San Joaquin Valley
AIR POLLUTION CONTROL DISTRICT

HEALTHY AIR LIVING™

JUL 24 2014

Ms. Ashley Dahlstrom
Chevron U.S.A. Inc.
PO Box 1392
Bakersfield, CA 93302

Re: Proposed ATC / Certificate of Conformity (Significant Mod)
District Facility # S-1128
Project # 1134679

Dear Ms. Dahlstrom:

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. Chevron U.S.A. (CUSA) has requested Authority to Construct permits for the installation of free water knockout vessels, gas knockout vessels, tanks, and an open-top emergency use vessel at CUSA's 26C, 31E, and 2F oil cleaning plants.

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

AM:DT/st

Enclosures

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

Seyed Sadredin
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San Joaquin Valley Air Pollution Control District
Authority to Construct Application Review
Installation of FWKO Vessels, Gas Knockout Vessels and Tanks

Facility Name:	Chevron U.S.A. Inc. (CUSA)		
Mailing Address:	PO Box 1392 Bakersfield, CA 93302	Engineer: Lead Engineer:	David Torii Allan Phillips
Contact Person:	Ashley Dahlstrom		
Telephone:	(661) 654-7293		
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E-Mail:	AshleyDahlstrom@chevron.com		
Application #(s):	S-1128-118-20, '125-23, '993-0, '994-0, '995-0, '996-0, '997-0, '998-0, '999-0, '1000-0 and '1001-0		
Project #:	1134679		
Deemed Complete:	1/8/14		

JUL 18 2014

I. Proposal

The primary business of Chevron U.S.A. (CUSA) is crude oil production. Water is a byproduct of crude oil production and in the past CUSA has disposed of produced water via percolation ponds. However, to better control water disposal, CUSA is planning to replace these percolation ponds with produced water disposal wells.

To minimize the number of produced water disposal wells, CUSA must direct the flow of water to centralized locations. Therefore, CUSA is proposing to send produced fluids from the 2F and 31E OCPs (Oil Cleaning Plants) to be commingled with the produced fluids the 26C OCP already receives from crude oil production wells in the area. Free water will be removed from the emulsion and processed at the 26C water cleaning plant (WCP). The remaining emulsion will then be sent to Station 1-09 for further processing. From 1-09, produced oil will be sent to pipeline and produced water will be injected via a disposal well. A review of each affected site is included in Section IV.

This proposal is for the installation of free water knockout vessels, gas knockout vessels, tanks, and an open-top emergency use vessel at the 26C, 31E, and 2F OCPs.

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

II. Applicable Rules

Rule 2201	New and Modified Stationary Source Review Rule (4/21/11)
Rule 2410	Prevention of Significant Deterioration (6/16/11)
Rule 2520	Federally Mandated Operating Permits (6/21/01)
Rule 4001	New Source Performance Standards (4/14/99)
Rule 4002	National Emissions Standards for Hazardous Air Pollutants (5/20/04)
Rule 4101	Visible Emissions (2/17/05)
Rule 4102	Nuisance (12/17/92)
Rule 4401	Steam Enhanced Crude Oil Production Well Vents (6/16/11)
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

This project is located at the 26C, 31E, and 2F OCPs, Midway Sunset Oilfield, CUSA's Western Kern County field heavy oil production stationary source. This project is not located within 1,000 feet of a K-12 school.

IV. Process Description

Water is a byproduct of crude oil production and in the past CUSA has disposed of produced water via percolation ponds. However, to better control water disposal, CUSA is planning to replace these percolation ponds with produced water disposal wells.

A review of each affected site is as follows:

2F OCP (S-1128-1000-0, and '1001) and 31E OCP (S-1128-997, '998 and '999)

Vessels will be utilized at 2F and 31E to de-gas the production line as the emulsion flows to the 26C OCP. They will be served by vapor recovery; however, fugitive emissions for 2F will not be assessed pursuant to District Policy SSP-2015 which states, "VOC emissions are not assessed to the following components. Piping and components handling fluid streams with a VOC content of 10% or less by weight (i.e. VOCs as a percentage of the entire gas stream)". Gas removed from the production line at 2F and 31E will continue to be sent to the 2F Steam Plant. The 31E gas knockout vessels will tie into the outlet of the 31E booster which goes directly to the 2F Steam Plant. The 2F gas knockout vessels will tie into the 2F thermally enhanced oil recovery (TEOR) casing collection system (CCS), listed on S-1128-125, and will continue to be sent to the 2F Steam Plant. The installation of gas knockout vessels and tanks at the 31E and 2F OCPs will be addressed in this engineering evaluation.

26C OCP (S-1128-993, '994, '995 and '996)
Upon arriving at the 26C OCP, the comingled fluids will flow through FWKO vessels to separate gas, free water, and oil/water mixture. Gas separated at the 26C OCP

will continue to be sent to the 26C Steam Plant via the 26C TEOR CCS, listed on S-1128-118. Free water removed from the FWKO vessels will continue to be sent to the 26C WCP and then to injection wells. The oil/water emulsion will then be sent to Station 1-09 for further processing. In addition to the free water knockout vessels, a tank, as well as an open top emergency use vessel, will also be operated at this site. The installations proposed for the 26C OCP will be addressed in this engineering evaluation.

Station 1-09
Further processing will occur at Station 1-09, produced oil will be sent to pipeline and produced water will then be injected via a disposal well. Produced gas from Station 1-09 will continue to be sent to the 17S Steam Plant. To accommodate the consolidation efforts noted above, Station 1-09 will be equipped with a new free water knockout vessel connected to the existing vapor recovery line via the Station 1-09 tank vapor recovery system, listed on S-1141-127. As Station 1-09 is included under a separate facility i.d. (S-1141), any installations/modifications for this location are addressed under a separate engineering evaluation.

Station 2-22
Produced water from the 2-22 OCP will be sent to the 2-22 Water Cleaning Plant (WCP). Additionally, water from Station 1-09 may be sent to Station 2-22. To accommodate this flow, CUSA proposes to install a tank at the 2-22 OCP. The tank will be connected to the existing vapor recovery line via the 2-22 tank vapor recovery system, listed on S-1141-495. As Station 2-22 is included under a separate facility i.d. (S-1141), any installations/modifications for this location are addressed under a separate engineering evaluation.

As noted above, this proposal is for the installation of free water knockout vessels, gas knockout vessels, tanks, and an open top emergency use vessel at the 26C, 31E, and 2F OCPs. The tanks will be used for emergency standby (to ensure no spills) and non-emergency removal of fluids (drains and system maintenance). Accompanying the tanks will be open-top emergency use vessels. These vessels are relief knockout drums which allow production to safely degas before routing to tanks during an upset condition. These open-top vessels were designed as a safety measure to ensure that an upset condition would not lead to over pressuring of the tanks in an emergency situation. The 2F, 31E, and 26C OCPs will each be equipped with one of these open top vessels. However, only the 26C vessel (S-1128-996) is large enough to require permitting.

Gas and condensate samples provided in previous projects show that the vapor recovery gas from the vapor control systems serving equipment at the 2F and 26C OCPs has a VOC content of 10% or less by weight. Therefore, the fugitive emissions associated with a change in components for the units equipped to vapor recovery at these locations is considered negligible. However, the vapor recovery gas from the vapor control system serving the equipment at 31E OCP will have VOC content greater than 10% by weight. Therefore, the fugitive emissions for the 31E OCP will be calculated below.

Block flow diagrams and process flow diagrams are included in Appendix B.

V. Equipment Listing

Current PTOs:

S1128-118-19: THERMALLY ENHANCED OIL RECOVERY (TEOR) OPERATION WELL VENT VAPOR CONTROL SYSTEM SERVING 628 STEAM DRIVE WELLS, INCLUDING HEAT EXCHANGERS, GAS/LIQUID SEPARATOR, VAPOR COMPRESSORS, AND PIPING TO AUTHORIZED DISPOSAL/INCINERATION DEVICES

S-1128-125-22: THERMALLY ENHANCED OIL RECOVERY (TEOR) OPERATION WELL VENT VAPOR CONTROL SYSTEM SERVING 253 STEAM ENHANCED WELLS, INCLUDING HEAT EXCHANGERS, GAS/LIQUID SEPARATOR, VAPOR COMPRESSORS, AND VAPOR PIPING TO STEAM GENERATORS S-1128-15, S-1128-18, AND VAPOR PIPING TIED INTO VAPOR RECOVERY LINE FROM SYSTEM LISTED UNDER PERMIT S-1128-617

Proposed ATCs:

S-1128-118-20: MODIFICATION OF THERMALLY ENHANCED OIL RECOVERY (TEOR) OPERATION WELL VENT VAPOR CONTROL SYSTEM SERVING 628 STEAM DRIVE WELLS, INCLUDING HEAT EXCHANGERS, GAS/LIQUID SEPARATOR, VAPOR COMPRESSORS, AND PIPING TO AUTHORIZED DISPOSAL/INCINERATION DEVICES: CONNECT S-1128-994 TO VAPOR CONTROL SYSTEM

S-1128-125-23: MODIFICATION OF THERMALLY ENHANCED OIL RECOVERY (TEOR) OPERATION WELL VENT VAPOR CONTROL SYSTEM SERVING 253 STEAM ENHANCED WELLS, INCLUDING HEAT EXCHANGERS, GAS/LIQUID SEPARATOR, VAPOR COMPRESSORS, AND VAPOR PIPING TO STEAM GENERATORS S-1128-15, S-1128-18, AND VAPOR PIPING TIED INTO VAPOR RECOVERY LINE FROM SYSTEM LISTED UNDER PERMIT S-1128-617: REMOVE REFERENCE TO PERMIT S-1128-617 AND LIST VAPOR CONTROL SYSTEM AS SERVING S-1128-1000

S-1128-993-0: UP TO 3,000 (UP TO 39' IN DIAMETER) BBL FIXED ROOF TANK (T-100) WITH NATURAL GAS BLANKETING (26C OCP)

S-1128-994-0: UP TO 3,000 BBL FREE WATER KNOCKOUT VESSEL (V-100) VENTING TO THE VAPOR CONTROL SYSTEM LISTED ON S-1128-118 (26C OCP)

S-1128-995-0: UP TO 3,000 BBL FREE WATER KNOCKOUT VESSEL (V-110) VENTING TO THE VAPOR CONTROL SYSTEM LISTED ON S-1128-118 (26C OCP)

S-1128-996-0: UP TO 500 BBL (UP TO 15' IN DIAMETER) EMERGENCY USE VESSEL (V-120) (26C OCP)

S-1128-997-0: UP TO 1,000 BBL (UP TO 26' IN DIAMETER) FIXED ROOF TANK (T-100) WITH NATURAL GAS BLANKETING (31E OCP)

S-1128-998-0: UP TO 1,000 BBL GAS KNOCKOUT VESSEL (V-100) WITH VAPOR CONTROL SYSTEM CONSISTING OF MISC. VAPOR CONTROL EQUIPMENT AND VENTED TO STEAM GENERATORS S-1128-15 AND '-18 (31E OCP)

S-1128-999-0: UP TO 1,000 BBL GAS KNOCKOUT VESSEL (V-110) VENTING TO THE VAPOR CONTROL SYSTEM LISTED ON S-1128-998 (31E OCP)

S-1128-1000-0: UP TO 3,000 BBL GAS KNOCKOUT VESSEL (V-100) VENTING TO THE VAPOR CONTROL SYSTEM LISTED ON S-1128-125 OR TO BYPASS PIPING VENTING TO 2F STEAM PLANT (2F OCP)

S-1128-1001-0: UP TO 3,000 BBL GAS KNOCKOUT VESSEL (V-110) VENTING TO THE VAPOR CONTROL SYSTEM SHARED WITH S-1128-1000 (2F OCP)

Post-Project Equipment Description:

S-1128-118-20: THERMALLY ENHANCED OIL RECOVERY (TEOR) OPERATION WELL VENT VAPOR CONTROL SYSTEM SERVING 628 STEAM DRIVE WELLS AND TANK S-1128-994, INCLUDING HEAT EXCHANGERS, GAS/LIQUID SEPARATOR, VAPOR COMPRESSORS, AND PIPING TO AUTHORIZED DISPOSAL/INCINERATION DEVICES

S-1128-125-23: THERMALLY ENHANCED OIL RECOVERY (TEOR) OPERATION WELL VENT VAPOR CONTROL SYSTEM SERVING 253 STEAM ENHANCED WELLS AND TANK S-1128-1000, INCLUDING HEAT EXCHANGERS, GAS/LIQUID SEPARATOR, VAPOR COMPRESSORS, AND VAPOR PIPING TO STEAM GENERATORS S-1128-15, S-1128-18

S-1128-993-0: UP TO 3,000 (UP TO 39' IN DIAMETER) BBL FIXED ROOF TANK (T-100) WITH NATURAL GAS BLANKETING (26C OCP)

S-1128-994-0: UP TO 3,000 BBL FREE WATER KNOCKOUT VESSEL (V-100) VENTING TO THE VAPOR CONTROL SYSTEM LISTED ON S-1128-118 (26C OCP)

S-1128-995-0: UP TO 3,000 BBL FREE WATER KNOCKOUT VESSEL (V-110) VENTING TO THE VAPOR CONTROL SYSTEM LISTED ON S-1128-118 (26C OCP)

S-1128-996-0: UP TO 500 BBL (UP TO 15' IN DIAMETER) EMERGENCY USE VESSEL (V-120) (26C OCP)

S-1128-997-0: UP TO 1,000 BBL (UP TO 26' IN DIAMETER) FIXED ROOF TANK (T-100) WITH NATURAL GAS BLANKETING (31E OCP)

S-1128-998-0: UP TO 1,000 BBL GAS KNOCKOUT VESSEL (V-100) WITH VAPOR CONTROL SYSTEM SHARED WITH S-1128-999 CONSISTING OF MISC. VAPOR CONTROL EQUIPMENT AND VENTED TO STEAM GENERATORS S-1128-15 AND '-18 (31E OCP)

S-1128-999-0: UP TO 1,000 BBL GAS KNOCKOUT VESSEL (V-110) VENTING TO THE VAPOR CONTROL SYSTEM LISTED ON S-1128-998 (31E OCP)

S-1128-1000-0: UP TO 3,000 BBL GAS KNOCKOUT VESSEL (V-100) VENTING TO THE VAPOR CONTROL SYSTEM LISTED ON S-1128-125 (2F OCP)

S-1128-1001-0: UP TO 3,000 BBL GAS KNOCKOUT VESSEL (V-110) VENTING TO THE VAPOR CONTROL SYSTEM SHARED WITH S-1128-1000 (2F OCP)

VI. Emission Control Technology Evaluation

Free Water Knockouts/Gas Knockouts (S-1128-994, '995, '998, '999, '1000 and '1001):

The emissions expected from the subject equipment are volatile organic compounds (VOCs). Chevron uses a vapor collection system to control the potential VOC emissions. Vapor control systems of this type can achieve 99% control efficiency.

These systems use compressors and heat exchangers to condense and recover liquids from the collected vapors. The vapors are then delivered to the appropriate disposal equipment. The system can generate VOC emissions from leaking components such as pump seals, flange connections, and threaded connections.

Tanks (S-1128- 993 and '997):

The tanks will be equipped with a pressure-vacuum (PV) relief vent valve set to within 10% of the maximum allowable working pressure of the tank. The PV-valve will reduce VOC wind induced emissions from the tank vent. The tanks will be equipped with a gas blanketing system which will maintain the tanks' vapor space above the upper explosive limit by the addition of PUC quality natural gas.

Emergency Use Vessel (S-1128-996):

This tank will be used solely for emergency purposes to degas the line. The tank will not be equipped with any type of emission control technology. The vessel is a relief knockout

drum which will allow production to safely degas before routing to the tank during an upset condition. The open-top vessel was designed as a safety measure to ensure that an upset condition would not lead to over pressuring of the tanks.

VII. General Calculations

Pursuant to determination #11 of FYI 111, modification of a vapor control system to connect a new tank to it is not an NSR modification; therefore, calculations are not required for ATCs S-1128-118-20 and '125-23.

A. Assumptions

- Facility will operate 24 hours per day, 7 days per week, and 52 weeks per year.

Free Water Knockouts/Gas Knockouts (S-1128-994, '995, '998, '999, '1000 and '1001):

- The fugitive emissions for all knockouts are calculated using California Implementation Guidelines for Estimating Mass Emissions of fugitive Hydrocarbon Leaks at Petroleum Facilities, CAPCOA/CARB, February 1999 average emissions factors.
- Only fugitive VOCs emitted from components in gas service are calculated.
- According to District Policy SSP 2015 (Procedures for Quantifying Fugitive VOC Emission Sources at Petroleum and SOCMI Facilities), VOC emissions from components that are always operated under a vacuum, oil and gas production operation components handling produced fluids with API gravities less than 30 degrees, piping and components handling fluid streams with a VOC content of 10% or less by weight, components in water/oil service with a water content greater than or equal to 50%, and components that are part of field gas production pipelines are considered negligible and not assessed.
- 26C, 31E, and 2F VRS gas samples are routinely collected for analysis. The results show that collected vapors for 26C and 2F have a VOC content of 10% or less by weight. Therefore, 26C and 2F VRS components are considered negligible sources of fugitive emissions. See gas analysis in Appendix C The VOC content of 31E's vapors are expected to be less than 70% by weight.
- Fugitive emissions for the vapor control piping and components serving the 31E vessels will be listed on the 31E low order permit (S-1128-998-0).

Tanks (S-1128- 993 and '997) and Emergency Use Vessel (S-1128-996):

- The tanks operate as spill prevention containers. They will also be used periodically for routine removal of fluids (drains and maintenance).
- The open top emergency use tank will only be used to degas the line in case of upset.
- The tanks are a potential source of volatile organic compound (VOC) emissions.
- S-1128-993-0 – Maximum throughput = 3,000 bbl/day and 105,000 bbl/year.
- S-1128-997-0 - Maximum throughput = 1,000 bbl/day and 120,000 bbl/year.
- The open-top emergency use vessel (S-1128-996) will not have any non-emergency use associated with it; therefore, its permitted emissions are zero

- The tank paint conditions are good, the color is gray, and the shade is medium.
- TVP of oil = 0.5 psia (Applicant)
- Tank temperature, 200° F
- Tanks will be equipped with pump which activates at 3 feet, pumping liquid from the tank to pipeline. Pump shuts off when liquid level reaches 2 feet. Therefore, an average height of 2 ft was used to calculate emissions for these tanks.

B. Emission Factors

26C and 2F Knockouts Vessels (S-1128-994, '995, '1000 and '1001):

26C and 2F VRS gas samples are routinely collected for analysis. The results show that collected vapors for 26C and 2F have a VOC content of 10% or less by weight. Therefore, 26C and 2F VRS components are considered negligible sources of fugitive emissions. See gas analysis in Appendix C.

31E Knockouts Vessels (S-1128-998 and '999):

The VOC content of 31E's vapors is expected to be less than 70% by weight.

Tanks (S-1128-993 and '997):

Emissions from the uncontrolled tanks with PV valves were calculated using the District's spreadsheet for crude oil/organic liquids with API gravities < 26 degrees (Appendix D).

Emergency Use Vessel (S-1128-996):

The open top emergency tank will not have any non-emergency use associated with it; therefore, its permitted emissions are zero

C. Calculations

1. Pre-Project Potential to Emit (PE1)

Since these units are new emissions units, PE1 = 0 for all pollutants.

2. Post Project Potential to Emit (PE2)

The following tables summarize the post-project potential to emit for units included in this project.

Post-project potential to emit is calculated based on the fugitive component counts. The PE2s are summarized below:

Free Water Knockouts/Gas Knockouts/Vapor Control Systems:

Permit Unit	Location	VOC - Daily PE2 (lb/day)	VOC - Annual PE2 (lb/Year)
S-1128-994-0	26C OCP	0.0	0.0
S-1128-995-0	26C OCP	0.0	0.0
S-1128-998-0	31E OCP	31.8	11,680
S-1128-999-0	31E OCP	0.0*	0.0*
S-1128-1000-0	2F	0.0	0.0
S-1128-1001-0	2F	0.0	0.0

*S-1128-999's emissions are included on S-1128-998

Tank:s

Permit Unit	Location	VOC - Daily PE2 (lb/day)	VOC - Annual PE2 (lb/Year)
S-1128-993-0	26C OCP	165.5	11,906
S-1128-997-0	31E OCP	55.6	8044

Emergency Use Vessel:

Permit Unit	Location	VOC - Daily PE2 (lb/day)	VOC - Annual PE2 (lb/Year)
S-1128-996-0	26C OCP	0	0

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, SSPE1 calculations are not necessary.

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

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

Since facility emissions are already above the Offset and Major Source Thresholds for VOC emissions, SSPE2 calculations 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 an 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.

Rule 2410 Major Source Determination:

The facility or the equipment evaluated under this project is not listed as one of the categories specified in 40 CFR 52.21 (b)(1)(i). Therefore the following PSD Major Source thresholds are applicable.

PSD Major Source Determination (tons/year)						
	NO2	VOC	SO2	CO	PM	PM10
Estimated Facility PE before Project Increase	>250					
PSD Major Source Thresholds	250	250	250	250	250	250
PSD Major Source ? (Y/N)	y					

As shown above, the facility is an existing major source for PSD for at least one pollutant. Therefore the facility is an existing major source for PSD.

6. Baseline Emissions (BE)

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

As the units are new, the BE is equal to 0 lbs-VOC/day for all units.

7. SB 288 Major Modification

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

Since this facility is a major source for VOC, the project's PE2 is compared to the SB 288 Major Modification Thresholds in the following table in order to determine if the SB 288 Major Modification calculation is required. As this source is not included in the 28 specific source categories specified in 40 CFR 51.165, the, increases in fugitive emissions are not included in the SB 288 Major Modification calculation.

SB 288 Major Modification Thresholds			
Pollutant	Project PE2 (lb/year)	Threshold (lb/year)	SB 288 Major Modification Calculation Required?
VOC	19,950*	50,000	No

*excludes fugitive emissions

As demonstrated in the preceding table, this project does not constitute an SB 288 Major Modification.

8. Federal Major Modification

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

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

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

Step 1

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

The project's combined total emission increases are calculated in Section VII C.2, above, and compared to the Federal Major Modification Thresholds in the following table.

Federal Major Modification Thresholds for Emission Increases			
Pollutant	Total Emissions Increases (lb/yr)	Thresholds (lb/yr)	Federal Major Modification?
VOC*	19,950*	0	Yes

*excludes fugitive emissions

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

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

Rule 2410 applies to pollutants for which the District is in attainment or for unclasssified, pollutants. The pollutants addressed in the PSD applicability determination are listed as follows:

- NO2 (as a primary pollutant)
- SO2 (as a primary pollutant)
- CO
- PM
- PM10
- Greenhouse gases (GHG): CO2, N2O, CH4, HFCs, PFCs, and SF6

I. Project Location Relative to Class 1 Area

As demonstrated in the "PSD Major Source Determination" Section above, the facility was determined to be a existing major source for PSD. Because the project is not located within 10 km of a Class 1 area – modeling of the emission increase is not required to determine if the project is subject to the requirements of Rule 2410.

II. Significance of Project Emission Increase Determination

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

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

PSD Significant Emission Increase Determination: Potential to Emit (tons/year)						
	NO2	SO2	CO	PM	PM10	CO2e
Total PE from New and Modified Units	0	0	0	0	0	0
PSD Significant Emission Increase Thresholds	40	40	100	25	15	75,000
PSD Significant Emission Increase?	n	n	n	n	n	n

As demonstrated above, because the project has a total potential to emit from all new and modified emission units below the PSD significant emission increase thresholds, this project is not subject to the requirements of Rule 2410 due to a significant emission increase and no further discussion is required.

10. Quarterly Net Emissions Change (QNEC)

The QNEC is calculated solely to establish emissions that are used to complete the District's PAS emissions profile screen. Detailed QNEC calculations are included in Appendix A.

VIII. Compliance

Rule 2201 New and Modified Stationary Source Review Rule

A. Best Available Control Technology (BACT)

1. BACT Applicability

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

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

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

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

As seen in Section VII.C.2 above, the applicant is proposing to install two new FWKOs (S-1128-998-0 and '999-0) and two new tanks (S-1128- 993 and '997) each with a PE greater than 2 lb/day for VOC. BACT is triggered for VOC only since the PEs are greater than 2 lbs/day.

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

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

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

As discussed in Section I above, there are no modified emissions units associated with this project. Therefore BACT is not triggered.

d. SB 288/Federal Major Modification

As discussed in Section VII.C.7 above, this project does constitute a Federal Major Modification for VOC emissions. Therefore BACT is triggered for VOC for all emissions units in the project for which there is an emissions increase.

2. BACT Guideline

BACT Guideline 7.3.1, applies to the tanks/vessels (See Appendix E)

3. Top-Down BACT Analysis

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

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

Uncontrolled tanks (S-1128- 993 and '997):
PV-vent set to within 10% of maximum allowable pressure

FWKOs (S-1128-998-0 and '999-0):
99% control (waste gas incinerated in steam generator and inspection and maintenance program)

B. Offsets

1. Offset Applicability

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

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

Offset Determination (lb/year)	
	VOC
SSPE2	>20,000
Offset Thresholds	20,000
Offsets triggered?	Yes

2. Quantity of Offsets Required

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

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

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

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

BE = PE1 for:

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

otherwise,

BE = HAE

Emergency vessel S-1128-996 is exempt from the offset requirements of Rule 2201, per Section 4.6.2, offsets are not required for this tank, and no offset calculations are required.

There are three emissions units associated with this project, which result in an increase in emissions, and there are no increases in cargo carrier emissions.

CUSA has identified ERC certification S-3601-1 (or a daughter certificate originating from this certificate) to provide offsets for this project. A distance offset ratio (DOR) of 1.5:1 applies to this project because it is a Federal Major Mod. (Rule 2201, Section 4.8.1). Therefore offsets can be determined as follows:

Free Water Knockouts/Gas Knockouts:

Permit Unit	VOC - Daily PE2 (lb/day)	VOC - Annual PE2 (lb/Year)
S-1128-994-0	0.0	0.0
S-1128-995-0	0.0	0.0
S-1128-998-0	31.8	11,620
S-1128-999-0	0.0	0.0
S-1128-1000-0	0.0	0.0
S-1128-1001-0	0.0	0.0

Tanks:

Permit Unit	VOC - Daily PE2 (lb/day)	VOC - Annual PE2 (lb/Year)
S-1128-993-0	165.5	11,906
S-1128-997-0	55.6	8044

Emergency Use Vessel:

	Non-Emergency Use	
Permit Unit	VOC - Daily PE2 (lb/day)	VOC - Annual PE2 (lb/Year)
S-1128-996-0	0	0

S-1128-998-0:

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

PE2 (NO_X) = 11,620 lb/year
BE (NO_X) = 0 lb/year
ICCE = 0 lb/year

Offsets Required (lb/year) = ([11,620 – 0] + 0) x 1.5
= 17,430 lb VOC/year

Quarterly emissions to be offset are as follows:

17,430/4 = 4,357 lbs/quarter for two quarters and 4,358 lbs/quarter for two quarters

1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
4,358	4,358	4,358	4,358

S-1128-993-0:

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

PE2 (NO_X) = 11,906 lb/year
BE (NO_X) = 0 lb/year
ICCE = 0 lb/year

Offsets Required (lb/year) = ([11,906 – 0] + 0) x 1.5
= 17,859 lb VOC/year

Quarterly emissions to be offset are as follows:

17,859/4 = 4,483 lbs/quarter

1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
4465	4465	4465	4465

S-1128-997-0:

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

PE2 (NO_X) = 8,044 lb/year
BE (NO_X) = 0 lb/year
ICCE = 0 lb/year

Offsets Required (lb/year) = ([8,044 – 0] + 0) x 1.5
= 12,066 lb VOC/year

Quarterly emissions to be offset are as follows:

1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
3017	3017	3017	3017

ERC certificate of S-3869-1 has available quarterly VOC credits as follows:

	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
ERC #S-3869-1	33,358.5	34,283.5	35,209.5	35,205.5
Generated at:	Facility S-1127 Central Heavy Oil – Added casing collection system prior to 4/25/1983			
DOR	1.5 (Federal Major Mods require a 1.5:1 DOR)			
With the following reservations:				
	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
No current reservations.	n/a	n/a	n/a	n/a
This current project:	11,930	11,930	11,930	11,930

Proposed Rule 2201 (offset) Conditions:

All:

- ERC Certificate Number S-3869-1 (or a certificate split from this certificate) shall be used to supply the required offsets, unless a revised offsetting proposal is received and approved by the District, upon which this Authority to Construct shall be reissued, administratively specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to reissuance of this Authority to Construct. [District Rule 2201]

S-1128-998-0:

- {GC#4447 – edited} Prior to operating equipment under this Authority to Construct permittee shall surrender VOC emission reduction credits for the following quantity of emissions: 1st quarter – 4,358 lb, 2nd quarter – 4,358 lb, 3rd quarter – 4,358 lb, and 4th quarter – 4,358 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 4/21/11) for the ERC specified below. [District Rule 2201]

S-1128-993-0:

- {GC#4447 – edited} Prior to operating equipment under this Authority to Construct permittee shall surrender VOC emission reduction credits for the following quantity of emissions: 1st quarter – 4465 lb, 2nd quarter – 4465 lb, 3rd quarter – 4465 lb, and 4th quarter – 4465 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 4/21/11) for the ERC specified below. [District Rule 2201]

S-1128-997-0:

- {GC#4447 – edited} Prior to operating equipment under this Authority to Construct permittee shall surrender VOC emission reduction credits for the following quantity of emissions: 1st quarter – 3017 lb, 2nd quarter – 3017 lb, 3rd quarter – 3017 lb, and 4th quarter – 3017 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 4/21/11) for the ERC specified below. [District Rule 2201]

C. Public Notification

1. Applicability

Public noticing is required for:

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

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

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

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

b. PE > 100 lb/day

Applications which include a new emissions unit with a PE greater than 100 pounds during any one day for any pollutant will trigger public noticing requirements. As seen in Section VII.C.2 above, this project includes a new emissions unit which has daily emissions greater than 100 lb/day for VOC emissions, therefore public noticing for PE > 100 lb/day purposes is required.

c. Offset Threshold

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

d. SSIPE > 20,000 lb/year

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

SSIPE Public Notice Thresholds			
Pollutant	SSIPE (lb/year)	SSIPE Public Notice Threshold	Public Notice Required?
VOC	31,570	20,000 lb/year	y

As demonstrated above, the SSIPE for VOC emissions will be greater than 20,000 lb/year; therefore public noticing for SSIPE purposes is required.

2. Public Notice Action

As discussed above, public noticing is required for this project for Federal Major Modification purposes for installing a unit with a PE > 100 lbs/day and having an SSIPE greater than 20,000 lb/yr. 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.

DELs for the emission units in this project will be included as follows:

S-1128-993-0:

- This tank shall only store, place, or hold organic liquid with a true vapor pressure (TVP) of less than 0.5 psia under all storage conditions. [District Rule 4623] Y
- Tank liquid throughput shall not exceed 3000 barrels per day or 105,000 barrels per year. [District Rule 2201] Y
- VOC emission rate from the tank shall not exceed 165.5 lb/day or 11,906 lb/year. [District Rule 2201 and 40 CFR Part 60, Subpart OOOO] Y

S-1128-997-0:

- This tank shall only store, place, or hold organic liquid with a true vapor pressure (TVP) of less than 0.5 psia under all storage conditions. [District Rule 4623] Y
- Tank liquid throughput shall not exceed 1000 barrels per day or 120,000 barrels per year. [District Rule 2201] Y
- VOC emission rate from the tank shall not exceed 55.6 lb/day or 8044 lb/year. [District Rule 2201] Y

S-1128-994-0, '995-0, '1000-0 and '1001-0

- Maximum VOC content of vapor in the tank vapor space and vapor control system piping shall not exceed 10% by weight. [District Rule 2201]

S-1128-998-0 and '999-0:

- Maximum VOC content of vapor in the tank vapor space and vapor control system piping shall not exceed 70% by weight. [District Rule 2201] Y

S-1128-1000-0:

- Maximum VOC content of hydrocarbons in the tank vapor control system shall not exceed 10% by weight. [District Rule 2201] Y

S-1128-1001-0:

- Maximum VOC content of hydrocarbons in the tank vapor control system shall not exceed 10% by weight. [District Rule 2201] Y

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

Free Water Knockouts/Gas Knockouts/Vapor Control System:

Fugitive emissions monitoring is required. These conditions are addressed under the Rule 4623 compliance discussion.

Tanks and Emergency Use Tank:

No monitoring is required to demonstrate compliance with the offset, public notification and daily emission limit requirements of 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-1128 facility-wide permit.

4. Reporting

No reporting is required to demonstrate compliance with Rule 2201.

F. Ambient Air Quality Analysis (AAQA)

AAQA's only looks at criteria pollutants NO_x, SO_x, CO, PM_{10}, $PM_{2.5}$. This modification results in an increase in VOC's. Currently there are no AAQA standards for VOC's; therefore, an AAQA is not required.

G. Compliance Certification

Compliance certification is required for any project which constitutes a New Major Source or a Federal Major Modification.

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 in Section VIII above, this project does constitute a Federal Major Modification, therefore this requirement is applicable. CUSA's compliance certification form will be submitted prior to releasing this project for public notice.

H. Alternate Siting Analysis

The current project occurs at an existing facility. The applicant proposes to install tanks and vessels at existing sites in the Chevron's heavy oil western stationary source.

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

Rule 2410 Prevention of Significant Deterioration (PSD) Applicability Determination

Since this source is not included in the 28 specific source categories specified in 40 CFR 51.165, the increases in fugitive emissions are not included in the Rule 2410 Prevention of Significant Deterioration (PSD) Applicability determination. All post project emissions associated with this project are fugitive emissions; therefore, a Rule 2410 Prevention of Significant Deterioration (PSD) Applicability determination is not required.

Rule 2520 Federally Mandated Operating Permits

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

As discussed above, the facility has applied for a Certificate of Conformity (COC). Therefore, the facility must apply to modify their Title V permit with an administrative amendment, prior to operating with the proposed modifications. Continued compliance with this rule is expected. The facility may construct/operate under the ATC upon submittal of the Title V administrative amendment application.

Rule 4001 New Source Performance Standards (NSPS)

This rule incorporates the New Source Performance Standards from 40 CFR Part 60. 40 CFR Part 60, Subparts, K, Ka, Kb, and OOOO and could potentially apply to the storage tanks located at this facility.
40 CFR Part 60, Subparts, K, Ka, and Kb could potentially apply to the storage tanks located at this facility. However, pursuant to 40 CFR 60.110 (b), 60.110(a) (b), and 60.110(b) (b), these subparts do not apply to storage vessels less than 10,000 bbls, used for petroleum or condensate, that is stored, processed, and/or treated at a drilling and production facility prior to custody transfer.
40 CFR Part 60, Subpart OOOO—Standards of Performance for Crude Oil and Natural Gas Production, Transmission and Distribution (constructed, reconstructed, or modified after 8/23/11) applies to single storage vessel, located in the oil and natural gas production segment, natural gas processing segment or natural gas transmission and storage segment. The subject tanks are subject to this subpart. However, Subpart OOOO has no standards for tanks with annual VOC emissions less than 6 tons per

year. Therefore, the subject tanks are not an affected facility and subpart OOOO does not apply.

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

Rule 4101 Visible Emissions

Rule 4101 states that no air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity.

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

Rule 4102 Nuisance

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

California Health & Safety Code 41700 (Health Risk Assessment)

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

RMR Summary							
Categories	Unit 993-0	Unit 996-0	Unit 997-0	Unit 998-0	Unit 1000-0	Project Totals	Facility[1] Totals
Prioritization Score	2.56	2.12	1.73	2.50	0.16	9.09	>1
Acute Hazard Index	9.31E-02	1.64E-02	2.73E-04	1.56E-04	9.35E-06	1.10E-01	**6.63E-01**
Chronic Hazard Index	1.65E-05	1.36E-05	1.81E-04	2.63E-04	3.81E-06	4.78E-04	**2.79E-02**
Maximum Individual Cancer Risk (10^{-6})	1.50E-09	1.23E-09	1.64E-08	2.39E-08	3.46E-10	4.34E-08	**4.30E-06**
T-BACT Required?	No	No	No	No	No		
Special Permit Conditions?	No	No	No	No	No		

1. ***The facility totals in this memo are only associated to Chevron USA facility S-1128. However facility S-1128 is part of larger Stationary Source that includes facilities S-1129, S-1141, and S-2592. Be advised that Total Risk for this Stationary Source is almost at 10 in a million.***

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 4401 Steam-enhanced Crude Oil Production Well Vents

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

The subject TEOR operations are currently in compliance with this rule and connecting tanks to the TEOR systems' vapor control systems is not expected to affect compliance. Continued compliance is expected.

Rule 4623 Storage of Organic Liquids

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

According to Section 4.4, tanks exclusively receiving and or storing organic liquids with a TVP less than 0.5 psia are exempt from this Rule except for complying with Sections 6.2, 6.3.6, 6.4 and 7.2. All of this project's tanks and vessels are limited to receiving and or storing organic liquids with a TVP less than 0.5 psia. Therefore, the following conditions shall be placed on all of the ATCs:

- {2480} This tank shall only store, place, or hold organic liquid with a true vapor pressure (TVP) of less than 0.5 psia under all storage conditions. [District Rule 4623]

Free water knockout vessels and gas knockout vessels will be equipped with vapor control. No throughput/TVP records are required to be kept for fixed-roof tanks equipped with vapor control. Applicant has elected to participate in the voluntary tank preventive inspection, maintenance, and tank cleaning program. As the vessels are not subject to the requirements of District Rule 4623, the rule reference will be changed to District Rule 2080. The following conditions will be included in the ATCs:

- Tank may be disconnected from vapor control system during District approved cleaning and maintenance. [District Rule 2080]

Heavy Oil Tank Inspection and Maintenance:

- 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 Rule 2080]

- 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 2080]

- 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 2080]

- 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 Rule 2080]

- 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 this rule. 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 this rule. [District Rule 2080]

- 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 Rule 2080]

- Any component found to be leaking on two consecutive annual inspections is in violation of this rule, even if covered under the voluntary inspection and maintenance program. [District Rule 2080]

Heavy Oil Tank Cleaning:

- Permittee shall notify the APCO in writing at least three (3) days prior to performing tank degassing and interior tank cleaning activities. Written notification shall include the following: 1) the Permit to Operate number and physical location of the tank being degassed, 2) the date and time that tank degassing and cleaning activities will begin, 3) the degassing method, as allowed in this permit, to be used, 4) the method to be used to clean the tank, including any solvents to be used, and 5) the method to be used to dispose of any removed sludge, including methods that will be used to control

emissions from the receiving vessel and emissions during transport. [District Rule 4623 or 2080]

- This tank shall be degassed before commencing interior cleaning by following one of the following options: 1) exhausting VOCs contained in the tank vapor space to an APCO-approved vapor recovery system until the organic vapor concentration is 5,000 ppmv or less, or is 10 percent or less of the lower explosion limit (LEL), whichever is less, or 2) by displacing VOCs contained in the tank vapor space to an APCO-approved vapor recovery system by filling the tank with a suitable liquid until 90 percent or more of the maximum operating level of the tank is filled. Suitable liquids are organic liquids having a TVP of less than 0.5 psia, water, clean produced water, or produced water derived from crude oil having a TVP less than 0.5 psia, or 3) by displacing VOCs contained in the tank vapor space to an APCO-approved vapor recovery system by filling the tank with a suitable gas. Degassing shall continue until the operator has achieved a vapor displacement equivalent to at least 2.3 times the tank capacity. Suitable gases are air, nitrogen, carbon dioxide, or natural gas containing less than 10 percent VOC by weight. [District Rule 2080]

- During tank degassing, the operator shall discharge or displace organic vapors contained in the tank vapor space to an APCO-approved vapor recovery system. [District Rule 2080]

- To facilitate connection to an external APCO-approved recovery system, a suitable tank fitting, such as a manway, may be temporarily removed for a period of time not to exceed 1 hour. [District Rule 2080]

- After a tank has been degassed pursuant to the requirements of this permit, vapor control requirements are not applicable until an organic liquid having a TVP of 0.5 psia or greater is placed, held, or stored in this tank. [District Rule 2080]

- While performing tank cleaning activities, operators may only use the following cleaning agents: diesel, solvents with an initial boiling point of greater than 302 degrees F, solvents with a vapor pressure of less than 0.5 psia, or solvents with 50 grams of VOC per liter or less. [District Rule 2080]

- Steam cleaning shall only be allowed at locations where wastewater treatment facilities are limited, or during the months of December through March. [District Rule 2080]

Tanks and Emergency Use Vessel:

The tanks and emergency vessel will not be served by a vapor control system. The applicant has elected to participate in the voluntary tank preventive inspection, maintenance, and tank cleaning program. Tank cleaning will be conducted according to the requirements of Table 6. As the vessels are not subject to the requirements of District Rule 4623, the rule reference will be changed to District Rule 2080.

As these tanks/vessel will not be equipped with a vapor recovery system, TVP and API gravity testing is required. The following conditions will be included on the permit:

- {2480} This tank shall only store, place, or hold organic liquid with a true vapor pressure (TVP) of less than 0.5 psia under all storage conditions. [District Rule 4623]

- Permittee shall conduct true vapor pressure (TVP) testing of the organic liquid stored in this tank, or representative tank as provided in District Rule 4623, at least once every 24 months during summer (July - September), and/or whenever there is a change in the source or type of organic liquid stored in this tank in order to maintain exemption from the rule. [District Rule 4623] N

- {2482} The API gravity of crude oil or petroleum distillate shall be determined by using ASTM Method D 287-92 "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-4057-95 "Standard Practices for Manual Sampling of Petroleum and Petroleum Products." [District Rule 4623] N

- {2483} For crude oil with an API gravity of 26 degrees or less, the TVP shall be determined using the latest version of the Lawrence Berkeley National Laboratory "Test Method for Vapor pressure of Reactive Organic Compounds in Heavy Crude Oil Using Gas Chromatograph", as approved by ARB and EPA. [District Rule 4623]
- Instead of testing each uncontrolled fixed roof tank, the permittee may conduct a TVP test of the organic liquid stored in a representative tank. [District Rule 4623]

- {2911} The TVP testing shall be conducted at actual storage temperature of the organic liquid in the tank. The permittee shall also conduct an API gravity testing. [District Rule 4623]

- The permittee shall keep accurate records of API gravity, true vapor pressure, storage temperature and types of liquids stored. [District Rule 2201 and 4623]

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

Heavy Oil Tank Inspection and Maintenance:

- 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 Rule 2080]

- 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 2080]

- 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 2080]

- 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 Rule 2080]

- 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 this rule. 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 this rule. [District Rule 2080]

- 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 Rule 2080]

- Any component found to be leaking on two consecutive annual inspections is in violation of this rule, even if covered under the voluntary inspection and maintenance program. [District Rule 2080]

Heavy Oil Tank Cleaning:

- Permittee shall notify the APCO in writing at least three (3) days prior to performing tank degassing and interior tank cleaning activities. Written notification shall include the following: 1) the Permit to Operate number and physical location of the tank being degassed, 2) the date and time that tank degassing and cleaning activities will begin, 3) the degassing method, as allowed in this permit, to be used, 4) the method to be used to clean the tank, including any solvents to be used, and 5) the method to be used to dispose of any removed sludge, including methods that will be used to control emissions from the receiving vessel and emissions during transport. [District Rule 4623 or 2080]

- This tank shall not be required to de-gas before commencing cleaning activities. All other applicable requirements shall be complied with before, during, and after tank cleaning activities. [District Rule 4623 or 2080]

- While performing tank cleaning activities, operators may only use the following cleaning agents: diesel, solvents with an initial boiling point of greater than 302 degrees F, solvents with a vapor pressure of less than 0.5 psia, or solvents with 50 grams of VOC per liter or less. [District Rule 2080]

- Steam cleaning shall only be allowed at locations where wastewater treatment facilities are limited, or during the months of December through March. [District Rule 2080]

Compliance with the requirements of this rule is expected.

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

California Environmental Quality Act (CEQA)

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

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

Greenhouse Gas (GHG) Significance Determination

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

Consistent with CCR §15064(h)(3), the District finds that compliance with ARB's Cap and Trade regulation would avoid or substantially lessen the impact of project-specific GHG emissions on global climate change. The District also finds that the ARB's Cap and Trade regulation was supported by an appropriate CEQA-equivalent analysis. The District therefore concludes that GHG emissions

increases subject to ARB's Cap and Trade regulation would have a less than significant individual and cumulative impact on global climate change.

District CEQA Findings

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

IX. Recommendation

Compliance with all applicable rules and regulations is expected. Pending a successful NSR Public Noticing period, issue ATCs S-1128-118-20, '125-23, '993-0, '994-0, '995-0, '996-0, '997-0, '998-0, '999-0, '1000-0 and '1001-0 subject to the permit conditions on the attached draft ATCs in Appendix G.

X. Billing Information

Annual Permit Fees			
Permit Number	Fee Schedule	Fee Description	Annual Fee
S-1128-993-0	3020-05-E	126,000 Gallons	$246.00
S-1128-994-0	3020-05-E	126,000 Gallons	$246.00
S-1128-995-0	3020-05-E	126,000 Gallons	$246.00
S-1128-996-0	3020-05-C	21,000 Gallons	$135.00
S-1128-997-0	3020-05-C	42,000 Gallons	$246.00
S-1128-998-0	3020-05-C	42,000 Gallons	$246.00
S-1128-999-0	3020-05-C	42,000 Gallons	$246.00
S-1128-1000-0	3020-05-E	126,000 Gallons	$246.00
S-1128-1001-0	3020-05-E	126,000 Gallons	$246.00

APPENDIX A
Quarterly Net Emissions Change (QNEC)

Quarterly Net Emissions Change (QNEC)

The Quarterly Net Emissions Change is used to complete the emission profile screen for the District's PAS database. 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 can be calculated as follows:

$$PE_{quarterly} = PE_{annual} \div 4 \text{ quarters/year}$$

Quarterly NEC [QNEC]					
	PE2 (lb/yr)	PE2 (lb/qtr)	PE1 (lb/yr)	PE1 (lb/qtr)	QNEC (lb/qtr)
S-1128-993-0	11,906	2977	0	0	3,037
S-1128-994-0	0	0	0	0	0
S-1128-995-0	0	0	0	0	0
S-1128-996-0	0	0	0	0	0
S-1128-997-0	8,044	2,011	0	0	2,011
S-1128-998-0	11,620	2,905	0	0	2,905
S-1128-999-0	0	0	0	0	0
S-1128-1000-0	0	0	0	0	0
S-1128-1001-0	0	0	0	0	0

Application Emissions

Permit #: S-1128-118-20 **Last Updated**
Facility: CHEVRON USA INC 03/13/2014 TORID

Equipment Pre-Baselined: NO

	NOX	SOX	PM10	CO	VOC
Potential to Emit (lb/Yr):	0.0	0.0	0.0	0.0	550676.0
Daily Emis. Limit (lb/Day)	0.0	0.0	0.0	0.0	1508.7
Quarterly Net Emissions Change (lb/Qtr)					
Q1:	0.0	0.0	0.0	0.0	0.0
Q2:	0.0	0.0	0.0	0.0	0.0
Q3:	0.0	0.0	0.0	0.0	0.0
Q4:	0.0	0.0	0.0	0.0	0.0
Check if offsets are triggered but exemption applies	N	N	N	N	N
Offset Ratio					
Quarterly Offset Amounts (lb/Qtr)					
Q1:					
Q2:					
Q3:					
Q4:					

Application Emissions

Permit #: S-1128-125-23 **Last Updated**
Facility: CHEVRON USA INC 03/13/2014 TORID

Equipment Pre-Baselined: NO

	NOX	SOX	PM10	CO	VOC
Potential to Emit (lb/Yr):	0.0	0.0	0.0	0.0	17011.0
Daily Emis. Limit (lb/Day)	0.0	0.0	0.0	0.0	46.6
Quarterly Net Emissions Change (lb/Qtr)					
Q1:	0.0	0.0	0.0	0.0	0.0
Q2:	0.0	0.0	0.0	0.0	0.0
Q3:	0.0	0.0	0.0	0.0	0.0
Q4:	0.0	0.0	0.0	0.0	0.0
Check if offsets are triggered but exemption applies	N	N	N	N	N
Offset Ratio					
Quarterly Offset Amounts (lb/Qtr)					
Q1:					
Q2:					
Q3:					
Q4:					

Application Emissions

Permit #: S-1128-993-0 **Last Updated**
Facility: CHEVRON USA INC 03/17/2014 TORID

Equipment Pre-Baselined: NO

	NOX	SOX	PM10	CO	VOC
Potential to Emit (lb/Yr):	0.0	0.0	0.0	0.0	11906.0
Daily Emis. Limit (lb/Day)	0.0	0.0	0.0	0.0	165.5
Quarterly Net Emissions Change (lb/Qtr)					
Q1:					2458.0
Q2:					2458.0
Q3:					2458.0
Q4:					2458.0
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-1128-994-0 Last Updated
Facility: CHEVRON USA INC 03/13/2014 TORID

Equipment Pre-Baselined: NO

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

Permit #: S-1128-995-0	**Last Updated**	
Facility: CHEVRON USA INC	03/13/2014	TORID

Equipment Pre-Baselined: NO

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

Permit #: S-1128-996-0	**Last Updated**	
Facility: CHEVRON USA INC	03/13/2014	TORID

Equipment Pre-Baselined: NO

	NOX	SOX	PM10	CO	VOC
Potential to Emit (lb/Yr):	0.0	0.0	0.0	0.0	9830.0
Daily Emis. Limit (lb/Day)	0.0	0.0	0.0	0.0	26.9
Quarterly Net Emissions Change (lb/Qtr)					
Q1:					2458.0
Q2:					2458.0
Q3:					2458.0
Q4:					2458.0
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-1128-997-0 **Last Updated**
Facility: CHEVRON USA INC 03/13/2014 TORID

Equipment Pre-Baselined: NO

	NOX	SOX	PM10	CO	VOC
Potential to Emit (lb/Yr):	0.0	0.0	0.0	0.0	8044.0
Daily Emis. Limit (lb/Day)	0.0	0.0	0.0	0.0	55.6
Quarterly Net Emissions Change (lb/Qtr)					
Q1:					2011.0
Q2:					2011.0
Q3:					2011.0
Q4:					2011.0
Check if offsets are triggered but exemption applies	N	N	N	N	N
Offset Ratio					
Quarterly Offset Amounts (lb/Qtr)					
Q1:					
Q2:					
Q3:					
Q4:					

Permit #: S-1128-998-0	Last Updated
Facility: CHEVRON USA INC	03/13/2014 TORID

Equipment Pre-Baselined: NO

	NOX	SOX	PM10	CO	VOC
Potential to Emit (lb/Yr):	0.0	0.0	0.0	0.0	11620.0
Daily Emis. Limit (lb/Day)	0.0	0.0	0.0	0.0	31.8
Quarterly Net Emissions Change (lb/Qtr)					
Q1:					2905.0
Q2:					2905.0
Q3:					2905.0
Q4:					2905.0
Check if offsets are triggered but exemption applies	N	N	N	N	N
Offset Ratio					
Quarterly Offset Amounts (lb/Qtr)					
Q1:					
Q2:					
Q3:					
Q4:					

Permit #: S-1128-999-0 **Last Updated**
Facility: CHEVRON USA INC 03/13/2014 TORID

Equipment Pre-Baselined: NO

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

Permit #: S-1128-1000-0 **Last Updated**
Facility: CHEVRON USA INC 03/13/2014 TORID

Equipment Pre-Baselined: NO

	NOX	SOX	PM10	CO	VOC
Potential to Emit (lb/Yr):	0.0	0.0	0.0	0.0	0.0
Daily Emis. Limit (lb/Day)	0.0	0.0	0.0	0.0	0.0
Quarterly Net Emissions Change (lb/Qtr)					
Q1:					
Q2:					
Q3:					
Q4:					
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-1128-1001-0 **Last Updated**
Facility: CHEVRON USA INC 03/13/2014 TORID

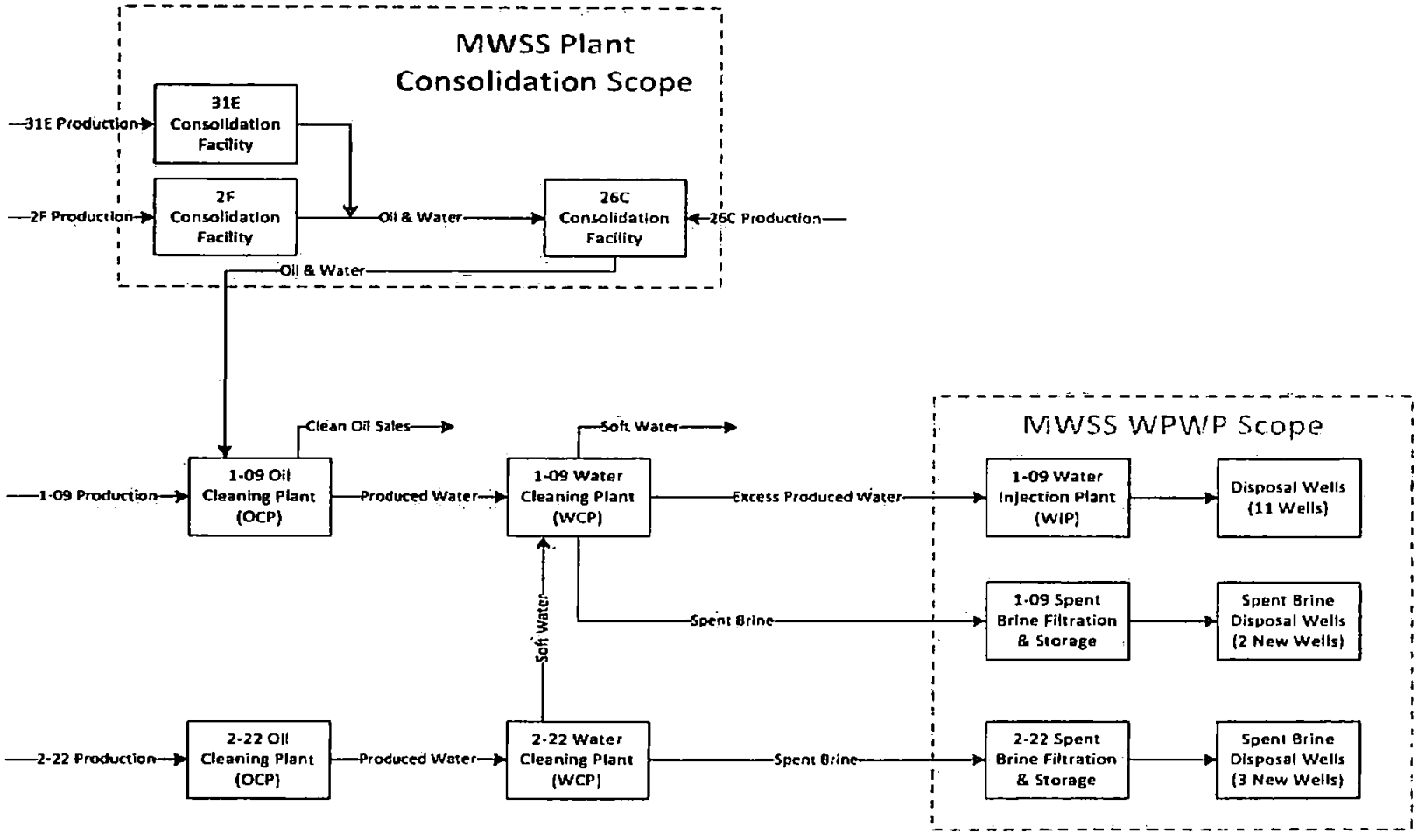
Equipment Pre-Baselined: NO

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

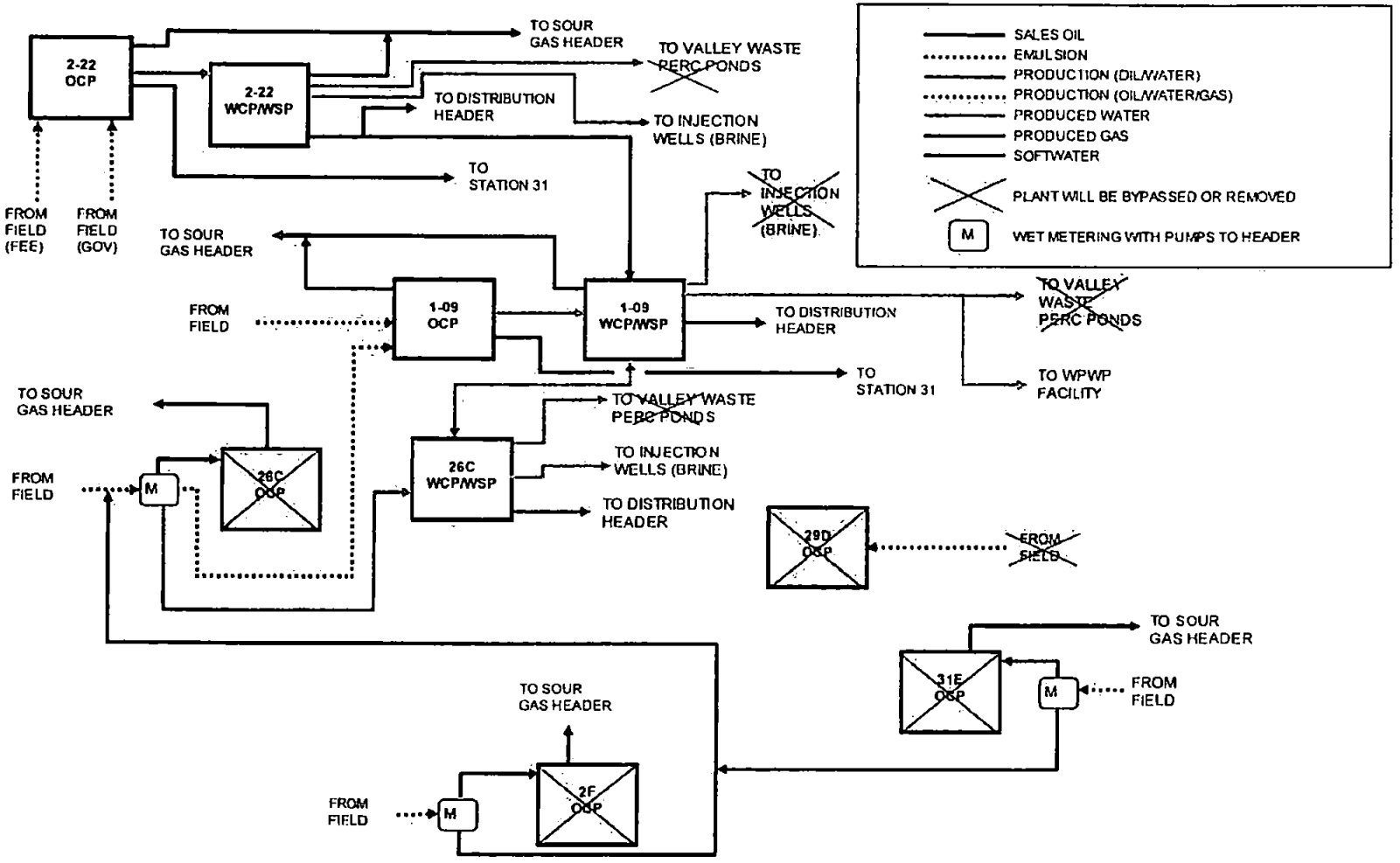
APPENDIX B
Block Flow Diagrams and Process Flow Diagrams

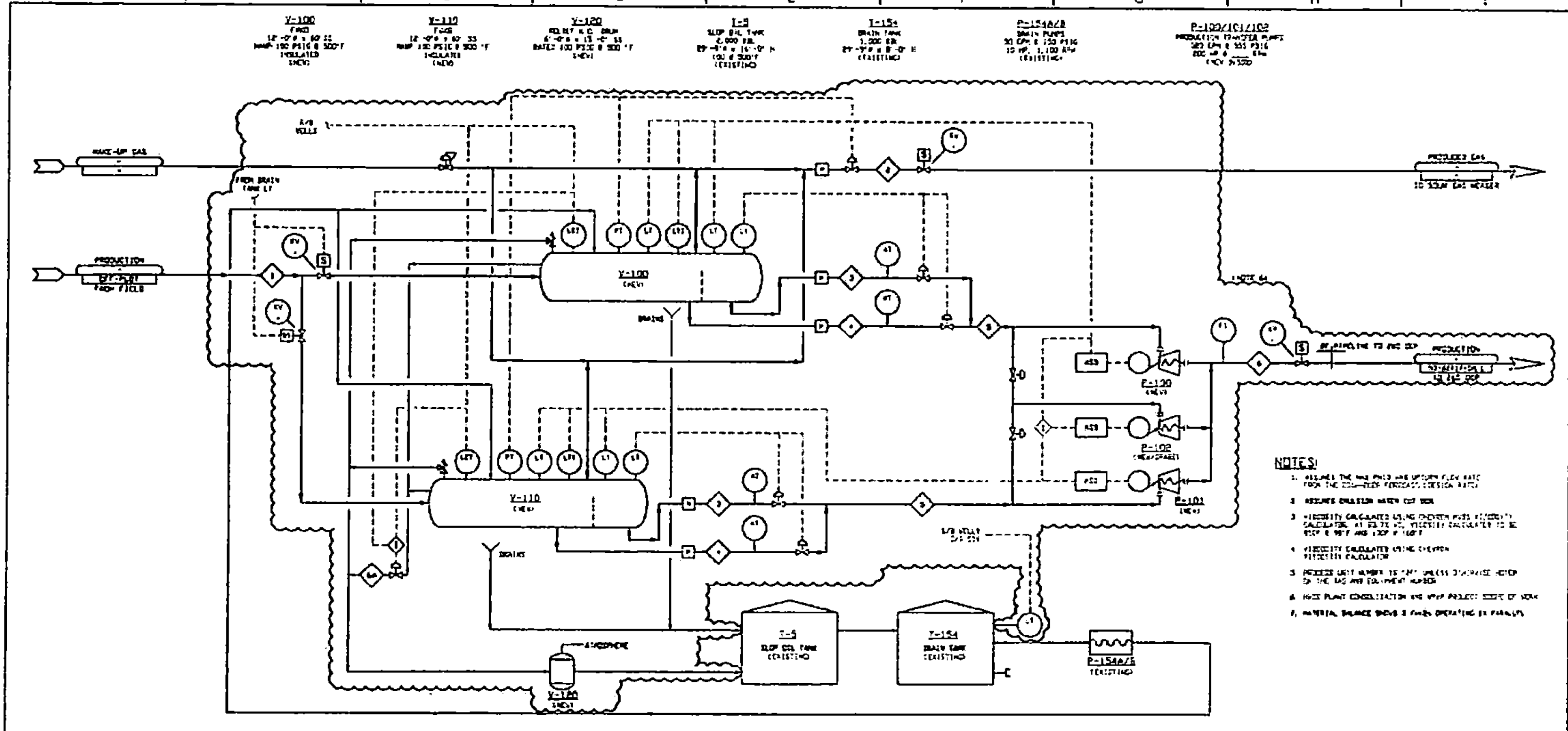
Westside Produced Water Project – Midway Sunset Field

Block Flow Diagram



Block Flow Diagram – MWSS Plant Consolidation and WPWP Project





STREAM DESCRIPTION / PROCESS DESCRIPTION		1 PRODUCTION FROM FIELD (NOTES 1, 3)	2 PRODUCED GAS	3 EMULSION (NOTES 2, 3, 4)	4 PRODUCED WATER	5 PRODUCTION TO TRANSFER PUMPS (NOTE 3)	6 PRODUCTION TO 26C (NOTE 3)	6A SURGE DRAIN TO DRAIN TANK	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
OIL	(BOPD)	1,600	-	1,800	-	1,800	1,600	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
WATER	(BWPD)	18,500	-	1,800	7,450	9,250	18,500	22,100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TOTAL LIQUIDS	(BPD)	22,100	-	3,600	13,900	22,100	22,100	22,100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
WATER CUT	(%)	83.7%	N/A	50%	100%	63.7%	83.7%	100%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GAS	(MSCFD)	700	700	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VISCOSITY	(CP)	85/10	N/A	1,321/159	0.7/0.4	85/10	85/10	0.7/0.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PRESSURE	(PSIG)	30	50	50	50	35	555	50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TEMPERATURE	(°F)	98/160	98/160	98/160	98/160	98/160	98/160	98/160	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

REFERENCE DRAWINGS	
TABLE SHEET & DRAWING INDEX	ND-82413

FLUOR.

SCALE NONE FILE [illegible]
PLOT AT 1 = 1 CHANGED BY [illegible]
FLA CHANGE [illegible] LAST CHANGED [illegible]

REVISIONS

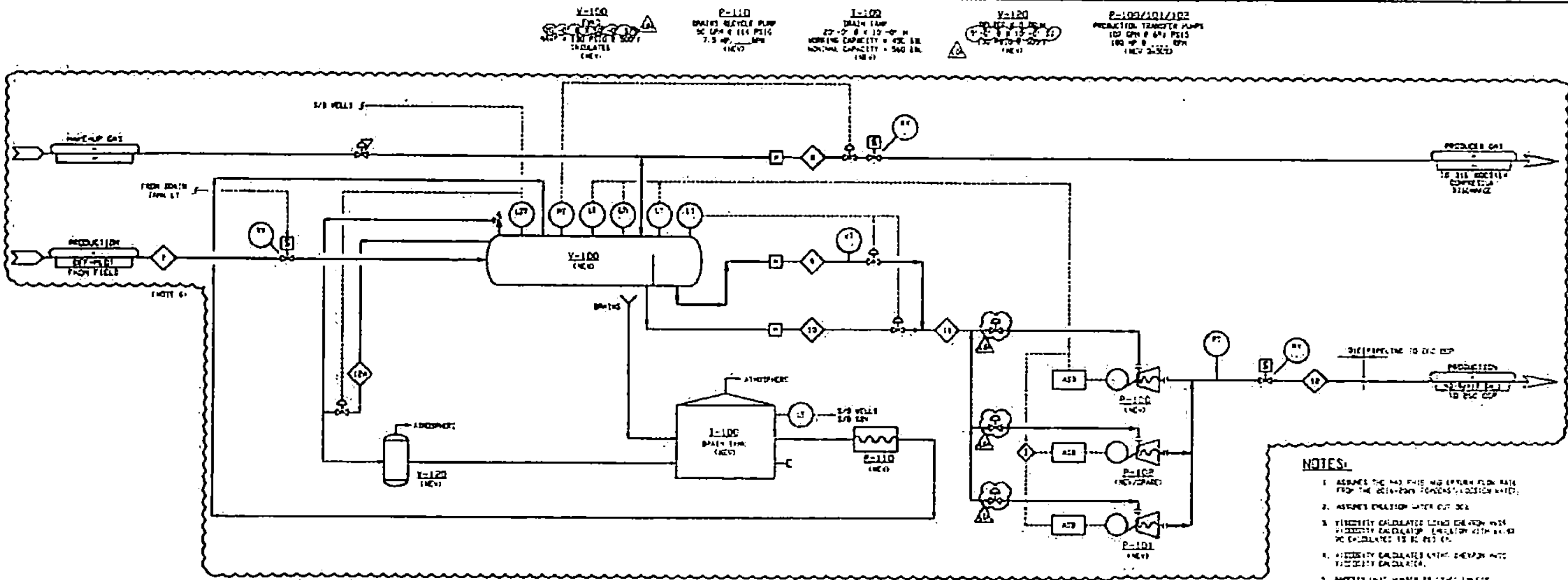
C RE-ISSUED FOR DESIGN	07/17/03	ISSUED FOR DESIGN	01/21/03
C RE-ISSUED FOR DESIGN	11/18/03	RE-ISSUED FOR DESIGN	06/20/03

Chevron
SAN JOAQUIN VALLEY BUSINESS UNIT

SAN JOAQUIN VALLEY BUSINESS UNIT — APPROVED

PFD-2F CONSOLIDATION FACILITY
MVSS PLANT CONSOLIDATION & VRVP-PHASE 3
2F CONSOLIDATION FACILITY
TAFT AREA, T11N/R24W, SECTION 2F

A ND-82414 SHT 1 OF 1 REV 04



NOTES:

1. ASSUMES THE MAX [illegible] FLOW RATE FROM THE [illegible] FORECAST (DESIGN RATE).
2. ASSUMES EMULSION WATER CUT 50%
3. VISCOSITY CALCULATED USING CHEVRON [illegible] VISCOSITY CALCULATOR. EMULSION WITH [illegible] CALCULATED TO BE 863 CP.
4. VISCOSITY CALCULATED USING CHEVRON [illegible] VISCOSITY CALCULATOR.
5. PROCESS UNIT NUMBER IS [illegible] UNLESS OTHERWISE NOTED ON THE TAG AND EQUIPMENT NUMBER.
6. MASS PLANT CONSOLIDATION AND [illegible] PROJECT SCOPE OF WORK.

STREAM / DESCRIPTION — PROCESS DESCRIPTION	1 PRODUCTION FROM FIELD (NOTE 1, 2)	8 PRODUCED GAS	9 EMULSION (NOTE 2, 4)	10 PRODUCED WATER	11 PRODUCTION TO TRANSFER PUMPS (NOTE 3)	12 PRODUCTION TO ESC (NOTE 3)	13A SURGE DRAIN TO DRAIN TANK	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
OIL (BOPD)	1,100	-	1,100	-	1,100	1,100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
WATER (BWPD)	6,200	-	1,100	5,100	6,200	6,200	7,300	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TOTAL (EMULSION) (BPD)	7,300	-	2,200	5,100	7,300	7,300	7,300	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
WATER CUT (%)	84.9%	N/A	50%	100%	84.9%	84.9%	100%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GAS (MSCFD)	180	180	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VISCOSITY (CP)	863	N/A	4,423	1	863	863	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PRESSURE (PSIG)	30	30	30	30	35	691	30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TEMPERATURE (°F)	70	70	70	70	70	70	70																	

REFERENCE DRAWINGS	
TITLE SHEET & DRAWING INDEX	ND-82413

FLUOR.

SCALE: NONE FILE: [illegible]
PLOT AT: 1 = 1 CHANGED BY: [illegible]
PLT ENGINEER: [illegible] LAST CHANGED: [illegible]

REVISIONS

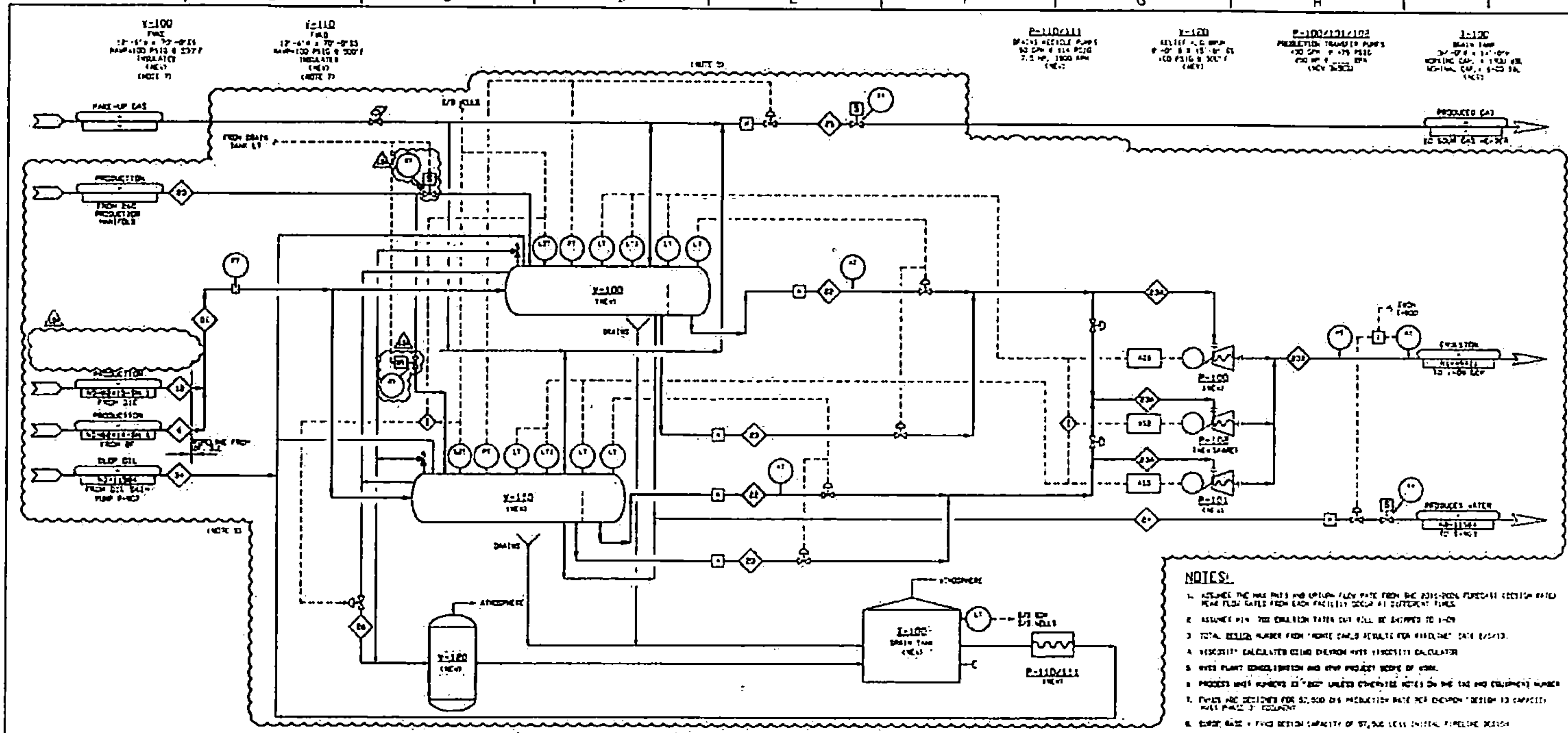
B	RE-ISSUED FOR DESIGN	07/17/13	0	ISSUED FOR DESIGN 01/31/13
C	RE-ISSUED FOR DESIGN	11/18/13	A	RE-ISSUED FOR DESIGN 06/23/13

Chevron
SAN JOAQUIN VALLEY BUSINESS UNIT

SAN JOAQUIN VALLEY BUSINESS UNIT
SCALE: [illegible] DATE STARTED: ____
APPROVED

PFD-DIE CONSOLIDATION FACILITY
MASS PLANT CONSOLIDATION AND [illegible] PHASE 3
DIE CONSOLIDATION FACILITY
[illegible] AREA, [illegible], SECTION [illegible]

A ND-82415 SHT 1 OF 1 REV C



NOTES:

1. ASSUMES THE MAX RATES AND OPTIMUM FLOW RATE FROM THE 2013-2026 FORECAST SECTION RATES PEAK FLOW RATES FROM EACH FACILITY OCCUR AT DIFFERENT TIMES.
2. ASSUMES MIN. 70% EMULSION WATER CUT WILL BE SHIPPED TO L-09.
3. TOTAL DESIGN NUMBER FROM MONTE CARLO RESULTS FOR PIPELINE. DATE 6/5/13.
4. VISCOSITY CALCULATED USING CHEVRON HVES VISCOSITY CALCULATOR.
5. HVES PLANT CONSOLIDATION AND VRVP PROJECT SCOPE OF WORK.
6. PROCESS UNIT NUMBERS IS "100" UNLESS OTHERWISE NOTED ON THE TAG AND EQUIPMENT NUMBER.
7. TANKS ARE DESIGNED FOR 57,500 BPD PRODUCTION RATE PER CHEVRON DESIGN TO CAPACITY HVES PHASE II DOCUMENT.
8. SURGE RATE = TANK DESIGN CAPACITY OF 57,500 LESS INITIAL PIPELINE DESIGN.

PROCESS DESCRIPTION / STREAM DESCRIPTION		6: PRODUCTION FROM BF (NOTE 4)	13: PRODUCTION FROM SIC (NOTE 4)	20: PRODUCED FROM FIELD TO E&C (NOTE 4)	81: COMBINED PRODUCTION FROM BF, SIC (NOTE 3)	82: EMULSION TO P-100/101/102 (NOTE 1, 4)	83: WATER TO P-100/101/102 (NOTE 2, 4)	234: OIL/WATER TO L-09 (NOTE 4)	235: OIL/WATER TO L-09 (NOTE 3)	21: PRODUCED WATER TO T-900	85: PRODUCED GAS	84: SURGE DRAIN TO DRAIN TANK (NOTE 8)	54: SLOP OIL FROM SLOP OIL TANK	39: SLOP OIL FROM SKIM TANK	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
OIL	(BOPD)	3,600	1,130	4,100	7,706	3,850	-	3,850	3,700	0	-	NNF	NNF	NNF	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
WATER	(BWPD)	18,500	0,800	37,670	22,562	3,850	6,965	10,835	31,669	29,100	-	NNF	NNF	NNF	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TOTAL FLUID	(BPD)	22,100	1,300	41,730	47,553	7,700	6,985	14,685	29,360	31,800	-	30,600	NNF	NNF	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
WATER CUT	(%)	83.7%	84.3%	90.2%	[illegible]	50%	100%	73.6%	73.6%	100%	N/A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GAS	(MSCFD)	-	-	560	-	-	-	-	-	-	580	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VISCOSITY	(CP)	[illegible]	263	57	[illegible]	2,446	1	835	835	<1	N/A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PRESSURE	(PSIG)	50	50	50	50	25	-	35	479	40	50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TEMPERATURE	(°F)	[illegible]	70	93	83	83	83	83	83	87	[illegible]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

REFERENCE DRAWINGS	
TITLE SHEET & DRAWING INDEX - PROCESS	ND-82419

FLUOR.

REVISIONS

- C RE-ISSUED FOR DESIGN
- C RE-ISSUED FOR DESIGN
- C ISSUED FOR DESIGN
- RE-ISSUED FOR DESIGN

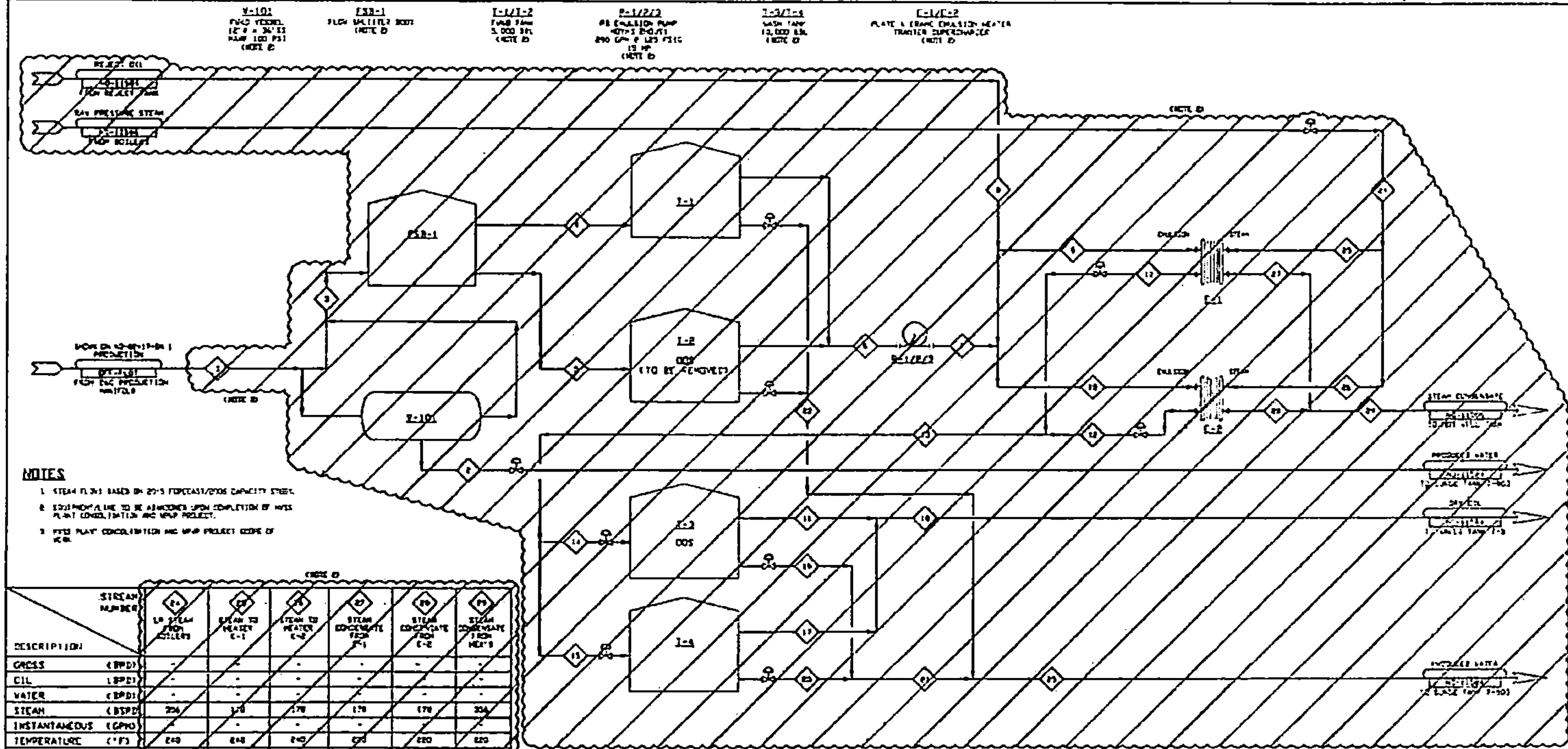
Chevron
SAN JOAQUIN VALLEY BUSINESS UNIT

PFD - E&C CONSOLIDATION FACILITY
HVES PLANT CONSOLIDATION AND VRVP - PHASE 2
E&C CONSOLIDATION FACILITY
HVES AREA, T32S/R24E, SECTION E&C

SAN JOAQUIN VALLEY BUSINESS UNIT

A

ND-82417



NOTES

1. STEAM FLOWS BASED ON 2015 FORECAST/2006 CAPACITY STUDY.
2. EQUIPMENT/LINE TO BE ABANDONED UPON COMPLETION OF MWSS PLANT CONSOLIDATION AND WPUP PROJECT.
3. MWSS PLANT CONSOLIDATION AND WPUP PROJECT SCOPE OF WORK.

(NOTE 3)

DESCRIPTION / STREAM NUMBER	24 LP STEAM FROM BOILERS	25 STEAM TO HEATER E-1	26 STEAM TO HEATER E-2	27 STEAM CONDENSATE FROM E-1	28 STEAM CONDENSATE FROM E-2	29 STEAM CONDENSATE FROM HEATERS
GROSS (BPD)	-	-	-	-	-	-
OIL (BPD)	-	-	-	-	-	-
WATER (BPD)	-	-	-	-	-	-
STEAM (BSPD)	204	170	170	170	170	204
INSTANTANEOUS (GPM)	-	-	-	-	-	-
TEMPERATURE (°F)	240	240	240	220	220	220
PRESSURE (PSI)	10	10	10	5	5	5

DESCRIPTION / STREAM NUMBER	1 PRODUCTION FROM FIELD	14 PRODUCTION FROM STA 1-09	9 PRODUCED WATER TO BLAKE TANK	3 EMULSION TO FSR-1	4 PRODUCTION TO T-1	5 PRODUCTION TO T-2 OOS	6 EMULSION FROM T-1/2 TANKS	7 EMULSION TO EMULSION HEATERS	8 REJECT OIL FROM REJECT TANK	9 EMULSION TO E-1 EMULSION HEATER	10 EMULSION TO E-2 EMULSION HEATER	11 EMULSION FROM E-1 HEATER	12 EMULSION FROM E-2 HEATER	13 HOT EMULSION TO WASH TANKS	14 EMULSION TO WASH TANK T-3	15 EMULSION TO WASH TANK T-4	16 DRY OIL FROM WASH TANK T-3	17 DRY OIL FROM WASH TANK T-4	18 DRY OIL FROM WASH TANKS	19 WATER FROM WASH TANK T-3	20 WATER FROM WASH TANK T-4	21 WATER FROM WASH TANKS	22 WATER FROM WASH TANKS	23 PRODUCED WATER TO BLAKE TANK
GROSS (BPD)	20,848/22,69[illegible]	3,746/25,300	0/23,000	24,394/22,695	24,394/22,695	NNF	2,792/2,460	2,792/2,460	NNF	1,397/1,230	1,397/1,230	1,397/1,230	1,397/1,230	2,792/2,460	NNF	2,792/2,460	NNF	2,636/2,325	2,636/2,325	NNF	157/135	157/135	21,868/25,313	[illegible]
OIL (BPD)	2,613/2,304	-	-	2,613/2,304	2,613/2,304	NNF	2,613/2,304	2,613/2,304	NNF	1,307/1,152	1,307/1,152	1,307/1,152	1,307/1,152	2,613/2,304	NNF	2,613/2,304	NNF	2,613/2,304	2,613/2,304	NNF	0	0	0	0
WATER (BPD)	18,235/20,393	3,746/25,000	0/23,000	21,781/19,393	21,781/19,393	NNF	180/156	180/156	NNF	90/78	90/78	90/78	90/78	180/156	NNF	180/156	NNF	23/22	23/22	NNF	157/135	157/135	21,8[illegible]	[illegible]
INSTANTANEOUS (GPM)	-	-	-	-	-	-	-	-	74	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TEMPERATURE (°F)	113	160	106	126	126	-	125	125	[illegible]	125	125	186	186	186	-	140	-	170	170	176	-	176	129	163
PRESSURE (PSI)	13	4	3	3	15	-	3	125	150	150	100	30	20	15	5	3	1	3	3	[illegible]	3	3	3	3

REFERENCE DRAWINGS	
MWSS SHIPPING & WATER DRAWINGS	ND-11584
MWSS EFFLUENT WATER TREATMENT	ND-11585
MWSS STEAM BOILER	ND-11586
TITLE SHEET & DRAWING INDEX/PROCESS	ND-11372

FLUOR.

SCALE: NONE — FILE: [illegible]
PLOT AT: 1:1 — CHANGED BY: [illegible]
FLY CHECKED BY: [illegible] — LAST CHANGED: 11/19/13

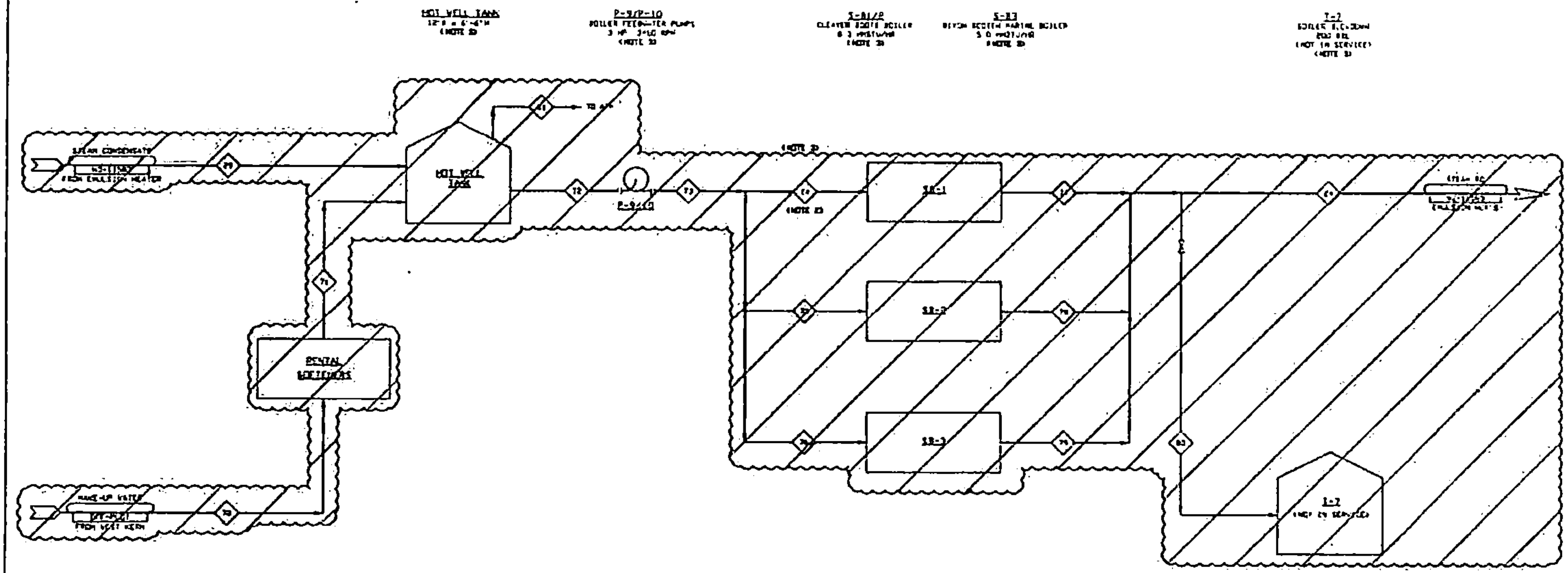
REVISIONS			
C	RE-ISSUED FOR DESIGN	01/17/13	
	ISSUED FOR DESIGN	01/31/12	
	RE-ISSUED FOR DESIGN	11/18/13	
	RE-ISSUED FOR DESIGN	04/20/12	

Chevron
SAN JOAQUIN VALLEY BUSINESS UNIT

SAN JOAQUIN VALLEY BUSINESS UNIT
SCALE: NONE — DATE STARTED ____ — APPROVED

PFD-FWKO & WASH TANKS
MWSS PLANT CONSOLIDATION & WPUP-PHASE 2
26C OIL CLEANING PLANT
MWSS AREA, T30S/R21E, SECTION 26C

A — ND-11583 — SHT 1 OF 1 — REV 04



NOTES:

1. STEAM FLOWS BASED ON [illegible] CAPACITY STUDY.
2. NORMALLY ONE BOILER OPERATING.
3. EQUIPMENT/LINE TO BE ABANDONED UPON COMPLETION OF [illegible] PLANT CONSOLIDATION AND [illegible] PROJECT.

(NOTE 3)

STREAM DESCRIPTION / STREAM NUMBER	LP STEAM FROM BOILERS	STEAM CONDENSATE FROM HEAT'S	MAKEUP WATER FROM WEST KERN	SOFTWATER TO HOT WELL TANK	SOFTWATER FROM HOT WELL TANK	WATER FROM FEEDWATER PUMPS	WATER TO STEAM BOILER SB-1	WATER TO STEAM BOILER SB-2	WATER TO STEAM BOILER SB-3	STEAM FROM STEAM BOILER SB-1	STEAM FROM STEAM BOILER SB-2	STEAM FROM STEAM BOILER SB-3	STEAM FROM HOT WELL TANK
GROSS (BPD)	-	-	4 98	4 98	356	354	354	354	354	-	-	-	-
OIL (BPD)	-	-	-	-	-	-	-	-	-	-	-	-	-
WATER (BPD)	-	-	4 98	4 98	356	354	354	354	354	-	-	-	-
STEAM (BSPD)	354	354	-	-	-	-	-	-	-	354	354	354	90
INSTANTANEOUS (GPM)	-	-	[illegible]	0	0	0	0	0	0	0	0	0	
TEMPERATURE (°F)	240	[illegible]	[illegible]	[illegible]	190	190	190	190	190	250	250	250	212
PRESSURE (PSI)	10	5	0	3	1	[illegible]	[illegible]	[illegible]	[illegible]	15	15	15	0

REFERENCE DRAWINGS.	
PFD-[illegible] & WASH TANKS	ND-11583
PFD-OIL SHIPPING & WATER [illegible]	ND-11584
PFD-EFFLUENT WATER TREATMENT	ND-11585
TITLE SHEET & DRAWING INDEX-PROCESS	ND-11772

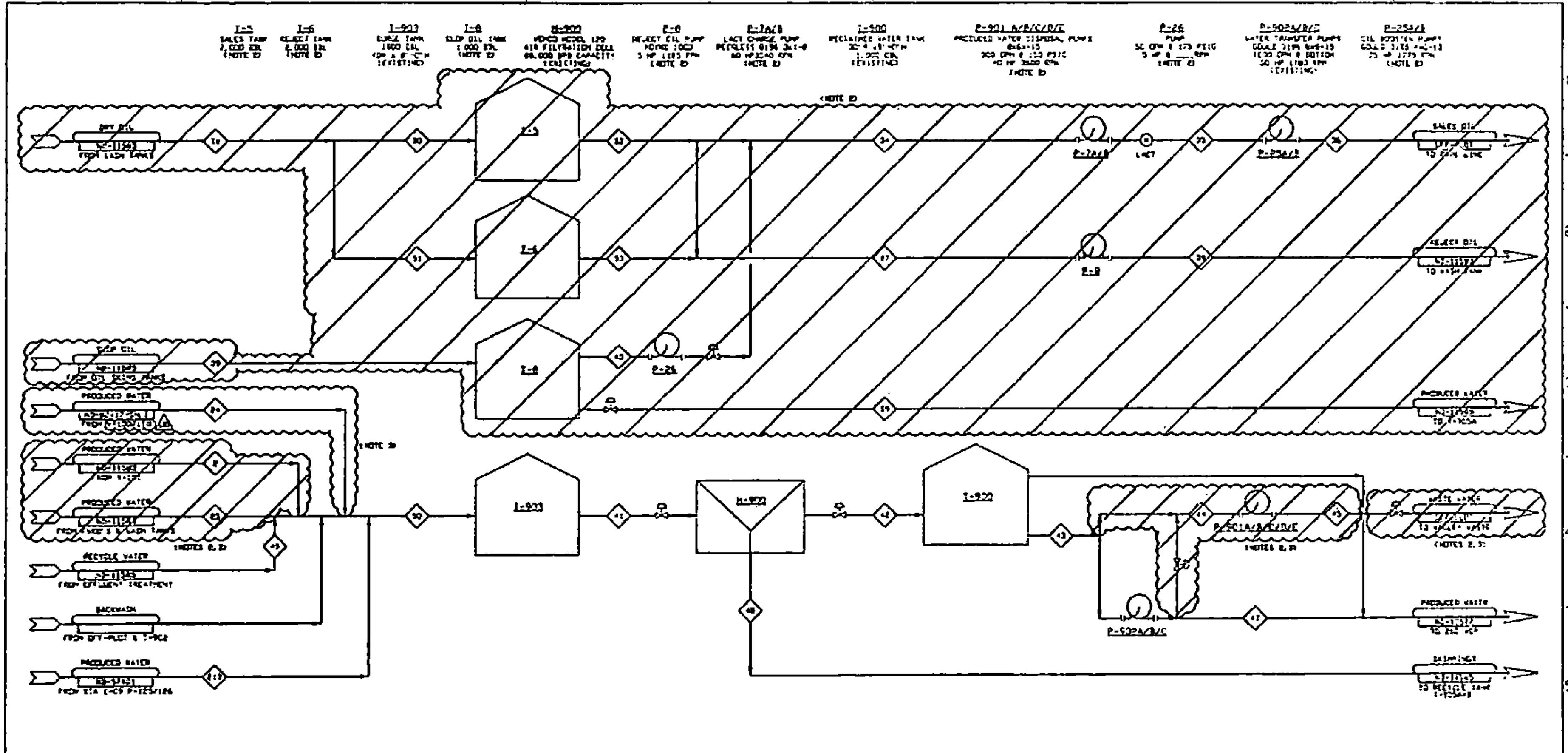
FLUOR.

REVISIONS
- RE-ISSUED FOR DESIGN 07/17/13
- ISSUED FOR DESIGN 01/21/13
- RE-ISSUED FOR DESIGN
- RE-ISSUED FOR DESIGN

Chevron
SAN JOAQUIN VALLEY BUSINESS UNIT

PFD-STEAM BOILER
[illegible] PLANT CONSOLIDATION & [illegible]-PHASE 3
26C OIL CLEANING PLANT
[illegible] AREA, [illegible], SECTION 26C

A
ND-11586



STREAM DESCRIPTION / STREAM NUMBER	83 PRODUCED WATER TO SURGE TANK	34 SLOP OIL TO TANK 5	39 SLOP OIL FROM SKIM TANK	45 SLOP OIL TO P-26	41 PRODUCED WATER FROM SURGE TANK	42 WATER TO RECLAIMED WATER TANK	43 WATER TO CHARGE PUMPS	44 WATER TO WATER PLANT	48 SKIMS TO RECYCLE TANK	49 RECYCLE WATER FROM EFFLUENT	50 WATER TO SURGE TANK	59 PRODUCED WATER FROM T-8 TO T-905A	212 PRODUCED WATER FROM STA
GROSS (BPD)	89,100	NNF	NNF	NNF	30,567	89,100	89,100	89,100	1,567	1,167	30,567	NNF	NNF
OIL (BPD)	0	NNF	NNF	NNF	-	0	0	-	-	-	-	NNF	0
WATER (BPD)	89,100	NNF	NNF	NNF	30,567	89,100	89,100	89,100	-	1,167	30,567	NNF	0
DESIGN (BPD)	31,400	1	1	0	-	-	40,000	40,000	-	-	-	0	13,000
TEMPERATURE (°F)	83	-	-	-	83	83	45	93	83	83	83	-	-
PRESSURE (PSIG)	5	5	5	0	1	1	5	30	5	8	5	5	-

NOTES:

1. STREAM FLOWS BASED ON ... [illegible]
2. EQUIPMENT/LINE TO BE ABANDONED UPON COMPLETION OF ... PLANT CONSOLIDATION AND ... PROJECT.
3. ... PLANT CONSOLIDATION AND ... PROJECT SCOPE OF WORK.
4. ... [illegible]

REFERENCE DRAWINGS	
PFD-SURGE, FILTER & ... TANK	-
PFD-... & WASH TANKS	AS-11583
PFD-EFFLUENT WATER TREATMENT	AB-11585
PFD-STEAM BOILER	AD-11536
TITLE SHEET & DRAWING INDEX-PROCESS	AB-82415

FLUOR.

SCALE NONE FILE ND-11584
PLOT AT 1=1 CHANGED BY ...
FLR ENGINEER ... LAST CHANGED 11/19/13

REVISIONS				
5 RE-ISSUED FOR DESIGN 02/12/13		2 ISSUED FOR DESIGN 01/31/13		
3 RE-ISSUED FOR DESIGN 11/18/13		4 RE-ISSUED FOR DESIGN 06/25/13		

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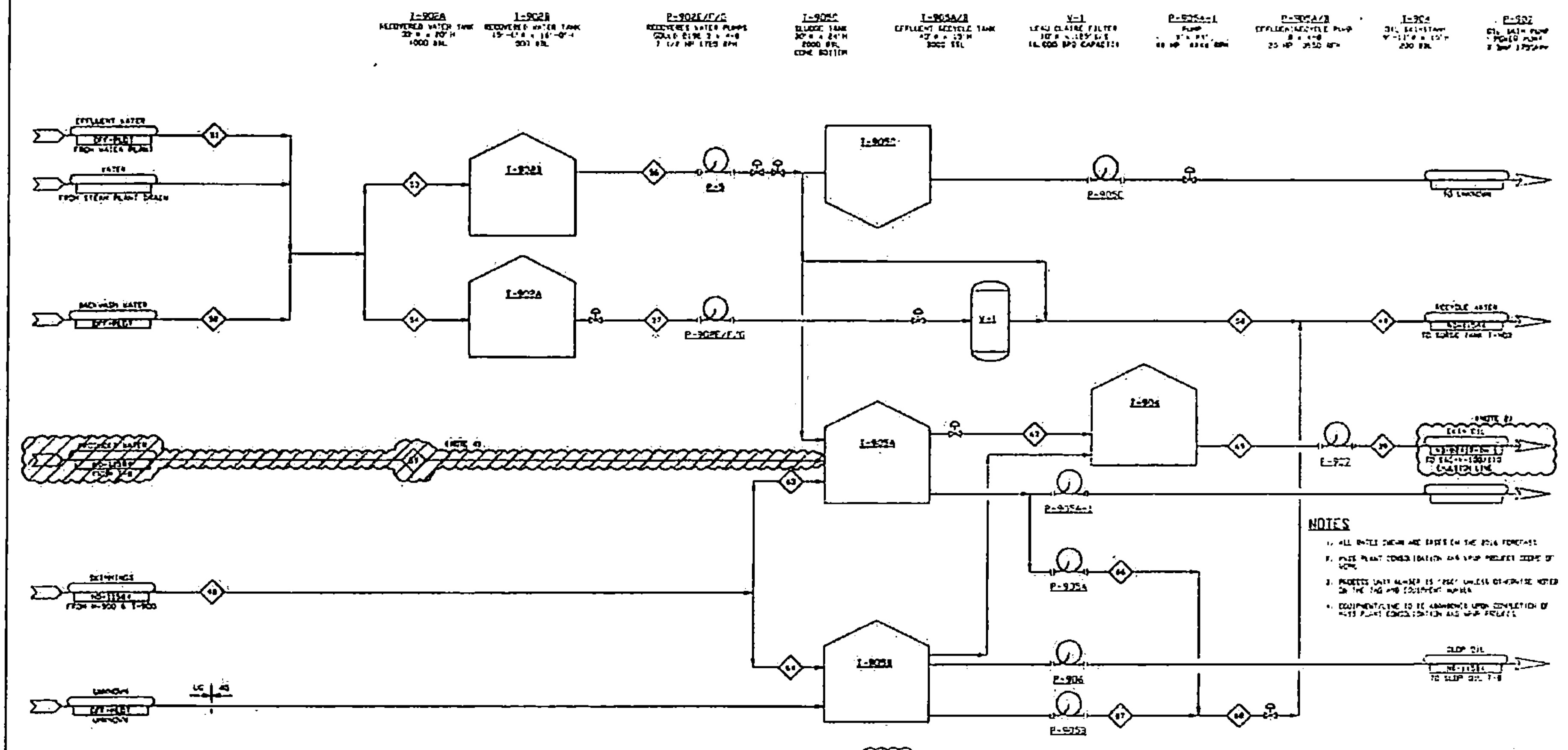
SAN JOAQUIN VALLEY BUSINESS UNIT

SAN JOAQUIN VALLEY BUSINESS UNIT
SCALE NONE DATE STARTED
DR CH ... APP. ... ENGR
APPROVED

PFD - WATER SKIMMINGS
... PLANT CONSOLIDATION AND ... - PHASE 2
26C OIL CLEANING PLANT
... AREA, ..., SECTION 26C

A ND-11584



STREAM NUMBER / STREAM DESCRIPTION	39 SLOP OIL FROM SKIMS TANK	48 SKIMS TO T-905A/B	49 RECYCLE WATER	51 EFFLUENT WATER FROM WATER PLANT	52 BACKWASH FROM WATER PLANT	53 WATER TO T-902B	54 WATER TO T-902A	55 WATER FROM T-902	56 WATER FROM T-902B	57 WATER TO RECOVERED WATER PUMPS	58 RECOVERED WATER PUMPS DISCHARGE	59 RECOVERED WATER TO T-905A (NOTE 4)	63 OILY WATER TO T-905A	64 OILY WATER TO T-905B	65 OIL SKIMS TO SKIMS TANK	66 WATER FROM T-905A	67 WATER FROM T-905B	68 RECOVERED WATER	69 OIL SKIMS FROM SKIM TANK				
GROSS (BPD)	NNF	1,157/~	3,142/3,040	2,000	NNF	2,000	NNF	2,000	NNF	2,000	2,100	NNF	564/532	564/532	26	511/520	571/520	1,142/1,040	-	.	.	.	-
OIL (BPD)	NNF	-	-	-	NNF	-	NNF	-	NNF	-	-	NNF	13/13	13/13	26	-	-	-	26/26	.		.	-
WATER (BPD)	NNF	1,157/~	3,142/3,040	2,000	NNF	2,000	NNF	2,000	NNF	2,000	2,100	NNF	571/520	571/520	-	511/520	571/520	1,142/1,040	-	.			-
INSTANTANEOUS (GPM)	0	-	2,100	306	306	-	-	-	-	-	-	[illegible]	133	250	-	-	-	-	-	.	-	.	.
TEMPERATURE (°F)	-	125	100	100	100	100	100	100	100	100	100	-	100	100	100	100	100	100	100		-	.	.
PRESSURE (PSI)	5	5	5	15	5	5	5	5	5	5	30	1	65	50	5	0	0	0	5	.		.	

REFERENCE DRAWINGS	
PFD-EFFLUENT WATER TREATMENT	ND-11585
PFD-OIL SHIPPING & WATER SKIMMINGS	ND-11584
PFD-STEAM BOILER	ND-11586
TITLE SHEET & DRAWING INDEX-PROCESS	ND-11272

FLUOR.

SCALE: NONE FILE: ND-11585
PLOT #: 1:1 CHECKED BY: JS
FLR ENGINEER: PC LAST CHANGED: 11/15/13

REVISIONS
- C RE-ISSUED FOR DESIGN 11/18/13
- B ISSUED FOR REVIEW 07/31/13
- C RE-ISSUED FOR DESIGN 07/19/13
- C RE-ISSUED FOR DESIGN 06/05/13

Chevron
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SCALE: NONE DATE STARTED: 04/29/10

PFD - EFFLUENT WATER TREATMENT
MSS PLANT CONSOLIDATION - PHASE 2
26C OIL CLEANING PLANT
MSS AREA, T32S/R24E, SECTION 26C

A ND-11585 SHT 1 OF 1

APPENDIX C
Gas Analysis

GENERAL GAS ANALYSIS - (C-5 +) [2,3,8]

GHG Compliant
Rule (40 CFR Part 98)

ELAP Cert.1396-A Rev 03/27/13

Customer:	Chevron Corporation	*Log #:*	24913-3
Address:	26251 Highway 33	*Date Received:*	8/5/13
	Fellows, CA 93224	*Date Completed:*	8/5/13
Attention:	Bo Bravo, Steve Enns	*Report Date:*	8/6/13
Sample Description:	26C Sour Gas Meter #257, Temp 60°F, Pressure 19 psia		

Constituent		*Mole %*	*Wt %*	*Lv %*
Oxygen/Argon	O2 / Ar	0.388	0.366	0.203
Nitrogen	N2	1.563	1.428	1.014
Carbon Dioxide	CO_2	49.768	71.443	50.078
Carbon Monoxide	CO	0.000	0.000	0.000
Methane	C-1	46.643	24.407	46.623
Ethane	C-2	0.191	0.188	0.302
Propane	C-3	0.049	0.070	0.080
Iso-Butane	C-4	0.016	0.031	0.031
N-Butane	C-4	0.036	0.068	0.067
Pentanes Plus	C-5 (+)	0.458	1.357	1.158
Hydrogen	H_2	0.330	0.022	0.000
Hydrogen Sulfide	H_2S	0.558	0.621	0.445
	Total	100.000	100.000	100.000

		ppmv	Grains H2S 100 cu.ft.	**** VOC's	[5] Water Content
[1,2]	Hydrogen Sulfide, H2S =	5,582	355.294	*(% by wt.C-3+)*	*(lbs/MM C.F.)*
			Grains 'S' 100 cu.ft.	1.526	NR
[1,2]	Total Sulfur, as H2S =	5,754	344.804		

		Gross BTU		Net BTU	
[4,6,7,8]	*Physical Data*	*dry*	*wet*	*dry*	*wet*
	*** BTU cu.ft. ideal =	505.01	496.22	455.22	447.30
	*** BTU cu.ft. real =	506.84	498.02	456.87	448.92
	BTU/lb, ideal =	6,237.73	6,129.19		
	(Density) Sp. Gr. Ideal =	1.0589	1.0404		
	(Density) Sp. Gr. Real =	1.0622	1.0438		
	Density lbm/(1000 ft³) =	80.816	79.409		

** GPM C-2+ =	0.277
** GPM C-3+ =	0.226
** GPM C-4+ =	0.212
** GPM C-5+ =	0.1959

z..factor =	0.9964
* F.. factor (60°F) DSCF/MM Btu =	9,475
* F.. factor (68°F) DSCF/MM Btu =	9,619
Sp.Vol. Cu.Ft./Lb =	12.31
Av. Mol. Wt. =	30.66

C-H-O-N-S	% by Wt.
% Carbon =	39.209
% Hydrogen =	6.468
% Oxygen =	52.311
% Nitrogen =	1.428
% Sulfur =	0.584
Total =	100.000

QC-Ck	Measured	Range
1. Fidelity Q-Ck =	0.99	(0.97-1.11)
2. Cont area Ck =	8.7E+06	(8.3 - 9.2)E+6
3. Un-Norm Sum =	99.9	(95 - 105)

GHG Compliant

Notes:
- * *F.. factor = dcf/MMBTU (CARB)*
- ** *GPM = Gallons Per 1000 Ft³*
- *** *Hexane (+) BTU Calc. using GPA 2261 Constant*
- **** VOC's Volatile Organic Constituents
- *N.R.= "Not Requested"*
- *Density-Specific Gravity where Air = 1.0000*
- *DSCF = Dry Standard Cubic Feet*
- *MM = 1 Million*

References
1. ASTM D6228-10
2. ASTM D1945-03(2010)
3. ASTM D1946-90(2011)
4. ASTM D3588-98(2011)
5. ASTM D1142-95(2012)
6. GPA 2172-96
7. GPA 2145-09
8. GPA 2261-00

QC_____Date_____

All Calcuations Tabulated @ 60/60 dry, 14.696psia
(288.15°K, 101.325kPa)

_____ Date:_____

Jeff R. Scheidemantel, Laboratory Director Midway Laboratory, Inc.

GENERAL GAS ANALYSIS - (C-5 +) [2,3,8]

GHG Compliant
Rule (40 CFR Part 98)

ELAP Cert.1396-A

Rev 03/27/13

Customer:	Chevron Corporation	**Log #:**	24186-2
Address:	26251 Highway 33	**Date Received:**	4/16/13
	Fellows, CA 93224	**Date Completed:**	4/16/13
Attention:	James Phillips	**Report Date:**	4/16/13
Sample Description:	Meter 002 - 2F , Temperture 59°F, Pressure 38 psia		

Constituent		Mole %	Wt %	Lv %
Oxygen/Argon	O2 / Ar	0.105	0.161	0.052
Nitrogen	N2	0.579	0.863	0.358
Carbon Dioxide	CO_2	4.448	10.421	4.262
Carbon Monoxide	CO	0.000	0.000	0.000
Methane	C-1	85.890	73.353	81.756
Ethane	C-2	8.064	12.909	12.109
Propane	C-3	0.752	1.766	1.164
Iso-Butane	C-4	0.052	0.160	0.095
N-Butane	C-4	0.081	0.251	0.143
Pentanes Plus	C-6 (+)	0.030	0.115	0.061
Hydrogen	H_2	0.000	0.000	0.000
Hydrogen Sulfide	H_2S	0.000	0.000	0.000
	Total	100.000	100.000	100.000

		ppmv	Grains H2S 100 cu.ft.	**** VOC's	[5] Water Content
[1,2]	Hydrogen Sulfide, H2S =	0.00	0.000	*(% by wt.C-3+)*	*(lbs/MM C.F.)*
		Trace H2S Not Requested	Grains 'S' 100 cu.ft.	2.292	NR
[1,2]	Total Sulfur, as H2S =	0.00	0.000		

		Gross BTU		Net BTU	
[4,6,7,8]	*Physical Data*	*dry*	*wet*	*dry*	*wet*
	*** BTU cu.ft. ideal =	1,034.65	1,016.65	934.16	917.90
	*** BTU cu.ft. real =	1,037.28	1,019.23	936.53	920.23
	BTU/lb, ideal =	20,902.77	20,539.06		
	(Density) Sp. Gr. Ideal =	0.6487	0.6374		
	(Density) Sp. Gr. Real =	0.6500	0.6387		
	Density lbm/(1000 ft³) =	49.504	48.642		

** GPM C-2+ =	2.411
** GPM C-3+ =	0.260
** GPM C-4+ =	0.053
** GPM C-5+ =	0.0109

z..factor =	0.9975
* F.. factor (60°F) DSCF/MM Btu =	8,560
* F.. factor (68°F) DSCF/MM Btu =	8,690
Sp.Vol. Cu.Ft./Lb =	20.20
Av. Mol. Wt. =	18.78

C-H-O-N-S	% by Wt.
% Carbon =	69.953
% Hydrogen =	21.446
% Oxygen =	7.738
% Nitrogen =	0.863
% Sulfur =	0.000
Total =	100.000

QC-Ck	Measured	Range
1. Fidelity Q-Ck =	0.99	(0.97-1.11)
2. Cont area Ck =	9.7E+06	(8.3 - 9.2)E+6
3. Un-Norm Sum =	99.1	(95 - 105)

GHG Compliant

Notes:

* *F.. factor = dcf/MMBTU (CARB)*

** *GPM = Gallons Per 1000 Ft³*

*** *Hexane (+) BTU Calc. using GPA 2261 Constant*

**** VOC's Volatile Organic Constituents

N.R.= "Not Requested"

Density-Specific Gravity where Air = 1.0000

DSCF = Dry Standard Cubic Feet

MM = 1 Million

References

1. ASTM D6228-10
2. ASTM D1945-03(2010)
3. ASTM D1946-90(2011)
4. ASTM D3588-98(2011)
5. ASTM D1142-95(2012)
6. GPA 2172-96
7. GPA 2145-09
8. GPA 2261-00

QC_____Date_____

All Calcuations Tabulated @ 60/60 dry, 14.696psia (288.15°K, 101.325kPa)

Date:_____

Alan J. Harris, BS, Laboratory Director Midway Laboratory, Inc.

APPENDIX D
Emissions Calculations

Tank Input Data	
permit number (S-xxxx-xx-xx)	S-1128-993-0
facility tank I.D.	--
nearest city {1: Bakersfield, 2: Fresno, 3: Stockton}	1
tank ROC vapor pressure (psia)	0.49
liquid bulk storage temperature, Tb (°F)	200
is this a constant-level tank? {yes, no}	no
will flashing losses occur in this tank (only if first-line tank)? {yes, no}	no
breather vent pressure setting range (psi)	0.06
diameter of tank (feet)	39
capacity of tank (bbl)	3,000
conical or dome roof? {c, d}	c
shell height of tank (feet)	14
average liquid height (feet)	2
are the roof and shell the same color? {yes,no}	yes
For roof: color {1:Spec Al, 2:Diff Al, 3:Light, 4:Med, 5:Red, 6:White}	4
condition {1: Good, 2: Poor}	1
-----This row only used if shell is different color from roof-----	
-----This row only used if shell is different color from roof-----	

Liquid Input Data	A	B
maximum daily fluid throughput (bbl)		3,000
maximum annual fluid throughput (bbl)	105,000	105,000
-----This row only used if flashing losses occur in this tank-----		100
-----This row only used if flashing losses occur in this tank-----		36,500
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	155.0	4.2359
water vapor pressure at daily minimum liquid surface temperature (Tln), Pvn (psia	144.2	3.2442
water vapor pressure at average liquid surface temperature (Tla), Pva (psia)	149.6	3.6916
roof outage, Hro (feet)		0.4063
vapor space volume, Vv (cubic feet)		14820.39
paint factor, alpha		0.68
vapor density, Wv (lb/cubic foot)		0.0075
daily vapor temperature range, delta Tv (degrees Rankine)		49.04
vapor space expansion factor, Ke		0.1669

Results	lb/year	lb/day
Standing Storage Loss	6,761	18.52
Working Loss	5,145	147.00
Flashing Loss	N/A	N/A

Total Uncontrolled Tank VOC Emissions	11,906	165.5

Summary Table	
Permit Number	1128-993-0
Facility Tank I.D.	--
Tank capacity (bbl)	3,000
Tank diameter (ft)	39
Tank shell height (ft)	14
Conical or Dome Roof	Conical
Maximum Daily Fluid Throughput (bbl/day)	3,000
Maximum Annual Fluid Throughput (bbl/year)	105,000
Maximum Daily Oil Throughput (bbl/day)	N/A
Maximum Annual Oil Throughput (bbl/year)	N\A
Total Uncontrolled Daily Tank VOC Emissions (lb/day)	165.5
Total Uncontrolled Annual Tank VOC Emissions (lb/year)	11,906

Tank Input Data	
permit number (S-xxxx-xx-xx)	S-1128-997-0
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)	200
is this a constant-level tank? {yes, no}	no
will flashing losses occur in this tank (only if first-line tank)? {yes, no}	no
breather vent pressure setting range (psi)	0.06
diameter of tank (feet)	26
capacity of tank (bbl)	1,000
conical or dome roof? {c, d}	c
shell height of tank (feet)	10
average liquid height (feet)	2
are the roof and shell the same color? {yes,no}	yes
For roof: color {1:Spec Al, 2:Diff Al, 3:Light, 4:Med, 5:Red, 6:White}	4
condition {1: Good, 2: Poor}	1
-----This row only used if shell is different color from roof-----	
-----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)	120,000	120,000
-----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	155.0	4.2359
water vapor pressure at daily minimum liquid surface temperature (Tln), Pvn (psia	144.2	3.2442
water vapor pressure at average liquid surface temperature (Tla), Pva (psia)	149.6	3.6916
roof outage, Hro (feet)		0.2708
vapor space volume, Vv (cubic feet)		4391.23
paint factor, alpha		0.68
vapor density, Wv (lb/cubic foot)		0.0076
daily vapor temperature range, delta Tv (degrees Rankine)		49.04
vapor space expansion factor, Ke		0.1669

Results	lb/year	lb/day
Standing Storage Loss	2,044	5.60
Working Loss	6,000	50.00
Flashing Loss	N/A	N/A

Total Uncontrolled Tank VOC Emissions	8,044	55.6

Summary Table	
Permit Number	1128-997-0
Facility Tank I.D.	--
Tank capacity (bbl)	1,000
Tank diameter (ft)	26
Tank shell height (ft)	10
Conical or Dome Roof	Conical
Maximum Daily Fluid Throughput (bbl/day)	1,000
Maximum Annual Fluid Throughput (bbl/year)	120,000
Maximum Daily Oil Throughput (bbl/day)	N/A
Maximum Annual Oil Throughput (bbl/year)	N\A
Total Uncontrolled Daily Tank VOC Emissions (lb/day)	55.6
Total Uncontrolled Annual Tank VOC Emissions (lb/year)	8,044

Chevron U.S.A. (CUSA)
Permit Unit S-1128-B-0

S-1128-998-0

EPA Protocol for Equipment Leak Emissions Estimate
Table 2-4. Oil and Gas Production Operations
Average Emission Factors

Weight percentage of VOC in total organic compounds in gas (neglect non-organics) 70 %
Weight percentage of VOC in total organic compounds in oil (neglect non-organics) 100 %

Equipment Type	Service	Screening Value EF - TOC (kg/hr/source)	(lb/day/source)	Component Count	VOC Emissions (lb/day)
Valves	Gas	4.5E-03	2.381E-01	81	13.50
	Heavy Oil	8.4E-06	4.445E-04	0	0.00
	Light Oil	2.5E-03	1.323E-01	0	0.00
	Water/Oil	9.8E-05	5.185E-03	0	0.00
Pump Seals	Gas	2.4E-03	1.270E-01	10	0.89
	Heavy Oil	N/A	N/A	0	N/A
	Light Oil	1.3E-02	6.878E-01	0	0.00
	Water/Oil	2.4E-05	1.270E-03	0	0.00
Others	Gas	8.8E-03	4.656E-01	45	14.67
	Heavy Oil	3.2E-05	1.693E-03	0	0.00
	Light Oil	7.5E-03	3.968E-01	0	0.00
	Water/Oil	1.4E-02	7.408E-01	0	0.00
Connectors	Gas	2.0E-04	1.058E-02	50	0.37
	Heavy Oil	7.5E-06	3.968E-04	0	0.00
	Light Oil	2.1E-04	1.111E-02	0	0.00
	Water/Oil	1.1E-04	5.820E-03	0	0.00
Flanges	Gas	3.9E-04	2.064E-02	152	2.20
	Heavy Oil	3.9E-07	2.064E-05	0	0.00
	Light Oil	1.1E-04	5.820E-03	0	0.00
	Water/Oil	2.9E-06	1.534E-04	0	0.00
Open-ended Lines	Gas	2.0E-03	1.058E-01	2	0.21
	Heavy Oil	1.4E-04	7.408E-03	0	0.00
	Light Oil	1.4E-03	7.408E-02	0	0.00
	Water/Oil	2.5E-04	1.323E-02	0	0.00

Total VOC Emissions (lb/hr) = 1.33
Total VOC Emissions (lb/day) = 31.8
Total VOC Emission (lb/yr) = 11,620

APPENDIX E
BACT Analysis

Top Down BACT Analysis

Tanks S-1128-993-0 and '997-0:

Step 1 - Identify All Possible Control Technologies

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

Technologically feasible:

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

Achieved in Practice:

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

Step 2 - Eliminate Technologically Infeasible Options

All of the above identified control options are technologically feasible.

Step 3 - Rank Remaining Control Technologies by Control Effectiveness

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

Step 4 - Cost Effectiveness Analysis

As provided in the attached quote, the capital cost for a vapor control system to address the technologically feasible control option is $1,889,000.

The annualized capital cost is

$AP = (P) \{[(i) (1 + i)^n]/[(1 + i)^n - 1]\}$, where
AP = Equivalent Annual Capital Cost of Control Equip.
P = Present value of the control equipment, including installation cost. $1,889,000
i = interest rate (use 10% per policy)
n = equipment life (assume 10 years per policy)

$AP = (P) \{[(0.1)(1 + 0.1)^{10}]/[(1 + 0.1)^{10} - 1]\}$
$AP = (P) \times (0.16274) = (\$1,889,000)(0.1627) = \$307,340/year$

Excluding annual operation costs, total annual cost of vapor control = $307,340

For calculation of the amount of VOCs removed from each tank (emissions unit) with the vapor control system, 100% control is assumed. The VOCs removed annually are

Tons/yr = 11,906 (max. emissions per unit from this proj.) lb/yr/2000 lb/ton = 6.0 tons/yr

Annualized cost = $307,340/yr/6.0 tons/yr
= $51,223/ton

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

Step 5 - Select BACT

Uncontroled tanks S-1128-993-0 and '99 7-0:

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

Top Down BACT Analysis

FWKOs '998-0 and '999-0:

Step 1 - Identify All Possible Control Technologies

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

Technologically feasible:

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

Achieved in Practice:

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

Step 2 - Eliminate Technologically Infeasible Options

All of the above identified control options are technologically feasible.

Step 3 - Rank Remaining Control Technologies by Control Effectiveness

3. 99% control (waste gas incinerated in steam generator, heater treater, or other fired equipment and inspection and maintenance program; transfer of uncondensed vapors to gas pipeline or reinjection to formation (if appropriate wells are available).
4. PV relief valve set to within 10% of maximum allowable pressure.

Step 4 - Cost Effectiveness Analysis

A cost effectiveness analysis is not required because the FWKOs are equipped with the highest ranked control technology.

Step 5 - Select BACT

99% control (waste gas incinerated in steam generator and inspection and maintenance program

APPENDIX F
HRA

San Joaquin Valley Air Pollution Control District
Risk Management Review

To:	David Torii – Permit Services
From:	Kou Thao – Technical Services
Date:	6-16-17
Facility Name:	Chevron USA
Location:	Chevron USA's Western Kern County Heavy Oil Production Stationary Source
Application #(s):	S-1128 -118-20, -125-23, -993-0, -994-0, -995-0, -996-0, -997-0, -998-0, -999-0, -1000-0, & -1001-0
Project #:	S-1134679

A. RMR SUMMARY

RMR Summary							
Categories	**Unit 993-0**	**Unit 996-0**	**Unit 997-0**	**Unit 998-0**	**Unit 1000-0**	**Project Totals**	**Facility[2] Totals**
Prioritization Score	2.56	2.12	1.73	2.50	0.16	9.09	>1
Acute Hazard Index	9.31E-02	1.64E-02	2.73E-04	1.56E-04	9.35E-06	1.10E-01	**6.63E-01**
Chronic Hazard Index	1.65E-05	1.36E-05	1.81E-04	2.63E-04	3.81E-06	4.78E-04	**2.79E-02**
Maximum Individual Cancer Risk (10^{-6})	1.50E-09	1.23E-09	1.64E-08	2.39E-08	3.46E-10	4.34E-08	**4.30E-06**
T-BACT Required?	No	No	No	No	No		
Special Permit Conditions?	No	No	No	No	No		

2. ***The facility totals in this memo are only associated to Chevron USA facility S-1128. However facility S-1128 is part of larger Stationary Source that includes facillties S-1129, S-1141, and S-2592. Be advised that Total Risk for this Stationary Source is almost at 10 in a million.***

Proposed Permit Conditions

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

Unit # 993-0, 996-0, 997-0, 998-0, & 1000-0

No special conditions are required.

B. RMR REPORT

I. Project Description

Technical Services received a request on May 8, 2014 to perform a Risk Management Review for a proposed installation of free water knockout vessels, gas knockout vessels, tanks, and an open-top emergency use vessel at Chevron USA's 26C, 31E, and 2F Oil Cleaning Plants.

Chevron USA is proposing to send produced fluids from their 2F and 31E Oil Cleaning Plants to be commingled with the produced fluids the 26C oil cleaning plant already receives from crude oil production wells in the area. Free water will be removed from the emulsion and processed at the 26C water cleaning plant. The remaining emulsion will then be sent to Station 1-09 for further processing. From station 1-09, produced oil will be sent to pipeline and produced water will be injected via a disposal well.

The project consist of modifications to existing permits units S-118-20, S-125-23 along with new installations under ATC permits S-993-0, S-994-0, S-995-0, S-996-0, S-997-0, S-998-0, S-999-0, S-1000-0, and S-1001-0. As indicated by the District's permitting engineer the modifications to existing units S-118 and S-125 will not result in any increase of emissions and or other modifications that would result in a change of risk impacts from these two units.
As per the District's permitting engineer the only new proposed installations that will result in an increase in emissions are ATC units S-993-0, S-996-0, S-997-0, S-998-0, and S-1000-0. Therefore the associated risk for this project will only be from those ATC units identified by the District's permitting engineer as new emitting units.

II. Analysis

Technical Services performed a health risk assessment using the Toxic Fugitive VOC Emissions from Oilfield Equipment in the District's HEARTs database. The cumulative prioritization scores were greater than 1.0, thus modeling was conducted using the AERMOD model, with the parameters outlined below and meteorological data for 2005-2009 from Bakersfield to determine the dispersion factors (i.e., the predicted concentration or X divided by the normalized source strength or Q) for a receptor grid.

The following parameters were used for this analysis:

Analysis Parameters Unit 993-0			
Source Type	Circular Area	**Location Type**	Rural
Circular Area Radius (m)	5.79	**Closest Receptor (m)**	1400
Release Height (m)	5.79	**Type of Receptor**	Residential
		Pollutant Type	VOC
		Emission Rate	165.5 lbs/day
			11,906 lbs/yr

Analysis Parameters Unit 996-0			
Source Type	Circular Area	**Location Type**	Rural
Circular Area Radius (m)	2.28	**Closest Receptor (m)**	1400
Release Height (m)	4.57	**Type of Receptor**	Residential
		Pollutant Type	VOC
		Emission Rate	26.9 lbs/day
			9,830 lbs/yr

Analysis Parameters Unit 997-0			
Source Type	Circular Area	**Location Type**	Rural
Circular Area Radiu (m)s	3.96	**Closest Receptor (m)**	2400
Release Height (m)	7.92	**Type of Receptor**	Residential
		Pollutant Type	VOC
		Emission Rate	55.6 lbs/day
			8,044 lbs/yr

Analysis Parameters Unit 998-0			
Source Type	Circular Area	**Location Type**	Rural
Circular Area Radius (m)	3.95	**Closest Receptor (m)**	2400
Release Height (m)	7.92	**Type of Receptor**	Residential
		Pollutant Type	VOC
		Emission Rate	31.8 lbs/day
			11,620 lbs/yr

Analysis Parameters Unit 1000-0			
Source Type	Circular Area	**Location Type**	Rural
Circular Area Radius (m)	5.94	**Closest Receptor (m)**	540
Release Height (m)	11.88	**Type of Receptor**	Residential
		Pollutant Type	VOC
		Emission Rate	2.1 lbs/day
			777 lbs/yr

III. *Conclusion*

The acute and chronic indices are below 1.0 for each of the proposed units, 993-0, 996-0, 997-0, 998-0, and 1000-0, and the cancer risk factor associated with each unit 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).**

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

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

IV. *Attachments*

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

APPENDIX G
Draft ATCs

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

DRAFT

PERMIT NO: S-1128-118-20 **ISSUANCE DATE:** DRAFT

LEGAL OWNER OR OPERATOR: CHEVRON USA INC
MAILING ADDRESS: P O BOX 1392
BAKERSFIELD, CA 93302

LOCATION: HEAVY OIL WESTERN STATIONARY SOURCE
KERN COUNTY

SECTION: 26 **TOWNSHIP:** 32S **RANGE:** 23E

EQUIPMENT DESCRIPTION:
MODIFICATION OF THERMALLY ENHANCED OIL RECOVERY (TEOR) OPERATION WELL VENT VAPOR CONTROL SYSTEM SERVING 628 STEAM DRIVE WELLS, INCLUDING HEAT EXCHANGERS, GAS/LIQUID SEPARATOR, VAPOR COMPRESSORS, AND PIPING TO AUTHORIZED DISPOSAL/INCINERATION DEVICES: CONNECT S-1128-994 TO VAPOR CONTROL SYSTEM

CONDITIONS

1. {1830} This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District Rule 2201] Federally Enforceable Through Title V Permit
2. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. The crude oil production from wells associated with this permit unit shall not lie within 1000 feet of an air injection well used for in-situ combustion. [District Rule 4407] Federally Enforceable Through Title V Permit
4. All required source testing shall conform to the compliance testing procedures described in District Rule 1081(as amended December 16, 1993). [District Rule 1081] Federally Enforceable Through Title V Permit
5. Except for when casing vents or downstream valves are closed; noncondensible gas shall be piped to one or more of the following steam generators for incineration: S-1128-36; S-1128-48 or to tanks equipped with an operating vapor control 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

DRAFT

Arnaud Marjollet, Director of Permit Services

S-1128-118-20 : Jul 18 2014 8:11AM – TORID : Joint Inspection NOT Required

6. Casing vapor collection system shall be equipped with vapor flow rate indicator/recorder downstream of condensible recovery system measuring total flow rate. [District Rule 2201] Federally Enforceable Through Title V Permit

7. Water/VOC condensate from all vapor recovery systems shall be pumped to condensate collection tank or field gathering system. [District Rule 2201] Federally Enforceable Through Title V Permit

8. Vapors shall not be vented to the atmosphere if VOC combustion source is inoperative. [District Rule 2201] Federally Enforceable Through Title V Permit

9. Maximum fugitive VOC emission rate from the well head casing vent vapor collection system shall not exceed 1,508.7 lb/day. [District Rule 2201] Federally Enforceable Through Title V Permit

10. Fugitive VOC limit listed above does not include components handling produced fluids with an API gravity less than 30 degrees, or components in water/oil service (condensate) with a water content equal to or greater than 50% by weight, or components handling fluid streams with a VOC content of 10% or less by weight. [District Rule 2201] Federally Enforceable Through Title V Permit

11. Noncondensible sulfur compounds content shall not exceed 2,000 ppmv unless steam generators incinerating vapors are connected to flue gas scrubber if required to maintain compliance with sulfur emission limit. [District Rule 2201] Federally Enforceable Through Title V Permit

12. A gas leak is defined as the detection of a concentration of total organic compounds, above background (measured in accordance with EPA Method 21) that exceeds the following values: 1) A major gas leak is a detection of greater than 10,000 ppmv as methane; and 2) A minor gas leak is a detection of 400 to 10,000 ppmv as methane for pressure relief devices (PRDs) and 2,000 to 10,000 for components other than PRDs. [District Rule 4401] Federally Enforceable Through Title V Permit

13. A liquid leak is defined as the dripping of VOC-containing liquid. A major liquid leak is a visible mist or a continuous flow of liquid that is not seal lubricant. A minor liquid leak is a liquid leak that is not a major liquid leak and drips liquid at a rate of more than three drops per minute, except for seal lubricant. [District Rule 4401] Federally Enforceable Through Title V Permit

14. During the time any steam-enhanced crude oil production well is undergoing service or repair while the well is not producing, it shall be exempt from the emission control requirements of District Rule 4401. [District Rule 4401] Federally Enforceable Through Title V Permit

15. Permittee shall not operate a steam-enhanced crude oil production well unless they comply with one of the following requirements: 1) Permittee shall keep the steam-enhanced crude oil production well vents closed and the front line production equipment downstream of the wells that carry produced fluids (crude oil or mixture of crude oil and water) shall be connected to a VOC collection and control system. The well vent may be temporarily opened during periods of attended service or repair of the well provided such activity is done as expeditiously as possible with minimal spillage of material and VOC emissions to the atmosphere; or 2) Permittee shall install and maintain an APCO-approved VOC collection and control system that is not open to the atmosphere and that is composed of hard-piping, ductwork connections and, if necessary, flow inducing devices that transport gas or vapor from a piece or pieces of equipment to an APCO-approved control device that has a VOC destruction or removal efficiency of at least 99%, or that transports gases or vapors back to a process system. [District Rules 2201 and 4401] Federally Enforceable Through Title V Permit

16. During District compliance inspection, the following conditions shall be used to determination of a violation: 1) Existence of an open-ended line or a valve located at the end of the line that is not sealed with a blind flange, plug, cap, or a second closed valve that is not closed at all times, except during attended operations requiring process fluid flow through the open-ended lines. Attended operations include draining or degassing operations, connection of temporary process equipment, sampling of process streams, emergency venting, and other normal operational needs, provided such operations are done as expeditiously as possible and with minimal spillage of material and VOC emissions to the atmosphere; 2) Existence of a component with a major liquid leak; 3) Existence of a component with a gas leak greater than 50,000 ppmv; or 4) Existence of a component leak consisting of a minor liquid or gas leak, or a gas leak greater than 10,000 ppmv up to 50,000 ppmv, in excess of the allowable number of leaks specified in Table 3 of Rule 4401. [District Rule 4401] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

17. The permittee shall not use any components that leak in excess of the applicable leak standards as specified in this permit. Components that have been found leaking in excess of the applicable leak standards of this rule may be used provided such leaking components have been identified with a tag for repair, are repaired, or are awaiting re-inspection after being repaired, within the applicable time period specified in this permit. [District Rule 4401] Federally Enforceable Through Title V Permit

18. Permittee shall keep all hatches closed at all times except during sampling or adding of process material through the hatch, or during attended repair, replacement, or maintenance operations, provided such activities are done as expeditiously as possible with minimal spillage of material and VOC emissions to the atmosphere. [District Rule 4401] Federally Enforceable Through Title V Permit

19. Except for pipes and unsafe-to-monitor components, permittee shall visually inspect all pipes at least once every year. Any visual inspection of pipes that indicates a leak that cannot be immediately repaired to meet the leak standards of Rule 4401 shall be inspected within 24 hours after detecting the leak. If a leak is found, the leak shall be repaired as soon as practicable but not later than the time frame specified in Table 4 of Rule 4401. [District Rule 4401] Federally Enforceable Through Title V Permit

20. Permittee shall inspect audio-visually (by hearing and by sight) for leaks all accessible operating pumps, compressors, and pressure relief devices (PRDs) in service at least once each calendar week. [District Rule 4401] Federally Enforceable Through Title V Permit

21. Any audio-visual inspection of an accessible operating pump, compressor, and PRD performed by an operator that indicates a leak that cannot be immediately repaired to meet the leak standards of Rule 4401 shall be inspected not later than 24 hours after conducting the audio-visual inspection. If a leak is found, the leak shall be repaired as soon as practicable but not later than the time frame specified in Table 4 of Rule 4401. [District Rule 4401] Federally Enforceable Through Title V Permit

22. Permittee shall initially inspect a PRD that releases to the atmosphere as soon as practicable but not later than 24 hours after the discovery of the release. Permittee shall re-inspect the PRD not earlier than 24 hours after the initial inspection but not later than 15 calendar days after the initial inspection. [District Rule 4401] Federally Enforceable Through Title V Permit

23. Permittee shall inspect all new, replaced, or repaired fittings, flanges, and threaded connections within 72 hours of placing the component in service. [District Rule 4401] Federally Enforceable Through Title V Permit

24. Except for PRDs, permittee shall inspect a component that has been repaired or replaced not later than 15 calendar days after the component was repaired or replaced. [District Rule 4401] Federally Enforceable Through Title V Permit

25. Permittee shall inspect all unsafe-to-monitor components during each turnaround. [District Rule 4401] Federally Enforceable Through Title V Permit

26. Permittee shall affix a readily visible weatherproof tag to a leaking component upon detection of the leak. The following information shall be included on the tag: 1) the date and time of leak detection; 2) the date and time of leak measurement; 3) leak concentration in ppmv for a gaseous leak; 4) description of whether it is a major liquid leak or a minor liquid leak; and 5) whether the component is an essential component, an unsafe-to-monitor component, or a critical component. [District Rule 4401] Federally Enforceable Through Title V Permit

27. Permittee shall keep the tag affixed to the component until all of the following conditions have been met: 1) the leaking component has been repaired or replaced, and 2) the component has been re-inspected using the test methods described in this permit; and 3) the component is found to be in compliance with the requirements of Rule 4401. [District Rule 4401] Federally Enforceable Through Title V Permit

28. Permittee shall minimize a component leak in order to stop or reduce leakage to the atmosphere immediately to the extent possible, but not later than one (1) hour after detection of the leak. [District Rule 4401] Federally Enforceable Through Title V Permit

29. Except for leaking critical components or leaking essential components, if the operator has minimized a leak but the leak still exceeds the applicable leak limits, the operator shall comply with at least one of the following requirements as soon as practicable but not later than the time period specified in Table 4 of Rule 4401: 1) repair or replace the leaking component; 2) vent the leaking component to a VOC collection and control system; or 3) remove the leaking component from operation. [District Rule 4401] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

30. The leak rate, measured after leak minimization has been performed, shall be used to determine the applicable repair period specified in Table 4 of Rule 4401 and the time of initial leak detection shall be the start of the repair period specified in Table 4 of Rule 4401. [District Rule 4401] Federally Enforceable Through Title V Permit

31. If the leaking component is an essential component or a critical component that cannot be immediately shut down for repairs, and if the leak has been minimized but the leak still exceeds the applicable leak standard of this rule, the operator shall repair or replace the essential component or critical component 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, whichever comes earlier. [District Rule 4401] Federally Enforceable Through Title V Permit

32. Unless waived by the District, permittee shall maintain source test records which show that the control efficiency requirements of the VOC collection and control system have been satisfied. [District Rule 4401] Federally Enforceable Through Title V Permit

33. Annual control efficiency compliance tests shall be performed by source testers certified by the California Air Resource Board (CARB) on all vapor collection and control systems used to control emissions from steam-enhanced crude oil production wells. Testing shall be performed during June, July, August, or September of each year if the system's control efficiency is dependent upon ambient air temperature. The APCO may waive these source testing requirements if the vapor control system does not exhaust to atmosphere, or if all uncondensed VOC emissions collected by the vapor collection and control system are incinerated in fuel burning equipment, an internal combustion engine, or in a smokeless flare. [District Rule 4401] Federally Enforceable Through Title V Permit

34. The control efficiency of any VOC control device, measured and calculated as carbon, shall be determined by EPA Method 25, except when the outlet concentration must be below 50 ppm in order to meet the standard, in which case EPA Method 25a may be used. EPA Method 18 may be used in lieu of EPA Method 25 or EPA Method 25a provided the identity and approximate concentrations of the analytes/compounds in the sample gas stream are known before analysis with the gas chromatograph and the gas chromatograph is calibrated for each of those known analyte/compound to ensure that the VOC concentrations are neither under- or over-reported. [District Rule 4401] Federally Enforceable Through Title V Permit

35. VOC content shall be determined using the latest revision of ASTM Method E168, E169, or E260 as applicable. Halogenated exempt compounds shall be determined by ARB Method 432. [District Rule 4401] Federally Enforceable Through Title V Permit

36. Permittee shall perform leak inspections at least annually, using a portable hydrocarbon detection instrument in accordance with USEPA Method 21. Where safety is a concern, such as measuring leaks from compressor seals or pump seals when the shaft is rotating, a person shall measure leaks by placing the instrument probe inlet at a distance of one centimeter or less from the surface of the component interface. [District Rule 4401] Federally Enforceable Through Title V Permit

37. VOC content by weight percent (wt.%) shall be determined using American Society of Testing and Materials (ASTM) D1945 for gases and South Coast Air Quality Management District (SCAQMD) Method 304-91 or the latest revision of ASTM Method E168, E169 or E260 for liquids. [District Rule 4401] Federally Enforceable Through Title V Permit

38. Permittee shall maintain an inspection log in which, at a minimum, all of the following information shall be recorded for each inspection performed: 1) The total number of components inspected, and the total number and percentage of leaking components found by component type; 2) The location, type, and name or description of each leaking component and description of any unit where the leaking component is found; 3) The date of leak detection and the method of leak detection; 4) For gaseous leaks, the leak concentration in ppmv, and for liquid leaks record whether the leak is a major liquid leak or a minor liquid leak; 5) The date of repair, replacement, or removal from operation of leaking components; 6) The identify and location of essential components and critical components found leaking that cannot be repaired until the next process unit turnaround or not later than one year after leak detection, whichever comes earlier; 7) The methods used to minimize the leak from essential components and critical components found leaking that cannot be repaired until the next process unit turnaround or not later than one year after leak detection, whichever comes earlier; 8) The date of re-inspection and the leak concentration in ppmv after the component is repaired or is replaced; 9) The inspector's name, business mailing address, and business telephone number; and 10) The date and signature of the facility operator responsible for the inspection and repair program certifying the accuracy of the information recorded in the log. [District Rule 4401] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

39. Permittee shall establish and implement an employee training program for inspecting and repairing components and recordkeeping procedures, as necessary. Permittee shall maintain at the facility the copies of the training records of the training program. [District Rule 4401] Federally Enforceable Through Title V Permit

40. In accordance with the approved OMP, permittee shall meet all applicable operating, leak standards, inspection and re-inspection, leak repair, record keeping, and notification requirements of Rule 4401. [District Rule 4401] Federally Enforceable Through Title V Permit

41. By January 30 of each year, permittee shall submit to the APCO for approval, in writing, an annual report indicating any changes to the existing, approved OMP. [District Rule 4401] Federally Enforceable Through Title V Permit

42. Permittee shall maintain an accurate fugitive component count and resultant emissions calculated using emission factors from EPA Publication 453/R-95-017 Protocol for Equipment Leak Emission Estimates Table 2-4 Oil and Gas Production Operations Average Emission Factors (kg/hr/source). [District Rule 2201] Federally Enforceable Through Title V Permit

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

44. Permittee shall maintain a copy of the latest APCO-approved Operator Management Plan (OMP) at the facility and make it available to the APCO, ARB, and US EPA upon request. [District Rule 4401] Federally Enforceable Through Title V Permit

45. Permittee shall maintain daily records of uncondensed casing vapor flow rate and make such records readily available for District inspection upon request. [District Rule 2201] Federally Enforceable Through Title V Permit

46. Permit holder shall maintain updated well roster readily available for District inspection upon request. [District NSR Rule] Federally Enforceable Through Title V Permit

47. Permittee shall maintain monitoring records of the date and well identification where steam injection or well stimulation occurs. [District Rule 4401] Federally Enforceable Through Title V Permit

48. {520} The operator shall maintain all records of required monitoring data and support information for inspection at any time for a period of five years. [District Rule 2520, 9.5.2] Federally Enforceable Through Title V Permit

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

DRAFT

PERMIT NO: S-1128-125-23 **ISSUANCE DATE:** DRAFT

LEGAL OWNER OR OPERATOR: CHEVRON USA INC
MAILING ADDRESS: P O BOX 1392
BAKERSFIELD, CA 93302

LOCATION: HEAVY OIL WESTERN STATIONARY SOURCE
KERN COUNTY

SECTION: 02 **TOWNSHIP:** 11N **RANGE:** 24W

EQUIPMENT DESCRIPTION:
MODIFICATION OF THERMALLY ENHANCED OIL RECOVERY (TEOR) OPERATION WELL VENT VAPOR CONTROL SYSTEM SERVING 253 STEAM ENHANCED WELLS, INCLUDING HEAT EXCHANGERS, GAS/LIQUID SEPARATOR, VAPOR COMPRESSORS, AND VAPOR PIPING TO STEAM GENERATORS S-1128-15, S-1128-18, AND VAPOR PIPING TIED INTO VAPOR RECOVERY LINE FROM SYSTEM LISTED UNDER PERMIT S-1128-617: REMOVE REFERENCE TO PERMIT S-1128-617 AND LIST VAPOR CONTROL SYSTEM AS SERVING S-1128-1000

CONDITIONS

1. {1830} This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District Rule 2201] Federally Enforceable Through Title V Permit
2. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. {1294} The crude oil production from wells associated with this permit unit shall not lie within 1000 feet of an air injection well used for in-situ combustion. [District Rule 4407, 2.0, 3.4, and 3.5] Federally Enforceable Through Title V Permit
4. All required source testing shall conform to the compliance testing procedures described in District Rule 1081(as amended December 16, 1993). [District Rule 1081] Federally Enforceable Through Title V Permit
5. VOC content of hydrocarbons in gas processed shall not exceed 37% by weight. [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

6. Permit holder shall maintain updated well roster readily available for District inspection upon request. [District Rule 2201] Federally Enforceable Through Title V Permit

7. Water/VOC condensate from all vapor recovery systems shall be pumped to condensate collection tank or field gathering system. [District Rule 2201] Federally Enforceable Through Title V Permit

8. Vapors shall not be vented to the atmosphere if VOC combustion source is inoperative. [District Rule 2201] Federally Enforceable Through Title V Permit

9. Maximum fugitive VOC emission rate from the well head casing vent vapor collection system shall not exceed 46.6 lb/day, as calculated according to District Policy SSP 2015 Procedures for Quantifying Fugitive VOC Emissions At Petroleum and SOCMI Facilities. [District Rule 2201] Federally Enforceable Through Title V Permit

10. Permittee shall maintain with the permit accurate fugitive component counts for well vent 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

11. Fugitive VOC limit listed above does not include components handling produced fluids with an API gravity less than 30 degrees, or components in water/oil service (condensate) with a water content equal to or greater than 50% by weight, or components handling fluid streams with a VOC content of 10% or less by weight. [District Rule 2201] Federally Enforceable Through Title V Permit

12. Except for when casing vents or downstream valves are closed; noncondensible gas shall be piped to one or more of the following steam generators for incineration: S-1128-15; S-1128-18 or to tanks equipped with an operating vapor control system. [District Rule 2201] Federally Enforceable Through Title V Permit

13. A gas leak is defined as the detection of a concentration of total organic compounds, above background (measured in accordance with EPA Method 21) that exceeds the following values: 1) A major gas leak is a detection of greater than 10,000 ppmv as methane; and 2) A minor gas leak is a detection of 400 to 10,000 ppmv as methane for pressure relief devices (PRDs) and 2,000 to 10,000 for components other than PRDs. [District Rule 4401, 3.20] Federally Enforceable Through Title V Permit

14. A liquid leak is defined as the dripping of VOC-containing liquid. A major liquid leak is a visible mist or a continuous flow of liquid that is not seal lubricant. A minor liquid leak is a liquid leak that is not a major liquid leak and drips liquid at a rate of more than three drops per minute, except for seal lubricant. [District Rule 4401, 3.20] Federally Enforceable Through Title V Permit

15. During the time any steam-enhanced crude oil production well is undergoing service or repair while the well is not producing, it shall be exempt from the emission control requirements of District Rule 4401, 5.0. [District Rule 4401, 4.1] Federally Enforceable Through Title V Permit

16. Permittee shall not operate a steam-enhanced crude oil production well unless they comply with one of the following requirements: 1) Permittee shall keep the steam-enhanced crude oil production well vents closed and the front line production equipment downstream of the wells that carry produced fluids (crude oil or mixture of crude oil and water) shall be connected to a VOC collection and control system. The well vent may be temporarily opened during periods of attended service or repair of the well provided such activity is done as expeditiously as possible with minimal spillage of material and VOC emissions to the atmosphere; or 2) Permittee shall install and maintain an APCO-approved VOC collection and control system that is not open to the atmosphere and that is composed of hard-piping, ductwork connections and, if necessary, flow inducing devices that transport gas or vapor from a piece or pieces of equipment to an APCO-approved control device that has a VOC destruction or removal efficiency of at least 99%, or that transports gases or vapors back to a process system. [District Rules 2201 and 4401, 5.1] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

17. During District compliance inspection, the following conditions shall be used to determination of a violation: 1) Existence of an open-ended line or a valve located at the end of the line that is not sealed with a blind flange, plug, cap, or a second closed valve that is not closed at all times, except during attended operations requiring process fluid flow through the open-ended lines. Attended operations include draining or degassing operations, connection of temporary process equipment, sampling of process streams, emergency venting, and other normal operational needs, provided such operations are done as expeditiously as possible and with minimal spillage of material and VOC emissions to the atmosphere; 2) Existence of a component with a major liquid leak; 3) Existence of a component with a gas leak greater than 50,000 ppmv; or 4) Existence of a component leak consisting of a minor liquid or gas leak, or a gas leak greater than 10,000 ppmv up to 50,000 ppmv, in excess of the allowable number of leaks specified in Table 2 of Rule 4401. [District Rule 4401, 5.2] Federally Enforceable Through Title V Permit

18. The permittee shall not use any components that leak in excess of the applicable leak standards as specified in this permit. Components that have been found leaking in excess of the applicable leak standards of this rule may be used provided such leaking components have been identified with a tag for repair, are repaired, or are awaiting re-inspection after being repaired, within the applicable time period specified in this permit. [District Rule 4401, 5.2] Federally Enforceable Through Title V Permit

19. Permittee shall keep all hatches closed at all times except during sampling or adding of process material through the hatch, or during attended repair, replacement, or maintenance operations, provided such activities are done as expeditiously as possible with minimal spillage of material and VOC emissions to the atmosphere. [District Rule 4401, 5.3] Federally Enforceable Through Title V Permit

20. Except for pipes and unsafe-to-monitor components, permittee shall visually inspect all pipes at least once every year. Any visual inspection of pipes that indicates a leak that cannot be immediately repaired to meet the leak standards of Rule 4401 shall be inspected within 24 hours after detecting the leak. If a leak is found, the leak shall be repaired as soon as practicable but not later than the time frame specified in Table 3 of Rule 4401. [District Rule 4401, 5.4] Federally Enforceable Through Title V Permit

21. Permittee shall inspect audio-visually (by hearing and by sight) for leaks all accessible operating pumps, compressors, and pressure relief devices (PRDs) in service at least once each calendar week. [District Rule 4401, 5.4] Federally Enforceable Through Title V Permit

22. Any audio-visual inspection of an accessible operating pump, compressor, and PRD performed by an operator that indicates a leak that cannot be immediately repaired to meet the leak standards of Rule 4401 shall be inspected not later than 24 hours after conducting the audio-visual inspection. If a leak is found, the leak shall be repaired as soon as practicable but not later than the time frame specified in Table 3 of Rule 4401. [District Rule 4401, 5.4] Federally Enforceable Through Title V Permit

23. Permittee shall initially inspect a PRD that releases to the atmosphere as soon as practicable but not later than 24 hours after the discovery of the release. Permittee shall re-inspect the PRD not earlier than 24 hours after the initial inspection but not later than 15 calendar days after the initial inspection. [District Rule 4401, 5.4] Federally Enforceable Through Title V Permit

24. Permittee shall inspect all new, replaced, or repaired fittings, flanges, and threaded connections within 72 hours of placing the component in service. [District Rule 4401, 5.4] Federally Enforceable Through Title V Permit

25. Except for PRDs, permittee shall inspect a component that has been repaired or replaced not later than 15 calendar days after the component was repaired or replaced. [District Rule 4401, 5.4] Federally Enforceable Through Title V Permit

26. Permittee shall inspect all unsafe-to-monitor components during each turnaround. [District Rule 4401, 5.4] Federally Enforceable Through Title V Permit

27. Permittee shall affix a readily visible weatherproof tag to a leaking component upon detection of the leak. The following information shall be included on the tag: 1) the date and time of leak detection; 2) the date and time of leak measurement; 3) leak concentration in ppmv for a gaseous leak; 4) description of whether it is a major liquid leak or a minor liquid leak; and 5) whether the component is an essential component, an unsafe-to-monitor component, or a critical component. [District Rule 4401, 5.5] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

28. Permittee shall keep the tag affixed to the component until all of the following conditions have been met: 1) the leaking component has been repaired or replaced, and 2) the component has been re-inspected using the test methods described in this permit; and 3) the component is found to be in compliance with the requirements of Rule 4401. [District Rule 4401, 5.5] Federally Enforceable Through Title V Permit

29. Permittee shall minimize a component leak in order to stop or reduce leakage to the atmosphere immediately to the extent possible, but not later than one (1) hour after detection of the leak. [District Rule 4401, 5.5] Federally Enforceable Through Title V Permit

30. Except for leaking critical components or leaking essential components, if the operator has minimized a leak but the leak still exceeds the applicable leak limits, the operator shall comply with at least one of the following requirements as soon as practicable but not later than the time period specified in Table 4 of Rule 4401: 1) repair or replace the leaking component; 2) vent the leaking component to a VOC collection and control system; or 3) remove the leaking component from operation. [District Rule 4401, 5.5] Federally Enforceable Through Title V Permit

31. The leak rate, measured after leak minimization has been performed, shall be used to determine the applicable repair period specified in Table 4 of Rule 4401 and the time of initial leak detection shall be the start of the repair period specified in Table 3 of Rule 4401. [District Rule 4401, 5.5] Federally Enforceable Through Title V Permit

32. If the leaking component is an essential component or a critical component that cannot be immediately shut down for repairs, and if the leak has been minimized but the leak still exceeds the applicable leak standard of this rule, the operator shall repair or replace the essential component or critical component 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, whichever comes earlier. [District Rule 4401, 5.5] Federally Enforceable Through Title V Permit

33. Permittee shall maintain monitoring records of the date and well identification where steam injection or well stimulation occurs. [District Rule 4401, 6.1] Federally Enforceable Through Title V Permit

34. Unless waived by the District, permittee shall maintain source test records which show that the control efficiency requirements of the VOC collection and control system have been satisfied. [District Rule 4401, 6.1] Federally Enforceable Through Title V Permit

35. Records shall be maintained of each calibration of the portable hydrocarbon detection instrument utilized for inspecting components. The records shall include a copy of the current calibration gas certification from the vendor of the calibration gas cylinder, the date of calibration, the concentration of calibration gas, the instrument reading of calibration gas before adjustment, the instrument reading of calibration gas after adjustment, the calibration gas expiration date, and the calibration gas cylinder pressure at the time of calibration. [District Rule 4401, 6.1] Federally Enforceable Through Title V Permit

36. Permittee shall maintain a copy of the latest APCO-approved Operator Management Plan (OMP) at the facility and make it available to the APCO, ARB, and US EPA upon request. [District Rule 4401, 6.1] Federally Enforceable Through Title V Permit

37. Annual control efficiency compliance tests shall be performed by source testers certified by the California Air Resource Board (CARB) on all vapor collection and control systems used to control emissions from steam-enhanced crude oil production wells. Testing shall be performed during June, July, August, or September of each year if the system's control efficiency is dependent upon ambient air temperature. The APCO may waive these source testing requirements if the vapor control system does not exhaust to atmosphere, or if all uncondensed VOC emissions collected by the vapor collection and control system are incinerated in fuel burning equipment, an internal combustion engine, or in a smokeless flare. [District Rule 4401, 6.2] Federally Enforceable Through Title V Permit

38. The control efficiency of any VOC control device, measured and calculated as carbon, shall be determined by EPA Method 25, except when the outlet concentration must be below 50 ppm in order to meet the standard, in which case EPA Method 25a may be used. EPA Method 18 may be used in lieu of EPA Method 25 or EPA Method 25a provided the identity and approximate concentrations of the analytes/compounds in the sample gas stream are known before analysis with the gas chromatograph and the gas chromatograph is calibrated for each of those known analyte/compound to ensure that the VOC concentrations are neither under- or over-reported. [District Rule 4401, 6.3] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

39. VOC content shall be determined using the latest revision of ASTM Method E168, E169, or E260 as applicable. Halogenated exempt compounds shall be determined by ARB Method 432. [District Rule 4401, 6.3] Federally Enforceable Through Title V Permit

40. Permittee shall perform leak inspections at least annually, using a portable hydrocarbon detection instrument in accordance with USEPA Method 21. Where safety is a concern, such as measuring leaks from compressor seals or pump seals when the shaft is rotating, a person shall measure leaks by placing the instrument probe inlet at a distance of one centimeter or less from the surface of the component interface. [District Rule 4401, 6.3] Federally Enforceable Through Title V Permit

41. VOC content by weight percent (wt.%) shall be determined using American Society of Testing and Materials (ASTM) D1945 for gases and South Coast Air Quality Management District (SCAQMD) Method 304-91 or the latest revision of ASTM Method E168, E169 or E260 for liquids. [District Rule 4401, 6.3] Federally Enforceable Through Title V Permit

42. Permittee shall maintain an inspection log in which, at a minimum, all of the following information shall be recorded for each inspection performed: 1) The total number of components inspected, and the total number and percentage of leaking components found by component type; 2) The location, type, and name or description of each leaking component and description of any unit where the leaking component is found; 3) The date of leak detection and the method of leak detection; 4) For gaseous leaks, the leak concentration in ppmv, and for liquid leaks record whether the leak is a major liquid leak or a minor liquid leak; 5) The date of repair, replacement, or removal from operation of leaking components; 6) The identify and location of essential components and critical components found leaking that cannot be repaired until the next process unit turnaround or not later than one year after leak detection, whichever comes earlier; 7) The methods used to minimize the leak from essential components and critical components found leaking that cannot be repaired until the next process unit turnaround or not later than one year after leak detection, whichever comes earlier; 8) The date of re-inspection and the leak concentration in ppmv after the component is repaired or is replaced; 9) The inspector's name, business mailing address, and business telephone number; and 10) The date and signature of the facility operator responsible for the inspection and repair program certifying the accuracy of the information recorded in the log. [District Rule 4401, 6.4] Federally Enforceable Through Title V Permit

43. Permittee shall establish and implement an employee training program for inspecting and repairing components and recordkeeping procedures, as necessary. Permittee shall maintain at the facility the copies of the training records of the training program. [District Rule 4401, 6.5] Federally Enforceable Through Title V Permit

44. In accordance with the approved OMP, permittee shall meet all applicable operating, leak standards, inspection and re-inspection, leak repair, record keeping, and notification requirements of Rule 4401. [District Rule 4401, 6.6] Federally Enforceable Through Title V Permit

45. By January 30 of each year, permittee shall submit to the APCO for approval, in writing, an annual report indicating any changes to the existing, approved OMP. [District Rule 4401, 6.7] Federally Enforceable Through Title V Permit

46. Compliance with permit conditions in compliance with SJVUAPCD Rule 4401 (Amended January 15, 1998), excluding Sections 5.1 and 5.2 for control systems which have been waived from complying with the requirements of section 6.2.1. A permit shield is granted from these requirements. [District Rule 2520] Federally Enforceable Through Title V Permit

47. Compliance with permit conditions in the Title V permit shall be deemed in compliance with the following requirements: County Rules 108 (Kings), 108.1 (Fresno, Merced, San Joaquin, Tulare, Kern, and Stanislaus), and 110 (Madera). A permit shield is granted from these requirements. [District Rule 2520] Federally Enforceable Through Title V Permit

48. The requirements of SJVUAPCD Rule 4407 (Adopted May 19, 1994) do not apply to this permit unit. A permit shield is granted from this requirement. [District Rule 2520] Federally Enforceable Through Title V Permit

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

DRAFT

PERMIT NO: S-1128-993-0 **ISSUANCE DATE:** DRAFT

LEGAL OWNER OR OPERATOR: CHEVRON USA INC
MAILING ADDRESS: P O BOX 1392
BAKERSFIELD, CA 93302

LOCATION: HEAVY OIL WESTERN STATIONARY SOURCE
KERN COUNTY

SECTION: 26 **TOWNSHIP:** 32S **RANGE:** 23E

EQUIPMENT DESCRIPTION:
UP TO 3,000 (UP TO 39' IN DIAMETER) BBL FIXED ROOF TANK (T-100) WITH NATURAL GAS BLANKETING (26C OCP)

CONDITIONS

1. This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District Rule 2201] Federally Enforceable Through Title V Permit
2. Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. Prior to operating equipment under this Authority to Construct permittee shall surrender VOC emission reduction credits for the following quantity of emissions: 1st quarter - 4465 lb, 2nd quarter - 4465 lb, 3rd quarter - 4465 lb, and 4th quarter - 4465 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 4/21/11) for the ERC specified below. [District Rule 2201] Federally Enforceable Through Title V Permit
4. ERC Certificate Number S-3869-1 (or a certificate split from this certificate) shall be used to supply the required offsets, unless a revised offsetting proposal is received and approved by the District, upon which this Authority to Construct shall be reissued, administratively specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to reissuance of this Authority to Construct. [District Rule 2201] Federally Enforceable Through Title V Permit

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-1128-993-0 : Jul 16 2014 8:11AM – TORID : Joint Inspection NOT Required

5. This tank shall only store, place, or hold organic liquid with a true vapor pressure (TVP) of less than 0.5 psia under all storage conditions. [District Rule 4623] Federally Enforceable Through Title V Permit

6. Tank liquid throughput shall not exceed 3000 barrels per day or 105,000 barrels per year. [District Rule 2201] Federally Enforceable Through Title V Permit

7. VOC emission rate from the tank shall not exceed 165.5 lb/day or 11,906 lb/year. [District Rule 2201 and 40 CFR Part 60, Subpart OOOO] Federally Enforceable Through Title V Permit

8. Permittee shall conduct true vapor pressure (TVP) testing of the organic liquid stored in this tank, or representative tank as provided in District Rule 4623, 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

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

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

11. Instead of testing each uncontrolled fixed roof tank, the permittee may conduct a TVP test of the organic liquid stored in a representative tank. [District Rule 4623] Federally Enforceable Through Title V Permit

12. The TVP testing shall be conducted at actual storage temperature of the organic liquid in the tank. The permittee shall also conduct an API gravity testing. [District Rule 4623] Federally Enforceable Through Title V Permit

13. This tank shall be equipped with a pressure-vacuum (PV) relief valve set to within 10% of the maximum allowable working pressure of the tank, labeled with the operating pressure settings, properly maintained in good operating order in accordance with the manufacturer's instructions, and shall remain in gas-tight condition except when the operating pressure exceeds the valve's set pressure. [District Rule 2201] Federally Enforceable Through Title V Permit

14. Permittee shall submit the records of TVP and API gravity testing to the APCO within 45 days after the date of testing. The records shall include the tank identification number, Permit to Operate number, type of stored organic liquid, TVP and API gravity of the organic liquid, test methods used, and a copy of the test results. [District Rule 4623] Federally Enforceable Through Title V Permit

15. 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 Rule 2080] Federally Enforceable Through Title V Permit

16. 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 2080] Federally Enforceable Through Title V Permit

17. 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 2080] Federally Enforceable Through Title V Permit

18. 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 Rule 2080] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

19. 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 this rule. 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 this rule. [District Rule 2080] Federally Enforceable Through Title V Permit
20. 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 Rule 2080] Federally Enforceable Through Title V Permit
21. Any component found to be leaking on two consecutive annual inspections is in violation of this rule, even if covered under the voluntary inspection and maintenance program. [District Rule 2080] Federally Enforceable Through Title V Permit
22. Permittee shall notify the APCO in writing at least three (3) days prior to performing tank degassing and interior tank cleaning activities. Written notification shall include the following: 1) the Permit to Operate number and physical location of the tank being degassed, 2) the date and time that tank degassing and cleaning activities will begin, 3) the degassing method, as allowed in this permit, to be used, 4) the method to be used to clean the tank, including any solvents to be used, and 5) the method to be used to dispose of any removed sludge, including methods that will be used to control emissions from the receiving vessel and emissions during transport. [District Rule 2080] Federally Enforceable Through Title V Permit
23. This tank shall not be required to de-gas before commencing cleaning activities. All other applicable requirements shall be complied with before, during, and after tank cleaning activities. [District Rule 2080] Federally Enforceable Through Title V Permit
24. While performing tank cleaning activities, operators may only use the following cleaning agents: diesel, solvents with an initial boiling point of greater than 302 degrees F, solvents with a vapor pressure of less than 0.5 psia, or solvents with 50 grams of VOC per liter or less. [District Rule 2080] Federally Enforceable Through Title V Permit
25. Steam cleaning shall only be allowed at locations where wastewater treatment facilities are limited, or during the months of December through March. [District Rule 2080] Federally Enforceable Through Title V Permit
26. The permittee shall keep accurate records of each organic liquid stored in the tank, including its storage temperature, TVP, and API gravity. [District Rule 4623] Federally Enforceable Through Title V Permit

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

DRAFT

PERMIT NO: S-1128-994-0 **ISSUANCE DATE:** DRAFT

LEGAL OWNER OR OPERATOR: CHEVRON USA INC
MAILING ADDRESS: P O BOX 1392
BAKERSFIELD, CA 93302

LOCATION: HEAVY OIL WESTERN STATIONARY SOURCE
KERN COUNTY

SECTION: 26 **TOWNSHIP:** 32S **RANGE:** 23E

EQUIPMENT DESCRIPTION:
UP TO 3,000 BBL FREE WATER KNOCKOUT VESSEL (V-100) VENTING TO THE VAPOR CONTROL SYSTEM LISTED ON S-1128-118 (26C OCP)

CONDITIONS

1. This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District Rule 2201] Federally Enforceable Through Title V Permit
2. Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. ATC S-1128-118-20 shall be implemented prior to or concurrently with this ATC. [District Rule 2201] Federally Enforceable Through Title V Permit
4. This tank shall only store, place, or hold organic liquid with a true vapor pressure (TVP) of less than 0.5 psia under all storage conditions. [District Rule 4623] Federally Enforceable Through Title V Permit
5. Maximum VOC content of vapor in the tank vapor space and vapor control system piping shall not exceed 10% by weight. [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-1128-994-0 Jul 16 2014 8:11AM – TORIB : Joint Inspection NOT Required

6. Operator shall conduct quarterly sampling from tank vapor recovery system to qualify for exemption from fugitive component counts for components handling fluids with less than 10% VOC by weight. If fluids sampled are less than 10% VOC by weight for 8 consecutive quarterly samplings, sampling frequency shall only be required annually. [District Rule 2201] Federally Enforceable Through Title V Permit

7. VOC content of vapor shall be determined by ASTM D1945, ASTM D1946, EPA Method 18 referenced as methane, or equivalent test method with prior District approval. [District Rule 2201] Federally Enforceable Through Title V Permit

8. 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 Rule 2080] Federally Enforceable Through Title V Permit

9. 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 2080] Federally Enforceable Through Title V Permit

10. 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 2080] Federally Enforceable Through Title V Permit

11. 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 Rule 2080] Federally Enforceable Through Title V Permit

12. 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 this rule. 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 this rule. [District Rule 2080] Federally Enforceable Through Title V Permit

13. 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 Rule 2080] Federally Enforceable Through Title V Permit

14. Any component found to be leaking on two consecutive annual inspections is in violation of this rule, even if covered under the voluntary inspection and maintenance program. [District Rule 2080] Federally Enforceable Through Title V Permit

15. Permittee shall notify the APCO in writing at least three (3) days prior to performing tank degassing and interior tank cleaning activities. Written notification shall include the following: 1) the Permit to Operate number and physical location of the tank being degassed, 2) the date and time that tank degassing and cleaning activities will begin, 3) the degassing method, as allowed in this permit, to be used, 4) the method to be used to clean the tank, including any solvents to be used, and 5) the method to be used to dispose of any removed sludge, including methods that will be used to control emissions from the receiving vessel and emissions during transport. [District Rule 2080] Federally Enforceable Through Title V Permit

16. This tank shall not be required to de-gas before commencing cleaning activities. All other applicable requirements shall be complied with before, during, and after tank cleaning activities. [District Rule 2080] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

17. While performing tank cleaning activities, operators may only use the following cleaning agents: diesel, solvents with an initial boiling point of greater than 302 degrees F, solvents with a vapor pressure of less than 0.5 psia, or solvents with 50 grams of VOC per liter or less. [District Rule 2080] Federally Enforceable Through Title V Permit
18. Steam cleaning shall only be allowed at locations where wastewater treatment facilities are limited, or during the months of December through March. [District Rule 2080] Federally Enforceable Through Title V Permit
19. Tank may be disconnected from vapor control system during District approved cleaning and maintenance procedures as described in this permit. [District Rule 2080] Federally Enforceable Through Title V Permit
20. The permittee shall keep accurate records of vapor VOC content, each organic liquid stored in the tank, including its storage temperature, TVP, and API gravity. [District Rules 2201 and 4623] Federally Enforceable Through Title V Permit

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

DRAFT

PERMIT NO: S-1128-995-0 **ISSUANCE DATE:** DRAFT

LEGAL OWNER OR OPERATOR: CHEVRON USA INC
MAILING ADDRESS: P O BOX 1392
BAKERSFIELD, CA 93302

LOCATION: HEAVY OIL WESTERN STATIONARY SOURCE
KERN COUNTY

SECTION: 26 **TOWNSHIP:** 32S **RANGE:** 23E

EQUIPMENT DESCRIPTION:
UP TO 3,000 BBL FREE WATER KNOCKOUT VESSEL (V-110) VENTING TO THE VAPOR CONTROL SYSTEM LISTED ON S-1128-118 (26C OCP)

CONDITIONS

1. This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District Rule 2201] Federally Enforceable Through Title V Permit
2. Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. ATC S-1128-118-20 shall be implemented prior to or concurrently with this ATC. [District Rule 2201] Federally Enforceable Through Title V Permit
4. This tank shall only store, place, or hold organic liquid with a true vapor pressure (TVP) of less than 0.5 psia under all storage conditions. [District Rule 4623] Federally Enforceable Through Title V Permit
5. Maximum VOC content of vapor in the tank vapor space and vapor control system piping shall not exceed 10% by weight. [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-1128-995-0 : Jul 18 2014 8:11AM – TORIO : Joint Inspection NOT Required

6. Operator shall conduct quarterly sampling from tank vapor recovery system to qualify for exemption from fugitive component counts for components handling fluids with less than 10% VOC by weight. If fluids sampled are less than 10% VOC by weight for 8 consecutive quarterly samplings, sampling frequency shall only be required annually. [District Rule 2201] Federally Enforceable Through Title V Permit

7. VOC content of vapor shall be determined by ASTM D1945, ASTM D1946, EPA Method 18 referenced as methane, or equivalent test method with prior District approval. [District Rule 2201] Federally Enforceable Through Title V Permit

8. 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 Rule 2080] Federally Enforceable Through Title V Permit

9. 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 2080] Federally Enforceable Through Title V Permit

10. 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 2080] Federally Enforceable Through Title V Permit

11. 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 Rule 2080] Federally Enforceable Through Title V Permit

12. 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 this rule. 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 this rule. [District Rule 2080] Federally Enforceable Through Title V Permit

13. 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 Rule 2080] Federally Enforceable Through Title V Permit

14. Any component found to be leaking on two consecutive annual inspections is in violation of this rule, even if covered under the voluntary inspection and maintenance program. [District Rule 2080] Federally Enforceable Through Title V Permit

15. Permittee shall notify the APCO in writing at least three (3) days prior to performing tank degassing and interior tank cleaning activities. Written notification shall include the following: 1) the Permit to Operate number and physical location of the tank being degassed, 2) the date and time that tank degassing and cleaning activities will begin, 3) the degassing method, as allowed in this permit, to be used, 4) the method to be used to clean the tank, including any solvents to be used, and 5) the method to be used to dispose of any removed sludge, including methods that will be used to control emissions from the receiving vessel and emissions during transport. [District Rule 2080] Federally Enforceable Through Title V Permit

16. This tank shall not be required to de-gas before commencing cleaning activities. All other applicable requirements shall be complied with before, during, and after tank cleaning activities. [District Rule 2080] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

17. While performing tank cleaning activities, operators may only use the following cleaning agents: diesel, solvents with an initial boiling point of greater than 302 degrees F, solvents with a vapor pressure of less than 0.5 psia, or solvents with 50 grams of VOC per liter or less. [District Rule 2080] Federally Enforceable Through Title V Permit
18. Steam cleaning shall only be allowed at locations where wastewater treatment facilities are limited, or during the months of December through March. [District Rule 2080] Federally Enforceable Through Title V Permit
19. Tank may be disconnected from vapor control system during District approved cleaning and maintenance procedures as described in this permit. [District Rule 2080] Federally Enforceable Through Title V Permit
20. The permittee shall keep accurate records of vapor VOC content, each organic liquid stored in the tank, including its storage temperature, TVP, and API gravity. [District Rules 2201 and 4623] Federally Enforceable Through Title V Permit

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

DRAFT

PERMIT NO: S-1128-996-0 **ISSUANCE DATE:** DRAFT

LEGAL OWNER OR OPERATOR: CHEVRON USA INC
MAILING ADDRESS: P O BOX 1392
BAKERSFIELD, CA 93302

LOCATION: HEAVY OIL WESTERN STATIONARY SOURCE
KERN COUNTY

SECTION: 26 **TOWNSHIP:** 32S **RANGE:** 23E

EQUIPMENT DESCRIPTION:
UP TO 500 BBL (UP TO 15' IN DIAMETER) EMERGENCY USE VESSEL (V-120) (26C OCP)

CONDITIONS

1. {1830} This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District Rule 2201] Federally Enforceable Through Title V Permit
2. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. This tank shall only store, place, or hold organic liquid with a true vapor pressure (TVP) of less than 0.5 psia under all storage conditions. [District Rule 4623] Federally Enforceable Through Title V Permit
4. Tank shall only be operated for emergency purposes as defincd below. No non-emergency use of the tank is permitted. [District Rule 2201] Federally Enforceable Through Title V Permit
5. An emergency is defined as an unforeseeable failure or malfunction of operating equipment that: 1) is not due to neglect or disregard of air pollution laws or rules; 2) is not intentional or the result of negligence; 3) is not due to improper maintenance; and 4) is necessary to prevent or control an unsafe situation. [District Rule 2201] Federally Enforceable Through Title V Permit
6. The owner or operator shall notify the District of any emergency use of the tank within 48 hours after organic liquid is introduced into the tank. [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-1128-606-0 : Jul 10 2014 8:11AM – TORID : Joint Inspection NOT Required

7. Tank shall be emptied within 48 hours of resolving the emergency event and after it is safe to enter the area. [District Rules 2201 and 4102] Federally Enforceable Through Title V Permit

8. Permittee shall conduct true vapor pressure (TVP) testing of the organic liquid stored in this tank at least once every 24 months during summer (July - September), and/or whenever there is a change in the source or type of organic liquid stored in this tank in order to maintain exemption from the rule. [District Rule 4623] Federally Enforceable Through Title V Permit

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

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

11. Instead of testing each uncontrolled fixed roof tank, the permittee may conduct a TVP test of the organic liquid stored in a representative tank. [District Rule 4623] Federally Enforceable Through Title V Permit

12. The TVP testing shall be conducted at actual storage temperature of the organic liquid in the tank. The permittee shall also conduct an API gravity testing. [District Rule 4623] Federally Enforceable Through Title V Permit

13. Permittee shall submit the records of TVP and API gravity testing to the APCO within 45 days after the date of testing. The records shall include the tank identification number, Permit to Operate number, type of stored organic liquid, TVP and API gravity of the organic liquid, test methods used, and a copy of the test results. [District Rule 4623] Federally Enforceable Through Title V Permit

14. 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 Rule 2080] Federally Enforceable Through Title V Permit

15. 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 2080] Federally Enforceable Through Title V Permit

16. 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 2080] Federally Enforceable Through Title V Permit

17. 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 Rule 2080] Federally Enforceable Through Title V Permit

18. 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 this rule. 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 this rule. [District Rule 2080] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

19. 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 Rule 2080] Federally Enforceable Through Title V Permit
20. Any component found to be leaking on two consecutive annual inspections is in violation of this rule, even if covered under the voluntary inspection and maintenance program. [District Rule 2080] Federally Enforceable Through Title V Permit
21. Permittee shall notify the APCO in writing at least three (3) days prior to performing tank degassing and interior tank cleaning activities. Written notification shall include the following: 1) the Permit to Operate number and physical location of the tank being degassed, 2) the date and time that tank degassing and cleaning activities will begin, 3) the degassing method, as allowed in this permit, to be used, 4) the method to be used to clean the tank, including any solvents to be used, and 5) the method to be used to dispose of any removed sludge, including methods that will be used to control emissions from the receiving vessel and emissions during transport. [District Rules 2080 and 4623] Federally Enforceable Through Title V Permit
22. This tank shall not be required to de-gas before commencing cleaning activities. All other applicable requirements shall be complied with before, during, and after tank cleaning activities. [District Rules 2080 and 4623] Federally Enforceable Through Title V Permit
23. While performing tank cleaning activities, operators may only use the following cleaning agents: diesel, solvents with an initial boiling point of greater than 302 degrees F, solvents with a vapor pressure of less than 0.5 psia, or solvents with 50 grams of VOC per liter or less. [District Rules 2080 and 4623] Federally Enforceable Through Title V Permit
24. Steam cleaning shall only be allowed at locations where wastewater treatment facilities are limited, or during the months of December through March. [District Rules 2080 and 4623] Federally Enforceable Through Title V Permit
25. The permittee shall keep accurate records of each organic liquid stored in the tank, including its storage temperature, TVP, and API gravity. [District Rule 4623] Federally Enforceable Through Title V Permit

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

DRAFT

PERMIT NO: S-1128-997-0 **ISSUANCE DATE:** DRAFT

LEGAL OWNER OR OPERATOR: CHEVRON USA INC
MAILING ADDRESS: P O BOX 1392
BAKERSFIELD, CA 93302

LOCATION: HEAVY OIL WESTERN STATIONARY SOURCE
KERN COUNTY

SECTION: 31 **TOWNSHIP:** 12N **RANGE:** 23W

EQUIPMENT DESCRIPTION:
UP TO 1,000 BBL (UP TO 26' IN DIAMETER) FIXED ROOF TANK (T-100) WITH NATURAL GAS BLANKETING (31E OCP)

CONDITIONS

1. This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District Rule 2201] Federally Enforceable Through Title V Permit
2. Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. Prior to operating equipment under this Authority to Construct permittee shall surrender VOC emission reduction credits for the following quantity of emissions: 1st quarter - 3017 lb, 2nd quarter - 3017 lb, 3rd quarter - 3017 lb, and 4th quarter - 3017 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 4/21/11) for the ERC specified below. [District Rule 2201] Federally Enforceable Through Title V Permit
4. ERC Certificate Number S-3869-1 (or a certificate split from this certificate) shall be used to supply the required offsets, unless a revised offsetting proposal is received and approved by the District, upon which this Authority to Construct shall be reissued, administratively specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to reissuance of this Authority to Construct. [District Rule 2201] Federally Enforceable Through Title V Permit

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-1128-997-0: Jul 18 2014 8:11AM -- TORID Joint Inspection NOT Required

5. This tank shall only store, place, or hold organic liquid with a true vapor pressure (TVP) of less than 0.5 psia under all storage conditions. [District Rule 4623] Federally Enforceable Through Title V Permit

6. Tank liquid throughput shall not exceed 1000 barrels per day or 120,000 barrels per year. [District Rule 2201] Federally Enforceable Through Title V Permit

7. VOC emission rate from the tank shall not exceed 55.6 lb/day or 8044 lb/year. [District Rule 2201 and 40 CFR Part 60, Subpart OOOO] Federally Enforceable Through Title V Permit

8. Permittee shall conduct true vapor pressure (TVP) testing of the organic liquid stored in this tank, or representative tank as provided in District Rule 4623, 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

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

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

11. Instead of testing each uncontrolled fixed roof tank, the permittee may conduct a TVP test of the organic liquid stored in a representative tank. [District Rule 4623] Federally Enforceable Through Title V Permit

12. The TVP testing shall be conducted at actual storage temperature of the organic liquid in the tank. The permittee shall also conduct an API gravity testing. [District Rule 4623] Federally Enforceable Through Title V Permit

13. This tank shall be equipped with a pressure-vacuum (PV) relief valve set to within 10% of the maximum allowable working pressure of the tank, labeled with the operating pressure settings, properly maintained in good operating order in accordance with the manufacturer's instructions, and shall remain in gas-tight condition except when the operating pressure exceeds the valve's set pressure. [District Rule 4623] Federally Enforceable Through Title V Permit

14. Permittee shall submit the records of TVP and API gravity testing to the APCO within 45 days after the date of testing. The records shall include the tank identification number, Permit to Operate number, type of stored organic liquid, TVP and API gravity of the organic liquid, test methods used, and a copy of the test results. [District Rule 4623] Federally Enforceable Through Title V Permit

15. 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 Rule 2080] Federally Enforceable Through Title V Permit

16. 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 2080] Federally Enforceable Through Title V Permit

17. 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 2080] Federally Enforceable Through Title V Permit

18. 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 Rule 2080] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

19. 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 this rule. 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 this rule. [District Rule 2080] Federally Enforceable Through Title V Permit
20. 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 Rule 2080] Federally Enforceable Through Title V Permit
21. Any component found to be leaking on two consecutive annual inspections is in violation of this rule, even if covered under the voluntary inspection and maintenance program. [District Rule 2080] Federally Enforceable Through Title V Permit
22. Permittee shall notify the APCO in writing at least three (3) days prior to performing tank degassing and interior tank cleaning activities. Written notification shall include the following: 1) the Permit to Operate number and physical location of the tank being degassed, 2) the date and time that tank degassing and cleaning activities will begin, 3) the degassing method, as allowed in this permit, to be used, 4) the method to be used to clean the tank, including any solvents to be used, and 5) the method to be used to dispose of any removed sludge, including methods that will be used to control emissions from the receiving vessel and emissions during transport. [District Rule 2080] Federally Enforceable Through Title V Permit
23. This tank shall not be required to de-gas before commencing cleaning activities. All other applicable requirements shall be complied with before, during, and after tank cleaning activities. [District Rule 2080] Federally Enforceable Through Title V Permit
24. While performing tank cleaning activities, operators may only use the following cleaning agents: diesel, solvents with an initial boiling point of greater than 302 degrees F, solvents with a vapor pressure of less than 0.5 psia, or solvents with 50 grams of VOC per liter or less. [District Rule 2080] Federally Enforceable Through Title V Permit
25. Steam cleaning shall only be allowed at locations where wastewater treatment facilities are limited, or during the months of December through March. [District Rule 2080] Federally Enforceable Through Title V Permit
26. The permittee shall keep accurate records of each organic liquid stored in the tank, including its storage temperature, TVP, and API gravity. [District Rule 4623] Federally Enforceable Through Title V Permit

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

DRAFT

PERMIT NO: S-1128-998-0 **ISSUANCE DATE:** DRAFT

LEGAL OWNER OR OPERATOR: CHEVRON USA INC
MAILING ADDRESS: P O BOX 1392
BAKERSFIELD, CA 93302

LOCATION: HEAVY OIL WESTERN STATIONARY SOURCE
KERN COUNTY

SECTION: 31 **TOWNSHIP:** 12N **RANGE:** 23W

EQUIPMENT DESCRIPTION:
UP TO 1,000 BBL GAS KNOCKOUT VESSEL (V-100) WITH VAPOR CONTROL SYSTEM CONSISTING OF MISC. VAPOR CONTROL EQUIPMENT AND VENTED TO STEAM GENERATORS S-1128-15 AND '-18 (31E OCP)

CONDITIONS

1. This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District Rule 2201] Federally Enforceable Through Title V Permit
2. Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. Prior to operating equipment under this Authority to Construct permittee shall surrender VOC emission reduction credits for the following quantity of emissions: 1st quarter - 4,358 lb, 2nd quarter - 4,358 lb, 3rd quarter - 4,358 lb, and 4th quarter - 4,358 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 4/21/11) for the ERC specified below. [District Rule 2201] Federally Enforceable Through Title V Permit
4. ERC Certificate Number S-3869-1 (or a certificate split from this certificate) shall be used to supply the required offsets, unless a revised offsetting proposal is received and approved by the District, upon which this Authority to Construct shall be reissued, administratively specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to reissuance of this Authority to Construct. [District Rule 2201] Federally Enforceable Through Title V Permit

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-1128-998-0 : Jul 18 2014 8:11AM - TORID : Joint Inspection NOT Required

5. The tank shall be equipped with a vapor control system consisting of a closed vent system that collects all VOCs from the storage tank, and a VOC control device. The vapor control system shall be APCO-approved and maintained in leak-free condition. The VOC control device shall be either of the following: a vapor return or condensation system that connects to 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 6.4.7. [District Rules 2201] Federally Enforceable Through Title V Permit
6. This tank shall only store, place, or hold organic liquid with a true vapor pressure (TVP) of less than 0.5 psia under all storage conditions. [District Rule 4623] Federally Enforceable Through Title V Permit
7. Total VOC emissions fugitive rate from tanks S-1128-998 and '999 and vapor control system components associated with these emission units shall not exceed 31.8 lb/day. [District Rule 2201] Federally Enforceable Through Title V Permit
8. Maximum VOC content of vapor in the tank vapor space and vapor control system piping shall not exceed 70% by weight. [District Rule 2201] Federally Enforceable Through Title V Permit
9. Vapor in the tank vapor space and vapor control system piping shall be tested quarterly for VOC content. If compliance with the VOC content limit has been demonstrated for 8 quarterly samplings, then the testing frequency shall be annually. If an annual VOC content test fails to show compliance, quarterly testing shall resume. [District Rule 2201] Federally Enforceable Through Title V Permit
10. Permittee shall maintain accurate component count for tank according to EPAs "Protocol for Equipment Leak Emission Estimate," Table 2-4, Oil and Gas Production Operations Average Emission Factors. Permittee shall update such records when new components are installed. [District Rule 2201] Federally Enforceable Through Title V Permit
11. VOC content of vapor shall be determined by ASTM D1945, ASTM D1946, EPA Method 18 referenced as methane, or equivalent test method with prior District approval. [District Rule 2201] Federally Enforceable Through Title V Permit
12. 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 Rule 2080] Federally Enforceable Through Title V Permit
13. 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 2080] Federally Enforceable Through Title V Permit
14. 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 2080] Federally Enforceable Through Title V Permit
15. 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 Rule 2080] Federally Enforceable Through Title V Permit
16. 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 this rule. 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 this rule. [District Rule 2080] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

17. 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 Rule 2080] Federally Enforceable Through Title V Permit

18. Any component found to be leaking on two consecutive annual inspections is in violation of this rule, even if covered under the voluntary inspection and maintenance program. [District Rule 2080] Federally Enforceable Through Title V Permit

19. Permittee shall notify the APCO in writing at least three (3) days prior to performing tank degassing and interior tank cleaning activities. Written notification shall include the following: 1) the Permit to Operate number and physical location of the tank being degassed, 2) the date and time that tank degassing and cleaning activities will begin, 3) the degassing method, as allowed in this permit, to be used, 4) the method to be used to clean the tank, including any solvents to be used, and 5) the method to be used to dispose of any removed sludge, including methods that will be used to control emissions from the receiving vessel and emissions during transport. [District Rule 2080] Federally Enforceable Through Title V Permit

20. This tank shall not be required to de-gas before commencing cleaning activities. All other applicable requirements shall be complied with before, during, and after tank cleaning activities. [District Rule 2080] Federally Enforceable Through Title V Permit

21. While performing tank cleaning activities, operators may only use the following cleaning agents: diesel, solvents with an initial boiling point of greater than 302 degrees F, solvents with a vapor pressure of less than 0.5 psia, or solvents with 50 grams of VOC per liter or less. [District Rule 2080] Federally Enforceable Through Title V Permit

22. Steam cleaning shall only be allowed at locations where wastewater treatment facilities are limited, or during the months of December through March. [District Rule 2080] Federally Enforceable Through Title V Permit

23. Tank may be disconnected from vapor control system during District approved cleaning and maintenance procedures as described in this permit. [District Rule 2080] Federally Enforceable Through Title V Permit

24. The permittee shall keep accurate records of vapor VOC content, each organic liquid stored in the tank, including its storage temperature, TVP, and API gravity. [District Rules 2201 and 4623] Federally Enforceable Through Title V Permit

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

DRAFT

PERMIT NO: S-1128-999-0 **ISSUANCE DATE:** DRAFT

LEGAL OWNER OR OPERATOR: CHEVRON USA INC
MAILING ADDRESS: P O BOX 1392
BAKERSFIELD, CA 93302

LOCATION: HEAVY OIL WESTERN STATIONARY SOURCE
KERN COUNTY

SECTION: 31 **TOWNSHIP:** 12N **RANGE:** 23W

EQUIPMENT DESCRIPTION:
UP TO 1,000 BBL GAS KNOCKOUT VESSEL (V-110) VENTING TO THE VAPOR CONTROL SYSTEM LISTED ON S-1128-998 (31E OCP)

CONDITIONS

1. This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District Rule 2201] Federally Enforceable Through Title V Permit
2. Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. This tank shall only store, place, or hold organic liquid with a true vapor pressure (TVP) of less than 0.5 psia under all storage conditions. [District Rule 4623] Federally Enforceable Through Title V Permit
4. Maximum VOC content of hydrocarbons in the tank vapor control system shall not exceed 70% by weight. [District Rule 2201] Federally Enforceable Through Title V Permit
5. Vapor in the tank vapor space and vapor control system piping shall be tested quarterly for VOC content. If compliance with the VOC content limit has been demonstrated for 8 quarterly samplings, then the testing frequency shall be annually. If an annual VOC content test fails to show compliance, quarterly testing shall resume. [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

6. Fugitive VOC emissions from this tank are accounted for on S-1128-998. [District Rule 2201] Federally Enforceable Through Title V Permit

7. VOC content of vapor shall be determined by ASTM D1945, ASTM D1946, EPA Method 18 referenced as methane, or equivalent test method with prior District approval. [District Rule 2201] Federally Enforceable Through Title V Permit

8. 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 Rule 2080] Federally Enforceable Through Title V Permit

9. 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 2080] Federally Enforceable Through Title V Permit

10. 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 2080] Federally Enforceable Through Title V Permit

11. 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 Rule 2080] Federally Enforceable Through Title V Permit

12. 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 this rule. 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 this rule. [District Rule 2080] Federally Enforceable Through Title V Permit

13. 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 Rule 2080] Federally Enforceable Through Title V Permit

14. Any component found to be leaking on two consecutive annual inspections is in violation of this rule, even if covered under the voluntary inspection and maintenance program. [District Rule 2080] Federally Enforceable Through Title V Permit

15. Permittee shall notify the APCO in writing at least three (3) days prior to performing tank degassing and interior tank cleaning activities. Written notification shall include the following: 1) the Permit to Operate number and physical location of the tank being degassed, 2) the date and time that tank degassing and cleaning activities will begin, 3) the degassing method, as allowed in this permit, to be used, 4) the method to be used to clean the tank, including any solvents to be used, and 5) the method to be used to dispose of any removed sludge, including methods that will be used to control emissions from the receiving vessel and emissions during transport. [District Rule 2080] Federally Enforceable Through Title V Permit

16. This tank shall not be required to de-gas before commencing cleaning activities. All other applicable requirements shall be complied with before, during, and after tank cleaning activities. [District Rule 2080] Federally Enforceable Through Title V Permit

17. While performing tank cleaning activities, operators may only use the following cleaning agents: diesel, solvents with an initial boiling point of greater than 302 degrees F, solvents with a vapor pressure of less than 0.5 psia, or solvents with 50 grams of VOC per liter or less. [District Rule 2080] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

18. Steam cleaning shall only be allowed at locations where wastewater treatment facilities are limited, or during the months of December through March. [District Rule 2080] Federally Enforceable Through Title V Permit

19. Tank may be disconnected from vapor control system during District approved cleaning and maintenance procedures as described in this permit. [District Rule 2080] Federally Enforceable Through Title V Permit

20. The permittee shall keep accurate records of vapor VOC content, each organic liquid stored in the tank, including its storage temperature, TVP, and API gravity. [District Rules 2201 and 4623] Federally Enforceable Through Title V Permit

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

DRAFT

PERMIT NO: S-1128-1000-0 **ISSUANCE DATE:** DRAFT

LEGAL OWNER OR OPERATOR: CHEVRON USA INC
MAILING ADDRESS: P O BOX 1392
BAKERSFIELD, CA 93302

LOCATION: HEAVY OIL WESTERN STATIONARY SOURCE
KERN COUNTY

SECTION: 2 **TOWNSHIP:** 11N **RANGE:** 24W

EQUIPMENT DESCRIPTION:
UP TO 3,000 BBL GAS KNOCKOUT VESSEL (V-100) VENTING TO THE VAPOR CONTROL SYSTEM LISTED ON S-1128-125 OR TO BYPASS PIPING VENTING TO 2F STEAM PLANT (2F OCP)

CONDITIONS

1. This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District Rule 2201] Federally Enforceable Through Title V Permit
2. Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. ATC S-1128-125-23 shall be implemented prior to or concurrently with this ATC. [District Rule 2201] Federally Enforceable Through Title V Permit
4. This tank shall only store, place, or hold organic liquid with a true vapor pressure (TVP) of less than 0.5 psia under all storage conditions. [District Rule 4623] Federally Enforceable Through Title V Permit
5. Maximum VOC content of hydrocarbons in the tank vapor control system shall not exceed 10% by weight. [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-1128-1000-0 : Jul 18 2014, 8:11AM – TORID : Joint Inspection NOT Required

6. Operator shall conduct quarterly sampling from tank vapor recovery system to qualify for exemption from fugitive component counts for components handling fluids with less than 10% VOC by weight. If fluids sampled are less than 10% VOC by weight for 8 consecutive quarterly samplings, sampling frequency shall only be required annually. [District Rule 2201]

7. VOC content of vapor shall be determined by ASTM D1945, ASTM D1946, EPA Method 18 referenced as methane, or equivalent test method with prior District approval. [District Rule 2201] Federally Enforceable Through Title V Permit

8. 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 Rule 2080] Federally Enforceable Through Title V Permit

9. 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 2080] Federally Enforceable Through Title V Permit

10. 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 2080] Federally Enforceable Through Title V Permit

11. 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 Rule 2080] Federally Enforceable Through Title V Permit

12. 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 this rule. 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 this rule. [District Rule 2080] Federally Enforceable Through Title V Permit

13. 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 Rule 2080] Federally Enforceable Through Title V Permit

14. Any component found to be leaking on two consecutive annual inspections is in violation of this rule, even if covered under the voluntary inspection and maintenance program. [District Rule 2080] Federally Enforceable Through Title V Permit

15. Permittee shall notify the APCO in writing at least three (3) days prior to performing tank degassing and interior tank cleaning activities. Written notification shall include the following: 1) the Permit to Operate number and physical location of the tank being degassed, 2) the date and time that tank degassing and cleaning activities will begin, 3) the degassing method, as allowed in this permit, to be used, 4) the method to be used to clean the tank, including any solvents to be used, and 5) the method to be used to dispose of any removed sludge, including methods that will be used to control emissions from the receiving vessel and emissions during transport. [District Rule 2080] Federally Enforceable Through Title V Permit

16. This tank shall not be required to de-gas before commencing cleaning activities. All other applicable requirements shall be complied with before, during, and after tank cleaning activities. [District Rule 2080] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

17. While performing tank cleaning activities, operators may only use the following cleaning agents: diesel, solvents with an initial boiling point of greater than 302 degrees F, solvents with a vapor pressure of less than 0.5 psia, or solvents with 50 grams of VOC per liter or less. [District Rule 2080] Federally Enforceable Through Title V Permit
18. Steam cleaning shall only be allowed at locations where wastewater treatment facilities are limited, or during the months of December through March. [District Rule 2080] Federally Enforceable Through Title V Permit
19. Tank may be disconnected from vapor control system during District approved cleaning and maintenance procedures as described in this permit. [District Rule 2080] Federally Enforceable Through Title V Permit
20. The permittee shall keep accurate records of vapor VOC content, each organic liquid stored in the tank, including its storage temperature, TVP, and API gravity. [District Rules 2201 and 4623] Federally Enforceable Through Title V Permit

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

DRAFT

PERMIT NO: S-1128-1001-0 **ISSUANCE DATE:** DRAFT

LEGAL OWNER OR OPERATOR: CHEVRON USA INC
MAILING ADDRESS: P O BOX 1392
BAKERSFIELD, CA 93302

LOCATION: HEAVY OIL WESTERN STATIONARY SOURCE
KERN COUNTY

SECTION: 2 **TOWNSHIP:** 11N **RANGE:** 24W

EQUIPMENT DESCRIPTION:
UP TO 3,000 BBL GAS KNOCKOUT VESSEL (V-110) VENTING TO THE VAPOR CONTROL SYSTEM SHARED WITH S-1128-1000 OR TO BYPASS PIPING VENTING TO 2F STEAM PLANT (2F OCP)

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
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3. ATC S-1128-125-23 shall be implemented prior to or concurrently with this ATC. [District Rule 2201] Federally Enforceable Through Title V Permit
4. This tank shall only store, place, or hold organic liquid with a true vapor pressure (TVP) of less than 0.5 psia under all storage conditions. [District Rule 4623] Federally Enforceable Through Title V Permit
5. Maximum VOC content of hydrocarbons in the tank vapor control system shall not exceed 10% by weight. [District Rule 2201] Federally Enforceable Through Title V Permit

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Seyed Sadredin, Executive Director / APCO

DRAFT

Arnaud Marjollet, Director of Permit Services

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

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