San Joaquin Valley
AIR POLLUTION CONTROL DISTRICT

MAY - 3 2012

Mr. Joey Barulich
Vintage Production California, LLC
9600 Ming Ave
Bakersfield, CA 93311

Re: Proposed ATC / Certificate of Conformity (Significant Mod)
District Facility # S-1738
Project # S-1120872

Dear Mr. Barulich:

Enclosed for your review is the District's analysis of an application for Authority to Construct for the facility identified above. The applicant is requesting that a Certificate of Conformity with the procedural requirements of 40 CFR Part 70 be issued with this project. This modification will increase the annual throughput of a produced gas fired flare.

After addressing any EPA comments made during the 45-day comment period, the Authority to Construct will be issued to the facility with a Certificate of Conformity. Prior to operating with modifications authorized by the Authority to Construct, the facility must submit an application to modify the Title V permit as an administrative amendment, in accordance with District Rule 2520, Section 11.5.

If you have any questions, please contact Mr. Leonard Scandura, Permit Services Manager, at (661) 392-5500.

Thank you for your cooperation in this matter.

Sincerely,

David Warner
for Director of Permit Services

DW: KR/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

Central Region (Main Office)
1990 E. Gettysburg Avenue
Fresno, CA 93726-0244
Tel: (559) 230-6000 FAX: (559) 230-6061
www.valleyair.org

Southern Region
34946 Flyover Court
Bakersfield, CA 93308-9725
Tel: (661) 392-5500 FAX: (661) 392-5585

San Joaquin Valley
AIR POLLUTION CONTROL DISTRICT

MAY - 3 2012

Gerardo C. Rios, Chief
Permits Office
Air Division
U.S. EPA - Region IX
75 Hawthorne St.
San Francisco, CA 94105

Re: Proposed ATC / Certificate of Conformity (Significant Mod)
District Facility # S-1738
Project # S-1120872

Dear Mr. Rios:

Enclosed for your review is the District's engineering evaluation of an application for Authority to Construct for Vintage Production California, LLC operating within their Light Oil Western Stationary Source in Kern County, which has been issued a Title V permit. Vintage Production California, LLC is requesting that a Certificate of Conformity, with the procedural requirements of 40 CFR Part 70, be issued with this project. This modification will increase the annual throughput of a produced gas fired flare.

Enclosed is the engineering evaluation of this application with a copy of the current Title V permit and proposed Authority to Construct # S-1738-349-1 with Certificate of Conformity. After demonstrating compliance with the Authority to Construct, the conditions will be incorporated into the facility's Title V permit through an administrative amendment.

Please submit your written comments on this project within the 45-day comment period that begins on the date you receive this letter. If you have any questions, please contact Mr. Leonard Scandura, Permit Services Manager, at (661) 392-5500.

Thank you for your cooperation in this matter.

Sincerely,

David Warner
Director of Permit Services

DW: KR/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

Central Region (Main Office)
1990 E. Gettysburg Avenue
Fresno, CA 93726-0244
Tel: (559) 230-6000 FAX: (559) 230-6061

Southern Region
34946 Flyover Court
Bakersfield, CA 93308-9725
Tel: (661) 392-5500 FAX: (661) 392-5585

www.valleyair.org

San Joaquin Valley
AIR POLLUTION CONTROL DISTRICT

MAY - 3 2012

Mike Tollstrup, Chief
Project Assessment Branch
Air Resources Board
P O Box 2815
Sacramento, CA 95812-2815

Re: Proposed ATC / Certificate of Conformity (Significant Mod)
District Facility # S-1738
Project # S-1120872

Dear Mr. Tollstrup:

Enclosed for your review is the District's analysis of an application for Authority to Construct for the facility identified above. The applicant is requesting that a Certificate of Conformity with the procedural requirements of 40 CFR Part 70 be issued with this project. This modification will increase the annual throughput of a produced gas fired flare.

Enclosed is the engineering evaluation of this application with a copy of the current Title V permit and proposed Authority to Construct # S-1738-349-1 with Certificate of Conformity. After demonstrating compliance with the Authority to Construct, the conditions will be incorporated into the facility's Title V permit through an administrative amendment.

Please submit your written comments on this project within the 30-day comment period that begins on the date you receive this letter. If you have any questions, please contact Mr. Leonard Scandura, Permit Services Manager, at (661) 392-5500.

Thank you for your cooperation in this matter.

Sincerely,

for David Warner
Director of Permit Services

DW: KR/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

Central Region (Main Office)
1990 E. Gettysburg Avenue
Fresno, CA 93726-0244
Tel: (559) 230-6000 FAX: (559) 230-6061

Southern Region
34946 Flyover Court
Bakersfield, CA 93308-9725
Tel: (661) 392-5500 FAX: (661) 392-5585

www.valleyair.org

Bakersfield Californian

**NOTICE OF PRELIMINARY DECISION
FOR THE ISSUANCE OF AUTHORITY TO CONSTRUCT AND
THE PROPOSED SIGNIFICANT MODIFICATION OF FEDERALLY
MANDATED OPERATING PERMIT**

NOTICE IS HEREBY GIVEN that the San Joaquin Valley Air Pollution Control District solicits public comment on the proposed significant modification of Vintage Production California, LLC for its light oil production operation operating within their Light Oil Western Stationary Source in Kern County, California. This modification will increase the annual throughput of a produced gas fired flare.

The District's analysis of the legal and factual basis for this proposed action, project #S-1120872, is available for public inspection at http://www.valleyair.org/notices/public_notices_idx.htm and the District office at the address below. This will be the public's only opportunity to comment on the specific conditions of the modification. If requested by the public, the District will hold a public hearing regarding issuance of this modification. For additional information, please contact Mr. Jim Swaney, Permit Services Manager, at (559) 230-5900. Written comments on the proposed initial permit must be submitted within 30 days of the publication date of this notice to DAVID WARNER, DIRECTOR OF PERMIT SERVICES, SAN JOAQUIN VALLEY AIR POLLUTION CONTROL DISTRICT, 34946 FLYOVER COURT, BAKERSFIELD, CA 93308.

San Joaquin Valley Air Pollution Control District

Authority to Construct Application Review

Increase Flare Annual Throughput Limit

Facility Name:	Vintage Production California, LLC	Date:	April 26, 2012
Mailing Address:	9600 Ming Ave Bakersfield, CA 93311	Engineer:	Kris Rickards
		Lead Engineer:	Allan Phillips AQ Supvr AQE
Contact Person:	Joey Barulich		APR 27 2012
Telephone:	661-869-8000		
Fax:	661-869-8151		
E-Mail:	Joey_Baulich@oxy.com		
Application #(s):	S-1738-349-1		
Project #:	S-1120872		
Deemed Complete:	April 3, 2012		

I. Proposal

Vintage Production California, LLC (hereafter referred to as VPC) is applying for an Authority to Construct (ATC) permit to increase the annual gas throughput for the limited-use flare listed on permit S-1738-349. The flare is located adjacent to VPC's M&M gas handling facility (permit S-1738-346) and the M&M production facility, which currently consists of six crude oil and produced water storage tanks (permits S-1738-288 through '290, '297, '340, and '341) an organic liquid loading tank (permit S-1738-342), and various test vessels.

The limited-use flare will provide a safe pressure release and incineration of produced gas in the rare event of a sales gas interruption (e.g. a sales gas compressor malfunction, or a gas line repair and/or shutdown).

Disposition of Outstanding ATCs

ATC S-1738-349-0 has been implemented, serves as the base document, and is included in **Appendix B**.

VPC received their Title V Permit on January 13, 2000. This modification can be classified as a Title V significant modification pursuant to Rule 2520, and can be processed with a Certificate of Conformity (COC). Since the facility has specifically requested that this project be processed in that manner, the 45-day EPA comment period will be satisfied prior to the issuance of the Authority to Construct. VPC must apply to administratively amend their Title V permit.

II. Applicable Rules

Rule 2201	New and Modified Stationary Source Review Rule (4/21/11)
Rule 2520	Federally Mandated Operating Permits (6/21/01)
Rule 4001	New Source Performance Standards (4/14/99)
Rule 4101	Visible Emissions (2/17/05)
Rule 4102	Nuisance (12/17/92)
Rule 4201	Particulate Matter Concentration (12/17/92)
Rule 4202	Particulate Matter Emission Rate (12/17/92)
Rule 4301	Fuel Burning Equipment (12/17/92)
Rule 4311	Flares (6/18/09)
Rule 4801	Sulfur Compounds (12/17/92)
CH&SC 41700	Health Risk Assessment
CH&SC 42301.6	School Notice

Public Resources Code 21000-21177: California Environmental Quality Act (CEQA)
California Code of Regulations, Title 14, Division 6, Chapter 3, Sections 15000-15387: CEQA Guidelines

III. Project Location

The flare is located in VPC's Light Oil Western Stationary Source within the M&M Lease, NE/4 of Section 25, Township 30S, Range 21E. The equipment is not located within 1,000 feet of the outer boundary of a K-12 school. Therefore, the public notification requirement of California Health and Safety Code 42301.6 is not applicable to this project.

IV. Process Description

Crude oil, produced water and natural gas are produced from the oil and gas wells at VPC's Belgian Anticline field and piped to the M&M facility. The oil is trucked from the M&M facility via the loading rack (permit S-1738-342). The produced water is re-injected into the producing formation. The produced natural gas is utilized to fuel the IC engines, with the excess gas being compressed and sold via pipeline to Chevron.

In the event of a sales gas interruption (e.g. a sales gas compressor malfunction or gas line repair and/or shut down), the limited-use flare will provide for the safe pressure release and incineration of produced gas.

V. Equipment Listing

Pre-Project Equipment Description:

S-1738-349-0: 130 MMBTU/HR LIMITED USE PRODUCED GAS FLARE WITH A KALDAIR - JOHN ZINK INDAIR I-4-AS COANDA EFFECT FLARE TIP

Proposed Modification:

S-1738-349-1: MODIFICATION OF 130 MMBTU/HR PRODUCED GAS FLARE WITH A KALDAIR - JOHN ZINK INDAIR I-4-AS COANDA EFFECT FLARE TIP: INCREASE AMOUNT OF FLARED GAS TO 85,416,666 SCF/YR

Post Project Equipment Description:

S-1738-349-1: 130 MMBTU/HR LIMITED USE PRODUCED GAS FLARE WITH A KALDAIR - JOHN ZINK INDAIR I-4-AS COANDA EFFECT FLARE TIP

VI. Emission Control Technology Evaluation

The produced gas flare proposed in this project has the potential to emit NO_X, SO_X, PM_{10}, CO, and VOC emissions due to the incineration of produced gas. The flare uses a produced gas-fired intermittent pilot.

The VOC combustion efficiency for flares is typically greater than 99%. The gas combusted in the flare is expected to have a very low sulfur content (0 gr-S/100 scf maximum) as identified by the gas analysis in Appendix F.

VII. General Calculations

A. Assumptions

- The maximum operating schedule is 24 hours per day, 8,760 hours per year
- The flare is fired on produced gas
- The flare uses a produced gas pilot
- Produced Gas Sulfur Content: 0 ppmv H2S (current operating permit, see Gas Analysis in Appendix F)
- Produced Gas Higher Heating Value: 1300 Btu/scf (per applicant, see Gas Analysis in Appendix F)
- Pre-project Produced gas flow rate: 500,000 ft^3/day and 10,416,666 ft^3/year (current operating permit)
- Post project Produced gas flow rate: 500,000 ft^3/day and 85,416,666 ft^3/year (per applicant)
- Maximum Pilot natural gas flow rate: 100 ft^3/hr (per project S-1073250; project authorizing S-1738-349-0)

B. Emission Factors

	Produced Gas Emission Factors	Source
NO_X	0.068 lb/MMBtu	District FYI-83
SO_X	0 lb/MMBtu	Applicant Proposal
PM_{10}	0.008 lb/MMBtu	District FYI-83
CO	0.37 lb/MMBtu	District FYI-83
VOC	0.063 lb/MMBtu	District FYI-83

Pilot Gas Emission Factors		Source
NO_x	0.1 lb/MMBtu	AP-42 Table 1.4-1 (7/98)
SO_x	0 lb/MMBtu	Applicant Proposal
PM_{10}	0.0076 lb/MMBtu	AP-42 Table 1.4-2 (7/98)
CO	0.084 lb/MMBtu	AP-42 Table 1.4-1 (7/98)
VOC	0.0055 lb/MMBtu	AP-42 Table 1.4-2 (7/98)

C. Calculations

1. Pre-Project Potential to Emit (PE1)

The potential to emit for the operation is calculated as follows, and summarized in the tables below:

PE1 = EF (lb/MMBtu) × Heat Input (MMBtu/hr) × Op. Sched. (hr/day or hr/year)

Daily Emissions (Produced Gas)								
NO_x	0.068	(lb/MMBtu) x	500,000	(scf/day) x	1300E-6	MMBtu/scf =	44.2	(lb/day)
SO_x	0	(lb/MMBtu) x	500,000	(scf/day) x	1300E-6	MMBtu/scf =	0.0	(lb/day)
PM_{10}	0.008	(lb/MMBtu) x	500,000	(scf/day) x	1300E-6	MMBtu/scf =	5.2	(lb/day)
CO	0.37	(lb/MMBtu) x	500,000	(scf/day) x	1300E-6	MMBtu/scf =	240.5	(lb/day)
VOC	0.063	(lb/MMBtu) x	500,000	(scf/day) x	1300E-6	MMBtu/scf =	41.0	(lb/day)

Daily Emissions (Pilot Gas)										
NO_x	0.1	(lb/MMBtu) x	100	(scf/hr) x	1300E-6	MMBtu/scf x	24	(hr/day) =	0.3	(lb/day)
SO_x	0	(lb/MMBtu) x	100	(scf/hr) x	1300E-6	MMBtu/scf x	24	(hr/day) =	0.0	(lb/day)
PM_{10}	0.0076	(lb/MMBtu) x	100	(scf/hr) x	1300E-6	MMBtu/scf x	24	(hr/day) =	0.0	(lb/day)
CO	0.084	(lb/MMBtu) x	100	(scf/hr) x	1300E-6	MMBtu/scf x	24	(hr/day) =	0.3	(lb/day)
VOC	0.0055	(lb/MMBtu) x	100	(scf/hr) x	1300E-6	MMBtu/scf x	24	(hr/day) =	0.0	(lb/day)

PE1 Daily Emissions (Total)						
NO_x	44.2	(lb/day) +	0.3	(lb/day) =	**44.5**	**(lb/day)**
SO_x	0.0	(lb/day) +	0.0	(lb/day) =	**0.0**	**(lb/day)**
PM_{10}	5.2	(lb/day) +	0.0	(lb/day) =	**5.2**	**(lb/day)**
CO	240.5	(lb/day) +	0.3	(lb/day) =	**240.8**	**(lb/day)**
VOC	41.0	(lb/day) +	0.0	(lb/day) =	**41.0**	**(lb/day)**

Annual Emissions (Produced Gas)									
NO_x	0.068	(lb/MMBtu) x	10,416,666	(scf/yr) x	1300E-6	MMBtu/scf	=	921	(lb/yr)
SO_x	0	(lb/MMBtu) x	10,416,666	(scf/yr) x	1300E-6	MMBtu/scf	=	0	(lb/yr)
PM_{10}	0.008	(lb/MMBtu) x	10,416,666	(scf/yr) x	1300E-6	MMBtu/scf	=	108	(lb/yr)
CO	0.37	(lb/MMBtu) x	10,416,666	(scf/yr) x	1300E-6	MMBtu/scf	=	5,010	(lb/yr)
VOC	0.063	(lb/MMBtu) x	10,416,666	(scf/yr) x	1300E-6	MMBtu/scf	=	853	(lb/yr)

Annual Emissions (Pilot)										
NO_x	0.1	(lb/MMBtu) x	100	(scf/hr) x	1300E-6	MMBtu/scf x	8760	(hr/yr) =	114	(lb/yr)
SO_x	0	(lb/MMBtu) x	100	(scf/hr) x	1300E-6	MMBtu/scf x	8760	(hr/yr) =	0	(lb/yr)
PM_{10}	0.0076	(lb/MMBtu) x	100	(scf/hr) x	1300E-6	MMBtu/scf x	8760	(hr/yr) =	9	(lb/yr)
CO	0.084	(lb/MMBtu) x	100	(scf/hr) x	1300E-6	MMBtu/scf x	8760	(hr/yr) =	96	(lb/yr)
VOC	0.0055	(lb/MMBtu) x	100	(scf/hr) x	1300E-6	MMBtu/scf x	8760	(hr/yr) =	6	(lb/yr)

Annual Emissions (Total)						
NO_x	921	(lb/yr) +	114	(lb/yr) =	**1,035**	**(lb/yr)**
SO_x	0	(lb/yr) +	0	(lb/yr) =	**0**	**(lb/yr)**
PM_{10}	108	(lb/yr) +	9	(lb/yr) =	**117**	**(lb/yr)**
CO	5,010	(lb/yr) +	96	(lb/yr) =	**5,106**	**(lb/yr)**
VOC	853	(lb/yr) +	6	(lb/yr) =	**859**	**(lb/yr)**

2. Post Project Potential to Emit (PE2)

The potential to emit for the operation is calculated as follows, and summarized in the tables below:

PE1 = EF (lb/MMBtu) × Heat Input (MMBtu/hr) × Op. Sched. (hr/day or hr/year)

Daily Emissions (Produced Gas)								
NO_x	0.068	(lb/MMBtu) x	500,000	(scf/day) x	1300E-6	MMBtu/scf =	44.2	(lb/day)
SO_x	0	(lb/MMBtu) x	500,000	(scf/day) x	1300E-6	MMBtu/scf =	0.0	(lb/day)
PM_{10}	0.008	(lb/MMBtu) x	500,000	(scf/day) x	1300E-6	MMBtu/scf =	5.2	(lb/day)
CO	0.37	(lb/MMBtu) x	500,000	(scf/day) x	1300E-6	MMBtu/scf =	240.5	(lb/day)
VOC	0.063	(lb/MMBtu) x	500,000	(scf/day) x	1300E-6	MMBtu/scf =	41.0	(lb/day)

Daily Emissions (Pilot Gas)										
NO_x	0.1	(lb/MMBtu) x	100	(scf/hr) x	1300E-6	MMBtu/scf x	24	(hr/day) =	0.3	(lb/day)
SO_x	0	(lb/MMBtu) x	100	(scf/hr) x	1300E-6	MMBtu/scf x	24	(hr/day) =	0.0	(lb/day)
PM_{10}	0.0076	(lb/MMBtu) x	100	(scf/hr) x	1300E-6	MMBtu/scf x	24	(hr/day) =	0.0	(lb/day)
CO	0.084	(lb/MMBtu) x	100	(scf/hr) x	1300E-6	MMBtu/scf x	24	(hr/day) =	0.3	(lb/day)
VOC	0.0055	(lb/MMBtu) x	100	(scf/hr) x	1300E-6	MMBtu/scf x	24	(hr/day) =	0.0	(lb/day)

Daily Emissions (Total)						
NO_x	44.2	(lb/day) +	0.3	(lb/day) =	**44.5**	**(lb/day)**
SO_x	0.0	(lb/day) +	0.0	(lb/day) =	**0.0**	**(lb/day)**
PM_{10}	5.2	(lb/day) +	0.0	(lb/day) =	**5.2**	**(lb/day)**
CO	240.5	(lb/day) +	0.3	(lb/day) =	**240.8**	**(lb/day)**
VOC	41.0	(lb/day) +	0.0	(lb/day) =	**41.0**	**(lb/day)**

Annual Emissions (Produced Gas)									
NO_x	0.068	(lb/MMBtu) x	85,416,666	(scf/yr) x	1300E-6	MMBtu/scf	=	7,551	(lb/yr)
SO_x	0	(lb/MMBtu) x	85,416,666	(scf/yr) x	1300E-6	MMBtu/scf	=	0	(lb/yr)
PM_{10}	0.008	(lb/MMBtu) x	85,416,666	(scf/yr) x	1300E-6	MMBtu/scf	=	888	(lb/yr)
CO	0.37	(lb/MMBtu) x	85,416,666	(scf/yr) x	1300E-6	MMBtu/scf	=	41,084	(lb/yr)
VOC	0.063	(lb/MMBtu) x	85,416,666	(scf/yr) x	1300E-6	MMBtu/scf	=	6,996	(lb/yr)

Annual Emissions (Pilot)										
NO_x	0.1	(lb/MMBtu) x	100	(scf/hr) x	1300E-6	MMBtu/scf x	8760	(hr/yr) =	114	(lb/yr)
SO_x	0	(lb/MMBtu) x	100	(scf/hr) x	1300E-6	MMBtu/scf x	8760	(hr/yr) =	0	(lb/yr)
PM_{10}	0.0076	(lb/MMBtu) x	100	(scf/hr) x	1300E-6	MMBtu/scf x	8760	(hr/yr) =	9	(lb/yr)
CO	0.084	(lb/MMBtu) x	100	(scf/hr) x	1300E-6	MMBtu/scf x	8760	(hr/yr) =	96	(lb/yr)
VOC	0.0055	(lb/MMBtu) x	100	(scf/hr) x	1300E-6	MMBtu/scf x	8760	(hr/yr) =	6	(lb/yr)

Annual Emissions (Total)						
NO_x	7,551	(lb/yr) +	114	(lb/yr) =	**7,665**	**(lb/yr)**
SO_x	0	(lb/yr) +	0	(lb/yr) =	**0**	**(lb/yr)**
PM_{10}	888	(lb/yr) +	9	(lb/yr) =	**897**	**(lb/yr)**
CO	41,084	(lb/yr) +	96	(lb/yr) =	**41,180**	**(lb/yr)**
VOC	6,996	(lb/yr) +	6	(lb/yr) =	**7,002**	**(lb/yr)**

3. Pre-Project Stationary Source Potential to Emit (SSPE1)

Pursuant to District Rule 2201, the SSPE1 is the Potential to Emit (PE) from all units with valid Authorities to Construct (ATC) or Permits to Operate (PTO) at the Stationary Source and the quantity of Emission Reduction Credits (ERC) which have been banked since September 19, 1991 for Actual Emissions Reductions (AER) that have occurred at the source, and which have not been used on-site.

Facility emissions are already above the Offset and Major Source Thresholds for all emissions; therefore, SSPE1 calculations are not necessary.

4. Post Project Stationary Source Potential to Emit (SSPE2)

Pursuant to District Rule 2201, the SSPE2 is the PE from all units with valid ATCs or PTOs at the Stationary Source and the quantity of ERCs which have been banked since September 19, 1991 for AER that have occurred at the source, and which have not been used on-site.

Since facility emissions are already above the Offset and Major Source Thresholds for all emissions, SSPE2 calculations are not necessary.

5. Major Source Determination

Pursuant to District Rule 2201, a Major Source is a stationary source with a SSPE2 equal to or exceeding one or more of the following threshold values. However, for the purposes of determining major source status, the SSPE2 shall not include the quantity of ERCs which have been banked since September 19, 1991 for AER that have occurred at the source, and which have not been used on-site."

This source is an existing Major Source for VOC emissions and will remain a Major Source for all emissions. No change in Major Source status are proposed or expected as a result of this project.

6. Baseline Emissions (BE)

The BE calculation (in lbs/year) is performed pollutant-by-pollutant for each unit within the project to calculate the QNEC, and if applicable, to determine the amount of offsets required.

Pursuant to District Rule 2201, BE = PE1 for:

- Any unit located at a non-Major Source,
- Any Highly-Utilized Emissions Unit, located at a Major Source,
- Any Fully-Offset Emissions Unit, located at a Major Source, or
- Any Clean Emissions Unit, located at a Major Source.

otherwise,

BE = Historic Actual Emissions (HAE), calculated pursuant to District Rule 2201.

a. BE NO_X

Fully Offset Emissions Unit, located at a Major Source
Offsets have been provided for this permit unit for this pollutant (S-1738-349-0). Therefore, pursuant to District Rule 2201, this permitted unit is considered a Fully Offset Emissions Unit for NO_X.

NO_X emissions increases of 1,065 lb/year were previously mitigated by VPC in providing offsets in the amount of 1,065 lb/year as required by ATC S-1738-349-0. Since this amount of ERCs is greater than PE1 emissions calculated previously, these emissions will be used as baseline emissions.

Therefore BE=1,065 lb/year.

b. BE SO_X

There are no SO_X emissions associated with this unit; therefore, BE=0.

c. BE PM_{10}

Fully Offset Emissions Unit, located at a Major Source
Offsets have been provided for this permit unit for this pollutant (S-1738-349-0). Therefore, pursuant to District Rule 2201, this permitted unit is considered a Fully Offset Emissions Unit for PM_{10}.

Therefore BE=PE1.

d. BE CO

Clean Emissions Unit, Located at a Major Source
Pursuant to Rule 2201, a Clean Emissions Unit is defined as an emissions unit that is "equipped with an emissions control technology with a minimum control efficiency of at least 95% or is equipped with emission control technology that meets the requirements for achieved-in-practice BACT as accepted by the APCO during the five years immediately prior to the submission of the complete application.

This flare utilizes a Coanda Effect, which meets the requirements for achieved-in-practice BACT (see BACT Guideline in Appendix C).

Therefore, BE=PE1.

e. BE VOC

Fully Offset Emissions Unit, located at a Major Source
Offsets have been provided for this permit unit for this pollutant (S-1738-349-0). Therefore, pursuant to District Rule 2201, this permitted unit is considered a Fully Offset Emissions Unit for VOC.

Therefore BE=PE1.

Baseline Emissions are summarized in the following table:

Baseline Emissions (lb/year)					
	NO_X	SO_X	PM_{10}	CO	VOC
S-1738-349	1,065	0	117	5,106	859

7. SB 288 Major Modification

SB 288 Major Modification is defined in 40 CFR Part 51.165 as "any physical change in or change in the method of operation of a major stationary source that would result in a significant net emissions increase of any pollutant subject to regulation under the Act."

Since this facility is a major source for all pollutants, the project's PE2 is compared to the SB 288 Major Modification Thresholds in the following table in order to determine if the SB 288 Major Modification calculation is required.

SB 288 Major Modification Thresholds			
Pollutant	Project PE2 (lb/year)	Threshold (lb/year)	SB 288 Major Modification Calculation Required?
NO_x	7,665	50,000	No
SO_x	0	80,000	No
PM_{10}	897	30,000	No
VOC	7,002	50,000	No

Since none of the SB 288 Major Modification Thresholds are surpassed with this project, this project does not constitute an SB 288 Major Modification.

8. Federal Major Modification

District Rule 2201 states that a Federal Major Modification is the same as a "Major Modification" as defined in 40 CFR 51.165 and part D of Title I of the CAA.

The determination of Federal Major Modification is based on a two-step test. For the first step, only the emission *increases* are counted. Emission decreases may not cancel out the increases for this determination.

Step 1

For existing emissions units, the increase in emissions is calculated as follows.

Emission Increase = PAE – BAE

Where: PAE = Projected Actual Emissions, and
BAE = Baseline Actual Emissions

If there is no increase in design capacity or potential to emit, the PAE is equal to the annual emission rate at which the unit is projected to emit in any one year, selected by the operator, within 5 years after the unit resumes normal operation (10 years for existing units with an increase in design capacity or potential to emit). If detailed PAE are not provided, the PAE is equal to the PE2 for each permit unit.

Detailed PAE were not provided; therefore, PAE = PE2.

The BAE is calculated based on historical emissions and operating records for any 24 month period, selected by the operator, within the previous 10 year period (5 years for electric utility steam generating units). The BAE must be adjusted to exclude any non-compliant operation emissions and emissions that are no longer allowed due to lower applicable emission limits that were in effect when this application was deemed complete.

As a worst case scenario, it will be assumed that BAE equals zero for all pollutants.

The project's combined total emission increases are equal to the PE2 for all pollutants as calculated previously and are compared to the Federal Major Modification Thresholds in the following table:

Federal Major Modification Thresholds for Emission Increases			
Pollutant	Total Emissions Increases (lb/yr)	Thresholds (lb/yr)	Federal Major Modification?
NO_x*	7,665	0	Yes
VOC*	7,002	0	Yes
PM_{10}	897	30,000	No
$PM_{2.5}$	<20,000[1]	20,000	No
SO_x	0	80,000	No

*If there is any emission increases in NO_x or VOC, this project is a Federal Major Modification and no further analysis is required.

Since there is an increase in NO_x and VOC emissions, this project constitutes a Federal Major Modification, and no further analysis is required.

VIII. Compliance

Rule 2201 New and Modified Stationary Source Review Rule

A. Best Available Control Technology (BACT)

1. BACT Applicability

BACT requirements are triggered on a pollutant-by-pollutant basis and on an emissions unit-by-emissions unit basis. Unless specifically exempted by Rule 2201, BACT shall be required for the following actions*:

a. Any new emissions unit with a potential to emit exceeding two pounds per day,
b. The relocation from one Stationary Source to another of an existing emissions unit with a potential to emit exceeding two pounds per day,
c. Modifications to an existing emissions unit with a valid Permit to Operate resulting in an AIPE exceeding two pounds per day, and/or
d. Any new or modified emissions unit, in a stationary source project, which results in an SB 288 Major Modification or a Federal Major Modification, as defined by the rule.

*Except for CO emissions from a new or modified emissions unit at a Stationary Source with an SSPE2 of less than 200,000 pounds per year of CO.

a. New emissions units – PE > 2 lb/day

As discussed in Section I above, there are no new emissions units associated with this project. Therefore BACT for new units with PE > 2 lb/day purposes is not triggered.

[1] Since the increase in PM_{10} is less than 20,000 lb/year, the increase in $PM_{2.5}$ must be less than 20,000 lb/year.

b. Relocation of emissions units – PE > 2 lb/day

As discussed in Section I above, there are no emissions units being relocated from one stationary source to another; therefore BACT is not triggered.

c. Modification of emissions units – AIPE > 2 lb/day

AIPE = PE2 – HAPE

Where,

AIPE = Adjusted Increase in Permitted Emissions, (lb/day)
PE2 = Post-Project Potential to Emit, (lb/day)
HAPE = Historically Adjusted Potential to Emit, (lb/day)

HAPE = PE1 x (EF2/EF1)

Where,

PE1 = The emissions unit's PE prior to modification or relocation, (lb/day)
EF2 = The emissions unit's permitted emission factor for the pollutant after modification or relocation. If EF2 is greater than EF1 then EF2/EF1 shall be set to 1
EF1 = The emissions unit's permitted emission factor for the pollutant before the modification or relocation

AIPE = PE2 – (PE1 * (EF2 / EF1))

Where EF2 = EF1 for all pollutants the AIPE = PE2 – PE1 and summarized in the following table:

Adjusted Increase in Permitted Emissions (AIPE)			
Pollutant	PE2 (lb/day)	PE1 (lb/day)	AIPE (lb/day)
NO_x	44.5	44.5	0.0
SO_x	0.0	0.0	0.0
PM_{10}	5.2	5.2	0.0
CO	240.8	240.8	0.0
VOC	41.0	41.0	0.0

As demonstrated above, the AIPE is less than 2.0 lb/day for all emissions. Therefore BACT is not triggered.

d. SB 288/Federal Major Modification

As discussed in Section VII.C.7 above, this project does constitute a Federal Major Modification for NO_X and VOC emissions. Therefore BACT is triggered for NO_X and VOC emissions for this flare.

2. BACT Guideline

BACT Guideline 1.4.2, applies to this waste gas flare incinerating produced gas (See **Appendix C).**

3. Top-Down BACT Analysis

Per Permit Services Policies and Procedures for BACT, a Top-Down BACT analysis shall be performed as a part of the application review for each application subject to the BACT requirements pursuant to the District's NSR Rule.

Pursuant to the attached Top-Down BACT Analysis (see **Appendix D**), BACT has been satisfied with the following:

NO_X: Steam or air assisted or Coanda effect burner, when steam is unavailable
VOC: Steam or air assisted or Coanda effect burner, when steam is unavailable

B. Offsets

1. Offset Applicability

Offset requirements shall be triggered on a pollutant by pollutant basis and shall be required if the SSPE2 equals to or exceeds the offset threshold levels in Table 4-1 of Rule 2201.

The SSPE2 is compared to the offset thresholds in the following table.

Offset Determination (lb/year)					
	NO_X	SO_X	PM_{10}	CO	VOC
SSPE2	>20,000	>54,750	>29,200	>200,000	>20,000
Offset Thresholds	20,000	54,750	29,200	200,000	20,000
Offsets triggered?	Yes	Yes	Yes	Yes	Yes

2. Quantity of Offsets Required

As seen above, the SSPE2 is greater than the offset thresholds for all pollutants. Therefore offset calculations will be required for this project.

The quantity of offsets in pounds per year is calculated as follows for sources with an SSPE1 greater than the offset threshold levels before implementing the project being evaluated.

Offsets Required (lb/year) = (Σ[PE2 – BE] + ICCE) x DOR, for all new or modified emissions units in the project,

Where,
PE2 = Post Project Potential to Emit, (lb/year)
BE = Baseline Emissions, (lb/year)
ICCE = Increase in Cargo Carrier Emissions, (lb/year)
DOR = Distance Offset Ratio, determined pursuant to Section 4.8

BE = PE1 for:

- Any unit located at a non-Major Source,
- Any Highly-Utilized Emissions Unit, located at a Major Source,
- Any Fully-Offset Emissions Unit, located at a Major Source, or
- Any Clean Emissions Unit, Located at a Major Source.

otherwise,

BE = HAE

There are no increases in cargo carrier emissions; therefore offsets can be determined as follows: Offsets required (lb/year) = ([PE2 – BE] + ICCE) x DOR

	Post Project Potential to Emit [PE2] (lb/ yr)				
Permit No.	NO_X	SO_X	PM_{10}	CO	VOC
S-1738-349	7,665	0	897	41,180	7,002

	Baseline Emissions [BE] (lb/yr)				
NO_X	SO_X	PM_{10}	CO	VOC
1,065	0	117	5,106	859

	Offsets Required [PE2 – BE] (lb/yr)				
Permit No.	NO_X	SO_X	PM_{10}	CO	VOC
S-1738-349	6,600	0	780	0*	6,143

*Section 4.6.1 of Rule 2201 states that emissions offsets are not required for increases in carbon monoxide in attainment areas provided the applicant demonstrates to the satisfaction of the APCO that the Ambient Air Quality (AAQ) Standards are not violated in the areas to be affected, such emissions will be consistent with Reasonable Further Progress, and will not cause or contribute to a violation of AAQ Standards. The District performed an AAQ Analysis and determined that this project will not result in or contribute to a violation of an AAQ Standard for CO (see Appendix E). Therefore, CO offsets are not required for this project.

As demonstrated in the preceding calculation:

- NO_X, PM_{10}, and VOC offsets are required
- CO offsets are not required (no violation of an Ambient Air Quality Standard)

NO_X:

Since this project results in a Federal Major Modification for NO_X the distance offset ratio (DOR) for these pollutants will be equal to 1.5 (per Rule 2201, Section 4.8.1). VPC has proposed the following ERCs:

	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
ERC #N-1034-2	69,731	69,731	69,731	69,731
Generated at:	Facility N-1662			
DOR	1.5 (Federal Major Modification)			
No prior reservations				

Total Offsets Required (at 1.5:1 distance offset ratio):

	NO_X Offsets Required (lb/qtr)			
Permit No.	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
S-1738-349	2,475	2,475	2,475	2,475

As seen above, VPC has sufficient NO_X credits to fully offset the quarterly NO_X emissions increases associated with this project.

PM_{10}:

VPC has proposed using SO_X ERCs to offset the increases in PM_{10}.

Interpollutant offset ratios for trades between SO_X and PM_{10} are allowed pursuant to Rule 2201, Section 4.13.3.1.2. An interpollutant ratio of 1.000:1 for SO_X to PM_{10} will be applied. Please refer to the interpollutant offset explanation in Appendix G of this evaluation for an explanation of the derivation of the SO_X:PM_{10} interpollutant offset ratio.

VPC has proposed the following ERCs:

	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
ERC #N-1032-5	75,590	75,467	25,344	25,344
Generated at:	Facility N-767			
DOR	1.5 (>15 miles)			
No prior reservations				

Total Offsets Required (at 1.5:1 distance offset ratio):

	PM_{10} Offsets Required (lb/qtr)			
Permit No.	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
S-1738-349	293	293	293	293

As seen above, VPC has sufficient SO_X credits to fully offset the quarterly PM_{10} emissions increases associated with this project.

VOC:

Since this project results in a Federal Major Modification for VOC the distance offset ratio (DOR) for these pollutants will be equal to 1.5 (per Rule 2201, Section 4.8.1). VPC has proposed the following ERCs:

	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
ERC #N-1037-1	7,673	6,370	8,597	7,580
Generated at:	Facility N-764			
DOR	1.5 (Federal Major Modification)			
No prior reservations				

	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
ERC #S-3583-1	653	2,997	4,027	763
Generated at:	Facility S-2329			
DOR	1.5 (Federal Major Modification)			
No prior reservations				

Offset Reservations (at 1.5:1 distance offset ratio):

	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
ERC #N-1037-1	2,000	2,000	2,000	2,000
ERC #S-3583-1	304	304	304	304
Total:	**2,304**	**2,304**	**2,304**	**2,304**

Total Offsets Required (at 1.5:1 distance offset ratio):

	VOC Offsets Required (lb/qtr)			
Permit No.	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
S-1738-349	2,304	2,304	2,304	2,304

As seen above, VPC has sufficient VOC credits to fully offset the quarterly VOC emissions increases associated with this project.

Proposed Rule 2201 (offset) Conditions:

- {GC# 4447 - edited} Prior to operating equipment under this Authority to Construct, permittee shall surrender NO_X emission reduction credits for the following quantity of emissions: 1st quarter – 2,475 lb, 2nd quarter – 2,475 lb, 3rd quarter – 2,475 lb, and fourth quarter – 2,475 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 4/21/11) for the ERC specified below. [District Rule 2201]
- {GC# 4447 - edited} Prior to operating equipment under this Authority to Construct, permittee shall surrender PM10 emission reduction credits for the following quantity of emissions: 1st quarter – 293 lb, 2nd quarter – 293 lb, 3rd quarter – 293 lb, and fourth quarter – 293 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 4/21/11) for the ERC specified below. [District Rule 2201]

- {GC# 4447 - edited} Prior to operating equipment under this Authority to Construct, permittee shall surrender VOC emission reduction credits for the following quantity of emissions: 1st quarter – 2,304 lb, 2nd quarter – 2,304 lb, 3rd quarter – 2,304 lb, and fourth quarter – 2,304 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 4/21/11) for the ERC specified below. [District Rule 2201]

- ERC Certificate Numbers N-1034-2, N-1032-5, N-1037-1 and S-3583-1 (or certificates split from these certificates) shall be used to supply the required offsets, unless a revised offsetting proposal is received and approved by the District, upon which this Authority to Construct shall be reissued, administratively specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to reissuance of this Authority to Construct. [District Rule 2201]

C. Public Notification

1. Applicability

Public noticing is required for:
a. New Major Sources, Federal Major Modifications, and SB 288 Major Modifications,
b. Any new emissions unit with a Potential to Emit greater than 100 pounds during any one day for any one pollutant,
c. Any project which results in the offset thresholds being surpassed, and/or
d. Any project with an SSIPE of greater than 20,000 lb/year for any pollutant.

a. New Major Sources, Federal Major Modifications, and SB 288 Major Modifications

New Major Sources are new facilities, which are also Major Sources. Since this is not a new facility, public noticing is not required for this project for New Major Source purposes.

As demonstrated in VII.C.7, this project is a Federal Major Modification. Therefore, public noticing for SB 288 or Federal Major Modification purposes is required.

b. PE > 100 lb/day

Applications which include a new emissions unit with a PE greater than 100 pounds during any one day for any pollutant will trigger public noticing requirements. There are no new emissions units associated with this project. Therefore public noticing is not required for this project for PE > 100 lb/day.

c. Offset Threshold

The SSPE1 and SSPE2 are compared to the offset thresholds in the following table.

Offset Thresholds				
Pollutant	SSPE1 (lb/year)	SSPE2 (lb/year)	Offset Threshold	Public Notice Required?
NO_X	>20,000	>20,000	20,000 lb/year	No
SO_X	>54,750	>54,750	54,750 lb/year	No
PM_{10}	>29,200	>29,200	29,200 lb/year	No
CO	>200,000	>200,000	200,000 lb/year	No
VOC	>20,000	>20,000	20,000 lb/year	No

As detailed above, there were no thresholds surpassed with this project; therefore public noticing is not required for offset purposes.

d. SSIPE > 20,000 lb/year

Public notification is required for any permitting action that results in a SSIPE of more than 20,000 lb/year of any affected pollutant. According to District policy, the SSIPE = SSPE2 – SSPE1. The SSIPE is compared to the SSIPE Public Notice thresholds in the following table.

SSIPE Public Notice Thresholds					
Pollutant	SSPE2 (lb/year)	SSPE1 (lb/year)	SSIPE (lb/year)	SSIPE Public Notice Threshold	Public Notice Required?
NO_x	>20,000	>20,000	6,630	20,000 lb/year	No
SO_x	>20,000	>20,000	0	20,000 lb/year	No
PM_{10}	>20,000	>20,000	780	20,000 lb/year	No
CO	>20,000	>20,000	36,074	20,000 lb/year	Yes
VOC	>20,000	>20,000	6,143	20,000 lb/year	No

As demonstrated above, the SSIPEs for CO were greater than 20,000 lb/year; therefore public noticing for SSIPE purposes is required.

2. Public Notice Action

As discussed above, public noticing is required for this project for it being a Federal Major Modification and for SSIPE of CO emissions in excess of 20,000 lb/year. Therefore, public notice documents will be submitted to the California Air Resources Board (CARB) and a public notice will be published in a local newspaper of general circulation prior to the issuance of the ATC for this equipment.

D. Daily Emission Limits (DELs)

DELs and other enforceable conditions are required by Rule 2201 to restrict a unit's maximum daily emissions, to a level at or below the emissions associated with the maximum design capacity. The DEL must be contained in the latest ATC and contained in or enforced by the latest PTO and enforceable, in a practicable manner, on a daily basis. DELs are also required to enforce the applicability of BACT.

Proposed Modified Rule 2201 (DEL) Conditions:

- Maximum fuel flow rate shall not exceed 500,000 standard cubic feet per day nor ~~10,416,666~~85,416,666 standard cubic feet per year. [District Rule 2201]

E. Compliance Assurance

1. Source Testing

This flare has been initially tested pursuant to conditions of approval listed on ATC S-1738-349-0. Furthermore, ongoing gas analysis requirements are listed on the ATC. Therefore, no additional source testing is required to demonstrate compliance with Rule 2201.

2. Monitoring

No additional monitoring is required to demonstrate compliance with Rule 2201.

3. Recordkeeping

Recordkeeping is required to demonstrate compliance with the offset, public notification and daily emission limit requirements of Rule 2201. No additional recordkeeping is required to demonstrate compliance with Rule 2201.

4. Reporting

No reporting is required to demonstrate compliance with Rule 2201.

F. Ambient Air Quality Analysis (AAQA)

An AAQA shall be conducted for the purpose of determining whether a new or modified Stationary Source will cause or make worse a violation of an air quality standard. The District's Technical Services Division conducted the required analysis. Refer to Appendix E of this document for the AAQA summary sheet.

The proposed location is in an attainment area for NO_X, CO, and SO_X. As shown by the AAQA summary sheet the proposed equipment will not cause a violation of an air quality standard for NO_X, CO, or SO_X.

The proposed location is in a non-attainment area for PM_{10}. The increase in the ambient PM_{10} concentration due to the proposed equipment is shown on the table titled Calculated Contribution. The levels of significance, from 40 CFR Part 51.165 (b)(2), are shown on the table titled Significance Levels.

Criteria Pollutant Modeling Results

Flare	1 Hour	3 Hours	8 Hours.	24 Hours	Annual
CO	Pass	X	Pass	X	X
NO_x	Pass[1]	X	X	X	Pass
SO_x	Pass	Pass	X	Pass	Pass
PM_{10}	X	X	X	Pass[2]	Pass[2]
$PM_{2.5}$	X	X	X	Pass[2]	Pass[2]

[1]The project was compared to the 1-hour NO2 National Ambient Air Quality Standard that became effective on April 12, 2010 using the District's approved procedures.
[2]The criteria pollutants are below EPA's level of significance as found in 40 CFR Part 51.165 (b)(2).

As shown, the calculated contribution of PM_{10} will not exceed the EPA significance level. This project is not expected to cause or make worse a violation of an air quality standard.

G. Compliance Certification

Section 4.15.2 of this Rule requires the owner of a new Major Source or a source undergoing a Title I Modification to demonstrate to the satisfaction of the District that all other Major Sources owned by such person and operating in California are in compliance or are on a schedule for compliance with all applicable emission limitations and standards. As discussed in Section VIII above, this project does constitute a Title I modification, therefore this requirement is applicable. VPC's compliance certification is included in Appendix I.

H. Alternate Siting Analysis

The current project occurs at an existing facility. The applicant proposes to modify a produced gas fired flare at this location.

Since the project will provide a means to safely dispose of produced gas at the same location, the existing site will result in the least possible impact from the project. Alternative sites would involve the relocation and/or construction of various support structures on a much greater scale, and would therefore result in a much greater impact.

Rule 2520 Federally Mandated Operating Permits

This facility is subject to this Rule, and has received their Title V Operating Permit. A significant permit modification is defined as a "permit amendment that does not qualify as a minor permit modification or administrative amendment."

As discussed above, the facility has applied for a Certificate of Conformity (COC); therefore, the facility must apply to modify their Title V permit with an administrative amendment, prior to operating with the proposed modifications. Continued compliance with this rule is expected. The facility shall not implement the changes requested until the final permit is issued.

Rule 4001 New Source Performance Standards (NSPS)

This rule incorporates NSPS from Part 60, Chapter 1, Title 40, Code of Federal Regulations (CFR); and applies to all new sources of air pollution and modifications of existing sources of air pollution listed in 40 CFR Part 60. However, no subparts of 40 CFR Part 60 apply to produced gas-fired flares.

Rule 4101 Visible Emissions

Rule 4101 states that 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.

Per FYI 83, this flare has a PM_{10} emission factor of 0.008 lb/MMBtu and is subject to BACT which requires smokeless combustion with no visible emissions. A permit condition will be listed on the permit as follows:

- {15} 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 1/4 or 5% opacity. [District Rule 4101]

Rule 4102 Nuisance

Rule 4102 prohibits discharge of air contaminants which could cause injury, detriment, nuisance or annoyance to the public. Public nuisance conditions are not expected as a result of these operations, provided the equipment is well maintained. Therefore, compliance with this rule is expected.

California Health & Safety Code 41700 (Health Risk Assessment)

District Policy APR 1905 – *Risk Management Policy for Permitting New and Modified Sources* specifies that for an increase in emissions associated with a proposed new source or modification, the District perform an analysis to determine the possible impact to the nearest resident or worksite.

As demonstrated above, there are no increases in emissions associated with this project, therefore a health risk assessment is not necessary and no further risk analysis is required.

An HRA is not required for a project with a total facility prioritization score of less than one. According to the Technical Services Memo for this project (**Appendix E**), the total facility prioritization score including this project was greater than one. Therefore, an HRA was required to determine the short-term acute and long-term chronic exposure from this project.

The cancer risk for this project is shown below:

HRA Summary		
Unit	Cancer Risk	T-BACT Required
S-1738-349-1	1.5 per million	Yes

Discussion of T-BACT

BACT for toxic emission control (T-BACT) is required if the cancer risk exceeds one in one million. As demonstrated above, T-BACT is required for this project because the HRA indicates that the risk is above the District's thresholds for triggering T-BACT requirements.

For this project T-BACT is triggered for VOC. T-BACT is satisfied with BACT for VOC (see Appendix C), which is the use of a flare equipped with a Coanda effect burner; therefore, compliance with the District's Risk Management Policy is expected.

District policy APR 1905 also specifies that the increase in emissions associated with a proposed new source or modification not have acute or chronic indices, or a cancer risk greater than the District's significance levels (i.e. acute and/or chronic indices greater than 1 and a cancer risk greater than 10 in a million). As outlined by the HRA Summary in Appendix E of this report, the emissions increases for this project was determined to be less than significant.

- The exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap (flapper ok), roof overhang, or any other obstruction. [District Rule 4102]

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.

Particulate matter calculations were performed for each piece of equipment by the following equation:

F-Factor for produced gas:	8,578 dscf/MMBtu at 60 °F
PM_{10} Emission Factor:	0.008-PM_{10}/MMBtu
Percentage of PM as PM_{10} in Exhaust:	100%
Exhaust Oxygen (O_2) Concentration:	3%
Excess Air Correction to F Factor =	20.9/(20.9-3) = 1.17

$$GL = \left(\frac{0.008\ lb-PM}{MMBtu} \times \frac{7{,}000\ grain}{lb-PM} \right) / \left(\frac{8{,}578\ ft^3}{MMBtu} \times 1.17 \right) = 0.006$$

Since the particulate matter concentration is ≤ 0.1 grains per dscf, compliance with Rule 4201 is expected.

Rule 4202 Particulate Matter Emission Rate

Rule 4202 establishes PM emission limits as a function of process weight rate in tons/hr. Gas and liquid fuels are excluded from the definition of process weight.

The proposed flare runs on produced gas. Therefore, the requirements of this rule do not apply to this project.

Rule 4301 Fuel Burning Equipment

Rule 4301 limits air contaminant emissions from fuel burning equipment as defined in the rule. Section 3.1 defines fuel burning equipment as "any furnace, boiler, apparatus, stack, and all appurtenances thereto, used in the process of burning fuel for the primary purpose of producing heat or power by indirect heat transfer".

As this flare is does not produce heat or power by indirect heat transfer this rule does not apply.

Rule 4311 Flares

Rule 4311 limits the emissions of volatile organic compounds (VOCs) and oxides of nitrogen (NOx), and sulfur from the operation of flares.

Section 5.1 states flares permitted to operate only during an emergency are not subject to the requirements of Section 5.6 and 5.7.

This flare does not qualify as an emergency flare; therefore this section is not applicable.

Section 5.2 requires that the flame be present at all times when combustible gases are vented through the flare. The following condition will be listed on the ATCs to ensure compliance:

- A flame shall be present at all times when combustible gases are vented through the flare. [District Rule 4311]

Section 5.3 requires that the flare outlet be equipped with an automatic ignition system, or operate with a pilot flame present at all times when combustible gases are vented through the flare, except during purge periods for automatic-ignition equipped flares. The following condition will be listed on the ATCs to ensure compliance:

- The outlet shall be equipped with an automatic ignition system, or, shall operate with a pilot flame present at all times when combustible gases are vented through the flare, except during purge periods for automatic-ignition equipped flares. [District Rule 4311]

Section 5.4 requires that except for flares equipped with a flow-sensing ignition system, a heat sensing device such as a thermocouple, ultraviolet beam sensor, infrared sensor, or an alternative equivalent device, capable of continuously detecting at least one pilot flame or the flare flame is present shall be installed and operated. The following condition will be listed on the ATCs to ensure compliance:

- Flare shall be equipped with a heat sensing device such as a thermocouple, ultraviolet beam sensor, infrared sensor, or an equivalent device capable of continuously detecting at least one pilot flame or the flare flame is present. The flame detection device shall be kept operational at all times except during flare maintenance when the flare is isolated from gas flow. During essential planned power outages when the flare is operating, the pilot monitor is allowed to be non-functional if the flare flame is clearly visible to onsite operators. Effective on and after July 1, 2012, all pilot monitor downtime shall be reported annually pursuant to Rule 4311, section 6.2.3.6. [District Rule 4311]

Section 5.5 requires flares that use flow-sensitive automatic ignition systems and which do not use a continuous pilot flame to use purge gas for purging. The following condition will be listed on the ATCs to ensure compliance:

- Flares that use flow-sensing automatic ignition systems and which do not use a continuous flame pilot shall use purge gas for purging. [District Rule 4311]

Section 5.6 states that open flares (air-assisted, steam-assisted, or non-assisted) in which the flare gas pressure is less than 5 psig shall be operated in such a manner that meets the provisions of 40 CFR 60.18. The requirements of this section shall not apply to Coanda effect flares. Since no flares at this stationary source are Coanda effect flares, this section applies to all flares.

The flare in this project is a Coanda effect flare. Therefore, this section is not applicable.

Section 5.7 states that ground-level enclosed flares meet the defined emission standards. The flare involved with this project is not a ground-level enclosed flare; therefore, this section does not apply.

Section 5.8 states that flaring is prohibited unless it is consistent with an approved flare minimization plan (FMP), pursuant to Section 6.5, and all commitments listed in that plan have been met. Subsection 6.5.1 requires the operator of a petroleum refinery flare or any flare that has a flaring capacity of greater than or equal to 5.0 MMBtu per hour to submit a flare minimization plan (FMP) to the APCO for approval.

The operator has submitted a flare minimization plan that has been approved by the APCO.

Section 5.9 applies to petroleum refinery SO_2 performance targets. This flare does not serve a petroleum refinery; therefore this section is not applicable.

Section 5.10 requires the operator of a flare subject to flare minimization requirements pursuant to Section 5.8 to monitor the vent gas flow to the flare with a flow measuring device or other parameters as specified in the Permit to Operate.

- A non-resettable, totalizing mass or volumetric fuel flow meter to measure the amount of gas combusted in the unit shall be installed, utilized and maintained. [District Rules 2201 and 4311]

Section 5.11 requires the operator of a petroleum refinery or a flare with a flaring capacity equal to or greater than 50 MMBtu/hr to monitor the flare pursuant to Sections 6.6, 6.7, 6.8, 6.9, and 6.10.

- **Section 6.6** requires operators to monitor vent gas composition using one of the methods listed in 6.6.1 through 6.6.5.
- **Section 6.7** requires operators to monitor the volumetric flows of purge and pilot gases with flow measuring devices or other parameters as specified on the Permit to Operate so that volumetric flows of pilot and purge gas may be calculated based on pilot design and the parameters monitored.

- **Section 6.8** requires that operators of any flare with a water seal to monitor and record the water level and pressure of the water seal that services each flare daily or as specified on the Permit to Operate. This stationary source does not operate any flares with a water seal; therefore this section is not applicable.
- **Section 6.9** requires that an operator comply with sections 6.9.1 through 6.9.4 as applicable.
- **Section 6.10** requires refinery flares be monitored by video. Since this is not a refinery flare this section is not applicable.

The following conditions will be listed on the permits to ensure compliance:

- Operator shall monitor vent gas composition using one of the five following methods: 1) Sampling vent gas pursuant to Rule 4311 Section 6.6.1, 2) Integrated sampling pursuant to Rule 4311 Section 6.6.2, 3) Operate continuous analyzers that meet the requirements of Rule 4311 Section 6.6.3, 4) Operate continuous analyzers employing gas chromatography pursuant to Rule 4311 Section 6.6.4, or 5) Monitor sulfur content using a colorimetric tube system, and monitor vent gas hydrocarbons pursuant to Rule 4311 Section 6.6.5. [District Rule 4311]

- If flare shares a common header, a sample from the header will be deemed representative of vent gas composition for all flares served by the header. The operator shall provide the APCO with access to the monitoring system to collect vent gas samples to verify the analysis required by Rule 4311 Section 5.11. [District Rule 4311]

- A non-resettable, totalizing mass or volumetric fuel flow meter to measure the amount of gas combusted in the unit shall be installed, utilized and maintained. [District Rules 2201 and 4311]

- Operator shall report periods of monitor inoperation greater than 24 continuous hours by the following working day, followed by notification of resumption of monitoring. Periods of inoperation of monitoring equipment shall not exceed 14 days per any 18-consecutive-month period. Periods of flare monitoring system inoperation do not include the periods when the system feeding the flare is not operating. [District Rule 4311]

- During periods of inoperation of continuous analyzers or auto-samplers installed pursuant to Section 6.6, operators responsible for monitoring shall take one sample within 30 minutes of the commencement of flaring, from the flare header or from an alternate location at which samples are representative of vent gas composition and have samples analyzed pursuant to Rule 4311 Section 6.3.4. During periods of inoperation of flow monitors, flow shall be calculated using good engineering practices. [District Rule 4311]

- Operator shall maintain and calibrate all required monitors and recording devices in accordance with the applicable manufacturer's specifications. In order to claim that a manufacturer's specification is not applicable, the person responsible for emissions must have, and follow, a written maintenance policy that was developed for the device. The written policy must explain and justify the difference between the written procedure and the manufacturer's procedure. [District Rule 4311]

- All in-line continuous analyzer and flow monitoring data must be continuously recorded by an electronic data acquisition system capable of one-minute averages. Flow monitoring data shall be recorded as one-minute averages. [District Rule 4311]

Section 6.1 requires the following records to be retained on-site for a minimum of five years:
- Copy of the compliance determination conducted pursuant to Section 6.4.1
- Copy of the source testing result conducted pursuant to Section 6.4.2

- For flares used during an emergency, record of the duration of flare operation, amount of gas burned, and the nature of the emergency situation
- Operators claiming an exemption pursuant to Section 4.3 shall record annual throughput, material usage, or other information necessary to demonstrate an exemption under that section
- Effective on and after July 1, 2011, a copy of the approved flare minimization plan pursuant to Section 6.5
- Effective on and after July 1, 2011, where applicable, monitoring data collected pursuant to Sections 5.10, 6.6, 6.7, 6.8, 6.9, and 6.10

The following condition will ensure compliance with this section:

- All records of required monitoring data and support information shall be maintained for a period of at least five years and shall be made readily available for District inspection upon request. [District Rules 1070, 2201, and 4311]

Section 6.2.1 requires the operator to notify the District of an unplanned flaring event within 24 hours after the start of the next business day or within 24 hours of their discovery, whichever occurs first. The notification shall include the flare source identification, the start date and time, and the end date and time.

The following condition will ensure compliance with this section:

- The operator shall notify the District of an unplanned flaring event within 24 hours after the start of the next business day or within 24 hours of their discovery, whichever occurs first. The notification shall include the flare source identification, the start date and time, and the end date and time. [District Rule 4311]

Section 6.2.2, effective on and after July 1, 2012, and annually thereafter, requires the operator of a flare subject to flare minimization plans pursuant to Section 5.8 to submit an annual report to the District that summarizes all Reportable Flaring Events as defined in Section 3.0 that occurred during the previous 12 month period. The report shall be submitted within 30 days following the end of the twelve month period of the previous year. The report shall include, but is not limited to all of the following:

- The results of an investigation to determine the primary cause and contributing factors of the flaring event;
- Any prevention measures considered or implemented to prevent recurrence together with a justification for rejecting any measures that were considered but not implemented;
- If appropriate, an explanation of why the flaring was an emergency and necessary to prevent accident, hazard or release of vent gas to the atmosphere, or where, due to a regulatory mandate to vent a flare, it cannot be recovered, treated and used as a fuel gas at the facility; and
- The date, time, and duration of the flaring event.

The following condition will ensure compliance with this section:

- Effective on and after July 1, 2012, and annually thereafter, an operator shall submit a report to the District within 30 days following the end of each 12-month period that summarizes all reportable flaring events during the previous 12-month period. The report shall include the following: 1) The results of an investigation to determine the primary cause and contributing factors of the flaring event; 2) Any prevention measures considered or implemented to prevent recurrence together with a justification for rejecting any measures that were considered but not implemented; 3) If appropriate, an explanation of why the flaring was an emergency and necessary to prevent accident, hazard or release of vent gas to the atmosphere, or where, due to a regulatory mandate to vent a flare, it cannot be recovered, treated and used as a fuel gas at the facility; and 4) The date, time, and duration of the flaring event. [District Rule 4311]

Section 6.2.3 effective on and after July 1, 2012, and annually thereafter, the operator of a flare subject to flare monitoring requirements pursuant to Sections 5.10, 6.6, 6.7, 6.8, 6.9, and 6.10, as appropriate, shall submit an annual report to the APCO within 30 days following the end of each 12 month period.

The report shall include the following:

- The total volumetric flow of vent gas in standard cubic feet for each day.
- Hydrogen sulfide content, methane content, and hydrocarbon content of vent gas composition pursuant to Section 6.6.
- If vent gas composition is monitored by a continuous analyzer or analyzers pursuant to Section 5.11, average total hydrocarbon content by volume, average methane content by volume, and depending upon the analytical method used pursuant to Section 6.3.4, total reduced sulfur content by volume or hydrogen sulfide content by volume of vent gas flared for each hour of the month.
- If the flow monitor used pursuant to Section 5.10 measures molecular weight, the average molecular weight for each hour of each month.
- For any pilot and purge gas used, the type of gas used, the volumetric flow for each day and for each month, and the means used to determine flow.
- Flare monitoring system downtime periods, including dates and times.
- For each day and for each month provide calculated sulfur dioxide emissions.
- A flow verification report for each flare subject to this rule. The flow verification report shall include flow verification testing pursuant to Section 6.3.5.

The following condition will ensure compliance with this section:

- Effective on and after July 1, 2012, and annually thereafter, an operator shall submit a report to the District within 30 days following the end of each 12-month period that includes the following: 1) The total volumetric flow of vent gas in standard cubic feet for each day; 2) Hydrogen sulfide content, methane content, and hydrocarbon content of vent gas composition pursuant to Section 6.6; 3) If vent gas composition is monitored by a continuous analyzer or analyzers pursuant to Section 5.11, average total hydrocarbon content by volume, average methane content by volume, and depending upon the analytical method used pursuant to Section 6.3.4, total reduced sulfur content by volume or hydrogen sulfide content by volume of vent gas flared for each hour of the month; 4) If the flow monitor used pursuant to Section 5.10 measures molecular weight, the average molecular weight for each hour of each month; 5) For any pilot and purge gas used, the type of gas used, the volumetric flow for each day and for each month, and the means used to determine flow; 6) Flare

monitoring system downtime periods, including dates and times; 7) For each day and for each month provide calculated sulfur dioxide emissions; and 8) A flow verification report for each flare subject to this rule. The flow verification report shall include flow verification testing pursuant to Section 6.3.5. [District Rule 4311]

Section 6.3 lists test methods an operator can use to demonstrate compliance with this rule. Compliance with this section is expected.

Section 6.4 requires records of compliance with 5.6 to be provided to the District upon request and lists further requirement for enclosed flares, which VPC does not operate at this stationary source. Compliance with this section is expected.

Section 6.5 requires operators of flares >5.0 MMBtu/hr to submit a flare minimization plan (FMP) by July 1, 2010. VPC has submitted a FMP; therefore compliance with this section has been made.

Section 6.6 requires the operator to monitor vent gas composition using one of the following five methods as appropriate:

- Sampling that meets the following requirements:
  - If the flow rate of vent gas flared in any consecutive 15-minute period continuously exceeds 330 standard cubic feet per minute (SCFM), a sample shall be taken within 15 minutes. The sampling frequency thereafter shall be one sample every three hours and shall continue until the flow rate of vent gas flared in any consecutive 15-minute period is continuously 330 SCFM or less. In no case shall a sample be required more frequently than once every 3 hours.
  - Samples shall be analyzed pursuant to Section 6.3.4.
- Integrated sampling that meets the following requirements:
  - If the flow rate of vent gas flared in any consecutive 15 minute period continuously exceeds 330 SCFM, integrated sampling shall begin within 15 minutes and shall continue until the flow rate of vent gas flared in any consecutive 15 minute period is continuously 330 SCFM or less.
  - Integrated sampling shall consist of a minimum of one aliquot for each 15-minute period until the sample container is full. If sampling is still required pursuant to Section 6.6.2.1, a new sample container shall be placed in service within one hour after the previous sample was filled. A sample container shall not be used for a sampling period that exceeds 24 hours.
  - Samples shall be analyzed pursuant to Section 6.3.4.
- Continuous analyzers that meet the following requirements:
  - The analyzers shall continuously monitor for total hydrocarbon methane, and depending upon the analytical method used pursuant to Section 6.3.4, hydrogen sulfide or total reduced sulfur.
  - The hydrocarbon analyzer shall have a full-scale range of 100% total hydrocarbon.
  - Each analyzer shall be maintained to be accurate to within 20% when compared to any field accuracy tests or to within 5% of full scale.
- Continuous analyzers employing gas chromatography that meet the following requirements:

  - The gas chromatography system shall monitor for total hydrocarbon, methane, and hydrogen sulfide.
  - The gas chromatography system shall be maintained to be accurate within 5% of full scale.
- Monitor sulfur content using a colorimetric tube system on a daily basis, and monitor vent gas hydrocarbon on a weekly basis by collecting samples and having them tested pursuant to a method in Section 6.3.4.

Additionally, if flares share a common header, a sample from the header will be deemed representative of vent gas composition for all flares served by the header.

The following condition will ensure compliance with this section:

- Vent gas composition shall be monitored using one of the methods outlined in Rule 4311 (amended 6/18/09), Section 6.6.1 through 6.6.5. If flares share a common header, a sample from the header will be deemed representative of vent gas composition for all flares served by the header. [District Rule 4311]

Section 6.7 requires the operator to monitor the volumetric flows of purge and pilot gases with flow measuring devices. The following condition will ensure compliance with this section:

- A non-resettable, totalizing mass or volumetric fuel flow meter to measure the amount of gas combusted in the unit shall be installed, utilized and maintained. [District Rules 2201 and 4311]

Section 6.8 requires operators of flares with water seals to monitor water level and pressure. This flare is not equipped with a water seal; therefore this section is not applicable.

Section 6.9 requires operators of flares to comply with the following as applicable:

- Periods of flare monitoring system inoperation greater than 24 continuous hours shall be reported by the following working day, followed by notification of resumption of monitoring. Periods of inoperation of monitoring equipment shall not exceed 14 days per any 18-consecutive-month period. Periods of flare monitoring system inoperation do not include the periods when the system feeding the flare is not operating.
- During periods of inoperation of continuous analyzers or auto-samplers installed pursuant to Section 6.6, operators responsible for monitoring shall take one sample within 30 minutes of the commencement of flaring, from the flare header or from an alternate location at which samples are representative of vent gas composition and have samples analyzed pursuant to Section 6.3.4. During periods of inoperation of flow monitors required by Section 5.10, flow shall be calculated using good engineering practices.
- Maintain and calibrate all required monitors and recording devices in accordance with the applicable manufacturer's specifications. In order to claim that a manufacturer's specification is not applicable, the person responsible for emissions must have, and follow, a written maintenance policy that was developed for the device in question. The written policy must explain and justify the difference between the written procedure and the manufacturer's procedure.
- All in-line continuous analyzer and flow monitoring data must be continuously recorded by an electronic data acquisition system capable of one-minute averages. Flow monitoring data shall be recorded as one-minute averages.

The following conditions will ensure compliance with this section:

- Operator shall report periods of monitor inoperation greater than 24 continuous hours by the following working day, followed by notification of resumption of monitoring. Periods of inoperation of monitoring equipment shall not exceed 14 days per any 18-consecutive-month period. Periods of flare monitoring system inoperation do not include the periods when the system feeding the flare is not operating. [District Rule 4311]
- During periods of inoperation of continuous analyzers or auto-samplers installed pursuant to Section 6.6, operators responsible for monitoring shall take one sample within 30 minutes of the commencement of flaring, from the flare header or from an alternate location at which samples are representative of vent gas composition and have samples analyzed pursuant to Rule 4311 Section 6.3.4. During periods of inoperation of flow monitors, flow shall be calculated using good engineering practices. [District Rule 4311]
- Operator shall maintain and calibrate all required monitors and recording devices in accordance with the applicable manufacturer's specifications. In order to claim that a manufacturer's specification is not applicable, the person responsible for emissions must have, and follow, a written maintenance policy that was developed for the device. The written policy must explain and justify the difference between the written procedure and the manufacturer's procedure. [District Rule 4311]
- All in-line continuous analyzer and flow monitoring data must be continuously recorded by an electronic data acquisition system capable of one-minute averages. Flow monitoring data shall be recorded as one-minute averages. [District Rule 4311]

Section 6.10 applies to operators of petroleum refinery flares. This stationary source does not refine petroleum products; therefore this section is not applicable.

Rule 4801 Particulate Matter Concentration

This rule contains a limit on sulfur compounds. The limit at the point of discharge is 0.2 percent by volume, 2000 ppmv, calculated as sulfur dioxide (SO_2), on a dry basis averaged over 15 consecutive minutes.

The applicant has indicated the produced gas will have zero H_2S.

Therefore, compliance with District Rule 4801 requirements is expected.

California Health & Safety Code 42301.6 (School Notice)

The District has verified that this site is not located within 1,000 feet of a school. Therefore, pursuant to California Health and Safety Code 42301.6, a school notice is not required.

California Environmental Quality Act (CEQA)

CEQA requires each public agency to adopt objectives, criteria, and specific procedures consistent with CEQA Statutes and the CEQA Guidelines for administering its responsibilities under CEQA, including the orderly evaluation of projects and preparation of environmental documents. The District adopted its *Environmental Review Guidelines* (ERG) in 2001.

The basic purposes of CEQA are to:

- Inform governmental decision-makers and the public about the potential, significant environmental effects of proposed activities;
- Identify the ways that environmental damage can be avoided or significantly reduced;
- Prevent significant, avoidable damage to the environment by requiring changes in projects through the use of alternatives or mitigation measures when the governmental agency finds the changes to be feasible; and
- Disclose to the public the reasons why a governmental agency approved the project in the manner the agency chose if significant environmental effects are involved.

Greenhouse Gas (GHG) Significance Determination

It is determined that no other agency has or will prepare an environmental review document for the project. Thus the District is the Lead Agency for this project.

Project specific impacts on global climate change were evaluated consistent with the adopted District policy – *Addressing GHG Emission Impacts for Stationary Source Projects Under CEQA When Serving as the Lead Agency*. The District's engineering evaluation (this document – **Appendix H)** demonstrates that the project includes Best Performance Standards (BPS) for each class and category of greenhouse gas emissions unit as the flare provides a safe route for the emergency release of gas should there be a compressor failure on the gas pipeline. The District therefore concludes that the project would have a less than cumulatively significant impact on global climate change.

District CEQA Findings

The District is the Lead Agency for this project because there is no other agency with broader statutory authority over this project. The District performed an Engineering Evaluation (this document) for the proposed project and determined that the activity will occur at an existing facility and the project involves negligible expansion of the existing use. Furthermore, the District determined that the activity will not have a significant effect on the environment. The District finds that the activity is categorically exempt from the provisions of CEQA pursuant to CEQA Guideline § 15031 (Existing Facilities), and finds that the project is exempt per the general rule that CEQA applies only to projects which have the potential for causing a significant effect on the environment (CEQA Guidelines §15061(b)(3)).

IX. Recommendation

Compliance with all applicable rules and regulations is expected. Pending a successful NSR Public Noticing period, issue ATC S-1738-349-1 subject to the permit conditions on the attached draft ATC in **Appendix A**.

X. Billing Information

Annual Permit Fees			
Permit Number	Fee Schedule	Fee Description	Annual Fee
S-1738-349-1	3020-02-H	130 MMBtu/hr Flare	$1,030.00

Appendices

A: Draft ATC
B: Current Operating Permit
C: BACT Guideline
D: BACT Analysis
E: HRA/AAQA Summary
F: Gas Analysis
G: Interpollutant Offset Ratio Explanation
H: Best Performance Standard
I: Compliance Certifications

ATTACHMENT A

Draft ATC

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

DRAFT

PERMIT NO: S-1738-349-1 **ISSUANCE DATE:** DRAFT

LEGAL OWNER OR OPERATOR: VINTAGE PRODUCTION CALIFORNIA LLC
MAILING ADDRESS: 9600 MING AVE, SUITE 300
BAKERSFIELD, CA 93311

LOCATION: LIGHT OIL WESTERN STATIONARY SOURCE
WESTERN KERN COUNTY
KERN COUNTY, CA

SECTION: NE25 **TOWNSHIP:** 30S **RANGE:** 21E

EQUIPMENT DESCRIPTION:
MODIFICATION OF 130 MMBTU/HR PRODUCED GAS FLARE WITH A KALDAIR - JOHN ZINK INDAIR I-4-AS COANDA EFFECT FLARE TIP: INCREASE AMOUNT OF FLARED GAS TO 85,416,666 SCF/YR

CONDITIONS

1. {1830} This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District Rule 2201] Federally Enforceable Through Title V Permit
2. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. Prior to operating equipment under this Authority to Construct, permittee shall surrender NOX emission reduction credits for the following quantity of emissions: 1st quarter - 2,475 lb, 2nd quarter - 2,475 lb, 3rd quarter - 2,475 lb, and fourth quarter - 2,475 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 4/21/11) for the ERC specified below. [District Rule 2201] Federally Enforceable Through Title V Permit
4. Prior to operating equipment under this Authority to Construct, permittee shall surrender PM10 emission reduction credits for the following quantity of emissions: 1st quarter - 293 lb, 2nd quarter - 293 lb, 3rd quarter - 293 lb, and fourth quarter - 293 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 4/21/11) for the ERC specified below. [District Rule 2201] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (661) 392-5500 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director / APCO

DRAFT

DAVID WARNER, Director of Permit Services
S-1738-349-1 ; Apr 30 2012 9:20AM – RICKARDK : Joint Inspection NOT Required

5. Prior to operating equipment under this Authority to Construct, permittee shall surrender VOC emission reduction credits for the following quantity of emissions: 1st quarter - 2,304 lb, 2nd quarter - 2,304 lb, 3rd quarter - 2,304 lb, and fourth quarter - 2,304 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 4/21/11) for the ERC specified below. [District Rule 2201] Federally Enforceable Through Title V Permit
6. ERC Certificate Numbers N-1034-2, N-1032-5, N-1037-1 and S-3583-1 (or certificates split from these certificates) shall be used to supply the required offsets, unless a revised offsetting proposal is received and approved by the District, upon which this Authority to Construct shall be reissued, administratively specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to reissuance of this Authority to Construct. [District Rule 2201] Federally Enforceable Through Title V Permit
7. The exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap (flapper ok), roof overhang, or any other obstruction. [District Rule 4102]
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 1/4 or 5% opacity. [District Rule 4101] Federally Enforceable Through Title V Permit
9. Flare shall be maintained and operated for smokeless combustion, i.e. no visible emissions in excess of 5% opacity or 1/4 Ringelmann. [District Rule 2201] Federally Enforceable Through Title V Permit
10. This permit does not authorize the utilization of any IC engine, or other combustion device requiring a separate permit, for powering the flare. [District Rule 2201] Federally Enforceable Through Title V Permit
11. A non-resettable, totalizing mass or volumetric fuel flow meter to measure the amount of non-pilot gas combusted in the unit shall be installed, utilized and maintained. [District Rules 2201 and 4311] Federally Enforceable Through Title V Permit
12. Maximum non-pilot gas flow rate shall not exceed 500,000 standard cubic feet per day nor 85,416,666 standard cubic feet per year. [District Rule 2201] Federally Enforceable Through Title V Permit
13. The sulfur content of the produced gas being incinerated by the flare shall not exceed 0 gr-S/100 scf. [District Rule 2201] Federally Enforceable Through Title V Permit
14. Emission rates shall not exceed any of the following: 0.068 lb-NOx/MMBtu, 0.008 lb-PM10/MMBtu, 0.37 lb-CO/MMBtu, or 0.063 lb-VOC/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
15. Flare pilot shall be fired on produced gas. [District Rule 2201] Federally Enforceable Through Title V Permit
16. The flame shall be present at all times when combustible gases are vented through the flare. [District Rule 4311] Federally Enforceable Through Title V Permit
17. The outlet shall be equipped with an automatic ignition system, or, shall operate with a pilot flame present at all times when combustible gases are vented through the flare, except during purge periods for automatic-ignition equipped flares. [District Rule 4311] Federally Enforceable Through Title V Permit
18. Flare shall be equipped with a heat sensing device such as a thermocouple, ultraviolet beam sensor, infrared sensor, or an equivalent device capable of continuously detecting at least one pilot flame or the flare flame is present. The flame detection device shall be kept operational at all times except during flare maintenance when the flare is isolated from gas flow. During essential planned power outages when the flare is operating, the pilot monitor is allowed to be non-functional if the flare flame is clearly visible to onsite operators. Effective on and after July 1, 2012, all pilot monitor downtime shall be reported annually pursuant to Rule 4311, section 6.2.3.6. [District Rule 4311] Federally Enforceable Through Title V Permit
19. Flares that use flow-sensing automatic ignition systems and which do not use a continuous flame pilot shall use purge gas for purging. [District Rule 4311] Federally Enforceable Through Title V Permit
20. Operator shall monitor vent gas composition using one of the five following methods: 1) Sampling vent gas pursuant to Rule 4311 Section 6.6.1, 2) Integrated sampling pursuant to Rule 4311 Section 6.6.2, 3) Operate continuous analyzers that meet the requirements of Rule 4311 Section 6.6.3, 4) Operate continuous analyzers employing gas chromatography pursuant to Rule 4311 Section 6.6.4, or 5) Monitor sulfur content using a colorimetric tube system, and monitor vent gas hydrocarbons pursuant to Rule 4311 Section 6.6.5. [District Rule 4311] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

21. If flare shares a common header, a sample from the header will be deemed representative of vent gas composition for all flares served by the header. The operator shall provide the APCO with access to the monitoring system to collect vent gas samples to verify the analysis required by Rule 4311 Section 5.11. [District Rule 4311] Federally Enforceable Through Title V Permit

22. Operator shall report periods of monitor inoperation greater than 24 continuous hours by the following working day, followed by notification of resumption of monitoring. Periods of inoperation of monitoring equipment shall not exceed 14 days per any 18-consecutive-month period. Periods of flare monitoring system inoperation do not include the periods when the system feeding the flare is not operating. [District Rule 4311] Federally Enforceable Through Title V Permit

23. During periods of inoperation of continuous analyzers or auto-samplers installed pursuant to Section 6.6, operators responsible for monitoring shall take one sample within 30 minutes of the commencement of flaring, from the flare header or from an alternate location at which samples are representative of vent gas composition and have samples analyzed pursuant to Rule 4311 Section 6.3.4. During periods of inoperation of flow monitors, flow shall be calculated using good engineering practices. [District Rule 4311] Federally Enforceable Through Title V Permit

24. Operator shall maintain and calibrate all required monitors and recording devices in accordance with the applicable manufacturer's specifications. In order to claim that a manufacturer's specification is not applicable, the person responsible for emissions must have, and follow, a written maintenance policy that was developed for the device. The written policy must explain and justify the difference between the written procedure and the manufacturer's procedure. [District Rule 4311] Federally Enforceable Through Title V Permit

25. All in-line continuous analyzer and flow monitoring data must be continuously recorded by an electronic data acquisition system capable of one-minute averages. Flow monitoring data shall be recorded as one-minute averages. [District Rule 4311] Federally Enforceable Through Title V Permit

26. The operator shall notify the District of an unplanned flaring event within 24 hours after the start of the next business day or within 24 hours of their discovery, whichever occurs first. The notification shall include the flare source identification, the start date and time, and the end date and time. [District Rule 4311] Federally Enforceable Through Title V Permit

27. Effective on and after July 1, 2012, and annually thereafter, an operator shall submit a report to the District within 30 days following the end of each 12-month period that summarizes all reportable flaring events during the previous 12-month period. The report shall include the following: 1) The results of an investigation to determine the primary cause and contributing factors of the flaring event; 2) Any prevention measures considered or implemented to prevent recurrence together with a justification for rejecting any measures that were considered but not implemented; 3) If appropriate, an explanation of why the flaring was an emergency and necessary to prevent accident, hazard or release of vent gas to the atmosphere, or where, due to a regulatory mandate to vent a flare, it cannot be recovered, treated and used as a fuel gas at the facility; and 4) The date, time, and duration of the flaring event. [District Rule 4311] Federally Enforceable Through Title V Permit

28. Effective on and after July 1, 2012, and annually thereafter, an operator shall submit a report to the District within 30 days following the end of each 12-month period that includes the following: 1) The total volumetric flow of vent gas in standard cubic feet for each day; 2) Hydrogen sulfide content, methane content, and hydrocarbon content of vent gas composition pursuant to Section 6.6; 3) If vent gas composition is monitored by a continuous analyzer or analyzers pursuant to Section 5.11, average total hydrocarbon content by volume, average methane content by volume, and depending upon the analytical method used pursuant to Section 6.3.4, total reduced sulfur content by volume or hydrogen sulfide content by volume of vent gas flared for each hour of the month; 4) If the flow monitor used pursuant to Section 5.10 measures molecular weight, the average molecular weight for each hour of each month; 5) For any pilot and purge gas used, the type of gas used, the volumetric flow for each day and for each month, and the means used to determine flow; 6) Flare monitoring system downtime periods, including dates and times; 7) For each day and for each month provide calculated sulfur dioxide emissions; and 8) A flow verification report for each flare subject to this rule. The flow verification report shall include flow verification testing pursuant to Section 6.3.5. [District Rule 4311] Federally Enforceable Through Title V Permit

29. Testing to demonstrate compliance with the produced gas fuel sulfur content limit shall be conducted during each flaring event but not more than once per calendar year. [District Rule 2201] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

30. Permittee shall determine sulfur content of produced gas flared using ASTM method D3246 or double GC for H2S and mercaptans. [District Rule 2201] Federally Enforceable Through Title V Permit

31. Records of daily gas flow rate and sulfur content of gas shall be maintained. [District Rule 2201] Federally Enforceable Through Title V Permit

32. All records of required monitoring data and support information shall be maintained for a period of at least five years and shall be made readily available for District inspection upon request. [District Rules 1070, 2201, and 4311] Federally Enforceable Through Title V Permit

ATTACHMENT B

Current Operating Permit

San Joaquin Valley
AIR POLLUTION CONTROL DISTRICT

HEALTHY AIR LIVING™

COPY

AUTHORITY TO CONSTRUCT

PERMIT NO: S-1738-349-0 **ISSUANCE DATE:** 03/20/2008

LEGAL OWNER OR OPERATOR: VINTAGE PRODUCTION CALIFORNIA LLC
MAILING ADDRESS: 9600 MING AVE, SUITE 300
BAKERSFIELD, CA 93311

LOCATION: LIGHT OIL WESTERN STATIONARY SOURCE
WESTERN KERN COUNTY
KERN COUNTY, CA

SECTION: NE25 **TOWNSHIP:** 30S **RANGE:** 21E

EQUIPMENT DESCRIPTION:
130 MMBTU/HR LIMITED USE PRODUCED GAS FLARE WITH A KALDAIR - JOHN ZINK INDAIR I-4-AS COANDA EFFECT FLARE TIP

CONDITIONS

1. This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District Rule 2201] Federally Enforceable Through Title V Permit
2. Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. Prior to operating equipment under this Authority to Construct, permittee shall surrender NOx emission reduction credits for the following quantities of emissions: 1st quarter - 266 lb, 2nd quarter - 266 lb, 3rd quarter - 266 lb, and fourth quarter - 267 lb. Offsets shall be provided at the applicable offset ratio specified in Table 4-2 of Rule 2201 (as amended 09/21/06). [District Rule 2201] Federally Enforceable Through Title V Permit
4. Prior to operating equipment under this Authority to Construct, permittee shall surrender PM10 emission reduction credits for the following quantities of emissions: 1st quarter - 29 lb, 2nd quarter - 29 lb, 3rd quarter - 29 lb, and fourth quarter - 30 lb. Offsets shall be provided at the applicable offset ratio specified in Table 4-2 of Rule 2201 (as amended 09/21/06). NOx ERCs may be used to offset PM10 increases at an interpollutant ratio of 2.16 lb-NOx : 1.0 lb-PM10. [District Rule 2201] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (661) 392-5500 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director / APCO

COPY

DAVID WARNER, Director of Permit Services
S-1738-349-0 : Mar 28 2012 2:59PM – LEONARDS : Joint Inspection NOT Required

5. Prior to operating equipment under this Authority to Construct, permittee shall surrender VOC emission reduction credits for the following quantities of emissions: 1st quarter - 214 lb, 2nd quarter - 215 lb, 3rd quarter - 215 lb, and fourth quarter - 215 lb. Offsets shall be provided at the applicable offset ratio specified in Table 4-2 of Rule 2201 (as amended 09/21/06). [District Rule 2201] Federally Enforceable Through Title V Permit
6. ERC Certificate Numbers S-2118-2, S-1889-1, S-1977-1 (or certificates split from these certificates) shall be used to supply the required offsets, unless a revised offsetting proposal is received and approved by the District, upon which this Authority to Construct shall be reissued, administratively specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to reissuance of this Authority to Construct [District Rule 2201] Federally Enforceable Through Title V Permit
7. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
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 1/4 or 5% opacity. [District Rule 4101] Federally Enforceable Through Title V Permit
9. Flare shall be maintained and operated for smokeless combustion, i.e. no visible emissions in excess of 5% opacity or 1/4 Ringelmann. [District Rule 2201] Federally Enforceable Through Title V Permit
10. This permit does not authorize the utilization of any IC engine, or other combustion device requiring a separate permit, for powering the flare. [District Rule 2201] Federally Enforceable Through Title V Permit
11. A non-resettable, totalizing mass or volumetric fuel flow meter to measure the amount of gas combusted in the unit shall be installed, utilized and maintained. [District Rule 2201] Federally Enforceable Through Title V Permit
12. Maximum fuel flow rate shall not exceed 500,000 standard cubic feet per day nor 10,416,666 standard cubic feet per year. [District Rule 2201] Federally Enforceable Through Title V Permit
13. The sulfur content of the produced gas being incinerated by the flare shall not exceed 0 gr-S/100 scf. [District Rule 2201] Federally Enforceable Through Title V Permit
14. Emission rates shall not exceed any of the following: 0.068 lb-NOx/MMBtu, 0.008 lb-PM10/MMBtu, 0.37 lb-CO/MMBtu, or 0.063 lb-VOC/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
15. Flare pilot shall be fired on produced gas. [District Rule 2201] Federally Enforceable Through Title V Permit
16. The flame shall be present at all times when combustible gases are vented through the flare. [District Rule 4311] Federally Enforceable Through Title V Permit
17. The outlet shall be equipped with an automatic ignition system, or, shall operate with a pilot flame present at all times when combustible gases are vented through the flare, except during purge periods for automatic-ignition equipped flares. [District Rule 4311] Federally Enforceable Through Title V Permit
18. Except for flares equipped with a flow-sensing ignition system, a heat sensing device such as a thermocouple, ultraviolet beam sensor, infrared sensor, or an equivalent device, capable of continuously detecting at least one pilot flame or the flare flame is present shall be installed and operated. [District Rule 4311] Federally Enforceable Through Title V Permit
19. Flares that use flow-sensing automatic ignition systems and which do not use a continuous flame pilot shall use purge gas for purging. [District Rule 4311] Federally Enforceable Through Title V Permit
20. Testing to demonstrate compliance with the produced gas fuel sulfur concentration limit shall be conducted within 60 days of start up. [District Rule 1081] Federally Enforceable Through Title V Permit
21. Testing to demonstrate compliance with the produced gas fuel sulfur content limit shall be conducted during each flaring event but not more than once per calendar year. [District Rule 2201] Federally Enforceable Through Title V Permit
22. Permittee shall determine sulfur content of produced gas flared using ASTM method D3246 or double GC for H2S and mercaptans. [District Rule 2201] Federally Enforceable Through Title V Permit
23. The results of each produced gas sulfur content test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

24. Records of daily gas flow rate and sulfur content of gas shall be maintained. [District Rule 2201] Federally Enforceable Through Title V Permit

25. All records shall be maintained and retained on-site for a period of at least 5 years and shall be made available for District inspection upon request. [District Rule 1070] Federally Enforceable Through Title V Permit

ATTACHMENT C

BACT Guideline

San Joaquin Valley
Unified Air Pollution Control District

Best Available Control Technology (BACT) Guideline 1.4.2*

Last Update 12/31/1998

Waste Gas Flare - Incinerating Produced Gas

Pollutant	Achieved in Practice or contained in the SIP	Technologically Feasible	Alternate Basic Equipment
CO	Steam assisted or Air-assisted or Coanda effect burner, when steam unavailable		
NOx	Steam assisted or Air-assisted or Coanda effect burner, when steam unavailable		
PM10	Steam assisted or Air-assisted or Coanda effect burner, when steam unavailable Pilot Light fired solely on LPG or natural gas.		
SOx	Steam assisted or Air-assisted or Coanda effect burner, when steam unavailable Pilot Light fired solely on LPG or natural gas.	Precombustion SOx scrubbing system (non-emergency flares only.)	
VOC	Steam assisted or Air-assisted or Coanda effect burner, when steam unavailable		

BACT is the most stringent control technique for the emissions unit and class of source. Control techniques that are not achieved in practice or contained in s a state implementation plan must be cost effective as well as feasible. Economic analysis to demonstrate cost effectiveness is required for all determinations that are not achieved in practice or contained in an EPA approved State Implementation Plan.

***This is a Summary Page for this Class of Source**

ATTACHMENT D

BACT Analysis

1. BACT Analysis for NO_X Emissions:

Oxides of nitrogen (NO_X) are generated from the high temperature combustion of the gas. A majority of the NO_X emissions are formed from the high temperature reaction of nitrogen and oxygen in the inlet air. The rest of the NO_X emissions are formed from the reaction of fuel-bound nitrogen with oxygen in the inlet air.

a. Step 1 - Identify all control technologies

The SJVAPCD BACT Clearinghouse guideline 1.4.2, 4th quarter 1998, identifies the following BACT for waste gas flares incinerating produced gas:

1) Steam or air assisted or Coanda effect burner, when steam unavailable (Achieved in Practice)

No technologically feasible alternatives or control alternatives identified as alternate basic equipment for this class and category of source are listed.

b. Step 2 - Eliminate technologically infeasible options

There are no technologically infeasible options to eliminate from step 1.

c. Step 3 - Rank remaining options by control effectiveness

1) Steam or air assisted or Coanda effect burner, when steam unavailable (Achieved in Practice)

d. Step 4 - Cost Effectiveness Analysis

The only control technology in the ranking list from Step 3 has been achieved in practice. Therefore, per the District's BACT Policy (dated 11/9/99) Section IX.D.2, the cost effectiveness analysis is not required.

e. Step 5 - Select BACT

BACT for NO_X emissions from this produced gas fired flare is steam or air assist or Coanda effect burner when steam is unavailable. The applicant has proposed to modify a produced gas fired flare equipped with a Coanda effect burner (steam is not available at this location); therefore BACT for NO_X emissions is satisfied.

2. BACT Analysis for VOC Emissions:

Volatile organic compounds (VOC) emissions are generated from the incomplete combustion of the gas.

a. Step 1 - Identify all control technologies

The SJVAPCD BACT Clearinghouse guideline 1.4.2, 4th quarter 1998, identifies the following BACT for waste gas flares incinerating produced gas:

1) Steam or air assisted or Coanda effect burner, when steam unavailable (Achieved in Practice)

No technologically feasible alternatives or control alternatives identified as alternate basic equipment for this class and category of source are listed.

b. Step 2 - Eliminate technologically infeasible options

There are no technologically infeasible options to eliminate from step 1.

c. Step 3 - Rank remaining options by control effectiveness

1) Steam or air assisted or Coanda effect burner, when steam unavailable (Achieved in Practice)

d. Step 4 - Cost effectiveness analysis

The only control technology in the ranking list from Step 3 has been achieved in practice. Therefore, per the District's BACT Policy (dated 11/9/99) Section IX.D.2, the cost effectiveness analysis is not required.

e. Step 5 - Select BACT

BACT for VOC emissions from this produced gas fired flare is steam or air assist or Coanda effect burner when steam is unavailable. The applicant has proposed to modify a produced gas fired flare equipped with a Coanda effect burner (steam is not available at this location); therefore BACT for VOC emissions is satisfied.

ATTACHMENT E

HRA/AAQA Summary

San Joaquin Valley Air Pollution Control District
Risk Management Review

To:	Kris Rickards, AQE – Permit Services
From:	Joe Aguayo, AQS – Technical Services
Date:	April 23, 2012
Facility Name:	Vintage Production CA LLC
Location:	Heavy Oil Western
Application #(s):	S-1738-349-1
Project #:	S-1120872

A. RMR SUMMARY

RMR Summary			
Categories	**Type of Unit (Unit 349-1)**	**Project Totals**	**Facility Totals**
Prioritization Score	<1.0	<1.0	>1.0
Acute Hazard Index	0.00	0.00	0.41
Chronic Hazard Index	0.00	0.00	0.06
Maximum Individual Cancer Risk (10^{-6})	1.5	1.5	4.5
T-BACT Required?	**Yes**		
Special Permit Conditions?	**Yes**		

Proposed Permit Conditions

To ensure that human health risks will not exceed District allowable levels; the following permit conditions must be included for:

Unit # 349-1

1. The exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap (flapper ok), roof overhang, or any other obstruction. [District Rule 4102]

T-BACT is required for this unit because of emissions of VOC. In accordance with District policy, BACT for this unit will be considered to be T-BACT.

B. RMR REPORT

I. Project Description

Technical Services received a request on April 2, 2012, to perform an Ambient Air Quality Analysis and a Risk Management Review for an increase in flared sales gas volume from 10,416,666 scf/yr to 85,416,666 scf/yr. There is no increase in the daily limit.

II. Analysis

Technical Services performed a prioritization using the District's HEARTs database. Since the total facility prioritization score was greater than one, a refined health risk assessment was required. Emissions calculated using emission factors for external combustion of natural gas were input into the HEARTs database. The AERMOD model was used, with the parameters outlined below and meteorological data for 2005-2009 from Bakersfield to determine the dispersion factors (i.e., the predicted concentration or X divided by the normalized source strength or Q) for a receptor grid. These dispersion factors were input into the Hot Spots Analysis and Reporting Program (HARP) risk assessment module to calculate the chronic and acute hazard indices and the carcinogenic risk for the project.

The following parameters were used for the review:

Analysis Parameters Unit 349-1			
Source Type	Point	**Location Type**	Rural
Stack Height (m)	4.57	**Closest Receptor (m)**	2438.4
Stack Diameter. (m)	0.08	**Type of Receptor**	Residential
Stack Exit Velocity (m/s)	35.93	**Max Hours per Year**	8760
Stack Exit Temp. (°K)	Ambient	**Fuel Type**	NG
Burner Rating (MMBtu/hr)	15.4		

Technical Services performed modeling for criteria pollutants CO, NOx, SOx and PM_{10}; as well as a RMR. The emission rates used for criteria pollutant modeling were 48.11 lb/hr CO, 8.97 lb/hr NOx, 0.00 lb/hr SOx, and 1.04 lb/hr PM_{10}. The engineer supplied the maximum fuel rate for the flare used during the analysis.

The results from the Criteria Pollutant Modeling are as follows:

Criteria Pollutant Modeling Results*

Flare	1 Hour	3 Hours	8 Hours	24 Hours	Annual
CO	Pass	X	Pass	X	X
NO_x	Pass[1]	X	X	X	Pass
SO_x	Pass	Pass	X	Pass	Pass
PM_{10}	X	X	X	Pass[2]	Pass[2]
$PM_{2.5}$	X	X	X	Pass[2]	Pass[2]

*Results were taken from the attached PSD spreadsheet.
[1]The project was compared to the 1-hour NO2 National Ambient Air Quality Standard that became effective on April 12, 2010 using the District's approved procedures.
[2]The criteria pollutants are below EPA's level of significance as found in 40 CFR Part 51.165 (b)(2).

III. Conclusion

The acute and chronic indices are below 1.0 and the cancer risk associated with the project is greater than 1.0 in a million, but less than 10 in a million. **In accordance with the District's Risk Management Policy, the project is approved with Toxic Best Available Control Technology (T-BACT).**

To ensure that human health risks will not exceed District allowable levels; the permit conditions listed on page 1 of this report must be included for this proposed unit.

These conclusions are based on the data provided by the applicant and the project engineer. Therefore, this analysis is valid only as long as the proposed data and parameters do not change.

The emissions from the proposed equipment will not cause or contribute significantly to a violation of the State and National AAQS.

IV. Attachments

A. RMR request from the project engineer
B. Additional information from the applicant/project engineer
C. Toxic emissions summary
D. Prioritization score
E. Facility Summary

ATTACHMENT F

Gas Analysis

PGT
Pacific Gas Technology, Inc.

E-mail pgtech@earthlink.net

4100 Burr Street
P.O. Box 80847
Bakersfield, CA 93380-0847
Telephone (661) 324-1317
Fax (661) 324-2746

Attention: Steve Gluyas
Vintage Petroleum LLC
6851 McDivitt Dr. Ste. D
Bakersfield, CA 93313

Sampled: 12/28/2011
Submitted: 12/28/2011
Analyzed: 12/29/2011
Reported: 12/30/2011

Gas Analysis by Chromatography - ASTM D 3588-91

Description: M&M Discharge off Dehy
Meter: 06115
Facility: Belgian Anticline

Lab No.: 111135-1
Pressure: 575 psi
Temperature:

Component	Mole %	Weight %	GPM
Oxygen	ND	0.00	
Nitrogen	0.90	1.29	
Carbon Dioxide	0.42	0.96	
Hydrogen	ND	0.00	
Carbon Monoxide	ND	0.00	
Methane	86.82	71.82	
Ethane	5.95	9.22	
Propane	2.47	5.61	0.681
iso-Butane	0.63	1.90	0.208
n-Butane	1.95	5.85	0.617
iso-Pentane	0.33	1.24	0.122
n-Pentane	0.30	1.12	0.109
Hexanes Plus	0.22	0.98	0.091
Totals	100.00	100.00	1.828

			Values Corrected for Compressibility
Specific Volume, ft3/lb		19.56	
Compressibility (Z) Factor		0.9970	
Specific Gravity, Calculated		0.6696	0.6714
GROSS			
BTU/ft3	Dry	1164.5	1168.0
	Wet	1144.1	1147.6
BTU/lb	Dry	22776.2	22844.3
BTU/lb	Wet	22377.6	22444.6
NET			
BTU/ft3	Dry	1054.0	1057.2
	Wet	1035.6	1038.7
BTU/lb	Dry	20615.0	20676.7
BTU/lb	Wet	20254.2	20314.8

CHONS	Weight %
Carbon	75.177
Hydrogen	22.831
Oxygen	0.698
Nitrogen	1.294
Sulfur	0.000
F FACTOR @ 68 deg F, dscf/MMBTU	8667
F FACTOR @ 60 deg F, dscf/MMBTU	8537

		Method
Total Sulfur, ppm	TR<1	ASTM D3246
Dew Point, deg F	-15 deg F	Bureau of Mines
Hydrocarbon Dew Point, deg F	Not Tested	Bureau of Mines
Moisture, lbs H2O/MMCF	Not Tested	Bureau of Mines

ND: None Detected
Tr: Trace

ATTACHMENT G

Interpollutant Offset Ratio Explanation

Interpollutant Offset Ratio Explanation

The Air District's Rule 2201, "New and Modified Source Review", requires facilities to supply "emissions offsets" when a permittee requests new or modified permits that allow emissions of air contaminants above certain annual emission offset thresholds. In addition, Rule 2201 allows interpollutant trading of offsets amongst criteria pollutants and their precursors upon the appropriate scientific demonstration of an adequate trading ratio, herein referred to as the interpollutant ratio. A technical analysis is required to determine the interpollutant offset ratio that is justified by evaluation of atmospheric chemistry. This evaluation has been conducted using the most recent modeling analysis available for the San Joaquin Valley. The results of the analysis are designed to be protective of health for the entire Valley for the entire year, by applying the most stringent interpollutant ratio throughout the Valley.

It is appropriate for District particulate offset requirements to be achieved by either a reduction of directly emitted particulate or by reduction of the gases, called particulate precursors, which become particulates from chemical and physical processes in the atmosphere. The District interpollutant offset relationship quantifies precursor gas reductions sufficient to serve as a substitute for a required direct particulate emissions reduction. Emission control measures that reduce gas precursor emissions at the facility may be used to provide the offset reductions. Alternatively, emission credits for precursor reductions may be used in accordance with District regulations.

The amount of particulate formed by the gaseous emissions must be evaluated to determine how much credit should be given for the gaseous reductions. Gases combine and merge with other material adding molecular weight when forming into particles. Some of the gases do not become particulate matter and remain a gas. Both the extent of conversion into particles and resulting weight of the particles are considered to establish mass equivalency between direct particulate emissions and particulate formed from gas precursors. The Interpollutant offset ratio is expressed as a per-ton equivalency.

The District interpollutant analysis uses the most recent and comprehensive modeling of San Joaquin Valley particulate formation from sulfur oxides (SOx) and nitrogen oxides (NOx). Modeling compares industrial directly emitted particulate to particulate matter from precursor emissions. The interpollutant modeling procedure, assumptions and uncertainties are documented in an extensive analysis file. Additional documentation of the modeling procedure for the San Joaquin Valley is contained in the 2008 PM2.5 Plan and its appendices. The 2008 PM2.5 Plan provides evaluation of the atmospheric relationships for direct particulate emissions and precursor gases when they are highest during the fourth quarter of the year. The southern portion of the Valley is evaluated by both receptor modeling and regional modeling of chemical relationships for precursor particulate formation. Regional modeling was conducted for the entire Valley through 2014. The two modeling approaches are combined to determine interpollutant offset ratios applicable to, and protective of, the entire Valley (SOx for PM 1:1 and NOx for PM 2.629:1).

ATTACHMENT H

Best Performance Standard

San Joaquin Valley
Unified Air Pollution Control District

Best Performance Standard (BPS) x.x.xx

Date: 08/02/2011

Class	**VOC Control/Gas Disposal**	
Category	**Oil and Gas Production, Processing, and Refining**	
Best Performance Standard (in order of recommendation)	1) -Incineration in existing engine, boiler, etc that creates useful work – provided that equipment is available and practically capable of incinerating vapors (see equipment specific BPS for standards and requirements for new fired equipment) and currently burning fossil fuel; or, -Transfer to Sales Gas Line – provided that access to sales gas line infrastructure is available; or, -Reinjection to Formation – provided that access to a disposal well is available.	
	The following options supersede the BPS requirements above if: a) equipment listed above is not available; or, b) gas cannot safely be transferred to equipment listed above; or, c) used to control emergency gas releases. 2) -Incineration in new Thermal Oxidizer – see equipment specific Thermal Oxidizer BPS for standards and requirements for new equipment; or, -Incineration in New Flare with >98% TOC destruction efficiency, steam assist, air assist when steam is not available, or Coanda effect and equipped with non-continuous automatic electronic or ballistic ignition; or, -Incineration in Existing Thermal Oxidizer or Flare	
Percentage Achieved GHG Emission Reduction Relative to Baseline Emissions	**Gas-Fired Equipment**	**100%**
	Transfer to Sales Gas Line	**100%**
	Reinjection to Formation	**100%**
	New Thermal Oxidizer	**100%**
	New Flare	**1.5%**
	Existing Thermal Oxidizer or Flare	**0%**
District Project Number	S-1103964	
Evaluating Engineer	Kristopher Rickards	
Lead Engineer	Leonard Scandura, P.E.	
Public Notice: Start Date	May 31, 2011	
Public Notice: End Date	June 30, 2011	
Determination Effective Date	August 2, 2011	

ATTACHMENT I

Compliance Certifications

San Joaquin Valley
Unified Air Pollution Control District

TITLE V MODIFICATION - COMPLIANCE CERTIFICATION FORM

I. TYPE OF PERMIT ACTION (Check appropriate box)

[X] SIGNIFICANT PERMIT MODIFICATION
[ ] MINOR PERMIT MODIFICATION
[ ] ADMINISTRATIVE AMENDMENT

COMPANY NAME: Vintage Production California LLC	FACILITY ID: - S – 1738
1. Type of Organization: [X]Corporation [ ]Sole Ownership [ ]Government [ ]Partnership [ ]Utility	
2. Owner's Name: **Vintage Production California LLC**	
3. Agent to the Owner: **Denny Brown**	

II. COMPLIANCE CERTIFICATION (Read each statement carefully and initial **all** circles for confirmation):

DB Based on information and belief formed after reasonable inquiry, the source identified in this application will continue to comply with the applicable federal requirement(s) which the source is in compliance.

DB Based on information and belief formed after reasonable inquiry, the source identified in this application will comply with applicable federal requirement(s) that will become effective during the permit term, on a timely basis.

DB Corrected information will be provided to the District when I become aware that incorrect or incomplete information has been submitted.

DB Based on information and belief formed after reasonable inquiry, information and statements in the submitted application package, including all accompanying reports, and required certifications are true accurate and complete.

I declare, under penalty of perjury under the laws of the state of California, that the forgoing is correct and true:

Denny Brown
Signature of Responsible Official

03 - 19 - 12
Date

Denny Brown
Name of Responsible Official (please print)

Operations Manager
Title of Responsible Official (please print)

CERTIFICATION

OXY USA Inc. hereby certifies as follows:

1. OXY USA Inc. owns or operates certain major stationary sources in the State of California. Such sources are comprised of a vast number of emission points. As used in this certification, the term "major stationary source" shall, with respect to OXY USA Inc. stationary sources in the SJVUAPCD, have the meaning ascribed thereto in SJVUAPCD Rule 2201, Section 3.23, and shall, with respect to all of OXY USA Inc.'s other stationary sources in the State of California, have the meaning ascribed thereto in section 302(J) of the Clean Air Act (42 U.S.C. Section 7602 (J)).

2. Subject to paragraphs 3 and 4 below, all major stationary sources owned or operated by OXY USA Inc. in the State of California are either in compliance, or on an approved schedule of compliance, with all applicable emission limitations and standards under the Clean Air Act and all of the State Implementation Plan approved by the Environmental Protection Agency.

3. This certification is made on information and belief and is based upon a review of OXY USA Inc.'s major stationary sources in the State of California by those employees of OXY USA Inc. who have operational responsibility for compliance. In conducting such reviews, OXY USA Inc. and its employees have acted in good faith and have exercised best efforts to identify any exceedance of the emission limitations and standards referred to in paragraph 2 thereof.

4. This certification shall speak as of the time and date of its execution.

CERTIFICATION

By: Danny Bow Date: 03-19-12

Title: Operations Lead Time: 6:40 AM