



# San Joaquin Valley

AIR POLLUTION CONTROL DISTRICT

JUL 01 2013



## HEALTHY AIR LIVING™

Chad Hathaway  
Hathaway, LLC  
PO Box 31385  
Bakersfield, CA 93380

**Re: Notice of Preliminary Decision - Authority to Construct**  
**Facility Number: S-6509**  
**Project Number: S-1132535**

Dear Mr. Hathaway:

Enclosed for your review and comment is the District's analysis of Hathaway, LLC's application for an Authority to Construct for the installation of one (1) 1,000 bbl crude oil wash tank, one (1) 1,500 bbl crude oil storage tank, the addition of Section 28, T29S, R29E as an approved location for steam generator S-6509-30, and a reduction in throughput limit of tank S-6509-10, at the heavy oil production stationary source in the Central Kern County fields.

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 period, 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. Richard Edgehill of Permit Services at (661) 392- 5617.

Sincerely,

David Warner  
Director of Permit Services

DW:RUE/st

Enclosures

cc: Mike Tollstrup, CARB (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  
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**Southern Region**  
34946 Flyover Court  
Bakersfield, CA 93308-9725  
Tel: 661-392-5500 FAX: 661-392-5585

Newspaper notice for publication in Bakersfield Californian and for posting on  
valleyair.org

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**NOTICE OF PRELIMINARY DECISION  
FOR THE PROPOSED ISSUANCE OF  
AN AUTHORITY TO CONSTRUCT**

NOTICE IS HEREBY GIVEN that the San Joaquin Valley Unified Air Pollution Control District solicits public comment on the proposed issuance of Authority to Construct to Hathaway, LLC for the installation of one (1) 1,000 bbl crude oil wash tank, one (1) 1,500 bbl crude oil storage tank, the addition of Section 28, T29S, R29E as an approved location for steam generator S-6509-30, and a reduction in throughput limit of tank S-6509-10, at the heavy oil production stationary source in the Central Kern County fields.

The analysis of the regulatory basis for this proposed action, Project #S-1132535, is available for public inspection at [http://www.valleyair.org/notices/public\\_notices\\_idx.htm](http://www.valleyair.org/notices/public_notices_idx.htm) and at any District office. For additional information, please contact the District at (661) 392-5500. Written comments on this project must be submitted by August 5, 2013 to **DAVID WARNER, DIRECTOR OF PERMIT SERVICES, SAN JOAQUIN VALLEY UNIFIED AIR POLLUTION CONTROL DISTRICT, 34946 FLYOVER COURT, BAKERSFIELD, CA 93308.**

# San Joaquin Valley Air Pollution Control District

## Authority to Construct Application Review

Crude Oil Processing Tanks and Additional Authorized Location of Steam Generator

Facility Name: Hathaway, LLC

Mailing Address: PO Box 31385  
Bakersfield, CA 93380

Engineer: Richard Edgehill  
Lead Engineer: Steve Leonard

Contact Person: Chad Hathaway and Nick Diercks

Telephone: 661-393-2004 and 377-0073 (#13)

Application #(s): S-6509-10-5, '30-1, '-31-0, and '-32-0

Project #: 1132535

Deemed Complete: June 12, 2013

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### I. Proposal

Hathaway, LLC (Hathaway) requests Authorities to Construct (ATCs) for the installation of one (1) 1,000 bbl crude oil wash tank, one (1) 1,500 bbl crude oil storage tank, the addition of Section 28, T29S, R29E as an approved location for steam generator S-6509-30, and a reduction in throughput limit of tank S-6509-10.

The increase in emissions from the new tanks is a Federal Major Modification. BACT and public notice are required. Offsets are not required.

Note that Rule 2201 Section 3.25.3 states that

“Unless previously limited by a permit condition, the following shall not be considered a modification:

Section 3.25.3.3 A change which consists solely of a transfer of location of an emissions unit within a Stationary Source”

Therefore the addition of a new authorized location of operation for S-6509-30 is not subject to Rule 2201 and NSR analysis (BACT, offsets, public notice, etc).

#### Disposition of Outstanding ATCs

ATC S-6509-10-4 and '-30-0 have been implemented and serve as base documents. ATCs S-6509-10-4 and '-30-0 and PTO S-6509-10-1 are included in **Attachment I**.

Hathaway is a major source for VOCs but does not have a Title V permit. District Rule 2530 (but not District Rule 2520) is applicable.

### II. Applicable Rules

Rule 2201	New and Modified Stationary Source Review Rule (4/21/11)
Rule 2410	Prevention Of Significant Deterioration (11/26/12)
Rule 2530	Federally Enforceable Potential to Emit (12/18/08)

Rule 4001	New Source Performance Standards - Subpart Kb (4/14/99) ~ <b>Not applicable</b> ~, tanks < 420,000 gal and stores fluids prior to custody transfer
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 4305	Boilers, Steam Generators and Process Heaters – Phase II (8/21/03)
Rule 4306	Boilers, Steam Generators and Process Heaters – Phase III (3/17/05)
Rule 4320	Advanced Emission Reduction Options for Boilers, Steam Generators, and Process Heaters Greater than 5.0 MMBtu/hr (10/16/08)
Rule 4623	Storage of Organic Liquids (5/19/05)
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

#### S-6509-10

NW/4 section 15, T25S, R27E.

#### S-6509-30

Sections 9, 10 and 15 and 22, T28S, R27E

Sections 19, 20 and 28, T27S, R27E

Section 3, T 28S, R27E

Section 36, T29S, R30E

Section 19, T30S, R29E

Section 28, T29S, R29E (authorized by this project)

#### S-6509-31 and '-32

Section 28, T29S, R29E

All of the above locations are within Hathaway's heavy oil central stationary source.

The equipment is/will not be 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.

A location map is included in **Attachment II**.

### IV. Process Description

Hathaway operates facilities for processing of crude oil.

In TEOR operations, steam generators are used to produce steam which is injected into the production zone to reduce the viscosity of the crude oil and pressurize the oil-bearing strata,

thereby facilitating oil flow to producing wells. Produced fluids are then piped to surface facilities for processing and temporary storage.

Production from wells enters a wash tank for separation into oil, gas and water. Separated oil is stored in stock tanks prior to custody transfer.

Proposed Additions/Modifications

Installation of one (1) 1,000 bbl wash tank, one (1) 1,500 bbl storage tank, the addition of Section 28, T29S, R29E as an approved location for steam generator S-6509-30, and a reduction in throughput limit of tank S-6509-10.

A process diagram is included in **Attachment III**.

**V. Equipment Listing**

Pre-Project Equipment Description:

ATC S-6509-10-4: 42,000 GAL. BOLTED, FIXED ROOF SHIPPING/STOCK TANK -- (QUINN LEASE)

ATC S-6509-30-0: 22 MMBTU/HR GAS/TEOR GAS FIRED STEAM GENERATOR WITH A COEN QLN-II BURNER AND FGR AUTHORIZED TO OPERATE AT VARIOUS SPECIFIED LOCATIONS

Proposed Modification:

S-6509-10-5: MODIFICATION OF 1000 BBL BOLTED, FIXED ROOF CRUDE OIL SHIPPING/STOCK TANK (QUINN LEASE): LOWER THROUGHPUT FROM 765 BBLs/ DAY TO 640 BBLs/DAY

S-6509-30-1: 22 MMBTU/HR GAS/TEOR GAS FIRED STEAM GENERATOR WITH A COEN QLN-II BURNER AND FGR AUTHORIZED TO OPERATE AT VARIOUS SPECIFIED LOCATIONS

Post Project Equipment Description:

S-6509-10-5: 1000 BBL BOLTED, FIXED ROOF CRUDE OIL SHIPPING/STOCK TANK (QUINN LEASE)

S-6509-30-1: 22 MMBTU/HR GAS/TEOR GAS FIRED STEAM GENERATOR WITH A COEN QLN-II BURNER AND FGR AUTHORIZED TO OPERATE AT VARIOUS SPECIFIED LOCATIONS

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

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

## VI. Emission Control Technology Evaluation

Steam generator S-6509-30 is equipped with an Ultra-Low NOx burner and Flue Gas Recirculation (FGR). No change to the existing equipment is proposed.

Existing tank S-6509-10 and new tanks '-31 and '-32 are equipped with pressure-vacuum (P/V) relief valves set to within 10% of the maximum allowable working pressure of the tank. The PV-valve reduces VOC wind-induced emissions from the tank vent.

## VII. General Calculations

### A. Assumptions

The maximum operating schedule is 24 hours per day, 8,760 hr/year

#### Steam Generator S-6509-30:

Authorization of a new location of operation is not a NSR modification and therefore Rule 2201 is not applicable. PE2 will be calculated for inclusion into the PAS emissions profiles.

#### Tank S-6509-10:

- Pre- and post-project throughputs: 765 bbl/day and 640 bbl/day, respectively
- Maximum TVP: 0.5 psi (current PTO)
- API gravity: <26 degrees (applicant)

#### Tank S-6509-31 New Wash Tank:

- The Cohn lease does not have a gas-liquid separator and therefore flashing losses occur and a throughput limit is required
- Fluid Throughput: 50 bbl/day (applicant)
- Maximum TVP: 0.5 psi (applicant)
- API gravity: <26 degrees (applicant)
- Constant level operation
- Additional parameters included in **Attachment IV**.

#### Tank S-6509-32 New Oil Storage Tank:

- Fluid Throughput: 50 bbl/day (applicant)
- Maximum TVP: 0.5 psi (applicant)
- API gravity: <26 degrees (applicant)
- Additional parameters included in **Attachment IV**.

### B. Emission Factors

Both the daily and annual PE's for the tanks will be based on the results from the District's Microsoft Excel spreadsheets for Tank Emissions - Fixed Roof Crude Oil less than 26° API.

S-6509-30

Pollutant	Post-Project Emission Factors (EF2)		Source
NO <sub>x</sub>	0.008 lb-NO <sub>x</sub> /MMBtu	7 ppmvd NO <sub>x</sub> (@ 3%O <sub>2</sub> )	ATC S-6509-30-0
SO <sub>x</sub>	0.00285 lb SO <sub>2</sub> /MMBtu		"
PM <sub>10</sub>	0.0076 lb-PM <sub>10</sub> /MMBtu		"
CO	0.037 lb-CO/MMBtu	50 ppmv CO @3% O <sub>2</sub>	"
VOC	0.0055 lb-VOC/MMBtu	13 ppmv VOC @3% O <sub>2</sub>	"
CO <sub>2</sub> e	117 lb/MMBtu		Project 1130396

### C. Calculations

#### 1. Pre-Project Potential to Emit (PE1)

PE1		
	Daily Emissions (lb/day)	Annual Emissions (lb/year)
S-6509-10	40.3	14,712
S-6509-31	0	0
S-6509-32	0	0
Total		14,712

#### 2. Post Project Potential to Emit (PE2)

PE2		
	Daily Emissions (lb/day)	Annual Emissions (lb/year)
S-6509-10	34.1	12,431
S-6509-31	1.6	580
S-6509-32	4.6	1,663
Total		14,674

<b>S-6509-30-1</b>		
	Daily Emissions (lb/day)	Annual Emissions (lb/year)
NO <sub>x</sub>	4.2	1542
SO <sub>x</sub>	1.5	549
PM <sub>10</sub>	4.0	1465
CO	19.5	7131
VOC	2.9	1060
CO <sub>2e</sub>		61,776

#### Greenhouse Gas (GHG) Emissions

The project results in a decrease in VOC emissions and therefore, even if VOCs are assumed to be 100% methane, there is no increase in CO<sub>2e</sub> emissions.

The emissions profile is included in **Attachment V**.

### **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.

<b>SSPE1 (lb/year)</b>					
Permit Unit/ERC	NO <sub>x</sub>	SO <sub>x</sub>	PM <sub>10</sub>	CO	VOC
District Calculator	1752	50	133	1472	220,743
PTO S-6509-10-1	0	0	0	0	-16,865
ATC S-6509-10-4 (base document)	0	0	0	0	14,712
ATC S-6509-26-2	0	0	0	0	146
ATC S-6509-27-0					58
ATC S-6509-28-0					73
ATC S-6509-29-0					868
ATC S-6509-30-0	1542	549	1465	7131	1060
<b>SSPE1</b>	<b>3,294</b>	<b>599</b>	<b>1,598</b>	<b>8,603</b>	<b>220,795</b>

### **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.



<b>SSPE2 (lb/year)</b>					
Permit Unit/ERC	NO <sub>x</sub>	SO <sub>x</sub>	PM <sub>10</sub>	CO	VOC
SSPE1	3,294	599	1,598	8,603	220,795
ATC S-6509--10-4 (base document)	0	0	0	0	-14,712
ATC S-6509--10-5	0	0	0	0	12,431
ATC S-6509-31-0	0	0	0	0	580
ATC S-6509-32-0	0	0	0	0	1,663
SSPE2	3,294	599	1,598	8,603	220,757

## 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

<b>Rule 2201 Major Source Determination (lb/year)</b>					
	NO <sub>x</sub>	SO <sub>x</sub>	PM <sub>10</sub>	CO	VOC
Facility emissions pre-project	3,294	599	1,598	8,603	220,795
Facility emissions – post project	3,294	599	1,598	8,603	220,757
Major Source Threshold	20,000	140,000	140,000	200,000	20,000
Major Source?	No	No	No	No	Yes

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)(i). Therefore the following PSD Major Source thresholds are applicable.

PSD Major Source Determination (tons/year)							
	NO2	VOC	SO2	CO	PM	PM10	CO2e
Estimated Facility PE before Project Increase	1.6	110.4	0.3	4.3	0.8	0.8	<100,000*
PSD Major Source Thresholds	250	250	250	250	250	250	100,000
PSD Major Source ? (Y/N)	n	n	n	n	n	n	n

\* < 25 MMBtu/hr combustion devices

As shown above, the facility is not an existing major source for PSD for at least one pollutant. Therefore the facility is not an existing major source for PSD.

## 6. Baseline Emissions (BE)

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

Pursuant to District Rule 2201, BE = PE1 for:

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

otherwise,

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

S-6509-31 and '-32:

Since this is a new emissions unit, BE = PE1 = 0 for all pollutants.

S-6509-10:

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. Steam generator S-6509-30 meets the Achieved-in-Practice requirement of current BACT Guideline 7.3.1, which applies to the fixed roof organic liquid storage or processing tanks < 5,000 bbl in capacity (See **Attachment VI**).

Tank S-6509-10 is equipped with a PV vent, which meets the requirements for achieved-in-practice BACT. Therefore, it's 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 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	14,674	50,000	no

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

## 8. Federal Major Modification

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.

### NO<sub>x</sub>, SO<sub>x</sub>, PM<sub>10</sub>

Since this facility is not a Major Source for NO<sub>x</sub>, SO<sub>x</sub>, and PM<sub>10</sub>, this project does not constitute a Federal Major Modification for these air contaminants. Additionally, since the facility is not a major source for PM<sub>10</sub> (140,000 lb/year), it is not a major source for PM<sub>2.5</sub> (200,000 lb/year).

### Step 1

#### VOCs

For new emissions units, the increase in emissions is equal to the PE2 for each new unit included in this project. Project emissions decreases are not included in the calculation.

The project's combined total emission increases 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	2,243	0	Yes

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

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 pollutants for which the District is in attainment or for unclassified, pollutants. The pollutants addressed in the PSD applicability determination are listed as follows:

- NO<sub>2</sub> (as a primary pollutant)
- SO<sub>2</sub> (as a primary pollutant)
- CO
- PM
- PM<sub>10</sub>
- Greenhouse gases (GHG): CO<sub>2</sub>, N<sub>2</sub>O, CH<sub>4</sub>, HFCs, PFCs, and SF<sub>6</sub>

The first step of this PSD evaluation consists of determining whether the facility is an existing PSD Major Source or not (See Section VII.C.5 of this document).

In the case the facility is an existing PSD Major Source, the second step of the PSD evaluation is to determine if the project results in a PSD significant increase.

In the case the facility is NOT an existing PSD Major Source but is an existing source, the second step of the PSD evaluation is to determine if the project, by itself, would be a PSD major source.

In the case the facility is new source, the second step of the PSD evaluation is to determine if this new facility will become a new PSD major Source as a result of the project and if so, to determine which pollutant will result in a PSD significant increase.

### **I. Significance of Project Emission Increase Determination**

#### **a. Potential to Emit of attainment/unclassified pollutant for New or Modified Emission Units vs PSD Significant Emission Increase Thresholds**

As a screening tool, the project potential to emit from all new and modified units is compared to the PSD major source threshold, and if total project potential to emit from all new and modified units is below this threshold, no further analysis will be needed.

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). Therefore the following PSD Major Source thresholds are applicable.

PSD Major Source Determination: Potential to Emit (tons/year)							
	NO2	VOC	SO2	CO	PM	PM10	CO2e
Total PE from New and Modified Units	0	7.3	0	0	0	0	0
PSD Major Source threshold	250	250	250	250	250	250	100,000
New PSD Major Source?	n	N	n	n	n	n	N

As shown in the table above, the project potential to emit, by itself, does not exceed any of the PSD major source thresholds. Therefore Rule 2410 is not applicable and no further discussion is required.

### 10. Quarterly Net Emissions Change (QNEC)

Using the values in Sections VII.C.2 and VII.C.6 in the evaluation above, quarterly PE2s are calculated as follows:

#### S-6509-10

$$\begin{aligned} \text{QNEC} &= (12,431 - 14,712)/4 \\ &= -570 \text{ lb/qtr} \end{aligned}$$

#### S-6509-31

As this is a new emissions unit  $\text{QNEC} = \text{PE2}/4$ .

$$\begin{aligned} &= 580/4 \\ &= 145 \text{ lb/qtr} \end{aligned}$$

#### S-6509-32

As this is a new emissions unit  $\text{QNEC} = \text{PE2}/4$ .

$$\begin{aligned} &= 1663/4 \\ &= 416 \text{ lb/qtr} \end{aligned}$$

## 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 crude oil storage tank S-6509-32 with a PE greater than 2 lb/day for VOC and BACT is triggered. The new wash tank S-6509-31 has VOC emissions less than 2 lb/day and therefore BACT is not triggered.

**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**

$$\text{AIPE} = \text{PE}_2 - \text{HAPE}$$

Where,

AIPE = Adjusted Increase in Permitted Emissions, (lb/day)

PE<sub>2</sub> = Post-Project Potential to Emit, (lb/day)

HAPE = Historically Adjusted Potential to Emit, (lb/day)

HAPE = PE<sub>1</sub> x (EF<sub>2</sub>/EF<sub>1</sub>)

Where,

PE<sub>1</sub> = The emissions unit's PE prior to modification or relocation, (lb/day)

EF<sub>2</sub> = The emissions unit's permitted emission factor for the pollutant after modification or relocation. If EF<sub>2</sub> is greater than EF<sub>1</sub> then EF<sub>2</sub>/EF<sub>1</sub> shall be set to 1

EF<sub>1</sub> = The emissions unit's permitted emission factor for the pollutant before the modification or relocation

$$\text{AIPE} = \text{PE}_2 - (\text{PE}_1 * (\text{EF}_2 / \text{EF}_1))$$

Tank S-6509-10-4:

$$\text{EF}_2 = \text{EF}_1$$

$$\text{AIPE} = \text{PE}_2 - \text{PE}_1$$

$$\text{AIPE} = 34.1 - 40.3 = 0 \text{ lb-VOC/day}$$

As demonstrated above, the AIPE is not greater than 2.0 lb/day for the tank.

Therefore BACT is not triggered.

**d. SB 288/Federal Major Modification**

As discussed in Section VII.C.7 above, this project constitutes 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.

**2. BACT Guideline**

BACT Guideline 7.3.1, applies to the fixed roof organic liquid storage or processing tanks < 5,000 bbl in capacity. (See **Attachment VI**)

**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 **Attachment VII**), BACT has been satisfied with the following:

S-6509-32

VOC: P/V relief valve set to within 10% of maximum allowable pressure of the tank

**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.

<b>Offset Determination (lb/year)</b>					
	<b>NO<sub>x</sub></b>	<b>SO<sub>x</sub></b>	<b>PM<sub>10</sub></b>	<b>CO</b>	<b>VOC</b>
SSPE2	3,294	599	1,598	8,603	220,757
Offset Thresholds	20,000	54,750	29,200	200,000	20,000
Offsets calculations required?	No	No	No	No	Yes

## 2. Quantity of Offsets Required

The applicant has proposed to reduce the throughput of tank S-6509-10 to mitigate the VOC emissions increase

$$\text{Offsets Required (lb/year)} = \sum ((\text{PE2} - \text{BE})) \times \text{DOR}$$

	<u>PE2</u>	<u>BE</u>
S-6509-31, '-32	2243	0
S-6509-10	<u>12,431</u>	<u>14,712</u>
Total	14,674	14,712
$\Sigma (\text{PE2} - \text{BE}) = -38 \text{ lb/yr}$		

Offsets are not required.

## 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 SSPE of greater than 20,000 lb/year for any pollutant.

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

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

As demonstrated in VII.C.7, this project is a Federal Major Modification. Therefore, public noticing for 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 <sub>x</sub>	3,294	3,294	20,000 lb/year	No
SO <sub>x</sub>	599	599	54,750 lb/year	No
PM <sub>10</sub>	1,598	1,598	29,200 lb/year	No
CO	8,603	8,603	200,000 lb/year	No
VOC	220,795	220,757	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	SSPE1 (lb/year)	SSPE2 (lb/year)	SSIPE (lb/year)	SSIPE Public Notice Threshold	Public Notice Required?
NO <sub>x</sub>	3,294	3,294	0	20,000 lb/year	No
SO <sub>x</sub>	599	599	0	20,000 lb/year	No
PM <sub>10</sub>	1,598	1,598	0	20,000 lb/year	No
CO	8,603	8,603	0	20,000 lb/year	No
VOC	220,795	220,757	-38	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.

**2. Public Notice Action**

As discussed above, public noticing is required for this project for VOC emissions triggering 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-6509-10-4**

Throughput shall not exceed 640 bbl/day. [District Rule 2201] N

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 Rules 2201 and 4623] N

**S-6509-31-0**

Tank shall be operated at constant level. [District Rule 2201] N

This tank shall only store, place, or hold organic liquid with a true vapor pressure (TVP) not exceeding 0.5 psia under all storage conditions. [District Rule 2201] N

Crude oil throughput shall not exceed 50 barrels per day based on a monthly average. [District Rules 2201 and 4623] N

**S-6509-32-0**

This tank shall only store, place, or hold organic liquid with a true vapor pressure (TVP) not exceeding 0.5 psia under all storage conditions. [District Rule 2201] N

Crude oil throughput shall not exceed 50 barrels per day based on a monthly average. [District Rules 2201 and 4623] 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**

**S-6509-10**

Permittee shall conduct true vapor pressure (TVP) testing of the organic liquid stored in this tank 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 4623] N

**S-6509-31 and '32**

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] N

**3. Record Keeping**

Record keeping is required to demonstrate compliance with the daily emission limit requirements of Rule 2201. The following conditions will appear on the permits:

S-6509-10-4:

~~{2912} Permittee shall submit the records of TVP and API gravity testing to the APCO within 45 days after the date of testing. The records shall include the tank identification number, Permit to Operate number, type of stored organic liquid, TVP and API gravity of the organic liquid, test methods used, and a copy of the test results. [District Rule 4623] Y\*~~

\*No longer required by Compliance

The permittee shall keep accurate records of each organic liquid stored in the tank, including its storage temperature, TVP, and API gravity. [District Rule 4623] Y

{2490} 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 Rule 4623] N

### S-6509-31 and '-32

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] N

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] 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 project emissions are VOCs which does not have a Federal or State Air Quality standard. AAQA is not required.

## **G. Compliance Certification**

Section 4.15.2 of this Rule requires the owner of a new Major Source or a source undergoing a Major 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 above, the project is a Federal Major Modification, therefore this requirement is applicable. Included in **Attachment VIII** is Hathaway's Statewide Compliance Certification document.

## **H. Alternate Siting Analysis**

The current project occurs at an existing facility. The applicant proposes to authorize a tank. Since the project is at the current facility 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 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 NO<sub>x</sub>, VOCs, CO, and PM<sub>10</sub>; 50 tons per year SO<sub>2</sub>; 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 4101 Visible Emissions**

District Rule 4101, Section 5.0, indicates that no air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour, which is dark or darker than Ringlemann 1 or equivalent to 20% opacity. Steam generator S-6509-30 is currently operating in compliance with the rule and the project is not expected to affect compliance status. Continued compliance is expected.

### S-6509-10, -31, 32

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

Compliance with District Rule 4101 is expected.

## **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 (**Attachment IX**), 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. The following special conditions are required:

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

## Unit 30-1

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]

Steam Generator must be at least 50 feet from the property boundary.

### **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. Steam generator S-6509-30 is currently operating in compliance with the rule and the project is not expected to affect compliance status. Continued compliance is expected.

### **District Rule 4301 Fuel Burning Equipment**

This rule specifies maximum emission rates in lb/hr for SO<sub>2</sub>, NO<sub>2</sub>, and combustion contaminants (defined as total PM in Rule 1020). This rule also limits combustion contaminants to ≤ 0.1 gr/scf. According to AP 42 (Table 1.4-2, footnote c), all PM emissions from natural gas combustion are less than 1 μm in diameter. Unit S-6509-30 is currently operating in compliance and continued compliance is expected.

### **Rule 4305 Boilers, Steam Generators and Process Heaters – Phase 2**

### **Rule 4306 Boilers, Steam Generators and Process Heaters – Phase 3**

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

These rules are applicable to boilers, steam generators and process heaters rated greater than 5 MMBtu/hr. Unit S-6509-30 is currently operating in compliance with these rules and the project is not expected to affect compliance status. Continued 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.

According to Section 4.3, except for complying with Sections 6.3.4 and 7.2, a small producer's tank with a throughput of 50 barrels of crude oil per day or less is exempt from the requirements of this rule.

The facility produces on average less than 6,000 barrels per day of crude oil, and has a throughput of less 50 barrels of crude oil per day, and does not engage in refining, transportation, or marketing of refined petroleum products. Therefore, under Section 3.29 of this rule and District Rule 1020, Section 3.45, this facility is a small producer and is exempt from the rule except for keeping tank throughput records. Therefore, the following conditions shall be placed on the permit:

Permittee's crude oil production shall average less than 6,000 bbl/day from all operations within Kern County and permittee shall not engage in refining, transporting, or marketing of refined petroleum products. [District Rule 4623] N

Crude oil throughput shall not exceed 50 barrels per day based on a monthly average. [District Rules 2201 and 4623] N

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] N

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] N

Compliance with the requirements of this rule is expected.

### **Rule 4801 Sulfur Compounds**

A person shall not discharge into the atmosphere sulfur compounds, which would exist as a liquid or gas at standard conditions, exceeding in concentration at the point of discharge: 0.2 % by volume calculated as SO<sub>2</sub>, on a dry basis averaged over 15 consecutive minutes. Unit S-6509-30 is currently operating in compliance with the rule and the project is not expected to affect compliance status. Continued compliance is expected.

### **California Health & Safety Code 42301.6 (School Notice)**

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

### **California Environmental Quality Act (CEQA)**

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

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

### **Greenhouse Gas (GHG) Significance Determination**

It is determined that no other agency has or will prepare an environmental review document for the project. Thus the District is the Lead Agency for this project. The District's engineering evaluation (this document) demonstrates that the project would not result in an increase in project specific greenhouse gas emissions. The District therefore concludes that the project would have a less than cumulatively significant impact on global climate change.

## District CEQA Findings

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

## IX. Recommendation

Compliance with all applicable rules and regulations is expected. Pending a successful NSR Public Noticing period, issue ATC S-6509-10-5, '30-1, '-31-0, and '-32-0 subject to the permit conditions on the attached draft ATC in **Attachment X**.

## X. Billing Information

Annual Permit Fees			
Permit Number	Fee Schedule	Fee Description	Annual Fee
S-6509-10-5	3020-05S-C	42,000 gallons	\$63
S-6509-30-1	3020-02-H	22 MMBtu/hr	\$1030
S-6509-31-0	3020-05S-D	63,000 gallons	\$75
S-6509-32-0	3020-05S-C	42,000 gallons	\$75

## Attachments

- I: ATCs S-6509-10-4 and '-30-0 and PTO S-6509-10-1
- II: Location Map
- III: Process Diagram
- IV: Tank Emissions Calculations
- V: Emissions Profile
- VI: BACT Guideline
- VII: BACT Analysis
- VIII: Statewide Compliance Form
- IX: HRA
- X: Draft ATC

**ATTACHMENT I**  
**PTO S-6509-10-1 and ATCs S-6509-10-4 and '-30-0**



# San Joaquin Valley Air Pollution Control District

PERMIT UNIT: S-6509-10-1

EXPIRATION DATE: 01/31/2015

SECTION: NW15 TOWNSHIP: 25S RANGE: 27E

**EQUIPMENT DESCRIPTION:**

42,000 GAL. BOLTED, FIXED ROOF SHIPPING/STOCK TANK -- (QUINN 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 & 4623]
2. Throughput shall not exceed 875 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 4623]
4. Permittee shall conduct true vapor pressure (TVP) testing of the organic liquid stored in this tank 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 4623]
5. 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 4623]
6. 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 4623]
7. The TVP testing shall be conducted at actual storage temperature of the organic liquid in the tank. The permittee shall also conduct an API gravity testing. [District Rule 4623]
8. Instead of testing each uncontrolled fixed roof tank, the permittee may conduct a TVP test of the organic liquid stored in a representative tank provided the requirements of Sections 6.2.1.1.1 through 6.2.1.1.5 of Rule 4623 are met. [District Rule 4623]
9. Permittee shall submit the records of TVP and API gravity testing to the APCO within 45 days after the date of testing. The records shall include the tank identification number, Permit to Operate number, type of stored organic liquid, TVP and API gravity of the organic liquid, test methods used, and a copy of the test results. [District Rule 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 Rule 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 Rule 1070 and 4623]

These terms and conditions are part of the Facility-wide Permit to Operate.

# AUTHORITY TO CONSTRUCT

PERMIT NO: S-6509-10-4

ISSUANCE DATE: 04/29/2013

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

LOCATION: HEAVY OIL CENTRAL

SECTION: NW15 TOWNSHIP: 25S RANGE: 27E

## EQUIPMENT DESCRIPTION:

MODIFICATION OF 1000 BBL BOLTED, FIXED ROOF CRUDE OIL SHIPPING/STOCK TANK (QUINN LEASE): LOWER THROUGHPUT TO 765 BBL PER DAY

## CONDITIONS

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 & 4623]
2. Throughput shall not exceed 765 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 Rules 2201 and 4623]
4. Permittee shall conduct true vapor pressure (TVP) testing of the organic liquid stored in this tank 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 4623]
5. 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 4623]
6. 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 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

DAVID WARNER, Director of Permit Services

S-6509-10-4 : Jun 16 2013 1:52PM - EDGENHLR : Joint Inspection NOT Required

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7. The TVP testing shall be conducted at actual storage temperature of the organic liquid in the tank. The permittee shall also conduct an API gravity testing. [District Rule 4623]
8. Instead of testing each uncontrolled fixed roof tank, the permittee may conduct a TVP test of the organic liquid stored in a representative tank provided the requirements of Sections 6.2.1.1.1 through 6.2.1.1.5 of Rule 4623 are met. [District Rule 4623]
9. Permittee shall submit the records of TVP and API gravity testing to the APCO within 45 days after the date of testing. The records shall include the tank identification number, Permit to Operate number, type of stored organic liquid, TVP and API gravity of the organic liquid, test methods used, and a copy of the test results. [District Rules 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 Rule 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 Rule 1070 and 4623]
12. ATC S-6509-10-3 shall be implemented prior to or concurrently with this ATC. [District Rule 2201]

# AUTHORITY TO CONSTRUCT

PERMIT NO: S-6509-30-0

ISSUANCE DATE: 04/29/2013

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

LOCATION: HEAVY OIL CENTRAL

EQUIPMENT DESCRIPTION:  
22 MMBTU/HR GAS/TEOR GAS FIRED STEAM GENERATOR WITH A COEN QLN-II BURNER AND FGR AUTHORIZED TO OPERATE AT VARIOUS SPECIFIED LOCATIONS

## CONDITIONS

1. The permittee shall not emit more than one half of the major source threshold based on a rolling 12-month summary of actual emissions. [District Rule 2530, 6.1]
2. The permittee shall maintain a record of the rolling 12-month summary of actual emissions from permitted operations. This record shall be kept on site and made available to the District upon request. [District Rule 2530, 6.1]
3. This unit is authorized to operate in the following sections: Sections 9, 10 and 15 and 22 of T28S, R27E; Sections 19, 20 and 28 of T27S, R27E; Section 3 of T28S, R27E; Section 36 of T29S, R30E and Section 19 of T30S, R29E. [District Rule 4102]
4. Steam generator must be at least 50 feet from the property boundary. [District Rule 4102]
5. 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]
6. This unit shall be equipped with horizontal convection section with at least 235 square feet of bare tube surface area (or thermodynamically equivalent number of square feet of finned tube) per MMBtu/hr of heat input or a manufacturer's overall thermal efficiency rating of 88%. [Public Resources Code 21000-21177: California Environmental Quality Act]
7. This unit shall be equipped with variable frequency drive high efficiency electrical motors driving the air blower and water pump. Documentation showing this unit is so equipped shall be retained on site. [Public Resources Code 21000-21177: California Environmental Quality Act]

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

DAVID WARNER, Director of Permit Services

S-6509-30-0 : Jun 16 2013 1:52PM - EDGEHILL : Joint Inspection NOT Required

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8. Documentation (manufacturer specification, District calculation, or other approved documentation) describing how this unit meets the California Environmental Quality Act (CEQA conditions listed on this permit) shall be retained on site. [Public Resources Code 21000-21177: California Environmental Quality Act]
9. Particulate matter emissions shall not exceed 0.1 grain/dscf at operating conditions, nor 0.1 grain/dscf calculated to 12% CO<sub>2</sub>, nor 10 lb/hr. [District Rules 4201, 4301, 5.1 and 5.2.3]
10. 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]
11. Emission rates shall not exceed any of the following: NO<sub>x</sub> (as NO<sub>x</sub>): 7 ppmvd @ 3% O<sub>2</sub> or 0.008 lb/MMBtu; SO<sub>x</sub>: 0.00285 lb/MMBtu; PM<sub>10</sub>: 0.0076 lb/MMBtu; CO: 50 ppmvd @ 3% O<sub>2</sub> or 0.0370 lb-CO/MMBtu; or VOC: 0.0055 lb/MMBtu. [District Rules 2201 and 4320]
12. Permittee shall maintain records of duration of each start-up and shutdown for a period of five years and make such records readily available for District inspection upon request. [District Rule 4320]
13. A source test to demonstrate compliance with NO<sub>x</sub> and CO emission limits shall be performed within 60 days of startup of this unit. [District Rules 2201 and 4320]
14. Source testing to measure natural gas-combustion NO<sub>x</sub> and CO emissions from this unit shall be conducted at least once every twelve (12) months (no more than 30 days before or after the required annual source test date). After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months (no more than 30 days before or after the required 36-month source test date). If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 2201, 4305, 4306 and 4320]
15. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081]
16. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 2201, 4305, 4306 and 4320]
17. The following test methods shall be used: NO<sub>x</sub> (ppmv) - EPA Method 7E or ARB Method 100, NO<sub>x</sub> (lb/MMBtu) - EPA Method 19; CO (ppmv) - EPA Method 10 or ARB Method 100; Stack gas oxygen (O<sub>2</sub>) - EPA Method 3 or 3A or ARB Method 100; stack gas velocities - EPA Method 2; Stack gas moisture content - EPA Method 4; SO<sub>x</sub> - EPA Method 6C or 8 or ARB Method 100; fuel gas sulfur as H<sub>2</sub>S content - EPA Method 11 or 15; and fuel hhv (MMBtu) - ASTM D 1826 or D 1945 in conjunction with ASTM D 3588. [District Rule 2201, 4305, 4306, 4320]
18. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 4306 and 4320]
19. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081]
20. The permittee shall monitor and record the stack concentration of NO<sub>x</sub>, CO, and O<sub>2</sub> at least once every month (in which a source test is not performed) using a portable analyzer that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305, 4306, and 4320]
21. If the NO<sub>x</sub> or CO concentrations corrected to 3%, as measured by the portable analyzer, exceed the applicable emission limit, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. [District Rules 4102, 4305, 4306 and 4320]

CONDITIONS CONTINUE ON NEXT PAGE

22. All NO<sub>x</sub>, CO, and O<sub>2</sub> emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. The NO<sub>x</sub>, CO, and O<sub>2</sub> analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute sample period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive minute period. [District Rules 4102, 4305, 4306 and 4320]
23. The permittee shall maintain records of: (1) the date and time of NO<sub>x</sub>, CO and O<sub>2</sub> measurements, (2) the O<sub>2</sub> concentration in percent by volume and the measured NO<sub>x</sub> and CO concentrations corrected to 3% O<sub>2</sub>, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305, 4306 and 4320]
24. All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. Unless otherwise specified in the PTO, no determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0 of District Rule 4320. For the purposes of permittee-performed alternate monitoring, emissions measurements may be performed at any time after the unit reaches conditions representative of normal operation. [District Rules 4305, 4306 and 4320]
25. Shorter time periods for demonstration of compliance after startup or re-ignition may be approved by the APCO by submittal of appropriate technical justification upon implementation of this ATC. [District Rule 2201]
26. PUC quality natural gas is any gaseous fuel where the sulfur content is no more than one-fourth (0.25) grain of hydrogen sulfide per one hundred (100) standard cubic feet, no more than five (5) grains of total sulfur per one hundred (100) standard cubic feet, and at least 80% methane by volume. [District Rule 4320]
27. If the steam generator is not fired on PUC-regulated natural gas and compliance is achieved through fuel sulfur content limitations, then the sulfur content of the fuel shall be determined by testing sulfur content at a location after all fuel sources are combined prior to incineration, or by performing mass balance calculations based on monitoring the sulfur content and volume of each fuel source. The sulfur content of the fuel shall be determined using the test methods referenced in this permit. [District Rule 4320]
28. When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, permittee shall demonstrate compliance at least annually. [District Rule 4320]
29. If the unit is fired on PUC-regulated natural gas, valid purchase contracts, supplier certifications, tariff sheets, or transportation contracts may be used to satisfy the fuel sulfur content analysis, provided they establish the fuel sulfur concentration and higher heating value. [District Rule 4320]
30. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 4305, 4306 and 4320]
31. The permittee shall obtain written District approval for the use of any equivalent equipment not specifically approved by this ATC. Approval of the equivalent equipment shall be made in writing and only after the District's determination that the submitted design and performance of the proposed alternative equipment is equivalent to the authorized equipment. [District Rule 2010]
32. The permittee's request for approval of equivalent equipment shall include the make, model, manufacturer's maximum rating, manufacturer's guaranteed emissions rates, equipment drawing(s) and operational characteristics/parameters. [District Rule 2010]
33. ATC S-6509-10-3 shall be implemented prior to or concurrently with this ATC. [District Rule 2201]

## ATTACHMENT II Location Map



Hathaway LLC - Conn Lease

y Rou

Breckenridge Rd

Palm Tree Dr

Beauvais St

Pioneer Dr

Comanche Dr

Grenache Dr

Survey

Imagery Date: 8/7/2012 lat: 35.371996° lon: -118.360794° elev: 706 ft eye alt: 14133 ft

Google earth  
Earth Point



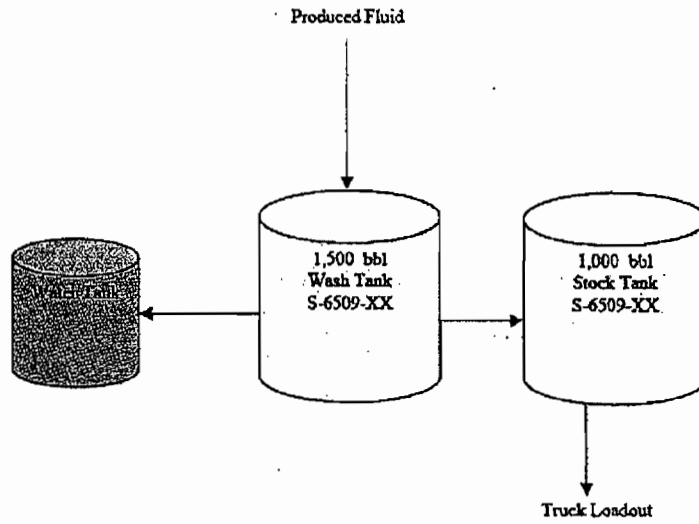
# ATTACHMENT III Process Diagram

HATHAWAY, LLC.



BUSINESS NAME: Cohn Tank Battery  
SCALE: NONE

Facility Diagram S-6509



# ATTACHMENT IV

## Tank Emissions Calculations

Tank Input Data	
permit number (S-xxxx-xx-xx)	S-6509-10-4
facility tank I.D.	Stock
nearest city {1: Bakersfield, 2: Fresno, 3: Stockton}	1
tank ROC vapor pressure (psia)	0.5
liquid bulk storage temperature, T <sub>b</sub> (°F)	140
is this a constant-level tank? (yes, no)	no
will flashing losses occur in this tank (only if first-line tank)? (yes, no)	no
breather vent pressure setting range (psi)	0.06
diameter of tank (feet)	21.2
capacity of tank (bbbl)	1,000
conical or dome roof? (c, d)	c
shell height of tank (feet)	16
average liquid height (feet)	9
are the roof and shell the same color? (yes,no)	yes
For roof:	
color {1:Spec Al, 2:Diff Al, 3:Light, 4:Med, 5:Red, 6:White}	4
condition {1: Good, 2: Poor}	1
-----This row only used if shell is different color from roof-----	4
-----This row only used if shell is different color from roof-----	1

Liquid Input Data	A	B
maximum daily fluid throughput (bbbl)		765
maximum annual fluid throughput (bbbl)		279,225
-----This row only used if flashing losses occur in this tank-----		765
-----This row only used if flashing losses occur in this tank-----		279,225
molecular weight, M <sub>w</sub> (lb/lb-mol)		100

Calculated Values	A	B
daily maximum ambient temperature, T <sub>ax</sub> (°F)		77.65
daily minimum ambient temperature, T <sub>an</sub> (°F)		53.15
daily total solar insolation factor, I (Btu/ft <sup>2</sup> -day)		1648.9
atmospheric pressure, P <sub>a</sub> (psia)		14.47
water vapor pressure at daily maximum liquid surface temperature (T <sub>lx</sub> ), P <sub>v<sub>x</sub></sub> (psia)	121.4	0.9259
water vapor pressure at daily minimum liquid surface temperature (T <sub>ln</sub> ), P <sub>v<sub>n</sub></sub> (psia)	110.6	0.6653
water vapor pressure at average liquid surface temperature (T <sub>la</sub> ), P <sub>v<sub>a</sub></sub> (psia)	116.0	0.7903
roof outage, H <sub>ro</sub> (feet)		0.2208
vapor space volume, V <sub>v</sub> (cubic feet)		2548.88
paint factor, alpha		0.68
vapor density, W <sub>v</sub> (lb/cubic foot)		0.0081
daily vapor temperature range, delta T <sub>v</sub> (degrees Rankine)		49.04
vapor space expansion factor, K <sub>e</sub>		0.0998

Results	lb/year	lb/day
Standing Storage Loss	751	2.06
Working Loss	13,961	38.25
Flashing Loss	N/A	N/A
Total Uncontrolled Tank VOC Emissions	14,712	40.3

Summary Table	
Permit Number	S-6509-10-4
Facility Tank I.D.	Stock
Tank capacity (bbbl)	1,000
Tank diameter (ft)	21.2
Tank shell height (ft)	16
Conical or Dome Roof	Conical
Maximum Daily Fluid Throughput (bbbl/day)	765
Maximum Annual Fluid Throughput (bbbl/year)	279,225
Maximum Daily Oil Throughput (bbbl/day)	765
Maximum Annual Oil Throughput (bbbl/year)	—
Total Uncontrolled Daily Tank VOC Emissions (lb/day)	40.3
Total Uncontrolled Annual Tank VOC Emissions (lb/year)	14,712

**S-6509-10-5 Post-Project Emissions**

Tank Input Data	
permit number (S-xxxx-xx-xx)	S-6509-10-5
facility tank I.D.	Stock
nearest city {1: Bakersfield, 2: Fresno, 3: Stockton}	1
tank ROC vapor pressure (psia)	0.5
liquid bulk storage temperature, T <sub>b</sub> (°F)	140
is this a constant-level tank? {yes, no}	no
will flashing losses occur in this tank (only if first-line tank)? {yes, no}	no
breather vent pressure setting range (psi)	0.06
diameter of tank (feet)	21.2
capacity of tank (bbl)	1,000
conical or dome roof? {c, d}	c
shell height of tank (feet)	16
average liquid height (feet)	9
are the roof and shell the same color? {yes,no}	yes
For roof:	
color {1:Spec Al, 2:Diff Al, 3:Light, 4:Med, 5:Red, 6:White}	4
condition {1: Good, 2: Poor}	1
-----This row only used if shell is different color from roof-----	4
-----This row only used if shell is different color from roof-----	1

Liquid Input Data	A	B
maximum daily fluid throughput (bbl)		640
maximum annual fluid throughput (bbl)		233,600
-----This row only used if flashing losses occur in this tank-----		640
-----This row only used if flashing losses occur in this tank-----		233,600
molecular weight, M <sub>w</sub> (lb/lb-mol)		100

Calculated Values	A	B
daily maximum ambient temperature, T <sub>ax</sub> (°F)		77.65
daily minimum ambient temperature, T <sub>an</sub> (°F)		53.15
daily total solar insulation factor, I (Btu/ft <sup>2</sup> -day)		1648.9
atmospheric pressure, P <sub>a</sub> (psia)		14.47
water vapor pressure at daily maximum liquid surface temperature (T <sub>bx</sub> ), P <sub>vx</sub> (psia)	121.4	0.9259
water vapor pressure at daily minimum liquid surface temperature (T <sub>bn</sub> ), P <sub>vn</sub> (psia)	110.6	0.8653
water vapor pressure at average liquid surface temperature (T <sub>ba</sub> ), P <sub>va</sub> (psia)	116.0	0.7903
roof outage, H <sub>ro</sub> (feet)		0.2208
vapor space volume, V <sub>v</sub> (cubic feet)		2548.88
paint factor, alpha		0.68
vapor density, W <sub>v</sub> (lb/cubic foot)		0.0081
daily vapor temperature range, delta T <sub>v</sub> (degrees Rankine)		49.04
vapor space expansion factor, K <sub>e</sub>		0.0998

Results	lb/year	lb/day
Standing Storage Loss	751	2.06
Working Loss	11,680	32.00
Flashing Loss	N/A	N/A
<b>Total Uncontrolled Tank VOC Emissions</b>	<b>12,431</b>	<b>34.1</b>

Summary Table	
Permit Number	S-6509-10-5
Facility Tank I.D.	Stock
Tank capacity (bbl)	1,000
Tank diameter (ft)	21.2
Tank shell height (ft)	16
Conical or Dome Roof	Conical
Maximum Daily Fluid Throughput (bbl/day)	640
Maximum Annual Fluid Throughput (bbl/year)	233,600
Maximum Daily Oil Throughput (bbl/day)	640
Maximum Annual Oil Throughput (bbl/year)	---
Total Uncontrolled Daily Tank VOC Emissions (lb/day)	34.1
Total Uncontrolled Annual Tank VOC Emissions (lb/year)	12,431

**New Stock Tank Post-Project Emissions**

131-0

Tank Input Data	
permit number (S-xxxx-xx-xx)	S-6509-XX-X
facility tank I.D.	Wash
nearest city (1: Bakersfield, 2: Fresno, 3: Stockton)	1
tank ROC vapor pressure (psia)	0.5
liquid bulk storage temperature, Tb (°F)	140
is this a constant-level tank? (yes, no)	yes
will flashing losses occur in this tank (only if first-line tank)? (yes, no)	yes
breather vent pressure setting range (psi)	0.06
diameter of tank (feet)	21.2
capacity of tank (bbl)	1,500
conical or dome roof? (c, d)	c
shell height of tank (feet)	24
average liquid height (feet)	22
are the roof and shell the same color? (yes,no)	yes
For roof: color (1:Spec Al, 2:Diff Al, 3:Light, 4:Med, 5:Red, 6:White)	4
condition (1: Good, 2: Poor)	1
-----This row only used if shell is different color from roof-----	4
-----This row only used if shell is different color from roof-----	1

Liquid Input Data	A	B
maximum daily fluid throughput (bbl)		50
maximum annual fluid throughput (bbl)		18,250
maximum daily oil throughput (bbl)(used to calculate flashing loss)		50
maximum annual oil throughput (bbl)(used to calculate flashing loss)		18,250
molecular weight, Mw (lb/lb-mol)		100

Calculated Values	A	B
daily maximum ambient temperature, T <sub>ax</sub> (°F)		77.65
daily minimum ambient temperature, T <sub>an</sub> (°F)		53.15
daily total solar insulation factor, I (Btu/ft <sup>2</sup> -day)		1648.9
atmospheric pressure, P <sub>a</sub> (psia)		14.47
water vapor pressure at daily maximum liquid surface temperature (T <sub>lx</sub> ), P <sub>vx</sub> (psia)	121.4	0.9259
water vapor pressure at daily minimum liquid surface temperature (T <sub>ln</sub> ), P <sub>vn</sub> (psia)	110.6	0.6653
water vapor pressure at average liquid surface temperature (T <sub>la</sub> ), P <sub>va</sub> (psia)	116.0	0.7903
roof outage, H <sub>ro</sub> (feet)		0.2208
vapor space volume, V <sub>v</sub> (cubic feet)		783.93
paint factor, alpha		0.68
vapor density, W <sub>v</sub> (lb/cubic foot)		0.0081
daily vapor temperature range, delta T <sub>v</sub> (degrees Rankine)		49.04
vapor space expansion factor, K <sub>e</sub>		0.0998

Results	lb/year	lb/day
Standing Storage Loss	231	0.63
Working Loss	N/A	N/A
Flashing Loss	349	0.96
<b>Total Uncontrolled Tank VOC Emissions</b>	<b>580</b>	<b>1.6</b>

Summary Table	
Permit Number	S-6509-XX-X
Facility Tank I.D.	Wash
Tank capacity (bbl)	1,500
Tank diameter (ft)	21.2
Tank shell height (ft)	24
Conical or Dome Roof	Conical
Maximum Daily Fluid Throughput (bbl/day)	50
Maximum Annual Fluid Throughput (bbl/year)	18,250
Maximum Daily Oil Throughput (bbl/day)	50
Maximum Annual Oil Throughput (bbl/year)	18,250
Total Uncontrolled Daily Tank VOC Emissions (lb/day)	1.6
Total Uncontrolled Annual Tank VOC Emissions (lb/year)	580

Tank Input Data	
permit number (S-xxxx-xx-xx)	S-6509-XX-X
facility tank I.D.	Stock
nearest city (1: Bakersfield, 2: Fresno, 3: Stockton)	1
tank ROC vapor pressure (psia)	0.6
liquid bulk storage temperature, Tb (°F)	140
is this a constant-level tank? (yes, no)	no
will flashing losses occur in this tank (only if first-line tank)? (yes, no)	no
breather vent pressure setting range (psi)	0.06
diameter of tank (feet)	21.2
capacity of tank (bbl)	1,000
conical or dome roof? {c, d}	c
shell height of tank (feet)	16
average liquid height (feet)	9
are the roof and shell the same color? (yes,no)	yes
For roof: color (1:Spec Al, 2:Diff Al, 3:Light, 4:Med, 5:Red, 6:White)	4
condition (1: Good, 2: Poor)	1
-----This row only used if shell is different color from roof-----	4
-----This row only used if shell is different color from roof-----	1

132-0

Liquid Input Data	A	B
maximum daily fluid throughput (bbl)		50
maximum annual fluid throughput (bbl)		18,250
-----This row only used if flashing losses occur in this tank-----		50
-----This row only used if flashing losses occur in this tank-----		18,250
molecular weight, Mw (lb/lb-mol)		100

Calculated Values	A	B
daily maximum ambient temperature, T <sub>ax</sub> (°F)		77.65
daily minimum ambient temperature, T <sub>an</sub> (°F)		53.15
daily total solar insolation factor, I (Btu/ft <sup>2</sup> -day)		1648.9
atmospheric pressure, P <sub>a</sub> (psia)		14.47
water vapor pressure at daily maximum liquid surface temperature (T <sub>lx</sub> ), P <sub>vx</sub> (psia)	121.4	0.9259
water vapor pressure at daily minimum liquid surface temperature (T <sub>ln</sub> ), P <sub>vn</sub> (psia)	110.6	0.6653
water vapor pressure at average liquid surface temperature (T <sub>la</sub> ), P <sub>va</sub> (psia)	116.0	0.7903
roof outage, H <sub>ro</sub> (feet)		0.2208
vapor space volume, V <sub>v</sub> (cubic feet)		2548.88
paint factor, alpha		0.68
vapor density, W <sub>v</sub> (lb/cubic foot)		0.0081
daily vapor temperature range, delta T <sub>v</sub> (degrees Rankine)		49.04
vapor space expansion factor, K <sub>e</sub>		0.0996

Results	lb/year	lb/day
Standing Storage Loss	751	2.06
Working Loss	913	2.50
Flashing Loss	N/A	N/A
<b>Total Uncontrolled Tank VOC Emissions</b>	<b>1,663</b>	<b>4.6</b>

Summary Table	
Permit Number	S-6509-XX-X
Facility Tank I.D.	Stock
Tank capacity (bbl)	1,000
Tank diameter (ft)	21.2
Tank shell height (ft)	16
Conical or Dome Roof	Conical
Maximum Daily Fluid Throughput (bbl/day)	50
Maximum Annual Fluid Throughput (bbl/year)	18,250
Maximum Daily Oil Throughput (bbl/day)	50
Maximum Annual Oil Throughput (bbl/year)	---
Total Uncontrolled Daily Tank VOC Emissions (lb/day)	4.6
Total Uncontrolled Annual Tank VOC Emissions (lb/year)	1,663

**New Wash Tank Post-Project Emissions**

## ATTACHMENT V Emissions Profile



Permit #: S-6509-10-5	Last Updated
Facility: HATHAWAY LLC	06/14/2013 EDGEHILR

Equipment Pre-Baselined: NO

	<u>NOX</u>	<u>SOX</u>	<u>PM10</u>	<u>CO</u>	<u>VOC</u>
Potential to Emit (lb/Yr):	0.0	0.0	0.0	0.0	12431.0
Daily Emis. Limit (lb/Day)	0.0	0.0	0.0	0.0	34.1
Quarterly Net Emissions Change (lb/Qtr)					
Q1:	0.0	0.0	0.0	0.0	-570.0
Q2:	0.0	0.0	0.0	0.0	-570.0
Q3:	0.0	0.0	0.0	0.0	-570.0
Q4:	0.0	0.0	0.0	0.0	-571.0
Check if offsets are triggered but exemption applies	N	N	N	N	N
Offset Ratio					
Quarterly Offset Amounts (lb/Qtr)					
Q1:					
Q2:					
Q3:					
Q4:					

Permit #: S-6509-30-1	Last Updated
Facility: HATHAWAY LLC	06/14/2013 EDGEHILR

Equipment Pre-Baselined: NO

	<u>NOX</u>	<u>SOX</u>	<u>PM10</u>	<u>CO</u>	<u>VOC</u>
Potential to Emit (lb/Yr):	1542.0	549.0	1465.0	7131.0	1060.0
Daily Emis. Limit (lb/Day)	4.2	1.5	4.0	19.5	2.9
Quarterly Net Emissions Change (lb/Qtr)					
Q1:	0.0	0.0	0.0	0.0	0.0
Q2:	0.0	0.0	0.0	0.0	0.0
Q3:	0.0	0.0	0.0	0.0	0.0
Q4:	0.0	0.0	0.0	0.0	0.0
Check if offsets are triggered but exemption applies	N	N	N	N	N
Offset Ratio					
Quarterly Offset Amounts (lb/Qtr)					
Q1:					
Q2:					
Q3:					
Q4:					

Permit #: S-6509-31-0	Last Updated
Facility: HATHAWAY LLC	06/14/2013 EDGEHILR

Equipment Pre-Baselined: NO

	<u>NOX</u>	<u>SOX</u>	<u>PM10</u>	<u>CO</u>	<u>VOC</u>
Potential to Emit (lb/Yr):	0.0	0.0	0.0	0.0	580.0
Daily Emis. Limit (lb/Day)	0.0	0.0	0.0	0.0	1.6
Quarterly Net Emissions Change (lb/Qtr)					
Q1:	0.0	0.0	0.0	0.0	145.0
Q2:	0.0	0.0	0.0	0.0	145.0
Q3:	0.0	0.0	0.0	0.0	145.0
Q4:	0.0	0.0	0.0	0.0	145.0
Check if offsets are triggered but exemption applies	N	N	N	N	N
Offset Ratio					
Quarterly Offset Amounts (lb/Qtr)					
Q1:					
Q2:					
Q3:					
Q4:					

Permit #: S-6509-32-0	Last Updated
Facility: HATHAWAY LLC	06/14/2013 EDGEHILR

Equipment Pre-Baselined: NO

	<u>NOX</u>	<u>SOX</u>	<u>PM10</u>	<u>CO</u>	<u>VOC</u>
Potential to Emit (lb/Yr):	0.0	0.0	0.0	0.0	1663.0
Daily Emis. Limit (lb/Day)	0.0	0.0	0.0	0.0	4.6
Quarterly Net Emissions Change (lb/Qtr)					
Q1:	0.0	0.0	0.0	0.0	415.0
Q2:	0.0	0.0	0.0	0.0	416.0
Q3:	0.0	0.0	0.0	0.0	416.0
Q4:	0.0	0.0	0.0	0.0	416.0
Check if offsets are triggered but exemption applies	N	N	N	N	N
Offset Ratio					
Quarterly Offset Amounts (lb/Qtr)					
Q1:					
Q2:					
Q3:					
Q4:					

ATTACHMENT VI  
BACT Guideline

San Joaquin Valley  
Unified Air Pollution Control District

**Best Available Control Technology (BACT) Guideline 7.3.1\***

Last Update 10/1/2002

**Petroleum and Petrochemical Production - Fixed Roof Organic  
Liquid Storage or Processing Tank, < 5,000 bbl Tank capacity \*\***

Pollutant	Achieved in Practice or contained in the SIP	Technologically Feasible	Alternate Basic Equipment
VOC	PV-vent set to within 10% of maximum allowable pressure	99% control ( Waste gas incinerated in steam generator, heater treater, or other fired equipment and inspection and maintenance program; transfer of noncondensable vapors to gas pipeline; reinjection to formation (if appropriate wells are available); or equal).	

\*\* Converted from Determinations 7.1.11 (10/01/02).

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

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

## ATTACHMENT VII BACT Analysis

VOC emissions may occur when the produced fluids from the crude oil production wells enter the oil storage tanks.

### **Step 1 - Identify All Possible Control Technologies**

BACT Guideline 7.3.1 lists the controls that are considered potentially applicable to fixed-roof organic liquid storage or processing tank <5,000 bbl tank capacity. The VOC control measures are summarized below.

#### *Technologically feasible:*

99% control (waste gas incinerated in steam generator, heater treater, or other fired equipment and inspection and maintenance program; transfer of uncondensed vapors to gas pipeline or reinjection to formation (if appropriate wells are available).

#### *Achieved in Practice:*

PV relief valve set to within 10% of maximum allowable pressure.

### **Step 2 - Eliminate Technologically Infeasible Options**

All of the above identified control options are technologically feasible.

### **Step 3 - Rank Remaining Control Technologies by Control Effectiveness**

1. 99% control (waste gas incinerated in steam generator, heater treater, or other fired equipment and inspection and maintenance program; transfer of uncondensed vapors to gas pipeline or reinjection to formation (if appropriate wells are available).
2. PV relief valve set to within 10% of maximum allowable pressure.

### **Step 4 - Cost Effectiveness Analysis**

Applicant has provided a detailed installation and annual operating cost for a vapor control system achieving 99% vapor control efficiency, \$70,987/yr. The cost effectiveness is

$$\$70,987/\text{yr}/[0.99 \times 2244 \text{ lb/yr}/2000 \text{ lb/ton}] = \$63,907/\text{ton}.$$

This exceeds the cost effectiveness threshold for VOCs of \$17,500/ton. Therefore vapor control is not effective.

### **Step 5 - Select BACT**

PV relief valve set to within 10% of maximum allowable pressure of the tank

Hathaway LLC  
 Cost Effective Analysis  
 Cohn Lease Crude Oil Tanks

<b>Total Emissions</b>	2,244	lbs/yr
<b>% Reduction</b>	99%	
<b>Reduction</b>	2,222	lbs/yr
<b>Reduction</b>	1.11	tpy
<b>Total Capital Cost</b>		
<b>VRU</b>	\$276,050	
<b>Flare</b>	\$42,250	
<b>Annualized Capital Cost</b>	\$51,787	
<b>Annual Mainenance Cost</b>	\$12,000	\$1,000/month Contract
<b>Electricity usage</b>	\$7,200	\$600/month
<b>Total Annualized Cost</b>	\$70,987	
<b>Cost per Ton</b>	\$63,908	
<b>VOC Cost/Ton Limit</b>	\$17,500	
<b>Exceeds limit, not cost effective</b>		

**VRU COMPRESSOR QUOTE**



# Com-Pac Systems, Inc.

(432) 332-4515  
 Fax (432) 332-0121  
 2412 S. Market St.  
 Odessa, Texas 79766

## Com-Pac Systems, Inc. Proposal 12-2221R0

December 26, 2012

Vintage Production  
 9000 Ming Ave,  
 Suite 300  
 Bakersfield, CA. 93311  
 Attention: Mr. George Elledge

Reference: Mount Poso South Unit TVR Compressor Budgetary Proposal

Sir,

In response to inquiry regarding the above referenced project Com-Pac Systems, Inc. is pleased to offer this budgetary proposal for your consideration. This proposal is for budgetary purposes only and does not take into account any design conditions and/or specifications, other than those already supplied, and is subject to any exceptions and clarifications contained herein.

### 1.0 Scope of Supply

Provide engineering, labor and material to supply one (1) fully packaged TVR compressor packages.

The package is complete with two (2) x 100% self supporting compressors, electric motor drivers, suction and discharge scrubbers complete with condensate removal system, air cooled finned tubed heat exchanger complete with discharge gas and compressor jacket water cooling sections each sized for both compressor running, compressor jacket water cooling systems complete with jacket water circulation pumps and surge tank, compressor lube oil system complete with an electric motor driven lubricator pump and force feed divider block distribution system, process piping including recycle capacity control loop with manual by-pass, utility piping, instrumentation and PLC based compressor control panel all mounted on a single fit for purpose steel skid.

The package is designed to meet the following conditions and includes the following list of materials

### 2.0 Design Conditions

PARAMETER		DESIGN
Flow Rate @ Skid Edge	MSCFD	100
Compressor Delivered Capacity (Each Compressor)	MSCFD	105
Suction Temperature (@ Compressor Flange)	<sup>o</sup> F	90
Suction Pressure @ Compressor Flange)	PSIG	0.0
Discharge Temperature (@ Cooler Discharge)	<sup>o</sup> F	130
Discharge Pressure @ Compressor Flange)	PSIG	45

### 3.0 Gas Compressor

Two (2) Ro Flo model 5CC, sliding vane, positive displacement compressors. The compressors are belt driven to 1850 rpm and are equipped as per the following:

- Double bellows seals complete with pressurized oil seal system for zero shaft seal emissions
- Jacket water cooling system including:
  - One (1) air cooled finned tubed jacket water cooler, sized for both compressor running
  - Two (2) electric motor driven coolant pumps, one for each compressor
  - Two (2) thermostatic type temperature control valves, one for each compressor
  - Two (2) jacket water no-flow switches, one for each compressor

## Com-Pac Systems, Inc. Proposal 12-2221R0

- Dedicated force feed cylinder lubrication system including:
  - Two (2) electric motor driven lubricator pumps, one for each compressor
  - Two (2) pressurized divider block distribution systems, one for each compressor
  - Two (2) lube oil no-flow switches, one for each compressor
- One (1) 30 gallon lube oil day tank, common to both compressors
- Torsionally resilient coupling /w built to suit coupling guard

### 3.1 Compressor Performance

See attached

### 4.0 Compressor Driver

Two (2) Baldor model ECP416T, or equal, premium efficiency, severe duty, induction electric motor as per the following:

- 20 HP
- 3600 RPM
- TEFC
- 460/3/60 VAC
- 1.15 service factor
- Lubricated bearings
- Rotatable, oversized conduit box w/ stainless steel hardware
- Rated for NEC Class 1 Division 2 Groups C&D hazardous area

### 4.1 Compressor Driver Performance

See attached

### 5.0 Gas Cooler

One (1) ACE model C32M-4 or equal, vertical finned tube air cooled heat exchanger as per the following:

- One (1) after gas cooling section, sized for both compressors running, as per the following
  - SA-516/70 carbon steel headers
  - 1/16" corrosion allowance
  - SA-249 304 stainless steel welded tubes
  - Manual louver
  - 5005 marine grade aluminum fins
  - ASME coded stamped w/ National Board registration
- One (1) compressor lube jacket water cooling section, sized for both compressors running as per the following:
  - Carbon steel headers
  - SA-214 carbon steel welded tubes
  - 5005 marine grade aluminum fins
- Mounted electric motor driven direct drive fan drive assembly
- Cooler structure as per the following
  - Seal welded
  - White metal blasted
  - Metalized headers and structure

### 5.1 Cooler Performance

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## Com-Pac Systems, Inc. Proposal 12-2221R0

### 6.0 Scrubbers

One (1) 10-3/4" OD x 48" seam/seam API 11P Class "C" vertical suction scrubber, sized for both compressors running, as per the following:

- Carbon steel per SA106-B, SA-234 WPB, SA-105
- Designed, fabricated, tested, inspected and stamped to ASME Sec VIII Div II
- 1/16" corrosion allowance
- 100% x-ray per ASME Sec VIII Div II
- Post weld heat treated
- Internally plastic coated
- Stainless steel mesh pad type mist extractor
- One (1) bridle mounted level control assembly as per the following:
  - Level transmitter guided wave type (condensate pump on/off)
  - Level indicator
- One (1) bridle mounted level shutdown assembly as per the following:
  - Level switch high/high (shutdown)
  - Level switch low/low (alarm)
- One (1) rotary vane electric motor driven condensate pumps sized for 10 gpm @ 60 psig discharge

One (1) 8-5/8" OD x 48" seam/seam API 11P Class "C" vertical discharge scrubber, sized for both compressors running, as per the following:

- Carbon steel per SA106-B, SA-234 WPB, SA-105
- Designed, fabricated, tested, inspected and stamped to ASME Sec VIII Div II
- 1/16" corrosion allowance
- 100% x-ray per ASME Sec VIII Div II
- Post weld heat treated
- Internally plastic coated
- Stainless steel mesh pad type mist extractor
- One (1) bridle mounted level assembly as per the following:
  - Level transmitter guided wave type
  - Level indicator
- One (1) bridle mounted level shutdown assembly as per the following:
  - Level switch high/high (shutdown)
- One (1) Fisher D2 pneumatic dump valve

*Note 1 - All pressure vessel sizes are subject to final engineering*

### 7.0 Process Piping

One (1) lot of gas process piping, sized for both compressors running, from skid edge suction connection through the compressor package to final skid edge discharge connection, including relief valve header, as per the following:

- Carbon steel per ASTM A106-B, ASTM WPB-234 ANSI A-105
- Designed, fabricated, inspected and tested to ANSI B31.3 severe cyclic
- 1/16" corrosion allowance
- 20% x-ray examination per ANSI B31.3 severe cyclic
- Flanged process connections
- Flanged and/or threaded instrumentation connections
- Process piping pipe supports are pipe straps, no u-bolts, welded to main members

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### 8.0 Process Valves

One (1) lot of process valves from edge suction block valve through the compressor package to skid edge final discharge block. All process valves are carbon steel bodies, SS trim and firesafe. The following valves are included:

- One (1) manual full port suction block valve located at skid edge
- One (1) conventional type thermal relief valve on suction scrubber complete with full port inlet/outlet block valves, bleed ring and bleed valve.
- Two (2) manual inlet double block and bleed valve sets. One each located between suction scrubber and each compressor inlet
- One (1) conventional type relief valve on each compressor discharge complete with full port inlet/outlet block valves, bleed ring and bleed valve.
- One (1) automatic recycle capacity control valve, sized for 100% of flow, including I/P, positioner and manual bypass loop to maintain suction pressure
- Two (2) discharge check valve double door spring assisted closure type. One located on the discharge of each compressor
- Two (2) manual outlet double block and bleed valve sets. One each located between compressor discharge check valve and discharge scrubber
- One (1) conventional type full flow relief valve on discharge scrubber complete with full port inlet/outlet block valves, bleed ring and bleed valve.
- One (1) common discharge check valve double door spring assisted closure type.
- One (1) manual full port discharge block valve located at skid edge

### 9.0 Utility Piping, Valves and Tubing

One (1) lot utility piping, valves and tubing as per the following:

- Threaded and/or socket weld stainless steel lube oil piping per SA-312 304, SA-182 304
- Threaded and/or socket weld carbon steel jacket water piping per SA106-B, SA-105
- Threaded and/or socket weld carbon steel instrument air piping per SA106-B, SA-105
- SA-249 304SS welded instrument tubing
- 304SS Parker, or equal, tubing fittings
- Galvanized u-bolts
- Valves are threaded, carbon steel body carbon steel trim

### 10.0 Instrumentation and Electrical

One (1) lot skid instrumentation and electrical as per the following:

- Instrumentation/end devices are designed for installation in a Class I Division 2 Group C&D hazardous area classification
- All wiring in ridged galvanized conduit with type "G" galvanized fittings
- Preliminary instrument manufactures as per the following:
  - Pressure Indicating Transmitter – Rosemount 3051S
  - Temperature Indicating Transmitter – Rosemount 644
  - Temperature RTD's – Rosemount 0068
  - Level Bridle Assembly – Com-Pac Systems standard
  - Level Transmitter Guided Wave – Rosemount 3300
  - Level Switch Ultrasonic – Rosemount 2120
  - Level Indicator – Penberthy
  - Vibration Transmitter – Metrix ST5491E

## Com-Pac Systems, Inc. Proposal 12-2221R0

### 11.0 Control Panel

One (1) compressor control panel is provided mounted and wired on the compressor skid. The control panel and equipment are rated for National Electrical Code area classification of Class I Division II, Groups C & D and is equipped as per the following:

- Allen Bradley ControlLogix programmable logic controller
- Allen Bradley 10000CP HMI
- Ethernet connection
- Door mounted ESD, re-set switch and power on light
- NEMA 4X stainless steel enclosure
- Package control instrumentation for at a minimum
  - Package suction pressure
  - Package suction temperature
  - Suction scrubber level control
  - Suction scrubber low/low level
  - Suction scrubber high/high level
  - Compressor "A" discharge temperature
  - Compressor "A" discharge pressure
  - Compressor "A" high vibration
  - Compressor "A" lube oil no flow
  - Compressor "A" lubricator low level
  - Compressor "A" jacket water high temperature
  - Compressor "A" jacket water no flow
  - Compressor "B" discharge temperature
  - Compressor "B" discharge pressure
  - Compressor "B" high vibration
  - Compressor "B" lube oil no flow
  - Compressor "B" lubricator low level
  - Compressor "B" jacket water high temperature
  - Compressor "B" jacket water no flow
  - Discharge scrubber level control
  - Discharge scrubber high/high level
  - Package discharge pressure
  - Cooler high vibration

### 12.0 Skid

One (1) structural steel skid, with major equipment mounted on main structural members as per the following:

- Com-Pac Systems standard single-piece skid design
- 3/8" ASME SA-36 smooth bottom plate, seal-welded around skid perimeter
- Two inch (2") environmental containment barrier around perimeter of skid
- Two (2) drain connections located on opposite corners
- Two (2) draw bars, one latched at each end, suitable for use as lifting lugs.
- Anchor bolt holes drilled w/ jack bolt nuts welded to skid perimeter
- Com-Pac Systems standard skid welding procedures apply
- Skid is not subject to NDE

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## Com-Pac Systems, Inc. Proposal 12-2221R0

### **13.0 Paint**

Package to be painted per Com-Pac Systems standard two part paint system suitable for onshore service and includes the following:

- Surface Preparation – Steel surfaces blasted to SSPC-SP6
- Primer- PPG Low VOC Quick Dry MultiPrinie applied to a dry film thickness of 2-4 mils
- Top Coat- PPG Type 35 High Gloss Enamel applied to a dry film thickness of 1.5-2 mils.
- Top Coat Color – At customers discretion

### **14.0 Miscellaneous Inclusions/Exclusions to Scope Of Supply**

The following items are included in our Scope of Supply:

- Mechanical run test of completed package, on air, at Com-Pac Systems works
- Continuity and loop check of controls at Com-Pac Systems works
- Stainless steel tagging
- Preparation for domestic shipping only
- One (1) technician for one (1) week start-up and commissioning assistance
- Three (3) computer discs copies of Com-Pac Systems standard Installation, Operations and Maintenance Manual.

The following items are not included in our Scope of Supply

- Freight to site
- Unloading at site
- Interconnecting wiring
- Interconnecting piping
- Motor starters, switch gear, variable frequency drives and/or power junction boxes
- Heat tracing and/or insulation of any type, other than previously mentioned
- Off-skid and/or interconnecting piping
- Fire/gas detection or suppression equipment
- Unit enclosure HVAC system and/or lifting crane.
- Utility gas piping, filters or silencers, other than specifically mentioned
- Tools, other than previously described
- Alignment or leveling devices, other than specifically mentioned
- Design and supply of foundations, support structures, ladders, platforms, etc.
- Site performance test
- Personal costs of purchaser's/client's and/or third party inspectors.
- Installation costs
- Commissioning and operating spare parts
- Storage or preservation costs
- Spreader bars, shackles or lifting equipment of any kind
- Cable tray
- Tubing tray
- Acoustical study
- Skid dynamic study
- Finite element analysis
- Site specific preventative and/or predictive maintenance plans

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## Com-Pac Systems, Inc. Proposal 12-2221R0

### 15.0 \*Delivery

Shipment: 22-26 weeks ARO.

*Note 2 - Estimated delivery only. Actual delivery cannot be confirmed until time of order acceptance, receipt of down payment and return receipt of approved drawings*

### 16.0 Price Summary

Price Per Package ..... \$276,050.00  
(US Dollars)

- Payment in United States dollars
- Sales taxes are not included
- Ex-works Com-Pac Systems facility
- Price validity sixty (60) days from the date of proposal

### 17.0 Terms

We propose that Buyer will pay Seller for the work as per the following progress payment schedule and terms with no holdbacks or retention of funds:

- 30% down with order placement
- 20% upon drawing submittal (drawings submittal will be P&ID and General Arrangement)
- 20% upon cooler manufacturer's notification of readiness to ship
- 20% upon compressor manufacturer's notification of readiness to ship
- 10% upon notification of readiness to ship completed package

Thank you for allowing us this opportunity. We hope the products and services provided herein meet your expectations, and will subsequently lead to an order in our favor.

If there are any questions or clarifications regarding this offer please do not hesitate to call.

Respectfully,

*Jack Motley*

Jack Motley  
Com-Pac Systems, Inc.  
2412 Market  
Odessa, Texas 79766  
Phone - (432) 332-4515  
Fax - (432) 332-0121  
Cell - (432) 208-9083  
E-Mail - [jackmotley@compressorpackaging.com](mailto:jackmotley@compressorpackaging.com)

*Rick Mobley*

Rick Mobley  
Com-Pac Systems, Inc.  
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Odessa, Texas 79766  
Phone - (432) 332-4515  
Fax - (432) 332-0121  
Cell - (432) 664-2033  
E-Mail - [rickmobley@compressorpackaging.com](mailto:rickmobley@compressorpackaging.com)

## FLARE QUOTE

### **GBA-Corona, Inc.**

10333 Harwin, Suite 110

Houston, Texas 77036

Telephone: 713-773-9933 / Fax: 713-773-9940

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#### **FACSIMILE TRANSMITTAL SHEET**

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<b>TO:</b> George Elledge	<b>FROM:</b> Travis Tauer
<b>COMPANY:</b> OXY	<b>DATE:</b> December 10, 2012
<b>FAX NUMBER:</b> via e-mail	<b>TOTAL NO. OF PAGES INCLUDING COVER:</b> 8
<b>PHONE NUMBER:</b>	<b>SENDER'S REFERENCE NUMBER:</b> CF12.1909
<b>RE:</b> Flare Quotation	<b>YOUR REFERENCE NUMBER:</b> Mt. Poso TVR and Flare

---

Dear George,

The following is in response to your request for commercial and technical information pertaining to the above referenced flare system.

In this package, we have included flare tip sizing, equipment data sheets, a radiation plot, and a pressure vs. flow curve for system. Please note that this system has been designed by using a lot of assumptions and that the design can change if the process data changes.

#### Flare Tip Selection

For this application, we have selected a GBA-Corona CSF-RO-3 sonic flare for this relief system. The back pressure will not exceed 20 psig when flowing at the maximum flow rate of 0.2 mmSCFD.

The GBA-Corona CSF flare uses the energy associated with pressurized gas to entrain and mix large quantities of air. The difference in this multi-arm sonic flare is in the nozzle. Unlike other multi-arm flares, the CSF flare does not lose efficiency as the size increases. The annular design of the nozzle enhances the mixing rate of the entrained air, into the primary mixing zone of flame. This highly aerated gas and air stream burns with a clean short flame and with F-Factors ranging from 0.06 to 0.10.



Most flares spend very little time at the peak design rate. Yet, many flares are unable to handle the condition that occurs most of the time -- low flow turndown. Unlike flares which rely on large diameter curved surfaces, the GBA-Corona CSF flare ensures that the combustion takes place above the flare tip. This eliminates nearly the entire continuous flame lick on the flare. And by using properly designed wind deflectors, low flow rate flares are allowed to lift away from the flare further reducing the chance of flame lick. These two features greatly improve longevity and guard against flare tip failure.

### Radiation

We have provided a radiation plot illustrating the radiation values at the maximum flow rate of 0.2 mmcsfd. Included will be an 18' self-support flare stack, including flare tip, to meet the requirements of limiting the radiation to less than 1500 btu/hr<sup>2</sup> ft<sup>2</sup> at ground elevation.

The plot is scaled so stack heights and contours can be evaluated. If there are other radiation constraints or specifications that need to be evaluated, we will quickly incorporate them into our study. Please note that we have included 300 btu/hr<sup>2</sup> ft<sup>2</sup> solar radiation into our contours.

### Pilot Ignition

To ignite the flare, we have offered Corona's CHT electronic pilots. This pilot is fully automatic and self-monitoring. This system has auto re-light capabilities (standard) and is self-monitoring. The CHT system uses flame ionization for pilot monitoring which ensures long life and reliability of pilot indication. This system does not require utility air and eliminates the inherent problems associated with thermocouples and flame front generators. Our package includes 2 CHT pilots and 250' of standard ignition cable per pilot. Electronics will be housed in a NEMA 4X, general purpose, stainless steel enclosure.

### Air Lock Seal

A continuous supply of purge gas is required to prevent air from migrating into the waste gas header. Many studies have proved that the air will typically migrate down along the inside wall of the flare, where the gas is moving the slowest. It has also been shown, that for the same purge gas velocities, it is much easier for air to enter a large diameter tip than a small diameter tip. Finally, it has also been shown that bends within the header further inhibit the ability of the air to penetrate in the stack.

We have offered an Air Lock purge reduction seal. This seal is an inverted cone (baffle) that forms a physical obstruction for the air that typically migrates in along the flare tip body wall. When the air encounters the seal, the air is diverted toward the center of the flare (where the purge gas is moving the fastest) and toward the exit of the flare.

Quotation and Scope of Supply

**Flare Tip**

1.0 One (1) CSP-R0-3 flare tip complete with two CHT pilot/ignitor assemblies, manifolds and wind deflectors.

**Pilot Control Panel**

2.0 One (1) CHT automatic, electronic pilot control panel. Panel to control two pilots. Electrical components to be housed in a NEMA 4X, general purpose enclosure. Also included is 250' of ignition cable per pilot.

3.0 One (1) 18' self-support flare stack. This will also include calculations and drawing that will specifically meet the required criteria for the project site and location.

**Price EXW - Houston, TX**

**\$42,250.00.**

**ATTACHMENT VIII**  
**Statewide Compliance Form**

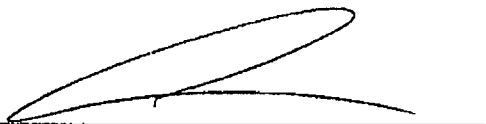
June 6, 2013

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**

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.

A handwritten signature in black ink, consisting of a large, sweeping loop followed by a horizontal line.

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Member Manager  
Title

ATTACHMENT IX  
HRA

## San Joaquin Valley Air Pollution Control District Risk Management Review

To: Richard Edgehill – Permit Services  
 From: Leland Villalvazo – Technical Services  
 Date: June 24, 2013  
 Facility Name: Hathaway, LLC  
 Location: HOCSS  
 Application #(s): S-6509-10-5, 30-1, 31-0, & 32-0  
 Project #: 1132535

### A. RMR SUMMARY

Categories	Oil Tank (10-5)	Steam Generator (30-1)	Oil Tank (31-0)	Oil Tank (32-0)	Project Totals	Facility Totals
Prioritization Score	0.0	0.001	0.001	0.004	0.005	0.72
Acute Hazard Index	NA <sup>1</sup>	NA <sup>1</sup>	NA <sup>1</sup>	NA <sup>1</sup>	NA <sup>1</sup>	NA <sup>1</sup>
Chronic Hazard Index	NA <sup>1</sup>	NA <sup>1</sup>	NA <sup>1</sup>	NA <sup>1</sup>	NA <sup>1</sup>	NA <sup>1</sup>
Maximum Individual Cancer Risk (10 <sup>-6</sup> )	NA <sup>1</sup>	NA <sup>1</sup>	NA <sup>1</sup>	NA <sup>1</sup>	NA <sup>1</sup>	NA <sup>1</sup>
T-BACT Required?	No	No	No	No		
Special Permit Conditions?	No	Yes	No	No		

<sup>1</sup>The facility score was less than 1. No further analysis was required.

### Proposed Permit Conditions

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

#### Unit 30-1

1. The exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap (flapper ok), roof overhang, or any other obstruction. [District Rule 4102]
2. Steam Generator must be at least 50 feet from the property boundary.

**B. RMR REPORT**

**I. Project Description**

Technical Services received a request on March 7, 2013 to perform a Risk Management Review and AAQA for unit 10-4, a NG/Waste Gas steam generator.

**II. Analysis**

Toxic emissions for this proposed unit were calculated using 'Petroleum Steam Generators-Natural Gas & CVRG' emission factors. In accordance with the District's *Risk Management Policy for Permitting New and Modified Sources* (APR 1905, March 2, 2001), risks from the proposed unit's toxic emissions were prioritized using the procedure in the 1990 CAPCOA Facility Prioritization Guidelines and incorporated in the District's HEARTs database. The prioritization score for this proposed unit was less than 1 (see RMR Summary Table). Therefore, no further analysis was necessary.

The following parameters were used for the review:

Analysis Parameters Unit 10-4			
Source Type	Point	Location Type	Rural
Stack Height (m)	4.8	Closest Receptor (m)	15
Stack Diameter. (m)	0.61	Fuel Usage (MMBtu/hr)	22
Stack Exit Velocity (m/s)	11.48	Fuel Usage (MMBtu/yr)	192,720
Stack Exit Temp. (°K)	644	Fuel Type	NG/Waste Gas
Rain Cap/Pressure Plate	No	Exhaust Discharge	Vertical

**AAQA:**

Technical Services also performed modeling for criteria pollutants CO, NOx, Sox, PM<sub>10</sub>, and PM<sub>2.5</sub>; as well as the RMR. The emissions rates used for criteria pollutant modeling were:

Unit 10-4	NOx	Sox	CO	PM10	PM2.5
Lbs/hr	0.176	0.063	0.814	0.167	0.167
Lbs/yr	1542	549	7131	1465	1465

The results from the Criteria Pollutant Modeling are as follows:

**Criteria Pollutant Modeling Results\***

Steam Generator	1 Hour	3 Hours	8 Hours.	24 Hours	Annual
CO	Pass	X	Pass	X	X
NO <sub>x</sub>	Pass <sup>1</sup>	X	X	X	Pass
SO <sub>x</sub>	Pass <sup>2</sup>	Pass	X	Pass	Pass
PM <sub>10</sub>	X	X	X	Pass <sup>3</sup>	Pass <sup>3</sup>
PM <sub>2.5</sub>	X	X	X	Pass <sup>3</sup>	Pass <sup>3</sup>

\*Results were taken from the attached PSD spreadsheet.

<sup>1</sup>The project was compared to the 1-hour NO<sub>2</sub> National Ambient Air Quality Standard that became effective on April 12, 2010 using the District's approved procedures. The criteria pollutant 1-hour value passed using TIER I NO<sub>2</sub> NAAQS modeling

<sup>2</sup>The project was compared to the 1-hour SO<sub>2</sub> National Ambient Air Quality Standard that became effective on August 23, 2010 using the District's approved procedures.

<sup>3</sup>The maximum predicted concentration for emissions of these criteria pollutants from the proposed unit are below EPA's level of significance as found in 40 CFR Part 51.165 (b)(2).

**III. Conclusion**

The prioritization score is less than 1.0. In accordance with the District's Risk Management Policy, the project is approved without Toxic Best Available Control Technology (T-BACT).

The criteria modeling runs indicate the emissions from the project will not cause or significantly contribute to a violation of a State or National AAQS.

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.

**IV. Attachments**

- A. RMR request from the project engineer
- B. Toxic emissions summary
- C. Prioritization score
- D. Facility Summary
- E. AAQA



ATTACHMENT X  
Draft ATC

San Joaquin Valley  
Air Pollution Control District

**AUTHORITY TO CONSTRUCT**

ISSUANCE DATE: DRAFT  
**DRAFT**

PERMIT NO: S-6509-10-5

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

LOCATION: HEAVY OIL CENTRAL

SECTION: NW15 TOWNSHIP: 25S RANGE: 27E

EQUIPMENT DESCRIPTION:  
MODIFICATION OF 42,000 GAL. BOLTED, FIXED ROOF SHIPPING/STOCK TANK -- (QUINN LEASE): LOWER THROUGHPUT FROM 765 BBL/DAY TO 640 BBL/DAY

**CONDITIONS**

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 & 4623]
2. Throughput shall not exceed 640 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 Rules 2201 and 4623]
4. Permittee shall conduct true vapor pressure (TVP) testing of the organic liquid stored in this tank 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 4623]
5. 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 4623]
6. 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 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

**DAVID WARNER**, Director of Permit Services

S-6509-10-5; Jun 16 2013 2:08PM - EDGEHLR : Joint Inspection NOT Required

7. The TVP testing shall be conducted at actual storage temperature of the organic liquid in the tank. The permittee shall also conduct an API gravity testing. [District Rule 4623]
8. Instead of testing each uncontrolled fixed roof tank, the permittee may conduct a TVP test of the organic liquid stored in a representative tank provided the requirements of Sections 6.2.1.1.1 through 6.2.1.1.5 of Rule 4623 are met. [District Rule 4623]
9. 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 Rule 2201 and 4623]
10. 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 Rule 1070 and 4623]
11. ATC S-6509-10-4 shall be implemented prior to or concurrently with this ATC. [District Rule 2201]

DRAFT

San Joaquin Valley  
Air Pollution Control District

**AUTHORITY TO CONSTRUCT**

ISSUANCE DATE: DRAFT  
**DRAFT**

PERMIT NO: S-6509-30-1

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

LOCATION: HEAVY OIL CENTRAL

SECTION: v TOWNSHIP: v RANGE: v

**EQUIPMENT DESCRIPTION:**

MODIFICATION OF 22 MMBTU/HR GAS/TEOR GAS FIRED STEAM GENERATOR WITH A COEN QLN-II BURNER AND FGR AUTHORIZED TO OPERATE AT VARIOUS SPECIFIED LOCATIONS:ADD LOCATION SECTION 28, T29S, R29E

**CONDITIONS**

1. {3804} The permittee shall not emit more than one half of the major source threshold based on a rolling 12-month summary of actual emissions. [District Rule 2530, 6.1]
2. {3805} The permittee shall maintain a record of the rolling 12-month summary of actual emissions from permitted operations. This record shall be kept on site and made available to the District upon request. [District Rule 2530, 6.1]
3. This unit is authorized to operate in the following sections: Sections 9, 10 and 15 and 22 of T28S, R27E; Sections 19, 20 and 28 of T27S, R27E; Section 3 of T28S, R27E; Section 36 of T29S, R30E; Section 19 of T30S, R29E, and Section 28, T29S, R29E. [District Rule 4102]
4. Steam generator must be at least 50 feet from the property boundary. [District Rule 4102]
5. {1898} 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]
6. {4576} This unit shall be equipped with horizontal convection section with at least 235 square feet of bare tube surface area (or thermodynamically equivalent number of square feet of finned tube) per MMBtu/hr of heat input or a manufacturer's overall thermal efficiency rating of 88%. [Public Resources Code 21000-21177: California Environmental Quality Act]

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

**DAVID WARNER**, Director of Permit Services

9-6509-S0-1; Jun 26 2013 11:22AM - EDGEHILR : Joint Inspection NOT Required

7. {4577} This unit shall be equipped with variable frequency drive high efficiency electrical motors driving the air blower and water pump. Documentation showing this unit is so equipped shall be retained on site. [Public Resources Code 21000-21177: California Environmental Quality Act]
8. {4578} Documentation (manufacturer specification, District calculation, or other approved documentation) describing how this unit meets the California Environmental Quality Act (CEQA conditions listed on this permit) shall be retained on site. [Public Resources Code 21000-21177: California Environmental Quality Act]
9. Particulate matter emissions shall not exceed 0.1 grain/dscf at operating conditions, nor 0.1 grain/dscf calculated to 12% CO<sub>2</sub>, nor 10 lb/hr. [District Rules 4201, 4301, 5.1 and 5.2.3]
10. 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]
11. Emission rates shall not exceed any of the following: NO<sub>x</sub> (as NO<sub>x</sub>): 7 ppmvd @ 3% O<sub>2</sub> or 0.008 lb/MMBtu; SO<sub>x</sub>: 0.00285 lb/MMBtu; PM<sub>10</sub>: 0.0076 lb/MMBtu; CO: 50 ppmvd @ 3% O<sub>2</sub> or 0.0370 lb-CO/MMBtu; or VOC: 0.0055 lb/MMBtu. [District Rules 2201 and 4320]
12. Permittee shall maintain records of duration of each start-up and shutdown for a period of five years and make such records readily available for District inspection upon request. [District Rule 4320]
13. A source test to demonstrate compliance with NO<sub>x</sub> and CO emission limits shall be performed within 60 days of startup of this unit. [District Rules 2201 and 4320]
14. Source testing to measure natural gas-combustion NO<sub>x</sub> and CO emissions from this unit shall be conducted at least once every twelve (12) months (no more than 30 days before or after the required annual source test date). After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months (no more than 30 days before or after the required 36-month source test date). If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 2201, 4305, 4306 and 4320]
15. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081]
16. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 2201, 4305, 4306 and 4320]
17. The following test methods shall be used: NO<sub>x</sub> (ppmv) - EPA Method 7E or ARB Method 100, NO<sub>x</sub> (lb/MMBtu) - EPA Method 19; CO (ppmv) - EPA Method 10 or ARB Method 100; Stack gas oxygen (O<sub>2</sub>) - EPA Method 3 or 3A or ARB Method 100; stack gas velocities - EPA Method 2; Stack gas moisture content - EPA Method 4; SO<sub>x</sub> - EPA Method 6C or 8 or ARB Method 100; fuel gas sulfur as H<sub>2</sub>S content - EPA Method 11 or 15; and fuel hhv (MMBtu) - ASTM D 1826 or D 1945 in conjunction with ASTM D 3588. [District Rule 2201, 4305, 4306, 4320]
18. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 4306 and 4320]
19. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081]
20. The permittee shall monitor and record the stack concentration of NO<sub>x</sub>, CO, and O<sub>2</sub> at least once every month (in which a source test is not performed) using a portable analyzer that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305, 4306, and 4320]

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CONDITIONS CONTINUE ON NEXT PAGE

21. If the NO<sub>x</sub> or CO concentrations corrected to 3%, as measured by the portable analyzer, exceed the applicable emission limit, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. [District Rules 4102, 4305, 4306 and 4320]
22. All NO<sub>x</sub>, CO, and O<sub>2</sub> emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. The NO<sub>x</sub>, CO, and O<sub>2</sub> analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute sample period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive minute period. [District Rules 4102, 4305, 4306 and 4320]
23. The permittee shall maintain records of: (1) the date and time of NO<sub>x</sub>, CO and O<sub>2</sub> measurements, (2) the O<sub>2</sub> concentration in percent by volume and the measured NO<sub>x</sub> and CO concentrations corrected to 3% O<sub>2</sub>, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305, 4306 and 4320]
24. All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. Unless otherwise specified in the PTO, no determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0 of District Rule 4320. For the purposes of permittee-performed alternate monitoring, emissions measurements may be performed at any time after the unit reaches conditions representative of normal operation. [District Rules 4305, 4306 and 4320]
25. Shorter time periods for demonstration of compliance after startup or re-ignition may be approved by the APCO by submittal of appropriate technical justification upon implementation of this ATC. [District Rule 2201]
26. PUC quality natural gas is any gaseous fuel where the sulfur content is no more than one-fourth (0.25) grain of hydrogen sulfide per one hundred (100) standard cubic feet, no more than five (5) grains of total sulfur per one hundred (100) standard cubic feet, and at least 80% methane by volume. [District Rule 4320]
27. If the steam generator is not fired on PUC-regulated natural gas and compliance is achieved through fuel sulfur content limitations, then the sulfur content of the fuel shall be determined by testing sulfur content at a location after all fuel sources are combined prior to incineration, or by performing mass balance calculations based on monitoring the sulfur content and volume of each fuel source. The sulfur content of the fuel shall be determined using the test methods referenced in this permit. [District Rule 4320]
28. When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, permittee shall demonstrate compliance at least annually. [District Rule 4320]
29. If the unit is fired on PUC-regulated natural gas, valid purchase contracts, supplier certifications, tariff sheets, or transportation contracts may be used to satisfy the fuel sulfur content analysis, provided they establish the fuel sulfur concentration and higher heating value. [District Rule 4320]
30. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 4305, 4306 and 4320]
31. The permittee shall obtain written District approval for the use of any equivalent equipment not specifically approved by this ATC. Approval of the equivalent equipment shall be made in writing and only after the District's determination that the submitted design and performance of the proposed alternative equipment is equivalent to the authorized equipment. [District Rule 2010]
32. The permittee's request for approval of equivalent equipment shall include the make, model, manufacturer's maximum rating, manufacturer's guaranteed emissions rates, equipment drawing(s) and operational characteristics/parameters. [District Rule 2010]

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San Joaquin Valley  
Air Pollution Control District

**AUTHORITY TO CONSTRUCT**

ISSUANCE DATE: DRAFT  
**DRAFT**

PERMIT NO: S-6509-31-0

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:  
1500 BBL CRUDE OIL WASH TANK (COHN LEASE)

**CONDITIONS**

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]

CONDITIONS CONTINUE ON NEXT PAGE

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Seyed Sadredin, Executive Director APCO

**DRAFT**  
DAVID WARNER, Director of Permit Services

S-6509-31-0 : Jun 28 2013 11:23AM - EDGEHILR : Joint Inspection NOT Required

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 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]
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]
13. ATC S-6509-10-3 shall be implemented prior to or concurrently with this ATC. [District Rule 2201]

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San Joaquin Valley  
Air Pollution Control District

**AUTHORITY TO CONSTRUCT**

ISSUANCE DATE: DRAFT  
**DRAFT**

PERMIT NO: S-6509-32-0

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:  
1000 BBL CRUDE OIL STOCK TANK (COHN LEASE)

**CONDITIONS**

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]

CONDITIONS CONTINUE ON NEXT PAGE

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Seyed Sadredin, Executive Director APCO

**DRAFT**

DAVID WARNER, Director of Permit Services

6-6509-32-0 : Jun 28 2013 11:23AM - EDGEHILR : Joint Inspection NOT Required

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]
12. ATC S-6509-10-3 shall be implemented prior to or concurrently with this ATC. [District Rule 2201]

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