivered to the Agri-Cel Facility. Storage (off gassing) emissions are calculated by difference between the initial pentane content of the beads and the pentane drop (fugitive pentane and pentane vented to thermal oxidizer) during manufacturing. This is consistent with the District assumption that 100% of the pentane remaining in the product is released during storage.

Actual Emissions From Oxidizer During Baseline Period

2005 - Baseline Period Fuel and Emissions

RETOX Oxidizer	Factor Reference	Process Emission Factors (Lb/MMBtu)					
		NOx	VOC	CO	SOx	PM10	PM25
	Permit Limit	-------	-------	-------	-------	-------	-------
Max. Heat Input Rate (0.7 MMBtu/Hr)	AP42	0.1000	0.0055	0.0823	0.0006	0.0074	0.0074
	Source Test	-------	0.1414	-------	-------	-------	-------
	Factor Used	0.1000	0.0055	0.0840	0.0029	0.0076	0.0076

Criteria Pollutant Emissions (Lb/Month) During 2005								
Baseline Period		Retox Oxidizer	NOx	VOC	CO	SOx	PM10	PM2.5
Year	Month	MMBtu/Month	Lb/Month	Lb/Month	Lb/Month	Lb/Month	Lb/Month	Lb/Month
2005	1	113.01	11.30	0.62	9.49	0.32	0.86	0.86
2005	2	135.59	13.56	0.75	11.39	0.39	1.03	1.03
2005	3	162.65	16.27	0.89	13.66	0.46	1.24	1.24
2005	4	161.95	16.19	0.89	13.60	0.46	1.23	1.23
2005	5	154.69	15.47	0.85	12.99	0.44	1.18	1.18
2005	6	250.35	25.03	1.38	21.03	0.71	1.90	1.90
2005	7	259.34	25.93	1.43	21.78	0.74	1.97	1.97
2005	8	253.10	25.31	1.39	21.26	0.72	1.92	1.92
2005	9	168.29	16.83	0.93	14.14	0.48	1.28	1.28
2005	10	148.46	14.85	0.82	12.47	0.42	1.13	1.13
2005	11	2.56	0.26	0.01	0.21	0.01	0.02	0.02
2005	12	0.66	0.07	0.00	0.06	0.00	0.00	0.00
Total		1,810.64	181.06	9.96	152.09	5.16	13.76	13.76

Note: The unit was only tested for VOC emissions. The emissions factor is derived from the hourly emission rate measured during source testing by the heat input rating of the emission units. Emissions of NOx, CO, & PM10 were calculated using EPA AP42 emissions factors. VOC adjusted to only involve supplemental fuel emissions due to 93% overall capture and control being previously applied to the Line1 & 2 process emissions.

Actual Emissions From Oxidizer During Baseline Period

2006 - Baseline Period Fuel and Emissions

RETOX Oxidizer	Factor Reference	Process Emission Factors (Lb/MMBtu)					
		NOx	VOC	CO	SOx	PM10	PM25
	Permit Limit	------	------	------	------	------	------
Max. Heat Input Rate	AP42	0.1000	0.0055	0.0840	0.0006	0.0076	0.0074
(0.7 MMBtu/Hr)	Source Test	-------	0.4086	------	------	------	------
	Factor Used	0.1000	0.0055	0.0840	0.0029	0.0076	0.0076

Criteria Pollutant Emissions (Lb/Month) During 2005								
Baseline Period		Retox Oxidizer	NOx	VOC	CO	SOx	PM10	PM2.5
Year	Month	MMBtu/Month	Lb/Month	Lb/Month	Lb/Month	Lb/Month	Lb/Month	Lb/Month
2006	1	176.04	17.60	0.97	14.79	0.50	1.34	1.34
2006	2	256.36	25.64	1.41	21.53	0.73	1.95	1.95
2006	3	285.31	28.53	1.57	23.97	0.81	2.17	2.17
2006	4	275.36	27.54	1.51	23.13	0.78	2.09	2.09
2006	5	277.34	27.73	1.53	23.30	0.79	2.11	2.11
2006	6	261.32	26.13	1.44	21.95	0.74	1.99	1.99
2006	7	275.92	27.59	1.52	23.18	0.79	2.10	2.10
2006	8	203.95	20.39	1.12	17.13	0.58	1.55	1.55
2006	9	115.52	11.55	0.64	9.70	0.33	0.88	0.88
2006	10	3.87	0.39	0.02	0.33	0.01	0.03	0.03
2006	11	0.31	0.03	0.00	0.03	0.00	0.00	0.00
2006	12	0.71	0.07	0.00	0.06	0.00	0.01	0.01
Total		2,132.02	213.20	11.73	179.09	6.08	16.20	16.20

Note: The unit was only tested for VOC emissions. The emissions factor is derived from the hourly emission rate measured during source testing by the heat input rating of the emission units. Emissions of NOx, CO, & PM10 were calculated using EPA AP42 emissions factors. VOC adjusted to only involve supplemental fuel emissions due to 93% overall capture and control being previously applied to the Line1 & 2 process emissions.

Adjusted Actual Emissions From Dixon Boiler During Baseline Period

2005 - Baseline Period Fuel and Emissions

Dixon Boiler	Factor Reference	Process Emission Factors (Lb/MMBtu)					
		NOx	VOC	CO	SOx	PM10	PM25
	Permit Limit	0.0180	0.0040	0.0740	0.0029	0.0120	0.0120
Max. Heat Input Rate (7.5 MMBtu/Hr)	Rule 4320	0.0110	--------	0.2950	--------	--------	--------
	Source Test	0.0110	--------	0.0000	--------	--------	--------
	Factor Used	0.0110	0.0040	0.0000	0.0029	0.0076	0.0076

Criteria Pollutant Emissions (Lb/Month) During 2005								
Baseline Period		Dixon Boiler	NOx	VOC	CO	SOx	PM10	PM2.5
Year	Month	MMBtu/Month	Lb/Month	Lb/Month	Lb/Month	Lb/Month	Lb/Month	Lb/Month
2005	1	1,158.35	12.74	4.63	0.00	3.30	8.80	8.80
2005	2	1,389.71	15.29	5.56	0.00	3.96	10.56	10.56
2005	3	1,667.14	18.34	6.67	0.00	4.75	12.67	12.67
2005	4	1,659.89	18.26	6.64	0.00	4.73	12.62	12.62
2005	5	1,585.49	17.44	6.34	0.00	4.52	12.05	12.05
2005	6	2,565.94	28.23	10.26	0.00	7.31	19.50	19.50
2005	7	2,658.09	29.24	10.63	0.00	7.58	20.20	20.20
2005	8	2,594.21	28.54	10.38	0.00	7.39	19.72	19.72
2005	9	1,724.88	18.97	6.90	0.00	4.92	13.11	13.11
2005	10	1,521.65	16.74	6.09	0.00	4.34	11.56	11.56
2005	11	26.20	0.29	0.10	0.00	0.07	0.20	0.20
2005	12	6.71	0.07	0.03	0.00	0.02	0.05	0.05
Total		18,558.28	204.14	74.23	0.00	52.89	141.04	141.04

Note: Factors used for NOx and CO are from the source test dated September 7, 2005. The permitted limits were used for calculating the emissions of SOx, VOC and PM10 since the unit is not source tested for these constituents. The emissions of PM2.5 are assumed to be equal to PM10.

Adjusted Actual Emissions From Dixon Boiler During Baseline Period

2006 - Baseline Period Fuel and Emissions [--------]

Dixon Boiler	Factor Reference	Process Emission Factors (Lb/MMBtu)					
		NOx	VOC	CO	SOx	PM10	PM25
	Permit Limit	0.0180	0.0040	0.0740	0.0029	0.0120	0.0120
Max. Heat Input Rate	Rule 4320	0.0110	--------	0.2950	--------	--------	--------
(7.5 MMBtu/Hr)	Source Test	0.0070	--------	0.0000	--------	--------	--------
	Factor Used	0.0070	0.0040	0.0000	0.0029	0.0076	0.0120

Criteria Pollutant Emissions (Lb/Month) During 2006								
Baseline Period		Dixon Boiler	NOx	VOC	CO	SOx	PM10	PM2.5
Year	Month	MMBtu/Month	Lb/Month	Lb/Month	Lb/Month	Lb/Month	Lb/Month	Lb/Month
2006	1	1,804.30	12.63	7.22	0.00	5.14	13.71	13.71
2006	2	2,627.59	18.39	10.51	0.00	7.49	19.97	19.97
2006	3	2,924.33	20.47	11.70	0.00	8.33	22.22	22.22
2006	4	2,822.31	19.76	11.29	0.00	8.04	21.45	21.45
2006	5	2,842.60	19.90	11.37	0.00	8.10	21.60	21.60
2006	6	2,678.43	18.75	10.71	0.00	7.63	20.36	20.36
2006	7	2,828.10	19.80	11.31	0.00	8.06	21.49	21.49
2006	8	2,090.37	14.63	8.36	0.00	5.96	15.89	15.89
2006	9	1,184.06	8.29	4.74	0.00	3.37	9.00	9.00
2006	10	39.71	0.28	0.16	0.00	0.11	0.30	0.30
2006	11	3.18	0.02	0.01	0.00	0.01	0.02	0.02
2006	12	7.29	0.05	0.03	0.00	0.02	0.06	0.06
Total		21,852.27	152.97	87.41	0.00	62.28	166.08	166.08

Note: Factors used for NOx and CO are from the source test dated August 17, 2006. The permitted limits were used for calculating the emissions of SOx, VOC and PM10 since the unit is not source tested for these constituents. The emissions of PM2.5 are assumed to be equal to PM10.

Adjusted Actual Emissions From Superior Boiler During Baseline Period

2005 - Baseline Period Fuel and Emissions

Superior Boiler	Factor Reference	Process Emission Factors (Lb/MMBtu)					
		NOx	VOC	CO	SOx	PM10	PM25
Max. Heat Input Rate (10.5 MMBtu/Hr)	Permit Limit	0.0180	0.0055	0.0740	0.0029	0.0076	0.0076
	Rule 4320	0.0110	------	0.2950	------	------	------
	Source Test	0.0173	------	0.0080	------	------	------
	Factor Used	0.0110	0.0055	0.0080	0.0029	0.0076	0.0076

Criteria Pollutant Emissions (Lb/Month) During 2005								
Baseline Period		Superior Boiler	NOx	VOC	CO	SOx	PM10	PM2.5
Year	Month	MMBtu/Month	Lb/Month	Lb/Month	Lb/Month	Lb/Month	Lb/Month	Lb/Month
2005	1	1,747.74	19.23	9.61	13.98	4.98	13.28	13.28
2005	2	2,096.81	23.06	11.53	16.77	5.98	15.94	15.94
2005	3	2,515.40	27.67	13.83	20.12	7.17	19.12	19.12
2005	4	2,504.46	27.55	13.77	20.04	7.14	19.03	19.03
2005	5	2,392.22	26.31	13.16	19.14	6.82	18.18	18.18
2005	6	3,871.52	42.59	21.29	30.97	11.03	29.42	29.42
2005	7	4,010.57	44.12	22.06	32.08	11.43	30.48	30.48
2005	8	3,914.18	43.06	21.53	31.31	11.16	29.75	29.75
2005	9	2,602.53	28.63	14.31	20.82	7.42	19.78	19.78
2005	10	2,295.89	25.25	12.63	18.37	6.54	17.45	17.45
2005	11	39.54	0.43	0.22	0.32	0.11	0.30	0.30
2005	12	10.13	0.11	0.06	0.08	0.03	0.08	0.08
Total		28,000.98	308.01	154.01	224.01	79.80	212.81	212.81

Note: Rule 4320 requires 9 ppmv-NOx @ 3% O2 (0.011 lb-NOx/MMBtu). Therefore, NOx emission factor is adjusted. tested were used to calculate the NOx and CO emission. The emissions of SOx, VOC and PM10/PM2.5 were calculated using the permitted emission limits since the unit is not tested for SOx, VOC and PM10/PM2.5.

Adjusted Actual Emissions From Superior Boiler During Baseline Period

2006 - Baseline Period Fuel and Emissions

Superior Boiler	Factor Reference	Process Emission Factors (Lb/MMBtu)					
		NOx	VOC	CO	SOx	PM10	PM25
	Permit Limit	0.0180	0.0055	0.0740	0.0029	0.0076	0.0076
Max. Heat Input Rate	Rule 4320	0.0110	------	0.2950	-------	--------	-------
(10.5 MMBtu/Hr)	Source Test	0.0173	------	0.0000	-------	-------	-------
	Factor Used	0.0110	0.0055	0.0000	0.0029	0.0076	0.0076

Criteria Pollutant Emissions (Lb/Month) During 2005								
Baseline Period		Superior Boiler	NOx	VOC	CO	SOx	PM10	PM2.5
Year	Month	MMBtu/Month	Lb/Month	Lb/Month	Lb/Month	Lb/Month	Lb/Month	Lb/Month
2006	1	2,722.36	29.95	14.97	0.00	7.76	20.69	20.69
2006	2	3,964.55	43.61	21.81	0.00	11.30	30.13	30.13
2006	3	4,412.26	48.53	24.27	0.00	12.57	33.53	33.53
2006	4	4,258.34	46.84	23.42	0.00	12.14	32.36	32.36
2006	5	4,288.96	47.18	23.59	0.00	12.22	32.60	32.60
2006	6	4,041.25	44.45	22.23	0.00	11.52	30.71	30.71
2006	7	4,267.08	46.94	23.47	0.00	12.16	32.43	32.43
2006	8	3,153.98	34.69	17.35	0.00	8.99	23.97	23.97
2006	9	1,786.52	19.65	9.83	0.00	5.09	13.58	13.58
2006	10	59.92	0.66	0.33	0.00	0.17	0.46	0.46
2006	11	4.80	0.05	0.03	0.00	0.01	0.04	0.04
2006	12	11.00	0.12	0.06	0.00	0.03	0.08	0.08
Total		32,971.01	362.68	181.34	0.00	93.97	250.58	250.58

Note: Rule 4320 requires 9 ppmv-NOx @ 3% O2 (0.011 lb-NOx/MMBtu). Therefore, NOx emission factor is adjusted. for calculating the emissions of SOx, VOC and PM10 since the unit is not source tested for these constituents. The emissions of PM2.5 are assumed to be equal to PM10.

Appendix J

Draft ERC Certificates

San Joaquin Valley
Air Pollution Control District

Southern Regional Office • 34946 Flyover Court • Bakersfield, CA 93308

Emission Reduction Credit Certificate
S-3493-1

ISSUED TO: AGRI-CEL INC

ISSUED DATE: <DRAFT>

LOCATION OF REDUCTION: 391 ROAD 192
DELANO, CA

For VOC Reduction In The Amount Of:

Quarter 1	Quarter 2	Quarter 3	Quarter 4
71,653 lbs	86,926 lbs	80,406 lbs	9,672 lbs

[ ] Conditions Attached

Method Of Reduction

[X] Shutdown of Entire Stationary Source
[ ] Shutdown of Emissions Units
[ ] Other

Shutdown of entire stationary source

Use of these credits outside the San Joaquin Valley Unified Air Pollution Control District (SJVUAPCD) is not allowed without express written authorization by the SJVUAPCD.

Seyed Sadredin, Executive Director / APCO

DRAFT

David Warner, Director of Permit Services

Dec 16 2010 8:46AM – LEONARDS

San Joaquin Valley
Air Pollution Control District

Southern Regional Office • 34946 Flyover Court • Bakersfield, CA 93308

Emission Reduction Credit Certificate
S-3493-2

ISSUED TO: AGRI-CEL INC

ISSUED DATE: <DRAFT>

LOCATION OF REDUCTION: 391 ROAD 192
DELANO, CA

For NOx Reduction In The Amount Of:

Quarter 1	Quarter 2	Quarter 3	Quarter 4
181 lbs	223 lbs	209 lbs	27 lbs

[ ] Conditions Attached

Method Of Reduction

[X] Shutdown of Entire Stationary Source
[ ] Shutdown of Emissions Units
[ ] Other

Shutdown of entire stationary source

Use of these credits outside the San Joaquin Valley Unified Air Pollution Control District (SJVUAPCD) is not allowed without express written authorization by the SJVUAPCD.

Seyed Sadredin, Executive Director / APCO

DRAFT

David Warner, Director of Permit Services

San Joaquin Valley
Air Pollution Control District

Southern Regional Office • 34946 Flyover Court • Bakersfield, CA 93308

Emission Reduction Credit Certificate
S-3493-3

ISSUED TO: AGRI-CEL INC

ISSUED DATE: <DRAFT>

LOCATION OF REDUCTION: 391 ROAD 192
DELANO, CA

For CO Reduction In The Amount Of:

Quarter 1	Quarter 2	Quarter 3	Quarter 4
66 lbs	84 lbs	86 lbs	14 lbs

[ ] Conditions Attached

Method Of Reduction

[X] Shutdown of Entire Stationary Source
[ ] Shutdown of Emissions Units
[ ] Other

Shutdown of entire stationary source

Use of these credits outside the San Joaquin Valley Unified Air Pollution Control District (SJVUAPCD) is not allowed without express written authorization by the SJVUAPCD.

Seyed Sadredin, Executive Director / APCO

DRAFT

David Warner, Director of Permit Services

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San Joaquin Valley
Air Pollution Control District

Southern Regional Office • 34946 Flyover Court • Bakersfield, CA 93308

Emission Reduction Credit Certificate
S-3493-4

ISSUED TO: AGRI-CEL INC

ISSUED DATE: <DRAFT>

LOCATION OF REDUCTION: 391 ROAD 192
DELANO, CA

For PM10 Reduction In The Amount Of:

Quarter 1	Quarter 2	Quarter 3	Quarter 4
103 lbs	126 lbs	117 lbs	14 lbs

[ ] Conditions Attached

Method Of Reduction

[X] Shutdown of Entire Stationary Source
[ ] Shutdown of Emissions Units
[ ] Other

Shutdown of entire stationary source

Use of these credits outside the San Joaquin Valley Unified Air Pollution Control District (SJVUAPCD) is not allowed without express written authorization by the SJVUAPCD.

Seyed Sadredin, Executive Director / APCO

DRAFT

David Warner, Director of Permit Services

San Joaquin Valley
Air Pollution Control District

Southern Regional Office • 34946 Flyover Court • Bakersfield, CA 93308

Emission Reduction Credit Certificate
S-3493-5

ISSUED TO: AGRI-CEL INC

ISSUED DATE: <DRAFT>

LOCATION OF REDUCTION: 391 ROAD 192
DELANO, CA

For SOx Reduction In The Amount Of:

Quarter 1	Quarter 2	Quarter 3	Quarter 4
39 lbs	48 lbs	44 lbs	5 lbs

[ ] Conditions Attached

Method Of Reduction

[X] Shutdown of Entire Stationary Source
[ ] Shutdown of Emissions Units
[ ] Other

Shutdown of entire stationary source

Use of these credits outside the San Joaquin Valley Unified Air Pollution Control District (SJVUAPCD) is not allowed without express written authorization by the SJVUAPCD.

Seyed Sadredin, Executive Director / APCO

DRAFT

David Warner, Director of Permit Services

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