San Joaquin Valley
AIR POLLUTION CONTROL DISTRICT

HEALTHY AIR LIVING™

MAR 0 4 2015

Bill Donadio
Hathaway, LLC
PO Box 31385
Bakersfield, CA 93380

Re: Notice of Preliminary Decision - Authority to Construct
Facility Number: S-6509
Project Number: S-1143211

Dear Mr. Donadio:

Enclosed for your review and comment is the District's analysis of Hathaway, LLC's application for an Authority to Construct for new wells, a flare, and modified tanks in central Kern County.

The notice of preliminary decision for this project will be published approximately three days from the date of this letter. After addressing all comments made during the 30-day public notice and 45-day EPA notice comment periods, the District intends to issue the Authority to Construct. Please submit your written comments on this project within the 30-day public comment period, as specified in the enclosed public notice.

Thank you for your cooperation in this matter. If you have any questions regarding this matter, please contact Mr. David Torii of Permit Services at (661) 392- 5620.

Sincerely,

Arnaud Marjollet
Director of Permit Services

AM:DBT/st

Enclosures

cc: Mike Tollstrup, CARB (w/ enclosure) via email
cc: Gerardo C. Rios, EPA (w/ enclosure) via email

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 www.healthyairliving.com

San Joaquin Valley Air Pollution Control District
Authority to Construct Application Review
New Flare and TEOR Wells

Facility Name:	Hathaway, LLC	Date:	2/18/15
Mailing Address:	PO Box 31385 Bakersfield, CA 93380	Engineer:	David Torii
		Lead Engineer:	Dan Klevann
Contact Person:	Bill Donadio		
Telephone:	661-393-2004		
Fax:	661-393-2009		
Application #(s):	S-6509-31-1, '32-1, '34-1, '40-1, '41-0 and '42-0		
Project #:	1143211		
Deemed Complete:	8/18/14		

I. Proposal

Hathaway, LLC (Hathaway) has requested Authority to Construct (ATC) permits to add vapor control to four storage tanks, install a flare and up to 50 TEOR wells.

Disposition of Outstanding ATCs

ATC S-6509-40-0 serves as the base document. See the ATC in Appendix A.

II. Applicable Rules

Rule 2201	New and Modified Stationary Source Review Rule (4/21/11)
Rule 2410	Prevention of Significant Deterioration (6/16/11)
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 4301	Fuel Burning Equipment (12/17/92)
Rule 4311	Flares (06/18/2009)
Rule 4401	Steam-Enhanced Crude Oil Production Wells (6/16/11
Rule 4623	Storage of Organic Liquids (05/19/05)
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 equipment is/will be located at the Cohn lease, within the Section 28, Township 29S, Range 29E in Hathaway's Heavy Oil Central stationary source. 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

Steam is produced from steam generators and injected into the heavy crude oil bearing strata via injection wells to enhance the oil extraction. Heat from the steam makes the heavy crude oil less viscous; therefore, easier to pump from the well. Gasses are also produced as a result of the steaming process, and include water vapor, CO2, CO, H2S, and hydrocarbons. In wells with closed casing vents these gasses are entrained in the produced fluids and are sent downstream along with well production and separated in separator vessels or first-line tanks equipped with vapor control. In wells with open casing vents the produced gasses are routed from the casing vent to a vapor control system.

V. Equipment Listing

Pre-Project/Base Document Equipment Description (see permits in Appendix A):

ATC S-6509-40-0: MODIFICATION OF 1,000 BBL FIXED ROOF SHIPPING/STOCK TANK WITH P/V VENT (COHN LEASE): INCREASE THROUGHPUT LIMIT TO 300 BBL/DAY AND DECREASE TVP LIMIT TO 0.13 PSI

PTO S-6509-31-0: 1500 BBL CRUDE OIL WASH TANK (COHN LEASE)

PTO S-6509-32-0: 1000 BBL CRUDE OIL STOCK TANK (COHN LEASE)

PTO S-6509-34-0: 1000 BBL CRUDE OIL STOCK TANK

Proposed ATCs:

S-6509-31-1: MODIFICATION OF 1500 BBL CRUDE OIL WASH TANK (COHN LEASE): ADD VAPOR CONTROL SYSTEM SHARED WITH S-3509-32, '34 AND '40

S-6509-32-1: MODIFICATION OF 1000 BBL CRUDE OIL STOCK TANK (COHN LEASE): CONNECT TO VAPOR CONTROL SYSTEM LISTED ON S-6509-31

S-6509-34-1: MODIFICATION OF ONE 1000 BBL CRUDE OIL STOCK TANK (COHN LEASE): CONNECT TO VAPOR CONTROL SYSTEM LISTED ON S-6509-31

S-6509-40-1: MODIFICATION OF 1,000 BBL FIXED ROOF SHIPPING/STOCK TANK WITH P/V VENT (COHN LEASE): CONNECT TO VAPOR CONTROL SYSTEM LISTED ON S-6509-31

S-6509-41-0: TEOR OPERATION INCLUDING UP TO 50 WELLS SERVED BY THE VAPOR CONTROL SYSTEM LISTED ON S-6509-31

S-6509-42-0: LESS THAN 5.0 MMBTU/HR FLARE WITH COANDA EFFECT TIP SERVING VAPOR CONTROL SYSTEMS LISTED ON S-6509-31 AND '41

Post Project Equipment Description:

S-6509-31-1: 1500 BBL CRUDE OIL WASH TANK WITH VAPOR CONTROL SYSTEM (COHN LEASE)

S-6509-32-1: 1000 BBL CRUDE OIL STOCK TANK SERVED BY VAPOR CONTROL SYSTEM LISTED ON S-6509-31 (COHN LEASE)

S-6509-34-1: 1000 BBL CRUDE OIL STOCK TANK SERVED BY VAPOR CONTROL SYSTEM LISTED ON S-6509-31 (COHN LEASE)

S-6509-40-1: 1,000 BBL FIXED ROOF SHIPPING/STOCK TANK SERVED BY VAPOR CONTROL SYSTEM LISTED ON S-6509-31 (COHN LEASE)

S-6509-41-0: TEOR OPERATION INCLUDING UP TO 50 WELLS SERVED BY THE VAPOR CONTROL SYSTEM LISTED ON S-6509-31

S-6509-42-0: LESS THAN 5.0 MMBTU/HR FLARE WITH COANDA EFFECT TIP SERVING VAPOR CONTROL SYSTEMS LISTED ON S-6509-31 AND '41

VI. Emission Control Technology Evaluation

Tanks:

The tank vapor control system collects vapors from the tanks, removes entrained liquid in knockout vessels and scrubber vessels, condenses gases in heat exchangers and routes the uncondensed vapors to incineration devices. The efficiency of the vapor control system is at least 95%.

TEOR Systems:

If wells are operated with closed casing vents, where casing vents are connected to production flow lines, then the oil production will be routed to the this projects' tanks proposed to have vapor control systems installed. Otherwise, the casing vents will be connected to a dedicated well vent vapor recovery system which will route its vapors to the proposed flare, permit exempt combustion equipment or steam generators. The vapor control efficiency of the TEOR operation is required by permit condition to be at least 99%. A fugitive emissions monitoring, inspection, and repair program required by Rule 4401 will continue to be implemented.

Flare:

The flare is pressure assist (Coanda effect burner) and is required to operate in a smokeless manner.

VII. General Calculations

A. Assumptions

- All equipment may operate 24 hours/day and 365 hours/year
- Only fugitive VOCs emitted from components in gas service are calculated
- Fugitive emissions from heavy oil liquid service components are negligible
- All weight percentages of VOC in the TOC is assumed to be 100%
- All emissions will be comprised of VOC only
- Leaking components are assumed to be valves (conservative assumption as these have the greatest potential to emit as leaking components)
- Flaring rate: 50 MMBtu/day
- Sulfur content of the flared gas will not exceed 10 gr/100 scf.
- Higher heating value of the flared gas is approximately 1,000 Btu/scf

Pursuant to FYI 310 "Significance and Accounting of Flare Pilot Flame Emissions" 10/24/12, pilot emissions are insignificant (< 2 lb/day of all air contaminants) and the flare pilot is a Rule 2020 "Low Emitting Unit" exempt from all Rule 2201 permitting requirements. The below emissions are calculated without pilot emissions.

B. Emission Factors

The PE1's for the tanks are based on the results from the District's Microsoft Excel spreadsheets for Tank Emissions - Fixed Roof Crude Oil less than 26° API. The spreadsheet for tanks was developed using the equations for fixed-roof tanks from EPA AP-42, Chapter 7.1.

The PE2's for the tanks and wells are based on the fugitive emissions for the components are calculated using California Implementation Guidelines for Estimating Mass Emissions of fugitive Hydrocarbon Leaks at Petroleum Facilities, CAPCOA/CARB, February 1999 "revised screening" emissions factors

The flare's emissions are calculated using the following emissions factors from District policy FYI-83:

NOx: 0.068 lb/MMBtu
VOC: 0.063 lb/MMBtu
CO: 0.37 lb/MMBtu
PM10: 0.0076 lb/MMBtu (BACT)
SOx: (10 gr/100 scf)(1 scf/1000 Btu)(1 lb/7000 gr)(2 lb SO_2/1 lb S)(10^6/MM) = 0.0285 lb SOx/MMbtu

C. Calculations

1. Pre-Project Potential to Emit (PE1)

Since TEOR S-6509-41-0 and flare S-6509-42 are new emissions units, their PE1 = 0 for all pollutants.

PE1			
Tank	Daily Emissions (lb/day)	Annual Emissions (lb/year)	Source
ATC S-6509-31-0	1.6	580	Project 1132535
ATC S-6509-32-0	4.6	1,663	Project 1132535
ATC S-6509-34-0	4.3	1,559	Project 1134631
ATC S-6509-40-0	4.9	1,785	Project 1141881

2. Post Project Potential to Emit (PE2)

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

$PE2_{NOx}$ = (0.068 lb/MMBtu)(50 MMBtu/day)
= 3.4 lb NO_X/day

= (0.068 lb/MMBtu)(50 MMBtu/day)(365 day/year)
= 1,241 lb NO_X/year

Flare S-3509-42-0 PE2		
	Daily Emissions (lb/day)	Annual Emissions (lb/year)
NO_X	3.4	1,241
SO_X	1.4	520
PM_{10}	0.4	139
CO	18.5	6,753
VOC	3.2	1,150

TEOR S-6509-41-0 PE2*	
Daily Emissions (lb-VOC/day)	Annual Emissions (lb-VOC/year)
2.4	868

*see emission calculations in Appendix B

PE2*		
Tanks	Daily Emissions (lb-VOC/day)	Annual Emissions (lb-VOC/year)
S-6509-31-1	0.33	120
S-6509-32-1	0.16	58
S-6509-34-1	0.16	58
S-6509-40-1	0.16	58

*see emission calculations in Appendix B

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.

The SSPE1 can be calculated by adding the PE1 from all units with valid ATCs or PTOs and the sum of the ERCs that have been banked at the source and which have not been used on-site ($Total_{ERC}$).

$SSPE1_{Total} = SSPE1_{Permit\ Unit} + Total_{ERC}$
Facility emissions are already above the Offset and Major Source Thresholds for VOC emissions; therefore, SSPE1 calculations do not include permits that only emit VOC.

SSPE1 (lb/year)					
Permit Unit/ERC	NO_X	SO_X	PM_{10}	CO	VOC
ATC S-6509-36-0	5,957	2,122	5,659	27,550	4,095
ATC S-6509-37-0	5,957	2,122	5,659	27,550	4,095
S-6509-14	1,752	50	133	1,472	96
S-6509-30	1,542	549	1,465	7,131	1,060
ERCs	1,455	8,082	377	4	33
SSPE1	16,663	12,925	13,293	63,707	>20,000

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.

The SSPE2 can be calculated by adding the PE2 from all units with valid ATCs or PTOs and the sum of the ERCs that have been banked at the source and which have not been used on-site ($Total_{ERC}$).

$SSPE2_{Total} = SSPE2_{Permit\ Unit} + Total_{ERC}$
Facility emissions are already above the Offset and Major Source Thresholds for VOC emissions; therefore, SSPE1 calculations do not include existing permits that only emit VOC.

SSPE2 (lb/year)					
Permit Unit/ERC	NO_X	SO_X	PM_{10}	CO	VOC
ATC S-6509-36-0	5,957	2,122	5,659	27,550	4,095
ATC S-6509-37-0	5,957	2,122	5,659	27,550	4,095
S-6509-14	1,752	50	133	1,472	96
S-6509-30	1,542	549	1,465	7,131	1,060
ATC S-6509-42-0	1,241	520	139	6,753	1,150
ERCs	1,455	8,082	377	4	33
SSPE2	17,904	13,445	13,432	70,460	>20,000

5. Major Source Determination

Rule 2201 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. For the purposes of determining major source status the following shall not be included:

- any ERCs associated with the stationary source
- Emissions from non-road IC engines (i.e. IC engines at a particular site at the facility for less than 12 months)
- Fugitive emissions, except for the specific source categories specified in 40 CFR 51.165

As seen in the table above, the facility is not an existing Major Source and is not becoming a Major Source as a result of this project.

Rule 2201 Major Source Determination (lb/year)						
	NO_X	SO_X	PM_{10}	$PM_{2.5}$	CO	VOC
SSPE1	16,663	12,925	13,293	13,293	63,707	>20,000
SSPE2	17,904	13,445	13,432	13,432	70,460	>20,000
Major Source Threshold	20,000	140,000	140,000	200,000	200,000	20,000
Major Source?	No	No	No	No	No	Yes

Note: PM2.5 assumed to be equal to PM10

This source is an existing Major Source for VOC emissions and will remain a Major Source for VOC.

Rule 2410 Major Source Determination:

The facility or the equipment evaluated under this project is not listed as one of the categories specified in 40 CFR 52.21 (b)(1)(iii). Therefore the PSD Major Source threshold is 250 tpy for any regulated NSR pollutant.

PSD Major Source Determination (tons/year)						
	NO2	VOC	SO2	CO	PM	PM10
Estimated Facility PE before Project Increase	8.3	122*	6.5	31.9	6.6	6.6
PSD Major Source Thresholds	250	250	250	250	250	250
PSD Major Source ? (Y/N)	n	n	n	n	n	n

*From S-1141881

As shown above, the facility is not an existing PSD major source for any regulated NSR pollutant expected to be emitted at this facility.

6. Baseline Emissions (BE)

The BE calculation (in lb/year) is performed pollutant-by-pollutant for each unit within the project 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.

Since TEOR S-6509-41-0 and flare S-6509-42 are new emissions units, their BE = PE1 = 0 for all pollutants.

a. BE Tanks

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 project's tanks are equipped with PV-vents, which meets the requirements for achieved-in-practice BACT. Therefore, BE=PE1..

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 source is not included in the 28 specific source categories specified in 40 CFR 51.165, the, fugitive emissions from the tanks and TEOR are not included in the SB 288 Major Modification calculation.

Since this facility is a major source for VOC, 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?
VOC	2,018	50,000	n

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.

Since this source is not included in the 28 specific source categories specified in 40 CFR 51.165, the increases in fugitive emissions are not included in the Federal Major Modification determination.

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 new emissions units, the increase in emissions is equal to the PE2 for each new unit included in this project.

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

Emission Increase = PAE – BAE - UBC

Where: PAE = Projected Actual Emissions, and
BAE = Baseline Actual Emissions
UBC = Unused baseline capacity

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

The project's combined total emission increases 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?
VOC	2,018	0	y

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

9. Rule 2410 – Prevention of Significant Deterioration (PSD) Applicability Determination

Rule 2410 applies to any pollutant regulated under the Clean Air Act, except those for which the District has been classified nonattainment. The pollutants which must be addressed in the PSD applicability determination for sources located in the SJV and which are emitted in this project are: (See 52.21 (b) (23) definition of significant)

I. Project Emissions Increase - New Major Source Determination

The post-project potentials to emit from all new and modified units are compared to the PSD major source thresholds to determine if the project constitutes a new major source subject to PSD requirements.

The facility or the equipment evaluated under this project is not listed as one of the categories specified in 40 CFR 52.21 (b)(1)(i). The PSD Major Source threshold is 250 tpy for any regulated NSR pollutant.

PSD Major Source Determination: Potential to Emit (tons/year)						
	NO2	VOC	SO2	CO	PM	PM10
Total PE from New and Modified Units	<<250	<<250	<<250	<<250	<<250	<<250
PSD Major Source threshold	250	250	250	250	250	250
New PSD Major Source?	n	n	n	n	n	n

As shown in the table above, the potential to emit for the project, by itself, does not exceed any PSD major source threshold. Therefore Rule 2410 is not applicable 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 seen in Section VII.C.2 above, the applicant is proposing to install a new flare with a PE greater than 2 lb/day for NO_X, CO and VOC. BACT is triggered for NO_X, and VOC only since the PEs are greater than 2 lbs/day. However BACT is not triggered for CO since the SSPE2 for CO is not greater than 200,000 lbs/year, as demonstrated in Section VII.C.5 above.

Also, as seen in Section VII.C.2 above, the applicant is proposing to install a new TEOR operation with a PE greater than 2 lb/day for VOC. Therefore, BACT is triggered for VOC since the PE is greater than 2 lb/day.

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))

Since the PE2s for Tanks S-6509-31-1, '32-1, '34-1 and '40-1 is less than 2 lb/day the AIPE cannot be greater than 2 lb/day; therefore, their AIPEs are not greater than 2.0 lb/day. Therefore BACT is not triggered.

d. SB 288/Federal Major Modification

As discussed in Sections VII.C.7 and VII.C.8 above, this project does constitute a Federal Major Modification for VOC emissions. Therefore BACT is triggered for VOC for all emissions units in the project for which there is an emission increase. The project results in an increase in VOC emissions for TEOR operation S-6509-41 and flare S-6509-42; they therefore trigger BACT for VOC.

2. BACT Guideline

BACT Guideline 7.1.1, applies to the TEOR operation. [Thermally Enhanced Oil Recovery – Steam Drive Oil Wells] (See Appendix C)
BACT Guideline 1.4.1, applies to the flare. [Waste Gas Flare – 15.3 MMBtu/hr, Serving a Tank Vapor Control System] (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 C), BACT has been satisfied with the following:
<u>TEOR System:</u>

- VOC: Vapor control system with vapors routed to steam generators, a flare or permit exempt equipment for incineration. .

<u>Flare:</u>

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

- NOx: Coanda effect tip
- VOC: Coanda effect tip

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	SOx	PM_{10}	CO	VOC
SSPE2	17,904	13,445	13,432	70,460	>20,000
Offset Thresholds	20,000	54,750	29,200	200,000	20,000
Offsets triggered?	No	No	No	No	Yes

2. Quantity of Offsets Required

As seen above, the facility is an existing Major Source for VOC and the SSPE2 is greater than the offset thresholds. Therefore offset calculations will be required for this project.
The quantity of offsets in pounds per year for VOC 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) = $(\Sigma[PE2 - BE] + ICCE) \times DOR$, 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

As calculated in Section VII.C.6 above, the BE for tanks S-6509-31-1, '32-1, '34-1, '40-1 equal their PE1 since the units are Clean Emissions Units.

Also, there are no increases in cargo carrier emissions. Therefore offsets can be determined as follows:

Offsets Required (lb/year) = ([PE2 – BE] + ICCE) x DOR

	lb VOC	
	PE2	BE
S-6509-31	120	580
S-6509-32	58	1,663
S-6509-34	58	1,559
S-6509-40	58	1,785
S-6509-41	868	0
S-6509-42	520	0
Total:	1682	5,587

Offsets Required (lb/year) = ([1682 – 5,587] + 0) x DOR
= 0 lb VOC/year

As demonstrated in the calculation above, the amount of offsets is zero. Therefore, offsets will not be required for this project.

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.
e. Any project which results in a Title V significant permit modification

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 Sections VII.C.7 and VII.C.8, this project is Federal Major Modification. Therefore, public noticing for 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. As seen in Section VII.C.2 above, this project does not include a new emissions unit which has daily emissions greater than 100 lb/day for any pollutant, therefore public noticing for PE > 100 lb/day purposes is not required.

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	16,663	17,904	20,000 lb/year	No
SO_X	12,925	13,445	54,750 lb/year	No
PM_{10}	13,293	13,432	29,200 lb/year	No
CO	63,707	70,460	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	SSIPE (lb/year)	SSIPE Public Notice Threshold	Public Notice Required?
NO_x	1,241	20,000 lb/year	No
SO_x	520	20,000 lb/year	No
PM_{10}	139	20,000 lb/year	No
CO	6,753	20,000 lb/year	No
VOC	-3,905	20,000 lb/year	No

As demonstrated above, the SSIPEs for all pollutants were less than 20,000 lb/year; therefore public noticing for SSIPE purposes is not required.

e. Title V Significant Permit Modification

Since this facility does not have a Title V operating, this change is not a Title V significant Modification, and therefore public noticing is not required.

2. Public Notice Action

As discussed above, public noticing is required for this project for triggering a Federal Major Modification. 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 Rule 2201 (DEL) Conditions:

S-6509-31-1:

- VOC fugitive emissions from the components in gas service on tank and tank vapor collection system shall not exceed 0.33 lb/day. [District Rule 2201] N

S-6509-32-1, '34-1 and '40-1:

- VOC emission rate from vapor service components associated with this tank up to the vapor control system trunk line shall not exceed 0.16 lb/day. [District Rule 2201]

S-6509-41-0:

- Fugitive VOC emissions from TEOR operation shall not exceed 2.4 lb/day. [District Rule 2201] N

S-6509-42-0:

- Emission rates from this unit shall not exceed any of the following limits: NOx (as NO2): 0.068 lb/MMBtu; VOC (as methane): 0.063 lb/MMBtu; CO: 0.370 lb/MMBtu; or PM10: 0.0076 lb/MMBtu. [District Rule 2201] N

- Sulfur compound concentration of gas flared shall not exceed 10 gr/100 scf. [District Rules 2201 and 4801] N

E. Compliance Assurance

1. Source Testing

Pursuant to District Policy APR 1705, source testing is not required to demonstrate compliance with Rule 2201.

2. Monitoring

No 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. The following condition(s) are listed on the permit to operate:

S-6509-31-1, '34-1 and '40-1:

- Operator shall maintain an inspection log containing the following 1) Type of component leaking; 2) Date and time of leak detection, and method of detection; 3) Date and time of leak repair, and emission level of recheck after leak is repaired; 4) Method used to minimize the leak to lowest possible level within 8 hours after detection. [District Rules 2201 and 4623] N

- Operator shall maintain all records of required monitoring data and support information for inspection at any time for a period of five years. [District Rules 2201 and 4623] N

S-6509-41-0:

- Records shall be maintained of each calibration of the portable hydrocarbon detection instrument utilized for inspecting components. The records shall include a copy of the current calibration gas certification from the vendor of the calibration gas cylinder, the date of calibration, the concentration of calibration gas, the instrument reading of calibration gas before adjustment, the instrument reading of calibration gas after adjustment, the calibration gas expiration date, and the calibration gas cylinder pressure at the time of calibration. [District Rule 4401] N

- All records required by this permit shall be maintained and retained on-site for a minimum of five (5) years and made available for District, ARB, and EPA inspection upon request. [District Rule 4401] N

S-6509-42-0:

- The permittee shall keep accurate daily and annual records of the amount of gas combusted in the flare, hours of operation and the sulfur content and heat content of the gas combusted. The permittee shall keep these records for a period of at least five years and shall make such records available for District inspection upon request. [District Rules 2201 and 4311] N

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 D 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 the state's PM_{10} as well as federal and state $PM_{2.5}$ thresholds. As shown by the AAQA summary sheet the proposed equipment will not cause a violation of an air quality standard for PM_{10} and $PM_{2.5}$.

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 facility is a new major source and this project does constitute a Title I modification, therefore this requirement is applicable. Hathway's compliance certification is included in Appendix E.

H. Alternate Siting Analysis

The current project occurs at an existing facility. The applicant proposes to install wells and a flare.

Since the project will provide wells and a flare to be used 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 2410 Prevention of Significant Deterioration

As shown in Section VII. C. 9. above, this project does not result in a new PSD major source or PSD major modification. No further discussion is required.

Rule 2520 Federally Mandated Operating Permits

Since this facility's PE exceeds the major source thresholds of District Rule 2201, this facility is a major source. However, this facility has elected to comply with Rule 2530, which exempts it from the requirements of Rule 2520.

Rule 2530 Federally Enforceable Potential to Emit

The purpose of this rule is to restrict the emissions of a stationary source so that the source may elect to be exempt from the requirements of Rule 2520. Pursuant to Rule 2530, since this facility has elected exemption from the requirements of Rule 2520 by ensuring actual emissions from the stationary source in every 12-month periods to not exceed the following: ½ the major source thresholds for NOx, VOCs, CO, and PM_{10}; 50 tons per year SO2; 5 tons per

year of a single HAP; 12.5 tons per year of any combination of HAPs; 50 percent of any lesser threshold for a single HAP as the EPA may establish by rule; and 50 percent of the major source threshold for any other regulated air pollutant not listed in Rule 2530.

Rule 4001 New Source Performance Standards (NSPS)

This rule incorporates the New Source Performance Standards from 40 CFR Part 60. 40 CFR Part 60, Subparts, K, Ka, Kb, and OOOO and could potentially apply to the storage tanks located at this facility.

40 CFR Part 60, Subparts, K, Ka, and Kb could potentially apply to the storage tanks located at this facility. However, pursuant to 40 CFR 60.110 (b), 60.110(a) (b), and 60.110(b) (b), these subparts do not apply to storage vessels less than 10,000 bbls, used for petroleum or condensate, that is stored, processed, and/or treated at a drilling and production facility prior to custody transfer.

40 CFR Part 60, Subpart OOOO—Standards of Performance for Crude Oil and Natural Gas Production, Transmission and Distribution (constructed, reconstructed, or modified after 8/23/11) applies to single storage vessel, located in the oil and natural gas production segment, natural gas processing segment or natural gas transmission and storage segment. The subject tanks are subject to this subpart. However, Subpart OOOO has no standards for tanks with annual VOC emissions less than 6 tons per year. Therefore, the subject tanks are not an affected facility and subpart OOOO does not apply.
No subparts of 40 CFR Part 60 apply to produced TEOR wells or gas-fired flares.

Therefore, the requirements of this subpart are not applicable to this project.

Rule 4101 Visible Emissions

As long as the equipment is properly maintained and operated, compliance with visible emissions limits is expected under normal operating conditions.

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.

An HRA is not required for a project with a total facility prioritization score of less than or equal to one. According to the Technical Services Memo for this project (Appendix D), the

total facility prioritization score including this project was less than or equal to one. Therefore, no future analysis is required to determine the impact from this project and compliance with the District's Risk Management Policy is expected.

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 not required for this project because the HRA indicates that the risk is not above the District's thresholds for triggering T-BACT requirements; therefore, compliance with the District's Risk Management Policy is expected.

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.

(0.0076 lb-PM/MMBtu) x (1 MMBtu/8575 dscf) x (7000 gr/lb) = 0.01 gr/dscf

- Since 0.01 gr/dscf < 0.1 gr/dscf, compliance with this rule is expected.

The purpose of this rule is to limit the emissions of volatile organic compounds (VOC) and oxides of nitrogen (NOx) from the operation of flares.

Rule 4311 Flares

The purpose of this rule is to limit the emissions of volatile organic compounds (VOC), oxides of nitrogen (NOx), and sulfur oxides (SOx) from the operation of flares. This rule is applicable to operations involving the use of flares

Section 5.1 applies to emergency flares. This is not an emergency flare.

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 permit:

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

Section 5.3 requires an automatic ignition system, or a pilot flame present at all times gases are vented. The following condition will be listed on the permit:

- The flare shall be equipped with an automatic ignition system. [District Rule 4311]

Section 5.4 requires an automatic ignition system, or a heat sensing device capable of continuously detecting at least one pilot flame. This flare is equipped with an automatic ignition system.

Section 5.5 requires flares that use automatic ignition systems and which do not use a continuous pilot flame to use purge gas for purging. The flare has an continuous pilot.

Section 5.6 does not apply to Coanda effect flares. The proposed flare is a Coanda effect flare.

Section 5.7 is not applicable as it applies to ground-level enclosed flares. The flare is not a ground-level enclosed flares and thus Section 5.7 is not applicable.

Section 5.8 requires the applicant to submit a Flare Minimization Plan (FMP). The applicant has submitted an approved plan; therefore, this project meets this requirement of the FMP.
Section 5.9 applies to refinery flares. The facility is not a refinery.

Section 5.10 requires the operator of a flare subject to a FMP to monitor the vent gas flow to the flare with a flow measuring device or other parameters as specified in the Permit to Operate. The operator shall maintain records pursuant to Section 6.1.7. Therefore, following conditions will be placed on the permit:

- Flare shall be equipped with a non-resettable, totalizing flare gas volume flow meter. [District Rules 2201 and 4311]

Section 5.11 does not apply to flares with a capacity less than 50 MMBtu/hr.

Section 6.1.1 requires the operator of flares that are subject to the requirements of 40 CFR 60.18 to make available to the APCO upon request the compliance determination records that demonstrate compliance with the provisions of 40 CFR 60.18, (c)(3) through (c)(5). The flare is not subject to 40 CFR 60.18; therefore, this section does not apply.

Section 6.1.2 applies to ground level enclosed flares. The flare is not a ground level enclosed flare; therefore, this section is not applicable.

Section 6.1.3 requires for flares used during an emergency that records of the duration of flare operation, amount of gas burned, and the nature of the emergency situation be maintained. The flare is not an emergency flare; therefore this section does not apply.
Section 6.1.4 does not apply as the operator is not claiming an exemption pursuant to Section 4.3.

Section 6.1.5 requires the permittee to retain on site a copy of the approved flare minimization plan. The following condition will be added to the permit:

- Copies of approved flare minimization plan pursuant to Rule 4311 Section 6.5 shall be made readily available to the APCO, ARB, and EPA upon request for a minimum of 5 years. [District Rule 4311]

Section 6.1.6 requires the permittee to retain a copy of annual reports submitted to the APCO pursuant to Section 6.2. The following condition will be placed on the permit

- All records and monitoring data 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 Rules 2201 and 4311] N

Section 6.1.7 requires the permittee to retain monitoring data, where applicable, collected pursuant to Sections 5.10, 6.6, 6.7, 6.8, 6.9, and 6.10. Section 5.10 (flare minimization vent gas flow rate) applies. Therefore, monitoring data for that section will be required. Monitoring for the other section applies only to petroleum refinery flares. The following condition will be added to the permit:

- All records and monitoring data 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 Rules 2201 and 4311] N

Section 6.2.1 states that the operator of a flare subject to flare minimization plans pursuant to Section 5.8 of this rule shall notify the APCO 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 flare is not subject to flare minimization plans; therefore, section 6.2 does not apply.

Section 6.3 lists the approved test methods to demonstrate compliance with this rule. Alternate equivalent test methods may be used provided the test methods have been approved by the APCO and EPA.

Section 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 flare's flaring capacity is less than 5.0 MMBtu/hr; therefore, a FMP is not required.

Compliance with the rule is expected.

Rule 4401 Steam-enhanced Crude Oil Production Well Vents

The purpose of this rule is to limit the VOC emissions from steam-enhanced crude oil production well vents. This rule is applicable to all steam-enhanced crude oil production wells and any associated vapor collection and control systems.

The proposed wells will operate with either open or closed casing vents. With the latter, produced fluids will be sent to storage tanks equipped with 99% vapor control. TEOR wells operated with open casing vents will vent to a vapor control system with 99% VOC control efficiency. Therefore, the requirement of 99% control as required by Section 5.1 of the rule will be met. Permit conditions require compliance with the vapor control efficiency, I&M program, and record-keeping requirements of this rule. Compliance is expected.

Rule 4623, *Storage of Organic Liquids*

This rule applies to any tank with a capacity of 1,100 gallons or greater in which any organic liquid is placed, held, or stored.

The affected tanks are served by a vapor control system that has a control efficiency of at least 95%. This rule also requires the tank and tank vapor control system to be maintained in a leak-free condition. Leak-free is defined in the rule as no readings on a portable VOC detection

device greater than 10,000 ppmv above background and no dripping of organic liquid at a rate of more than 3 drops per minute.

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

District is a Lead Agency & Facility is Subject to Cap-and-Trade
It is determined that no other agency has prepared or will prepare an environmental review document for the project. Thus the District is the Lead Agency for this project.

On December 17, 2009, the District's Governing Board adopted a policy, APR 2005, *Addressing GHG Emission Impacts for Stationary Source Projects Under CEQA When Serving as the Lead Agency,* for addressing GHG emission impacts when the District is Lead Agency under CEQA and approved the District's guidance document for use by other agencies when addressing GHG impacts as lead agencies under CEQA. Under this policy, the District's determination of significance of project-specific GHG emissions is founded on the principal that projects with GHG emission reductions consistent with AB 32 emission reduction targets are considered to have a less than significant impact on global climate change. Consistent with District Policy 2005, projects complying with an approved GHG emission reduction plan or GHG mitigation program, which avoids or substantially reduces GHG emissions within the geographic area in which the project is located, would be determined to have a less than significant individual and cumulative impact for GHG emission.

The California Air Resources Board (ARB) adopted a Cap-and-Trade regulation as part one of the strategies identified for AB 32. This Cap-and-Trade regulation is a statewide plan, supported by a CEQA compliant environmental review document, aimed at reducing or mitigating GHG emissions from targeted industries. Facilities subject to the

Cap-and-Trade regulation are subject to an industry-wide cap on overall GHG emissions. Any growth in emissions must be accounted for under that cap such that a corresponding and equivalent reduction in emissions must occur to allow any increase. Further, the cap decreases over time, resulting in an overall decrease in GHG emissions.

Under District policy APR 2025, *CEQA Determinations of Significance for Projects Subject to ARB's GHG Cap-and-Trade Regulation*, the District finds that the Cap-and-Trade is a regulation plan approved by ARB, consistent with AB32 emission reduction targets, and supported by a CEQA compliant environmental review document. As such, consistent with District Policy 2005, projects complying project complying with Cap-and-Trade requirements are determined to have a less than significant individual and cumulative impact for GHG emissions.

Industries covered by Cap-and-Trade are identified in the regulation under section 95811, Covered Entities:

1. Group 1: Large industrial facilities

   These types of facilities are subject to Cap and Trade, and the specific companies covered are listed at http://www.arb.ca.gov/cc/capandtrade/capandtrade.htm, Section 95811 (a), under the "Publically Available Market Information" section (list maintained by the California Air Resources Board).

2. Group 2: Electricity generation facilities located in California, or electricity importers

   These types of facilities are subject to Cap and Trade (section 95811, b).

3. Group 3: Suppliers of Natural Gas, Suppliers of Reformulated Gasoline Blendstock for Oxygenate Blending and Distillate Fuel Oil, Suppliers of Liquefied Petroleum Gas, and Suppliers of Blended Fuels

   These entities are subject to Cap and Trade compliance obligations which must cover all fuels (except jet fuels) identified in section 95811 (c) through (f) of the Cap-and-Trade regulation delivered to end users in California, less the fuel delivered to covered entities (group 1 above).

This facility is subject to the Cap-and-Trade regulation. Therefore, as discussed above, consistent with District Policies APR 2005 and APR 2025, the District concludes that the GHG emissions increases associated with this project would have a less than significant individual and cumulative 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 § 15301 (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-6509-31-1, '32-1, '34-1, '40-1, '41-0 and '42-0 subject to the permit conditions on the attached draft ATCs in Appendix F.

X. Billing Information

Annual Permit Fees			
Permit Number	Fee Schedule	Fee Description	Annual Fee
S-6509-31-1	3020-05S D	63,000 gallons	$75
S-6509-32-1	3020-05S D	42,000 gallons	$63
S-6509-34-1	3020-05S D	42,000 gallons	$63
S-6509-40-1	3020-05S D	42,000 gallons	$63
S-6509-41-0	3020-09S A	50 wells	$233.50
S-6509-42-0	3020-02 H	50 MMBtu/hr	$1030

Appendixes

A: Base Document ATCs and Current PTOs
B: Fugitive Emission Calculations
C: BACT Analysis
D: HRA/AAQA
E: Compliance Certification
F: Draft ATCs

APPENDIX A
Base Document ATCs and Current PTOs

San Joaquin Valley
AIR POLLUTION CONTROL DISTRICT

HEALTHY AIR LIVING™

AUTHORITY TO CONSTRUCT

PERMIT NO: S-6509-40-0 **ISSUANCE DATE:** 07/30/2014

LEGAL OWNER OR OPERATOR: HATHAWAY LLC
MAILING ADDRESS: PO BOX 81385
BAKERSFIELD, CA 93380-1385

LOCATION: HEAVY OIL CENTRAL

SECTION: 28 **TOWNSHIP:** 29S **RANGE:** 29E

EQUIPMENT DESCRIPTION:
1,000 BBL FIXED ROOF SHIPPING/STOCK TANK WITH P/V VENT (COHN LEASE)

CONDITIONS

1. ATC S-6509-11-4 shall be implemented prior to or concurrently with this ATC. [District Rule 2201]
2. To maintain status as a small producer, permittee's crude oil production shall average less than 6000 bbl/day from all operations within Kern County and permittee shall not engage in refining, transporting, or marketing of refined petroleum products. [District Rules 3020 and 4623]
3. Throughput shall not exceed 50 bbl/day. [District Rules 2201 and 4623]
4. This tank shall only store, place, or hold organic liquid with a true vapor pressure (TVP) of less than 0.5 psia under all storage conditions. [District Rule 2201]
5. VOC emissions shall not exceed 4.9 lb per day. [District Rule 2201]
6. The tank shall be equipped with a fixed roof with no holes or openings. [District Rule 2201]
7. This tank shall be equipped with a pressure-vacuum (PV) relief valve set to within 10% of the maximum allowable working pressure of the tank, permanently labeled with the operating pressure settings, properly maintained in good operating order in accordance with the manufacturer's instructions. [District Rule 2201]
8. Permittee shall conduct true vapor pressure (TVP) testing of the organic liquid stored in this tank upon initial start-up, at least once every 24 months during summer (July - September), and/or whenever there is a change in the source or type of organic liquid stored in this tank in order to maintain exemption from the rule. [District Rule 2201 and 4623]
9. The TVP testing shall be conducted at actual storage temperature of the organic liquid in the tank. [District Rule 4623]

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

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Arnaud Marjollet, Director of Permit Services
S-6509-40-0 : Feb 10 2015 8:26AM – TORID : Joint Inspection NOT Required

10. For crude oil with an API gravity of 26 degrees or less, the TVP shall be determined using the latest version of the Lawrence Berkeley National Laboratory "Test Method for Vapor pressure of Reactive Organic Compounds in Heavy Crude Oil Using Gas Chromatograph", as approved by ARB and EPA. [District Rule 2201 and 4623]

11. The API gravity of crude oil or petroleum distillate shall be determined by using ASTM Method D 287 e1 "Standard Test Method for API Gravity of Crude Petroleum and Petroleum Products (Hydrometer Method). Sampling for API gravity shall be performed in accordance with ASTM Method D 4057 "Standard Practices for Manual Sampling of Petroleum and Petroleum Products". [District Rule 2201 and 4623]

12. Permittee shall maintain monthly records of average daily crude oil throughput and shall keep accurate records of each organic liquid stored in the tank, including its storage temperature, TVP, and API gravity. [District Rules 2201 and 4623]

13. All records required to be maintained by this permit 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 and 4623]

San Joaquin Valley
Air Pollution Control District

PERMIT UNIT: S-6509-31-0 **EXPIRATION DATE:** 01/31/2015

SECTION: 28 **TOWNSHIP:** 29S **RANGE:** 29E

EQUIPMENT DESCRIPTION:
1500 BBL CRUDE OIL WASH TANK (COHN LEASE)

PERMIT UNIT REQUIREMENTS

1. To maintain status as a small producer, permittee's crude oil production shall average less than 6000 bbl/day from all operations within Kern County and permittee shall not engage in refining, transporting, or marketing of refined petroleum products. [District Rules 3020 and 4623]
2. Throughput shall not exceed 50 bbl/day. [District Rule 2201]
3. Tank shall be operated at constant level. [District Rule 2201]
4. This tank shall only store, place, or hold organic liquid with a true vapor pressure (TVP) of less than 0.5 psia under all storage conditions. [District Rule 2201]
5. The tank shall be equipped with a fixed roof with no holes or openings. [District Rule 2201]
6. This tank shall be equipped with a pressure-vacuum (PV) relief valve set to within 10% of the maximum allowable working pressure of the tank, permanently labeled with the operating pressure settings, properly maintained in good operating order in accordance with the manufacturer's instructions. [District Rule 2201]
7. Permittee shall conduct true vapor pressure (TVP) testing of the organic liquid stored in this tank upon initial start-up, at least once every 24 months during summer (July - September), and/or whenever there is a change in the source or type of organic liquid stored in this tank in order to maintain exemption from the rule. [District Rule 2201 and 4623]
8. The TVP testing shall be conducted at actual storage temperature of the organic liquid in the tank. [District Rule 4623]
9. For crude oil with an API gravity of 26 degrees or less, the TVP shall be determined using the latest version of the Lawrence Berkeley National Laboratory "Test Method for Vapor pressure of Reactive Organic Compounds in Heavy Crude Oil Using Gas Chromatograph", as approved by ARB and EPA. [District Rule 2201 and 4623]
10. The API gravity of crude oil or petroleum distillate shall be determined by using ASTM Method D 287 el "Standard Test Method for API Gravity of Crude Petroleum and Petroleum Products (Hydrometer Method). Sampling for API gravity shall be performed in accordance with ASTM Method D 4057 "Standard Practices for Manual Sampling of Petroleum and Petroleum Products". [District Rule 2201 and 4623]
11. Permittee shall maintain monthly records of average daily crude oil throughput and shall keep accurate records of each organic liquid stored in the tank, including its storage temperature, TVP, and API gravity. [District Rules 2201 and 4623]
12. All records required to be maintained by this permit 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 and 4623]

San Joaquin Valley
Air Pollution Control District

PERMIT UNIT: S-6509-32-0 **EXPIRATION DATE:** 01/31/2015

SECTION: 28 **TOWNSHIP:** 29S **RANGE:** 29 E

EQUIPMENT DESCRIPTION:
1000 BBL CRUDE OIL STOCK TANK (COHN LEASE)

PERMIT UNIT REQUIREMENTS

1. To maintain status as a small producer, permittee's crude oil production shall average less than 6000 bbl/day from all operations within Kern County and permittee shall not engage in refining, transporting, or marketing of refined petroleum products. [District Rules 3020 and 4623]
2. Throughput shall not exceed 50 bbl/day. [District Rule 2201]
3. This tank shall only store, place, or hold organic liquid with a true vapor pressure (TVP) of less than 0.5 psia under all storage conditions. [District Rule 2201]
4. The tank shall be equipped with a fixed roof with no holes or openings. [District Rule 2201]
5. This tank shall be equipped with a pressure-vacuum (PV) relief valve set to within 10% of the maximum allowable working pressure of the tank, permanently labeled with the operating pressure settings, properly maintained in good operating order in accordance with the manufacturer's instructions. [District Rule 2201]
6. Permittee shall conduct true vapor pressure (TVP) testing of the organic liquid stored in this tank upon initial start-up, at least once every 24 months during summer (July - September), and/or whenever there is a change in the source or type of organic liquid stored in this tank in order to maintain exemption from the rule. [District Rule 2201 and 4623]
7. The TVP testing shall be conducted at actual storage temperature of the organic liquid in the tank. [District Rule 4623]
8. For crude oil with an API gravity of 26 degrees or less, the TVP shall be determined using the latest version of the Lawrence Berkeley National Laboratory "Test Method for Vapor pressure of Reactive Organic Compounds in Heavy Crude Oil Using Gas Chromatograph", as approved by ARB and EPA. [District Rule 2201 and 4623]
9. The API gravity of crude oil or petroleum distillate shall be determined by using ASTM Method D 287 e1 "Standard Test Method for API Gravity of Crude Petroleum and Petroleum Products (Hydrometer Method). Sampling for API gravity shall be performed in accordance with ASTM Method D 4057 "Standard Practices for Manual Sampling of Petroleum and Petroleum Products". [District Rule 2201 and 4623]
10. Permittee shall maintain monthly records of average daily crude oil throughput and shall keep accurate records of each organic liquid stored in the tank, including its storage temperature, TVP, and API gravity. [District Rules 2201 and 4623]
11. All records required to be maintained by this permit 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 and 4623]

San Joaquin Valley
Air Pollution Control District

PERMIT UNIT: S-6509-34-0 **EXPIRATION DATE:** 01/31/2015

SECTION: 28 **TOWNSHIP:** 29S **RANGE:** 29E

EQUIPMENT DESCRIPTION:
1000 BBL CRUDE OIL STOCK TANK

PERMIT UNIT REQUIREMENTS

1. To maintain status as a small producer, permittee's crude oil production shall average less than 6000 bbl/day from all operations within Kern County and permittee shall not engage in refining, transporting, or marketing of refined petroleum products. [District Rules 3020 and 4623]
2. Throughput shall not exceed 50 bbl/day. [District Rules 2201 and 4623]
3. This tank shall only store, place, or hold organic liquid with a true vapor pressure (TVP) of less than 0.5 psia under all storage conditions. [District Rule 2201]
4. The tank shall be equipped with a fixed roof with no holes or openings. [District Rule 2201]
5. This tank shall be equipped with a pressure-vacuum (PV) relief valve set to within 10% of the maximum allowable working pressure of the tank, permanently labeled with the operating pressure settings, properly maintained in good operating order in accordance with the manufacturer's instructions. [District Rule 2201]
6. Permittee shall conduct true vapor pressure (TVP) testing of the organic liquid stored in this tank upon initial start-up, at least once every 24 months during summer (July - September), and/or whenever there is a change in the source or type of organic liquid stored in this tank in order to maintain exemption from the rule. [District Rule 2201 and 4623]
7. The TVP testing shall be conducted at actual storage temperature of the organic liquid in the tank. [District Rule 4623]
8. For crude oil with an API gravity of 26 degrees or less, the TVP shall be determined using the latest version of the Lawrence Berkeley National Laboratory "Test Method for Vapor pressure of Reactive Organic Compounds in Heavy Crude Oil Using Gas Chromatograph", as approved by ARB and EPA. [District Rule 2201 and 4623]
9. The API gravity of crude oil or petroleum distillate shall be determined by using ASTM Method D 287 e1 "Standard Test Method for API Gravity of Crude Petroleum and Petroleum Products (Hydrometer Method). Sampling for API gravity shall be performed in accordance with ASTM Method D 4057 "Standard Practices for Manual Sampling of Petroleum and Petroleum Products". [District Rule 2201 and 4623]
10. Permittee shall maintain monthly records of average daily crude oil throughput and shall keep accurate records of each organic liquid stored in the tank, including its storage temperature, TVP, and API gravity. [District Rules 2201 and 4623]
11. All records required to be maintained by this permit 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 and 4623]

APPENDIX B
Fugitive Emission Calculations

Hathaway LLC
TEOR Collection System

Fugitive Emissions Using Screening Emission Factors

California Implementation Guidelines for Estimating Mass Emissions
of Fugitive Hydrocarbon Leaks at Petroleum Facilities
Table IV-2c. Oil and Gas Production
Screening Value Ranges Emission Factors

Percentage of components in vapor service with ≥ 10,000 ppmv leaks allowed?	0 %
Percentage of components in liquid service with ≥ 10,000 ppmv leaks allowed?	0 %
Weight percentage of VOC in the total organic compounds in gas?	100 %
Weight percentage of VOC in the total organic compounds in oil?	100 %

Equipment Type	Service	Component Count	Total allowable leaking components	Screening Value EF - TOC < 10,000 ppmv (lb/day/source)	≥ 10,000 ppmv (lb/day/source)	VOC emissions (lb/day)
Valves	Gas/Light Liquid	150	0	1.852E-03	7.333E+00	0.28
	Light Crude Oil	0	0	1.005E-03	3.741E+00	0.00
	Heavy Crude Oil	0	0	7.408E-04	N/A*	0.00
Pump Seals	Gas/Light Liquid	0	0	5.270E-02	4.709E+00	0.00
	Light Crude Oil	0	0	1.402E-02	4.709E+00	0.00
	Heavy Crude Oil	0	0	N/A	N/A	N/A
Others	Gas/Light Liquid	100	0	7.778E-03	7.281E+00	0.78
	Light Crude Oil	0	0	6.931E-03	3.757E-01	0.00
	Heavy Crude Oil	0	0	3.016E-03	N/A*	0.00
Connectors	Gas/Light Liquid	1,500	0	6.349E-04	1.370E+00	0.95
	Light Crude Oil	0	0	5.291E-04	1.238E+00	0.00
	Heavy Crude Oil	0	0	4.233E-04	4.233E-04	0.00
Flanges	Gas/Light Liquid	250	0	1.482E-03	3.228E+00	0.37
	Light Crude Oil	0	0	1.270E-03	1.376E+01	0.00
	Heavy Crude Oil	0	0	1.217E-03	N/A*	0.00
Open-ended Lines	Gas/Light Liquid	0	0	1.270E-03	2.905E+00	0.00
	Light Crude Oil	0	0	9.524E-04	1.175E+00	0.00
	Heavy Crude Oil	0	0	7.937E-04	3.762E+00	0.00

* Emission factor not available. All components from equipment type and service will be assessed as < 10,000 ppmv

Total VOC Emissions = 2.38 lb/day
Total VOC Emissions = 868 lb/year

Hathaway LLC
VRU

Fugitive Emissions Using Screening Emission Factors

California Implementation Guidelines for Estimating Mass Emissions
of Fugitive Hydrocarbon Leaks at Petroleum Facilities
Table IV-2c. Oil and Gas Production
Screening Value Ranges Emission Factors

Percentage of components in vapor service with ≥ 10,000 ppmv leaks allowed?	0 %
Percentage of components in liquid service with ≥ 10,000 ppmv leaks allowed?	0 %
Weight percentage of VOC in the total organic compounds in gas?	100 %
Weight percentage of VOC in the total organic compounds in oil?	100 %

Equipment Type	Service	Component Count	Total allowable leaking components	Screening Value EF - TOC < 10,000 ppmv (lb/day/source)	Screening Value EF - TOC ≥ 10,000 ppmv (lb/day/source)	VOC emissions (lb/day)
Valves	Gas/Light Liquid	5	0	1.852E-03	7.333E+00	0.01
	Light Crude Oil	0	0	1.005E-03	3.741E+00	0.00
	Heavy Crude Oil	0	0	7.408E-04	N/A*	0.00
Pump Seals	Gas/Light Liquid	0	0	5.270E-02	4.709E+00	0.00
	Light Crude Oil	0	0	1.402E-02	4.709E+00	0.00
	Heavy Crude Oil	0	0	N/A	N/A	N/A
Others	Gas/Light Liquid	10	0	7.778E-03	7.281E+00	0.08
	Light Crude Oil	0	0	6.931E-03	3.757E-01	0.00
	Heavy Crude Oil	0	0	3.016E-03	N/A*	0.00
Connectors	Gas/Light Liquid	100	0	6.349E-04	1.370E+00	0.06
	Light Crude Oil	0	0	5.291E-04	1.238E+00	0.00
	Heavy Crude Oil	0	0	4.233E-04	4.233E-04	0.00
Flanges	Gas/Light Liquid	10	0	1.482E-03	3.228E+00	0.01
	Light Crude Oil	0	0	1.270E-03	1.376E+01	0.00
	Heavy Crude Oil	0	0	1.217E-03	N/A*	0.00
Open-ended Lines	Gas/Light Liquid	0	0	1.270E-03	2.905E+00	0.00
	Light Crude Oil	0	0	9.524E-04	1.175E+00	0.00
	Heavy Crude Oil	0	0	7.937E-04	3.762E+00	0.00

* Emission factor not available. All components from equipment type and service will be assessed as < 10,000 ppmv

Total VOC Emissions = 0.17 lb/day

Hathaway LLC
Stock Tank

Fugitive Emissions Using Screening Emission Factors

California Implementation Guidelines for Estimating Mass Emissions
of Fugitive Hydrocarbon Leaks at Petroleum Facilities
Table IV-2c. Oil and Gas Production
Screening Value Ranges Emission Factors

Percentage of components in vapor service with ≥ 10,000 ppmv leaks allowed?	0 %
Percentage of components in liquid service with ≥ 10,000 ppmv leaks allowed?	0 %
Weight percentage of VOC in the total organic compounds in gas?	100 %
Weight percentage of VOC in the total organic compounds in oil?	100 %

Equipment Type	Service	Component Count	Total allowable leaking components	Screening Value EF - TOC < 10,000 ppmv (lb/day/source)	≥ 10,000 ppmv (lb/day/source)	VOC emissions (lb/day)
Valves	Gas/Light Liquid	16	0	1.852E-03	7.333E+00	0.03
	Light Crude Oil	0	0	1.005E-03	3.741E+00	0.00
	Heavy Crude Oil	0	0	7.408E-04	N/A*	0.00
Pump Seals	Gas/Light Liquid	0	0	5.270E-02	4.709E+00	0.00
	Light Crude Oil	0	0	1.402E-02	4.709E+00	0.00
	Heavy Crude Oil	0	0	N/A	N/A	N/A
Others	Gas/Light Liquid	5	0	7.778E-03	7.281E+00	0.04
	Light Crude Oil	0	0	6.931E-03	3.757E-01	0.00
	Heavy Crude Oil	0	0	3.016E-03	N/A*	0.00
Connectors	Gas/Light Liquid	90	0	6.349E-04	1.370E+00	0.06
	Light Crude Oil	0	0	5.291E-04	1.238E+00	0.00
	Heavy Crude Oil	0	0	4.233E-04	4.233E-04	0.00
Flanges	Gas/Light Liquid	20	0	1.482E-03	3.228E+00	0.03
	Light Crude Oil	0	0	1.270E-03	1.376E+01	0.00
	Heavy Crude Oil	0	0	1.217E-03	N/A*	0.00
Open-ended Lines	Gas/Light Liquid	0	0	1.270E-03	2.905E+00	0.00
	Light Crude Oil	0	0	9.524E-04	1.175E+00	0.00
	Heavy Crude Oil	0	0	7.937E-04	3.762E+00	0.00

* Emission factor not available. All components from equipment type and service will be assessed as < 10,000 ppmv

Total VOC Emissions = 0.16 lb/day

Hathaway LLC
Stock Tank

Fugitive Emissions Using Screening Emission Factors

California Implementation Guidelines for Estimating Mass Emissions
of Fugitive Hydrocarbon Leaks at Petroleum Facilities
Table IV-2c. Oil and Gas Production
Screening Value Ranges Emission Factors

Percentage of components in vapor service with ≥ 10,000 ppmv leaks allowed?	0 %
Percentage of components in liquid service with ≥ 10,000 ppmv leaks allowed?	0 %
Weight percentage of VOC in the total organic compounds in gas?	100 %
Weight percentage of VOC in the total organic compounds in oil?	100 %

Equipment Type	Service	Component Count	Total allowable leaking components	Screening Value EF - TOC < 10,000 ppmv (lb/day/source)	≥ 10,000 ppmv (lb/day/source)	VOC emissions (lb/day)
Valves	Gas/Light Liquid	16	0	1.852E-03	7.333E+00	0.03
	Light Crude Oil	0	0	1.005E-03	3.741E+00	0.00
	Heavy Crude Oil	0	0	7.408E-04	N/A*	0.00
Pump Seals	Gas/Light Liquid	0	0	5.270E-02	4.709E+00	0.00
	Light Crude Oil	0	0	1.402E-02	4.709E+00	0.00
	Heavy Crude Oil	0	0	N/A	N/A	N/A
Others	Gas/Light Liquid	5	0	7.778E-03	7.281E+00	0.04
	Light Crude Oil	0	0	6.931E-03	3.757E-01	0.00
	Heavy Crude Oil	0	0	3.016E-03	N/A*	0.00
Connectors	Gas/Light Liquid	90	0	6.349E-04	1.370E+00	0.06
	Light Crude Oil	0	0	5.291E-04	1.238E+00	0.00
	Heavy Crude Oil	0	0	4.233E-04	4.233E-04	0.00
Flanges	Gas/Light Liquid	20	0	1.482E-03	3.228E+00	0.03
	Light Crude Oil	0	0	1.270E-03	1.376E+01	0.00
	Heavy Crude Oil	0	0	1.217E-03	N/A*	0.00
Open-ended Lines	Gas/Light Liquid	0	0	1.270E-03	2.905E+00	0.00
	Light Crude Oil	0	0	9.524E-04	1.175E+00	0.00
	Heavy Crude Oil	0	0	7.937E-04	3.762E+00	0.00

* Emission factor not available. All components from equipment type and service will be assessed as < 10,000 ppmv

Total VOC Emissions = 0.16 lb/day

Hathaway LLC
Stock Tank

Fugitive Emissions Using Screening Emission Factors

California Implementation Guidelines for Estimating Mass Emissions
of Fugitive Hydrocarbon Leaks at Petroleum Facilities
Table IV-2c. Oil and Gas Production
Screening Value Ranges Emission Factors

Percentage of components in vapor service with ≥ 10,000 ppmv leaks allowed?	0 %
Percentage of components in liquid service with ≥ 10,000 ppmv leaks allowed?	0 %
Weight percentage of VOC in the total organic compounds in gas?	100 %
Weight percentage of VOC in the total organic compounds in oil?	100 %

Equipment Type	Service	Component Count	Total allowable leaking components	Screening Value EF - TOC < 10,000 ppmv (lb/day/source)	Screening Value EF - TOC ≥ 10,000 ppmv (lb/day/source)	VOC emissions (lb/day)
Valves	Gas/Light Liquid	16	0	1.852E-03	7.333E+00	0.03
	Light Crude Oil	0	0	1.005E-03	3.741E+00	0.00
	Heavy Crude Oil	0	0	7.408E-04	N/A*	0.00
Pump Seals	Gas/Light Liquid	0	0	5.270E-02	4.709E+00	0.00
	Light Crude Oil	0	0	1.402E-02	4.709E+00	0.00
	Heavy Crude Oil	0	0	N/A	N/A	N/A
Others	Gas/Light Liquid	5	0	7.778E-03	7.281E+00	0.04
	Light Crude Oil	0	0	6.931E-03	3.757E-01	0.00
	Heavy Crude Oil	0	0	3.016E-03	N/A*	0.00
Connectors	Gas/Light Liquid	90	0	6.349E-04	1.370E+00	0.06
	Light Crude Oil	0	0	5.291E-04	1.238E+00	0.00
	Heavy Crude Oil	0	0	4.233E-04	4.233E-04	0.00
Flanges	Gas/Light Liquid	20	0	1.482E-03	3.228E+00	0.03
	Light Crude Oil	0	0	1.270E-03	1.376E+01	0.00
	Heavy Crude Oil	0	0	1.217E-03	N/A*	0.00
Open-ended Lines	Gas/Light Liquid	0	0	1.270E-03	2.905E+00	0.00
	Light Crude Oil	0	0	9.524E-04	1.175E+00	0.00
	Heavy Crude Oil	0	0	7.937E-04	3.762E+00	0.00

* Emission factor not available. All components from equipment type and service will be assessed as < 10,000 ppmv

Total VOC Emissions = 0.16 lb/day

Unit PE2

Hathaway LLC
Wash Tank

Fugitive Emissions Using Screening Emission Factors

California Implementation Guidelines for Estimating Mass Emissions
of Fugitive Hydrocarbon Leaks at Petroleum Facilities
Table IV-2c. Oil and Gas Production
Screening Value Ranges Emission Factors

Percentage of components in vapor service with ≥ 10,000 ppmv leaks allowed?	0 %
Percentage of components in liquid service with ≥ 10,000 ppmv leaks allowed?	0 %
Weight percentage of VOC in the total organic compounds in gas?	100 %
Weight percentage of VOC in the total organic compounds in oil?	100 %

Equipment Type	Service	Component Count	Total allowable leaking components	Screening Value EF - TOC < 10,000 ppmv (lb/day/source)	Screening Value EF - TOC ≥ 10,000 ppmv (lb/day/source)	VOC emissions (lb/day)
Valves	Gas/Light Liquid	16	0	1.852E-03	7.333E+00	0.03
	Light Crude Oil	0	0	1.005E-03	3.741E+00	0.00
	Heavy Crude Oil	0	0	7.408E-04	N/A*	0.00
Pump Seals	Gas/Light Liquid	0	0	5.270E-02	4.709E+00	0.00
	Light Crude Oil	0	0	1.402E-02	4.709E+00	0.00
	Heavy Crude Oil	0	0	N/A	N/A	N/A
Others	Gas/Light Liquid	5	0	7.778E-03	7.281E+00	0.04
	Light Crude Oil	0	0	6.931E-03	3.757E-01	0.00
	Heavy Crude Oil	0	0	3.016E-03	N/A*	0.00
Connectors	Gas/Light Liquid	90	0	6.349E-04	1.370E+00	0.06
	Light Crude Oil	0	0	5.291E-04	1.238E+00	0.00
	Heavy Crude Oil	0	0	4.233E-04	4.233E-04	0.00
Flanges	Gas/Light Liquid	20	0	1.482E-03	3.228E+00	0.03
	Light Crude Oil	0	0	1.270E-03	1.376E+01	0.00
	Heavy Crude Oil	0	0	1.217E-03	N/A*	0.00
Open-ended Lines	Gas/Light Liquid	0	0	1.270E-03	2.905E+00	0.00
	Light Crude Oil	0	0	9.524E-04	1.175E+00	0.00
	Heavy Crude Oil	0	0	7.937E-04	3.762E+00	0.00

* Emission factor not available. All components from equipment type and service will be assessed as < 10,000 ppmv

Total VOC Emissions = 0.16 lb/day

APPENDIX C
BACT Analysis

Thermally Enhanced Oil Recovery - Steam Drive Oil Wells**

Pollutant	Achieved in Practice or in the SIP	Technologically Feasible	Alternate Basic Equipment
PM10		1. Vapor control system with either a) Scrubber with 50% PM10 removal, or b) Non-condensables incinerated at steam generator, incinerator, or equal and having a vapor sulfur content no greater than 0.2gr S/100 dscf	1. Vapor control system with either a) Transfer of noncondensable vapors to gas pipeline or b) Re-injection to formation
SOx		1. Vapor control system with either a) Scrubber with 95% sulfur removal, or b) Non-condensables incinerated at steam generator, incinerator, or equal and having a vapor sulfur content no greater than 0.2gr S/100 dscf	1. Vapor control system with either a) Transfer of noncondensable vapors to gas pipeline or b) Re-injection to formation
VOC	1. Vapor control system and inspection and maintenance program with either a) Non-condensables balanced casing vent system tied into tank vapor control system or b) Noncondensables incinerated at steam generator, incinerator, or equal		1. Vapor control system with either a) Transfer of noncondensable vapors to gas pipeline or b) Re-injection to formation

BACT Analysis for TEOR Operation (S-6509-41-0)

Top Down BACT Analysis for VOC emissions:

Step 1 - Identify All Possible Control Technologies

The SJVAPCD BACT Clearinghouse Guideline 7.1.1 (1st quarter, 2011) identifies the following technologies:

1. Vapor control system and inspection and maintenance program with either:
   a) Non-condensable balanced casing vent system tied into tank vapor control system or
   b) Non-condensable incinerated at steam generator, incinerator, or equal (Achieved-In-Practice).

2. Vapor control system with either:
   Transfer of non-condensable vapors to gas pipeline, or re-injection to formation (Alternate Basic Equipment)

Step 2 - Eliminate Technologically Infeasible Options

The applicant has demonstrated that it is not technologically feasible to transfer non-condensable vapors to gas pipeline, or re-inject to formation; therefore, these options are eliminated

Step 3 - Rank Remaining Control Technologies by Control Effectiveness

Vapor control system and inspection and maintenance program with either:
a) Non-condensable balanced casing vent system tied into tank vapor control system or
b) Non-condensable incinerated at steam generator, incinerator, or equal (Achieved-In-Practice).

Step 4 - Cost Effectiveness Analysis

A cost effectiveness analysis is not required as the applicant proposes to use a combination of both technologies listed.

Step 5 - Select BACT

The steam-enhanced crude oil well production vapors are served by a vapor control system with vapors routed to steam generators, a flare or permit exempt equipment for incineration. Therefore, BACT is satisfied.

BACT Analysis for TEOR Operation (S-6509-42-0)

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 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 Analysis for NO_X Emissions:

Oxides of nitrogen (NO_X) are generated from the high temperature combustion of the produced 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.

Step 1 - Identify all control technologies

The SJVAPCD BACT Clearinghouse guideline 1.4.2, 4th Quarter 1998 identifies achieved in practice BACT for NO_X emissions from waste gas flares incinerating produced gas as follows:

1) Steam assisted or air-assisted or coanda effect burner, when steam is unavailable

Step 2 - Eliminate technologically infeasible options

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

Step 3 - Rank remaining options by control effectiveness

1) Steam assisted or air-assisted or coanda effect burner, when steam is unavailable

Step 4 - Cost Effectiveness Analysis

A cost effective analysis is required for technologically feasible control options that are not proposed. There are no technologically feasible options available; therefore, a cost effectieness analysis is not required.

Step 5 - Select BACT

BACT for NO_X emissions from waste gas flares incinerating produced gas is a flare that is steam assisted or air-assisted or coanda effect burner, when steam is unavailable. The applicant has proposed to install a waste gas flare incinerating produced gas with a Coanda effect tip; therefore BACT for NO_X emissions is satisfied.

BACT Analysis for VOC Emissions:

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

a. Step 1 - Identify all control technologies

The SJVAPCD BACT Clearinghouse guideline 1.4.2, 4th Quarter 1998 identifies achieved in practice BACT for VOC emissions from waste gas flares incinerating produced gas as follows:

1) Steam assisted or air-assisted or coanda effect burner, when steam is unavailable

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 assisted or air-assisted or coanda effect burner, when steam is unavailable

d. Step 4 - Cost effectiveness analysis

A cost effective analysis is required for technologically feasible control options that are not proposed. There are no technologically feasible options available; therefore, a cost effectieness analysis is not required.

e. Step 5 - Select BACT

BACT for VOC emissions from waste gas flares incinerating produced gas is a flare that is steam assisted or air-assisted or coanda effect burner, when steam is unavailable. The applicant has proposed to install a waste gas flare incinerating produced gas with a Coanda effect tip; therefore BACT for VOC emissions is satisfied.

APPENDIX D
HRA/AAQA

San Joaquin Valley Air Pollution Control District
Risk Management Review

To:	Steve Roeder – Permit Services
From:	Kyle Melching – Technical Services
Date:	August 29, 2014
Facility Name:	Hathaway, LLC
Location:	S28/T29S/R29E
Application #(s):	S-6509-31-1, 32-1, 34-1, 40-1, 41-0, & 42-0
Project #:	S-1143211

A. RMR SUMMARY

RMR Summary			
Categories	**NG/WG Flare (Unit 42-0)**	**Project Totals**	**Facility Totals**
Prioritization Score	**0.11**	0.11	<1
Acute Hazard Index	0.00	0.00	0.00
Chronic Hazard Index	0.00	0.00	0.00
Maximum Individual Cancer Risk (10^{-6})	**1.51E-08**	1.51E-08	1.51E-08
T-BACT Required?	No		
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 # 42-0

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]

B. RMR REPORT

I. Project Description

Technical Services received a request on August 27, 2014, to perform an Ambient Air Quality Analysis (AAQA) and a Risk Management Review (RMR) for the installation of a 50 MMBtu/hr waste gas and natural gas flare. The other units associated with this project will not be evaluated since there are not increases in emissions.

II. Analysis

Toxic emissions for this proposed unit were calculated using 2001 Ventura County's Air Pollution Control District's emission factors for Natural Gas Fired external combustion and on a refinery gas composition analysis from the 2005 report FINAL REPORT Test of TDA's Direct Oxidation Process for Sulfur Recover. *In accordance with the District's* Risk Management Policy for Permitting New and Modified Sources *(APR 1905-1, March 2, 2001), risks from the project were prioritized using the procedures in the 1990 CAPCOA Facility Prioritization Guidelines and incorporated in the District's HEART's database. The prioritization score for the project was greater than 1.0 (see RMR Summary Table). Therefore, a refined Health Risk Assessment was required and performed for the project. AERMOD was used with source parameters outlined below and concatenated 5-year meteorological data from Bakersfield to determine maximum dispersion factors at the nearest residential and business receptors. The dispersion factors were input into the HARP model to calculate the Chronic and Acute Hazard Indices and the Carcinogenic Risk.*

The following parameters were used for the review:

Analysis Parameters (Unit 42-0)			
Source Type	Point	**Nearest Receptor (m)**	640
Stack Height (m)	9.3	**Closest Receptor Type**	Resident
Stack Diameter (m)	1.28	**Project Location**	Rural
Stack Exit Velocity (m/s)	59.4	**NG/WG Usage (mmscf/hr)**	0.05
Stack Exit Temperature (K)	811	**NG/WG Usage (mmscf/yr)**	18.25

Technical Services performed modeling for criteria pollutants CO, NOx, SOx and PM_{10}. The emission rates used for criteria pollutant modeling were 18.5 lb/hr and 6753 lb/yr CO, 3.4 lb/hr and 1241 lb/yr NOx, 1.4 lb/hr and 520 lb/yr SOx, and 0.4 lb/hr and 146 lb/yr PM_{10}.

The results from the Criteria Pollutant Modeling are as follows:

Criteria Pollutant Modeling Results*

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

The acute and chronic indices are below 1.0; and the maximum individual cancer risk associated with the project is **1.51E-08**; which is less than the 1 in a million threshold. In accordance with the District's Risk Management Policy, the project is approved **without** 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 permit 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.

APPENDIX E
Compliance Certification

June 18, 2014

Mr. Leonard Scandura
Permit Services Manager
San Joaquin Valley Unified
Air Pollution Control District
34946 Flyover Ct.
Bakersfield, CA 93308

Subject: **Federal Major Modification Compliance Certification**
Add TEOR Wells, TVR, and Flare to S-6509 (Cohn Lease)

Dear Mr. Scandura:

I hereby certify that all major Stationary Sources owned or operated by such person (or by any entity controlling, controlled by, or under common control with such person) in California, which are subject to emission limitations, are in compliance or on a schedule for compliance with all applicable emission limitations and standards.

Bill Donadio
Signature

Manager of Engineering
Title

APPENDIX F
Draft ATCs

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

DRAFT

PERMIT NO: S-6509-31-1 **ISSUANCE DATE:** DRAFT

LEGAL OWNER OR OPERATOR: HATHAWAY LLC
MAILING ADDRESS: PO BOX 81385
BAKERSFIELD, CA 93380-1385

LOCATION: HEAVY OIL CENTRAL

SECTION: 28 **TOWNSHIP:** 29S **RANGE:** 29E

EQUIPMENT DESCRIPTION:
MODIFICATION OF 1500 BBL CRUDE OIL WASH TANK (COHN LEASE): ADD VAPOR CONTROL SYSTEM SHARED WITH S-3509-32, '34 AND '40

CONDITIONS

1. ATC S-6509-42-0 shall be implemented prior to or concurrently with this ATC. [District Rule 2201]
2. The tank shall be equipped with a vapor recovery system consisting of a closed vent system that collects all VOCs from the storage tank, and a VOC control device. The vapor recovery system shall be APCO-approved and maintained in leak-free condition. The VOC control device shall be either of the following: a vapor return or condensation system that connects to steam generators S-6509-30 and '36, flare S-6509-42, and/or permit exempt equipment, or an approved VOC destruction device the reduces the inlet VOC emissions by at least 95% by weight as determined by the test method specified in Section 6.4.7. [District Rule 4623]
3. All piping, valves, and fittings shall be constructed and maintained in a leak-free condition. [District Rule 4623]
4. A gas-tight condition is defined as a condition without a gas leak. A gas leak is defined as a reading in excess of 10,000 ppmv, above background, as measured by a portable hydrocarbon detection instrument in accordance with the procedures specified in EPA Test Method 21. A reading in excess of 10,000 ppmv above background is a violation of this permit and Rule 4623 and shall be reported as a deviation. [District Rules 2201 and 4623]
5. Any tank gauging or sampling device on a tank vented to the vapor recovery system shall be equipped with a leak-free cover which shall be closed at all times except during gauging or sampling. [District Rule 4623]
6. VOC fugitive emissions from the components in gas service on tank and tank vapor collection system shall not exceed 0.33 lb/day. [District Rule 2201]

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 canceled 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

Arnaud Marjollet, Director of Permit Services

Southern Regional Office • 34946 Flyover Court • Bakersfield, CA 93308 • (661) 392-5500 • Fax (661) 392-5585

7. Permittee shall maintain accurate component count for tank according to CAPCOA's "California Implementation Guidelines for Estimating Mass Emissions of Fugitive Hydrocarbon Leaks at Petroleum Facilities," Table IV-2c (Feb 1999), Screening Value Range emission factors < 10,000 ppmv. Permittee shall update such records when new components are approved and installed. [District Rule 2201]

8. Except as otherwise provided in this permit, the operator shall ensure that the vapor recovery system is functional and is operating as designed at all times. [District Rules 2201 and 4623]

9. All piping, fittings, and valves on this tank shall be inspected annually by the facility operator in accordance with EPA Method 21, with the instrument calibrated with methane, to ensure compliance with the leaking provisions of this permit. [District Rules 2201 and 4623]

10. Any component found to be leaking on two consecutive annual inspections is in violation of the District Rule 4623, even if it is under the voluntary inspection and maintenance program. [District Rules 2201 and 4623]

11. Operator shall maintain an inspection log containing the following 1) Type of component leaking; 2) Date and time of leak detection, and method of detection; 3) Date and time of leak repair, and emission level of recheck after leak is repaired; 4) Method used to minimize the leak to lowest possible level within 8 hours after detection. [District Rules 2201 and 4623]

12. Operator shall maintain all records of required monitoring data and support information for inspection at any time for a period of five years. [District Rules 2201 and 4623]

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

DRAFT

PERMIT NO: S-6509-32-1 **ISSUANCE DATE:** DRAFT

LEGAL OWNER OR OPERATOR: HATHAWAY LLC
MAILING ADDRESS: PO BOX 81385
BAKERSFIELD, CA 93380-1385

LOCATION: HEAVY OIL CENTRAL

SECTION: 28 **TOWNSHIP:** 29S **RANGE:** 29 E

EQUIPMENT DESCRIPTION:
MODIFICATION OF 1000 BBL CRUDE OIL STOCK TANK (COHN LEASE): CONNECT TO VAPOR CONTROL SYSTEM LISTED ON S-6509-31

CONDITIONS

1. ATC S-6509-31-1 shall be implemented prior to or concurrently with this ATC. [District Rule 2201]
2. All piping, valves, and fittings shall be constructed and maintained in a leak-free condition. [District Rule 4623]
3. A leak-free condition is defined as a condition without a gas leak. A gas leak is defined as a reading in excess of 10,000 ppmv, above background, as measured by a portable hydrocarbon detection instrument in accordance with the procedures specified in EPA Test Method 21. A reading in excess of 10,000 ppmv above background is a violation of this permit and Rule 4623 and shall be reported as a deviation. [District Rules 2201 and 4623]
4. Any tank gauging or sampling device on a tank vented to the vapor recovery system shall be equipped with a leak-free cover which shall be closed at all times except during gauging or sampling. [District Rule 4623]
5. VOC emission rate from vapor service components associated with this tank up to the vapor control system trunk line shall not exceed 0.16 lb/day. [District Rule 2201]
6. Permittee shall maintain accurate component count for tank according to CAPCOA's "California Implementation Guidelines for Estimating Mass Emissions of Fugitive Hydrocarbon Leaks at Petroleum Facilities," Table IV-2c (Feb 1999), Screening Value Range emission factors < 10,000 ppmv. Permittee shall update such records when new components are approved and installed. [District Rule 2201]
7. Except as otherwise provided in this permit, the operator shall ensure that the vapor recovery system is functional and is operating as designed at all times. [District Rules 2201 and 4623]

CONDITIONS CONTINUE ON NEXT PAGE

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Seyed Sadredin, Executive Director / APCO

DRAFT

Arnaud Marjollet, Director of Permit Services

Southern Regional Office • 34946 Flyover Court • Bakersfield, CA 93308 • (661) 392-5500 • Fax (661) 392-5585

8. All piping, fittings, and valves on this tank shall be inspected annually by the facility operator in accordance with EPA Method 21, with the instrument calibrated with methane, to ensure compliance with the leaking provisions of this permit. [District Rules 2201 and 4623]

9. Any component found to be leaking on two consecutive annual inspections is in violation of the District Rule 4623, even if it is under the voluntary inspection and maintenance program. [District Rules 2201 and 4623]

10. Operator shall maintain an inspection log containing the following 1) Type of component leaking; 2) Date and time of leak detection, and method of detection; 3) Date and time of leak repair, and emission level of recheck after leak is repaired; 4) Method used to minimize the leak to lowest possible level within 8 hours after detection. [District Rules 2201 and 4623]

11. Operator shall maintain all records of required monitoring data and support information for inspection at any time for a period of five years. [District Rules 2201 and 4623]

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

PERMIT NO: S-6509-34-1

ISSUANCE DATE: DRAFT

LEGAL OWNER OR OPERATOR: HATHAWAY LLC
MAILING ADDRESS: PO BOX 81385
BAKERSFIELD, CA 93380-1385

LOCATION: HEAVY OIL CENTRAL

SECTION: 28 **TOWNSHIP:** 29S **RANGE:** 29E

EQUIPMENT DESCRIPTION:
MODIFICATION OF ONE 1000 BBL CRUDE OIL STOCK TANK: CONNECT TO VAPOR CONTROL SYSTEM LISTED ON S-6509-31

CONDITIONS

1. ATC S-6509-31-1 shall be implemented prior to or concurrently with this ATC. [District Rule 2201]
2. All piping, valves, and fittings shall be constructed and maintained in a leak-free condition. [District Rule 4623]
3. A leak-free condition is defined as a condition without a gas leak. A gas leak is defined as a reading in excess of 10,000 ppmv, above background, as measured by a portable hydrocarbon detection instrument in accordance with the procedures specified in EPA Test Method 21. A reading in excess of 10,000 ppmv above background is a violation of this permit and Rule 4623 and shall be reported as a deviation. [District Rules 2201 and 4623]
4. Any tank gauging or sampling device on a tank vented to the vapor recovery system shall be equipped with a leak-free cover which shall be closed at all times except during gauging or sampling. [District Rule 4623]
5. VOC emission rate from vapor service components associated with this tank up to the vapor control system trunk line shall not exceed 0.16 lb/day. [District Rule 2201]
6. Permittee shall maintain accurate component count for tank according to CAPCOA's "California Implementation Guidelines for Estimating Mass Emissions of Fugitive Hydrocarbon Leaks at Petroleum Facilities," Table IV-2c (Feb 1999), Screening Value Range emission factors < 10,000 ppmv. Permittee shall update such records when new components are approved and installed. [District Rule 2201]
7. Except as otherwise provided in this permit, the operator shall ensure that the vapor recovery system is functional and is operating as designed at all times. [District Rules 2201 and 4623]

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

Arnaud Marjollet, Director of Permit Services

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8. All piping, fittings, and valves on this tank shall be inspected annually by the facility operator in accordance with EPA Method 21, with the instrument calibrated with methane, to ensure compliance with the leaking provisions of this permit. [District Rules 2201 and 4623]

9. Any component found to be leaking on two consecutive annual inspections is in violation of the District Rule 4623, even if it is under the voluntary inspection and maintenance program. [District Rules 2201 and 4623]

10. Operator shall maintain an inspection log containing the following 1) Type of component leaking; 2) Date and time of leak detection, and method of detection; 3) Date and time of leak repair, and emission level of recheck after leak is repaired; 4) Method used to minimize the leak to lowest possible level within 8 hours after detection. [District Rules 2201 and 4623]

11. Operator shall maintain all records of required monitoring data and support information for inspection at any time for a period of five years. [District Rules 2201 and 4623]

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

DRAFT

PERMIT NO: S-6509-40-1 **ISSUANCE DATE:** DRAFT

LEGAL OWNER OR OPERATOR: HATHAWAY LLC
MAILING ADDRESS: PO BOX 81385
BAKERSFIELD, CA 93380-1385

LOCATION: HEAVY OIL CENTRAL

SECTION: 28 **TOWNSHIP:** 29S **RANGE:** 29E

EQUIPMENT DESCRIPTION:
MODIFICATION OF 1,000 BBL FIXED ROOF SHIPPING/STOCK TANK WITH P/V VENT (COHN LEASE): CONNECT TO THE VAPOR RECOVERY SYSTEM LISTED ON S-6509-31

CONDITIONS

1. ATCs S-6509-31-1 and '40-0 shall be implemented prior to or concurrently with this ATC. [District Rule 2201]
2. All piping, valves, and fittings shall be constructed and maintained in a leak-free condition. [District Rule 4623]
3. A leak-free condition is defined as a condition without a gas leak. A gas leak is defined as a reading in excess of 10,000 ppmv, above background, as measured by a portable hydrocarbon detection instrument in accordance with the procedures specified in EPA Test Method 21. A reading in excess of 10,000 ppmv above background is a violation of this permit and Rule 4623 and shall be reported as a deviation. [District Rules 2201 and 4623]
4. Any tank gauging or sampling device on a tank vented to the vapor recovery system shall be equipped with a leak-free cover which shall be closed at all times except during gauging or sampling. [District Rule 4623]
5. VOC emission rate from vapor service components associated with this tank up to the vapor control system trunk line shall not exceed 0.16 lb/day. [District Rule 2201]
6. Permittee shall maintain accurate component count for tank according to CAPCOA's "California Implementation Guidelines for Estimating Mass Emissions of Fugitive Hydrocarbon Leaks at Petroleum Facilities," Table IV-2c (Feb 1999), Screening Value Range emission factors < 10,000 ppmv. Permittee shall update such records when new components are approved and installed. [District Rule 2201]
7. Except as otherwise provided in this permit, the operator shall ensure that the vapor recovery system is functional and is operating as designed at all times. [District Rules 2201 and 4623]

CONDITIONS CONTINUE ON NEXT PAGE

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Seyed Sadredin, Executive Director / APCO

DRAFT

Arnaud Marjollet, Director of Permit Services
S-6509-40-1 : Feb 10 2015 8:29AM -- TORID : Joint Inspection NOT Required

8. All piping, fittings, and valves on this tank shall be inspected annually by the facility operator in accordance with EPA Method 21, with the instrument calibrated with methane, to ensure compliance with the leaking provisions of this permit. [District Rules 2201 and 4623]

9. Any component found to be leaking on two consecutive annual inspections is in violation of the District Rule 4623, even if it is under the voluntary inspection and maintenance program. [District Rules 2201 and 4623]

10. Operator shall maintain an inspection log containing the following 1) Type of component leaking; 2) Date and time of leak detection, and method of detection; 3) Date and time of leak repair, and emission level of recheck after leak is repaired; 4) Method used to minimize the leak to lowest possible level within 8 hours after detection. [District Rules 2201 and 4623]

11. Operator shall maintain all records of required monitoring data and support information for inspection at any time for a period of five years. [District Rules 2201 and 4623]

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

PERMIT NO: S-6509-41-0

ISSUANCE DATE: DRAFT

LEGAL OWNER OR OPERATOR: HATHAWAY LLC
MAILING ADDRESS: PO BOX 81385
BAKERSFIELD, CA 93380-1385

LOCATION: HEAVY OIL CENTRAL

EQUIPMENT DESCRIPTION:
TEOR OPERATION INCLUDING UP TO 50 WELLS SERVED BY THE VAPOR CONTROL SYSTEM LISTED ON S-6509-31

CONDITIONS

1. ATC S-6509-42-0 shall be implemented prior to or concurrently with this ATC. [District Rule 2201]
2. An operator shall not operate a steam-enhanced crude oil production well unless the operator complies with either of the following requirements: The steam-enhanced crude oil production well vent is closed and the front line production equipment downstream of the wells that carry produced fluids (crude oil or mixture of crude oil and water) is connected to a VOC collection and control system as defined in Section 3.0 of Rule 4401, the well vent may be temporarily opened during periods of attended service or repair of the well provided such activity is done as expeditiously as possible with minimal spillage of material and VOC emissions to the atmosphere, or the steam-enhanced crude oil production well vent is open and the well vent is connected to a VOC collection and control system as defined in Section 3.0 of Rule 4401. [District Rule 4401]
3. When operated with closed casing vents, production from TEOR operation shall be sent to vapor controlled tanks S-6509-31, '32, '33 or '40 . [District Rule 2201]
4. When operated with open casing vents, vapors from TEOR operation shall be combusted in flare S-6509-42, steam generators S-6509-30 and '36 or permit exempt equipment. [District Rule 2201]
5. Permit exempt heater shall combust only natural gas containing no more than five (5) percent by weight hydrocarbons heavier than butane and no more than 1.0 grain of total sulfur per 100 standard cubic feet of gas. [District Rule 2020]
6. VOC and sulfur content of natural gas combusted by permit exempt heater shall be tested and recorded not less than every 12 months using methods ASTM D-1945, ASTM D-3588, ASTM D-3246, and EPA Method 18 referenced as methane or equivalent test method with prior District approval. [District Rule 2201]

CONDITIONS CONTINUE ON NEXT PAGE

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Seyed Sadredin, Executive Director / APCO

DRAFT

Arnaud Marjollet, Director of Permit Services

S-6509-41-0 : Feb 18 2015 1:48PM -- TORID : Joint Inspection NOT Required

7. Leaks exceeding an instrument reading of 10,000 ppmv are a violation of this permit. [District Rules 2201 and 4401]
8. Fugitive VOC emissions from TEOR operation shall not exceed 2.4 lb/day. [District Rule 2201]
9. Permittee shall maintain records of the date and well identification where steam injection or well stimulation occurs, current list of all thermally enhanced production wells associated with this operation, the permit numbers of tanks receiving production from the TEOR operation, leak inspection results, and accurate fugitive component counts of components in gas service and resulting emissions calculated using the emission factors in the CAPCOA California Implementation Guidelines for Estimating Mass Emissions of Fugitive Hydrocarbon Leaks at Petroleum Facilities, Table IV-2c, Oil and Gas Production Screening Value Ranges Emission Factors (Feb 1999) . [District Rule 4401]
10. All records shall be maintained and made readily available for District inspection upon request for a period of five years. [District Rule 1070]
11. {4266} The operator shall maintain a copy of the latest APCO-approved Operator Management Plan (OMP) at the facility and make it available to the APCO, ARB, and US EPA upon request. [District Rule 4401]
12. {4267} By January 30 of each year, the operator shall submit to the APCO for approval, in writing, an annual report indicating any changes to the existing, approved OMP. [District Rule 4401]
13. {4268} In accordance with the approved OMP, the operator shall meet all applicable operating, inspection and re-inspection, maintenance, process pressure relief device (PRD), component identification, record keeping, and notification requirements of Rule 4401 for all components containing or contacting VOC's at this facility except for those components specifically exempted in Section 4.0 of Rule 4401. [District Rule 4401]
14. {4269} The operator shall maintain an inspection log that has been signed and dated by the facility operator responsible for the inspection, certifying the accuracy of the information recorded in the log. The inspection log shall contain, at a minimum, all of the following information: 1) The total number of components inspected, and the total number and percentage of leaking components found by component types; 2) The location, type, name or description of each leaking component and the description of any unit where the leaking component is found; 3) Date of the leak detection and method of the leak detection; 4) For gaseous leaks, record the leak concentration in ppmv, and for liquid leaks record whether the leak is a major liquid leak or a minor liquid leak; 5) The date of repair, replacement, or removal from operation of the leaking component(s); 6) The identification and location of essential components and critical components found leaking that cannot be repaired until the next process unit turnaround or not later than one year after leak detection, whichever comes first; 7) The method(s) used to minimize the leak from essential components and critical components found leaking that cannot be repaired until the next process unit turnaround or not later than one year after leak detection, whichever comes earlier; 8) The date of re-inspection and the leak concentration in ppmv after the component is repaired or is replaced; 9) The inspector's name, business mailing address, and business telephone number; and 10)The date and signature of the facility operator responsible for the inspection and repair program certifying the accuracy of the information recorded in the log. [District Rule 4401]
15. {4270} Records shall be maintained of each calibration of the portable hydrocarbon detection instrument utilized for inspecting components. The records shall include a copy of the current calibration gas certification from the vendor of the calibration gas cylinder, the date of calibration, the concentration of calibration gas, the instrument reading of calibration gas before adjustment, the instrument reading of calibration gas after adjustment, the calibration gas expiration date, and the calibration gas cylinder pressure at the time of calibration. [District Rule 4401]
16. {4271} All records required by this permit shall be maintained and retained on-site for a minimum of five (5) years and made available for District, ARB, and EPA inspection upon request. [District Rule 4401]

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

DRAFT

PERMIT NO: S-6509-42-0 **ISSUANCE DATE:** DRAFT

LEGAL OWNER OR OPERATOR: HATHAWAY LLC
MAILING ADDRESS: PO BOX 81385
BAKERSFIELD, CA 93380-1385

LOCATION: HEAVY OIL CENTRAL

SECTION: 28 **TOWNSHIP:** 29S **RANGE:** 29E

EQUIPMENT DESCRIPTION:
LESS THAN 5.0 MMBTU/HR FLARE WITH COANDA EFFECT TIP SERVING VAPOR CONTROL SYSTEMS LISTED ON S-6509-31 AND '41

CONDITIONS

1. ATC S-6509-31-1 shall be implemented prior to or concurrently with this ATC. [District Rule 2201]
2. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
3. {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 or 20% opacity. [District Rule 4101]
4. Total quantity of produced gas combusted in flare shall not exceed 50 MMBtu/day. [District Rule 2201]
5. 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. [District Rule 4311]
6. Flare 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]
7. A flame shall be present at all times when combustible gases are vented through the flare. [District Rule 4311]
8. Flare shall be equipped with operational produced gas volume flow meter. [District Rule 4311]

CONDITIONS CONTINUE ON NEXT PAGE

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Seyed Sadredin, Executive Director / APCO

DRAFT

Arnaud Marjollet, Director of Permit Services
S-6509-42-0 : Feb 18 2015 9:51AM -- TORID : Joint Inspection NOT Required

9. Emission rates from this unit shall not exceed any of the following limits: NOx (as NO2): 0.068 lb/MMBtu; VOC (as methane): 0.063 lb/MMBtu; CO: 0.370 lb/MMBtu; or PM10: 0.0076 lb/MMBtu. [District Rule 2201]

10. Sulfur compound concentration of gas flared shall not exceed 10 gr/100 scf. [District Rules 2201 and 4801]

11. Permittee shall measure sulfur content of gas introduced to the flare at startup and at least once every year. Such data shall be submitted to the District within 60 days of sample collection. [District Rule 2201]

12. The flared gas sulfur concentration shall be measured using one of the following test methods: ASTM D1072, ASTM D3246, ASTM D6228 (GC-FPD), double GC for H2S and mercaptans, or equivalent test method with prior District approval. [District Rule 2201]

13. Higher heating value of flared gas shall be determined using ASTM D 1826 or D 1945 in conjunction with ASTM D 3588. [District Rule 2201]

14. The permittee shall keep accurate daily and annual records of the amount of gas combusted in the flare, hours of operation and the sulfur content and heat content of the gas combusted. The permittee shall keep these records for a period of at least five years and shall make such records available for District inspection upon request. [District Rules 2201 and 4311]