San Joaquin Valley
AIR POLLUTION CONTROL DISTRICT

HEALTHY AIR LIVING™

SEP 13 2017

Mr. John Haley
Aera Energy LLC
PO Box 11164
Bakersfield, CA 93311

Re: Proposed ATC / Certificate of Conformity (Significant Mod)
District Facility # S-1135
Project # 1171557

Dear Mr. Haley:

Enclosed for your review is the District's analysis of an application for Authorities to Construct for the facility identified above. You requested that Certificates of Conformity with the procedural requirements of 40 CFR Part 70 be issued with this project. The project authorizes modification to twelve (12) tanks and three (3) vessels.

After addressing all comments made during the 30-day public notice and the 45-day EPA comment periods, the District intends to issue the Authorities to Construct with Certificates of Conformity. Please submit your comments within the 30-day public comment period, as specified in the enclosed public notice. Prior to operating with modifications authorized by the Authorities to Construct, the facility must submit an application to modify the Title V permit as an administrative amendment, in accordance with District Rule 2520, Section 11.5.

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

Thank you for your cooperation in this matter.

Sincerely,

Arnaud Marjollet
Director of Permit Services

Enclosures

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

Seyed Sadredin
Executive Director/Air Pollution Control Officer

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

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

www.valleyair.org www.healthyairliving.com

Authority to Construct
Application Review

Facility Name: Aera Energy LLC

Date: September 5, 2017

Mailing Address: PO Box 11164
Bakersfield, CA 93389

Engineer: Richard Edgehill
Lead Engineer: Richard Karrs

Contact Person: John Haley

Telephone: (661) 665-7424

Applications #(s): S-1135-3-26, '-29-32, '-70-19, '-71-11, '-72-11, '-173-25, '-174-12, '-175-11, '-178-13, '-322-5, '-325-5, '-326-5, '-327-4, and '-337-5

Project: 1171557
Deemed Complete: June 29, 2017

I. Proposal

Aera Energy LLC (Aera) is applying for Authorities to Construct (ATCs) for several tanks/vessels to operate without vapor control for 360 hours per year (nonconsecutive hours), for maintenance and repair activities, process upsets, and equipment breakdowns. Additionally, Aera has requested that the VOC content of vapors from tanks '-322 and '-326 be reduced from 100% to 25% by weight.

The project results in a decrease in VOC emissions but is a Federal Major Modification. BACT, offsets, and public notice are required.

Aera facility S-1135 operates under a Title V PTO. The project is a Federal Major Modification and therefore it is classified as a Title V Significant Modification pursuant to Rule 2520, Section 3.20, and can be processed with a Certificate of Conformity (COC). Since the facility has specifically requested that this project be processed in that manner, the 45-day EPA comment period will be satisfied prior to the issuance of the Authority to Construct. Aera must apply to administratively amend their Title V Operating Permit to include the requirements of the ATC(s) issued with this project.

Current PTOs are included in **Attachment I**.

II. Applicable Rules

Rule 2201 New and Modified Stationary Source Review Rule (2/18/16)

Rule 2520 Federally Mandated Operating Permits (6/21/01)
Rule 2530 Federally Enforceable Potential to Emit
Rule 2410 Prevention of Significant Deterioration (Adopted 6/16/11, effective 11/26/12)
Rule 4001 New Source Performance Standards,

Subpart Kb (Amended 4/14/99) - Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) Is not applicable. This subpart does not apply to vessels with a design capacity ≤ 1,589.874 m^3 (≤ 420,000 gallons) used for petroleum or condensate stored, processed, or treated prior to custody transfer. The capacity of these tanks is ≤ 420,000 gallons, and they store crude oil prior to custody transfer; therefore, this subpart does not apply to the tanks in this project.

Subpart OOOO (Adopted 8/16/2012) - Standards of Performance for Crude Oil and Natural Gas Production, Transmission, and Distribution.

Rule 4101 Visible Emissions (04/20/05)
Rule 4102 Nuisance (12/17/92)
Rule 4623 Storage of Organic Liquids (05/19/05)
CH&SC 41700 Health Risk Assessment
CH&SC 42301.6 School Notice
Public Resources Code 21000-21177: California Environmental Quality Act (CEQA)
California Code of Regulations, Title 14, Division 6, Chapter 3, Sections 15000-15387: CEQA Guidelines

III. Project Location

The facility is located at Metson Dehydration (SW/4 Section 24, T11N, R23W) and W&S/Maxwell Dehydration (SW/4 Section 14, T31S, R22E) facilities in Aera's Heavy Oil Western Stationary Source. The facility is not located within 1,000 feet of the outer boundary of any K-12 school. Therefore, pursuant to CH&SC 42301.6, California Health and Safety Code (School Notice), public notification is not required.

IV. Process Description

The tanks and vessels at the tank battery receive production prior to custody transfer. VOC emissions from the tanks are currently controlled by a shared vapor control system in accordance with current permit conditions. The vapor control system collects vapors from the tanks and route uncondensed vapors to

a VOC control device that reduces inlet VOC emissions by at least 99% by weight.

Proposed Modifications

Area is requesting to disconnect of tanks/vessels from 2 vapor recovery systems for up to 360 hours per year (nonconsecutive hours) to allow for maintenance and repair activities, process upsets, and equipment breakdowns. These instances will range from isolating an individual tank/vessel from a vapor recovery system (e.g. repairing a tank) to allowing the vapor recovery system to be inoperable (e.g. performing electrical maintenance on vapor recovery skid). The affected equipment is located at the Metson Dehydration Facility (permits S-1135-3, -29, -70, -71, -72, -322, -326, and -327) and the W&S/Maxwell Dehydration Facility (permits S-1135-173, -174, -175, -178, -325, and -337).

Closed Casing Vent and Normal Operation of TEOR Wells

The subject Metson tanks and W&S/Maxwell tanks receive production from TEOR wells S-1135-17, S-1135-127, and/or -163. All three of the permits allow for operation with closed casing vents. The following condition will be included on the ATCs to ensure that the tank do not receive production from wells operate with closed casing vents:

Tank shall be connected to vapor control when receiving production from TEOR wells operated with closed casing vents. [District Rule 2201] N

V. Equipment Listing

METSON: Pre-Project Equipment Description:

S-1135-3-25: HEATER TREATER #1 SERVED BY VAPOR RECOVERY SYSTEM LISTED ON S-1135-70, AND PERMIT EXEMPT BURNER (NATURAL GAS-FIRED, 5.0 MMBTU/HR OR LESS) (METSON LEASE)

S-1135-29-31: HEATER TREATER (#2) SERVED BY VAPOR RECOVERY SYSTEM LISTED ON S-1135-70 AND PERMIT EXEMPT BURNER (NATURAL GAS-FIRED, 5.0 MMBTU/HR OR LESS) (METSON LEASE)

S-1135-70-18: 43,470 GALLON FIXED ROOF REJECT TANK T-110, WITH SHARED VAPOR RECOVERY SYSTEM - METSON LEASE TANK BATTERY

S-1135-71-10: 84,000 GALLON FIXED ROOF LACT TANK T-100 WITH VAPOR RECOVERY (LISTED ON S-1135-70) – METSON LEASE TANK BATTERY

S-1135-72-10: 5,000 BBL FIXED ROOF STANDBY TANK T-120, WITH VAPOR RECOVERY SYSTEM (LISTED ON S-1135-70) - METSON LEASE TANK BATTERY

S-1135-322-4: 3,000 BBL FIXED ROOF WASH TANK T-101, WITH VAPOR RECOVERY (LISTED IN S-1135-70) – METSON LEASE TANK BATTERY

S-1135-326-4: 3,000 BBL FIXED ROOF WASH TANK T-102, WITH VAPOR RECOVERY (LISTED IN S-1135-70) – METSON LEASE TANK BATTERY

S-1135-327-3: 905 BBL FWKO VESSEL (V-100) CONNECTED TO VAPOR RECOVERY SYSTEM LISTED ON S-1135-70

S-1135-337-4: 3,000 BBL (126,000 GALLON) FIXED ROOF STOCK TANK ID# WS-04, HANDLING MAXWELL LEASE PRODUCTION, CONNECTED TO VAPOR CONTROL SYSTEM LISTED ON S-1135-173 (W&S LEASE)

W&S/MAXWELL: Pre-Project Equipment Description:

S-1135-173-24: 1,600 BBL (67,200 GALLON) FIXED ROOF LACT TANK ID# WS-01, HANDLING MAXWELL LEASE PRODUCTION, AND VESSELS V-101, V-102, V-103, AND V-104; WITH VAPOR CONTROL SYSTEM SHARED WITH TANKS S-1135-174, -175, -178, -325, AND -337 (W&S LEASE) DISCHARGING TO TEOR WVVCS S-1135-125

S-1135-174-11: 2,000 BBL (84,000 GALLON) FIXED ROOF WASH TANK ID# WS-02, HANDLING MAXWELL LEASE PRODUCTION, CONNECTED TO VAPOR CONTROL SYSTEM LISTED ON S-1135-173 (W&S LEASE)

S-1135-175-10: 1,600 BBL (67,200 GALLON) FIXED ROOF LACT TANK ID# WS-03, HANDLING MAXWELL LEASE PRODUCTION, CONNECTED TO VAPOR CONTROL SYSTEM LISTED ON S-1135-173 (W&S LEASE)

S-1135-178-12: 3,000 BBL (126,000 GALLON) FIXED ROOF SUMP PROCESS TANK ID# WS-06, HANDLING MAXWELL LEASE PRODUCTION, CONNECTED TO VAPOR CONTROL SYSTEM LISTED ON S-1135-173 (W&S LEASE)

S-1135-325-4: 3,000 BBL FIXED ROOF CRUDE OIL STORAGE TANK, HANDLING MAXWELL LEASE PRODUCTION, SERVED BY VAPOR CONTROL SYSTEM LISTED ON S-1135-173 (W & S LEASE)

S-1135-337-4: 3,000 BBL (126,000 GALLON) FIXED ROOF STOCK TANK ID# WS-04, HANDLING MAXWELL LEASE PRODUCTION, CONNECTED TO VAPOR CONTROL SYSTEM LISTED ON S-1135-173 (W&S LEASE)

METSON: Proposed Modification:

S-1135-3-26: MODIFICATION OF HEATER TREATER #1 SERVED BY VAPOR RECOVERY SYSTEM LISTED ON S-1135-70, AND PERMIT EXEMPT BURNER (NATURAL GAS-FIRED, 5.0 MMBTU/HR OR LESS) (METSON LEASE): ADD PROVISION TO BE DISCONNECTED FROM VAPOR RECOVERY FOR UP TO 360 HR/YR, LOWER VOC CONTENT OF VAPORS TO 25%

S-1135-29- 32: MODIFICATION OF HEATER TREATER (#2) SERVED BY VAPOR RECOVERY SYSTEM LISTED ON S-1135-70 AND PERMIT EXEMPT BURNER (NATURAL GAS-FIRED, 5.0 MMBTU/HR OR LESS) (METSON LEASE) : ADD PROVISION TO BE DISCONNECTED FROM VAPOR RECOVERY FOR UP TO 360 HR/YR, LOWER VOC CONTENT OF VAPORS TO 25%

S-1135-70- 19: MODIFICATION OF 43,470 GALLON FIXED ROOF REJECT TANK T-110, WITH SHARED VAPOR RECOVERY SYSTEM - METSON LEASE TANK BATTERY: ADD PROVISION TO BE DISCONNECTED FROM VAPOR RECOVERY FOR UP TO 360 HR/YR, LOWER VOC CONTENT OF VAPORS TO 25%

S-1135-71- 11: MODIFICATION OF 84,000 GALLON FIXED ROOF LACT TANK T-100 WITH VAPOR RECOVERY (LISTED ON S-1135-70) – METSON LEASE TANK BATTERY: ADD PROVISION TO BE DISCONNECTED FROM VAPOR RECOVERY FOR UP TO 360 HR/YR, LOWER VOC CONTENT OF VAPORS TO 25%

S-1135-72- 11: MODIFICATION OF 5,000 BBL FIXED ROOF STANDBY TANK T-120, WITH VAPOR RECOVERY SYSTEM (LISTED ON S-1135-70) - METSON LEASE TANK BATTERY: ADD PROVISION TO BE DISCONNECTED FROM VAPOR RECOVERY FOR UP TO 360 HR/YR, LOWER VOC CONTENT OF VAPORS TO 25%

S-1135-322- 5: MODIFICATION OF 3,000 BBL FIXED ROOF WASH TANK T-101, WITH VAPOR RECOVERY (LISTED IN S-1135-70) – METSON LEASE TANK BATTERY: ADD PROVISION TO BE DISCONNECTED FROM VAPOR RECOVERY FOR UP TO 360 HR/YR, LOWER VOC CONTENT OF VAPORS TO 25%

S-1135-326- 5: MODIFICATION OF 3,000 BBL FIXED ROOF WASH TANK T-102, WITH VAPOR RECOVERY (LISTED IN S-1135-70) – METSON LEASE TANK BATTERY: ADD PROVISION TO BE DISCONNECTED FROM VAPOR RECOVERY FOR UP TO 360 HR/YR, LOWER VOC CONTENT OF VAPORS TO 25%

S-1135-327- 4: MODIFICATION OF 905 BBL FWKO VESSEL (V-100) CONNECTED TO VAPOR RECOVERY SYSTEM LISTED ON S-1135-70: ADD PROVISION TO BE DISCONNECTED FROM VAPOR RECOVERY FOR UP TO 360 HR/YR

W&S/MAXWELL: Proposed Modification:

S-1135-173- 25: MODIFICATION OF 1,600 BBL (67,200 GALLON) FIXED ROOF LACT TANK ID# WS-01, HANDLING MAXWELL LEASE PRODUCTION, AND VESSELS V-101, V-102, V-103, AND V-104; WITH VAPOR CONTROL SYSTEM SHARED WITH TANKS S-1135-174, -175, -178, -325, AND -337 (W&S LEASE) DISCHARGING TO TEOR WVVCS S-1135-125: ADD PROVISION TO BE DISCONNECTED FROM VAPOR RECOVERY FOR UP TO 360 HR/YR

S-1135-174- 12: MODIFICATION OF 2,000 BBL (84,000 GALLON) FIXED ROOF WASH TANK ID# WS-02, HANDLING MAXWELL LEASE PRODUCTION, CONNECTED TO VAPOR CONTROL SYSTEM LISTED ON S-1135-173 (W&S LEASE): ADD PROVISION TO BE DISCONNECTED FROM VAPOR RECOVERY FOR UP TO 360 HR/YR

S-1135-175- 11: MODIFICATION OF 1,600 BBL (67,200 GALLON) FIXED ROOF LACT TANK ID# WS-03, HANDLING MAXWELL LEASE PRODUCTION, CONNECTED TO VAPOR CONTROL SYSTEM LISTED ON S-1135-173 (W&S LEASE): ADD PROVISION TO BE DISCONNECTED FROM VAPOR RECOVERY FOR UP TO 360 HR/YR

S-1135-178- 13: MODIFICATION OF 3,000 BBL (126,000 GALLON) FIXED ROOF SUMP PROCESS TANK ID# WS-06, HANDLING MAXWELL LEASE PRODUCTION, CONNECTED TO VAPOR CONTROL SYSTEM LISTED ON S-1135-173 (W&S LEASE): ADD PROVISION TO BE DISCONNECTED FROM VAPOR RECOVERY FOR UP TO 360 HR/YR

S-1135-325- 5: MODIFICATION OF 3,000 BBL FIXED ROOF CRUDE OIL STORAGE TANK, HANDLING MAXWELL LEASE PRODUCTION, SERVED BY VAPOR CONTROL SYSTEM LISTED ON S-1135-173 (W & S LEASE): ADD PROVISION TO BE DISCONNECTED FROM VAPOR RECOVERY FOR UP TO 360 HR/YR

S-1135-337- 5: MODIFICATION OF 3,000 BBL (126,000 GALLON) FIXED ROOF STOCK TANK ID# WS-04, HANDLING MAXWELL LEASE PRODUCTION, CONNECTED TO VAPOR CONTROL SYSTEM LISTED ON S-1135-173 (W&S LEASE): ADD PROVISION TO BE DISCONNECTED FROM VAPOR RECOVERY FOR UP TO 360 HR/YR

METSON: Post Project Equipment Description:

S-1135-3- 26: HEATER TREATER #1 SERVED BY VAPOR RECOVERY SYSTEM LISTED ON S-1135-70, AND PERMIT EXEMPT BURNER (NATURAL GAS-FIRED, 5.0 MMBTU/HR OR LESS) (METSON LEASE)

S-1135-29- 32: HEATER TREATER (#2) SERVED BY VAPOR RECOVERY SYSTEM LISTED ON S-1135-70 AND PERMIT EXEMPT BURNER (NATURAL GAS-FIRED, 5.0 MMBTU/HR OR LESS) (METSON LEASE)

S-1135-70- 19: 43,470 GALLON FIXED ROOF REJECT TANK T-110, WITH SHARED VAPOR RECOVERY SYSTEM - METSON LEASE TANK BATTERY

S-1135-71- 11: 84,000 GALLON FIXED ROOF LACT TANK T-100 WITH VAPOR RECOVERY (LISTED ON S-1135-70) – METSON LEASE TANK BATTERY

S-1135-72- 11: 5,000 BBL FIXED ROOF STANDBY TANK T-120, WITH VAPOR RECOVERY SYSTEM (LISTED ON S-1135-70) - METSON LEASE TANK BATTERY

S-1135-322-5: 3,000 BBL FIXED ROOF WASH TANK T-101, WITH VAPOR RECOVERY (LISTED IN S-1135-70) – METSON LEASE TANK BATTERY

S-1135-326- 5: 3,000 BBL FIXED ROOF WASH TANK T-102, WITH VAPOR RECOVERY (LISTED IN S-1135-70) – METSON LEASE TANK BATTERY

S-1135-327- 4: 905 BBL FWKO VESSEL (V-100) CONNECTED TO VAPOR RECOVERY SYSTEM LISTED ON S-1135-70

W&S/MAXWELL: Post-Project Equipment Description:

S-1135-173- 25: 1,600 BBL (67,200 GALLON) FIXED ROOF LACT TANK ID# WS-01, HANDLING MAXWELL LEASE PRODUCTION, AND VESSELS V-101, V-102, V-103, AND V-104; WITH VAPOR CONTROL SYSTEM SHARED WITH TANKS S-1135-174, -175, -178, -325, AND -337 (W&S LEASE) DISCHARGING TO TEOR WVVCS S-1135-125

S-1135-174- 12: 2,000 BBL (84,000 GALLON) FIXED ROOF WASH TANK ID# WS-02, HANDLING MAXWELL LEASE PRODUCTION, CONNECTED TO VAPOR CONTROL SYSTEM LISTED ON S-1135-173 (W&S LEASE)

S-1135-175- 11: 1,600 BBL (67,200 GALLON) FIXED ROOF LACT TANK ID# WS-03, HANDLING MAXWELL LEASE PRODUCTION, CONNECTED TO VAPOR CONTROL SYSTEM LISTED ON S-1135-173 (W&S LEASE)

S-1135-178- 13: 3,000 BBL (126,000 GALLON) FIXED ROOF SUMP PROCESS TANK ID# WS-06, HANDLING MAXWELL LEASE PRODUCTION, CONNECTED TO VAPOR CONTROL SYSTEM LISTED ON S-1135-173 (W&S LEASE)

S-1135-325- 5: 3,000 BBL FIXED ROOF CRUDE OIL STORAGE TANK, HANDLING MAXWELL LEASE PRODUCTION, SERVED BY VAPOR CONTROL SYSTEM LISTED ON S-1135-173 (W & S LEASE)

S-1135-337- 5: 3,000 BBL (126,000 GALLON) FIXED ROOF STOCK TANK ID# WS-04, HANDLING MAXWELL LEASE PRODUCTION, CONNECTED TO VAPOR CONTROL SYSTEM LISTED ON S-1135-173 (W&S LEASE)

VI. Emission Control Technology Evaluation

During maintenance and/or repair of the tank vapor recovery system, emissions will be minimized by keeping the tanks near constant level and returning the system to normal operation as quickly as possible to control the potential VOC emissions.

VII. General Calculations

Assumptions

- Uncontrolled emissions (during vapor control system maintenance) from the tanks are used as the "new emissions" in the Federal Major Modification calculation. Annual emissions, calculated assuming 365 days/yr, are multiplied by the ratio 15 days (360 hrs)/365 days to obtain post-project emissions.
- No fugitive emissions are assigned to liquid service components processing heavy crude oil and/or produced water pursuant to District policy SSP-2015.
- During maintenance of the vapor control system, there are no working or flashing loss emissions of VOCs.
- Tank temperature, 180° F
- TVP, 0.5 psia
- For the Metson tanks the Pre-project fugitive emissions from Metson tanks ('-3, '-29, '-70, '-71, '-72, and '-327) were not previously quantified and therefore were established in this project. The VOC content of the tank vapors was assumed to be 25% which is supported by laboratory data (**Attachment II**). Pre-project fugitive emissions from Metson tanks '-322 and '-326 were obtained from the current permit limit (DEL = 3.0 lb/day) which was based on 100% VOCs in the gas. Post-project DELs for Metson tanks '-322 and '-326 are 0.25 x pre-project DELs (0.25 x 3.0 lb/day) to reflect a VOC content of 25% by weight.

- When the tanks are disconnected from the vapor recovery system, they will operate at near constant level, so working losses are assumed to be negligible.
- When using the District's tank calculation spreadsheet, flashing losses are assumed to be negligible i.e. the tanks do not receive production for TEOR wells operating with closed casing vents.
- The tanks/vessels will be disconnected from the vapor recovery system up to a maximum of 24 hr/day and 360 hr/yr.
- Vapor space component counts do not change with the project. No change in fugitive VOC emissions with removal of the vapor control system for ≤ 360 hrs/yr is assumed.

B. Emission Factors

- For Metson, the emission factors from EPA's Protocol for Equipment Leak Emission Estimates, 2-4, Oil and Gas Production Operations Average Emission Factors were applied.
- For Maxwell, the emissions are stated as the DELs on the current PTOs calculated by applying emission factors from CAPCOA's "California Implementation Guidelines for Estimating Mass Emissions of Fugitive Hydrocarbon Leaks at Petroleum Facilities," Table IV-2c (Feb 1999) Screening Range Emission Factors.
- Component counts and emissions are included in **Attachment III**.

C. Calculations

1. Pre-Project Potential to Emit (PE1)

Pursuant to Rule 2201, Section 3.27, the Potential to Emit (PE) is the maximum capacity of an emissions unit to emit a pollutant under its physical and operation design, or it can be any physical or operation limitation on the capacity of the source to emit a pollutant represented by enforceable permit condition(s). The pre-project potentials to emit represent the fugitive VOC emissions from the vapor-phase components that are in service. The pre-project potentials to emit are identified below.

Pre-Project Potentials to Emit

Permit	VOC PE1 [lb/day]	VOC PE1 [lb/yr]	Comments
Metson Dehy			
S-1135-3	1.8	662	See **Attachment II** for component counts and calculations
S-1135-29	1.8	662	See **Attachment II** for component counts and calculations
S-1135-70	22.8	8,337	Current limit of 0.8 lb/day is not correct, see **Attachment II** for new calculations
S-1135-71	0.8	275	See **Attachment II** for component counts and calculations
S-1135-72	0.7	251	See **Attachment II** for component counts and calculations
S-1135-322	3.0	1,095	S-1135-322-4, Condition 1
S-1135-326	3.0	1,095	S-1135-326-4, Condition 1
S-1135-327	1.9	706	See **Attachment II** for component counts and calculations
Total		13,083	
W&S/Maxwell			
S-1135-173	2.8	1,022	S-1135-173-24, Condition 4
S-1135-174	0.1	37	S-1135-174-11, Condition 1
S-1135-175	0.1	37	S-1135-175-10, Condition 1
33S-1135-178	0.1	37	S-1135-178-12, Condition 1
S-1135-325	0.47	172	S-1135-325-4, Condition 1
S-1135-337	0.2	73	S-1135-337-4, Condition 1
Total		1,378	

PE1		
Permit	**Daily Emissions (lb/day)**	**Annual Emissions (lb/year)**
S-1135-3	1.8	662
S-1135-29	1.8	662
S-1135-70	22.8	8,337
S-1135-71	0.8	275
S-1135-72	0.7	251
S-1135-173	2.8	1,022
S-1135-174	0.1	37
S-1135-175	0.1	37
S-1135-178	0.1	37
S-1135-322	3.0	1,095
S-1135-325	0.5	172
S-1135-326	3.0	1,095
S-1135-327	1.9	706
S-1135-337	0.2	73
Total		14,461

2. Post Project Potential to Emit (PE2)

Post-Project Potentials to Emit

Permit	Fugitive Component Emissions		Fixed Roof Tank Emissions	
	VOC PE2 [lb/day]	VOC PE2 [lb/yr]	VOC PE2 [lb/day]	VOC PE2 [lb/yr]
Metson Dehy				
S-1135-3	1.8	662	3.3	50
S-1135-29	1.8	662	3.0	45
S-1135-70	22.8	8,337	3.0	45
S-1135-71	0.8	275	5.9	89
S-1135-72	0.7	251	14.9	224
S-1135-322	0.25 x 3.0 = 0.8	0.25 x 1,095 = 274	8.8	132
S-1135-326	0.25 x 3.0 = 0.8	0.25 x 1,095 = 274	8.8	132
S-1135-327	1.9	706	4.0	60
Total		11,040		777 (non-fugitive emissions)
W&S/Maxwell				
S-1135-173	2.8	1,022	4.7	71
S-1135-174	0.1	37	6.0	90
S-1135-175	0.1	37	4.7	71
S-1135-178	0.1	37	7.1	106
S-1135-325	0.47	172	10.0	150
S-1135-337	0.2	73	8.8	132
Total non-fugitive Emissions		1,378		620 (non-fugitive emissions)

PE2		
Permit	**Daily Emissions (lb/day)**	**Annual Emissions (lb/year)**
S-1135-3	1.8 + 3.3 = 5.1	662 + 50 = 712
S-1135-29	4.8	707
S-1135-70	25.8	8,382
S-1135-71	6.7	364
S-1135-72	15.6	475
S-1135-173	7.5	1,093
S-1135-174	6.1	127
S-1135-175	4.8	108
S-1135-178	7.2	143
S-1135-322	9.6	406
S-1135-325	10.5	322
S-1135-326	9.6	406
S-1135-327	5.9	766
S-1135-337	9.0	205
Total		14,216

Emissions profiles are included in **Attachment IV**.

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

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

Facility emissions are already above the offset and Major Source thresholds for VOC emissions. Therefore, calculation of SSPE1 emissions are not necessary.

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

Pursuant to District Rule 2201, the SSPE2 is the Potential to Emit (PE) from all units with valid Authorities to Construct (ATC) or Permits to Operate (PTO) at the Stationary Source and the quantity of Emission Reduction Credits (ERC) which have been banked since September 19, 1991 for Actual Emissions Reductions (AER) that have occurred at the source, and which have not been used on-site.

Facility emissions are already above the offset and Major Source thresholds for VOC emissions. Therefore, calculation of SSPE2 emissions are not necessary.

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

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

6. Baseline Emissions (BE)

The BE calculation (in lb/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.

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 efficient 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."

The subject emission units are equipped with a vapor control system which is a least 95% effective. Therefore, Baseline Emissions (BE) are equal to the Pre-Project Potential to Emit (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." A stationary source is defined as, "all of the pollutant-emitting activities which belong to the same industrial grouping, are located on one or more contiguous or adjacent properties, and are under the control of the same person (or persons under common control)."

The Metson and Maxwell facilities are not located on contiguous nor adjacent properties, and, therefore, are different stationary sources under 40 CFR Part 51.165. The post-project VOC emissions assigned to each facility are compared to the SB288 Major Modification Thresholds in the following table to determine if the SB288 Major Modification calculations are required.

SB288 Major Modification Thresholds

Facility	Project PE2* [lb/yr]	Threshold [lb/yr]	SB288 Major Modification Calculation Required?
Metson	777	50,000	No
W&S/Maxwell	620	50,000	No

*non-fugitive emissions during tank maintenance

8. Federal Major Modification

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

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

As stated earlier in the assumptions section, uncontrolled emissions (during vapor control system maintenance) from the tanks are used as the "new emissions." For new emissions units, the increase in emissions is equal to the PE2 for each new unit included in this project.

The project's combined total emission increases are compared to the Federal Major Modification Thresholds in the following table.

Federal Major Modification Thresholds for Emission Increases			
Pollutant	**Total Emissions Increases (lb/yr)**	**Thresholds (lb/yr)**	**Federal Major Modification?**
NO_x	0	0	No
VOC	777 + 620- = 1,397	0	Yes
PM_{10}	0	30,000	No
SOx	0	80,000	No

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

Federal Offset Quantities:

The Federal offset quantity is only calculated only for the pollutants for which the project is a Federal Major Modification. The Federal offset quantity is the sum of the annual emission changes for all new and modified emission units in a project calculated as the potential to emit after the modification (PE2) minus the actual emissions (AE) during the baseline period for each emission unit times the applicable federal offset ratio. There are no special calculations performed for units covered by an SLC.

VOC		Federal Offset Ratio	1.5
Permit No.	**Non-Fugitive Actual Emissions (lb/year)**	**Non-Fugitive Potential Emissions (lb/year)**	**Emissions Change (lb/yr)**
Metson Tanks			
	0	50	50
	0	45	45
	0	45	45
	0	89	89
	0	224	224
	0	132	132
	0	132	132
	0	60	60
Maxwell Tanks			
	0	71	71
	0	90	90
	0	71	71
	0	106	106
	0	150	150
	0	132	132
		Net Emission Change (lb/year):	**1,397**
		Federal Offset Quantity: (NEC * 1.5)	**2,096**

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

Rule 2410 applies to any pollutant regulated under the Clean Air Act, except those for which the District has been classified nonattainment. As stated above, this project only affects VOC emissions which does not require a PSD evaluation.

10. Quarterly Net Emissions Change (QNEC)

The QNEC is calculated to establish emissions that are used to complete the District's PAS emissions profile screen. The QNEC shall be calculated as follows:

QNEC = PE2 - PE1, where:

QNEC = Quarterly Net Emissions Change for each emissions unit, lb/qtr.

PE2 = Post Project Potential to Emit for each emissions unit, lb/qtr.
PE1 = Pre-Project Potential to Emit for each emissions unit, lb/qtr.

Using the values in Sections VII.C.2 and VII.C.6 in the evaluation above, quarterly PE2 and quarterly PE1 are shown below.

	PE1 (lb/yr)	PE2 (lb/yr)	VOC Emissions Increase (lb/yr)	VOC QNEC (lb/qtr)
S-1135-3	662	712	50	12.5
S-1135-29	662	707	45	11.25
S-1135-70	8,337	8,382	45	11.25
S-1135-71	275	364	89	22.25
S-1135-72	251	475	224	56
S-1135-173	1,022	1,093	71	17.75
S-1135-174	37	127	90	22.5
S-1135-175	37	108	71	17.75
S-1135-178	37	143	106	26.5
S-1135-322	1,095	406	-689	-172.25
S-1135-325	172	322	150	37.5
S-1135-326	1,095	406	-689	-172.25
S-1135-327	706	766	60	15
S-1135-337	73	205	132	33
Total			-245	

VIII. Compliance Determination

Rule 2201 New and Modified Stationary Source Review Rule

A. Best Available Control Technology (BACT)

1. BACT Applicability

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

a. Any new emissions unit with a potential to emit exceeding two pounds per day,
b. The relocation from one Stationary Source to another of an existing emissions unit with a potential to emit exceeding two pounds per day,
c. Modifications to an existing emissions unit with a valid Permit to Operate resulting in an AIPE exceeding two pounds per day, and/or

d. Any new or modified emissions unit, in a stationary source project, which results in an SB 288 Major Modification or a Federal Major Modification, as defined by the rule.

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

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

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

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

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

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

AIPE = PE2 – HAPE

Where,

AIPE = Adjusted Increase in Permitted Emissions, (lb/day)
PE2 = Post-Project Potential to Emit, (lb/day)
HAPE = Historically Adjusted Potential to Emit, (lb/day)
HAPE = PE1 x (EF2/EF1)

Where,

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

AIPE = PE2 – (PE1 * (EF2 / EF1))

Adjusted Increase in Permitted Emissions (AIPE)

EF1 = 0.05, 95% vapor control

EF2 = 0.9, relief valve

EF2/EF1 = 0.06

AIPE = PE2 – 0.06 PE1 (<PE1)

PE2			
Permit	**PE1 (lb/day)**	**PE2 (lb/day)**	**AIPE (lb/day)**
S-1135-3	1.8	5.1	>3.3
S-1135-29	1.8	4.8	>3.0
S-1135-70	22.8	25.8	>3.0
S-1135-71	0.8	6.7	>5.9
S-1135-72	0.7	15.6	>14.9
S-1135-173	2.8	7.5	>4.7
S-1135-174	0.1	6.1	>6.0
S-1135-175	0.1	4.8	>4.7
S-1135-178	0.1	7.2	>7.1
S-1135-322	3.0	9.6	>6.6
S-1135-325	0.5	10.5	>10.0
S-1135-326	3.0	9.6	>6.6
S-1135-327	1.9	5.9	>4.0
S-1135-337	0.2	9.0	>8.8

BACT is triggered for all permit units for modification purposes.

d. SB 288/Federal Major Modification

As discussed in Sections VII.C.7 and VII.C.8 above, this project does constitute an SB 288 and/or Federal Major Modification for VOC emissions. Therefore BACT is triggered for VOCs for all emissions units in the project for which there is an emission increase.

2. BACT Guideline

There is not an existing BACT Guideline for disconnection of tank and TEOR vapor control systems for maintenance and repair activities, process upsets, and equipment breakdowns which is considered a highly unusual (nonroutine) activity. The project specific BACT analysis approved for projects S-1128, 1142757 and C-311, 1161067, which was similar to this project will be used.

3. Top-Down BACT Analysis

Pursuant to the attached Top-Down BACT Analysis (see **Attachment V**), BACT has been satisfied with the following:
S-1135-3-26, '-29-32, '-70-19, '-71-11, '-72-11, '-173-25, '-174-12, '-175-11, '-178-13, '-322-5, '-325-5, '-326-5, '-327-4, and '-337-5

VOC: Work practices to minimize VOC emissions including:

- Near constant level tank operation
- Use of operational P/V valve where possible
- Work completed expeditiously with pre-staging of equipment and material and pre-fabrication of parts
- Minimization of tank openings and liquid drainage from disconnects
- Inspection, monitoring, and repair if necessary of fugitive emissions components at job site within 30 days of completion of work.

B. Offsets

Offset requirements are triggered if the SSPE2 (calculated above) equals or exceeds the Offset Threshold levels outlined in Rule 2201.

1. Offset Applicability

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

The facility is over the VOC offset threshold, therefore the quantity of offsets required will be calculated in the following section.

2. Quantity of Offsets Required

As seen above, the facility is an existing Major Source for VOC and the SSPE2 is greater than the offset thresholds. Therefore, offset calculations will be required for this project.

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

Offsets Required (lb/year) = $(\Sigma[PE2 - BE] + ICCE) \times DOR$, for all new or modified emissions units in the project,

Where,

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

BE = PE1 for:

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

otherwise,

BE = HAE

As calculated in Section VII.C.6 above, the BE from this unit are equal to the PE1 since the unit is a Clean Emissions Unit. As $\Sigma[PE2 - BE] < 0$ i.e there is a reduction in permitted emissions, offsets will not be required for the project.

C. Public Notification

1. Applicability

Public noticing is required for:

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

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

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

As demonstrated in Sections VII.C.7 and VII.C.8, this project is a Federal Major Modification. Therefore, public noticing for SB 288 or Federal Major Modification purposes is required.

b. PE > 100 lb/day

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

c. Offset Threshold

Public notification is required if the SSPE is increased from a level below the offset threshold to a level exceeding the emissions offset threshold, for any pollutant. The applicant is already over the offset thresholds for VOCs (the only affected pollutant). Therefore, no thresholds were surpassed with this project and public noticing for offset purposes is not required.

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. As shown above Σ[PE2 – PE1] < 0 and therefore SSPE2 < SSPE2 or SSIPE < 0.

Therefore, public noticing for SSIPE purposes is not required.

e. Title V Significant Permit Modification

As shown in the Discussion of Rule 2520 below, this project constitutes a Title V significant modification. Therefore, public noticing for Title V significant modifications is required for this project.

2. Public Notice Action

As discussed above, public noticing is required for this project for Federal Major Modification purposes. 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. Below are examples of conditions to be added to the permits to enforce the DELs.

- *Fugitive VOC emissions from the components in gas service on the vessel calculated using EPA's Protocol for Equipment Leak Emission Estimates, Table 2-4, Oil and Gas Production Operations Average Emission Factors, shall not exceed 1.8 lb/day.*

- *VOC content of hydrocarbons (VOC/THC) in collected vapors shall not exceed 25% by weight. VOC content of THC in collected vapors shall be sampled annually.*

- *Tank shall not be required to be served by vapor control system during vapor recovery system (tanks to disposal devices, inclusive) maintenance/repairs/upset conditions for up to 360 hours per year. Approved breakdowns and relief periods granted by variance and supported by the District shall not be included in this limit.*

- *During temporary periods of maintenance/repair/upsets covered by this permit, operator shall use work practices to minimize VOC emissions including: near constant level tank operation, use of operational P/V valve where possible, work completed expeditiously with pre-staging of equipment and material and pre-fabrication of parts, minimization of tank openings and liquid drainage from disconnects, storage of coatings, adhesives, sealants, and organic solvents in closed containers, inspection, monitoring, and repair if necessary of fugitive emissions components at job site within 30 days of completion of work.*

E. Compliance Assurance

1. Source Testing

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

2. Monitoring

No monitoring is required to demonstrate compliance with Rule 2201.

3. Recordkeeping

Recordkeeping is required to demonstrate compliance with the offset, public notification and daily emission limit requirements of Rule 2201. A condition addressing this requirement is included on the S-1135 facility-wide permit.

4. Reporting

No reporting is required to demonstrate compliance with Rule 2201.

F. Ambient Air Quality Analysis (AAQA)

An AAQA is conducted by the Technical Services group, for any project which has an increase in emissions and triggers public notification requirements. However, this project only includes VOC emissions which have no AAQA standard. Therefore, an 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 Federal 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, this facility is a major source and this project does constitute a Federal Major Modification, therefore this requirement is applicable. Aera Energy LLC's compliance certification is included in **Attachment VI**.

H. Alternate Siting Analysis

The current project occurs at an existing facility. The applicant is not proposing to install any new equipment. Therefore, no alternative siting analysis is required.

Rule 2520 Federally Mandated Operating Permits

This facility is subject to this Rule, and has received their Title V Operating Permit. Section 3.29 defines a significant permit modification as a "permit amendment that does not qualify as a minor permit modification or administrative amendment."

The project is Federal Major Modification and therefore is also a Title V Significant Modification. As discussed above, the facility has applied for a Certificate of Conformity (COC); therefore, the facility must apply to modify their Title V permit with an administrative amendment, prior to operating with the proposed modifications. Continued compliance with this rule is expected. The Title V Compliance Certification form is included in **Attachment VI**.

Rule 4001 New Source Performance Standards (NSPS)

This rule incorporates the New Source Performance Standards from 40 CFR Part 60. 40 CFR Part 60, Subparts, K, Ka, Kb, and OOOO could potentially apply to the tanks included in this project.

40 CFR Part 60, Subpart K is applicable to storage vessels whose construction, reconstruction, or modification commenced after June 11, 1973 and prior to May 19, 1978. As CUSA is proposing the modification of storage vessels/tanks post 1978, this subpart is not applicable.

40 CFR Part 60, Subpart Ka is applicable to storage vessels whose construction, reconstruction, or modification commenced after May 18, 1978, and prior to July 23, 1984. As CUSA is proposing the modification of storage vessels/tanks post 1984, this subpart is not applicable.

40 CFR Part 60, Subpart Kb is applicable to storage vessels whose construction, reconstruction, or modification commenced after July 23, 1984. As CUSA is proposing the modification of a storage vessel post 1984, this subpart could be applicable. However, as the proposed storage vessels will store liquid with a tvp less than 3.5 kilopascals (kPa), or 0.5 psia, the units are exempt from the requirements of 40 CFR Part 60, Subpart Kb pursuant to Section 60.11b (b).

40 CFR Part 60, Subpart OOOO is applicable to storage vessels located in the oil and natural gas production segment which have commenced construction, modification, or reconstruction after August 23, 2011 and have emissions equal to or greater than 6 tpy. As CUSA is proposing the modification of this storage vessel post 2011, this subpart could be applicable. However, as the units' emissions are expected to be less than 6 tpy, the requirements of 40 CFR Part 60, Subpart OOOO are not applicable pursuant to Section 60.5395.

Rule 4102 Nuisance

Rule 4101 prohibits discharge of air contaminants that could cause injury, detriment, nuisance or annoyance to the public. Public nuisance conditions are not expected as a result of these operations. Therefore, compliance with this rule is expected.

California Health and 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. The information necessary to analyze any potential health risks from this project are provided in **Attachment VII**.

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 one. According to the Technical Services Memo for this project (**Attachment VII**), the total facility prioritization score including this project was greater than one. Therefore, an HRA was required to determine the short-term acute and long-term chronic exposure from this project.

The cancer risk for this project is shown below:

HRA Summary		
Unit	**Cancer Risk**	**T-BACT Required**
S-1135-3-26, '-29-32, '-70-19, '-71-11, '-72-11, '-173-25, '-174-12, '-175-11, '-178-13, '-322-5, '-325-5, '-326-5, '-327-4, and '-337-5	0.0024 per million	No

Discussion of T-BACT

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

Rule 4623 Storage of Organic Liquids

This rule limits VOC emissions from the storage of organic liquids with true vapor pressures greater than 1.5 psia. Pursuant to Section 4.1 of Rule 4623 pressure vessels are exempt from the requirements of the Rule. The existing pressure vessels are maintained above atmospheric pressure and would be considered exempt from Rule 4623.

Section 4.4 of Rule 4623 exempts tanks storing organic liquids with a vapor pressure less than 0.5 psia from all requirements of the rule except for vapor pressure sampling. The tanks currently store fluids with a vapor pressure less than 0.5 psia and a permit condition will be added to enforce such a requirement. Continued compliance is expected.

California Health & Safety Code 42301.6 (GHG Emissions From Oil and Gas Facilities)

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.

17 CCR § 95665 - 95677 (School Notice)

The Air Resources Board recently adopted regulations to lower greenhouse gas emissions from oil and gas production facilities in California. The requirements for vapor recovery systems serving tank batteries are specified in Section 95671. This regulation allows for 30 calendar days of maintenance on the vapor control system. The applicant is requesting the equivalent of 15 days of maintenance which is significantly less than the ARB regulation.

California Environmental Quality Act (CEQA)

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

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

Greenhouse Gas (GHG) Significance Determination

District is a Responsible Agency

Oil and gas operations in Kern County must comply with the *Kern County Zoning Ordinance – 2015 (C) Focused on Oil and Gas Local Permitting*. In 2015, Kern County revised the Kern County Zoning Ordinance Focused on Oil and Gas Activities (Kern Oil and Gas Zoning Ordinance) in regards to future oil and gas exploration, and drilling and production of hydrocarbon resource projects occurring within Kern County.

Kern County served as lead agency for the revision to their ordinance under the California Environmental Quality Act (CEQA), and prepared an Environmental Impact Report (EIR) that was certified on November 9, 2015. The EIR evaluated and disclosed to the public the environmental impacts associated with the growth of oil and gas exploration in Kern County, and determined that such growth will result in significant GHG impacts in the San Joaquin Valley. As such, the EIR included mitigation measures for GHG.

The District is a Responsible Agency for the project because of its discretionary approval power over the project via its Permits Rule (Rule 2010) and New Source Review Rule (Rule 2201), (CEQA Guidelines §15381). As a Responsible Agency, the District is limited to mitigating or avoiding impacts for which it has statutory authority. The District does not have statutory authority for regulating GHGs. The District has determined that the applicant is responsible for implementing GHG mitigation measures imposed in the EIR by the Kern County for the Kern County Zoning Ordinance.

District CEQA Findings

The proposed project is located in Kern County and is thus subject to the *Kern County Zoning Ordinance – 2015 (C) Focused on Oil and Gas Local Permitting.* The *Kern County Zoning Ordinance* was developed by the Kern County Planning Agency as a comprehensive set of goals, objectives, policies, and standards to guide development, expansion, and operation of oil and gas exploration within Kern County.

In 2015, Kern County revised their *Kern County Zoning Ordinance* in regards to exploration, drilling and production of hydrocarbon resources projects. Kern County served as lead agency for the revision to their ordinance under the California Environmental Quality Act (CEQA), and prepared an Environmental Impact Report (EIR) that was certified on November 9, 2015. The revised Kern County Zoning Ordinance establishes a written process (Conformity Review permit process or Minor Activity permit) by which oil and gas exploration projects involving site-specific operations can be evaluated to determine whether the environmental effects of the operation were covered in the *Kern County Zoning Ordinance* EIR.

For stationary source emissions that are below the offset threshold, i.e. not required to surrender ERCs, and for non-stationary source emissions, Kern County entered into an Oil and Gas Emission Reduction Agreement (Oil and Gas ERA) with the District pursuant to the EIR. Per the Oil and Gas ERA, the applicant shall fully mitigate project emissions that are not required to be offset by District permit rules and regulations. Such mitigation can be achieved through any of the three options: (1) the applicants pay an air quality mitigation fee with each Oil and Gas Conformity Review permit issued by the Kern County, (2) the applicants may develop and propose to implement their own emission reduction projects instead of paying all or part of the mitigation fee, or (3) the applicants will be allowed to enter into an agreement directly with the District (if approved by Kern County) to develop an alternative fee schedule.

Kern County, as the lead agency, is the agency that will enforce the mitigation measures identified the EIR, including the mitigation requirements of the Oil and Gas ERA. As a responsible agency the District complies with CEQA by

considering the EIR prepared by the Lead Agency, and by reaching its own conclusion on whether and how to approve the project involved (CCR §15096). The District has reviewed the EIR prepared by Kern County, the Lead Agency for the project, and finds it to be adequate. To reduce project related impacts on air quality, the District evaluates emission controls for the project such as Best Available Control Technology (BACT) under District Rule 2201 (New and Modified Stationary Source Review). In addition, the District is requiring the applicant to surrender emission reduction credits (ERC) for stationary source emissions above the offset threshold.
Thus, the District concludes that through a combination of project design elements, permit conditions, and the Oil and Gas ERA, the project will be fully mitigated to result in no net increase in emissions. Pursuant to CCR §15096, prior to project approval and issuance of ATCs the District prepared findings.

Indemnification Agreement/Letter of Credit Determination

According to District Policy APR 2010 (CEQA Implementation Policy), when the District is the Lead or Responsible Agency for CEQA purposes, an indemnification agreement and/or a letter of credit may be required. The decision to require an indemnity agreement and/or a letter of credit is based on a case-by-case analysis of a particular project's potential for litigation risk, which in turn may be based on a project's potential to generate public concern, its potential for significant impacts, and the project proponent's ability to pay for the costs of litigation without a letter of credit, among other factors.

The revision to the *Kern County Zoning Ordinance* went through an extensive public process that included a Notice of Preparation, a preparation of an EIR, scoping meetings, and public hearings. The process led to the certification of the final EIR and approval of the revised *Kern County Zoning Ordinance* in November 2015 by the Kern County Board of Supervisors. As mentioned above, the proposed project will be fully mitigated and will result in no net increase in emissions. In addition, the proposed project is not located at a facility of concern; therefore, an Indemnification Agreement and/or a Letter of Credit will not be required for this project in the absence of expressed public concern.

IX. Recommendation

Compliance with all applicable rules and regulations is expected. Issue ATCs S-1135-3-26, '-29-32, '-70-19, '-71-11, '-72-11, '-173-25, '-174-12, '-175-11, '-178-13, '-322-5, '-325-5, '-326-5, '-327-4, and '-337-5 subject to the permit conditions on the attached draft PTO in **Attachment VIII**.

X. Billing Information

Annual Permit Fees			
Permit Number	Fee Schedule	Fee Description	Annual Fee
S-1135-3	3020-05-C	49,000 gallons	$149.00
S-1135-29	3020-05-C	25,000 gallons	$149.00
S-1135-70	3020-05-C	43,470 gallons	$149.00
S-1135-71	3020-05-D	84,000 gallons	$203.00
S-1135-72	3020-05-E	210,000 gallons	$270.00
S-1135-173	3020-05-D	67,200 gallons	$203.00
S-1135-174	3020-05-D	84,000 gallons	$203.00
S-1135-175	3020-05-D	67,200 gallons	$203.00
S-1135-178	3020-05-E	270,000 gallons	$270.00
S-1135-322	3020-05-E	126,000 gallons	$270.00
S-1135-325	3020-05-E	126,000 gallons	$270.00
S-1135-326	3020-05-E	126,000 gallons	$270.00
S-1135-327	3020-05-C	38,010 gallons	$149.00
S-1135-337	3020-05-E	126,000 gallons	$270.00

Attachments

I: Current PTOs
II: Laboratory Analysis
III: Tank Emissions Calculations
IV: Emissions Profiles
V: BACT Analysis
VI: Title V Compliance Certification Form and Statewide Compliance Statement
VII: HRA
VIII: Draft ATC

ATTACHMENT I
Current PTOs

San Joaquin Valley
Air Pollution Control District

PERMIT UNIT: S-1135-3-25 **EXPIRATION DATE:** 05/31/2021

SECTION: 24 **TOWNSHIP:** 11N **RANGE:** 23W

EQUIPMENT DESCRIPTION:
HEATER TREATER #1 SERVED BY VAPOR RECOVERY SYSTEM LISTED ON S-1135-70, AND PERMIT EXEMPT BURNER (NATURAL GAS-FIRED, 5.0 MMBTU/HR OR LESS) (METSON LEASE)

PERMIT UNIT REQUIREMENTS

1. All equipment shall be maintained in good operating condition and shall be operated in a manner to minimize emissions of air contaminants into the atmosphere. [District Rule 2201] Federally Enforceable Through Title V Permit
2. Heater treater and appurtenances shall be maintained leak-free (as defined in Rule 4623) except during periods of unit maintenance or cleaning, vapor control system maintenance, and power curtailment. [District Rule 2520] Federally Enforceable Through Title V Permit
3. This unit is subject to the Metson Dehy Inspection Conditions on Permit S-1135-70. Deviations from a standard condition shall be reported under the applicable condition in S-1135-70. [District Rule 2520] Federally Enforceable Through Title V Permit

San Joaquin Valley
Air Pollution Control District

PERMIT UNIT: S-1135-29-31 **EXPIRATION DATE:** 05/31/2021

SECTION: 24 **TOWNSHIP:** 11N **RANGE:** 23W

EQUIPMENT DESCRIPTION:
HEATER TREATER (#2) SERVED BY VAPOR RECOVERY SYSTEM LISTED ON S-1135-70 AND PERMIT EXEMPT BURNER (NATURAL GAS-FIRED, 5.0 MMBTU/HR OR LESS) (METSON LEASE)

PERMIT UNIT REQUIREMENTS

1. Heater treater and appurtenances shall be maintained leak-free (as defined in Rule 4623) except during periods of unit maintenance or cleaning, vapor control system maintenance, and power curtailment. [District Rule 2520] Federally Enforceable Through Title V Permit
2. This unit is subject to the Metson Dehy Inspection Conditions on Permit S-1135-70. Deviations from a standard condition shall be reported under the applicable condition in S-1135-70. [District Rule 2520] Federally Enforceable Through Title V Permit

San Joaquin Valley
Air Pollution Control District

PERMIT UNIT: S-1135-70-18 **EXPIRATION DATE:** 05/31/2021

SECTION: SW24 **TOWNSHIP:** 11N **RANGE:** 23W

EQUIPMENT DESCRIPTION:
43,470 GALLON FIXED ROOF REJECT TANK T-110, WITH SHARED VAPOR RECOVERY SYSTEM - METSON LEASE TANK BATTERY

PERMIT UNIT REQUIREMENTS

1. Vapor control system shall include two fin fan heat exchangers, two separators, two compressors, and two liquid transfer pumps, shared between tanks S-1135-70, '-71, '-72, '-322, ' -326, and '-327, and heater treaters S-1135-3 and '-29. Collected vapors shall be compressed to existing TEOR system. [District Rule 2201] Federally Enforceable Through Title V Permit
2. Fugitive VOC emissions rate calculated using EPA's Protocol for Equipment Leak Emission Estimates, Table 2-4, Oil and Gas Production Operations Average Emission Factors, shall not exceed 0.8 lb/day. [District Rule 2201] Federally Enforceable Through Title V Permit
3. This unit has a storage capacity less than 420,000 gallons and is used for petroleum or condensate stored, processed and/or treated at a drilling and production facility prior to custody transfer. Therefore, the requirements of 40CFR 60 Subpart K, Ka and Kb do not apply to this source. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
4. METSON DEHY VAPOR RECOVERY CONDITION: The tank shall be equipped with a fixed roof with no holes or openings. [District Rule 2201] Federally Enforceable Through Title V Permit
5. METSON DEHY VAPOR RECOVERY CONDITION: This tank shall only vent to a vapor recovery system. The vapor recovery system shall be an APCO-approved system consisting of a closed vent system that collects all VOCs from the storage tank and a VOC control device. The vapor recovery system shall be maintained in a leak-free condition. The VOC control device shall be either of the following: a vapor return or condensation system that connects to a gas pipeline distribution system, or an approved VOC destruction device the reduces the inlet VOC emissions by at least 99% by weight as determined by the test method specified in Section 6.4 of District Rule 4623 (amended May 19, 2005). [District Rules 2201 and 4623, 5.6.1] Federally Enforceable Through Title V Permit
6. METSON DEHY VAPOR RECOVERY CONDITION: Any tank gauging or sampling device on a tank vented to the vapor recovery system shall be equipped with a leak-free cover which shall be closed at all times except during gauging or sampling. [District Rule 4623, 5.6.2] Federally Enforceable Through Title V Permit
7. METSON DEHY INSPECTION CONDITION: Operator shall visually inspect tank shell, hatches, seals, seams, cable seals, valves, flanges, connectors, and any other piping components directly affixed to the tank and within five feet of the tank at least once per year for liquid leaks, and with a portable hydrocarbon detection instrument conducted in accordance with EPA Method 21 for gas leaks. Operator shall also visually or ultrasonically inspect as appropriate, the external shells and roofs of uninsulated tanks for structural integrity annually. [District Rules 2520, 9.3.2 and 4623, Table 3] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

19. METSON DEHY TANK CLEANING CONDITION: Prior to opening the tank to allow tank cleaning one of the following options must be followed: 1) operate the vapor recovery system for at least 2 hours after all the liquid in the tank has been drained, 2) displace vapors floating the oil pad off with water such that 90% of the tank volume is displaced, 3) vent the tank to the vapor control system until the vapor concentration is less than 10% of the lower explosive limit (LEL) or 5,000 ppmv whichever is less; or 4) vent the tank to the vapor control system for a length of time determined by the following relationship: t = 2.3 V / Q, where t = time, V = tank volume (cubic feet), and Q= flow rate to the vapor control system as determined using appropriate engineering calculations. [District Rule 2080] Federally Enforceable Through Title V Permit
20. METSON DEHY TANK CLEANING CONDITION: Allowable methods of cleaning include using steam, diesel, solvents with an initial boiling point of greater than 302 F, solvents with a vapor pressure of less than 0.5 psia, or solvents with 50 grams/liter VOC content or less. Steam cleaning shall be allowed at locations where wastewater treatment facilities are limited or during December through March. [District Rule 2201] Federally Enforceable Through Title V Permit
21. METSON DEHY VAPOR RECOVERY CONDITION: Tank pressure/vacuum valve (Varec) shall be inspected on an annual basis. During the varec inspections, the varec can be removed from the tank and replaced if necessary. The permittee shall minimize emissions from the opening by plugging the opening during the removal of varec valve. [District Rule 2520] Federally Enforceable Through Title V Permit
22. METSON DEHY TESTING CONDITION: Permittee shall conduct true vapor pressure (TVP) and API gravity 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] Federally Enforceable Through Title V Permit
23. METSON DEHY TESTING CONDITION: 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. The TVP testing shall be conducted at actual storage temperature of the organic liquid in the tank. [District Rule 4623] Federally Enforceable Through Title V Permit
24. METSON DEHY TESTING CONDITION: 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] Federally Enforceable Through Title V Permit
25. METSON DEHY TESTING CONDITION: Permittee shall retain records of TVP and API gravity testing for District inspection upon request. 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 2080] Federally Enforceable Through Title V Permit

San Joaquin Valley
Air Pollution Control District

PERMIT UNIT: S-1135-71-10 **EXPIRATION DATE:** 05/31/2021

SECTION: SW24 **TOWNSHIP:** 11N **RANGE:** 23W

EQUIPMENT DESCRIPTION:
84,000 GALLON FIXED ROOF LACT TANK T-100 WITH VAPOR RECOVERY (LISTED ON S-1135-70) - METSON LEASE TANK BATTERY

PERMIT UNIT REQUIREMENTS

1. Operation shall include vapor recovery system described on the requirements for permit unit S-1135-70. [District Rule 2201] Federally Enforceable Through Title V Permit
2. This unit has a storage capacity less than 420,000 gallons and is used for petroleum or condensate stored, processed and/or treated at a drilling and production facility prior to custody transfer. Therefore, the requirements of 40CFR 60 Subpart K, Ka and Kb do not apply to this source. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
3. The Standard Metson Dehy Vapor Recovery, Inspection, Testing, and Tank Cleaning Conditions specified in S-1135-70 apply to the equipment operating under this permit. Deviations from a Standard Metson Condition shall be reported under the applicable condition in S-1135-70. [District Rule 2520] Federally Enforceable Through Title V Permit

San Joaquin Valley
Air Pollution Control District

PERMIT UNIT: S-1135-72-10 **EXPIRATION DATE:** 05/31/2021

SECTION: SW24 **TOWNSHIP:** 11N **RANGE:** 23W

EQUIPMENT DESCRIPTION:
5,000 BBL FIXED ROOF STANDBY TANK T-120, WITH VAPOR RECOVERY SYSTEM (LISTED ON S-1135-70) - METSON LEASE TANK BATTERY

PERMIT UNIT REQUIREMENTS

1. Operation shall include vapor recovery system described on the requirements for permit unit S-1135-70. [District Rule 2201] Federally Enforceable Through Title V Permit
2. This unit has a storage capacity less than 420,000 gallons and is used for petroleum or condensate stored, processed and/or treated at a drilling and production facility prior to custody transfer. Therefore, the requirements of 40CFR 60 Subpart K, Ka and Kb do not apply to this source. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
3. The Standard Metson Dehy Vapor Recovery, Inspection, Testing, and Tank Cleaning Conditions specified in S-1135-70 apply to the equipment operating under this permit. Deviations from a Standard Metson Condition shall be reported under the applicable condition in S-1135-70. [District Rule 2520] Federally Enforceable Through Title V Permit

San Joaquin Valley
Air Pollution Control District

PERMIT UNIT: S-1135-173-24 **EXPIRATION DATE:** 05/31/2021

SECTION: 14 **TOWNSHIP:** 31S **RANGE:** 22E

EQUIPMENT DESCRIPTION:
1,600 BBL (67,200 GALLON) FIXED ROOF LACT TANK ID# WS-01, HANDLING MAXWELL LEASE PRODUCTION, AND VESSELS V-101, V-102, V-103, AND V-104; WITH VAPOR CONTROL SYSTEM SHARED WITH TANKS S-1135-174, -175, -178, -325, AND -337 (W&S LEASE) DISCHARGING TO TEOR WVVCS S-1135-125

PERMIT UNIT REQUIREMENTS

1. Vapor control system shall contain vapor control system piping network and vapor compression system consisting of two vapor compressors, fin fan aerial cooler, and knockout vessels. [District Rule 2201] Federally Enforceable Through Title V Permit
2. Vapor control system piping network shall include vapor space piping and make-up gas serving storage tanks S-1135-173, '-174, '-175, '-178, '-325, and '-337 with vapor control piping to W&S TEOR operation S-1135-125. [District Rule 2201] Federally Enforceable Through Title V Permit
3. Compressor knock-out drum liquids shall be piped only to vapor controlled tanks or crude sales line. [District Rule 2201] Federally Enforceable Through Title V Permit
4. The fugitive VOC emissions from this tank and the vapor control system shall not exceed 2.8 lb/day. [District Rule 2201] Federally Enforceable Through Title V Permit
5. Permittee shall maintain with the permit accurate fugitive component counts for tank and associated vapor control systems and resulting emissions calculated using CAPCOA's "California Implementation Guidelines for Estimating Mass Emissions of Fugitive Hydrocarbon Leaks at Petroleum Facilities," Table IV-2c (Feb 1999) Screening Range emission factors. [District Rule 2201] Federally Enforceable Through Title V Permit
6. This unit has a storage capacity less than 420,000 gallons and is used for petroleum or condensate stored, processed and/or treated at a drilling and production facility prior to custody transfer. Therefore, the requirements of 40CFR 60 Subpart K, Ka and Kb do not apply to this source. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
7. MAXWELL DEHY VAPOR RECOVERY CONDITION: The tank shall be equipped with a vapor loss prevention system consisting of vapor and condensate collection systems capable of reducing VOC emissions by at least 99%. [District Rule 2201] Federally Enforceable Through Title V Permit
8. MAXWELL DEHY VAPOR RECOVERY CONDITION: Except during periods of tank cleaning, inspections, and maintenance allowed by this permit, tank shall be connected to a vapor control system that is functional and operating as designed. [District Rule 2201] Federally Enforceable Through Title V Permit
9. MAXWELL DEHY VAPOR RECOVERY CONDITION: All tank gauging, hatches, sampling ports, pressure relief valves, vapor control system components, etc. shall be closed and leak-free except during sampling or attended maintenance. [District Rule 2201] Federally Enforceable Through Title V Permit
10. MAXWELL DEHY VAPOR RECOVERY CONDITION: Tanks seams, welds, joints, piping, valves, and fittings shall be inspected and maintained in a leak-free condition. [District Rule 2201] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

21. MAXWELL DEHY INSPECTION CONDITION: Emissions from components which have been tagged by the facility operator for repair within 15 calendar days or which have been repaired and are awaiting re-inspection shall not be in violation of this permit. [District Rule 2520] Federally Enforceable Through Title V Permit

22. MAXWELL DEHY INSPECTION CONDITION: Any component leak shall be repaired to a leak-free condition or vented to a flare satisfying the requirements of 40 CFR 60.18 or to a vapor control device that is at least 99 percent efficient as measured by EPA Method 18 within fifteen (15) calendar days of detection. The APCO may grant a ten (10) calendar day extension provided the operator demonstrates that necessary and sufficient actions are being taken to correct the leak within this time period. Any vapor control device, other than a flare, used to comply with this condition shall demonstrate at least 99% control efficiency as measured by EPA Method 18 at least annually. [District Rule 2520] Federally Enforceable Through Title V Permit

23. MAXWELL DEHY INSPECTION CONDITION: If the leaking component is an essential part of a critical process unit which cannot be immediately shut down for repairs, the operator shall 1) Minimize the leak within 15 calendar days; and 2) If the leak which has been minimized still exceeds the concentration allowed by this permit, the essential component shall be repaired to eliminate the leak during the next process unit turnaround, but in no case later than one year from the date of the original leak detection. A critical process unit is any process unit which would result in the automatic shutdown of other process units if it were shut down. [District Rule 2520] Federally Enforceable Through Title V Permit

24. MAXWELL DEHY INSPECTION CONDITION: Operator shall maintain an inspection log containing the following 1) Type of component leaking; 2) Date of leak detection, and method of detection; 3) Date and emission level of recheck after leak is repaired; 4) Identification and location of essential parts of critical process units found leaking that cannot be repaired until the next process unit turnaround; and 5) Method used to minimize the leak from essential parts of critical process units which cannot be repaired until the next process unit turnaround. [District Rule 2520] Federally Enforceable Through Title V Permit

25. MAXWELL DEHY VAPOR RECOVERY CONDITION: Permittee shall maintain records of the date and duration of the vapor control system maintenance operation. [District Rule 1070] Federally Enforceable Through Title V Permit

26. MAXWELL DEHY TESTING CONDITION: Permittee shall conduct true vapor pressure (TVP) and API gravity 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] Federally Enforceable Through Title V Permit

27. MAXWELL DEHY TESTING CONDITION: 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. The TVP testing shall be conducted at actual storage temperature of the organic liquid in the tank. [District Rule 4623] Federally Enforceable Through Title V Permit

28. MAXWELL DEHY TESTING CONDITION: 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] Federally Enforceable Through Title V Permit

29. MAXWELL DEHY TESTING CONDITION: Permittee shall retain records of TVP and API gravity testing for District inspection upon request. 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 2080] Federally Enforceable Through Title V Permit

30. MAXWELL DEHY INSPECTION CONDITION: A gas leak is a reading in excess of 10,000 parts per million by volume (ppmv), as methane, above background on a portable hydrocarbon detection instrument that is calibrated with methane in accordance with EPA Method 21. A liquid leak is the dripping of organic liquid at a rate of more than 3 drops per minute. [District Rule 4623] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

San Joaquin Valley
Air Pollution Control District

PERMIT UNIT: S-1135-174-11 **EXPIRATION DATE:** 05/31/2021

SECTION: 14 **TOWNSHIP:** 31S **RANGE:** 22E

EQUIPMENT DESCRIPTION:
2,000 BBL (84,000 GALLON) FIXED ROOF WASH TANK ID# WS-02, HANDLING MAXWELL LEASE PRODUCTION, CONNECTED TO VAPOR CONTROL SYSTEM LISTED ON S-1135-173 (W&S LEASE)

PERMIT UNIT REQUIREMENTS

1. The fugitive VOC emissions from this tank and the vapor control system shall not exceed 0.1 lb/day. [District Rule 2201] Federally Enforceable Through Title V Permit
2. 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 4623, 4.4] Federally Enforceable Through Title V Permit
3. Permittee shall maintain with the permit accurate fugitive component counts for tank and associated vapor control systems and resulting emissions calculated using CAPCOA's "California Implementation Guidelines for Estimating Mass Emissions of Fugitive Hydrocarbon Leaks at Petroleum Facilities," Table IV-2c (Feb 1999) Screening Range emission factors. [District Rule 2201] Federally Enforceable Through Title V Permit
4. Permittee shall keep accurate records of TVP of liquids stored in each tank. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
5. This unit has a storage capacity less than 420,000 gallons and is used for petroleum or condensate stored, processed and/or treated at a drilling and production facility prior to custody transfer. Therefore, the requirements of 40CFR 60 Subpart K, Ka and Kb do not apply to this source. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
6. Tank shall be vented only to vapor control system listed on S-1135-173. [District Rule 2201] Federally Enforceable Through Title V Permit
7. The Standard Maxwell Dehy Vapor Recovery, Inspection, Testing, and Tank Cleaning Conditions specified in S-1135-173 apply to the equipment operating under this permit. Deviations from a Standard Maxwell Condition shall be reported under the applicable condition in S-1135-173. [District Rule 2520] Federally Enforceable Through Title V Permit

San Joaquin Valley
Air Pollution Control District

PERMIT UNIT: S-1135-175-10 **EXPIRATION DATE:** 05/31/2021

SECTION: 14 **TOWNSHIP:** 31S **RANGE:** 22E

EQUIPMENT DESCRIPTION:
1,600 BBL (67,200 GALLON) FIXED ROOF LACT TANK ID# WS-03, HANDLING MAXWELL LEASE PRODUCTION, CONNECTED TO VAPOR CONTROL SYSTEM LISTED ON S-1135-173 (W&S LEASE)

PERMIT UNIT REQUIREMENTS

1. The fugitive VOC emissions from this tank and the vapor control system shall not exceed 0.1 lb/day. [District Rule 2201] Federally Enforceable Through Title V Permit
2. 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 4623, 4.4] Federally Enforceable Through Title V Permit
3. Permittee shall maintain with the permit accurate fugitive component counts for tank and associated vapor control systems and resulting emissions calculated using CAPCOA's "California Implementation Guidelines for Estimating Mass Emissions of Fugitive Hydrocarbon Leaks at Petroleum Facilities," Table IV-2c (Feb 1999) Screening Range emission factors. [District Rule 2201] Federally Enforceable Through Title V Permit
4. Permittee shall keep accurate records of TVP of liquids stored in each tank. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
5. This unit has a storage capacity less than 420,000 gallons and is used for petroleum or condensate stored, processed and/or treated at a drilling and production facility prior to custody transfer. Therefore, the requirements of 40 CFR 60 Subpart K, Ka and Kb do not apply to this source. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
6. Tank shall be vented only to vapor control system listed on S-1135-173. [District Rule 2201] Federally Enforceable Through Title V Permit
7. The Standard Maxwell Dehy Vapor Recovery, Inspection, Testing, and Tank Cleaning Conditions specified in S-1135-173 apply to the equipment operating under this permit. Deviations from a Standard Maxwell Condition shall be reported under the applicable condition in S-1135-173. [District Rule 2520] Federally Enforceable Through Title V Permit

San Joaquin Valley
Air Pollution Control District

PERMIT UNIT: S-1135-178-12 **EXPIRATION DATE:** 05/31/2021

SECTION: 14 **TOWNSHIP:** 31S **RANGE:** 22E

EQUIPMENT DESCRIPTION:
3,000 BBL (126,000 GALLON) FIXED ROOF SUMP PROCESS TANK ID# WS-06, HANDLING MAXWELL LEASE PRODUCTION, CONNECTED TO VAPOR CONTROL SYSTEM LISTED ON S-1135-173 (W&S LEASE)

PERMIT UNIT REQUIREMENTS

1. The fugitive VOC emissions from this tank and the vapor control system shall not exceed 0.1 lb/day. [District Rule 2201] Federally Enforceable Through Title V Permit
2. 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 4623, 4.4] Federally Enforceable Through Title V Permit
3. Permittee shall maintain with the permit accurate fugitive component counts for tank and associated vapor control systems and resulting emissions calculated using CAPCOA's "California Implementation Guidelines for Estimating Mass Emissions of Fugitive Hydrocarbon Leaks at Petroleum Facilities," Table IV-2c (Feb 1999) Screening Range emission factors. [District Rule 2201] Federally Enforceable Through Title V Permit
4. Permittee shall keep accurate records of TVP of liquids stored in each tank. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
5. This unit has a storage capacity less than 420,000 gallons and is used for petroleum or condensate stored, processed and/or treated at a drilling and production facility prior to custody transfer. Therefore, the requirements of 40 CFR 60 Subpart K, Ka and Kb do not apply to this source. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
6. Tank shall be vented only to vapor control system listed on S-1135-173. [District Rule 2201] Federally Enforceable Through Title V Permit
7. The Standard Maxwell Dehy Vapor Recovery, Inspection, Testing, and Tank Cleaning Conditions specified in S-1135-173 apply to the equipment operating under this permit. Deviations from a Standard Maxwell Condition shall be reported under the applicable condition in S-1135-173. [District Rule 2520] Federally Enforceable Through Title V Permit

San Joaquin Valley
Air Pollution Control District

PERMIT UNIT: S-1135-322-4 **EXPIRATION DATE:** 05/31/2021

SECTION: SW24 **TOWNSHIP:** 11N **RANGE:** 23W

EQUIPMENT DESCRIPTION:
3,000 BBL FIXED ROOF WASH TANK T-101, WITH VAPOR RECOVERY (LISTED IN S-1135-70) - METSON LEASE TANK BATTERY

PERMIT UNIT REQUIREMENTS

1. Fugitive VOC emissions rate calculated using EPA's Protocol for Equipment Leak Emission Estimates, Table 2-4, Oil and Gas Production Operations Average Emission Factors, shall not exceed 3.0 lb/day. [District Rule 2201] Federally Enforceable Through Title V Permit
2. Operation shall include vapor recovery system described on the requirements for permit unit S-1135-70. [District Rule 2201] Federally Enforceable Through Title V Permit
3. This unit has a storage capacity less than 420,000 gallons and is used for petroleum or condensate stored, processed and/or treated at a drilling and production facility prior to custody transfer. Therefore, the requirements of 40CFR 60 Subpart K, Ka and Kb do not apply to this source. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
4. The Standard Metson Dehy Vapor Recovery, Inspection, Testing, and Tank Cleaning Conditions specified in S-1135-70 apply to the equipment operating under this permit. Deviations from a Standard Metson Condition shall be reported under the applicable condition in S-1135-70. [District Rule 2520] Federally Enforceable Through Title V Permit

San Joaquin Valley
Air Pollution Control District

PERMIT UNIT: S-1135-325-4 **EXPIRATION DATE:** 05/31/2021

EQUIPMENT DESCRIPTION:
3,000 BBL FIXED ROOF CRUDE OIL STORAGE TANK, HANDLING MAXWELL LEASE PRODUCTION, SERVED BY VAPOR CONTROL SYSTEM LISTED ON S-1135-173 (W & S LEASE)

PERMIT UNIT REQUIREMENTS

1. The fugitive VOC emissions from this tank and the vapor control system shall not exceed 0.47 lb/day. [District Rule 2201] Federally Enforceable Through Title V Permit
2. Permittee shall maintain with the permit accurate fugitive component counts for tank and associated vapor control systems and resulting emissions calculated using CAPCOA's "California Implementation Guidelines for Estimating Mass Emissions of Fugitive Hydrocarbon Leaks at Petroleum Facilities," Table IV-2c (Feb 1999) Screening Range emission factors. [District Rule 2201] Federally Enforceable Through Title V Permit
3. This unit has a storage capacity less than 420,000 gallons (1,589.874 cubic meters) and is used for petroleum or condensate stored, processed and/or treated at a drilling and production facility prior to custody transfer. Therefore, the requirements of 40 CFR 60 Subpart K, Ka and Kb do not apply to this source. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
4. Tank shall be vented only to vapor control system listed on S-1135-173. [District Rule 2201] Federally Enforceable Through Title V Permit
5. The Standard Maxwell Dehy Vapor Recovery, Inspection, Testing, and Tank Cleaning Conditions specified in S-1135-173 apply to the equipment operating under this permit. Deviations from a Standard Maxwell Condition shall be reported under the applicable condition in S-1135-173. [District Rule 2520] Federally Enforceable Through Title V Permit

San Joaquin Valley
Air Pollution Control District

PERMIT UNIT: S-1135-326-4 **EXPIRATION DATE:** 05/31/2021

SECTION: SW24 **TOWNSHIP:** 11N **RANGE:** 23W

EQUIPMENT DESCRIPTION:
3,000 BBL FIXED ROOF WASH TANK T-102, WITH VAPOR RECOVERY (LISTED IN S-1135-70) - METSON LEASE TANK BATTERY

PERMIT UNIT REQUIREMENTS

1. Fugitive emissions calculated using EPA's Protocol for Equipment Leak Emission Estimates, Table 2-4, Oil and Gas Production Operations Average Emission Factors, shall not exceed 3.0 lb/day. [District Rule 2201] Federally Enforceable Through Title V Permit
2. Tank shall vent only to the vapor recovery system described in the requirements for permit unit S-1135-70. [District Rule 2201] Federally Enforceable Through Title V Permit
3. This unit has a storage capacity less than 420,000 gallons and is used for petroleum or condensate stored, processed and/or treated at a drilling and production facility prior to custody transfer. Therefore, the requirements of 40CFR 60 Subpart K, Ka and Kb do not apply to this source. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
4. The Standard Metson Dehy Vapor Recovery, Inspection, Testing, and Tank Cleaning Conditions specified in S-1135-70 apply to the equipment operating under this permit. Deviations from a Standard Metson Condition shall be reported under the applicable condition in S-1135-70. [District Rule 2520] Federally Enforceable Through Title V Permit

San Joaquin Valley
Air Pollution Control District

PERMIT UNIT: S-1135-327-3 **EXPIRATION DATE:** 05/31/2021

EQUIPMENT DESCRIPTION:
905 BBL FWKO VESSEL (V-100) CONNECTED TO VAPOR RECOVERY SYSTEM LISTED ON S-1135-70

PERMIT UNIT REQUIREMENTS

1. The tank shall vent only to the vapor control system listed on S-1135-70. [District Rule 4623] Federally Enforceable Through Title V Permit
2. Permittee shall maintain with the permit accurate fugitive component counts and resulting emissions from tank using California Implementation Guidelines for Estimating Mass Emissions of Fugitive Hydrocarbon Leaks at Petroleum Facilities Table IV-2C: Oil and Gas Production Screening Value Ranges (<10,000 ppmv) Emission Factors. [District Rule 4623] Federally Enforceable Through Title V Permit
3. Permittee shall maintain records of annual tank inspections, maintenance, and cleaning to document the participation in the Rule 4623 Fixed Roof Tank Preventative Inspection, Maintenance and Tank Interior Cleaning Program. [District Rules 2020 and 2080] Federally Enforceable Through Title V Permit
4. Permittee shall comply with all applicable Tank Interior Cleaning Program requirements specified in Table 3 of Rule 4623. [District Rules 2020 and 2080] Federally Enforceable Through Title V Permit
5. The Standard Metson Dehy Vapor Recovery, Inspection, Testing, and Tank Cleaning Conditions specified in S-1135-70 apply to the equipment operating under this permit. Deviations from a Standard Metson Condition shall be reported under the applicable condition in S-1135-70. [District Rule 2520] Federally Enforceable Through Title V Permit

San Joaquin Valley
Air Pollution Control District

PERMIT UNIT: S-1135-337-4 **EXPIRATION DATE:** 05/31/2021

EQUIPMENT DESCRIPTION:
3,000 BBL (126,000 GALLON) FIXED ROOF STOCK TANK ID# WS-04, HANDLING MAXWELL LEASE PRODUCTION, CONNECTED TO VAPOR CONTROL SYSTEM LISTED ON S-1135-173 (W&S LEASE)

PERMIT UNIT REQUIREMENTS

1. The fugitive VOC emissions from this tank and the vapor control system shall not exceed 0.2 lb/day. [District Rule 2201] Federally Enforceable Through Title V Permit
2. Permittee shall maintain with the permit accurate fugitive component counts for tank and associated vapor control systems and resulting emissions calculated using CAPCOA's "California Implementation Guidelines for Estimating Mass Emissions of Fugitive Hydrocarbon Leaks at Petroleum Facilities," Table IV-2c (Feb 1999) Screening Range emission factors. [District Rule 2201] Federally Enforceable Through Title V Permit
3. This unit has a storage capacity less than 420,000 gallons (1,589.874 cubic meters) and is used for petroleum or condensate stored, processed and/or treated at a drilling and production facility prior to custody transfer. Therefore, the requirements of 40 CFR 60 Subpart K, Ka and Kb do not apply to this source. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
4. Tank shall be vented only to vapor control system listed on S-1135-173. [District Rule 2201] Federally Enforceable Through Title V Permit
5. The Standard Maxwell Dehy Vapor Recovery, Inspection, Testing, and Tank Cleaning Conditions specified in S-1135-173 apply to the equipment operating under this permit. Deviations from a Standard Maxwell Condition shall be reported under the applicable condition in S-1135-173. [District Rule 2520] Federally Enforceable Through Title V Permit

ATTACHMENT II
Laboratory Analyses

Aera Energy LLC - Maricopa
29235 Hwy 33
Maricopa, CA 93252

Reported: 04/13/2017 12:50
Project: TVR and Disposal Gas (Title V)-South Midway
Project Number: [none]
Project Manager: Jeff King

BCL Sample ID: 1709638-01 | **Client Sample Name:** Metson TVR, 4/11/2017 10:36:00AM, Rick Ogletree

Gas Analysis

Fixed Gases and Hydrocarbon Analysis (ASTM D-1945-03, D-3588-98; GPA 2145-94, 2261-00)

Constituent		Mole %	Weight %	GPM	GPM Fractions	
Oxygen	O2	1.15	1.15			
Nitrogen	N2	4.71	4.13			
Carbon Dioxide	CO2	52.95	72.92			
Carbon Monoxide	CO	0.00	0.00			
Hydrogen	H2	0.22	0.01			
Hydrogen Sulfide	H2S	0.30	0.32			
Methane	C1	39.88	20.02			
Ethane	C2	0.29	0.28	0.075	(C2+)=	0.267
Propane	C3	0.05	0.07	0.014	(C3+)=	0.192
IsoButane	C4	0.02	0.04	0.008		
n-Butane	C4	0.05	0.09	0.015		
IsoPentane	C5	0.02	0.04	0.006		
n-Pentane	C5	0.02	0.04	0.007		
Hexanes +	C6	0.33	0.89	0.142		
Totals:		100.00	100.00	0.267		

H/C Ratio: 0.15

Heating Values		CHONS Weight %		F Factors	F_{dry}	F_{wet}
Gross Calorific Value		Carbon	36.07	"F" Factor, DSCF/MMBTU @ 60F	9684.8	10740
BTU/ft3 dry (Ideal)	431.4	Hydrogen	5.31	"F" Factor, DSCF/MMBTU @ 68F	9832.3	10904
BTU/ft3 wet (Ideal)	423.9	Oxygen	54.18	"F" Factor, DSCF/MMBTU @ 70F	9869.7	10945
BTU/lb (Ideal)	5122.5	Nitrogen	4.13	"FC" Factor, DSCF CO2/MMBTU @ 60F	2226.7	2469.3
Net Calorific Value		Sulfur	0.30	"FC" Factor, DSCF CO2/MMBTU @ 68F	2260.6	2506.9
BTU/ft3 dry (Ideal)	389.0	*Sulfur reported at 0.05% or greater*				
BTU/ft3 wet (Ideal)	382.3					
BTU/lb (Ideal)	4619.2					

Relative Gas Density; [Air=1] Ideal:	1.1035	**Relative Liquid Density @ 60F/60F:**	0.6054
Specific Gravity; [Air=1] Ideal:	1.1069	**Compressibility, 'z':**	0.9963
Real Gas Density, lb/ft3:	0.0845	**Molecular Wt. (kg/kg-mole):**	31.85
Specific Volume, ft3/lb:	11.8299		
THC - C1-C6+, Weight Percent :	21.47		
VOC - C3-C6+, Weight Percent:	1.17		
VOC/THC Ratio, Weight Percent:	5.45		

Gas Properties calculated @ STP: 60F, 14.696 psia GPM: Gallons per 1000 cubic feet

Aera Energy LLC - Maricopa
29235 Hwy 33
Maricopa, CA 93252

Reported: 04/13/2017 12:50
Project: TVR and Disposal Gas (Title V)-South Midway
Project Number: [none]
Project Manager: Jeff King

Sulfur Analysis In Natural Gas

BCL Sample ID: 1709638-01 | **Client Sample Name:** Melson TVR, 4/11/2017 10:36:00AM, Rick Ogletree

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hydrogen Sulfide	3600	ppm	100	100	ASTM-D3246			1
Total Sulfur	220	grs S/100 SCF	6.0	6.0	ASTM-D3246			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	ASTM-D3246	04/12/17	04/12/17 12:55	MR2	Inst	100	BID1145

Aera Energy LLC - Maricopa
29235 Hwy 33
Maricopa, CA 93252

Reported: 05/15/2017 15:01
Project: TVR and Disposal Gas (Title V)-North Midway
Project Number: [none]
Project Manager: Royce Hilley

BCL Sample ID: 1713009-01 | **Client Sample Name:** Maxwell Dehy TVR, 5/11/2017 11:05:00AM, Rick Ogletree

Gas Analysis

Fixed Gases and Hydrocarbon Analysis (ASTM D-1945-03, D-3588-98; GPA 2145-94, 2261-00)

Constituent		Mole %	Weight %	GPM	GPM Fractions	
Oxygen	O2	11.09	13.08			
Nitrogen	N2	42.07	43.44			
Carbon Dioxide	CO2	13.65	22.14			
Carbon Monoxide	CO	0.00	0.00			
Hydrogen	H2	0.01	0.00			
Hydrogen Sulfide	H2S	1.98	2.48			
Methane	C1	30.88	18.26			
Ethane	C2	0.17	0.19	0.043	(C2+)=	0.103
Propane	C3	0.04	0.07	0.011	(C3+)=	0.060
IsoButane	C4	0.01	0.02	0.003		
n-Butane	C4	0.01	0.03	0.004		
IsoPentane	C5	0.01	0.03	0.004		
n-Pentane	C5	0.00	0.01	0.001		
Hexanes +	C6	0.08	0.27	0.037		
Totals:		100.00	100.00	0.103		

H/C Ratio: 0.24

Heating Values		CHONS Weight %		F Factors	F_{dry}	F_{wet}
Gross Calorific Value		Carbon	20.21	"F" Factor, DSCF/MMBTU @ 60F	8974.4	9952.3
BTU/ft3 dry (Ideal)	333.8	Hydrogen	4.84	"F" Factor, DSCF/MMBTU @ 68F	9111.1	10104
BTU/ft3 wet (Ideal)	328.0	Oxygen	29.18	"F" Factor, DSCF/MMBTU @ 70F	9145.7	10142
BTU/lb (Ideal)	4668.8	Nitrogen	43.44	"FC" Factor, DSCF CO2/MMBTU @ 60F	1368.4	1517.5
Net Calorific Value		Sulfur	2.34	"FC" Factor, DSCF CO2/MMBTU @ 68F	1389.2	1540.6
BTU/ft3 dry (Ideal)	301.0	*Sulfur reported at 0.05% or greater*				
BTU/ft3 wet (Ideal)	295.8					
BTU/lb (Ideal)	4210.0					

Relative Gas Density; [Air=1] Ideal:	0.9368	**Relative Liquid Density @ 60F/60F:**	0.6355
Specific Gravity; [Air=1] Ideal:	0.9375	**Compressibility, 'z':**	0.9987
Real Gas Density, lb/ft3:	0.0716	**Molecular Wt. (kg/kg-mole):**	26.46
Specific Volume, ft3/lb:	13.9683		
THC - C1-C6+, Weight Percent :	18.88		
VOC - C3-C6+. Weight Percent:	0.43		
VOC/THC Ratio, Weight Percent:	2.28		

Gas Properties calculated @ STP: 60F, 14.696 psia GPM: Gallons per 1000 cubic feet

Aera Energy LLC - Maricopa
29235 Hwy 33
Maricopa, CA 93252

Reported: 05/15/2017 15:01
Project: TVR and Disposal Gas (Title V)-North Midway
Project Number: [none]
Project Manager: Royce Hilley

Sulfur Analysis In Natural Gas

BCL Sample ID: 1713009-01 | **Client Sample Name:** Maxwell Dehy TVR, 5/11/2017 11:05:00AM, Rick Ogletree

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hydrogen Sulfide	20000	ppm	620	620	ASTM-D3246			1
Total Sulfur	1300	grs S/100 SCF	38	38	ASTM-D3246			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	ASTM-D3246	05/12/17	05/12/17 11:54	MR2	Inst	625	B[E1640

ATTACHMENT III
Tank Emissions Calculations

AERA ENERGY LLC
S-1135-3 Emission Calculations

Wt Percentage VOCs In Gas 25%

Equipment Type	Service	Average Emission Factor [kg/hr/source]	Comp Count	VOC Emissions [lb/day]
Valves	Gas	4.5E-03	14	0.8
	Heavy Oil	8.4E-06	0	0.0
	Light Oil	2.5E-03	0	0.0
	Water/Oil	9.8E-05	0	0.0
Pump Seals	Gas	2.4E-03	0	0.0
	Heavy Oil	NA	0	
	Light Oil	1.3E-02	0	0.0
	Water/Oil	2.4E-05	0	0.0
Others	Gas	8.8E-03	6	0.7
	Heavy Oil	3.2E-05	0	0.0
	Light Oil	7.5E-03	0	0.0
	Water/Oil	1.4E-02	0	0.0
Connections	Gas	2.0E-04	48	0.1
	Heavy Oil	7.5E-06	0	0.0
	Light Oil	2.1E-04	0	0.0
	Water/Oil	1.1E-04	0	0.0
Flanges	Gas	3.9E-04	20	0.1
	Heavy Oil	3.9E-07	0	0.0
	Light Oil	1.1E-04	0	0.0
	Water/Oil	2.9E-06	0	0.0
Open-Ended Lines	Gas	2.0E-03	2	0.1
	Heavy Oil	1.4E-04	0	0.0
	Light Oil	1.4E-03	0	0.0
	Water/Oil	2.5E-04	0	0.0
			TOTAL	**1.8**

Notes:
1) Emission factors from Table 2-4 of EPA-453/R-95-017.

AERA ENERGY LLC
S-1135-29 Emission Calculations

Wt Percentage VOCs In Gas 25%

Equipment Type	Service	Average Emission Factor [kg/hr/source]	Comp Count	VOC Emissions [lb/day]
Valves	Gas	4.5E-03	14	0.8
	Heavy Oil	8.4E-06	0	0.0
	Light Oil	2.5E-03	0	0.0
	Water/Oil	9.8E-05	0	0.0
Pump Seals	Gas	2.4E-03	0	0.0
	Heavy Oil	NA	0	
	Light Oil	1.3E-02	0	0.0
	Water/Oil	2.4E-05	0	0.0
Others	Gas	8.8E-03	6	0.7
	Heavy Oil	3.2E-05	0	0.0
	Light Oil	7.5E-03	0	0.0
	Water/Oil	1.4E-02	0	0.0
Connections	Gas	2.0E-04	48	0.1
	Heavy Oil	7.5E-06	0	0.0
	Light Oil	2.1E-04	0	0.0
	Water/Oil	1.1E-04	0	0.0
Flanges	Gas	3.9E-04	20	0.1
	Heavy Oil	3.9E-07	0	0.0
	Light Oil	1.1E-04	0	0.0
	Water/Oil	2.9E-06	0	0.0
Open-Ended Lines	Gas	2.0E-03	2	0.1
	Heavy Oil	1.4E-04	0	0.0
	Light Oil	1.4E-03	0	0.0
	Water/Oil	2.5E-04	0	0.0
			TOTAL	**1.8**

Notes:
1) Emission factors from Table 2-4 of EPA-453/R-95-017.

AERA ENERGY LLC
S-1135-70 Emission Calculations

Wt Percentage VOCs In Gas 25%

Equipment Type	Service	Average Emission Factor [kg/hr/source]	Comp Count	VOC Emissions [lb/day]
Valves	Gas	4.5E-03	154	9.2
	Heavy Oil	8.4E-06	0	0.0
	Light Oil	2.5E-03	0	0.0
	Water/Oil	9.8E-05	0	0.0
Pump Seals	Gas	2.4E-03	3	0.1
	Heavy Oil	NA	0	
	Light Oil	1.3E-02	0	0.0
	Water/Oil	2.4E-05	0	0.0
Others	Gas	8.8E-03	93	10.8
	Heavy Oil	3.2E-05	0	0.0
	Light Oil	7.5E-03	0	0.0
	Water/Oil	1.4E-02	0	0.0
Connections	Gas	2.0E-04	670	1.8
	Heavy Oil	7.5E-06	0	0.0
	Light Oil	2.1E-04	0	0.0
	Water/Oil	1.1E-04	0	0.0
Flanges	Gas	3.9E-04	190	1.0
	Heavy Oil	3.9E-07	0	0.0
	Light Oil	1.1E-04	0	0.0
	Water/Oil	2.9E-06	0	0.0
Open-Ended Lines	Gas	2.0E-03	0	0.0
	Heavy Oil	1.4E-04	0	0.0
	Light Oil	1.4E-03	0	0.0
	Water/Oil	2.5E-04	0	0.0
			TOTAL	**22.8**

Notes:
1) Emission factors from Table 2-4 of EPA-453/R-95-017.

AERA ENERGY LLC
S-1135-71 Emission Calculations

Wt Percentage VOCs In Gas 25%

Equipment Type	Service	Average Emission Factor [kg/hr/source]	Comp Count	VOC Emissions [lb/day]
Valves	Gas	4.5E-03	7	0.4
	Heavy Oil	8.4E-06	0	0.0
	Light Oil	2.5E-03	0	0.0
	Water/Oil	9.8E-05	0	0.0
Pump Seals	Gas	2.4E-03	0	0.0
	Heavy Oil	NA	0	
	Light Oil	1.3E-02	0	0.0
	Water/Oil	2.4E-05	0	0.0
Others	Gas	8.8E-03	2	0.2
	Heavy Oil	3.2E-05	0	0.0
	Light Oil	7.5E-03	0	0.0
	Water/Oil	1.4E-02	0	0.0
Connections	Gas	2.0E-04	14	0.0
	Heavy Oil	7.5E-06	0	0.0
	Light Oil	2.1E-04	0	0.0
	Water/Oil	1.1E-04	0	0.0
Flanges	Gas	3.9E-04	13	0.1
	Heavy Oil	3.9E-07	0	0.0
	Light Oil	1.1E-04	0	0.0
	Water/Oil	2.9E-06	0	0.0
Open-Ended Lines	Gas	2.0E-03	0	0.0
	Heavy Oil	1.4E-04	0	0.0
	Light Oil	1.4E-03	0	0.0
	Water/Oil	2.5E-04	0	0.0
			TOTAL	**0.8**

Notes:
1) Emission factors from Table 2-4 of EPA-453/R-95-017.

AERA ENERGY LLC
S-1135-72 Emission Calculations

Wt Percentage VOCs In Gas 25%

Equipment Type	Service	Average Emission Factor [kg/hr/source]	Comp Count	VOC Emissions [lb/day]
Valves	Gas	4.5E-03	6	0.4
	Heavy Oil	8.4E-06	0	0.0
	Light Oil	2.5E-03	0	0.0
	Water/Oil	9.8E-05	0	0.0
Pump Seals	Gas	2.4E-03	0	0.0
	Heavy Oil	NA	0	
	Light Oil	1.3E-02	0	0.0
	Water/Oil	2.4E-05	0	0.0
Others	Gas	8.8E-03	2	0.2
	Heavy Oil	3.2E-05	0	0.0
	Light Oil	7.5E-03	0	0.0
	Water/Oil	1.4E-02	0	0.0
Connections	Gas	2.0E-04	16	0.0
	Heavy Oil	7.5E-06	0	0.0
	Light Oil	2.1E-04	0	0.0
	Water/Oil	1.1E-04	0	0.0
Flanges	Gas	3.9E-04	11	0.1
	Heavy Oil	3.9E-07	0	0.0
	Light Oil	1.1E-04	0	0.0
	Water/Oil	2.9E-06	0	0.0
Open-Ended Lines	Gas	2.0E-03	0	0.0
	Heavy Oil	1.4E-04	0	0.0
	Light Oil	1.4E-03	0	0.0
	Water/Oil	2.5E-04	0	0.0
			TOTAL	**0.7**

Notes:
1) Emission factors from Table 2-4 of EPA-453/R-95-017.

AERA ENERGY LLC
S-1135-327 Emission Calculations

Wt Percentage VOCs In Gas 25%

Equipment Type	Service	Average Emission Factor [kg/hr/source]	Comp Count	VOC Emissions [lb/day]
Valves	Gas	4.5E-03	14	0.8
	Heavy Oil	8.4E-06	0	0.0
	Light Oil	2.5E-03	0	0.0
	Water/Oil	9.8E-05	0	0.0
Pump Seals	Gas	2.4E-03	0	0.0
	Heavy Oil	NA	0	
	Light Oil	1.3E-02	0	0.0
	Water/Oil	2.4E-05	0	0.0
Others	Gas	8.8E-03	6	0.7
	Heavy Oil	3.2E-05	0	0.0
	Light Oil	7.5E-03	0	0.0
	Water/Oil	1.4E-02	0	0.0
Connections	Gas	2.0E-04	68	0.2
	Heavy Oil	7.5E-06	0	0.0
	Light Oil	2.1E-04	0	0.0
	Water/Oil	1.1E-04	0	0.0
Flanges	Gas	3.9E-04	28	0.1
	Heavy Oil	3.9E-07	0	0.0
	Light Oil	1.1E-04	0	0.0
	Water/Oil	2.9E-06	0	0.0
Open-Ended Lines	Gas	2.0E-03	3	0.1
	Heavy Oil	1.4E-04	0	0.0
	Light Oil	1.4E-03	0	0.0
	Water/Oil	2.5E-04	0	0.0
			TOTAL	**1.9**

Notes:
1) Emission factors from Table 2-4 of EPA-453/R-95-017.

Tank Input Data	
permit number (S-xxxx-xx-xx)	S-1135-3
facility tank I.D.	--
nearest city {1: Bakersfield, 2: Fresno, 3: Stockton}	1
tank ROC vapor pressure (psia)	0.5
liquid bulk storage temperature, Tb (°F)	180
is this a constant-level tank? {yes, no}	yes
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)	25
capacity of tank (bbl)	700
conical or dome roof? {c, d}	d
shell height of tank (feet)	10
average liquid height (feet)	5
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}	3
condition {1: Good, 2: Poor}	1
------This row only used if shell is different color from roof------	
------This row only used if shell is different color from roof------	

Liquid Input Data	A	B
maximum daily fluid throughput (bbl)		1,000
maximum annual fluid throughput (bbl)	0	0
------This row only used if flashing losses occur in this tank------		
------This row only used if flashing losses occur in this tank------		-
molecular weight, Mw (lb/lb-mol)		100

Calculated Values	A	B
daily maximum ambient temperature, Tax (°F)		77.65
daily minimum ambient temperature, Tan (°F)		53.15
daily total solar insulation factor, I (Btu/ft^2-day)		1648.9
atmospheric pressure, Pa (psia)		14.47
water vapor pressure at daily maximum liquid surface temperature (Tlx), Pvx (psia	142.0	3.0580
water vapor pressure at daily minimum liquid surface temperature (Tln), Pvn (psia	131.2	2.3067
water vapor pressure at average liquid surface temperature (Tla), Pva (psia)	136.6	2.6660
roof outage, Hro (feet)		1.7125
vapor space volume, Vv (cubic feet)		3294.99
paint factor, alpha		0.54
vapor density, Wv (lb/cubic foot)		0.0078
daily vapor temperature range, delta Tv (degrees Rankine)		42.57
vapor space expansion factor, Ke		0.1299

Results	lb/year	lb/day
Standing Storage Loss	1,220	3.34
Working Loss	N/A	N/A
Flashing Loss	N/A	N/A
Total Uncontrolled Tank VOC Emissions	**1,220**	**3.3**

Summary Table	
Permit Number	S-1135-3
Facility Tank I.D.	--
Tank capacity (bbl)	700
Tank diameter (ft)	25
Tank shell height (ft)	10
Conical or Dome Roof	Dome
Maximum Daily Fluid Throughput (bbl/day)	1,000
Maximum Annual Fluid Throughput (bbl/year)	0
Maximum Daily Oil Throughput (bbl/day)	N/A
Maximum Annual Oil Throughput (bbl/year)	N\A
Total Uncontrolled Daily Tank VOC Emissions (lb/day)	3.3
Total Uncontrolled Annual Tank VOC Emissions (lb/year)	1,220

Tank Input Data	
permit number (S-xxxx-xx-xx)	S-1135-29
facility tank I.D.	--
nearest city {1: Bakersfield, 2: Fresno, 3: Stockton}	1
tank ROC vapor pressure (psia)	0.5
liquid bulk storage temperature, Tb (°F)	180
is this a constant-level tank? {yes, no}	yes
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)	23
capacity of tank (bbl)	650
conical or dome roof? {c, d}	d
shell height of tank (feet)	10.5
average liquid height (feet)	5
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}	3
condition {1: Good, 2: Poor}	1
------This row only used if shell is different color from roof------	
------This row only used if shell is different color from roof------	

Liquid Input Data	A	B
maximum daily fluid throughput (bbl)		1,000
maximum annual fluid throughput (bbl)	0	0
------This row only used if flashing losses occur in this tank------		
------This row only used if flashing losses occur in this tank------		-
molecular weight, Mw (lb/lb-mol)		100

Calculated Values	A	B
daily maximum ambient temperature, Tax (°F)		77.65
daily minimum ambient temperature, Tan (°F)		53.15
daily total solar insulation factor, I (Btu/ft^2-day)		1648.9
atmospheric pressure, Pa (psia)		14.47
water vapor pressure at daily maximum liquid surface temperature (Tlx), Pvx (psia	142.0	3.0580
water vapor pressure at daily minimum liquid surface temperature (Tln), Pvn (psia	131.2	2.3067
water vapor pressure at average liquid surface temperature (Tla), Pva (psia)	136.6	2.6660
roof outage, Hro (feet)		1.5755
vapor space volume, Vv (cubic feet)		2939.70
paint factor, alpha		0.54
vapor density, Wv (lb/cubic foot)		0.0078
daily vapor temperature range, delta Tv (degrees Rankine)		42.57
vapor space expansion factor, Ke		0.1299

Results	lb/year	lb/day
Standing Storage Loss	1,089	2.98
Working Loss	N/A	N/A
Flashing Loss	N/A	N/A
Total Uncontrolled Tank VOC Emissions	**1,089**	**3.0**

Summary Table	
Permit Number	S-1135-29
Facility Tank I.D.	--
Tank capacity (bbl)	650
Tank diameter (ft)	23
Tank shell height (ft)	10.5
Conical or Dome Roof	Dome
Maximum Daily Fluid Throughput (bbl/day)	1,000
Maximum Annual Fluid Throughput (bbl/year)	0
Maximum Daily Oil Throughput (bbl/day)	N/A
Maximum Annual Oil Throughput (bbl/year)	N\A
Total Uncontrolled Daily Tank VOC Emissions (lb/day)	3.0
Total Uncontrolled Annual Tank VOC Emissions (lb/year)	1,089

Tank Input Data	
permit number (S-xxxx-xx-xx)	S-1135-70
facility tank I.D.	--
nearest city {1: Bakersfield, 2: Fresno, 3: Stockton}	1
tank ROC vapor pressure (psia)	0.5
liquid bulk storage temperature, Tb (°F)	180
is this a constant-level tank? {yes, no}	yes
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)	21.5
capacity of tank (bbl)	1,000
conical or dome roof? {c, d}	c
shell height of tank (feet)	16
average liquid height (feet)	8
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}	3
condition {1: Good, 2: Poor}	1
------This row only used if shell is different color from roof------	
------This row only used if shell is different color from roof------	

Liquid Input Data	A	B
maximum daily fluid throughput (bbl)		500
maximum annual fluid throughput (bbl)	0	0
------This row only used if flashing losses occur in this tank------		
------This row only used if flashing losses occur in this tank------		-
molecular weight, Mw (lb/lb-mol)		100

Calculated Values	A	B
daily maximum ambient temperature, Tax (°F)		77.65
daily minimum ambient temperature, Tan (°F)		53.15
daily total solar insulation factor, I (Btu/ft^2-day)		1648.9
atmospheric pressure, Pa (psia)		14.47
water vapor pressure at daily maximum liquid surface temperature (Tlx), Pvx (psia	142.0	3.0580
water vapor pressure at daily minimum liquid surface temperature (Tln), Pvn (psia	131.2	2.3067
water vapor pressure at average liquid surface temperature (Tla), Pva (psia)	136.6	2.6660
roof outage, Hro (feet)		0.2240
vapor space volume, Vv (cubic feet)		2985.71
paint factor, alpha		0.54
vapor density, Wv (lb/cubic foot)		0.0078
daily vapor temperature range, delta Tv (degrees Rankine)		42.57
vapor space expansion factor, Ke		0.1299

Results	lb/year	lb/day
Standing Storage Loss	1,106	3.03
Working Loss	N/A	N/A
Flashing Loss	N/A	N/A
Total Uncontrolled Tank VOC Emissions	**1,106**	**3.0**

APPENDIX C

Potential to Emit – Fixed Roof Tank Without Vapor Recovery

Summary Table	
Permit Number	S-1135-70
Facility Tank I.D.	--
Tank capacity (bbl)	1,000
Tank diameter (ft)	21.5
Tank shell height (ft)	16
Conical or Dome Roof	Conical
Maximum Daily Fluid Throughput (bbl/day)	500
Maximum Annual Fluid Throughput (bbl/year)	0
Maximum Daily Oil Throughput (bbl/day)	N/A
Maximum Annual Oil Throughput (bbl/year)	N\A
Total Uncontrolled Daily Tank VOC Emissions (lb/day)	3.0
Total Uncontrolled Annual Tank VOC Emissions (lb/year)	1,106

Tank Input Data	
permit number (S-xxxx-xx-xx)	S-1135-71
facility tank I.D.	--
nearest city {1: Bakersfield, 2: Fresno, 3: Stockton}	1
tank ROC vapor pressure (psia)	0.5
liquid bulk storage temperature, Tb (°F)	180
is this a constant level tank? {yes, no}	yes
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)	29.9
capacity of tank (bbl)	2,000
conical or dome roof? {c, d}	c
shell height of tank (feet)	16
average liquid height (feet)	8
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}	3
condition {1: Good, 2: Poor}	1
------This row only used if shell is different color from roof------	
------This row only used if shell is different color from roof------	

Liquid Input Data	A	B
maximum daily fluid throughput (bbl)		1,200
maximum annual fluid throughput (bbl)	0	0
------This row only used if flashing losses occur in this tank------		
------This row only used if flashing losses occur in this tank------		-
molecular weight, Mw (lb/lb-mol)		100

Calculated Values	A	B
daily maximum ambient temperature, Tax (°F)		77.65
daily minimum ambient temperature, Tan (°F)		53.15
daily total solar insulation factor, I (Btu/ft^2-day)		1648.9
atmospheric pressure, Pa (psia)		14.47
water vapor pressure at daily maximum liquid surface temperature (Tlx), Pvx (psia	142.0	3.0580
water vapor pressure at daily minimum liquid surface temperature (Tln), Pvn (psia	131.2	2.3067
water vapor pressure at average liquid surface temperature (Tla), Pva (psia)	136.6	2.6660
roof outage, Hro (feet)		0.3115
vapor space volume, Vv (cubic feet)		5835.92
paint factor, alpha		0.54
vapor density, Wv (lb/cubic foot)		0.0078
daily vapor temperature range, delta Tv (degrees Rankine)		42.57
vapor space expansion factor, Ke		0.1299

Results	lb/year	lb/day
Standing Storage Loss	2,161	5.92
Working Loss	N/A	N/A
Flashing Loss	N/A	N/A
Total Uncontrolled Tank VOC Emissions	**2,161**	**5.9**

Summary Table	
Permit Number	S-1135-71
Facility Tank I.D.	--
Tank capacity (bbl)	2,000
Tank diameter (ft)	29.9
Tank shell height (ft)	16
Conical or Dome Roof	Conical
Maximum Daily Fluid Throughput (bbl/day)	1,200
Maximum Annual Fluid Throughput (bbl/year)	0
Maximum Daily Oil Throughput (bbl/day)	N/A
Maximum Annual Oil Throughput (bbl/year)	N\A
Total Uncontrolled Daily Tank VOC Emissions (lb/day)	5.9
Total Uncontrolled Annual Tank VOC Emissions (lb/year)	2,161

Tank Input Data	
permit number (S-xxxx-xx-xx)	S-1135-72
facility tank I.D.	--
nearest city {1: Bakersfield, 2: Fresno, 3: Stockton}	1
tank ROC vapor pressure (psia)	0.5
liquid bulk storage temperature, Tb (°F)	180
is this a constant-level tank? {yes, no}	yes
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)	47
capacity of tank (bbl)	5,000
conical or dome roof? {c, d}	c
shell height of tank (feet)	16
average liquid height (feet)	8
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}	3
condition {1: Good, 2: Poor}	1
------This row only used if shell is different color from roof------	
------This row only used if shell is different color from roof------	

Liquid Input Data	A	B
maximum daily fluid throughput (bbl)		2,500
maximum annual fluid throughput (bbl)	0	0
------This row only used if flashing losses occur in this tank------		
------This row only used if flashing losses occur in this tank------		-
molecular weight, Mw (lb/lb-mol)		100

Calculated Values	A	B
daily maximum ambient temperature, Tax (°F)		77.65
daily minimum ambient temperature, Tan (°F)		53.15
daily total solar insulation factor, I (Btu/ft^2-day)		1648.9
atmospheric pressure, Pa (psia)		14.47
water vapor pressure at daily maximum liquid surface temperature (Tlx), Pvx (psia	142.0	3.0580
water vapor pressure at daily minimum liquid surface temperature (Tln), Pvn (psia	131.2	2.3067
water vapor pressure at average liquid surface temperature (Tla), Pva (psia)	136.6	2.6660
roof outage, Hro (feet)		0.4896
vapor space volume, Vv (cubic feet)		14728.96
paint factor, alpha		0.54
vapor density, Wv (lb/cubic foot)		0.0078
daily vapor temperature range, delta Tv (degrees Rankine)		42.57
vapor space expansion factor, Ke		0.1299

Results	lb/year	lb/day
Standing Storage Loss	5,455	14.94
Working Loss	N/A	N/A
Flashing Loss	N/A	N/A
Total Uncontrolled Tank VOC Emissions	**5,455**	**14.9**

Summary Table	
Permit Number	S-1135-72
Facility Tank I.D.	--
Tank capacity (bbl)	5,000
Tank diameter (ft)	47
Tank shell height (ft)	16
Conical or Dome Roof	Conical
Maximum Daily Fluid Throughput (bbl/day)	2,500
Maximum Annual Fluid Throughput (bbl/year)	0
Maximum Daily Oil Throughput (bbl/day)	N/A
Maximum Annual Oil Throughput (bbl/year)	N\A
Total Uncontrolled Daily Tank VOC Emissions (lb/day)	14.9
Total Uncontrolled Annual Tank VOC Emissions (lb/year)	5,455

Tank Input Data	
permit number (S-xxxx-xx-xx)	S-1135-173
facility tank I.D.	--
nearest city {1: Bakersfield, 2: Fresno, 3: Stockton}	1
tank ROC vapor pressure (psia)	0.5
liquid bulk storage temperature, Tb (°F)	180
is this a constant-level tank? {yes, no}	yes
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)	26.8
capacity of tank (bbl)	1,600
conical or dome roof? {c, d}	c
shell height of tank (feet)	16
average liquid height (feet)	8
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}	3
condition {1: Good, 2: Poor}	1
------This row only used if shell is different color from roof------	
------This row only used if shell is different color from roof------	

Liquid Input Data	A	B
maximum daily fluid throughput (bbl)		2,000
maximum annual fluid throughput (bbl)	0	0
------This row only used if flashing losses occur in this tank------		
------This row only used if flashing losses occur in this tank------		-
molecular weight, Mw (lb/lb-mol)		100

Calculated Values	A	B
daily maximum ambient temperature, Tax (°F)		77.65
daily minimum ambient temperature, Tan (°F)		53.15
daily total solar insulation factor, I (Btu/ft^2-day)		1648.9
atmospheric pressure, Pa (psia)		14.47
water vapor pressure at daily maximum liquid surface temperature (Tlx), Pvx (psia	142.0	3.0580
water vapor pressure at daily minimum liquid surface temperature (Tln), Pvn (psia	131.2	2.3067
water vapor pressure at average liquid surface temperature (Tla), Pva (psia)	136.6	2.6660
roof outage, Hro (feet)		0.2792
vapor space volume, Vv (cubic feet)		4670.31
paint factor, alpha		0.54
vapor density, Wv (lb/cubic foot)		0.0078
daily vapor temperature range, delta Tv (degrees Rankine)		42.57
vapor space expansion factor, Ke		0.1299

Results	lb/year	lb/day
Standing Storage Loss	1,730	4.74
Working Loss	N/A	N/A
Flashing Loss	N/A	N/A
Total Uncontrolled Tank VOC Emissions	**1,730**	**4.7**

Summary Table	
Permit Number	S-1135-173
Facility Tank I.D.	--
Tank capacity (bbl)	1,600
Tank diameter (ft)	26.8
Tank shell height (ft)	16
Conical or Dome Roof	Conical
Maximum Daily Fluid Throughput (bbl/day)	2,000
Maximum Annual Fluid Throughput (bbl/year)	0
Maximum Daily Oil Throughput (bbl/day)	N/A
Maximum Annual Oil Throughput (bbl/year)	N\A
Total Uncontrolled Daily Tank VOC Emissions (lb/day)	4.7
Total Uncontrolled Annual Tank VOC Emissions (lb/year)	1,730

Tank Input Data	
permit number (S-xxxx-xx-xx)	S-1135-174
facility tank I.D.	--
nearest city {1: Bakersfield, 2: Fresno, 3: Stockton}	1
tank ROC vapor pressure (psia)	0.5
liquid bulk storage temperature, Tb (°F)	180
is this a constant-level tank? {yes, no}	yes
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)	21.5
capacity of tank (bbl)	2,000
conical or dome roof? {c, d}	c
shell height of tank (feet)	32
average liquid height (feet)	16
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}	3
condition {1: Good, 2: Poor}	1
------This row only used if shell is different color from roof------	
------This row only used if shell is different color from roof------	

Liquid Input Data	A	B
maximum daily fluid throughput (bbl)		2,000
maximum annual fluid throughput (bbl)	0	0
------This row only used if flashing losses occur in this tank------		
------This row only used if flashing losses occur in this tank------		
molecular weight, Mw (lb/lb-mol)		100

Calculated Values	A	B
daily maximum ambient temperature, Tax (°F)		77.65
daily minimum ambient temperature, Tan (°F)		53.15
daily total solar insulation factor, I (Btu/ft^2-day)		1648.9
atmospheric pressure, Pa (psia)		14.47
water vapor pressure at daily maximum liquid surface temperature (Tlx), Pvx (psia	142.0	3.0580
water vapor pressure at daily minimum liquid surface temperature (Tln), Pvn (psia	131.2	2.3067
water vapor pressure at average liquid surface temperature (Tla), Pva (psia)	136.6	2.6660
roof outage, Hro (feet)		0.2240
vapor space volume, Vv (cubic feet)		5890.11
paint factor, alpha		0.54
vapor density, Wv (lb/cubic foot)		0.0078
daily vapor temperature range, delta Tv (degrees Rankine)		42.57
vapor space expansion factor, Ke		0.1299

Results	lb/year	lb/day
Standing Storage Loss	2,181	5.98
Working Loss	N/A	N/A
Flashing Loss	N/A	N/A
Total Uncontrolled Tank VOC Emissions	**2,181**	**6.0**

Summary Table	
Permit Number	S-1135-174
Facility Tank I.D.	--
Tank capacity (bbl)	2,000
Tank diameter (ft)	21.5
Tank shell height (ft)	32
Conical or Dome Roof	Conical
Maximum Daily Fluid Throughput (bbl/day)	2,000
Maximum Annual Fluid Throughput (bbl/year)	0
Maximum Daily Oil Throughput (bbl/day)	N/A
Maximum Annual Oil Throughput (bbl/year)	N\A
Total Uncontrolled Daily Tank VOC Emissions (lb/day)	6.0
Total Uncontrolled Annual Tank VOC Emissions (lb/year)	2,181

Tank Input Data	
permit number (S-xxxx-xx-xx)	S-1135-175
facility tank I.D.	--
nearest city {1: Bakersfield, 2: Fresno, 3: Stockton}	1
tank ROC vapor pressure (psia)	0.5
liquid bulk storage temperature, Tb (°F)	180
is this a constant-level tank? {yes, no}	yes
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)	26.8
capacity of tank (bbl)	1,600
conical or dome roof? {c, d}	c
shell height of tank (feet)	16
average liquid height (feet)	8
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}	3
condition {1: Good, 2: Poor}	1
------This row only used if shell is different color from roof------	
------This row only used if shell is different color from roof------	

Liquid Input Data	A	B
maximum daily fluid throughput (bbl)		1,000
maximum annual fluid throughput (bbl)	0	0
------This row only used if flashing losses occur in this tank------		
------This row only used if flashing losses occur in this tank------		
molecular weight, Mw (lb/lb-mol)		100

Calculated Values	A	B
daily maximum ambient temperature, Tax (°F)		77.65
daily minimum ambient temperature, Tan (°F)		53.15
daily total solar insulation factor, I (Btu/ft^2-day)		1648.9
atmospheric pressure, Pa (psia)		14.47
water vapor pressure at daily maximum liquid surface temperature (Tlx), Pvx (psia	142.0	3.0580
water vapor pressure at daily minimum liquid surface temperature (Tln), Pvn (psia	131.2	2.3067
water vapor pressure at average liquid surface temperature (Tla), Pva (psia)	136.6	2.6660
roof outage, Hro (feet)		0.2792
vapor space volume, Vv (cubic feet)		4670.31
paint factor, alpha		0.54
vapor density, Wv (lb/cubic foot)		0.0078
daily vapor temperature range, delta Tv (degrees Rankine)		42.57
vapor space expansion factor, Ke		0.1299

Results	lb/year	lb/day
Standing Storage Loss	1,730	4.74
Working Loss	N/A	N/A
Flashing Loss	N/A	N/A
Total Uncontrolled Tank VOC Emissions	**1,730**	**4.7**

Summary Table	
Permit Number	S-1135-175
Facility Tank I.D.	--
Tank capacity (bbl)	1,600
Tank diameter (ft)	26.8
Tank shell height (ft)	16
Conical or Dome Roof	Conical
Maximum Daily Fluid Throughput (bbl/day)	1,000
Maximum Annual Fluid Throughput (bbl/year)	0
Maximum Daily Oil Throughput (bbl/day)	N/A
Maximum Annual Oil Throughput (bbl/year)	N\A
Total Uncontrolled Daily Tank VOC Emissions (lb/day)	4.7
Total Uncontrolled Annual Tank VOC Emissions (lb/year)	1,730

Tank Input Data	
permit number (S-xxxx-xx-xx)	S-1135-178
facility tank I.D.	--
nearest city {1: Bakersfield, 2: Fresno, 3: Stockton}	1
tank ROC vapor pressure (psia)	0.5
liquid bulk storage temperature, Tb (°F)	130
is this a constant-level tank? {yes, no}	yes
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)	29.9
capacity of tank (bbl)	3,000
conical or dome roof? {c, d}	c
shell height of tank (feet)	24
average liquid height (feet)	12
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}	3
condition {1: Good, 2: Poor}	1
------This row only used if shell is different color from roof------	
------This row only used if shell is different color from roof------	

Liquid Input Data	A	B
maximum daily fluid throughput (bbl)		1,000
maximum annual fluid throughput (bbl)	0	0
------This row only used if flashing losses occur in this tank------		
------This row only used if flashing losses occur in this tank------		-
molecular weight, Mw (lb/lb-mol)		100

Calculated Values	A	B
daily maximum ambient temperature, Tax (°F)		77.65
daily minimum ambient temperature, Tan (°F)		53.15
daily total solar insulation factor, I (Btu/ft^2-day)		1648.9
atmospheric pressure, Pa (psia)		14.47
water vapor pressure at daily maximum liquid surface temperature (Tlx), Pvx (psia	114.0	1.4438
water vapor pressure at daily minimum liquid surface temperature (Tln), Pvn (psia	103.2	1.0554
water vapor pressure at average liquid surface temperature (Tla), Pva (psia)	108.6	1.2312
roof outage, Hro (feet)		0.3115
vapor space volume, Vv (cubic feet)		8644.54
paint factor, alpha		0.54
vapor density, Wv (lb/cubic foot)		0.0082
daily vapor temperature range, delta Tv (degrees Rankine)		42.57
vapor space expansion factor, Ke		0.0997

Results	lb/year	lb/day
Standing Storage Loss	2,577	7.06
Working Loss	N/A	N/A
Flashing Loss	N/A	N/A
Total Uncontrolled Tank VOC Emissions	**2,577**	**7.1**

Summary Table	
Permit Number	S-1135-178
Facility Tank I.D.	--
Tank capacity (bbl)	3,000
Tank diameter (ft)	29.9
Tank shell height (ft)	24
Conical or Dome Roof	Conical
Maximum Daily Fluid Throughput (bbl/day)	1,000
Maximum Annual Fluid Throughput (bbl/year)	0
Maximum Daily Oil Throughput (bbl/day)	N/A
Maximum Annual Oil Throughput (bbl/year)	N\A
Total Uncontrolled Daily Tank VOC Emissions (lb/day)	7.1
Total Uncontrolled Annual Tank VOC Emissions (lb/year)	2,577

Tank Input Data	
permit number (S-xxxx-xx-xx)	S-1135-322
facility tank I.D.	--
nearest city {1: Bakersfield, 2: Fresno, 3: Stockton}	1
tank ROC vapor pressure (psia)	0.5
liquid bulk storage temperature, Tb (°F)	180
is this a constant-level tank? {yes, no}	yes
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)	29.9
capacity of tank (bbl)	3,000
conical or dome roof? {c, d}	c
shell height of tank (feet)	24
average liquid height (feet)	12
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}	3
condition {1: Good, 2: Poor}	1
------This row only used if shell is different color from roof------	
------This row only used if shell is different color from roof------	

Liquid Input Data	A	B
maximum daily fluid throughput (bbl)		11,000
maximum annual fluid throughput (bbl)	0	0
------This row only used if flashing losses occur in this tank------		
------This row only used if flashing losses occur in this tank------		
molecular weight, Mw (lb/lb-mol)		100

Calculated Values	A	B
daily maximum ambient temperature, Tax (°F)		77.65
daily minimum ambient temperature, Tan (°F)		53.15
daily total solar insulation factor, I (Btu/ft^2-day)		1648.9
atmospheric pressure, Pa (psia)		14.47
water vapor pressure at daily maximum liquid surface temperature (Tlx), Pvx (psia	142.0	3.0580
water vapor pressure at daily minimum liquid surface temperature (Tln), Pvn (psia	131.2	2.3067
water vapor pressure at average liquid surface temperature (Tla), Pva (psia)	136.6	2.6660
roof outage, Hro (feet)		0.3115
vapor space volume, Vv (cubic feet)		8644.54
paint factor, alpha		0.54
vapor density, Wv (lb/cubic foot)		0.0078
daily vapor temperature range, delta Tv (degrees Rankine)		42.57
vapor space expansion factor, Ke		0.1299

Results	lb/year	lb/day
Standing Storage Loss	3,201	8.77
Working Loss	N/A	N/A
Flashing Loss	N/A	N/A
Total Uncontrolled Tank VOC Emissions	**3,201**	**8.8**

Summary Table	
Permit Number	S-1135-322
Facility Tank I.D.	--
Tank capacity (bbl)	3,000
Tank diameter (ft)	29.9
Tank shell height (ft)	24
Conical or Dome Roof	Conical
Maximum Daily Fluid Throughput (bbl/day)	11,000
Maximum Annual Fluid Throughput (bbl/year)	0
Maximum Daily Oil Throughput (bbl/day)	N/A
Maximum Annual Oil Throughput (bbl/year)	N\A
Total Uncontrolled Daily Tank VOC Emissions (lb/day)	8.8
Total Uncontrolled Annual Tank VOC Emissions (lb/year)	3,201

Tank Input Data	
permit number (S-xxxx-xx-xx)	S-1135-325
facility tank I.D.	--
nearest city {1: Bakersfield, 2: Fresno, 3: Stockton}	1
tank ROC vapor pressure (psia)	0.5
liquid bulk storage temperature, Tb (°F)	180
is this a constant-level tank? {yes, no}	yes
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)	29.9
capacity of tank (bbl)	3,000
conical or dome roof? {c, d}	d
shell height of tank (feet)	24
average liquid height (feet)	12
are the roof and shell the same color? {yes,no}	yes
For roof: color {1:Spec Al, 2:Dlff Al, 3:Light, 4:Med, 5:Red, 6:White}	3
condition {1: Good, 2: Poor}	1
------This row only used if shell is different color from roof------	
------This row only used if shell is different color from roof------	

Liquid Input Data	A	B
maximum daily fluid throughput (bbl)		21,000
maximum annual fluid throughput (bbl)	0	0
------This row only used if flashing losses occur in this tank------		
------This row only used if flashing losses occur in this tank------		
molecular weight, Mw (lb/lb-mol)		100

Calculated Values	A	B
daily maximum ambient temperature, Tax (°F)		77.65
daily minimum ambient temperature, Tan (°F)		53.15
daily total solar insulation factor, I (Btu/ft^2-day)		1648.9
atmospheric pressure, Pa (psia)		14.47
water vapor pressure at daily maximum liquid surface temperature (Tlx), Pvx (psia	142.0	3.0580
water vapor pressure at daily minimum liquid surface temperature (Tln), Pvn (psia	131.2	2.3067
water vapor pressure at average liquid surface temperature (Tla), Pva (psia)	136.6	2.6660
roof outage, Hro (feet)		2.0482
vapor space volume, Vv (cubic feet)		9863.96
paint factor, alpha		0.54
vapor density, Wv (lb/cubic foot)		0.0078
daily vapor temperature range, delta Tv (degrees Rankine)		42.57
vapor space expansion factor, Ke		0.1299

Results	lb/year	lb/day
Standing Storage Loss	3,653	10.01
Working Loss	N/A	N/A
Flashing Loss	N/A	N/A
Total Uncontrolled Tank VOC Emissions	**3,653**	**10.0**

Summary Table	
Permit Number	S-1135-325
Facility Tank I.D.	--
Tank capacity (bbl)	3,000
Tank diameter (ft)	29.9
Tank shell height (ft)	24
Conical or Dome Roof	Dome
Maximum Daily Fluid Throughput (bbl/day)	21,000
Maximum Annual Fluid Throughput (bbl/year)	0
Maximum Daily Oil Throughput (bbl/day)	N/A
Maximum Annual Oil Throughput (bbl/year)	N\A
Total Uncontrolled Daily Tank VOC Emissions (lb/day)	10.0
Total Uncontrolled Annual Tank VOC Emissions (ib/year)	3,653

Tank Input Data	
permit number (S-xxxx-xx-xx)	S-1135-326
facility tank I.D.	--
nearest city {1: Bakersfield, 2: Fresno, 3: Stockton}	1
tank ROC vapor pressure (psia)	0.5
liquid bulk storage temperature, Tb (°F)	180
is this a constant-level tank? {yes, no}	yes
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)	29.9
capacity of tank (bbl)	3,000
conical or dome roof? {c, d}	c
shell height of tank (feet)	24
average liquid height (feet)	12
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}	3
condition {1: Good, 2: Poor}	1
------This row only used if shell is different color from roof------	
------This row only used if shell is different color from roof------	

Liquid Input Data	A	B
maximum daily fluid throughput (bbl)		11,000
maximum annual fluid throughput (bbl)	0	0
------This row only used if flashing losses occur in this tank------		
------This row only used if flashing losses occur in this tank------		
molecular weight, Mw (lb/lb-mol)		100

Calculated Values	A	B
daily maximum ambient temperature, Tax (°F)		77.65
daily minimum ambient temperature, Tan (°F)		53.15
daily total solar insulation factor, I (Btu/ft^2-day)		1648.9
atmospheric pressure, Pa (psia)		14.47
water vapor pressure at daily maximum liquid surface temperature (Tlx), Pvx (psia	142.0	3.0580
water vapor pressure at daily minimum liquid surface temperature (Tln), Pvn (psia	131.2	2.3067
water vapor pressure at average liquid surface temperature (Tla), Pva (psia)	136.6	2.6660
roof outage, Hro (feet)		0.3115
vapor space volume, Vv (cubic feet)		8644.54
paint factor, alpha		0.54
vapor density, Wv (lb/cubic foot)		0.0078
daily vapor temperature range, delta Tv (degrees Rankine)		42.57
vapor space expansion factor, Ke		0.1299

Results	lb/year	lb/day
Standing Storage Loss	3,201	8.77
Working Loss	N/A	N/A
Flashing Loss	N/A	N/A
Total Uncontrolled Tank VOC Emissions	**3,201**	**8.8**

Summary Table	
Permit Number	S-1135-326
Facility Tank I.D.	--
Tank capacity (bbl)	3,000
Tank diameter (ft)	29.9
Tank shell height (ft)	24
Conical or Dome Roof	Conical
Maximum Daily Fluid Throughput (bbl/day)	11,000
Maximum Annual Fluid Throughput (bbl/year)	0
Maximum Daily Oil Throughput (bbl/day)	N/A
Maximum Annual Oil Throughput (bbl/year)	N\A
Total Uncontrolled Daily Tank VOC Emissions (lb/day)	8.8
Total Uncontrolled Annual Tank VOC Emissions (lb/year)	3,201

Tank Input Data	
permit number (S-xxxx-xx-xx)	S-1135-337
facility tank I.D.	--
nearest city {1: Bakersfield, 2: Fresno, 3: Stockton}	1
tank ROC vapor pressure (psia)	0.5
liquid bulk storage temperature, Tb (°F)	180
is this a constant-level tank? {yes, no}	yes
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)	29.9
capacity of tank (bbl)	3,000
conical or dome roof? {c, d}	c
shell height of tank (feet)	24
average liquid height (feet)	12
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}	3
condition {1: Good, 2: Poor}	1
------This row only used if shell is different color from roof------	
------This row only used if shell is different color from roof------	

Liquid Input Data	A	B
maximum daily fluid throughput (bbl)		1,000
maximum annual fluid throughput (bbl)	0	0
------This row only used if flashing losses occur in this tank------		
------This row only used if flashing losses occur in this tank------		
molecular weight, Mw (lb/lb-mol)		100

Calculated Values	A	B
daily maximum ambient temperature, Tax (°F)		77.65
daily minimum ambient temperature, Tan (°F)		53.15
daily total solar insulation factor, I (Btu/ft^2-day)		1648.9
atmospheric pressure, Pa (psia)		14.47
water vapor pressure at daily maximum liquid surface temperature (Tlx), Pvx (psia	142.0	3.0580
water vapor pressure at daily minimum liquid surface temperature (Tln), Pvn (psia	131.2	2.3067
water vapor pressure at average liquid surface temperature (Tla), Pva (psia)	136.6	2.6660
roof outage, Hro (feet)		0.3115
vapor space volume, Vv (cubic feet)		8644.54
paint factor, alpha		0.54
vapor density, Wv (lb/cubic foot)		0.0078
daily vapor temperature range, delta Tv (degrees Rankine)		42.57
vapor space expansion factor, Ke		0.1299

Results	lb/year	lb/day
Standing Storage Loss	3,201	8.77
Working Loss	N/A	N/A
Flashing Loss	N/A	N/A
Total Uncontrolled Tank VOC Emissions	**3,201**	**8.8**

Summary Table	
Permit Number	S-1135-337
Facility Tank I.D.	--
Tank capacity (bbl)	3,000
Tank diameter (ft)	29.9
Tank shell height (ft)	24
Conical or Dome Roof	Conical
Maximum Daily Fluid Throughput (bbl/day)	1,000
Maximum Annual Fluid Throughput (bbl/year)	0
Maximum Daily Oil Throughput (bbl/day)	N/A
Maximum Annual Oil Throughput (bbl/year)	N\A
Total Uncontrolled Daily Tank VOC Emissions (lb/day)	8.8
Total Uncontrolled Annual Tank VOC Emissions (lb/year)	3,201

Tank Input Data	
permit number (S-xxxx-xx-xx)	S-1135-327
facility tank I.D.	--
nearest city {1: Bakersfield, 2: Fresno, 3: Stockton}	1
tank ROC vapor pressure (psia)	0.5
liquid bulk storage temperature, Tb (°F)	180
is this a constant-level tank? **{yes, no}**	yes
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)	27
capacity of tank (bbl)	905
conical or dome roof? **{c, d}**	d
shell height of tank (feet)	10
average liquid height (feet)	5
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}	3
condition {1: Good, 2: Poor}	1
------This row only used if shell is different color from roof------	
------This row only used if shell is different color from roof------	

Liquid Input Data	A	B
maximum daily fluid throughput (bbl)		1,000
maximum annual fluid throughput (bbl)	0	0
------This row only used if flashing losses occur in this tank------		
------This row only used if flashing losses occur in this tank------		-
molecular weight, Mw (lb/lb-mol)		100

Calculated Values	A	B
daily maximum ambient temperature, Tax (°F)		77.65
daily minimum ambient temperature, Tan (°F)		53.15
daily total solar insulation factor, I (Btu/ft^2-day)		1648.9
atmospheric pressure, Pa (psia)		14.47
water vapor pressure at daily maximum liquid surface temperature (Tlx), Pvx (psia	142.0	3.0580
water vapor pressure at daily minimum liquid surface temperature (Tln), Pvn (psia	131.2	2.3067
water vapor pressure at average liquid surface temperature (Tla), Pva (psia)	136.6	2.6660
roof outage, Hro (feet)		1.8495
vapor space volume, Vv (cubic feet)		3921.72
paint factor, alpha		0.54
vapor density, Wv (lb/cubic foot)		0.0078
daily vapor temperature range, delta Tv (degrees Rankine)		42.57
vapor space expansion factor, Ke		0.1299

Results	lb/year	lb/day
Standing Storage Loss	1,452	3.98
Working Loss	N/A	N/A
Flashing Loss	N/A	N/A
Total Uncontrolled Tank VOC Emissions	**1,452**	**4.0**

Summary Table	
Permit Number	S-1135-327
Facility Tank I.D.	---
Tank capacity (bbl)	905
Tank diameter (ft)	27
Tank shell height (ft)	10
Conical or Dome Roof	Dome
Maximum Daily Fluid Throughput (bbl/day)	1,000
Maximum Annual Fluid Throughput (bbl/year)	0
Maximum Daily Oil Throughput (bbl/day)	N/A
Maximum Annual Oil Throughput (bbl/year)	N\A
Total Uncontrolled Daily Tank VOC Emissions (lb/day)	4.0
Total Uncontrolled Annual Tank VOC Emissions (lb/year)	1,452

ATTACHMENT IV
Emissions Profiles

Application Emissions

Permit #: S-1135-3-26 **Last Updated**
Facility: AERA ENERGY LLC 08/24/2017 EDGEHILR

Equipment Pre-Baselined: NO

	NOX	SOX	PM10	CO	VOC
Potential to Emit (lb/Yr):	0.0	0.0	0.0	0.0	712.0
Daily Emis. Limit (lb/Day)	0.0	0.0	0.0	0.0	5.1
Quarterly Net Emissions Change (lb/Qtr)					
Q1:	0.0	0.0	0.0	0.0	12.0
Q2:	0.0	0.0	0.0	0.0	12.0
Q3:	0.0	0.0	0.0	0.0	13.0
Q4:	0.0	0.0	0.0	0.0	13.0
Check if offsets are triggered but exemption applies	N	N	N	N	N
Offset Ratio					
Quarterly Offset Amounts (lb/Qtr)					
Q1:					
Q2:					
Q3:					
Q4:					

Application Emissions

Permit #: S-1135-29-32 **Last Updated**
Facility: AERA ENERGY LLC 08/24/2017 EDGEHILR

Equipment Pre-Baselined: NO

	NOX	SOX	PM10	CO	VOC
Potential to Emit (lb/Yr):	0.0	0.0	0.0	0.0	707.0
Daily Emis. Limit (lb/Day)	0.0	0.0	0.0	0.0	4.8
Quarterly Net Emissions Change (lb/Qtr)					
Q1:	0.0	0.0	0.0	0.0	11.0
Q2:	0.0	0.0	0.0	0.0	11.0
Q3:	0.0	0.0	0.0	0.0	11.0
Q4:	0.0	0.0	0.0	0.0	12.0
Check if offsets are triggered but exemption applies	N	N	N	N	N
Offset Ratio					
Quarterly Offset Amounts (lb/Qtr)					
Q1:					
Q2:					
Q3:					
Q4:					

Application Emissions

Permit #: S-1135-70-19 **Last Updated**
Facility: AERA ENERGY LLC 08/24/2017 EDGEHILR

Equipment Pre-Baselined: NO

	NOX	SOX	PM10	CO	VOC
Potential to Emit (lb/Yr):	0.0	0.0	0.0	0.0	8382.0
Daily Emis. Limit (lb/Day)	0.0	0.0	0.0	0.0	25.8
Quarterly Net Emissions Change (lb/Qtr)					
Q1:	0.0	0.0	0.0	0.0	11.0
Q2:	0.0	0.0	0.0	0.0	11.0
Q3:	0.0	0.0	0.0	0.0	11.0
Q4:	0.0	0.0	0.0	0.0	12.0
Check if offsets are triggered but exemption applies	N	N	N	N	N
Offset Ratio					
Quarterly Offset Amounts (lb/Qtr)					
Q1:					
Q2:					
Q3:					
Q4:					

Application Emissions

Permit #: S-1135-71-11 **Last Updated**
Facility: AERA ENERGY LLC 08/24/2017 EDGEHILR

Equipment Pre-Baselined: NO

	NOX	SOX	PM10	CO	VOC
Potential to Emit (lb/Yr):	0.0	0.0	0.0	0.0	364.0
Daily Emis. Limit (lb/Day)	0.0	0.0	0.0	0.0	6.7
Quarterly Net Emissions Change (lb/Qtr)					
Q1:	0.0	0.0	0.0	0.0	22.0
Q2:	0.0	0.0	0.0	0.0	22.0
Q3:	0.0	0.0	0.0	0.0	22.0
Q4:	0.0	0.0	0.0	0.0	23.0
Check if offsets are triggered but exemption applies	N	N	N	N	N
Offset Ratio					
Quarterly Offset Amounts (lb/Qtr)					
Q1:					
Q2:					
Q3:					
Q4:					

Application Emissions

Permit #: S-1135-72-11 **Last Updated**
Facility: AERA ENERGY LLC 08/24/2017 EDGEHILR

Equipment Pre-Baselined: NO

	NOX	SOX	PM10	CO	VOC
Potential to Emit (lb/Yr):	0.0	0.0	0.0	0.0	475.0
Daily Emis. Limit (lb/Day)	0.0	0.0	0.0	0.0	15.6
Quarterly Net Emissions Change (lb/Qtr)					
Q1:	0.0	0.0	0.0	0.0	56.0
Q2:	0.0	0.0	0.0	0.0	56.0
Q3:	0.0	0.0	0.0	0.0	56.0
Q4:	0.0	0.0	0.0	0.0	56.0
Check if offsets are triggered but exemption applies	N	N	N	N	N
Offset Ratio					
Quarterly Offset Amounts (lb/Qtr)					
Q1:					
Q2:					
Q3:					
Q4:					

Application Emissions

Permit #: S-1135-173-25 **Last Updated**
Facility: AERA ENERGY LLC 08/24/2017 EDGEHILR

Equipment Pre-Baselined: NO

	NOX	SOX	PM10	CO	VOC
Potential to Emit (lb/Yr):	0.0	0.0	0.0	0.0	1093.0
Daily Emis. Limit (lb/Day)	0.0	0.0	0.0	0.0	7.5
Quarterly Net Emissions Change (lb/Qtr)					
Q1:	0.0	0.0	0.0	0.0	17.0
Q2:	0.0	0.0	0.0	0.0	18.0
Q3:	0.0	0.0	0.0	0.0	18.0
Q4:	0.0	0.0	0.0	0.0	18.0
Check if offsets are triggered but exemption applies	N	N	N	N	N
Offset Ratio					
Quarterly Offset Amounts (lb/Qtr)					
Q1:					
Q2:					
Q3:					
Q4:					

Application Emissions

Permit #: S-1135-174-12 **Last Updated**
Facility: AERA ENERGY LLC 08/24/2017 EDGEHILR

Equipment Pre-Baselined: NO

	NOX	SOX	PM10	CO	VOC
Potential to Emit (lb/Yr):	0.0	0.0	0.0	0.0	127.0
Daily Emis. Limit (lb/Day)	0.0	0.0	0.0	0.0	6.1
Quarterly Net Emissions Change (lb/Qtr)					
Q1:	0.0	0.0	0.0	0.0	22.0
Q2:	0.0	0.0	0.0	0.0	22.0
Q3:	0.0	0.0	0.0	0.0	23.0
Q4:	0.0	0.0	0.0	0.0	23.0
Check if offsets are triggered but exemption applies	N	N	N	N	N
Offset Ratio					
Quarterly Offset Amounts (lb/Qtr)					
Q1:					
Q2:					
Q3:					
Q4:					

Application Emissions

Permit #: S-1135-175-11 **Last Updated**
Facility: AERA ENERGY LLC 08/24/2017 EDGEHILR

Equipment Pre-Baselined: NO

	NOX	SOX	PM10	CO	VOC
Potential to Emit (lb/Yr):	0.0	0.0	0.0	0.0	108.0
Daily Emis. Limit (lb/Day)	0.0	0.0	0.0	0.0	4.8
Quarterly Net Emissions Change (lb/Qtr)					
Q1:	0.0	0.0	0.0	0.0	17.0
Q2:	0.0	0.0	0.0	0.0	18.0
Q3:	0.0	0.0	0.0	0.0	18.0
Q4:	0.0	0.0	0.0	0.0	18.0
Check if offsets are triggered but exemption applies	N	N	N	N	N
Offset Ratio					
Quarterly Offset Amounts (lb/Qtr)					
Q1:					
Q2:					
Q3:					
Q4:					

Application Emissions

Permit #: S-1135-178-13 **Last Updated**
Facility: AERA ENERGY LLC 08/24/2017 EDGEHILR

Equipment Pre-Baselined: NO

	NOX	SOX	PM10	CO	VOC
Potential to Emit (lb/Yr):	0.0	0.0	0.0	0.0	143.0
Daily Emis. Limit (lb/Day)	0.0	0.0	0.0	0.0	7.2
Quarterly Net Emissions Change (lb/Qtr)					
Q1:	0.0	0.0	0.0	0.0	26.0
Q2:	0.0	0.0	0.0	0.0	26.0
Q3:	0.0	0.0	0.0	0.0	27.0
Q4:	0.0	0.0	0.0	0.0	27.0
Check if offsets are triggered but exemption applies	N	N	N	N	N
Offset Ratio					
Quarterly Offset Amounts (lb/Qtr)					
Q1:					
Q2:					
Q3:					
Q4:					

Application Emissions

Permit #: S-1135-322-5 **Last Updated**
Facility: AERA ENERGY LLC 08/24/2017 EDGEHILR

Equipment Pre-Baselined: NO

	NOX	SOX	PM10	CO	VOC
Potential to Emit (lb/Yr):	0.0	0.0	0.0	0.0	406.0
Daily Emis. Limit (lb/Day)	0.0	0.0	0.0	0.0	9.6
Quarterly Net Emissions Change (lb/Qtr)					
Q1:	0.0	0.0	0.0	0.0	-172.0
Q2:	0.0	0.0	0.0	0.0	-172.0
Q3:	0.0	0.0	0.0	0.0	-172.0
Q4:	0.0	0.0	0.0	0.0	-173.0
Check if offsets are triggered but exemption applies	N	N	N	N	N
Offset Ratio					
Quarterly Offset Amounts (lb/Qtr)					
Q1:					
Q2:					
Q3:					
Q4:					

Application Emissions

Permit #: S-1135-325-5 **Last Updated**
Facility: AERA ENERGY LLC 08/24/2017 EDGEHILR

Equipment Pre-Baselined: NO

	NOX	SOX	PM10	CO	VOC
Potential to Emit (lb/Yr):	0.0	0.0	0.0	0.0	322.0
Daily Emis. Limit (lb/Day)	0.0	0.0	0.0	0.0	10.5
Quarterly Net Emissions Change (lb/Qtr)					
Q1:	0.0		0.0	0.0	37.0
Q2:	0.0	0.0	0.0	0.0	37.0
Q3:	0.0	0.0	0.0	0.0	38.0
Q4:	0.0	0.0	0.0	0.0	38.0
Check if offsets are triggered but exemption applies	N	N	N	N	N
Offset Ratio					
Quarterly Offset Amounts (lb/Qtr)					
Q1:					
Q2:					
Q3:					
Q4:					

Application Emissions

Permit #: S-1135-326-5 **Last Updated**
Facility: AERA ENERGY LLC 08/24/2017 EDGEHILR

Equipment Pre-Baselined: NO

	NOX	SOX	PM10	CO	VOC
Potential to Emit (lb/Yr):	0.0	0.0	0.0	0.0	406.0
Daily Emis. Limit (lb/Day)	0.0	0.0	0.0	0.0	9.6
Quarterly Net Emissions Change (lb/Qtr)					
Q1:	0.0	0.0	0.0	0.0	-172.0
Q2:	0.0	0.0	0.0	0.0	-172.0
Q3:	0.0	0.0	0.0	0.0	-172.0
Q4:	0.0	0.0	0.0	0.0	-173.0
Check if offsets are triggered but exemption applies	N	N	N	N	N
Offset Ratio					
Quarterly Offset Amounts (lb/Qtr)					
Q1:					
Q2:					
Q3:					
Q4:					

Application Emissions

Permit #: S-1135-327-4 **Last Updated**
Facility: AERA ENERGY LLC 08/24/2017 EDGEHILR

Equipment Pre-Baselined: NO

	NOX	SOX	PM10	CO	VOC
Potential to Emit (lb/Yr):	0.0	0.0	0.0	0.0	766.0
Daily Emis. Limit (lb/Day)	0.0	0.0	0.0	0.0	5.9
Quarterly Net Emissions Change (lb/Qtr)					
Q1:	0.0	0.0	0.0	0.0	15.0
Q2:	0.0	0.0	0.0	0.0	15.0
Q3:	0.0	0.0	0.0	0.0	15.0
Q4:	0.0	0.0	0.0	0.0	15.0
Check if offsets are triggered but exemption applies	N	N	N	N	N
Offset Ratio					
Quarterly Offset Amounts (lb/Qtr)					
Q1:					
Q2:					
Q3:					
Q4:					

Application Emissions

Permit #: S-1135-337-5 **Last Updated**
Facility: AERA ENERGY LLC 08/24/2017 EDGEHILR

Equipment Pre-Baselined: NO

	NOX	SOX	PM10	CO	VOC
Potential to Emit (lb/Yr):	0.0	0.0	0.0	0.0	205.0
Daily Emis. Limit (lb/Day)	0.0	0.0	0.0	0.0	9.0
Quarterly Net Emissions Change (lb/Qtr)					
Q1:	0.0	0.0	0.0	0.0	33.0
Q2:	0.0	0.0	0.0	0.0	33.0
Q3:	0.0	0.0	0.0	0.0	33.0
Q4:	0.0	0.0	0.0	0.0	33.0
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 V
BACT Analysis

Top Down BACT Analysis

VOC emissions occur with temporary disconnection of the tank vapor control system for maintenance and repair activities, process upsets, and equipment breakdowns. There is no current BACT Guideline for this highly unusual, nonroutine, activity. Therefore, a project specific BACT analysis will be done.

Step 1 - Identify All Possible Control Technologies

There is no applicable BACT Guideline for this class and category of equipment. The following control technologies have been identified:

VOC: Work practices to minimize VOC emissions (Achieved-in-Practice) including:

- Near constant level tank operation
- Use of operational P/V valve where possible
- Work completed expeditiously with pre-staging of equipment and material and pre-fabrication of parts
- Minimization of tank openings and liquid drainage from disconnects
- Storage of coatings, adhesives, sealents, and organic solvents in closed containers
- Inspection, monitoring, and repair if necessary of fugitive emissions components at job site within 30 days of completion of work.

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

VOC: Work practices to minimize VOC emissions (Achieved-in-Practice) including:

- Near constant level tank operation
- Use of operational P/V valve where possible
- Work completed expeditiously with pre-staging of equipment and material and pre-fabrication of parts
- Minimization of tank openings and liquid drainage from disconnects

- Storage of coatings, adhesives, sealents, and organic solvents in closed containers
- Inspection, monitoring, and repair if necessary of fugitive emissions components at job site within 30 days of completion of work.

Step 4 - Cost Effectiveness Analysis

Applicant has selected the only option listed above and therefore a cost analysis is not required.

Step 5 - Select BACT

VOC: Work practices to minimize VOC emissions (Achieved-in-Practice) as stated in the following ATC condition:

During temporary periods of maintenance/repair/upsets covered by this permit, operator shall use work practices to minimize VOC emissions including: constant level tank operation, use of operational P/V valve where possible, work completed expeditiously with pre-staging of equipment and material and pre-fabrication of parts, minimization of tank openings and liquid drainage from disconnects, storage of coatings, adhesives, sealents, and organic solvents in closed containers, inspection, monitoring, and repair if necessary of fugitive emissions components at job site within 30 days of completion of work. [District Rule 2201] Y

ATTACHMENT VI
Title V Compliance Certification and Statewide Compliance Statement

San Joaquin Valley
Unified Air Pollution Control District

TITLE V MODIFICATION - COMPLIANCE CERTIFICATION FORM

I. TYPE OF PERMIT ACTION (Check appropriate box)

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

COMPANY NAME: Aera Energy LLC	FACILITY ID: S-1547
1. Type of Organization:[X] Corporation [ ] Sole Ownership [ ] Government [ ] Partnership [ ] Utility	
2. Owner's Name: Aera Energy LLC	
3. Agent to the Owner: N/A	

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

(WJ) Based on information and belief formed after reasonable inquiry, the equipment identified in this application will continue to comply with the applicable federal requirement(s).

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

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

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

(WJ) For minor modifications, this application meets the criteria for use of minor permit modification procedures pursuant to District Rule 2520.

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

Signature of Responsible Official

4/12/17

Date

W.J. (Jeff) Dittman

Name of Responsible Official (please print)

Vice President - Operations

Title of Responsible Official (please print)

Title I Compliance Certification - SJVUAPCD

CERTIFICATION

Aera Energy LLC hereby certifies as follows:

1. Aera Energy LLC owns or operates certain major stationary sources in the State of California. Such sources are comprised of a large number of emission points. As used in this certification, the term "major stationary source" shall, with respect to Aera Energy LLC stationary sources in the SJVUAPCD, have the meaning ascribed thereto in SJVUAPCD Rule 2201.3.15, and shall, with respect to all of Aera Energy LLC's other stationary sources in the State of California, have the meaning ascribed thereto in section 302(J) of the Clean Air Act (42 U.S.C. Section 7602 (J)).

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

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

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

CERTIFICATION

By: _____ Date: April 6, 2017

Title: Vice President Time: 3:09 pm

ATTACHMENT VII
HRA

San Joaquin Valley Air Pollution Control District
Risk Management Review

To:	Richard Edgehill – Permit Services
From:	Seth Lane – Technical Services
Date:	August 30, 2017
Facility Name:	AERA Energy LLC
Location:	Metson & W&S/Maxwell Tank
Application #(s):	S-1135-3-26, '-29-32, '-70-19, '-71-11, '-72-11, '-173-25, '-174-12, '-175-11, '-178-13, '-322-5, '-325-5, '-326-5, '-327-4, and '-337-5
Project #:	1171557

A. RMR SUMMARY

RMR Summary						
Units (Tank Maintenance)	**Prioritization Score**	**Acute Hazard Index**	**Chronic Hazard Index**	**Maximum Individual Cancer Risk**	**T-BACT Required?**	**Special Permit Requirements?**
Metson						
Unit 3-26	2.07E-02	0.00	0.00	9.75E-10	No	No
Unit 29-32	2.70E-02	0.00	0.00	9.84E-10	No	No
Unit 70-19	2.61E-01	0.00	0.00	1.51E-08	No	No
Unit 71-11	8.60E-03	0.00	0.00	4.99E-10	No	No
Unit 72-11	7.85E-03	0.00	0.00	4.61E-0	No	No
Unit 322-5	3.42E-02	0.00	0.00	1.79E-09	No	No
Unit 326-5	3.42E-02	0.00	0.00	1.69E-09	No	No
Unit 327-4	2.21E-02	0.00	0.00	9.33E-10	No	No
W&S/Maxwell						
Unit 173-25	3.19E-02	0.00	0.00	1.16E-09	No	No
Unit 174-12	1.63E-03	0.00	0.00	4.20E-11	No	No
Unit 175-11	1.63E-03	0.00	0.00	4.18E-11	No	No
Unit 178-13	1.63E-03	0.00	0.00	3.82E-11	No	No
Unit 325-5	5.38E-03	0.00	0.00	1.77E-10	No	No
Unit 337-5	2.28E-03	0.00	0.00	8.34E-11	No	No
Project Totals	0.45	0.03	0.0	2.40E-08		
Facility Totals	>1	0.13	0.0	1.01E-06		
S-1135 & S-1547 Combined Totals	>1	0.44	0.15	1.34E-05		

Proposed Permit Requirements

To ensure that human health risks will not exceed District allowable levels; the following shall be included as requirements for:

Unit # 3-26, 29-32, 70-19, 71-11, 72-11, 173-25, 174-12, 175-11, 178-13, 322-5, 325-5, 326-5, 327-4, 337-5

No special requirements are required.

B. RMR REPORT

I. Project Description

Technical Services received a request on August 24, 2017, to perform a Risk Management Review for a proposed modification to allow for 360 hours per year (non-consecutive hours), for maintenance and repair activities, process upsets, and equipment breakdowns.

II. Analysis

Toxic emissions from Oilfield Fugitives were calculated using emission factors derived from 1991 source tests of central valley sites, and input into the San Joaquin Valley APCD's Hazard Assessment and Reporting Program (SHARP). In accordance with the District's Risk Management Policy for Permitting New and Modified Sources (APR 1905, May 28, 2015), risks from the proposed unit's toxic emissions were prioritized using the procedure in the 1990 CAPCOA Facility Prioritization Guidelines. The prioritization score for this proposed facility was greater than 1.0 (see RMR Summary Table). Therefore, a refined health risk assessment was required. The AERMOD model was used, with the parameters outlined below and meteorological data for 2004-2008 from Fellows to determine the dispersion factors (i.e., the predicted concentration or X divided by the normalized source strength or Q) for a receptor grid. These dispersion factors were input into the SHARP Program, which then used the Air Dispersion Modeling and Risk Tool (ADMRT) of the Hot Spots Analysis and Reporting Program Version 2 (HARP 2) to calculate the chronic and acute hazard indices and the carcinogenic risk for the project.

The following parameters were used for the review for the Metson location:

Analysis Parameters Unit 3-26 & 29-32 (EACH)			
Source Type	Area	**Location Type**	Rural
X-Length (m)	3.5	**Closest Receptor (m)**	452
Y-Length (m)	13	**Type of Receptor**	Business
Release Height (m)	12.19	**Pollutant Type**	Fugitive VOC
Fugitive VOC Emissions Rate (lb/hr)	1.8	**Fugitive VOC Emissions Rate (lb/yr)**	662

Analysis Parameters Unit 70-19			
Source Type	Area	**Location Type**	Rural
Diameter (m)	6.55	**Closest Receptor (m)**	452
Release Height (m)	4.88	**Type of Receptor**	Business
Fugitive VOC Emissions Rate (lb/hr)	0.95	**Pollutant Type**	Fugitive VOC
Fugitive VOC Emissions Rate (lb/yr)	8,337		

Analysis Parameters Unit 71-11			
Source Type	Area	**Location Type**	Rural
Diameter (m)	9.11	**Closest Receptor (m)**	452
Release Height (m)	4.88	**Type of Receptor**	Business
Fugitive VOC Emissions Rate (lb/hr)	0.03	**Pollutant Type**	Fugitive VOC
Fugitive VOC Emissions Rate (lb/yr)	275		

Analysis Parameters Unit 72-11			
Source Type	Area	**Location Type**	Rural
Diameter (m)	14.33	**Closest Receptor (m)**	452
Release Height (m)	4.88	**Type of Receptor**	Business
Fugitive VOC Emissions Rate (lb/hr)	0.03	**Pollutant Type**	Fugitive VOC
Fugitive VOC Emissions Rate (lb/yr)	251		

Analysis Parameters Unit 322-5			
Source Type	Area	**Location Type**	Rural
Diameter (m)	9.11	**Closest Receptor (m)**	452
Release Height (m)	7.32	**Type of Receptor**	Business
Fugitive VOC Emissions Rate (lb/hr)	0.13	**Pollutant Type**	Fugitive VOC
Fugitive VOC Emissions Rate (lb/yr)	1,095		

Analysis Parameters Unit 326-5			
Source Type	Area	**Location Type**	Rural
Diameter (m)	9.11	**Closest Receptor (m)**	452
Release Height (m)	7.32	**Type of Receptor**	Business
Fugitive VOC Emissions Rate (lb/hr)	0.13	**Pollutant Type**	Fugitive VOC
Fugitive VOC Emissions Rate (lb/yr)	1,095		

Analysis Parameters Unit 327-4			
Source Type	Area	**Location Type**	Rural
Diameter (m)	3.05	**Closest Receptor (m)**	452
Release Height (m)	18.29	**Type of Receptor**	Business
Fugitive VOC Emissions Rate (lb/hr)	0.08	**Pollutant Type**	Fugitive VOC
Fugitive VOC Emissions Rate (lb/yr)	706		

The following parameters were used for the review for the W&S/Maxwell location:

Analysis Parameters Unit 173-25			
Source Type	Area	**Location Type**	Rural
Diameter (m)	8.17	**Closest Receptor (m)**	403
Release Height (m)	4.88	**Type of Receptor**	Business
Fugitive VOC Emissions Rate (lb/hr)	0.12	**Pollutant Type**	Fugitive VOC
Fugitive VOC Emissions Rate (lb/yr)	1,022		

Analysis Parameters Unit 174-12			
Source Type	Area	**Location Type**	Rural
Diameter (m)	6.55	**Closest Receptor (m)**	403
Release Height (m)	9.75	**Type of Receptor**	Business
Fugitive VOC Emissions Rate (lb/hr)	0.004	**Pollutant Type**	Fugitive VOC
Fugitive VOC Emissions Rate (lb/yr)	37		

Analysis Parameters Unit 175-11			
Source Type	Area	**Location Type**	Rural
Diameter (m)	8.17	**Closest Receptor (m)**	403
Release Height (m)	9.75	**Type of Receptor**	Business
Fugitive VOC Emissions Rate (lb/hr)	0.004	**Pollutant Type**	Fugitive VOC
Fugitive VOC Emissions Rate (lb/yr)	37		

Analysis Parameters Unit 178-13			
Source Type	Area	**Location Type**	Rural
Diameter (m)	9.11	**Closest Receptor (m)**	403
Release Height (m)	7.32	**Type of Receptor**	Business
Fugitive VOC Emissions Rate (lb/hr)	0.004	**Pollutant Type**	Fugitive VOC
Fugitive VOC Emissions Rate (lb/yr)	37		

Analysis Parameters Unit 325-5			
Source Type	Area	**Location Type**	Rural
Diameter (m)	9.11	**Closest Receptor (m)**	403
Release Height (m)	7.32	**Type of Receptor**	Business
Fugitive VOC Emissions Rate (lb/hr)	0.02	**Pollutant Type**	Fugitive VOC
Fugitive VOC Emissions Rate (lb/yr)	172		

Analysis Parameters Unit 337			
Source Type	Area	**Location Type**	Rural
Diameter (m)	9.11	**Closest Receptor (m)**	403
Release Height (m)	7.32	**Type of Receptor**	Business
Fugitive VOC Emissions Rate (lb/hr)	0.008	**Pollutant Type**	Fugitive VOC
Fugitive VOC Emissions Rate (lb/yr)	73		

III. Conclusion

The acute and chronic indices are below 1.0 and the cancer risk factor associated with the project is less than 1.0 in a million. **In accordance with the District's Risk Management Policy, the project is approved without Toxic Best Available Control Technology (T-BACT).**

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. Additional information from the applicant/project engineer
C. Prioritization score w/ toxic emissions summary
D. Facility Summary

ATTACHMENT VIII
Draft ATCs

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

DRAFT

PERMIT NO: S-1135-3-26 **ISSUANCE DATE:** DRAFT

LEGAL OWNER OR OPERATOR: AERA ENERGY LLC
MAILING ADDRESS: PO BOX 11164
BAKERSFIELD, CA 93389-1164

LOCATION: HEAVY OIL WESTERN STATIONARY SOURCE
MIDWAY-SUNSET
KERN COUNTY, CA

SECTION: 24 **TOWNSHIP:** 11N **RANGE:** 23W

EQUIPMENT DESCRIPTION:
MODIFICATION OF HEATER TREATER #1 SERVED BY VAPOR RECOVERY SYSTEM LISTED ON S-1135-70, AND PERMIT EXEMPT BURNER (NATURAL GAS-FIRED, 5.0 MMBTU/HR OR LESS) (METSON LEASE): AUTHORIZE DISCONNECTION OF TANK VAPOR CONTROL SYSTEM FOR 360 HR/YR FOR TANK MAINTENANCE, LOWER VOC CONTENT OF VAPORS TO 25%

CONDITIONS

1. This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District Rule 2201] Federally Enforceable Through Title V Permit
2. Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4." [District Rule 2520] Federally Enforceable Through Title V Permit
3. ATC S-1135-70-19 shall be implemented prior to or concurrently with this ATC. [District Rule 2201] Federally Enforceable Through Title V Permit
4. Tank shall be connected to vapor control when receiving production from TEOR wells operated with closed casing vents. [District Rule 2201] Federally Enforceable Through Title V Permit
5. Vessel shall only vent to vapor recovery system, permit S-1135-70, except during District approved cleaning and during maintenance procedures. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

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

Seyed Sadredin, Executive Director / APCO

DRAFT

Arnaud Marjollet, Director of Permit Services
S-1135-3-26 : Aug 25 2017 11:15AM – EDGEHILR : Joint Inspection NOT Required

6. Permittee shall keep accurate records of TVP of liquids stored in each tank. [District Rules 2201 and 2520] Federally Enforceable Through Title V Permit

7. Fugitive VOC emissions from the components in gas service on the vessel calculated using EPA's Protocol for Equipment Leak Emission Estimates, Table 2-4, Oil and Gas Production Operations Average Emission Factors, shall not exceed 1.8 lb/day. [District Rule 2201] Federally Enforceable Through Title V Permit

8. When disconnected from the vapor control system for maintenance/repairs/upset conditions, vessel 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] Federally Enforceable Through Title V Permit

9. Permittee shall keep accurate records of TVP of liquids stored in the vessel. [District Rules 2201 and 2520] Federally Enforceable Through Title V Permit

10. VOC content of hydrocarbons (VOC/THC) in collected vapors shall not exceed 25% by weight. VOC content of THC in collected vapors shall be sampled annually. [District Rule 2201] Federally Enforceable Through Title V Permit

11. Vessel shall not be required to be served by vapor control system during vapor recovery system (tanks to disposal devices, inclusive) maintenance/repairs/upset conditions for up to 360 hours per year. Approved breakdowns and relief periods granted by variance and supported by the District shall not be included in this limit. [District Rule 2201] Federally Enforceable Through Title V Permit

12. During temporary periods of maintenance/repair/upsets covered by this permit, operator shall use work practices to minimize VOC emissions including: near constant level tank operation, use of operational P/V valve where possible, work completed expeditiously with pre-staging of equipment and material and pre-fabrication of parts, minimization of tank openings and liquid drainage from disconnects, storage of coatings, adhesives, sealants, and organic solvents in closed containers, inspection, monitoring, and repair if necessary of fugitive emissions components at job site within 30 days of completion of work. [District Rule 2201] Federally Enforceable Through Title V Permit

13. Heater treater and appurtenances shall be maintained leak-free (as defined in Rule 4623) except during periods of unit maintenance or cleaning, vapor control system maintenance, and power curtailment. [District Rule 2520] Federally Enforceable Through Title V Permit

14. This unit is subject to the Metson Dehy Inspection Conditions on Permit S-1135-70. Deviations from a standard condition shall be reported under the applicable condition in S-1135-70. [District Rule 2520] Federally Enforceable Through Title V Permit

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

DRAFT

PERMIT NO: S-1135-29-32 **ISSUANCE DATE:** DRAFT

LEGAL OWNER OR OPERATOR: AERA ENERGY LLC
MAILING ADDRESS: PO BOX 11164
BAKERSFIELD, CA 93389-1164

LOCATION: HEAVY OIL WESTERN STATIONARY SOURCE
MIDWAY-SUNSET
KERN COUNTY, CA

SECTION: 24 **TOWNSHIP:** 11N **RANGE:** 23W

EQUIPMENT DESCRIPTION:
MODIFICATION OF HEATER TREATER (#2) SERVED BY VAPOR RECOVERY SYSTEM LISTED ON S-1135-70 AND PERMIT EXEMPT BURNER (NATURAL GAS-FIRED, 5.0 MMBTU/HR OR LESS) (METSON LEASE): AUTHORIZE DISCONNECTION OF TANK VAPOR CONTROL SYSTEM FOR 360 HR/YR FOR TANK MAINTENANCE, LOWER VOC CONTENT OF VAPORS TO 25%

CONDITIONS

1. This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District Rule 2201] Federally Enforceable Through Title V Permit
2. Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4." [District Rule 2520] Federally Enforceable Through Title V Permit
3. ATC S-1135-70-19 shall be implemented prior to or concurrently with this ATC. [District Rule 2201] Federally Enforceable Through Title V Permit
4. Tank shall be connected to vapor control when receiving production from TEOR wells operated with closed casing vents. [District Rule 2201] Federally Enforceable Through Title V Permit
5. Fugitive VOC emissions from the components in gas service on the vessel calculated using EPA's Protocol for Equipment Leak Emission Estimates, Table 2-4, Oil and Gas Production Operations Average Emission Factors, shall not exceed 1.8 lb/day. [District Rule 2201] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

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

Seyed Sadredin, Executive Director / APCO

DRAFT

Arnaud Marjollet, Director of Permit Services
S-1135-29-32 Aug 25 2017 11:15AM – EDGEHILR : Joint Inspection NOT Required

6. When disconnected from the vapor control system for maintenance/repairs/upset conditions, vessel 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] Federally Enforceable Through Title V Permit
7. Permittee shall keep accurate records of TVP of liquids stored in the vessel. [District Rules 2201 and 2520] Federally Enforceable Through Title V Permit
8. VOC content of hydrocarbons (VOC/THC) in collected vapors shall not exceed 25% by weight. VOC content of THC in collected vapors shall be sampled annually. [District Rule 2201] Federally Enforceable Through Title V Permit
9. Vessel shall not be required to be served by vapor control system during vapor recovery system (tanks to disposal devices, inclusive) maintenance/repairs/upset conditions for up to 360 hours per year. Approved breakdowns and relief periods granted by variance and supported by the District shall not be included in this limit. [District Rule 2201] Federally Enforceable Through Title V Permit
10. During temporary periods of maintenance/repair/upsets covered by this permit, operator shall use work practices to minimize VOC emissions including: near constant level tank operation, use of operational P/V valve where possible, work completed expeditiously with pre-staging of equipment and material and pre-fabrication of parts, minimization of tank openings and liquid drainage from disconnects, storage of coatings, adhesives, sealants, and organic solvents in closed containers, inspection, monitoring, and repair if necessary of fugitive emissions components at job site within 30 days of completion of work. [District Rule 2201] Federally Enforceable Through Title V Permit
11. Heater treater and appurtenances shall be maintained leak-free (as defined in Rule 4623) except during periods of unit maintenance or cleaning, vapor control system maintenance, and power curtailment. [District Rule 2520] Federally Enforceable Through Title V Permit
12. This unit is subject to the Metson Dehy Inspection Conditions on Permit S-1135-70. Deviations from a standard condition shall be reported under the applicable condition in S-1135-70 [District Rule 2520] Federally Enforceable Through Title V Permit

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

PERMIT NO: S-1135-70-19 **ISSUANCE DATE:** DRAFT

LEGAL OWNER OR OPERATOR: AERA ENERGY LLC
MAILING ADDRESS: PO BOX 11164
BAKERSFIELD, CA 93389-1164

LOCATION: HEAVY OIL WESTERN STATIONARY SOURCE
MIDWAY-SUNSET
KERN COUNTY, CA

SECTION: SW24 **TOWNSHIP:** 11N **RANGE:** 23W

EQUIPMENT DESCRIPTION:
MODIFICATION OF 43,470 GALLON FIXED ROOF REJECT TANK T-110, WITH SHARED VAPOR RECOVERY SYSTEM - METSON LEASE TANK BATTERY: AUTHORIZE DISCONNECTION OF TANK VAPOR CONTROL SYSTEM FOR 360 HR/YR FOR TANK MAINTENANCE, LOWER VOC CONTENT OF VAPORS TO 25%

CONDITIONS

1. This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District Rule 2201] Federally Enforceable Through Title V Permit
2. Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4." [District Rule 2520] Federally Enforceable Through Title V Permit
3. Tank shall be connected to vapor control when receiving production from TEOR wells operated with closed casing vents. [District Rule 2201] Federally Enforceable Through Title V Permit
4. Vapor control system shall include two fin fan heat exchangers, two separators, two compressors, and two liquid transfer pumps, shared between tanks S-1135-70, '-71, '-72, '-322, ' -326, and '-327, and heater treaters S-1135-3 and '-29. Collected vapors shall be compressed to existing TEOR system. [District Rule 2201] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

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

Seyed Sadredin, Executive Director / APCO

Arnaud Marjollet, Director of Permit Services
S-1135-70-19 Aug 25 2017 11:15AM – EDGEHILR : Joint Inspection NOT Required

5. Fugitive VOC emissions rate calculated using EPA's Protocol for Equipment Leak Emission Estimates, Table 2-4, Oil and Gas Production Operations Average Emission Factors, shall not exceed 22.8 lb/day. [District Rule 2201] Federally Enforceable Through Title V Permit
6. When disconnected from the vapor control system for maintenance/repairs/upset conditions, 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] Federally Enforceable Through Title V Permit
7. Permittee shall keep accurate records of TVP of liquids stored in the tank. [District Rules 2201 and 2520] Federally Enforceable Through Title V Permit
8. VOC content of hydrocarbons (VOC/THC) in collected vapors shall not exceed 25% by weight. VOC content of THC in collected vapors shall be sampled annually. [District Rule 2201] Federally Enforceable Through Title V Permit
9. Tank shall not be required to be served by vapor control system during vapor recovery system (tanks to disposal devices, inclusive) maintenance/repairs/upset conditions for up to 360 hours per year. Approved breakdowns and relief periods granted by variance and supported by the District shall not be included in this limit. [District Rule 2201] Federally Enforceable Through Title V Permit
10. During temporary periods of maintenance/repair/upsets covered by this permit, operator shall use work practices to minimize VOC emissions including: near constant level tank operation, use of operational P/V valve where possible, work completed expeditiously with pre-staging of equipment and material and pre-fabrication of parts, minimization of tank openings and liquid drainage from disconnects, storage of coatings, adhesives, sealants, and organic solvents in closed containers, inspection, monitoring, and repair if necessary of fugitive emissions components at job site within 30 days of completion of work. [District Rule 2201] Federally Enforceable Through Title V Permit
11. This unit has a storage capacity less than 420,000 gallons and is used for petroleum or condensate stored, processed and/or treated at a drilling and production facility prior to custody transfer. Therefore, the requirements of 40CFR 60 Subpart K, Ka and Kb do not apply to this source. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
12. METSON DEHY VAPOR RECOVERY CONDITION: The tank shall be equipped with a fixed roof with no holes or openings. [District Rule 2201] Federally Enforceable Through Title V Permit
13. METSON DEHY VAPOR RECOVERY CONDITION: This tank shall only vent to a vapor recovery system. The vapor recovery system shall be an APCO-approved system consisting of a closed vent system that collects all VOCs from the storage tank and a VOC control device. The vapor recovery system shall be maintained in a leak-free condition. The VOC control device shall be either of the following: a vapor return or condensation system that connects to a gas pipeline distribution system, or an approved VOC destruction device the reduces the inlet VOC emissions by at least 99% by weight as determined by the test method specified in Section 6.4 of District Rule 4623 (amended May 19, 2005). [District Rules 2201 and 4623, 5.6.1] Federally Enforceable Through Title V Permit
14. METSON DEHY VAPOR RECOVERY CONDITION: Any tank gauging or sampling device on a tank vented to the vapor recovery system shall be equipped with a leak-free cover which shall be closed at all times except during gauging or sampling. [District Rule 4623, 5.6.2] Federally Enforceable Through Title V Permit
15. METSON DEHY INSPECTION CONDITION: Operator shall visually inspect tank shell, hatches, seals, seams, cable seals, valves, flanges, connectors, and any other piping components directly affixed to the tank and within five feet of the tank at least once per year for liquid leaks, and with a portable hydrocarbon detection instrument conducted in accordance with EPA Method 21 for gas leaks. Operator shall also visually or ultrasonically inspect as appropriate, the external shells and roofs of uninsulated tanks for structural integrity annually. [District Rules 2520, 9.3.2 and 4623, Table 3] Federally Enforceable Through Title V Permit
16. METSON DEHY INSPECTION CONDITION: Upon detection of a liquid leak, defined as a leak rate of greater than or equal to 30 drops per minute, operator shall repair the leak within 8 hours. For leaks with a liquid leak rate of between 3 and 30 drops per minute, the leaking component shall be repaired within 24 hours after detection. [District Rule 4623, Table 3] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

17. METSON DEHY INSPECTION CONDITION: Upon detection of a gas leak, defined as a VOC concentration of greater than 10,000 ppmv measured in accordance with EPA Method 21, operator shall take on of the following actions: 1) eliminate the leak within 8 hours after detection; or 2) if the leak cannot be eliminated, then minimize the leak to the lowest possible level within 8 hours after detection by using best maintenance practices, and eliminate the leak within 48 hours after minimization. In no event shall the total time to minimize and eliminate a leak exceed 56 hours after detection. [District Rule 4623, Table 3] Federally Enforceable Through Title V Permit
18. METSON DEHY INSPECTION CONDITION: Components found to be leaking either liquids or gases shall be immediately affixed with a tag showing the component to be leaking. Operator shall maintain records of the liquid or gas leak detection readings, date/time the leak was discovered, and date/time the component was repaired to a leak-free condition. [District Rules 2520, 9.3.2 and 4623, Table 3] Federally Enforceable Through Title V Permit
19. METSON DEHY INSPECTION CONDITION: Leaking components that have been discovered by the operator that have been immediately tagged and repaired within the timeframes specified in District Rule 4623, Table 3 shall not constitute a violation of District Rule 4623. Leaking components as defined by District Rule 4623 discovered by District staff that were not previously identified and/or tagged by the operator, and/or any leaks that were not repaired within the timeframes specified in District Rule 4623, Table 3 shall constitute a violation of District Rule 4623. [District Rule 4623, Table 3] Federally Enforceable Through Title V Permit
20. METSON DEHY INSPECTION CONDITION: If a component type for a given tank is found to leak during an annual inspection, operator shall conduct quarterly inspections of that component type on the tank or tank system for four consecutive quarters. If no components are found to leak after four consecutive quarters, the operator may revert to annual inspections. [District Rules 2520, 9.3.2 and 4623, Table 3] Federally Enforceable Through Title V Permit
21. METSON DEHY INSPECTION CONDITION: Any component found to be leaking on two consecutive annual inspections is in violation of District Rule 4623, even if covered under the voluntary inspection and maintenance program. [District Rule 4623, Table 3] Federally Enforceable Through Title V Permit
22. METSON DEHY INSPECTION CONDITION: Operator shall maintain an inspection log containing the following: 1) Date of all inspections; 2) Type and identification of leaking components; 3) Date of leak detection and method of detection; 4) Method used to minimize leak; and 5) Date and emission level of recheck after leak is repaired. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
23. METSON DEHY VAPOR RECOVERY CONDITION: The operator shall ensure that the vapor recovery system is functional and is operating as designed. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
24. METSON DEHY TANK CLEANING CONDITION: This permit authorizes tank cleaning that is not the result of breakdowns or poor maintenance as a routine maintenance activity. [District Rules 2020 and 2080] Federally Enforceable Through Title V Permit
25. METSON DEHY TANK CLEANING CONDITION: There shall be no throughput during cleaning of this tank. [District Rule 2080] Federally Enforceable Through Title V Permit
26. METSON DEHY TANK CLEANING CONDITION: Prior to opening the tank to allow tank cleaning the following procedure must be followed. Operate PV valve and vapor recovery system (if equipped) during emptying, filling, and flushing. During filling and purging, no vapor leakage is allowed (except for PV valve venting on tanks not required to have a vapor recovery system). Drain all liquid from the tank to the maximum extent feasible prior to opening the tank. [District Rule 2080] Federally Enforceable Through Title V Permit
27. METSON DEHY TANK CLEANING CONDITION: Prior to opening the tank to allow tank cleaning one of the following options must be followed: 1) operate the vapor recovery system for at least 2 hours after all the liquid in the tank has been drained, 2) displace vapors floating the oil pad off with water such that 90% of the tank volume is displaced, 3) vent the tank to the vapor control system until the vapor concentration is less than 10% of the lower explosive limit (LEL) or 5,000 ppmv whichever is less; or 4) vent the tank to the vapor control system for a length of time determined by the following relationship: $t = 2.3\ V / Q$, where t = time, V = tank volume (cubic feet), and Q= flow rate to the vapor control system as determined using appropriate engineering calculations. [District Rule 2080] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

28. METSON DEHY TANK CLEANING CONDITION: Allowable methods of cleaning include using steam, diesel, solvents with an initial boiling point of greater than 302 F, solvents with a vapor pressure of less than 0.5 psia, or solvents with 50 grams/liter VOC content or less. Steam cleaning shall be allowed at locations where wastewater treatment facilities are limited or during December through March. [District Rule 2201] Federally Enforceable Through Title V Permit

29. METSON DEHY VAPOR RECOVERY CONDITION: Tank pressure/vacuum valve (Varec) shall be inspected on an annual basis. During the varec inspections, the varec can be removed from the tank and replaced if necessary. The permittee shall minimize emissions from the opening by plugging the opening during the removal of varec valve. [District Rule 2520] Federally Enforceable Through Title V Permit

30. METSON DEHY TESTING CONDITION: Permittee shall conduct true vapor pressure (TVP) and API gravity 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] Federally Enforceable Through Title V Permit

31. METSON DEHY TESTING CONDITION: 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. The TVP testing shall be conducted at actual storage temperature of the organic liquid in the tank. [District Rule 4623] Federally Enforceable Through Title V Permit

32. METSON DEHY TESTING CONDITION: 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] Federally Enforceable Through Title V Permit

33. METSON DEHY TESTING CONDITION: Permittee shall retain records of TVP and API gravity testing for District inspection upon request. 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 2080] Federally Enforceable Through Title V Permit

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

DRAFT

PERMIT NO: S-1135-71-11

ISSUANCE DATE: DRAFT

LEGAL OWNER OR OPERATOR: AERA ENERGY LLC
MAILING ADDRESS: PO BOX 11164
BAKERSFIELD, CA 93389-1164

LOCATION: HEAVY OIL WESTERN STATIONARY SOURCE
MIDWAY-SUNSET
KERN COUNTY, CA

SECTION: SW24 **TOWNSHIP:** 11N **RANGE:** 23W

EQUIPMENT DESCRIPTION:
MODIFICATION OF 84,000 GALLON FIXED ROOF LACT TANK T-100 WITH VAPOR RECOVERY (LISTED ON S-1135-70) - METSON LEASE TANK BATTERY: AUTHORIZE DISCONNECTION OF TANK VAPOR CONTROL SYSTEM FOR 360 HR/YR FOR TANK MAINTENANCE, LOWER VOC CONTENT OF VAPORS TO 25%

CONDITIONS

1. This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District Rule 2201] Federally Enforceable Through Title V Permit
2. Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4." [District Rule 2520] Federally Enforceable Through Title V Permit
3. ATC S-1135-70-19 shall be implemented prior to or concurrently with this ATC. [District Rule 2201] Federally Enforceable Through Title V Permit
4. Tank shall be connected to vapor control when receiving production from TEOR wells operated with closed casing vents. [District Rule 2201] Federally Enforceable Through Title V Permit
5. Operation shall include vapor recovery system described on the requirements for permit unit S-1135-70. [District Rule 2201] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

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

Seyed Sadredin, Executive Director / APCO

DRAFT

Arnaud Marjollet, Director of Permit Services
S-1135-71-11 : Aug 25 2017 11:15AM – EDGEHILR : Joint Inspection NOT Required

6. Fugitive VOC emissions from the components in gas service on the vessel calculated using EPA's Protocol for Equipment Leak Emission Estimates, Table 2-4, Oil and Gas Production Operations Average Emission Factors, shall not exceed 0.8 lb/day. [District Rule 2201] Federally Enforceable Through Title V Permit

7. When disconnected from the vapor control system for maintenance/repairs/upset conditions, 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 nand 4623] Federally Enforceable Through Title V Permit

8. Permittee shall keep accurate records of TVP of liquids stored in the tank. [District Rules 2201 and 2520] Federally Enforceable Through Title V Permit

9. VOC content of hydrocarbons (VOC/THC) in collected vapors shall not exceed 25% by weight. VOC content of THC in collected vapors shall be sampled annually. [District Rule 2201] Federally Enforceable Through Title V Permit

10. Tank shall not be required to be served by vapor control system during vapor recovery system (tanks to disposal devices, inclusive) maintenance/repairs/upset conditions for up to 360 hours per year. Approved breakdowns and relief periods granted by variance and supported by the District shall not be included in this limit. [District Rule 2201] Federally Enforceable Through Title V Permit

11. During temporary periods of maintenance/repair/upsets covered by this permit, operator shall use work practices to minimize VOC emissions including: near constant level tank operation, use of operational P/V valve where possible, work completed expeditiously with pre-staging of equipment and material and pre-fabrication of parts, minimization of tank openings and liquid drainage from disconnects, storage of coatings, adhesives, sealants, and organic solvents in closed containers, inspection, monitoring, and repair if necessary of fugitive emissions components at job site within 30 days of completion of work. [District Rule 2201] Federally Enforceable Through Title V Permit

12. This unit has a storage capacity less than 420,000 gallons and is used for petroleum or condensate stored, processed and/or treated at a drilling and production facility prior to custody transfer. Therefore, the requirements of 40CFR 60 Subpart K, Ka and Kb do not apply to this source. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit

13. The Standard Metson Dehy Vapor Recovery, Inspection, Testing, and Tank Cleaning Conditions specified in S-1135-70 apply to the equipment operating under this permit. Deviations from a Standard Metson Condition shall be reported under the applicable condition in S-1135-70. [District Rule 2520] Federally Enforceable Through Title V Permit

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

DRAFT

PERMIT NO: S-1135-72-11 **ISSUANCE DATE:** DRAFT

LEGAL OWNER OR OPERATOR: AERA ENERGY LLC
MAILING ADDRESS: PO BOX 11164
BAKERSFIELD, CA 93389-1164

LOCATION: HEAVY OIL WESTERN STATIONARY SOURCE
MIDWAY-SUNSET
KERN COUNTY, CA

SECTION: SW24 **TOWNSHIP:** 11N **RANGE:** 23W

EQUIPMENT DESCRIPTION:
MODIFICATION OF 5,000 BBL FIXED ROOF STANDBY TANK T-120, WITH VAPOR RECOVERY SYSTEM (LISTED ON S-1135-70) - METSON LEASE TANK BATTERY: AUTHORIZE DISCONNECTION OF TANK VAPOR CONTROL SYSTEM FOR 360 HR/YR FOR TANK MAINTENANCE, LOWER VOC CONTENT OF VAPORS TO 25%

CONDITIONS

1. This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District Rule 2201] Federally Enforceable Through Title V Permit
2. Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4." [District Rule 2520] Federally Enforceable Through Title V Permit
3. ATC S-1135-70-19 shall be implemented prior to or concurrently with this ATC. [District Rule 2201] Federally Enforceable Through Title V Permit
4. Tank shall be connected to vapor control when receiving production from TEOR wells operated with closed casing vents. [District Rule 2201] Federally Enforceable Through Title V Permit
5. Operation shall include vapor recovery system described on the requirements for permit unit S-1135-70. [District Rule 2201] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

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

Seyed Sadredin, Executive Director / APCO

DRAFT

Arnaud Marjollet, Director of Permit Services
S-1135-72-11 Aug 25 2017 11:15AM – EDGEHILR : Joint Inspection NOT Required

6. Fugitive VOC emissions from the components in gas service on the vessel calculated using EPA's Protocol for Equipment Leak Emission Estimates, Table 2-4, Oil and Gas Production Operations Average Emission Factors, shall not exceed 0.7 lb/day. [District Rule 2201] Federally Enforceable Through Title V Permit

7. When disconnected from the vapor control system for maintenance/repairs/upset conditions, 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 nand 4623] Federally Enforceable Through Title V Permit

8. Permittee shall keep accurate records of TVP of liquids stored in the tank. [District Rules 2201 and 2520] Federally Enforceable Through Title V Permit

9. VOC content of hydrocarbons (VOC/THC) in collected vapors shall not exceed 25% by weight. VOC content of THC in collected vapors shall be sampled annually. [District Rule 2201] Federally Enforceable Through Title V Permit

10. Tank shall not be required to be served by vapor control system during vapor recovery system (tanks to disposal devices, inclusive) maintenance/repairs/upset conditions for up to 360 hours per year. Approved breakdowns and relief periods granted by variance and supported by the District shall not be included in this limit. [District Rule 2201] Federally Enforceable Through Title V Permit

11. During temporary periods of maintenance/repair/upsets covered by this permit, operator shall use work practices to minimize VOC emissions including: near constant level tank operation, use of operational P/V valve where possible, work completed expeditiously with pre-staging of equipment and material and pre-fabrication of parts, minimization of tank openings and liquid drainage from disconnects, storage of coatings, adhesives, sealants, and organic solvents in closed containers, inspection, monitoring, and repair if necessary of fugitive emissions components at job site within 30 days of completion of work. [District Rule 2201] Federally Enforceable Through Title V Permit

12. This unit has a storage capacity less than 420,000 gallons and is used for petroleum or condensate stored, processed and/or treated at a drilling and production facility prior to custody transfer. Therefore, the requirements of 40CFR 60 Subpart K, Ka and Kb do not apply to this source. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit

13. The Standard Metson Dehy Vapor Recovery, Inspection, Testing, and Tank Cleaning Conditions specified in S-1135-70 apply to the equipment operating under this permit. Deviations from a Standard Metson Condition shall be reported under the applicable condition in S-1135-70. [District Rule 2520] Federally Enforceable Through Title V Permit

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

DRAFT

PERMIT NO: S-1135-173-25 **ISSUANCE DATE:** DRAFT

LEGAL OWNER OR OPERATOR: AERA ENERGY LLC
MAILING ADDRESS: PO BOX 11164
BAKERSFIELD, CA 93389-1164

LOCATION: HEAVY OIL WESTERN STATIONARY SOURCE
MIDWAY-SUNSET
KERN COUNTY, CA

SECTION: 14 **TOWNSHIP:** 31S **RANGE:** 22E

EQUIPMENT DESCRIPTION:
MODIFICATION OF 1,600 BBL (67,200 GALLON) FIXED ROOF LACT TANK ID# WS-01, HANDLING MAXWELL LEASE PRODUCTION, AND VESSELS V-101, V-102, V-103, AND V-104; WITH VAPOR CONTROL SYSTEM SHARED WITH TANKS S-1135-174, -175, -178, -325, AND -337 (W&S LEASE) DISCHARGING TO TEOR WVVCS S-1135-125: AUTHORIZE DISCONNECTION OF TANK VAPOR CONTROL SYSTEM FOR 360 HR/YR FOR TANK MAINTENANCE

CONDITIONS

1. This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District Rule 2201] Federally Enforceable Through Title V Permit
2. Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4." [District Rule 2520] Federally Enforceable Through Title V Permit
3. Tank shall be connected to vapor control when receiving production from TEOR wells operated with closed casing vents. [District Rule 2201] Federally Enforceable Through Title V Permit
4. Vapor control system shall contain vapor control system piping network and vapor compression system consisting of two vapor compressors, fin fan aerial cooler, and knockout vessels. [District Rule 2201] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

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

Seyed Sadredin, Executive Director / APCO

DRAFT

Arnaud Marjollet, Director of Permit Services
8-1135-173-25 Aug 25 2017 11:15AM – EDGEHILR : Joint Inspection NOT Required

5. Vapor control system piping network shall include vapor space piping and make-up gas serving storage tanks S-1135-173, '-174, '-175, '-178, '-325, and '-337 with vapor control piping to W&S TEOR operation S-1135-125. [District Rule 2201] Federally Enforceable Through Title V Permit

6. Compressor knock-out drum liquids shall be piped only to vapor controlled tanks or crude sales line. [District Rule 2201] Federally Enforceable Through Title V Permit

7. The fugitive VOC emissions from this tank and the vapor control system shall not exceed 2.8 lb/day. [District Rule 2201] Federally Enforceable Through Title V Permit

8. Permittee shall maintain with the permit accurate fugitive component counts for tank and associated vapor control systems and resulting emissions calculated using CAPCOA's "California Implementation Guidelines for Estimating Mass Emissions of Fugitive Hydrocarbon Leaks at Petroleum Facilities," Table IV-2c (Feb 1999) Screening Range emission factors. [District Rule 2201] Federally Enforceable Through Title V Permit

9. When disconnected from the vapor control system for maintenance/repairs/upset conditions, 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] Federally Enforceable Through Title V Permit

10. Permittee shall keep accurate records of TVP of liquids stored in the tank. [District Rules 2201 and 2520] Federally Enforceable Through Title V Permit

11. Tank shall not be required to be served by vapor control system during vapor recovery system (tanks to disposal devices, inclusive) maintenance/repairs/upset conditions for up to 360 hours per year. Approved breakdowns and relief periods granted by variance and supported by the District shall not be included in this limit. [District Rule 2201] Federally Enforceable Through Title V Permit

12. During temporary periods of maintenance/repair/upsets covered by this permit, operator shall use work practices to minimize VOC emissions including: near constant level tank operation, use of operational P/V valve where possible, work completed expeditiously with pre-staging of equipment and material and pre-fabrication of parts, minimization of tank openings and liquid drainage from disconnects, storage of coatings, adhesives, sealants, and organic solvents in closed containers, inspection, monitoring, and repair if necessary of fugitive emissions components at job site within 30 days of completion of work. [District Rule 2201] Federally Enforceable Through Title V Permit

13. This unit has a storage capacity less than 420,000 gallons and is used for petroleum or condensate stored, processed and/or treated at a drilling and production facility prior to custody transfer. Therefore, the requirements of 40CFR 60 Subpart K, Ka and Kb do not apply to this source. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit

14. MAXWELL DEHY VAPOR RECOVERY CONDITION: The tank shall be equipped with a vapor loss prevention system consisting of vapor and condensate collection systems capable of reducing VOC emissions by at least 99%. [District Rule 2201] Federally Enforceable Through Title V Permit

15. MAXWELL DEHY VAPOR RECOVERY CONDITION: Except during periods of tank cleaning, inspections, and maintenance allowed by this permit, tank shall be connected to a vapor control system that is functional and operating as designed. [District Rule 2201] Federally Enforceable Through Title V Permit

16. MAXWELL DEHY VAPOR RECOVERY CONDITION: All tank gauging, hatches, sampling ports, pressure relief valves, vapor control system components, etc. shall be closed and leak-free except during sampling or attended maintenance. [District Rule 2201] Federally Enforceable Through Title V Permit

17. MAXWELL DEHY VAPOR RECOVERY CONDITION: Tanks seams, welds, joints, piping, valves, and fittings shall be inspected and maintained in a leak-free condition. [District Rule 2201] Federally Enforceable Through Title V Permit

18. MAXWELL DEHY TANK CLEANING CONDITION: This permit authorizes tank cleaning that is not the result of breakdowns or poor maintenance as a routine maintenance activity. [District Rule 2080] Federally Enforceable Through Title V Permit

19. MAXWELL DEHY TANK CLEANING CONDITION: There shall be no throughput during cleaning of this tank. [District Rule 2080] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

20. MAXWELL DEHY TANK CLEANING CONDITION: Prior to opening the tank to allow tank cleaning, the following procedure must be followed: Operate PV valve and vapor control system during emptying, filling, and flushing. During filling and purging, no vapor leakage is allowed. Drain all liquid from the tank to the maximum extent feasible prior to opening the tank. [District Rule 2080] Federally Enforceable Through Title V Permit

21. MAXWELL DEHY TANK CLEANING CONDITION: Prior to opening the tank to allow tank cleaning, one of the following options must be followed: 1) operate the vapor control system for at least 2 hours after all the liquid in the tank has been drained, 2) displace vapors floating the oil pad off with water such that 90% of the tank volume is displaced, 3) vent the tank to the vapor control system until the vapor concentration is less than 10% of the lower explosive limit (LEL) or 5,000 ppmv whichever is less; or 4) vent the tank to the vapor control system for a length of time determined by the following relationship: t = 2.3 V / Q, where t = time, V = tank volume (cubic feet), and Q= flow rate to the vapor control system as determined using appropriate engineering calculations. [District Rule 2080] Federally Enforceable Through Title V Permit

22. MAXWELL DEHY TANK CLEANING CONDITION: Allowable methods of cleaning include using steam, diesel, solvents with an initial boiling point of greater than 302 F, solvents with a vapor pressure of less than 0.5 psia, or solvents with 50 grams/liter VOC content or less. Steam cleaning shall be allowed at locations where wastewater treatment facilities are limited or during December through March. [District Rule 2080] Federally Enforceable Through Title V Permit

23. MAXWELL DEHY VAPOR RECOVERY CONDITION: Tank pressure/vacuum valve (Varec) shall be inspected on an annual basis. During the varec inspections, the varec can be removed from the tank and replaced if necessary. The permittee shall minimize emissions from the opening by plugging the opening during the removal of varec valve. [District Rule 2201] Federally Enforceable Through Title V Permit

24. MAXWELL DEHY VAPOR RECOVERY CONDITION: The pressure transmitters shall be inspected and maintained in good operating conditions. The inspections shall be conducted on a quarterly basis. Replacing and repairing of each pressure transmitters shall not exceed one hour per day. [District Rule 2520] Federally Enforceable Through Title V Permit

25. MAXWELL DEHY INSPECTION CONDITION: All piping, fittings, and valves shall be inspected annually by the facility operator in accordance with EPA Method 21, with the instrument calibrated with methane, to ensure compliance with the provisions of this permit. If any of the tank components are found to leak during an annual inspection, the inspection frequency for that component type shall be changed from annual to quarterly. If no tank components are subsequently found to be leaking during five consecutive inspections, the inspection frequency may be changed from quarterly to annual. Components located in inaccessible (over 15 feet above ground when access is required from the ground or over 6 feet away from a platform when access is required from the platform) locations shall be inspected at least annually and components located in unsafe areas shall be inspected and repaired at the next process unit turnaround (the scheduled shutdown of a unit for maintenance and repair work). [District Rule 2520] Federally Enforceable Through Title V Permit

26. MAXWELL DEHY INSPECTION CONDITION: A facility operator, upon detection of a leaking component, shall affix to that component a weatherproof readily visible tag bearing the date on which the leak is detected. The tag shall remain in place until the leaking component is repaired, reinspected and found to be in compliance with the requirements of this rule. [District Rule 2520] Federally Enforceable Through Title V Permit

27. MAXWELL DEHY INSPECTION CONDITION: An operator shall reinspect a component for leaks within thirty working days after the date on which the component is repaired. [District Rule 2520] Federally Enforceable Through Title V Permit

28. MAXWELL DEHY INSPECTION CONDITION: Emissions from components which have been tagged by the facility operator for repair within 15 calendar days or which have been repaired and are awaiting re-inspection shall not be in violation of this permit. [District Rule 2520] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

29. MAXWELL DEHY INSPECTION CONDITION: Any component leak shall be repaired to a leak-free condition or vented to a flare satisfying the requirements of 40 CFR 60.18 or to a vapor control device that is at least 99 percent efficient as measured by EPA Method 18 within fifteen (15) calendar days of detection. The APCO may grant a ten (10) calendar day extension provided the operator demonstrates that necessary and sufficient actions are being taken to correct the leak within this time period. Any vapor control device, other than a flare, used to comply with this condition shall demonstrate at least 99% control efficiency as measured by EPA Method 18 at least annually. [District Rule 2520] Federally Enforceable Through Title V Permit

30. MAXWELL DEHY INSPECTION CONDITION: If the leaking component is an essential part of a critical process unit which cannot be immediately shut down for repairs, the operator shall 1) Minimize the leak within 15 calendar days; and 2) If the leak which has been minimized still exceeds the concentration allowed by this permit, the essential component shall be repaired to eliminate the leak during the next process unit turnaround, but in no case later than one year from the date of the original leak detection. A critical process unit is any process unit which would result in the automatic shutdown of other process units if it were shut down. [District Rule 2520] Federally Enforceable Through Title V Permit

31. MAXWELL DEHY INSPECTION CONDITION: Operator shall maintain an inspection log containing the following 1) Type of component leaking; 2) Date of leak detection, and method of detection; 3) Date and emission level of recheck after leak is repaired; 4) Identification and location of essential parts of critical process units found leaking that cannot be repaired until the next process unit turnaround; and 5) Method used to minimize the leak from essential parts of critical process units which cannot be repaired until the next process unit turnaround. [District Rule 2520] Federally Enforceable Through Title V Permit

32. MAXWELL DEHY VAPOR RECOVERY CONDITION: Permittee shall maintain records of the date and duration of the vapor control system maintenance operation. [District Rule 1070] Federally Enforceable Through Title V Permit

33. MAXWELL DEHY TESTING CONDITION: Permittee shall conduct true vapor pressure (TVP) and API gravity 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] Federally Enforceable Through Title V Permit

34. MAXWELL DEHY TESTING CONDITION: 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. The TVP testing shall be conducted at actual storage temperature of the organic liquid in the tank. [District Rule 4623] Federally Enforceable Through Title V Permit

35. MAXWELL DEHY TESTING CONDITION: The API gravity of crude oil or petroleum distillate shall be determined by using ASTM Method D 287 c1 "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] Federally Enforceable Through Title V Permit

36. MAXWELL DEHY TESTING CONDITION: Permittee shall retain records of TVP and API gravity testing for District inspection upon request. 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 2080] Federally Enforceable Through Title V Permit

37. MAXWELL DEHY INSPECTION CONDITION: A gas leak is a reading in excess of 10,000 parts per million by volume (ppmv), as methane, above background on a portable hydrocarbon detection instrument that is calibrated with methane in accordance with EPA Method 21. A liquid leak is the dripping of organic liquid at a rate of more than 3 drops per minute. [District Rule 4623] Federally Enforceable Through Title V Permit

38. MAXWELL DEHY VAPOR RECOVERY CONDITION: Operator shall monitor vapor control system pressures on quarterly basis to ensure that system pressure does not exceed pressure relief valve setting. [District Rule 2520] Federally Enforceable Through Title V Permit

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

DRAFT

PERMIT NO: S-1135-174-12 **ISSUANCE DATE:** DRAFT

LEGAL OWNER OR OPERATOR: AERA ENERGY LLC
MAILING ADDRESS: PO BOX 11164
BAKERSFIELD, CA 93389-1164

LOCATION: HEAVY OIL WESTERN STATIONARY SOURCE
MIDWAY-SUNSET
KERN COUNTY, CA

SECTION: 14 **TOWNSHIP:** 31S **RANGE:** 22E

EQUIPMENT DESCRIPTION:
MODIFICATION OF 2,000 BBL (84,000 GALLON) FIXED ROOF WASH TANK ID# WS-02, HANDLING MAXWELL LEASE PRODUCTION, CONNECTED TO VAPOR CONTROL SYSTEM LISTED ON S-1135-173 (W&S LEASE): AUTHORIZE DISCONNECTION OF TANK VAPOR CONTROL SYSTEM FOR 360 HR/YR FOR TANK MAINTENANCE

CONDITIONS

1. This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District Rule 2201] Federally Enforceable Through Title V Permit
2. Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4." [District Rule 2520] Federally Enforceable Through Title V Permit
3. ATC S-1135-173-25 shall be implemented prior to or concurrently with this ATC. [District Rule 2201] Federally Enforceable Through Title V Permit
4. Tank shall be connected to vapor control when receiving production from TEOR wells operated with closed casing vents. [District Rule 2201] Federally Enforceable Through Title V Permit
5. Tank shall be vented only to vapor control system listed on S-1135-173. [District Rule 2201] Federally Enforceable Through Title V Permit
6. The fugitive VOC emissions from this tank and the vapor control system shall not exceed 0.1 lb/day. [District Rule 2201] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

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

Seyed Sadredin, Executive Director / APCO

DRAFT

Arnaud Marjollet, Director of Permit Services

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

7. Permittee shall maintain with the permit accurate fugitive component counts for tank and associated vapor control systems and resulting emissions calculated using CAPCOA's "California Implementation Guidelines for Estimating Mass Emissions of Fugitive Hydrocarbon Leaks at Petroleum Facilities," Table IV-2c (Feb 1999) Screening Range emission factors. [District Rule 2201] Federally Enforceable Through Title V Permit

8. Tank shall not be required to be served by vapor control system during vapor recovery system (tanks to disposal devices, inclusive) maintenance/repairs/upset conditions for up to 360 hours per year. Approved breakdowns and relief periods granted by variance and supported by the District shall not be included in this limit. [District Rule 2201] Federally Enforceable Through Title V Permit

9. During temporary periods of maintenance/repair/upsets covered by this permit, operator shall use work practices to minimize VOC emissions including: near constant level tank operation, use of operational P/V valve where possible, work completed expeditiously with pre-staging of equipment and material and pre-fabrication of parts, minimization of tank openings and liquid drainage from disconnects, storage of coatings, adhesives, sealants, and organic solvents in closed containers, inspection, monitoring, and repair if necessary of fugitive emissions components at job site within 30 days of completion of work. [District Rule 2201] Federally Enforceable Through Title V Permit

10. When disconnected from the vapor control system for maintenance/repairs/upset conditions, 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] Federally Enforceable Through Title V Permit

11. Permittee shall keep accurate records of TVP of liquids stored in the tank. [District Rules 2201 and 2520] Federally Enforceable Through Title V Permit

12. The Standard Maxwell Dehy Vapor Recovery, Inspection, Testing, and Tank Cleaning Conditions specified in S-1135-173 apply to the equipment operating under this permit. Deviations from a Standard Maxwell Condition shall be reported under the applicable condition in S-1135-173. [District Rule 2520] Federally Enforceable Through Title V Permit

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

DRAFT

PERMIT NO: S-1135-175-11 **ISSUANCE DATE:** DRAFT

LEGAL OWNER OR OPERATOR: AERA ENERGY LLC
MAILING ADDRESS: PO BOX 11164
BAKERSFIELD, CA 93389-1164

LOCATION: HEAVY OIL WESTERN STATIONARY SOURCE
MIDWAY-SUNSET
KERN COUNTY, CA

SECTION: 14 **TOWNSHIP:** 31S **RANGE:** 22E

EQUIPMENT DESCRIPTION:
MODIFICATION OF 1,600 BBL (67,200 GALLON) FIXED ROOF LACT TANK ID# WS-03, HANDLING MAXWELL LEASE PRODUCTION, CONNECTED TO VAPOR CONTROL SYSTEM LISTED ON S-1135-173 (W&S LEASE): AUTHORIZE DISCONNECTION OF TANK VAPOR CONTROL SYSTEM FOR 360 HR/YR FOR TANK MAINTENANCE

CONDITIONS

1. This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District Rule 2201] Federally Enforceable Through Title V Permit
2. Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4." [District Rule 2520] Federally Enforceable Through Title V Permit
3. ATC S-1135-173-25 shall be implemented prior to or concurrently with this ATC. [District Rule 2201] Federally Enforceable Through Title V Permit
4. Tank shall be connected to vapor control when receiving production from TEOR wells operated with closed casing vents. [District Rule 2201] Federally Enforceable Through Title V Permit
5. Except when disconnected from the vapor control system for maintenance/repairs/upset conditions, tank shall be vented only to vapor control system listed on S-1135-173. [District Rule 2201] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

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

Seyed Sadredin, Executive Director / APCO

DRAFT

Arnaud Marjollet, Director of Permit Services
S-1135-175-11 : Aug 25 2017 11:16AM – EDGEHILR : Joint Inspection NOT Required

6. The fugitive VOC emissions from this tank and the vapor control system shall not exceed 0.1 lb/day. [District Rule 2201] Federally Enforceable Through Title V Permit

7. Permittee shall maintain with the permit accurate fugitive component counts for tank and associated vapor control systems and resulting emissions calculated using CAPCOA's "California Implementation Guidelines for Estimating Mass Emissions of Fugitive Hydrocarbon Leaks at Petroleum Facilities," Table IV-2c (Feb 1999) Screening Range emission factors. [District Rule 2201] Federally Enforceable Through Title V Permit

8. During temporary periods of maintenance/repair/upsets covered by this permit, operator shall use work practices to minimize VOC emissions including: near constant level tank operation, use of operational P/V valve where possible, work completed expeditiously with pre-staging of equipment and material and pre-fabrication of parts, minimization of tank openings and liquid drainage from disconnects, storage of coatings, adhesives, sealants, and organic solvents in closed containers, inspection, monitoring, and repair if necessary of fugitive emissions components at job site within 30 days of completion of work. [District Rule 2201] Federally Enforceable Through Title V Permit

9. When disconnected from the vapor control system for maintenance/repairs/upset conditions, 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] Federally Enforceable Through Title V Permit

10. Permittee shall keep accurate records of TVP of liquids stored in the tank. [District Rules 2201 and 2520] Federally Enforceable Through Title V Permit

11. Tank shall not be required to be served by vapor control system during vapor recovery system (tanks to disposal devices, inclusive) maintenance/repairs/upset conditions for up to 360 hours per year. Approved breakdowns and relief periods granted by variance and supported by the District shall not be included in this limit. [District Rule 2201] Federally Enforceable Through Title V Permit

12. This unit has a storage capacity less than 420,000 gallons and is used for petroleum or condensate stored, processed and/or treated at a drilling and production facility prior to custody transfer. Therefore, the requirements of 40CFR 60 Subpart K, Ka and Kb do not apply to this source. A permit shield is granted from these requirements. [District Rule 2520] Federally Enforceable Through Title V Permit

13. The Standard Maxwell Dehy Vapor Recovery, Inspection, Testing, and Tank Cleaning Conditions specified in S-1135-173 apply to the equipment operating under this permit. Deviations from a Standard Maxwell Condition shall be reported under the applicable condition in S-1135-173. [District Rule 2520] Federally Enforceable Through Title V Permit

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

DRAFT

PERMIT NO: S-1135-178-13 **ISSUANCE DATE:** DRAFT

LEGAL OWNER OR OPERATOR: AERA ENERGY LLC
MAILING ADDRESS: PO BOX 11164
BAKERSFIELD, CA 93389-1164

LOCATION: HEAVY OIL WESTERN STATIONARY SOURCE
MIDWAY-SUNSET
KERN COUNTY, CA

SECTION: 14 **TOWNSHIP:** 31S **RANGE:** 22E

EQUIPMENT DESCRIPTION:
MODIFICATION OF 3,000 BBL (126,000 GALLON) FIXED ROOF SUMP PROCESS TANK ID# WS-06, HANDLING MAXWELL LEASE PRODUCTION, CONNECTED TO VAPOR CONTROL SYSTEM LISTED ON S-1135-173 (W&S LEASE): AUTHORIZE DISCONNECTION OF TANK VAPOR CONTROL SYSTEM FOR 360 HR/YR FOR TANK MAINTENANCE

CONDITIONS

1. This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District Rule 2201] Federally Enforceable Through Title V Permit
2. Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4." [District Rule 2520] Federally Enforceable Through Title V Permit
3. ATC S-1135-173-25 shall be implemented prior to or concurrently with this ATC. [District Rule 2201] Federally Enforceable Through Title V Permit
4. Tank shall be connected to vapor control when receiving production from TEOR wells operated with closed casing vents. [District Rule 2201] Federally Enforceable Through Title V Permit
5. Except when disconnected from the vapor control system for maintenance/repairs/upset conditions, tank shall be vented only to vapor control system listed on S-1135-173. [District Rule 2201] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

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

Seyed Sadredin, Executive Director / APCO

DRAFT

Arnaud Marjollet, Director of Permit Services
S-1135-178-13 : Aug 25 2017 11:18AM – EDGEHILR : Joint Inspection NOT Required

6. The fugitive VOC emissions from this tank and the vapor control system shall not exceed 0.1 lb/day. [District Rule 2201] Federally Enforceable Through Title V Permit

7. Permittee shall maintain with the permit accurate fugitive component counts for tank and associated vapor control systems and resulting emissions calculated using CAPCOA's "California Implementation Guidelines for Estimating Mass Emissions of Fugitive Hydrocarbon Leaks at Petroleum Facilities," Table IV-2c (Feb 1999) Screening Range emission factors. [District Rule 2201] Federally Enforceable Through Title V Permit

8. Tank shall not be required to be served by vapor control system during vapor recovery system (tanks to disposal devices, inclusive) maintenance/repairs/upset conditions for up to 360 hours per year. Approved breakdowns and relief periods granted by variance and supported by the District shall not be included in this limit. [District Rule 2201] Federally Enforceable Through Title V Permit

9. During temporary periods of maintenance/repair/upsets covered by this permit, operator shall use work practices to minimize VOC emissions including: near constant level tank operation, use of operational P/V valve where possible, work completed expeditiously with pre-staging of equipment and material and pre-fabrication of parts, minimization of tank openings and liquid drainage from disconnects, storage of coatings, adhesives, sealants, and organic solvents in closed containers, inspection, monitoring, and repair if necessary of fugitive emissions components at job site within 30 days of completion of work. [District Rule 2201] Federally Enforceable Through Title V Permit

10. When disconnected from the vapor control system for maintenance/repairs/upset conditions,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] Federally Enforceable Through Title V Permit

11. Permittee shall keep accurate records of TVP of liquids stored in the tank. [District Rules 2201 and 2520] Federally Enforceable Through Title V Permit

12. This unit has a storage capacity less than 420,000 gallons and is used for petroleum or condensate stored, processed and/or treated at a drilling and production facility prior to custody transfer. Therefore, the requirements of 40 CFR 60 Subpart K, Ka and Kb do not apply to this source. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit

13. The Standard Maxwell Dehy Vapor Recovery, Inspection, Testing, and Tank Cleaning Conditions specified in S-1135-173 apply to the equipment operating under this permit. Deviations from a Standard Maxwell Condition shall be reported under the applicable condition in S-1135-173. [District Rule 2520] Federally Enforceable Through Title V Permit

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

DRAFT

PERMIT NO: S-1135-322-5 **ISSUANCE DATE:** DRAFT

LEGAL OWNER OR OPERATOR: AERA ENERGY LLC
MAILING ADDRESS: PO BOX 11164
BAKERSFIELD, CA 93389-1164

LOCATION: HEAVY OIL WESTERN STATIONARY SOURCE
MIDWAY-SUNSET
KERN COUNTY, CA

SECTION: SW24 **TOWNSHIP:** 11N **RANGE:** 23W

EQUIPMENT DESCRIPTION:
MODIFICATION OF 3,000 BBL FIXED ROOF WASH TANK T-101, WITH VAPOR RECOVERY (LISTED IN S-1135-70) - METSON LEASE TANK BATTERY: AUTHORIZE DISCONNECTION OF TANK VAPOR CONTROL SYSTEM FOR 360 HR/YR FOR TANK MAINTENANCE, LOWER VOC CONTENT OF VAPORS TO 25%

CONDITIONS

1. This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District Rule 2201] Federally Enforceable Through Title V Permit
2. Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4." [District Rule 2520] Federally Enforceable Through Title V Permit
3. ATC S-1135-70-19 shall be implemented prior to or concurrently with this ATC. [District Rule 2201] Federally Enforceable Through Title V Permit
4. Tank shall be connected to vapor control when receiving production from TEOR wells operated with closed casing vents. [District Rule 2201] Federally Enforceable Through Title V Permit
5. Except when disconnected from the vapor control system for maintenance/repairs/upset conditions, tank shall vent to vapor recovery system S-1135-70. [District Rule 2201] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

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

Seyed Sadredin, Executive Director / APCO

DRAFT

Arnaud Marjollet, Director of Permit Services
S-1135-322-5 Aug 25 2017 11:18AM – EDGEHILR : Joint Inspection NOT Required

6. Fugitive VOC emissions from the components in gas service on the vessel calculated using EPA's Protocol for Equipment Leak Emission Estimates, Table 2-4, Oil and Gas Production Operations Average Emission Factors, shall not exceed 0.8 lb/day. [District Rule 2201] Federally Enforceable Through Title V Permit

7. When disconnected from the vapor control system for maintenance/repairs/upset conditions, 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] Federally Enforceable Through Title V Permit

8. Permittee shall keep accurate records of TVP of liquids stored in the tank. [District Rules 2201 and 2520] Federally Enforceable Through Title V Permit

9. VOC content of hydrocarbons (VOC/THC) in collected vapors shall not exceed 25% by weight. VOC content of THC in collected vapors shall be sampled annually. [District Rule 2201] Federally Enforceable Through Title V Permit

10. Tank shall not be required to be served by vapor control system during vapor recovery system (tanks to disposal devices, inclusive) maintenance/repairs/upset conditions for up to 360 hours per year. Approved breakdowns and relief periods granted by variance and supported by the District shall not be included in this limit. [District Rule 2201] Federally Enforceable Through Title V Permit

11. During temporary periods of maintenance/repair/upsets covered by this permit, operator shall use work practices to minimize VOC emissions including: near constant level tank operation, use of operational P/V valve where possible, work completed expeditiously with pre-staging of equipment and material and pre-fabrication of parts, minimization of tank openings and liquid drainage from disconnects, storage of coatings, adhesives, sealants, and organic solvents in closed containers, inspection, monitoring, and repair if necessary of fugitive emissions components at job site within 30 days of completion of work. [District Rule 2201] Federally Enforceable Through Title V Permit

12. This unit has a storage capacity less than 420,000 gallons and is used for petroleum or condensate stored, processed and/or treated at a drilling and production facility prior to custody transfer. Therefore, the requirements of 40CFR 60 Subpart K, Ka and Kb do not apply to this source. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit

13. The Standard Metson Dehy Vapor Recovery, Inspection, Testing, and Tank Cleaning Conditions specified in S-1135-70 apply to the equipment operating under this permit. Deviations from a Standard Metson Condition shall be reported under the applicable condition in S-1135-70. [District Rule 2520] Federally Enforceable Through Title V Permit

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

DRAFT

PERMIT NO: S-1135-325-5

ISSUANCE DATE: DRAFT

LEGAL OWNER OR OPERATOR: AERA ENERGY LLC
MAILING ADDRESS: PO BOX 11164
BAKERSFIELD, CA 93389-1164

LOCATION: HEAVY OIL WESTERN STATIONARY SOURCE
MIDWAY-SUNSET
KERN COUNTY, CA

EQUIPMENT DESCRIPTION:
MODIFICATION OF 3,000 BBL FIXED ROOF CRUDE OIL STORAGE TANK, HANDLING MAXWELL LEASE PRODUCTION, SERVED BY VAPOR CONTROL SYSTEM LISTED ON S-1135-173 (W & S LEASE): AUTHORIZE DISCONNECTION OF TANK VAPOR CONTROL SYSTEM FOR 360 HR/YR FOR TANK MAINTENANCE

CONDITIONS

1. This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District Rule 2201] Federally Enforceable Through Title V Permit
2. Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4." [District Rule 2520] Federally Enforceable Through Title V Permit
3. ATC S-1135-173-25 shall be implemented prior to or concurrently with this ATC. [District Rule 2201] Federally Enforceable Through Title V Permit
4. Tank shall be connected to vapor control when receiving production from TEOR wells operated with closed casing vents. [District Rule 2201] Federally Enforceable Through Title V Permit
5. Except when disconnected from the vapor control system for maintenance/repairs/upset conditions, tank shall be vented only to vapor control system listed on S-1135-173. [District Rule 2201] Federally Enforceable Through Title V Permit
6. The fugitive VOC emissions from this tank and the vapor control system shall not exceed 0.5 lb/day. [District Rule 2201] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

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

Seyed Sadredin, Executive Director / APCO

DRAFT

Arnaud Marjollet, Director of Permit Services

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

7. Permittee shall maintain with the permit accurate fugitive component counts for tank and associated vapor control systems and resulting emissions calculated using CAPCOA's "California Implementation Guidelines for Estimating Mass Emissions of Fugitive Hydrocarbon Leaks at Petroleum Facilities," Table IV-2c (Feb 1999) Screening Range emission factors. [District Rule 2201] Federally Enforceable Through Title V Permit

8. When disconnected from the vapor control system for maintenance/repairs/upset conditions, 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] Federally Enforceable Through Title V Permit

9. Permittee shall keep accurate records of TVP of liquids stored in the tank. [District Rules 2201 and 2520] Federally Enforceable Through Title V Permit

10. Tank shall not be required to be served by vapor control system during vapor recovery system (tanks to disposal devices, inclusive) maintenance/repairs/upset conditions for up to 360 hours per year. Approved breakdowns and relief periods granted by variance and supported by the District shall not be included in this limit. [District Rule 2201] Federally Enforceable Through Title V Permit

11. During temporary periods of maintenance/repair/upsets covered by this permit, operator shall use work practices to minimize VOC emissions including: near constant level tank operation, use of operational P/V valve where possible, work completed expeditiously with pre-staging of equipment and material and pre-fabrication of parts, minimization of tank openings and liquid drainage from disconnects, storage of coatings, adhesives, sealants, and organic solvents in closed containers, inspection, monitoring, and repair if necessary of fugitive emissions components at job site within 30 days of completion of work. [District Rule 2201] Federally Enforceable Through Title V Permit

12. This unit has a storage capacity less than 420,000 gallons and is used for petroleum or condensate stored, processed and/or treated at a drilling and production facility prior to custody transfer. Therefore, the requirements of 40CFR 60 Subpart K, Ka and Kb do not apply to this source. A permit shield is granted from these requirements. [District Rule 2520] Federally Enforceable Through Title V Permit

13. The Standard Maxwell Dehy Vapor Recovery, Inspection, Testing, and Tank Cleaning Conditions specified in S-1135-173 apply to the equipment operating under this permit. Deviations from a Standard Maxwell Condition shall be reported under the applicable condition in S-1135-173. [District Rule 2520] Federally Enforceable Through Title V Permit

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

DRAFT

PERMIT NO: S-1135-326-5 **ISSUANCE DATE:** DRAFT

LEGAL OWNER OR OPERATOR: AERA ENERGY LLC
MAILING ADDRESS: PO BOX 11164
BAKERSFIELD, CA 93389-1164

LOCATION: HEAVY OIL WESTERN STATIONARY SOURCE
MIDWAY-SUNSET
KERN COUNTY, CA

SECTION: SW24 **TOWNSHIP:** 11N **RANGE:** 23W

EQUIPMENT DESCRIPTION:
MODIFICATION OF 3,000 BBL FIXED ROOF WASH TANK T-102, WITH VAPOR RECOVERY (LISTED IN S-1135-70) - METSON LEASE TANK BATTERY: AUTHORIZE DISCONNECTION OF TANK VAPOR CONTROL SYSTEM FOR 360 HR/YR FOR TANK MAINTENANCE, LOWER VOC CONTENT OF VAPORS TO 25%

CONDITIONS

1. This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District Rule 2201] Federally Enforceable Through Title V Permit
2. Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4." [District Rule 2520] Federally Enforceable Through Title V Permit
3. ATC S-1135-70-19 shall be implemented prior to or concurrently with this ATC. [District Rule 2201] Federally Enforceable Through Title V Permit
4. Tank shall be connected to vapor control when receiving production from TEOR wells operated with closed casing vents. [District Rule 2201] Federally Enforceable Through Title V Permit
5. Except when disconnected from the vapor control system for maintenance/repairs/upset conditions, tank shall onlt vent to vapor control listed on S-1135-70. [District Rule]

CONDITIONS CONTINUE ON NEXT PAGE

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

Seyed Sadredin, Executive Director / APCO

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Arnaud Marjollet, Director of Permit Services
S-1135-326-5 Aug 25 2017 11 18AM – EDGEHILR : Joint Inspection NOT Required

6. Fugitive VOC emissions from the components in gas service on the vessel calculated using EPA's Protocol for Equipment Leak Emission Estimates, Table 2-4, Oil and Gas Production Operations Average Emission Factors, shall not exceed 0.8 lb/day. [District Rule 2201] Federally Enforceable Through Title V Permit

7. When disconnected from the vapor control system for maintenance/repairs/upset conditions, 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] Federally Enforceable Through Title V Permit

8. Permittee shall keep accurate records of TVP of liquids stored in the tank. [District Rules 2201 and 2520] Federally Enforceable Through Title V Permit

9. VOC content of hydrocarbons (VOC/THC) in collected vapors shall not exceed 25% by weight. VOC content of THC in collected vapors shall be sampled annually. [District Rule 2201] Federally Enforceable Through Title V Permit

10. Tank shall not be required to be served by vapor control system during vapor recovery system (tanks to disposal devices, inclusive) maintenance/repairs/upset conditions for up to 360 hours per year. Approved breakdowns and relief periods granted by variance and supported by the District shall not be included in this limit. [District Rule 2201] Federally Enforceable Through Title V Permit

11. During temporary periods of maintenance/repair/upsets covered by this permit, operator shall use work practices to minimize VOC emissions including: near constant level tank operation, use of operational P/V valve where possible, work completed expeditiously with pre-staging of equipment and material and pre-fabrication of parts, minimization of tank openings and liquid drainage from disconnects, storage of coatings, adhesives, sealants, and organic solvents in closed containers, inspection, monitoring, and repair if necessary of fugitive emissions components at job site within 30 days of completion of work. [District Rule 2201] Federally Enforceable Through Title V Permit

12. This unit has a storage capacity less than 420,000 gallons and is used for petroleum or condensate stored, processed and/or treated at a drilling and production facility prior to custody transfer. Therefore, the requirements of 40CFR 60 Subpart K, Ka and Kb do not apply to this source. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit

13. The Standard Metson Dehy Vapor Recovery, Inspection, Testing, and Tank Cleaning Conditions specified in S-1135-70 apply to the equipment operating under this permit. Deviations from a Standard Metson Condition shall be reported under the applicable condition in S-1135-70. [District Rule 2520] Federally Enforceable Through Title V Permit

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

DRAFT

PERMIT NO: S-1135-327-4

ISSUANCE DATE: DRAFT

LEGAL OWNER OR OPERATOR: AERA ENERGY LLC
MAILING ADDRESS: PO BOX 11164
BAKERSFIELD, CA 93389-1164

LOCATION: HEAVY OIL WESTERN STATIONARY SOURCE
MIDWAY-SUNSET
KERN COUNTY, CA

EQUIPMENT DESCRIPTION:
MODIFICATION OF 905 BBL FWKO VESSEL (V-100) CONNECTED TO VAPOR RECOVERY SYSTEM LISTED ON S-1135-70: AUTHORIZE DISCONNECTION OF TANK VAPOR CONTROL SYSTEM FOR 360 HR/YR FOR TANK MAINTENANCE, LOWER VOC CONTENT OF VAPORS TO 25%

CONDITIONS

1. This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District Rule 2201] Federally Enforceable Through Title V Permit
2. Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4." [District Rule 2520] Federally Enforceable Through Title V Permit
3. ATC S-1135-70-19 shall be implemented prior to or concurrently with this ATC. [District Rule 2201] Federally Enforceable Through Title V Permit
4. Tank shall be connected to vapor control when receiving production from TEOR wells operated with closed casing vents. [District Rule 2201] Federally Enforceable Through Title V Permit
5. Except when disconnected from the vapor control system for maintenance/repairs/upset conditions, vessel shall vent only to the vapor control system listed on S-1135-70. [District Rule 2201] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

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

Seyed Sadredin, Executive Director / APCO

DRAFT

Arnaud Marjollet, Director of Permit Services

S-1135-327-4 : Aug 25 2017 11:16AM – EDGEHILR : Joint Inspection NOT Required

6. Fugitive VOC emissions from the components in gas service on the vessel calculated using EPA's Protocol for Equipment Leak Emission Estimates, Table 2-4, Oil and Gas Production Operations Average Emission Factors, shall not exceed 1.9 lb/day. [District Rule 2201] Federally Enforceable Through Title V Permit

7. When disconnected from the vapor control system for maintenance/repairs/upset conditions, vessel 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] Federally Enforceable Through Title V Permit

8. Permittee shall keep accurate records of TVP of liquids stored in the tank. [District Rules 2201 and 2520] Federally Enforceable Through Title V Permit

9. VOC content of hydrocarbons (VOC/THC) in collected vapors shall not exceed 25% by weight. VOC content of THC in collected vapors shall be sampled annually. [District Rule 2201] Federally Enforceable Through Title V Permit

10. Vessel shall not be required to be served by vapor control system during vapor recovery system (tanks to disposal devices, inclusive) maintenance/repairs/upset conditions for up to 360 hours per year. Approved breakdowns and relief periods granted by variance and supported by the District shall not be included in this limit. [District Rule 2201] Federally Enforceable Through Title V Permit

11. During temporary periods of maintenance/repair/upsets covered by this permit, operator shall use work practices to minimize VOC emissions including: near constant level tank operation, use of operational P/V valve where possible, work completed expeditiously with pre-staging of equipment and material and pre-fabrication of parts, minimization of tank openings and liquid drainage from disconnects, storage of coatings, adhesives, sealants, and organic solvents in closed containers, inspection, monitoring, and repair if necessary of fugitive emissions components at job site within 30 days of completion of work. [District Rule 2201] Federally Enforceable Through Title V Permit

12. This unit has a storage capacity less than 420,000 gallons and is used for petroleum or condensate stored, processed and/or treated at a drilling and production facility prior to custody transfer. Therefore, the requirements of 40CFR 60 Subpart K, Ka and Kb do not apply to this source. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit

13. The Standard Metson Dehy Vapor Recovery, Inspection, Testing, and Tank Cleaning Conditions specified in S-1135-70 apply to the equipment operating under this permit. Deviations from a Standard Metson Condition shall be reported under the applicable condition in S-1135-70. [District Rule 2520] Federally Enforceable Through Title V Permit

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

DRAFT

PERMIT NO: S-1135-337-5

ISSUANCE DATE: DRAFT

LEGAL OWNER OR OPERATOR: AERA ENERGY LLC
MAILING ADDRESS: PO BOX 11164
BAKERSFIELD, CA 93389-1164

LOCATION: HEAVY OIL WESTERN STATIONARY SOURCE
MIDWAY-SUNSET
KERN COUNTY, CA

EQUIPMENT DESCRIPTION:
MODIFICATION OF 3,000 BBL (126,000 GALLON) FIXED ROOF STOCK TANK ID# WS-04, HANDLING MAXWELL LEASE PRODUCTION, CONNECTED TO VAPOR CONTROL SYSTEM LISTED ON S-1135-173 (W&S LEASE): AUTHORIZE DISCONNECTION OF TANK VAPOR CONTROL SYSTEM FOR 360 HR/YR FOR TANK MAINTENANCE

CONDITIONS

1. This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District Rule 2201] Federally Enforceable Through Title V Permit
2. Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4." [District Rule 2520] Federally Enforceable Through Title V Permit
3. ATC S-1135-173-25 shall be implemented prior to or concurrently with this ATC. [District Rule 2201] Federally Enforceable Through Title V Permit
4. Tank shall be connected to vapor control when receiving production from TEOR wells operated with closed casing vents. [District Rule 2201] Federally Enforceable Through Title V Permit
5. Except when disconnected from the vapor control system for maintenance/repairs/upset conditions, tank shall be vented only to vapor control system listed on S-1135-173. [District Rule 2201] Federally Enforceable Through Title V Permit
6. The fugitive VOC emissions from this tank and the vapor control system shall not exceed 0.2 lb/day. [District Rule 2201] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

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

Seyed Sadredin, Executive Director / APCO

DRAFT

Arnaud Marjollet, Director of Permit Services

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7. Permittee shall maintain with the permit accurate fugitive component counts for tank and associated vapor control systems and resulting emissions calculated using CAPCOA's "California Implementation Guidelines for Estimating Mass Emissions of Fugitive Hydrocarbon Leaks at Petroleum Facilities," Table IV-2c (Feb 1999) Screening Range emission factors. [District Rule 2201] Federally Enforceable Through Title V Permit
8. When disconnected from the vapor control system for maintenance/repairs/upset conditions, 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] Federally Enforceable Through Title V Permit
9. Permittee shall keep accurate records of TVP of liquids stored in each tank. [District Rules 2201 and 2520] Federally Enforceable Through Title V Permit
10. Tank shall not be required to be served by vapor control system during vapor recovery system (tanks to disposal devices, inclusive) maintenance/repairs/upset conditions for up to 360 hours per year. Approved breakdowns and relief periods granted by variance and supported by the District shall not be included in this limit. [District Rule 2201] Federally Enforceable Through Title V Permit
11. During temporary periods of maintenance/repair/upsets covered by this permit, operator shall use work practices to minimize VOC emissions including: near constant level tank operation, use of operational P/V valve where possible, work completed expeditiously with pre-staging of equipment and material and pre-fabrication of parts, minimization of tank openings and liquid drainage from disconnects, storage of coatings, adhesives, sealants, and organic solvents in closed containers, inspection, monitoring, and repair if necessary of fugitive emissions components at job site within 30 days of completion of work. [District Rule 2201] Federally Enforceable Through Title V Permit
12. This unit has a storage capacity less than 420,000 gallons and is used for petroleum or condensate stored, processed and/or treated at a drilling and production facility prior to custody transfer. Therefore, the requirements of 40CFR 60 Subpart K, Ka and Kb do not apply to this source. A permit shield is granted from these requirements. [District Rule 2520] Federally Enforceable Through Title V Permit
13. The Standard Maxwell Dehy Vapor Recovery, Inspection, Testing, and Tank Cleaning Conditions specified in S-1135-173 apply to the equipment operating under this permit. Deviations from a Standard Maxwell Condition shall be reported under the applicable condition in S-1135-173. [District Rule 2520] Federally Enforceable Through Title V Permit

6. Fugitive VOC emissions from the components in gas service on the vessel calculated using EPA's Protocol for Equipment Leak Emission Estimates, Table 2-4, Oil and Gas Production Operations Average Emission Factors, shall not exceed 1.9 lb/day. [District Rule 2201] Federally Enforceable Through Title V Permit

7. When disconnected from the vapor control system for maintenance/repairs/upset conditions, vessel 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] Federally Enforceable Through Title V Permit

8. Permittee shall keep accurate records of TVP of liquids stored in the tank. [District Rules 2201 and 2520] Federally Enforceable Through Title V Permit

9. VOC content of hydrocarbons (VOC/THC) in collected vapors shall not exceed 25% by weight. VOC content of THC in collected vapors shall be sampled annually. [District Rule 2201] Federally Enforceable Through Title V Permit

10. Vessel shall not be required to be served by vapor control system during vapor recovery system (tanks to disposal devices, inclusive) maintenance/repairs/upset conditions for up to 360 hours per year. Approved breakdowns and relief periods granted by variance and supported by the District shall not be included in this limit. [District Rule 2201] Federally Enforceable Through Title V Permit

11. During temporary periods of maintenance/repair/upsets covered by this permit, operator shall use work practices to minimize VOC emissions including: near constant level tank operation, use of operational P/V valve where possible, work completed expeditiously with pre-staging of equipment and material and pre-fabrication of parts, minimization of tank openings and liquid drainage from disconnects, storage of coatings, adhesives, sealants, and organic solvents in closed containers, inspection, monitoring, and repair if necessary of fugitive emissions components at job site within 30 days of completion of work. [District Rule 2201] Federally Enforceable Through Title V Permit

12. This unit has a storage capacity less than 420,000 gallons and is used for petroleum or condensate stored, processed and/or treated at a drilling and production facility prior to custody transfer. Therefore, the requirements of 40CFR 60 Subpart K, Ka and Kb do not apply to this source. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit

13. The Standard Metson Dehy Vapor Recovery, Inspection, Testing, and Tank Cleaning Conditions specified in S-1135-70 apply to the equipment operating under this permit. Deviations from a Standard Metson Condition shall be reported under the applicable condition in S-1135-70. [District Rule 2520] Federally Enforceable Through Title V Permit

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

PERMIT NO: S-1135-337-5

ISSUANCE DATE: DRAFT

LEGAL OWNER OR OPERATOR: AERA ENERGY LLC
MAILING ADDRESS: PO BOX 11164
BAKERSFIELD, CA 93389-1164

LOCATION: HEAVY OIL WESTERN STATIONARY SOURCE
MIDWAY-SUNSET
KERN COUNTY, CA

EQUIPMENT DESCRIPTION:
MODIFICATION OF 3,000 BBL (126,000 GALLON) FIXED ROOF STOCK TANK ID# WS-04, HANDLING MAXWELL LEASE PRODUCTION, CONNECTED TO VAPOR CONTROL SYSTEM LISTED ON S-1135-173 (W&S LEASE): AUTHORIZE DISCONNECTION OF TANK VAPOR CONTROL SYSTEM FOR 360 HR/YR FOR TANK MAINTENANCE

CONDITIONS

1. This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District Rule 2201] Federally Enforceable Through Title V Permit
2. Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4." [District Rule 2520] Federally Enforceable Through Title V Permit
3. ATC S-1135-173-25 shall be implemented prior to or concurrently with this ATC. [District Rule 2201] Federally Enforceable Through Title V Permit
4. Tank shall be connected to vapor control when receiving production from TEOR wells operated with closed casing vents. [District Rule 2201] Federally Enforceable Through Title V Permit
5. Except when disconnected from the vapor control system for maintenance/repairs/upset conditions, tank shall be vented only to vapor control system listed on S-1135-173. [District Rule 2201] Federally Enforceable Through Title V Permit
6. The fugitive VOC emissions from this tank and the vapor control system shall not exceed 0.2 lb/day. [District Rule 2201] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

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

Seyed Sadredin, Executive Director / APCO

Arnaud Marjollet, Director of Permit Services
S-1135-337-5 : Aug 25 2017 11:16AM – EDGEHILR : Joint Inspection NOT Required

7. Permittee shall maintain with the permit accurate fugitive component counts for tank and associated vapor control systems and resulting emissions calculated using CAPCOA's "California Implementation Guidelines for Estimating Mass Emissions of Fugitive Hydrocarbon Leaks at Petroleum Facilities," Table IV-2c (Feb 1999) Screening Range emission factors. [District Rule 2201] Federally Enforceable Through Title V Permit
8. When disconnected from the vapor control system for maintenance/repairs/upset conditions, 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] Federally Enforceable Through Title V Permit
9. Permittee shall keep accurate records of TVP of liquids stored in each tank. [District Rules 2201 and 2520] Federally Enforceable Through Title V Permit
10. Tank shall not be required to be served by vapor control system during vapor recovery system (tanks to disposal devices, inclusive) maintenance/repairs/upset conditions for up to 360 hours per year. Approved breakdowns and relief periods granted by variance and supported by the District shall not be included in this limit. [District Rule 2201] Federally Enforceable Through Title V Permit
11. During temporary periods of maintenance/repair/upsets covered by this permit, operator shall use work practices to minimize VOC emissions including: near constant level tank operation, use of operational P/V valve where possible, work completed expeditiously with pre-staging of equipment and material and pre-fabrication of parts, minimization of tank openings and liquid drainage from disconnects, storage of coatings, adhesives, sealants, and organic solvents in closed containers, inspection, monitoring, and repair if necessary of fugitive emissions components at job site within 30 days of completion of work. [District Rule 2201] Federally Enforceable Through Title V Permit
12. This unit has a storage capacity less than 420,000 gallons and is used for petroleum or condensate stored, processed and/or treated at a drilling and production facility prior to custody transfer. Therefore, the requirements of 40CFR 60 Subpart K, Ka and Kb do not apply to this source. A permit shield is granted from these requirements. [District Rule 2520] Federally Enforceable Through Title V Permit
13. The Standard Maxwell Dehy Vapor Recovery, Inspection, Testing, and Tank Cleaning Conditions specified in S-1135-173 apply to the equipment operating under this permit. Deviations from a Standard Maxwell Condition shall be reported under the applicable condition in S-1135-173. [District Rule 2520] Federally Enforceable Through Title V Permit