

**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION**

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**ORDER NO. R5-2008-0012
NPDES NO. CA0084883
WASTE DISCHARGE REQUIREMENTS FOR
EQUILON ENTERPRISES, LLC (dba SHELL OIL PRODUCTS US)
BIG WEST BAKERSFIELD REFINERY GWCS
KERN COUNTY**

The following Discharger is subject to waste discharge requirements as set forth in this Order:

Table 1. Discharger Information

Discharger	Equilon Enterprises, LLC (dba Shell Oil Products US)
Name of Facility	Big West Bakersfield Refinery GWCS
Facility Address	6451 Rosedale Highway / 2436 Fruitvale Avenue
	Bakersfield, CA 93309
	Kern County
The U.S. Environmental Protection Agency (USEPA) and the Regional Water Quality Control Board have classified this discharge as a minor discharge.	

The discharge by Equilon Enterprises, LLC from the discharge point identified below is subject to waste discharge requirements as set forth in this Order:

Table 2. Discharge Location

Discharge Point	Effluent Description	Discharge Point Latitude	Discharge Point Longitude	Receiving Water
001	Treated Groundwater	35°, 22', 47" N	119°, 05', 18" W	Calloway Canal

Table 3. Administrative Information

This Order was adopted by the Regional Water Quality Control Board on:	25 January 2008
This Order shall become effective on:	25 January 2008
This Order shall expire on:	24 January 2013
The Discharger shall file a Report of Waste Discharge in accordance with Title 23, California Code of Regulations, as application for issuance of new waste discharge requirements no later than:	27 July 2012

IT IS HEREBY ORDERED that Order No. R2-2002-0085 is rescinded upon the effective date of this Order except for enforcement purposes, and, in order to meet the provisions contained in Division 7 of the California Water Code (CWC) and regulations adopted thereunder, and the provisions of the federal Clean Water Act (CWA), and regulations and guidelines adopted thereunder, the Discharger shall comply with the requirements in this Order.

I, PAMELA C. CREEDON, Executive Officer, do hereby certify that this Order with all attachments is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, Central Valley Region, on 25 January 2008.

PAMELA C. CREEDON, Executive Officer

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I. FACILITY INFORMATION

The following Discharger is subject to waste discharge requirements as set forth in this Order:

Table 4. Facility Information

Discharger	Equilon Enterprises, LLC (dba Shell Oil Products US)
Name of Facility	Big West Bakersfield Refinery GWCS
Facility Address	6451 Rosedale Highway / 2436 Fruitvale Avenue
	Bakersfield, CA 93309
	Kern County
Facility Contact, Title, and Phone	Gene Freed, Environmental Manager (818) 991-5556
Mailing Address	4607 Lakeview Canyon Rd, Box 168, Westlake Village, CA 91361
Type of Facility	Industrial
Facility Design Flow	0.25 mgd (million gallons per day)

II. FINDINGS

The California Regional Water Quality Control Board, Central Valley Region (hereinafter Regional Water Board), finds:

A. Background. Equilon Enterprises, LLC (dba Shell Oil Products US) (hereinafter Discharger) is currently discharging pursuant to Waste Discharge Requirements (WDRs) Order No. R5-2002-0085 and National Pollutant Discharge Elimination System (NPDES) Permit No. CA0084883. The Discharger submitted a Report of Waste Discharge, dated 24 October 2006 and applied for a NPDES permit renewal to discharge up to 0.25 mgd of treated wastewater from a groundwater cleanup system at the refinery.

In March 2005, the Discharger sold the refinery to Big West of California, LLC (Big West) and the refinery is now known as the Big West Bakersfield Refinery. The Discharger retained responsibility for the investigation and cleanup of spills that occurred before the sale. On 10 October 2007 the Regional Water Board Executive Officer issued Cleanup and Abatement Order No. R5-2007-728 (CAO). The CAO required the two named parties as responsible for past spills and water quality impacts at Big West Bakersfield Refinery to identify their respective areas of responsibility for complying with the tasks enumerated in the CAO. The Discharger identified the tasks it will address by letter dated 30 October 2007. The Discharger has been conducting monitoring and some remediation since before the sale.

For the purposes of this Order, references to the “discharger” or “permittee” in applicable federal and state laws, regulations, plans, or policy are held to be equivalent to references to the Discharger herein.

B. Facility Description. The Discharger operates a groundwater cleanup system (GWCS). The Discharger proposes to continue discharge of treated groundwater from the GWCS to the Calloway Canal, a man-made conveyance and an ephemeral channel. The GWCS consists of two active extraction wells (i.e., EW-08 and EW-14) and nine extraction wells on standby mode (i.e., B-149, EW-03, EW-04, EW-05, EW-06, EW-07, EW-09, EW-10 and EW-11). Groundwater is pumped from an extraction well to a 1,100 gallon raw water storage tank, subjected to sediment filtration, and injected with chemical and nutrient solutions. It then passes through three granular activated carbon (Bio-GAC) treatment units (i.e., GAC-1, GAC-2 and GAC-3) in series. Following the GACs, the treated groundwater is collected in a 10,000 gallon holding tank before entering an outfall line to the Calloway Canal (Discharge Point 001). The GAC treatment system is referred to as IRM-2. The system relies on GAC absorption as the primary method for removing dissolved petroleum hydrocarbons and oxygenates from groundwater. The GWCS produces treated groundwater on a continuous basis, but the groundwater stored in the holding tank is discharged intermittently. The Calloway Canal is managed by the North Kern Water Storage District (NKWSD) (District). The Canal is typically an effluent dominated water body (EDW). The canal bed is composed of sand and the discharge typically travels less than 2,500 feet before infiltrating to the subsurface. Flow from the Kern River is seasonally diverted to the Calloway Canal. The District limits use of this diverted water to agricultural irrigation and groundwater recharge. The Calloway Canal extends north towards Poso Creek approximately 19 miles from Discharge Point 001. Discharges to the Calloway Canal rarely reach Poso Creek, a water of the United States. Attachment B contains a map of the area around the Facility. Attachment C is a flow schematic of the Facility.

Discharge of wastewater to the Calloway Canal is subject to an agreement between the Discharger and the District and City of Bakersfield. The current agreement expires on 1 January 2011. This permit expires 5 years from the date of adoption. To discharge to the Calloway Canal after 1 January 2011, the Discharger needs to secure a new, signed agreement allowing use of the canal. This Order may be reopened if necessary to ensure it is compatible with a new agreement.

C. Legal Authorities. This Order is issued pursuant to section 402 of the federal Clean Water Act (CWA) and implementing regulations adopted by the U.S. Environmental Protection Agency (USEPA) and Chapter 5.5, Division 7 of the California Water Code (CWC) (commencing with section 13370). It shall serve as a NPDES permit for point source discharges from this facility to surface waters. This Order also serves as Waste Discharge Requirements (WDRs) pursuant to Article 4, Chapter 4, Division 7 of the CWC (commencing with section 13260).

D. Background and Rationale for Requirements. The Regional Water Board developed the requirements in this Order based on information submitted as part of the application, through monitoring and reporting programs, and other available information. The Fact Sheet (Attachment F), which contains background information and rationale for Order requirements, is hereby incorporated into this Order and constitutes part of the Findings for this Order. Attachments A through E are also incorporated into this Order.

- E. California Environmental Quality Act (CEQA).** Under CWC section 13389, this action to adopt an NPDES permit is exempt from the provisions of CEQA, Public Resources Code sections 21100-21177.
- F. Technology-based Effluent Limitations.** Section 301(b) of the CWA and implementing USEPA permit regulations at Title 40 of the Code of Federal Regulations Part 122.44 (40 CFR 122.44) require that permits include conditions meeting applicable technology-based requirements at a minimum, and any more stringent effluent limitations necessary to meet applicable water quality standards. The discharge authorized by this Order must meet minimum federal technology-based requirements based on Best Professional Judgment (BPJ) in accordance with 40 CFR 125.3. A detailed discussion of the technology-based effluent limitations development is included in the Fact Sheet (Attachment F).
- G. Water Quality-based Effluent Limitations.** Section 301(b) of the CWA and 40 CFR 122.44(d) require that permits include limitations more stringent than applicable federal technology-based requirements where necessary to achieve applicable water quality standards.

40 CFR 122.44(d)(1)(i) mandates that permits include effluent limitations for all pollutants that are or may be discharged at levels that have the reasonable potential to cause or contribute to an exceedance of a water quality standard, including numeric and narrative objectives within a standard. Where reasonable potential has been established for a pollutant, but there is no numeric criterion or objective for the pollutant, water quality-based effluent limitations (WQBELs) must be established using: (1) EPA criteria guidance under CWA section 304(a), supplemented where necessary by other relevant information; (2) an indicator parameter for the pollutant of concern; or (3) a calculated numeric water quality criterion, such as a proposed State criterion or policy interpreting the State's narrative criterion, supplemented with other relevant information, as provided in 40 CFR 122.44(d)(1)(vi).

- H. Water Quality Control Plans.** The Regional Water Board adopted a *Water Quality Control Plan, Second Edition, for the Tulare Lake Basin* (hereinafter Basin Plan) that designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives for all waters addressed through the plan. The Calloway Canal is hydraulically connected to Poso Creek, which has the following designated beneficial uses: Agricultural supply (AGR), water contact recreation, (REC-1), non-contact water recreation (REC-2), warm freshwater habitat (WARM), cold freshwater habitat (COLD), wildlife habitat (WILD), ground water recharge (GWR), and freshwater replenishment (FRSH). As the Calloway Canal is a man-made conveyance its beneficial uses cannot be determined by the tributary rule.

The beneficial uses of the Calloway Canal are AGR, which is an existing use, and municipal and domestic supply (MUN) by the Basin Plan, as the water is not one listed with beneficial uses.

Additionally, NPDES permits must implement the requirements of the CWA. The regulations implementing the CWA create a rebuttable presumption that all waters be fishable and swimmable. The quality of water in the Calloway Canal must be suitable for REC-1 and WARM.

The discharge occurs where it could affect the beneficial uses of two Detailed Analysis Units (DAUs). The Basin Plan designates the beneficial uses of groundwater in DAU 255 as MUN, AGR, industrial service supply (IND) and WILD; and in DAU 256 as MUN, AGR, IND and industrial process supply (PRO).

Table 5. Basin Plan Beneficial Uses

Discharge Point	Receiving Water Name	Beneficial Use(s)
001	Calloway Canal	MUN; AGR; REC-1; WARM
	Groundwater	MUN; AGR; IND; PRO, and WILD

- I. **National Toxics Rule (NTR) and California Toxics Rule (CTR).** USEPA adopted the NTR on 22 December 1992, and later amended it on 4 May 1995 and 9 November 1999. About forty criteria in the NTR applied in California. On 18 May 2000, USEPA adopted the CTR. The CTR promulgated new toxics criteria for California and, in addition, incorporated the previously adopted NTR criteria that were applicable in the state. The CTR was amended on 13 February 2001. These rules contain water quality criteria for priority pollutants.

- J. **State Implementation Policy.** On 2 March 2000, the State Water Board adopted the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (State Implementation Policy or SIP). The SIP became effective on 28 April 2000 with respect to the priority pollutant criteria promulgated for California by the USEPA through the NTR and to the priority pollutant objectives established by the Regional Water Board in the Basin Plan. The SIP became effective on 18 May 2000 with respect to the priority pollutant criteria promulgated by the USEPA through the CTR. The State Water Board adopted amendments to the SIP on 24 February 2005 that became effective on 13 July 2005. The SIP establishes implementation provisions for priority pollutant criteria and objectives and provisions for chronic toxicity control. Requirements of this Order implement the SIP.

- K. **Compliance Schedules and Interim Requirements.** In general, an NPDES permit must include final effluent limitations that are consistent with Clean Water Act section 301 and with 40 CFR 122.44(d). There are exceptions to this general rule. The State Water Board has concluded that where the Regional Water Board’s Basin Plan allows for schedules of compliance and the Regional Water Board is newly interpreting a narrative standard, it may include schedules of compliance in the permit to meet effluent limits that implement a narrative standard. See In the Matter of Waste Discharge

Requirements for Avon Refinery (State Water Board Order WQ 2001-06 at pp. 53-55). See also *Communities for a Better Environment (CBE) et al. v. State Water Resources Control Board*, 34 Cal.Rptr.3d 396, 410 (2005). The Basin Plan includes a provision that authorizes the use of compliance schedules in NPDES permits for water quality objectives that are adopted after the date of adoption of the Basin Plan, which was 17 August 1995 (See Basin Plan at page IV-22). Consistent with the State Water Board's Order in the CBE matter, the Regional Water Board has the discretion to include compliance schedules in NPDES permits when it is including an effluent limitation that is a "new interpretation" of a narrative water quality objective. This conclusion is also consistent with the United States Environmental Protection Agency policies and administrative decisions. See, e.g., Whole Effluent Toxicity (WET) Control Policy. The Regional Water Board, however, is not required to include a schedule of compliance, but may issue a Time Schedule Order pursuant to CWC section 13300 or a Cease and Desist Order pursuant to CWC section 13301 where it finds that the discharger is violating or threatening to violate the permit. The Regional Water Board will consider the merits of each case in determining whether it is appropriate to include a compliance schedule in a permit, and, consistent with the Basin Plan, should consider feasibility of achieving compliance, and must impose a schedule that is as short as practicable to achieve compliance with the objectives, criteria, or effluent limit based on the objective or criteria.

For CTR constituents, Section 2.1 of the SIP provides that, based on a Discharger's request and demonstration that it is infeasible for an existing Discharger to achieve immediate compliance with an effluent limitation derived from a CTR criterion, compliance schedules may be allowed in an NPDES permit. Unless an exception has been granted under section 5.3 of the SIP, a compliance schedule may not exceed 5 years from the date that the permit is issued or reissued, nor may it extend beyond 10 years from the effective date of the SIP (or 18 May 2010) to establish and comply with CTR criterion-based effluent limitations. Where a compliance schedule for a final effluent limitation exceeds 1 year, the Order must include interim numeric limitations for that constituent or parameter. Where allowed by the Basin Plan, compliance schedules and interim effluent limitations or discharge specifications may also be granted to allow time to implement a new or revised water quality objective. This Order does not include compliance schedules and interim effluent limitations.

L. Alaska Rule. On 30 March 2000, USEPA revised its regulation that specifies when new and revised state and tribal water quality standards (WQS) become effective for CWA purposes. (40 CFR 131.21; 65 Fed. Reg. 24641 (27 April 2000)). Under the revised regulation (also known as the Alaska rule), new and revised standards submitted to USEPA after 30 May 2000 must be approved by USEPA before being used for CWA purposes. The final rule also provides that standards already in effect and submitted to USEPA by 30 May 2000 may be used for CWA purposes, whether or not approved by USEPA.

M. Stringency of Requirements for Individual Pollutants. This Order contains both technology-based and water quality-based effluent limitations for individual pollutants. The technology-based effluent limitations consist of a restriction on flow. The water

quality-based effluent limitations consist of restrictions on pH, benzene, boron, polynuclear aromatic hydrocarbons (PAHs), chloride, electrical conductivity (EC), ethylene dichloride, ethylbenzene, ethylene dibromide, lead, methanol, methyl t-butyl ether (MTBE), naphthalene, tertiary butyl alcohol (TBA), toluene, total petroleum hydrocarbons (TPHs), and xylene. This Order's technology-based pollutant restrictions implement the minimum, applicable federal technology-based requirements. In addition, the Regional Water Board has considered the factors in CWC section 13241 in establishing these requirements.

Water quality-based effluent limitations have been scientifically derived to implement water quality objectives that protect beneficial uses. Both the beneficial uses and the water quality objectives have been approved pursuant to federal law and are the applicable federal water quality standards. To the extent that toxic pollutant water quality-based effluent limitations were derived from the CTR, the CTR is the applicable standard pursuant to 40 CFR 131.38. The scientific procedures for calculating the individual water quality-based effluent limitations are based on the CTR-SIP, which was approved by USEPA on 1 May 2001. All beneficial uses and water quality objectives contained in the Basin Plan were approved under state law and submitted to and approved by USEPA prior to 30 May 2000. Any water quality objectives and beneficial uses submitted to USEPA prior to 30 May 2000, but not approved by USEPA before that date, are nonetheless "*applicable water quality standards for purposes of the [Clean Water] Act*" pursuant to 40 CFR 131.21(c)(1). Collectively, this Order's restrictions on individual pollutants are no more stringent than required to implement the technology-based requirements of the CWA and the applicable water quality standards for purposes of the CWA.

- N. Antidegradation Policy.** 40 CFR 131.12 requires that the state water quality standards include an antidegradation policy consistent with the federal policy. The State Water Board established California's antidegradation policy in State Water Board Resolution No. 68-16. Resolution No. 68-16 is consistent with the federal antidegradation policy where the federal policy applies under federal law. Resolution No. 68-16 requires that existing quality of waters be maintained unless degradation is justified based on specific findings. The Regional Water Board's Basin Plan implements, and incorporates by reference, both the state and federal antidegradation policies. As discussed in detail in the Fact Sheet the permitted discharge is consistent with the antidegradation provision of 40 CFR 131.12 and State Water Board Resolution No. 68-16.
- O. Anti-Backsliding Requirements.** Sections 402(o)(2) and 303(d)(4) of the CWA and federal regulations at 40 CFR 122.44(l) prohibit backsliding in NPDES permits. These anti-backsliding provisions require effluent limitations in a reissued permit to be as stringent as those in the previous permit, with some exceptions where limitations may be relaxed. Generally, effluent limitations in this Order are at least as stringent as the effluent limitations in the previous Order. As described in the Fact Sheet, the exception is the effluent limit for EC. Relaxation of the previous effluent limit for EC is authorized pursuant to 40 CFR 122.44(l)(2)(i)(B)(2).

- P. Monitoring and Reporting.** 40 CFR 122.48 requires that all NPDES permits specify requirements for recording and reporting monitoring results. CWC sections 13267 and 13383 authorize the Regional Water Board to require technical and monitoring reports. The Monitoring and Reporting Program establishes monitoring and reporting requirements to implement federal and State requirements. This Monitoring and Reporting Program is provided in Attachment E.
- Q. Standard and Special Provisions.** Standard Provisions, which apply to all NPDES permits in accordance with 40 CFR 122.41, and additional conditions applicable to specified categories of permits in accordance with 40 CFR 122.42, are provided in Attachment D. The discharger must comply with all standard provisions and with those additional conditions that are applicable under 40 CFR 122.42. The Regional Water Board has also included in this Order special provisions applicable to the Discharger. A rationale for the special provisions contained in this Order is provided in the attached Fact Sheet.
- R. Provisions and Requirements Implementing State Law.** The provisions/requirements in subsection V.B of this Order are included to implement state law only. These provisions/requirements are not required or authorized under the federal CWA; consequently, violations of these provisions/requirements are not subject to the enforcement remedies that are available for NPDES violations.
- S. Notification of Interested Parties.** The Regional Water Board has notified the Discharger and interested agencies and persons of its intent to prescribe Waste Discharge Requirements for the discharge and has provided them with an opportunity to submit their written comments and recommendations. Details of notification are provided in the Fact Sheet of this Order.
- T. Consideration of Public Comment.** The Regional Water Board, in a public meeting, heard and considered all comments pertaining to the discharge. Details of the Public Hearing are provided in the Fact Sheet of this Order.

III. DISCHARGE PROHIBITIONS

- A. Discharge of other than the aforescribed groundwater from the sources described in the Fact Sheet (II.A.) at a location or in a manner different from that described in the above Findings is prohibited.
- B. The by-pass or overflow of wastes to surface waters is prohibited, except as allowed by Federal Standard Provisions I.G. and I.H. (Attachment D).
- C. Neither the discharge nor its treatment shall create a nuisance or pollution as defined in Section 13050 of the California Water Code.
- D. Discharge of waste classified as “hazardous,” as defined in Section 2521(a) of Title 23, CCR, Section 2510 et seq., or of waste classified as “designated,” as defined in CWC Section 13173, is prohibited.

E. Discharge into the Calloway Canal except in accordance with a valid formal agreement between the Discharger and the North Kern Water Storage District and City of Bakersfield is prohibited.

IV. EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

A. Effluent Limitations – IRM-2, Discharge Point 001

1. Final Effluent Limitations – IRM-2, Discharge Point 001

The Discharger shall comply with the following effluent limitations at Discharge Point 001, with compliance measured at Monitoring Location EFF-001 described in the attached MRP (Attachment E):

a. Limitations in Table 6 below:

Table 6. Effluent Limitations

Parameter	Units	Effluent Limitations			
		Average Monthly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Conventional Pollutants					
pH	Standard Units	---	---	6.5	8.3
Priority Pollutants					
Lead (Total Recoverable)	µg/L	2.0	2.0	---	---
	lbs/day ¹	0.002	0.002	---	---
Benzene	µg/L	< 0.5	< 0.5	---	---
Ethylbenzene	µg/L	< 0.5	29	---	---
Ethylene Dichloride (1,2-Dichloroethane)	µg/L	< 0.5	< 0.5	---	---
Napthalene	µg/L	< 5.0	20	---	---
Toluene	µg/L	< 0.5	42	---	---
Non-Conventional Pollutants					
Carcinogenic Polynuclear Aromatic Hydrocarbons (PAHs)	µg/L	< 0.05	< 0.05	---	---
Ethylene Dibromide (1,2-Dibromomethane)	µg/L	< 0.5	< 0.5	---	---
Methanol	µg/L	< 20	3,500	---	---
Methyl t-Butyl Ether (MTBE) plus other ether oxygenates ²	µg/L	< 5.0	5.0	---	---
Tertiary Butyl Alcohol (TBA)	µg/L	< 20	< 20	---	---
Total Petroleum Hydrocarbons (TPHs)	µg/L	< 50	100	---	---
Xylene	µg/L	< 1.0	17	---	---

- ¹. Based on a long term average flow of 0.10 mgd (excludes unreported data between 10/1/02 and 12/31/02).
- ². The limit applies to the sum of MTBE, Di-isopropyl Ether (DIPE), Ethyl Tertiary Butyl Ether (ETBE) and Tertiary Amyl Methyl Ether (TAME).

- b. **Acute Whole Effluent Toxicity.** Survival of aquatic organisms in 96-hour bioassays of undiluted waste shall be no less than:
 - i. 70% for any one bioassay; and
 - ii. 90% for the median for any three consecutive bioassays.
- c. **Maximum Daily Discharge Flow.** The maximum daily discharge flow shall not exceed 0.25 mgd.
- d. **Radionuclides.** The concentration of radionuclides in the discharge shall not exceed the concentration in groundwater extracted by the GWCS.
- e. **Electrical Conductivity.** The annual average of EC in the discharge shall not exceed the flow-weighted average of EC in the source water, plus 500 μ hos/cm, or a total of 1,000 μ hos/cm, whichever is more stringent.
- f. **Chloride.** The annual average chloride concentration of the discharge shall not exceed 175 mg/L.
- g. **Boron.** The annual average boron concentration of the discharge shall not exceed 1.0 mg/L.

2. Interim Effluent Limitations – Not Applicable

B. Land Discharge Specifications – Not Applicable

C. Reclamation Specifications – Not Applicable

V. RECEIVING WATER LIMITATIONS

A. Surface Water Limitations

Receiving water limitations are based on water quality objectives contained in the Basin Plan and are a required part of this Order. The discharge shall not cause the following in the Calloway Canal:

1. **Un-ionized Ammonia.** Un-ionized ammonia to be present in amounts that adversely affect beneficial uses nor to be present in excess of 0.025 mg/L (as N).
2. **Biostimulatory Substances.** Water to contain biostimulatory substances, which promote aquatic growths in concentrations that cause nuisance or adversely affect beneficial uses.

3. **Chemical Constituents.** Chemical constituents to be present in concentrations that adversely affect beneficial uses.
4. **Color.** Discoloration that causes nuisance or adversely affects beneficial uses.
5. **Dissolved Oxygen:**
 - a. The monthly median of the mean daily dissolved oxygen concentration to fall below 85 percent of saturation in the main water mass at centroid of flow;
 - b. The 95 percentile dissolved oxygen concentration to fall below 75 percent of saturation; nor
 - c. The dissolved oxygen concentration to be reduced below 5.0 mg/L at any time.
6. **Floating Material.** Floating material to be present in amounts that cause nuisance or adversely affect beneficial uses.
7. **Oil and Grease.** Oils, greases, waxes, or other materials to be present in concentrations that cause nuisance, result in a visible film or coating on the surface of the water or on objects in the water, or otherwise adversely affect beneficial uses.
8. **pH.** The pH to be depressed below 6.5, raised above 8.3, nor changed by more than 0.3 units.
9. **Pesticides:**
 - a. Pesticides to be present, individually or in combination, in concentrations that adversely affect beneficial uses;
 - b. Pesticides to be present in bottom sediments or aquatic life in concentrations that adversely affect beneficial uses;
 - c. Pesticides to be present in concentrations in excess of the maximum contaminant levels set forth in California Code of Regulations, Title 22, Division 4, Chapter 15 specified in Table 64444-A (Organic Chemicals) of Section 64444 of Title 22 of the California Code of Regulations.
10. **Radioactivity.**
 - a. Radionuclides to be present in concentrations that are deleterious to human, plant, animal, or aquatic life nor that result in the accumulation of radionuclides in the food web to an extent that presents a hazard to human, plant, animal, or aquatic life.
 - b. Radionuclides to be present in excess of the maximum contaminant levels specified in Table 4 (MCL Radioactivity) of Section 64443 of Title 22 of the California Code of Regulations.
11. **Suspended Sediments.** The suspended sediment load and suspended sediment discharge rate of surface waters to be altered in such a manner as to cause nuisance or adversely affect beneficial uses.

12. **Settleable Substances.** Substances to be present in concentrations that result in the deposition of material that causes nuisance or adversely affects beneficial uses.
13. **Suspended Material.** Suspended material to be present in concentrations that cause nuisance or adversely affect beneficial uses.
14. **Taste and Odors.** Taste- or odor-producing substances to be present in concentrations that impart undesirable tastes or odors to fish flesh or other edible products of aquatic origin, or to domestic or municipal water supplies.
15. **Temperature.** The natural temperature to be increased by more than 5°F.
16. **Toxicity.** Toxic substances to be present, individually or in combination, in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life.
17. **Turbidity.** The turbidity to increase as follows:
 - a. More than 1 Nephelometric Turbidity Unit (NTU) where natural turbidity is between 0 and 5 NTUs.
 - b. More than 20 percent where natural turbidity is between 5 and 50 NTUs.
 - c. More than 10 NTU where natural turbidity is between 50 and 100 NTUs.
 - d. More than 10 percent where natural turbidity is greater than 100 NTUs.

B. Groundwater Limitations

The discharge shall not cause groundwater to be degraded or cause or contribute to an exceedance of a water quality objective.

VI. PROVISIONS

A. Standard Provisions

1. The Discharger shall comply with all Standard Provisions included in Attachment D of this Order.
2. The Discharger shall comply with the following provisions:
 - a. If the Discharger's wastewater treatment plant is publicly owned or subject to regulation by California Public Utilities Commission, it shall be supervised and operated by persons possessing certificates of appropriate grade according to Title 23, CCR, Division 3, Chapter 26.

- b. After notice and opportunity for a hearing, this Order may be terminated or modified for cause, including, but not limited to:
- i. violation of any term or condition contained in this Order;
 - ii. obtaining this Order by misrepresentation or by failing to disclose fully all relevant facts;
 - iii. a change in any condition that requires either a temporary or permanent reduction or elimination of the authorized discharge; and
 - iv. a material change in the character, location, or volume of discharge.

The causes for modification include:

- *New regulations.* New regulations have been promulgated under Section 405(d) of the Clean Water Act, or the standards or regulations on which the permit was based have been changed by promulgation of amended standards or regulations or by judicial decision after the permit was issued.
- *Land application plans.* When required by a permit condition to incorporate a land application plan for beneficial reuse of sewage sludge, to revise an existing land application plan, or to add a land application plan.
- *Change in sludge use or disposal practice.* Under 40 CFR 122.62(a)(1), a change in the Discharger's sludge use or disposal practice is a cause for modification of the permit. It is cause for revocation and reissuance if the Discharger requests or agrees.

The Regional Water Board may review and revise this Order at any time upon application of any affected person or the Regional Water Board's own motion.

- c. If a toxic effluent standard or prohibition (including any scheduled compliance specified in such effluent standard or prohibition) is established under Section 307(a) of the CWA, or amendments thereto, for a toxic pollutant that is present in the discharge authorized herein, and such standard or prohibition is more stringent than any limitation upon such pollutant in this Order, the Regional Water Board will revise or modify this Order in accordance with such toxic effluent standard or prohibition.

The Discharger shall comply with effluent standards and prohibitions within the time provided in the regulations that establish those standards or prohibitions, even if this Order has not yet been modified.

- d. This Order shall be modified, or alternately revoked and reissued, to comply with any applicable effluent standard or limitation issued or approved under Sections 301(b)(2)(C) and (D), 304(b)(2), and 307(a)(2) of the CWA, if the effluent standard or limitation so issued or approved:

- i. contains different conditions or is otherwise more stringent than any effluent limitation in the Order; or
- ii. controls any pollutant limited in the Order.

The Order, as modified or reissued under this paragraph, shall also contain any other requirements of the CWA then applicable.

- e. The provisions of this Order are severable. If any provision of this Order is found invalid, the remainder of this Order shall not be affected.
- f. The Discharger shall take all reasonable steps to minimize any adverse effects to waters of the State or users of those waters resulting from any discharge or sludge use or disposal in violation of this Order. Reasonable steps shall include such accelerated or additional monitoring as necessary to determine the nature and impact of the non-complying discharge or sludge use or disposal.
- g. The Discharger shall ensure compliance with any existing or future pretreatment standard promulgated by USEPA under Section 307 of the CWA, or amendment thereto, for any discharge to the municipal system.
- h. The discharge of any radiological, chemical or biological warfare agent or high-level, radiological waste is prohibited.
- i. A copy of this Order shall be maintained at the discharge facility and be available at all times to operating personnel. Key operating personnel shall be familiar with its content.
- j. Safeguard to electric power failure:
 - i. The Discharger shall provide safeguards to assure that, should there be reduction, loss, or failure of electric power, the discharge shall comply with the terms and conditions of this Order.
 - ii. Upon written request by the Regional Water Board the Discharger shall submit a written description of safeguards. Such safeguards may include alternate power sources, standby generators, retention capacity, operating procedures, or other means. A description of the safeguards provided shall include an analysis of the frequency, duration, and impact of power failures experienced over the past five years on effluent quality and on the capability of the Discharger to comply with the terms and conditions of the Order. The adequacy of the safeguards is subject to the approval of the Regional Water Board.
 - iii. Should the treatment works not include safeguards against reduction, loss, or failure of electric power, or should the Regional Water Board not approve the existing safeguards, the Discharger shall, within ninety days of having been advised in writing by the Regional Water Board that the existing safeguards

are inadequate, provide to the Regional Water Board and USEPA a schedule of compliance for providing safeguards such that in the event of reduction, loss, or failure of electric power, the Discharger shall comply with the terms and conditions of this Order. The schedule of compliance shall, upon approval of the Regional Water Board, become a condition of this Order.

- k. The Discharger, upon written request of the Regional Water Board, shall file with the Board a technical report on its preventive (failsafe) and contingency (cleanup) plans for controlling accidental discharges, and for minimizing the effect of such events.

The technical report shall:

- i. Identify the possible sources of spills, leaks, untreated waste by-pass, and contaminated drainage. Loading and storage areas, power outage, waste treatment unit outage, and failure of process equipment, tanks and pipes should be considered.
- ii. Evaluate the effectiveness of present facilities and procedures and state when they became operational.
- iii. Predict the effectiveness of the proposed facilities and procedures and provide an implementation schedule containing interim and final dates when they will be constructed, implemented, or operational.

The Regional Water Board, after review of the technical report, may establish conditions, which it deems necessary to control accidental discharges and to minimize the effects of such events. Such conditions shall be incorporated as part of this Order, upon notice to the Discharger.

- l. A publicly owned treatment works (POTW) whose waste flow has been increasing, or is projected to increase, shall estimate when flows will reach hydraulic and treatment capacities of its treatment and disposal facilities. The projections shall be made in January, based on the last three years' average dry weather flows, peak wet weather flows and total annual flows, as appropriate. When any projection shows that capacity of any part of the facilities may be exceeded in four years, the Discharger shall notify the Regional Water Board by 31 January. A copy of the notification shall be sent to appropriate local elected officials, local permitting agencies and the press. Within 120 days of the notification, the Discharger shall submit a technical report showing how it will prevent flow volumes from exceeding capacity or how it will increase capacity to handle the larger flows. The Regional Water Board may extend the time for submitting the report.
- m. The Discharger shall submit technical reports as directed by the Executive Officer. All technical reports required herein that involve planning, investigation, evaluation, or design, or other work requiring interpretation and proper

- n. reports must bear the signature(s) and seal(s) of the registered professional(s) in a manner such that all work can be clearly attributed to the professional responsible for the work.
- o. Laboratories that perform sample analyses must be identified in all monitoring reports submitted to the Regional Water Board and USEPA.
- p. The Discharger shall conduct analysis on any sample provided by USEPA as part of the Discharge Monitoring Quality Assurance (DMQA) program. The results of any such analysis shall be submitted to USEPA's DMQA manager.
- q. Effluent samples shall be taken downstream of the last addition of wastes to the treatment or discharge works where a representative sample may be obtained prior to mixing with the receiving waters. Samples shall be collected at such a point and in such a manner to ensure a representative sample of the discharge.
- r. All monitoring and analysis instruments and devices used by the Discharger to fulfill the prescribed monitoring program shall be properly maintained and calibrated as necessary, at least yearly, to ensure their continued accuracy.
- s. The Discharger shall file with the Regional Water Board technical reports on self-monitoring performed according to the detailed specifications contained in the Monitoring and Reporting Program attached to this Order.
- t. The results of all monitoring required by this Order shall be reported to the Regional Water Board, and shall be submitted in such a format as to allow direct comparison with the limitations and requirements of this Order. Unless otherwise specified, discharge flows shall be reported in terms of the monthly average and the daily maximum discharge flows.
- u. The Regional Water Board is authorized to enforce the terms of this permit under several provisions of the CWC, including, but not limited to, sections 13385, 13386, and 13387.
- v. For POTWs, prior to making any change in the point of discharge, place of use, or purpose of use of treated wastewater that results in a decrease of flow in any portion of a watercourse, the Discharger must file a petition with the State Water Board, Division of Water Rights, and receive approval for such a change. (CWC section 1211).

- w. In the event the Discharger does not comply or will be unable to comply for any reason, with any prohibition, maximum daily effluent limitation, 1-hour average effluent limitation, or receiving water limitation contained in this Order, the Discharger shall notify the Regional Water Board by telephone (559) 445-5116 within 24 hours of having knowledge of such noncompliance, and shall confirm this notification in writing within five days, unless the Regional Water Board waives confirmation. The written notification shall include the information required by Attachment D, Section V.E.1 [40 CFR 122.41(l)(6)(i)].

B. Monitoring and Reporting Program (MRP) Requirements

1. The Discharger shall comply with the MRP, and future revisions thereto, in Attachment E of this Order.

C. Special Provisions

1. Reopener Provisions

- a. This Order may be reopened for modification, or revocation and reissuance, as a result of the detection of a reportable priority pollutant generated by special conditions included in this Order. These special conditions may be, but are not limited to, fish tissue sampling, whole effluent toxicity, monitoring requirements on internal waste stream(s), and monitoring for surrogate parameters. Additional requirements may be included in this Order as a result of the special condition monitoring data.
- b. This Order may be reopened to address conditions that necessitate a major modification of a permit. These conditions are described in 40 CFR 122.62 and include:
 - i. If new or amended applicable water quality standards are promulgated or approved pursuant to Section 303 of the CWA, or amendments thereto, this permit may be reopened and modified in accordance with the new or amended standards.
 - ii. When new information, that was not available at the time of permit issuance, would have justified different permit conditions at the time of issuance.
- c. **Pollution Prevention.** Not Applicable.
- d. **Whole Effluent Toxicity.** As a result of a Toxicity Reduction Evaluation (TRE), this Order may be reopened to include a chronic toxicity limitation, a new acute toxicity limitation, and/or a limitation for a specific toxicant identified in the TRE. Additionally, if the State Water Board revises the SIP's toxicity control provisions that would require the establishment of numeric chronic toxicity effluent limitations, this Order may be reopened to include a numeric chronic toxicity effluent limitation based on the new provisions.

- e. **Discharge Agreement.** The Discharger must cease discharge by **1 January 2011** unless it submits a copy of a signed agreement allowing use of the canal after the deadline. This Order may be reopened to ensure the discharge will be compatible with a new agreement. Unless continued discharge is authorized by the District and the City, the Discharger shall submit a notification of termination by **3 January 2011**.

2. Special Studies, Technical Reports and Additional Monitoring Requirements

- a. **Chronic Whole Effluent Toxicity.** For compliance with the Basin Plan's narrative toxicity objective, the Discharger shall conduct chronic whole effluent toxicity testing, as specified in the Monitoring and Reporting Program (Attachment E, Section V.). The Discharger shall perform chronic toxicity testing during the first discharge event following adoption of this Order. Furthermore, the Discharger shall investigate the causes of, and identify corrective actions to reduce or eliminate effluent toxicity. If the discharge exceeds the toxicity numeric monitoring trigger established in this Provision, the Discharger shall initiate a Toxicity Reduction Evaluation (TRE), in accordance with an approved TRE Work Plan, and take actions to mitigate the impact of the discharge and prevent reoccurrence of toxicity. A TRE is a site-specific study conducted in a stepwise process to identify the source(s) of toxicity and the effective control measures for effluent toxicity. TREs are designed to identify the causative agents and sources of whole effluent toxicity, evaluate the effectiveness of the toxicity control options, and confirm the reduction in effluent toxicity. This Provision includes the following:
 - i. **Initial Investigative Toxicity Reduction Evaluation (TRE) Work Plan.** By **24 April 2008**, the Discharger shall submit to the Regional Water Board an Initial Investigative TRE Work Plan subject to approval by the Executive Officer. This should be a one to two page document including, at minimum:
 - a) A description of the investigation and evaluation techniques that will be used to identify potential causes and sources of effluent toxicity, effluent variability, and treatment system efficiency;
 - b) A description of the facility's methods of maximizing in-house treatment efficiency and good housekeeping practices, and a list of all chemicals used in operation of the facility; and
 - c) A discussion of who will conduct the Toxicity Identification Evaluation, if necessary (i.e. an in-house expert or outside contractor).
 - ii. **Accelerated Monitoring and TRE Initiation.** When the numeric toxicity monitoring trigger is exceeded during regular chronic toxicity monitoring, and the testing meets all test acceptability criteria, the Discharger shall initiate accelerated monitoring as required in the Accelerated Monitoring Specifications. WET testing results exceeding the monitoring trigger during

accelerated monitoring demonstrates a pattern of toxicity and requires the Discharger to initiate a TRE to address the effluent toxicity.

- iii. **Numeric Monitoring Trigger.** The numeric toxicity monitoring trigger is $> 1 \text{ TUc}$ (where $\text{TUc} = 100/\text{NOEC}$). The monitoring trigger is not an effluent limitation; it is the toxicity threshold at which the Discharger is required to begin accelerated monitoring and initiate a TRE.
- iv. **Accelerated Monitoring Specifications.** If the monitoring trigger is exceeded during regular chronic toxicity testing, within 14-days of notification by the laboratory of the test results, the Discharger shall initiate accelerated monitoring. Accelerated monitoring shall consist of four (4) chronic toxicity tests in a six-week period (i.e. one test every two weeks) using the species that exhibited toxicity. The following protocol shall be used for accelerated monitoring and TRE initiation:
 - a) If the results of four (4) consecutive accelerated monitoring tests do not exceed the monitoring trigger, the Discharger may cease accelerated monitoring and resume regular chronic toxicity monitoring. Notwithstanding the accelerated monitoring results, if there is adequate evidence of a pattern of effluent toxicity, the Executive Officer may require that the Discharger initiate a TRE.
 - b) If the source(s) of the toxicity is easily identified, the Discharger shall make necessary corrections to the facility and shall continue accelerated monitoring until four (4) consecutive accelerated tests do not exceed the monitoring trigger. Upon confirmation that the effluent toxicity has been removed, the Discharger may cease accelerated monitoring and resume regular chronic toxicity monitoring.
 - c) If the result of any accelerated toxicity test exceeds the monitoring trigger, the Discharger shall cease accelerated monitoring and initiate a TRE to investigate the cause(s) of, and identify corrective actions to reduce or eliminate effluent toxicity. Within thirty (30) days of notification by the laboratory of the test results exceeding the monitoring trigger during accelerated monitoring, the Discharger shall submit a TRE Action Plan to the Regional Water Board including, at minimum:
 - 1) Specific actions the Discharger will take to investigate and identify the cause(s) of toxicity, including TRE WET monitoring schedule;
 - 2) Specific actions the Discharger will take to mitigate the impact of the discharge and prevent the recurrence of toxicity; and
 - 3) A schedule for these actions.
- b. **Salinity Reduction Goal.** The Discharger shall provide annual reports demonstrating reasonable progress in the reduction of salinity in its discharge to

the Calloway Canal. The annual reports shall be submitted in accordance with the Monitoring and Reporting Program (Attachment E, Section X.B.8.).

3. Best Management Practices and Pollution Prevention – Not Applicable

4. Construction, Operation and Maintenance Specifications

a. Treatment Pond Operating Requirements – Not Applicable

b. Filter Water and Solids Disposal

Collected screenings, sludges, and other solids removed from liquid wastes or used to treat liquid wastes shall be disposed of in a manner that is consistent with Division 3, Title 27, of the CCR and approved by the Executive Officer.

5. Special Provisions for Municipal Facilities (POTWs Only) – Not Applicable

6. Other Special Provisions

- a. All technical reports required herein that involve planning, investigation, evaluation, or design, or other work requiring interpretation and proper application of engineering or geologic sciences, shall be prepared by or under the direction of persons registered to practice in California pursuant to California Business and Professions Code, Sections 6735, 7835, and 7835.1. To demonstrate compliance with Title 16, CCR, Sections 415 and 3065, all technical reports must contain a statement of the qualifications of the responsible registered professional(s). As required by these laws, completed technical reports must bear the signature(s) and seal(s) of the registered professional(s) in a manner such that all work can be clearly attributed to the professional responsible for the work.
- b. In the event the Discharger does not comply or will be unable to comply for any reason, with any prohibition or limitation contained in this Order, the Discharger shall notify the Regional Water Board by telephone (559) 445-5116 within 24 hours of having knowledge of such noncompliance, and shall confirm this notification in writing within five days, unless the Regional Water Board waives confirmation. The written notification shall include the information required by Federal Standard Provision V.E.1 [40 CFR 122.41(l)(6)(i)].

Prior to making any change in the discharge point, place of use, or purpose of use of the wastewater, the Discharger shall obtain approval of, or clearance from the State Water Resources Control Board (Division of Water Rights).

7. Compliance Schedules – Not Applicable

VII. COMPLIANCE DETERMINATION – Not Applicable

ATTACHMENT A – DEFINITIONS

Arithmetic Mean (μ), also called the average, is the sum of measured values divided by the number of samples. For ambient water concentrations, the arithmetic mean is calculated as follows:

$$\text{Arithmetic mean} = \mu = \Sigma x / n \quad \text{where: } \Sigma x \text{ is the sum of the measured ambient water concentrations, and } n \text{ is the number of samples.}$$

Average Monthly Effluent Limitation (AMEL): the highest allowable average of daily discharges over a calendar month, calculated as the sum of all daily discharges measured during a calendar month divided by the number of daily discharges measured during that month.

Average Weekly Effluent Limitation (AWEL): the highest allowable average of daily discharges over a calendar week (Sunday through Saturday), calculated as the sum of all daily discharges measured during a calendar week divided by the number of daily discharges measured during that week.

Best Practicable Treatment or Control (BPTC): BPTC is a requirement of State Water Resources Control Board Resolution 68-16 – “Statement of Policy with Respect to Maintaining High Quality of Waters in California” (referred to as the “Antidegradation Policy”). BPTC is the treatment or control of a discharge necessary to assure that, “(a) a pollution or nuisance will not occur and (b) the highest water quality consistent with maximum benefit to the people of the State will be maintained.” Pollution is defined in CWC Section 13050(I). In general, an exceedance of a water quality objective in the Basin Plan constitutes “pollution”.

Bioaccumulative pollutants are those substances taken up by an organism from its surrounding medium through gill membranes, epithelial tissue, or from food and subsequently concentrated and retained in the body of the organism.

Carcinogenic pollutants are substances that are known to cause cancer in living organisms.

Coefficient of Variation (CV) is a measure of the data variability and is calculated as the estimated standard deviation divided by the arithmetic mean of the observed values.

Daily Discharge: Daily Discharge is defined as either: (1) the total mass of the constituent discharged over the calendar day (12:00 am through 11:59 pm) or any 24-hour period that reasonably represents a calendar day for purposes of sampling (as specified in the permit), for a constituent with limitations expressed in units of mass or; (2) the unweighted arithmetic mean measurement of the constituent over the day for a constituent with limitations expressed in other units of measurement (e.g., concentration).

The daily discharge may be determined by the analytical results of a composite sample taken over the course of one day (a calendar day or other 24-hour period defined as a day) or by the arithmetic mean of analytical results from one or more grab samples taken over the course of the day.

For composite sampling, if 1 day is defined as a 24-hour period other than a calendar day, the analytical result for the 24-hour period will be considered as the result for the calendar day in which the 24-hour period ends.

Detected, but Not Quantified (DNQ) are those sample results less than the RL, but greater than or equal to the laboratory's MDL.

Dilution Credit is the amount of dilution granted to a discharge in the calculation of a water quality-based effluent limitation, based on the allowance of a specified mixing zone. It is calculated from the dilution ratio or determined through conducting a mixing zone study or modeling of the discharge and receiving water.

Effluent Concentration Allowance (ECA) is a value derived from the water quality criterion/objective, dilution credit, and ambient background concentration that is used, in conjunction with the coefficient of variation for the effluent monitoring data, to calculate a long-term average (LTA) discharge concentration. The ECA has the same meaning as waste load allocation (WLA) as used in U.S. EPA guidance (Technical Support Document For Water Quality-based Toxics Control, March 1991, second printing, EPA/505/2-90-001).

Enclosed Bays means indentations along the coast that enclose an area of oceanic water within distinct headlands or harbor works. Enclosed bays include all bays where the narrowest distance between the headlands or outermost harbor works is less than 75 percent of the greatest dimension of the enclosed portion of the bay. Enclosed bays include, but are not limited to, Humboldt Bay, Bodega Harbor, Tomales Bay, Drake's Estero, San Francisco Bay, Morro Bay, Los Angeles-Long Beach Harbor, Upper and Lower Newport Bay, Mission Bay, and San Diego Bay. Enclosed bays do not include inland surface waters or ocean waters.

Estimated Chemical Concentration is the estimated chemical concentration that results from the confirmed detection of the substance by the analytical method below the ML value.

Estuaries means waters, including coastal lagoons, located at the mouths of streams that serve as areas of mixing for fresh and ocean waters. Coastal lagoons and mouths of streams that are temporarily separated from the ocean by sandbars shall be considered estuaries. Estuarine waters shall be considered to extend from a bay or the open ocean to a point upstream where there is no significant mixing of fresh water and seawater. Estuarine waters included, but are not limited to, the Sacramento-San Joaquin Delta, as defined in Water Code section 12220, Suisun Bay, Carquinez Strait downstream to the Carquinez Bridge, and appropriate areas of the Smith, Mad, Eel, Noyo, Russian, Klamath, San Diego, and Otay rivers. Estuaries do not include inland surface waters or ocean waters.

Inland Surface Waters are all surface waters of the State that do not include the ocean, enclosed bays, or estuaries.

Instantaneous Maximum Effluent Limitation: the highest allowable value for any single grab sample or aliquot (i.e., each grab sample or aliquot is independently compared to the instantaneous maximum limitation).

Instantaneous Minimum Effluent Limitation: the lowest allowable value for any single grab sample or aliquot (i.e., each grab sample or aliquot is independently compared to the instantaneous minimum limitation).

Maximum Daily Effluent Limitation (MDEL) means the highest allowable daily discharge of a pollutant, over a calendar day (or 24-hour period). For pollutants with limitations expressed in units of mass, the daily discharge is calculated as the total mass of the pollutant discharged over the day. For pollutants with limitations expressed in other units of measurement, the daily discharge is calculated as the arithmetic mean measurement of the pollutant over the day.

Median is the middle measurement in a set of data. The median of a set of data is found by first arranging the measurements in order of magnitude (either increasing or decreasing order). If the number of measurements (n) is odd, then the median = $X_{(n+1)/2}$. If n is even, then the median = $(X_{n/2} + X_{(n/2)+1})/2$ (i.e., the midpoint between the $n/2$ and $n/2+1$).

Method Detection Limit (MDL) is the minimum concentration of a substance that can be measured and reported with 99 percent confidence that the analyte concentration is greater than zero, as defined in title 40 of the Code of Federal Regulations, Part 136, Attachment B, revised as of July 3, 1999.

Minimum Level (ML) is the concentration at which the entire analytical system must give a recognizable signal and acceptable calibration point. The ML is the concentration in a sample that is equivalent to the concentration of the lowest calibration standard analyzed by a specific analytical procedure, assuming that all the method specified sample weights, volumes, and processing steps have been followed.

Mixing Zone is a limited volume of receiving water that is allocated for mixing with a wastewater discharge where water quality criteria can be exceeded without causing adverse effects to the overall water body.

Not Detected (ND) are those sample results less than the laboratory's MDL.

Ocean Waters are the territorial marine waters of the State as defined by California law to the extent these waters are outside of enclosed bays, estuaries, and coastal lagoons. Discharges to ocean waters are regulated in accordance with the State Water Board's California Ocean Plan.

Persistent pollutants are substances for which degradation or decomposition in the environment is nonexistent or very slow.

Pollutant Minimization Program (PMP) means waste minimization and pollution prevention actions that include, but are not limited to, product substitution, waste stream recycling, alternative waste management methods, and education of the public and businesses. The

goal of the PMP shall be to reduce all potential sources of a priority pollutant(s) through pollutant minimization (control) strategies, including pollution prevention measures as appropriate, to maintain the effluent concentration at or below the water quality-based effluent limitation. Pollution prevention measures may be particularly appropriate for persistent bioaccumulative priority pollutants where there is evidence that beneficial uses are being impacted. The Regional Water Board may consider cost effectiveness when establishing the requirements of a PMP. The completion and implementation of a Pollution Prevention Plan, if required pursuant to Water Code section 13263.3(d), shall be considered to fulfill the PMP requirements.

Pollution Prevention means any action that causes a net reduction in the use or generation of a hazardous substance or other pollutant that is discharged into water and includes, but is not limited to, input change, operational improvement, production process change, and product reformulation (as defined in Water Code section 13263.3). Pollution prevention does not include actions that merely shift a pollutant in wastewater from one environmental medium to another environmental medium, unless clear environmental benefits of such an approach are identified to the satisfaction of the State or Regional Water Board.

Reporting Level (RL) is the ML (and its associated analytical method) chosen by the Discharger for reporting and compliance determination from the MLs included in this Order. The MLs included in this Order correspond to approved analytical methods for reporting a sample result that are selected by the Regional Water Board either from Appendix 4 of the SIP in accordance with section 2.4.2 of the SIP or established in accordance with section 2.4.3 of the SIP. The ML is based on the proper application of method-based analytical procedures for sample preparation and the absence of any matrix interferences. Other factors may be applied to the ML depending on the specific sample preparation steps employed. For example, the treatment typically applied in cases where there are matrix-effects is to dilute the sample or sample aliquot by a factor of ten. In such cases, this additional factor must be applied to the ML in the computation of the RL.

Satellite Collection System is the portion, if any, of a sanitary sewer system owned or operated by a different public agency than the agency that owns and operates the wastewater treatment facility that a sanitary sewer system is tributary to.

Source of Drinking Water is any water designated as municipal or domestic supply (MUN) in a Regional Water Board Basin Plan.

Standard Deviation (σ) is a measure of variability that is calculated as follows:

$$\sigma = \left(\frac{\sum[(x - \mu)^2]}{(n - 1)} \right)^{0.5}$$

where:

x is the observed value;

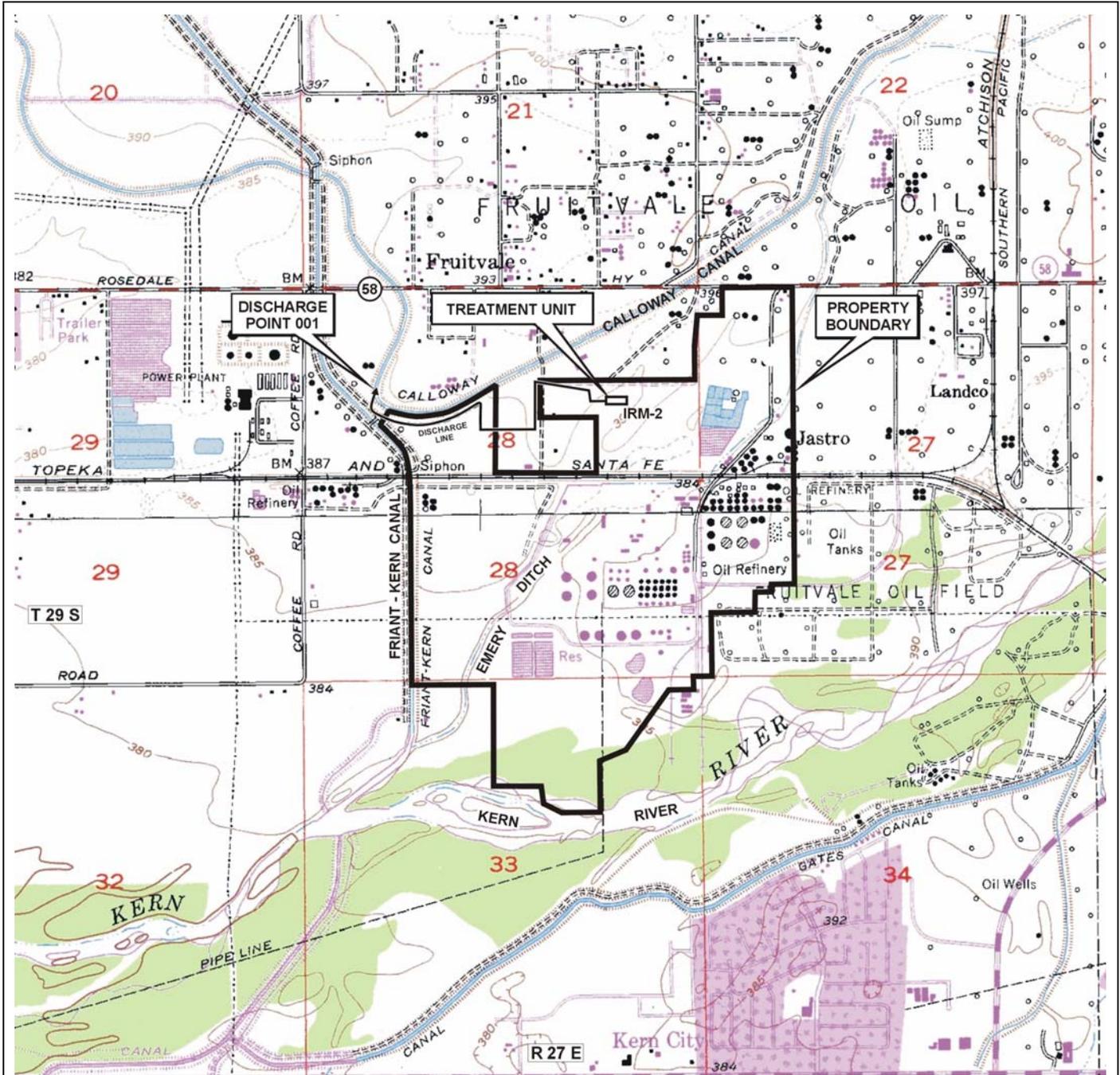
μ is the arithmetic mean of the observed values; and

n is the number of samples.

Toxicity Reduction Evaluation (TRE) is a study conducted in a step-wise process designed to identify the causative agents of effluent or ambient toxicity, isolate the sources of toxicity,

evaluate the effectiveness of toxicity control options, and then confirm the reduction in toxicity. The first steps of the TRE consist of the collection of data relevant to the toxicity, including additional toxicity testing, and an evaluation of facility operations and maintenance practices, and best management practices. A Toxicity Identification Evaluation (TIE) may be required as part of the TRE, if appropriate. (A TIE is a set of procedures to identify the specific chemical(s) responsible for toxicity. These procedures are performed in three phases (characterization, identification, and confirmation) using aquatic organism toxicity tests.)

ATTACHMENT B – MAP

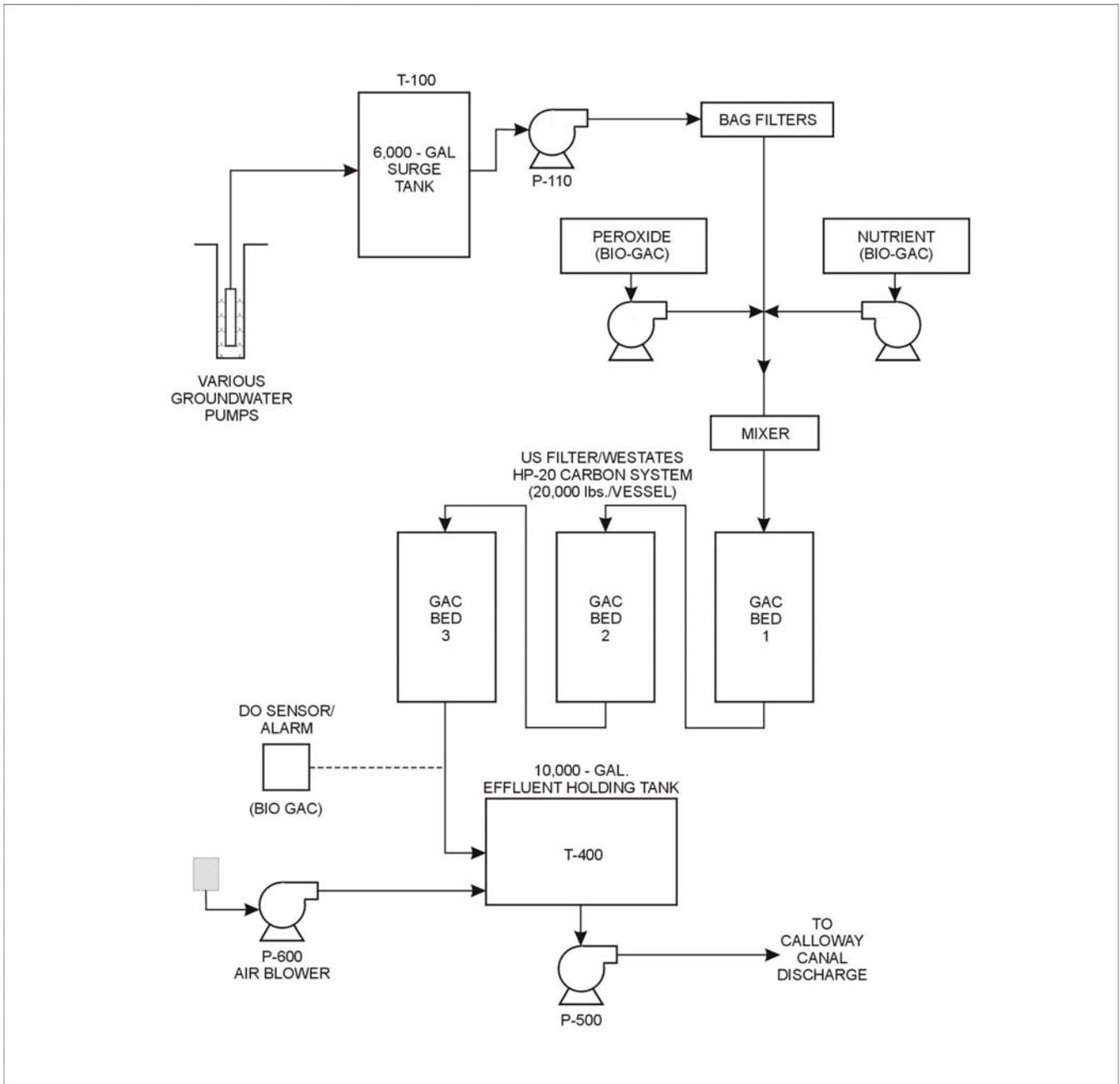


OILDALE AND GOSFORD
 QUADS
 U.S.G.S TOPOGRAPHIC MAP
 7.5 MINUTE QUADRANGLE
 Photorevised 1968
 1" = 2000"

SITE LOCATION MAP
 EQUILON ENTERPRISES, LLC
 BIG WEST BAKERSFIELD REFINERY
 GWCS
 KERN COUNTY



ATTACHMENT C – FLOW SCHEMATIC



ATTACHMENT D –STANDARD PROVISIONS

I. STANDARD PROVISIONS – PERMIT COMPLIANCE

A. Duty to Comply

1. The Discharger must comply with all of the conditions of this Order. Any noncompliance constitutes a violation of the Clean Water Act (CWA) and the California Water Code and is grounds for enforcement action, for permit termination, revocation and reissuance, or modification; or denial of a permit renewal application. (40 CFR 122.41(a).)
2. The Discharger shall comply with effluent standards or prohibitions established under Section 307(a) of the CWA for toxic pollutants and with standards for sewage sludge use or disposal established under Section 405(d) of the CWA within the time provided in the regulations that establish these standards or prohibitions, even if this Order has not yet been modified to incorporate the requirement. (40 CFR 122.41(a)(1).)

B. Need to Halt or Reduce Activity Not a Defense

It shall not be a defense for a Discharger in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this Order. (40 CFR 122.41(c).)

C. Duty to Mitigate

The Discharger shall take all reasonable steps to minimize or prevent any discharge or sludge use or disposal in violation of this Order that has a reasonable likelihood of adversely affecting human health or the environment. (40 CFR 122.41(d).)

D. Proper Operation and Maintenance

The Discharger shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the Discharger to achieve compliance with the conditions of this Order. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of backup or auxiliary facilities or similar systems that are installed by a Discharger only when necessary to achieve compliance with the conditions of this Order. (40 CFR 122.41(e).)

E. Property Rights

1. This Order does not convey any property rights of any sort or any exclusive privileges. (40 CFR 122.41(g).)

2. The issuance of this Order does not authorize any injury to persons or property or invasion of other private rights, or any infringement of state or local law or regulations. (40 CFR 122.5(c).)

F. Inspection and Entry

The Discharger shall allow the Regional Water Board, State Water Board, United States Environmental Protection Agency (USEPA), and/or their authorized representatives (including an authorized contractor acting as their representative), upon the presentation of credentials and other documents, as may be required by law, to (40 CFR 122.41(i); Wat. Code, § 13383):

1. Enter upon the Discharger's premises where a regulated facility or activity is located or conducted, or where records are kept under the conditions of this Order (40 CFR 122.41(i)(1));
2. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this Order (40 CFR 122.41(i)(2));
3. Inspect and photograph, at reasonable times, any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Order (40 CFR 122.41(i)(3)); and
4. Sample or monitor, at reasonable times, for the purposes of assuring Order compliance or as otherwise authorized by the CWA or the Water Code, any substances or parameters at any location. (40 CFR 122.41(i)(4).)

G. Bypass

1. Definitions
 - a. "Bypass" means the intentional diversion of waste streams from any portion of a treatment facility. (40 CFR 122.41(m)(1)(i).)
 - b. "Severe property damage" means substantial physical damage to property, damage to the treatment facilities, which causes them to become inoperable, or substantial and permanent loss of natural resources that can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production. (40 CFR 122.41(m)(1)(ii).)
2. Bypass not exceeding limitations. The Discharger may allow any bypass to occur which does not cause exceedances of effluent limitations, but only if it is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions listed in Standard Provisions – Permit Compliance I.G.3, I.G.4, and I.G.5 below. (40 CFR 122.41(m)(2).)

3. Prohibition of bypass. Bypass is prohibited, and the Regional Water Board may take enforcement action against a Discharger for bypass, unless (40 CFR 122.41(m)(4)(i)):
 - a. Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage (40 CFR 122.41(m)(4)(i)(A));
 - b. There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass that occurred during normal periods of equipment downtime or preventive maintenance (40 CFR 122.41(m)(4)(i)(B)); and
 - c. The Discharger submitted notice to the Regional Water Board as required under Standard Provisions – Permit Compliance I.G.5 below. (40 CFR 122.41(m)(4)(i)(C).)
4. The Regional Water Board may approve an anticipated bypass, after considering its adverse effects, if the Regional Water Board determines that it will meet the three conditions listed in Standard Provisions – Permit Compliance I.G.3 above. (40 CFR 122.41(m)(4)(ii).)
5. Notice
 - a. Anticipated bypass. If the Discharger knows in advance of the need for a bypass, it shall submit a notice, if possible at least 10 days before the date of the bypass. (40 CFR 122.41(m)(3)(i).)
 - b. Unanticipated bypass. The Discharger shall submit notice of an unanticipated bypass as required in Standard Provisions - Reporting V.E below (24-hour notice). (40 CFR 122.41(m)(3)(ii).)

H. Upset

Upset means an exceptional incident in which there is unintentional and temporary noncompliance with technology based permit effluent limitations because of factors beyond the reasonable control of the Discharger. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation. (40 CFR 122.41(n)(1).)

1. Effect of an upset. An upset constitutes an affirmative defense to an action brought for noncompliance with such technology based permit effluent limitations if the requirements of Standard Provisions – Permit Compliance I.H.2 below are met. No determination made during administrative review of claims that noncompliance was

caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review. (40 CFR 122.41(n)(2).).

2. Conditions necessary for a demonstration of upset. A Discharger who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs or other relevant evidence that (40 CFR 122.41(n)(3)):
 - a. An upset occurred and that the Discharger can identify the cause(s) of the upset (40 CFR 122.41(n)(3)(i));
 - b. The permitted facility was, at the time, being properly operated (40 CFR 122.41(n)(3)(ii));
 - c. The Discharger submitted notice of the upset as required in Standard Provisions – Reporting V.E.2.b below (24-hour notice) (40 CFR 122.41(n)(3)(iii)); and
 - d. The Discharger complied with any remedial measures required under Standard Provisions – Permit Compliance I.C above. (40 CFR 122.41(n)(3)(iv).)
3. Burden of proof. In any enforcement proceeding, the Discharger seeking to establish the occurrence of an upset has the burden of proof. (40 CFR 122.41(n)(4).)

II. STANDARD PROVISIONS – PERMIT ACTION

A. General

This Order may be modified, revoked and reissued, or terminated for cause. The filing of a request by the Discharger for modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any Order condition. (40 CFR 122.41(f).)

B. Duty to Reapply

If the Discharger wishes to continue an activity regulated by this Order after the expiration date of this Order, the Discharger must apply for and obtain a new permit. (40 CFR 122.41(b).)

C. Transfers

This Order is not transferable to any person except after notice to the Regional Water Board. The Regional Water Board may require modification or revocation and reissuance of the Order to change the name of the Discharger and incorporate such other requirements as may be necessary under the CWA and the Water Code. (40 CFR 122.41(l)(3); 122.61.)

III. STANDARD PROVISIONS – MONITORING

- A.** Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity. (40 CFR 122.41(j)(1).)
- B.** Monitoring results must be conducted according to test procedures under Part 136 or, in the case of sludge use or disposal, approved under Part 136 unless otherwise specified in Part 503 unless other test procedures have been specified in this Order. (40 CFR 122.41(j)(4); 122.44(i)(1)(iv).)

IV. STANDARD PROVISIONS – RECORDS

- A.** Except for records of monitoring information required by this Order related to the Discharger's sewage sludge use and disposal activities, which shall be retained for a period of at least five years (or longer as required by Part 503), the Discharger shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this Order, and records of all data used to complete the application for this Order, for a period of at least three (3) years from the date of the sample, measurement, report or application. This period may be extended by request of the Regional Water Board Executive Officer at any time. (40 CFR 122.41(j)(2).)

B. Records of monitoring information shall include:

1. The date, exact place, and time of sampling or measurements (40 CFR 122.41(j)(3)(i));
2. The individual(s) who performed the sampling or measurements (40 CFR 122.41(j)(3)(ii));
3. The date(s) analyses were performed (40 CFR 122.41(j)(3)(iii));
4. The individual(s) who performed the analyses (40 CFR 122.41(j)(3)(iv));
5. The analytical techniques or methods used (40 CFR 122.41(j)(3)(v)); and
6. The results of such analyses. (40 CFR 122.41(j)(3)(vi).)

C. Claims of confidentiality for the following information will be denied (40 CFR 122.7(b)):

1. The name and address of any permit applicant or Discharger (40 CFR 122.7(b)(1)); and
2. Permit applications and attachments, permits and effluent data. (40 CFR 122.7(b)(2).)

V. STANDARD PROVISIONS – REPORTING

A. Duty to Provide Information

The Discharger shall furnish to the Regional Water Board, State Water Board, or USEPA within a reasonable time, any information which the Regional Water Board, State Water Board, or USEPA may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this Order or to determine compliance with this Order. Upon request, the Discharger shall also furnish to the Regional Water Board, State Water Board, or USEPA copies of records required to be kept by this Order. (40 CFR 122.41(h); Wat. Code, 13267.)

B. Signatory and Certification Requirements

1. All applications, reports, or information submitted to the Regional Water Board, State Water Board, and/or USEPA shall be signed and certified in accordance with Standard Provisions – Reporting V.B.2, V.B.3, V.B.4, and V.B.5 below. (40 CFR 122.41(k).)
2. All permit applications shall be signed by a responsible corporate officer. For the purpose of this section, a responsible corporate officer means: (i) A president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy- or decision-making functions for the corporation, or (ii) the manager of one or more manufacturing, production, or operating facilities, provided, the manager is authorized to make management decisions which govern the operation of the regulated facility including having the explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to assure long term environmental compliance with environmental laws and regulations; the manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for permit application requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures. (40 CFR 122.22(a)(1).)
3. All reports required by this Order and other information requested by the Regional Water Board, State Water Board, or USEPA shall be signed by a person described in Standard Provisions – Reporting V.B.2 above, or by a duly authorized representative of that person. A person is a duly authorized representative only if:
 - a. The authorization is made in writing by a person described in Standard Provisions – Reporting V.B.2 above (40 CFR 122.22(b)(1));
 - b. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity such as the position of plant manager, operator of a well or a well field, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility

for environmental matters for the company. (A duly authorized representative may thus be either a named individual or any individual occupying a named position.) (40 CFR 122.22(b)(2)); and

- c. The written authorization is submitted to the Regional Water Board and State Water Board. (40 CFR 122.22(b)(3).)
4. If an authorization under Standard Provisions – Reporting V.B.3 above is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of Standard Provisions – Reporting V.B.3 above must be submitted to the Regional Water Board and State Water Board prior to or together with any reports, information, or applications, to be signed by an authorized representative. (40 CFR 122.22(c).)
5. Any person signing a document under Standard Provisions – Reporting V.B.2 or V.B.3 above shall make the following certification:

“I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.” (40 CFR 122.22(d).)

C. Monitoring Reports

1. Monitoring results shall be reported at the intervals specified in the Monitoring and Reporting Program (Attachment E) in this Order. (40 CFR 122.22(l)(4).)
2. Monitoring results must be reported on a Discharge Monitoring Report (DMR) form or forms provided or specified by the Regional Water Board or State Water Board for reporting results of monitoring of sludge use or disposal practices. (40 CFR 122.41(l)(4)(i).)
3. If the Discharger monitors any pollutant more frequently than required by this Order using test procedures approved under Part 136 or, in the case of sludge use or disposal, approved under Part 136 unless otherwise specified in Part 503, or as specified in this Order, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the DMR or sludge reporting form specified by the Regional Water Board. (40 CFR 122.41(l)(4)(ii).)
4. Calculations for all limitations, which require averaging of measurements, shall utilize an arithmetic mean unless otherwise specified in this Order. (40 CFR 122.41(l)(4)(iii).)

D. Compliance Schedules

Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this Order, shall be submitted no later than 14 days following each schedule date. (40 CFR 122.41(l)(5).)

E. Twenty-Four Hour Reporting

1. The Discharger shall report any noncompliance that may endanger health or the environment. Any information shall be provided orally within 24 hours from the time the Discharger becomes aware of the circumstances. A written submission shall also be provided within five (5) days of the time the Discharger becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance. (40 CFR 122.41(l)(6)(i).)
2. The following shall be included as information that must be reported within 24 hours under this paragraph (40 CFR 122.41(l)(6)(ii)):
 - a. Any unanticipated bypass that exceeds any effluent limitation in this Order. (40 CFR 122.41(l)(6)(ii)(A).)
 - b. Any upset that exceeds any effluent limitation in this Order. (40 CFR 122.41(l)(6)(ii)(B).)
3. The Regional Water Board may waive the above-required written report under this provision on a case-by-case basis if an oral report has been received within 24 hours. (40 CFR 122.41(l)(6)(iii).)

F. Planned Changes

The Discharger shall give notice to the Regional Water Board as soon as possible of any planned physical alterations or additions to the permitted facility. Notice is required under this provision only when (40 CFR 122.41(l)(1)):

1. The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source in section 122.29(b) (40 CFR 122.41(l)(1)(i)); or
2. The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants that are subject neither to effluent limitations in this Order nor to notification requirements under section 122.42(a)(1) (see Additional Provisions—Notification Levels VII.A.1). (40 CFR 122.41(l)(1)(ii).)

3. The alteration or addition results in a significant change in the Discharger's sludge use or disposal practices, and such alteration, addition, or change may justify the application of permit conditions that are different from or absent in the existing permit, including notification of additional use or disposal sites not reported during the permit application process or not reported pursuant to an approved land application plan. (40 CFR 122.41(l)(1)(iii).)

G. Anticipated Noncompliance

The Discharger shall give advance notice to the Regional Water Board or State Water Board of any planned changes in the permitted facility or activity that may result in noncompliance with General Order requirements. (40 CFR 122.41(l)(2).)

H. Other Noncompliance

The Discharger shall report all instances of noncompliance not reported under Standard Provisions – Reporting V.C, V.D, and V.E above at the time monitoring reports are submitted. The reports shall contain the information listed in Standard Provision – Reporting V.E above. (40 CFR 122.41(l)(7).)

I. Other Information

When the Discharger becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the Regional Water Board, State Water Board, or USEPA, the Discharger shall promptly submit such facts or information. (40 CFR 122.41(l)(8).)

VI. STANDARD PROVISIONS – ENFORCEMENT

- A. The Regional Water Board is authorized to enforce the terms of this permit under several provisions of the Water Code, including, but not limited to, sections 13385, 13386, and 13387.

VII. ADDITIONAL PROVISIONS – NOTIFICATION LEVELS

A. Non-Municipal Facilities

Existing manufacturing, commercial, mining, and silvicultural Dischargers shall notify the Regional Water Board as soon as they know or have reason to believe (40 CFR 122.42(a)):

1. That any activity has occurred or will occur that would result in the discharge, on a routine or frequent basis, of any toxic pollutant that is not limited in this Order, if that discharge will exceed the highest of the following "notification levels" (40 CFR 122.42(a)(1)):
 - a. 100 micrograms per liter ($\mu\text{g/L}$) (40 CFR 122.42(a)(1)(i));

- b. 200 µg/L for acrolein and acrylonitrile; 500 µg/L for 2,4-dinitrophenol and 2-methyl-4,6-dinitrophenol; and 1 milligram per liter (mg/L) for antimony (40 CFR 122.42(a)(1)(ii));
 - c. Five (5) times the maximum concentration value reported for that pollutant in the Report of Waste Discharge (40 CFR 122.42(a)(1)(iii)); or
 - d. The level established by the Regional Water Board in accordance with section 122.44(f). (40 CFR 122.42(a)(1)(iv).)
2. That any activity has occurred or will occur that would result in the discharge, on a non-routine or infrequent basis, of any toxic pollutant that is not limited in this Order, if that discharge will exceed the highest of the following "notification levels" (40 CFR 122.42(a)(2)):
 - a. 500 micrograms per liter (µg/L) (40 CFR 122.42(a)(2)(i));
 - b. 1 milligram per liter (mg/L) for antimony (40 CFR 122.42(a)(2)(ii));
 - c. Ten (10) times the maximum concentration value reported for that pollutant in the Report of Waste Discharge (40 CFR 122.42(a)(2)(iii)); or
 - d. The level established by the Regional Water Board in accordance with section 122.44(f). (40 CFR 122.42(a)(2)(iv).)

ATTACHMENT E – MONITORING AND REPORTING PROGRAM

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ATTACHMENT E – MONITORING AND REPORTING PROGRAM (MRP)

Title 40, Code of Federal Regulations, Part 122.48 (40 CFR 122.48) requires that all NPDES permits specify monitoring and reporting requirements. California Water Code (CWC) sections 13267 and 13383 also authorize the Regional Water Quality Control Board (Regional Water Board) to require technical and monitoring reports. This MRP establishes monitoring and reporting requirements, which implement the federal and state regulations.

I. GENERAL MONITORING PROVISIONS

- A. Samples and measurements taken as required herein shall be representative of the volume and nature of the monitored discharge. All samples shall be taken at the monitoring locations specified below and, unless otherwise specified, before the monitored flow joins or is diluted by any other waste stream, body of water, or substance. Monitoring locations shall not be changed without notification to and the approval of this Regional Water Board.
- B. Chemical, bacteriological, and bioassay analyses shall be conducted at a laboratory certified for such analyses by the California Department of Public Health (CDPH). In the event a certified laboratory is not available to the Discharger, analyses performed by a noncertified laboratory will be accepted provided a Quality Assurance-Quality Control Program is instituted by the laboratory. A manual containing the steps followed in this program must be kept in the laboratory and shall be available for inspection by Regional Water Board staff. The Quality Assurance-Quality Control Program must conform to USEPA guidelines or to procedures approved by the Regional Water Board.
- C. All analyses shall be performed in a laboratory certified to perform such analyses by the CDPH. Laboratories that perform sample analyses shall be identified in all monitoring reports.
- D. Appropriate flow measurement devices and methods consistent with accepted scientific practices shall be selected and used to ensure the accuracy and reliability of measurements of the volume of monitored discharges. All monitoring instruments and devices used by the Discharger to fulfill the prescribed monitoring program shall be properly maintained and calibrated as necessary to ensure their continued accuracy. All flow measurement devices shall be calibrated at least once per year to ensure continued accuracy of the devices.
- E. Monitoring results, including noncompliance, shall be reported at intervals and in a manner specified in this MRP.
- F. After one year of monitoring at the frequencies prescribed herein and upon request by the Discharger, a reduction of monitoring frequencies may be considered for approval by the Executive Officer.

II. MONITORING LOCATIONS

The Discharger shall establish the following monitoring locations to demonstrate compliance with the effluent limitations, discharge specifications, and other requirements in this Order:

Table E-1. Monitoring Station Locations

Discharge Point Name	Monitoring Location Name	Monitoring Location Description (include Latitude and Longitude when available)
001	EFF-001	Treated groundwater from IRM-2 that is discharged to the Calloway Canal (latitude 35° 22' 47" N, and longitude 119° 05' 18" W)
--	RSW-001U	Upstream from the point of discharge at a location approved by staff
--	RSW-001D	Downstream from the point of discharge at a location approved by staff
--	INF-001	Collected after the last connection before the contaminated groundwater enters the treatment process

III. INFLUENT MONITORING REQUIREMENTS

A. Monitoring Location - INF-001

1. The Discharger shall monitor groundwater before it enters the treatment process at INF-001 as follows:

Table E-2. Influent Monitoring

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Priority Pollutants				
Lead (Total Recoverable) ²	µg/L	Grab	1/month	1
Benzene	µg/L	Grab	1/month	1
Ethylbenzene	µg/L	Grab	1/month	1
Toluene	µg/L	Grab	1/month	1
Non-Conventional Pollutants				
Di-isopropyl ether (DIPE) ³	µg/L	Grab	1/month	1
Ethanol ³	µg/L	Grab	1/month	1
Ethyl Tertiary Butyl Ether (ETBE) ³	µg/L	Grab	1/month	1
Methanol ³	µg/L	Grab	1/month	1
Methyl Tertiary Butyl Ether (MTBE) ³	µg/L	Grab	1/month	1
Tertiary Amyl Methyl Ether (TAME) ³	µg/L	Grab	1/month	1
Tertiary Butyl Alcohol (TBA) ³	µg/L	Grab	1/month	1
Total Petroleum Hydrocarbons (TPHs)	µg/L	Grab	1/month	1
Xylene	µg/L	Grab	1/month	1

¹. Pollutants shall be analyzed using the analytical methods described in 40 CFR 136; for priority pollutants the methods must meet the lowest minimum levels (MLs) specified in Attachment 4 of the SIP, where no methods are specified for a given pollutant, by methods approved by this Regional Board or the State Board.

². If lead is not detected in the first four sampling events, then testing may be discontinued thereafter.

3. If these constituents are not present in any monitoring well or extraction well at the cleanup site, the monitoring well documentation may be submitted in lieu of the influent monitoring for these constituents. Confirmation samples on an annual basis shall be submitted to verify the absence of these chemicals. If three consecutive monthly influent sampling events result in non-detectable concentration, at appropriate detection limits, then the sampling frequency shall be reduced to Quarterly. If three consecutive quarterly sampling events results in non-detectable concentration, at appropriate detection limits, then the sampling frequency shall be reduced to annually. If a detectable concentration is determined to be present in the wastewater the frequency will be monthly.

IV. EFFLUENT MONITORING REQUIREMENTS

A. Monitoring Location EFF-001

1. The Discharger shall monitor the effluent downstream from the last connection through which wastes are discharged at Discharge Point 001 at EFF-001 as follows. If more than one analytical test method is listed for a given parameter, the Discharger must select from the listed methods and corresponding Minimum Level:

Table E-3. Effluent Monitoring

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method and (Minimum Level, units), respectively
Conventional Pollutants				
pH	Standard Units	Grab	1/day	1
Priority Pollutants				
Lead (Total Recoverable) ²	µg/L	Grab	1/month	1
	lbs/day	Grab	1/month	1
Benzene	µg/L	Grab	1/month	1
Ethylbenzene	µg/L	Grab	1/month	1
Ethylene Dichloride (1,2-Dichloroethane)	µg/L	Grab	1/month	1
Napthalene	µg/L	Grab	1/month	1
Toluene	µg/L	Grab	1/month	1
Remaining Priority Pollutants ³	µg/L	Grab	2/year	1
Non-Conventional Pollutants				
Boron, Total Recoverable	mg/L	Grab	1/month	1
Carcinogenic Polynuclear Aromatic Hydrocarbons (PAHs)	µg/L	Grab	1/month	1
Chloride	mg/L	Grab	1/month	1
Di-Isopropyl Ether (DIPE)	µg/L	Grab	1/month	1
Electrical Conductivity @ 25°C	µmhos/cm	Grab	1/day	1
Ethanol	µg/L	Grab	1/month	1
Ethylene Dibromide (1,2-Dibromomethane)	µg/L	Grab	1/month	1
Ethyl Tertiary Butyl Ether (ETBE)	µg/L	Grab	1/month	1
Flow	Mgd	Continuous	1/day	1

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method and (Minimum Level, units), respectively
Hardness	mg/L	Grab	1/month	1
Methanol	µg/L	Grab	1/month	1
Methyl Tertiary Butyl Ether (MTBE)	µg/L	Grab	1/month	1
Temperature	°F	Grab	1/day	1
Tertiary Amyl Methyl Ether (TAME)	µg/L	Grab	1/month	1
Tertiary Butyl Alcohol (TBA)	µg/L	Grab	1/month	1
Total Dissolved Solids (TDS)	mg/L	Grab	1/quarter	1
Total Petroleum Hydrocarbons (TPHs)	mg/L	Grab	1/month	1
Xylene	µg/L	Grab	1/month	1

1. Pollutants shall be analyzed using the analytical methods described in 40 CFR Part 136; for priority pollutants the methods must meet the lowest minimum levels (MLs) specified in Attachment 4 of the SIP, where no methods are specified for a given pollutant, by methods approved by this Regional Board or the State Board.
2. If lead is not detected in the first 2 sampling events, then testing may be discontinued thereafter.
3. Concurrent with receiving surface water sampling.

V. WHOLE EFFLUENT TOXICITY TESTING REQUIREMENTS

A. **Acute Toxicity Testing.** The Discharger shall conduct acute toxicity testing to determine whether the effluent is contributing acute toxicity to the receiving water. The Discharger shall meet the following acute toxicity testing requirements:

1. Monitoring Frequency – the Discharger shall perform acute toxicity testing during the first discharge event following adoption of this Order and Quarterly thereafter.
2. Sample Types – For static non-renewal and static renewal testing, the samples shall be grab samples and shall be representative of the volume and quality of the discharge. The effluent samples shall be taken at the effluent monitoring location EFF-001.
3. Test Species – Test species shall be rainbow trout (*Oncorhynchus mykiss*).
4. Methods – The acute toxicity testing samples shall be analyzed using EPA-821-R-02-012, Fifth Edition. Temperature, total residual chlorine, and pH shall be recorded at the time of sample collection. No pH adjustment may be made unless approved by the Executive Officer.
5. Test Failure – If an acute toxicity test does not meet all test acceptability criteria, as specified in the test method, the Discharger must re-sample and re-test as soon as possible, not to exceed 7 days following notification of test failure.

- B. Chronic Toxicity Testing.** The Discharger shall conduct three species chronic toxicity testing to determine whether the effluent is contributing chronic toxicity to the receiving water. The Discharger shall meet the following chronic toxicity testing requirements:
1. Monitoring Frequency – The Discharger shall perform three species chronic toxicity testing during the first discharge event following adoption of the Order and quarterly thereafter.
 2. Sample Types – Effluent samples shall be flow proportional 24-hour composites and shall be representative of the volume and quality of the discharge. The effluent samples shall be taken at the effluent monitoring location specified in the Monitoring and Reporting Program. The receiving water control shall be a grab sample obtained from the RSW-001U sampling location, as identified in the Monitoring and Reporting Program.
 3. Sample Volumes – Adequate sample volumes shall be collected to provide renewal water to complete the test in the event that the discharge is intermittent.
 4. Test Species – Chronic toxicity testing measures sublethal (e.g. reduced growth, reproduction) and/or lethal effects to test organisms exposed to an effluent compared to that of the control organisms. The Discharger shall conduct chronic toxicity tests with:
 - The cladoceran, water flea, *Ceriodaphnia dubia* (survival and reproduction test);
 - The fathead minnow, *Pimephales promelas* (larval survival and growth test); and
 - The green alga, *Selenastrum capricornutum* (growth test).
 5. Methods – The presence of chronic toxicity shall be estimated as specified in *Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms, Fourth Edition, EPA/821-R-02-013, October 2002.*
 6. Reference Toxicant – As required by the SIP, all chronic toxicity tests shall be conducted with concurrent testing with a reference toxicant and shall be reported with the chronic toxicity test results.
 7. Dilutions – The chronic toxicity testing shall be performed using the dilution series identified in Table E-5, below. The receiving water control shall be used as the diluent (unless the receiving water is toxic).
 8. Test Failure – The Discharger must re-sample and re-test as soon as possible, but no later than fourteen (14) days after receiving notification of a test failure. A test failure is defined as follows:
 - a. The reference toxicant test or the effluent test does not meet all test acceptability criteria as specified in the *Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms, Fourth Edition,*

EPA/821-R-02-013, October 2002 (Method Manual), and its subsequent amendments or revisions; or

- b. The percent minimum significant difference (PMSD) measured for the test exceeds the upper PMSD bound variability criterion in Table 6 on page 52 of the Method Manual. (A retest is only required in this case if the test results do not exceed the monitoring trigger specified in Special Provisions VI. 2.a.iii.)

Table E-4. Chronic Toxicity Testing Dilution Series

Sample	Dilutions (%)					Controls	
	100	75	50	25	12.5	Receiving Water	Laboratory Water
% Effluent	100	75	50	25	12.5	0	0
% Receiving Water	0	25	50	75	87.5	100	0
% Laboratory Water	0	0	0	0	0	0	100

- C. **WET Testing Notification Requirements.** The Discharger shall notify the Regional Water Board within 24-hrs after the receipt of test results exceeding the monitoring trigger during regular or accelerated monitoring, or an exceedance of the acute toxicity effluent limitation.
- D. **WET Testing Reporting Requirements.** All toxicity test reports shall include the contracting laboratory’s complete report provided to the Discharger and shall be in accordance with the appropriate “Report Preparation and Test Review” sections of the method manuals. At a minimum, whole effluent toxicity monitoring shall be reported as follows:
 - 1. **Chronic WET Reporting.** Regular chronic toxicity monitoring results shall be reported to the Regional Water Board within 30 days following completion of the test, and shall contain, at minimum:
 - a. The results expressed in TUC, measured as 100/NOEC, and also measured as 100/LC₅₀, 100/EC₂₅, 100/IC₂₅, and 100/IC₅₀, as appropriate;
 - b. The statistical methods used to calculate endpoints;
 - c. The statistical output page, which includes the calculation of the percent minimum significant difference (PMSD);
 - d. The dates of sample collection and initiation of each toxicity test; and
 - e. The results compared to the numeric toxicity monitoring trigger.

Additionally, the monthly discharger self-monitoring reports shall contain an updated chronology of chronic toxicity test results expressed in TUC, and organized by test species, type of test (survival, growth or reproduction), and monitoring frequency, i.e., either quarterly, monthly, accelerated, or TRE.

2. **Acute WET Reporting.** Acute toxicity test results shall be submitted with the monthly Discharger self-monitoring reports and reported as percent survival.
3. **TRE Reporting.** Reports for Toxicity Reduction Evaluations shall be submitted in accordance with the schedule contained in the Discharger’s approved TRE Work Plan.
4. **Quality Assurance (QA).** The Discharger must provide the following information for QA purposes:
 - a. Results of the applicable reference toxicant data with the statistical output page giving the species, NOEC, LOEC, type of toxicant, dilution water used, concentrations used, PMSD, and dates tested.
 - b. The reference toxicant control charts for each endpoint, which include summaries of reference toxicant tests performed by the contracting laboratory.
 - c. Any information on deviations or problems encountered and how they were dealt with.

VI. LAND DISCHARGE MONITORING REQUIREMENTS – NOT APPLICABLE

VII. RECLAMATION MONITORING REQUIREMENTS – NOT APPLICABLE

VIII. RECEIVING WATER MONITORING REQUIREMENTS – SURFACE WATER AND GROUNDWATER

A. Monitoring Location RSW-001U and RSW-001D

1. The Discharger shall monitor the Calloway Canal at RSW-001U and RSW-001D, as follows:

Table E-5. Receiving Water Monitoring Requirements

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Conventional Pollutants				
pH	Standard Units	Grab	1/month	1, 2
Non-Conventional Pollutants				
Dissolved Oxygen	mg/L	Grab	1/month	1, 2
Electrical Conductivity @ 25°C	µmhos/cm	Grab	1/month	1, 2
Flow	cfs	Grab	1/month	1, 2
Temperature	°F	Grab	1/month	1, 2
Total Dissolved Solids (TDS)	mg/L	Grab	1/month	1, 2
Turbidity	NTU	Grab	1/month	1, 2

-
- ¹ Pollutants shall be analyzed using the analytical methods described in 40 CFR Part 136. Where no methods are specified for a given pollutant, by methods approved by this Regional Water Board or the State Board.
- ² A hand-held field meter may be used, provided the meter utilizes a USEPA-approved algorithm/method and is calibrated and maintained in accordance with the manufacturer's instructions. A calibration and maintenance log for each meter used for monitoring required by this Monitoring and Reporting Program shall be maintained at the wastewater treatment plant.

2. The Discharger shall inspect the condition of the Calloway Canal in the vicinity of Discharge Point 001, bounded by R-001U and R-001D, at least once per week and record visual observations of potential problems in a bound logbook. In the event that no receiving water is present at station R-001U, no receiving water monitoring data is required for station R-001D. Attention shall be given to the presence or absence of:
- a. Weeds developing in or near pooled treated groundwater
 - b. Dead algae, vegetation, scum, or debris accumulating in the vicinity and their locations;
 - c. How far the treated groundwater has traveled down stream;
 - d. Whether insects are present;
 - e. Discoloration;
 - f. Bottom deposits;
 - g. Floating or suspended matter;
 - h. Aquatic life;
 - i. Visible films, sheens, or coatings;
 - j. Fungi, slimes, or objectionable growths; and
 - k. Potential nuisance conditions.
3. The Discharger shall also record each event and duration of water diverted from the Kern River to the Calloway Canal. The Discharger shall clearly indicate if any flow in the Calloway Canal reaches 7th Standard Road.

A copy of entries shall be made in the log each month and submitted with the monitoring report the following month.

IX. OTHER MONITORING REQUIREMENTS

X. REPORTING REQUIREMENTS

A. General Monitoring and Reporting Requirements

1. The Discharger shall comply with all Standard Provisions (Attachment D) related to monitoring, reporting, and record keeping.
2. Upon written request of the Regional Water Board, the Discharger shall submit a summary monitoring report. The report shall contain both tabular and graphical summaries of the monitoring data obtained during the previous year(s).
3. **Compliance Time Schedules.** For compliance time schedules included in the Order, the Discharger shall submit to the Regional Water Board, on or before each compliance due date, the specified document or a written report detailing compliance or noncompliance with the specific date and task. If noncompliance is reported, the Discharger shall state the reasons for noncompliance and include an estimate of the date when the Discharger will be in compliance. The Discharger shall notify the Regional Water Board by letter when it returns to compliance with the compliance time schedule.
4. The Discharger shall report to the Regional Water Board any toxic chemical release data it reports to the State Emergency Response Commission within 15 days of reporting the data to the Commission pursuant to section 313 of the "Emergency Planning and Community Right to Know Act of 1986.
5. **Reporting Protocols.** The Discharger shall report with each sample result the applicable Reporting Level (RL) and the current Method Detection Limit (MDL), as determined by the procedure in Part 136.

The Discharger shall report the results of analytical determinations for the presence of chemical constituents in a sample using the following reporting protocols:

- a. Sample results greater than or equal to the RL shall be reported as measured by the laboratory (i.e., the measured chemical concentration in the sample).
- b. Sample results less than the RL, but greater than or equal to the laboratory's MDL, shall be reported as "Detected, but Not Quantified," or DNQ. The estimated chemical concentration of the sample shall also be reported.

For the purposes of data collection, the laboratory shall write the estimated chemical concentration next to DNQ as well as the words "Estimated Concentration" (may be shortened to "Est. Conc."). The laboratory may, if such information is available, include numerical estimates of the data quality for the reported result. Numerical estimates of data quality may be percent accuracy (\pm a percentage of the reported value), numerical ranges (low to high), or any other means considered appropriate by the laboratory.

- c. Sample results less than the laboratory's MDL shall be reported as "Not Detected," or ND.
 - d. Dischargers are to instruct laboratories to establish calibration standards so that the ML value (or its equivalent if there is differential treatment of samples relative to calibration standards) is the lowest calibration standard. At no time is the Discharger to use analytical data derived from *extrapolation* beyond the lowest point of the calibration curve.
6. **Multiple Sample Data.** When determining compliance with an AMEL , AWEL, or MDEL for priority pollutants and more than one sample result is available, the Discharger shall compute the arithmetic mean unless the data set contains one or more reported determinations of "Detected, but Not Quantified" (DNQ) or "Not Detected" (ND). In those cases, the Discharger shall compute the median in place of the arithmetic mean in accordance with the following procedure:
- a. The data set shall be ranked from low to high, ranking the reported ND determinations lowest, DNQ determinations next, followed by quantified values (if any). The order of the individual ND or DNQ determinations is unimportant.
 - b. The median value of the data set shall be determined. If the data set has an odd number of data points, then the median is the middle value. If the data set has an even number of data points, then the median is the average of the two values around the middle unless one or both of the points are ND or DNQ, in which case the median value shall be the lower of the two data points where DNQ is lower than a value and ND is lower than DNQ.

B. Self Monitoring Reports (SMRs)

1. At any time during the term of this permit, the State or Regional Water Board may notify the Discharger to electronically submit Self-Monitoring Reports (SMRs) using the State Water Board's California Integrated Water Quality System (CIWQS) Program Web site (<http://www.waterboards.ca.gov/ciwqs/index.html>). Until such notification is given, the Discharger shall submit hard copy SMRs. The CIWQS Web site will provide additional directions for SMR submittal in the event there will be service interruption for electronic submittal.
2. Monitoring results shall be submitted to the Regional Water Board by the **first day** of the second month following sample collection. Quarterly and annual monitoring results shall be submitted by the **first day of the second month following each calendar quarter, semi-annual period, and year**, respectively.
3. In reporting the monitoring data, the Discharger shall arrange the data in tabular form so that the date, the constituents, and the concentrations are readily discernible. The data shall be summarized in such a manner to illustrate clearly whether the discharge complies with waste discharge requirements.

4. With the exception of flow, all constituents monitored on a continuous basis (metered), shall be reported as daily maximums, daily minimums, and daily averages; flow shall be reported as the total volume discharged per day for each day of discharge. Flow shall be reported in million gallons per day.
5. If the Discharger monitors any pollutant at the locations designated herein more frequently than is required by this Order, the results of such monitoring shall be included in the calculation and reporting of the values required in the discharge monitoring report form. Such increased frequency shall be indicated on the discharge monitoring report form.
6. A letter transmitting the self-monitoring reports shall accompany each report. Such a letter shall include a discussion of requirement violations found during the reporting period, and actions taken or planned for correcting noted violations, such as operation or facility modifications. If the Discharger has previously submitted a report describing corrective actions and/or a time schedule for implementing the corrective actions, reference to the previous correspondence will be satisfactory. The transmittal letter shall contain the penalty of perjury statement by the Discharger, or the Discharger's authorized agent, as described in the Standard Provisions.
7. SMRs must be submitted to the Regional Water Board, signed and certified as required by the Standard Provisions (Attachment D), to the address listed below:

Regional Water Quality Control Board
 Central Valley Region
 1685 E Street
 Fresno, CA 93706

8. Monitoring periods and reporting for all required monitoring shall be completed according to the following schedule:

Table E-7. Monitoring Periods and Reporting Schedule

Sampling Frequency	Monitoring Period Begins On	Monitoring Period	SMR Due Date
Continuous	Day after permit effective date	All	First day of second calendar month following month of sampling
Daily	Day after permit effective date	(Midnight through 11:59 PM) or any 24-hour period that reasonably represents a calendar day for purposes of sampling.	First day of second calendar month following month of sampling
Weekly	Sunday following permit effective date or on permit	Sunday through Saturday	First day of second calendar

Sampling Frequency	Monitoring Period Begins On	Monitoring Period	SMR Due Date
	effective date if on a Sunday		month following month of sampling
Monthly	First day of calendar month following permit effective date or on permit effective date if that date is first day of the month	1 st day of calendar month through last day of calendar month	First day of second calendar month following month of sampling
Quarterly	Closest of January 1, April 1, July 1, or October 1 following (or on) permit effective date	January 1 through March 31 April 1 through June 30 July 1 through September 30 October 1 through December 31	May 1 August 1 November 1 February 1
Annually	January 1 following (or on) permit effective date	January 1 through December 31	February 1

C. Discharge Monitoring Reports (DMRs)

1. As described in Section X.B.1 above, at any time during the term of this permit, the State or Regional Water Board may notify the Discharger to electronically submit SMRs that will satisfy federal requirements for submittal of Discharge Monitoring Reports (DMRs).

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ATTACHMENT F – FACT SHEET

As described in section II of this Order, this Fact Sheet includes the legal requirements and technical rationale that serve as the basis for the requirements of this Order.

This Order has been prepared under a standardized format to accommodate a broad range of discharge requirements for Dischargers in California. Only those sections or subsections of this Order that are specifically identified as “not applicable” have been determined not to apply to this Discharger. Sections or subsections of this Order not specifically identified as “not applicable” are fully applicable to this Discharger.

I. PERMIT INFORMATION

The following table summarizes administrative information related to the facility.

Table F-1. Facility Information

WDID	5C15NP00005
Discharger	Equilon Enterprises, LLC (dba Shell Oil Products US)
Name of Facility	Big West Bakersfield Refinery GWCS
Facility Address	6451 Rosedale Highway / 2436 Fruitvale Avenue
	Bakersfield, CA 93308
	Kern County
Facility Contact, Title and Phone	Gene Freed, Environmental Manager (818) 991-5556
Authorized Person to Sign and Submit Reports	Gene Freed, Environmental Manager (818) 991-5556
Mailing Address	4607 Lakeview Canyon Rd., Box 168, Westlake Village, CA 91361
Billing Address	SAME
Type of Facility	IND, SIC code 2911
Major or Minor Facility	Minor
Threat to Water Quality	3
Complexity	A
Pretreatment Program	N
Reclamation Requirements	Not Applicable
Facility Permitted Flow	0.25 mgd (in million gallons per day)
Facility Design Flow	0.25 mgd
Watershed	Tulare Lake
Receiving Water	Calloway Canal
Receiving Water Type	Inland surface water

- A. Equilon Enterprises, LLC (dba Shell Oil Products US) was the owner and operator of a petroleum product refinery in Bakersfield. In March 2005, it sold the refinery to Big West of California LLC (Big West). The refinery is now known as the Big West

Bakersfield Refinery. Big West of California, LLC owns the property at 6451 Rosedale Highway, Bakersfield, CA 93308 on which the refinery is located. The Discharger was monitoring and remediating impacts on groundwater before the sale and it continued this following the sale. It, as well as Big West of California, LLC, were directed to investigate and cleanup affects of past spills in Cleanup and Abatement Order No. R5-2007-0728 on 10 October 2007.

For the purposes of this Order, references to the “discharger” or “permittee” in applicable federal and state laws, regulations, plans, or policy are held to be equivalent to references to the Discharger herein.

- B. The Discharger filed a report of waste discharge and submitted an application for renewal of its Waste Discharge Requirements (WDRs) and National Pollutant Discharge Elimination System (NPDES) permit on October 24, 2006 to continue discharge from its groundwater cleanup system (GWCS). Supplemental information was requested on June 1, 2007 and received on September 27, 2007. A site visit was conducted on April 16, 2007, to observe operations and collect additional data to develop permit limitations and conditions.
- C. The GWCS discharges treated groundwater to the Calloway Canal, a man-made conveyance and ephemeral channel. The Calloway Canal drains to Poso Creek, a water of the United States. The discharge is currently regulated by Order R5-2002-0085, which was adopted on April 26, 2002.

II. FACILITY DESCRIPTION

The Discharger’s GWCS uses Granular Activiated Carbon(GACs) and can treat and discharge up to 0.25 mgd of groundwater polluted by methyl tertiary-butyl-ether (MTBE).

The Calloway Canal is managed by the North Kern Water Storage District (NKSWD) (District), which diverts flow from the Kern River into the Canal. The District limits use of this diverted water to agricultural irrigation and groundwater recharge. The Canal can be an effluent dominated water body (EDW) during periods of discharge. The canal bed is composed of sand and during these times, the discharge typically travels less than 2,500 feet before infiltrating to the subsurface. Water in the Calloway Canal eventually flows north towards Poso Creek, which is approximately 19 miles from Discharge Point 001. Discharges to the Calloway Canal rarely reach Poso Creek, a water of the United States.

A. Description of Wastewater and Treatment or Controls

The GWCS consists of two active extraction wells (i.e., EW-08 and EW-14) and nine extraction wells on standby mode (i.e., B-149, EW-03, EW-04, EW-05, EW-06, EW-07, EW-09, EW-10 and EW-11). Groundwater is pumped from an extraction well to a 1,100 gallon raw water storage tank, followed by filtration, and chemical and nutrient solution injection. The next step in the cleanup system consists of three granular activated

carbon (Bio-GAC) treatment units (i.e., GAC-1, GAC-2 and GAC-3) operated in series. Following the GACs, the treated groundwater is collected in a 10,000 gallon holding tank before discharge to the Calloway Canal. The GAC treatment system is referred to as IRM-2. The system uses GAC absorption as the primary method for removing dissolved petroleum hydrocarbons and oxygenates from groundwater. The GWCS produces treated groundwater on a continuous basis, but is stored in the holding tank and discharged intermittently.

During the previous permit term, two IRMs were in service. Treated groundwater from IRM-1 was directed through Discharge Point 001 to the Calloway Canal. Treated groundwater from IRM-2 was directed to a storage pond and then through Discharge Point 002 to the Calloway Canal. Provision 12 in the previous permit states that “[i]n the future the Discharger may elect to discharge all treated groundwater to the Calloway Canal, rather than discharge some of the treated groundwater to the storage pond.”

The Discharger took IRM-1 out of service on December 6, 2004 and it will not be used during the next permit term. All pipes from IRM-2 to the storage pond have been blinded and the storage pond will no longer be used. During the new permit term, treated groundwater from IRM-2 will be discharged via pipe to Discharge Point 001 to the Calloway Canal with a monitoring location at EFF-001.

A process flow diagram of these operations is shown in Attachment B, a part of this Order.

Discharges from the GWCS may include pollutants from: treated groundwater; unpolluted groundwater pumped from beneath a layer of free product in order to establish a cone of depression to aid the containment and extraction of the free product; extracted water from short- and long-term pump tests; well development water; and purge water prior to well sampling. All groundwater will be treated by the GWCS. The treated groundwater will be produced on a continuous basis, but stored on-site and discharged intermittently. The treated groundwater will be directed to the Calloway Canal.

B. Discharge Points and Receiving Waters

1. The Facility is in Section 28, T29S, R27E, MDB&M, as shown in Attachment B (Figure B-1), a part of this Order.
2. Discharge Point 001 to the Calloway Canal is at Latitude 35°, 22', 47" N and longitude 119°, 05', 18" W.

C. Summary of Existing Requirements and Self-Monitoring Report (SMR) Data

Effluent limitations contained in the previous Order for discharges from Discharge Point 002 (Monitoring Location EFF-002) and representative monitoring data from the term of the previous Order follow:

Table F-2a. Historic Effluent Limitations and Monitoring Data for IRM-2, Discharge Point 002

Parameter	Units	Effluent Limitation			Monitoring Data (April 2, 2002 – April 16, 2007)		
		Average Monthly	Average weekly	Maximum Daily	Highest Average Monthly Discharge	Highest Average Weekly Discharge	Highest Daily Discharge
Conventional Pollutants							
pH	Standard Units	---	---	6.5 – 8.3	---	---	6.2 – 8.8 ¹
Priority Pollutants							
Lead (Total Recoverable)	µg/L	2.0	---	2.0	NA	---	0.27
Benzene	µg/L	<0.5	---	<0.5	NA	---	ND
Ethylbenzene	µg/L	<0.5	---	29	NA	---	ND
Ethylene Dichloride (1,2-Dichloroethane)	µg/L	<0.5	---	<0.5	NA	---	ND
Naphthalene	µg/L	<5.0	---	20	NA	---	ND
Toluene	µg/L	<0.5	---	42	NA	---	ND
Non-Conventional Pollutants							
Acute Toxicity	% Survival	---	---	²	---	---	85
Carcinogenic Polynuclear Aromatic Hydrocarbons (PAHs)	µg/L	<0.05	---	<0.05	NA	---	NA
Electrical Conductivity @ 25°C	µmhos / cm	---	---	---	---	---	590
Ethylene Dibromide (1,2-dibromomethane)	mg/L	<0.5	---	<0.5	NA	---	ND
Flow	Mgd	---	---	1.0	NA	---	0.256
Methanol	mg/L	<20	---	3,500	NA	---	ND
Methyl t-Butyl Ether (MTBE) plus other ether oxygenates	µg/L	<5.0	---	5.0	NA	---	0.47
Tertiary Butyl Alcohol (TBA)	µg/L	<20	---	<20	NA	---	ND
Total Petroleum Hydrocarbons (TPHs)	µg/L	<50	---	100	NA	---	ND
Xylene	µg/L	<1.0	---	17	NA	---	ND

ND = Non-Detect; NA = Not Available.

¹. This represents the range of reported pH values.

². Survival of aquatic organisms in 96-hour bioassays of undiluted waste shall be no less than:

- a. 70 % for any one bioassay and;
- b. 90% for the median for any three or more consecutive bioassays

D. Compliance Summary

The available effluent monitoring data and a letter of notification regarding late reports indicate that the Discharger exceeded effluent limitations contained in Order No. R7-2002-0085 for pH.

The available effluent monitoring data indicate that the discharge exceeded maximum daily effluent limitations for Discharge Point 001 for pH (6.5 – 8.3) one time. The minimum pH limit was exceeded once (6.4 collected on July 16, 2002).

The available effluent monitoring data indicate that the discharge exceeded maximum daily effluent limitations for Discharge Point 002 for pH (6.5 – 8.3) three times. The minimum pH limit was exceeded twice (6.4 collected on July 21, 2002) and (6.2 collected on July 12, 2005). The maximum pH limit was exceeded once (8.8 collected on September 3, 2005).

E. Planned Changes – Not Applicable

III. APPLICABLE PLANS, POLICIES, AND REGULATIONS

The requirements contained in this Order are based on the applicable plans, policies, and regulations identified in Section II of the Limitations and Discharge Requirements (Findings). This section provides supplemental information, where appropriate, for the plans, policies, and regulations relevant to the discharge.

A. Legal Authority

See Limitations and Discharge Requirements - [Findings](#), Section II.C.

B. California Environmental Quality Act (CEQA)

See Limitations and Discharge Requirements - Findings, Section II.E.

C. State and Federal Regulations, Policies, and Plans

1. **Water Quality Control Plans.** The Regional Water Board adopted a *Water Quality Control Plan, Second Edition, for the Tulare Lake Basin* (Basin Plan) that designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives for all waters addressed through the plan. In addition, pursuant to State Water Board Resolution No. 88-63, the Basin Plan assigns the municipal and domestic supply use to water bodies that do not have beneficial uses listed in the Basin Plan.

The designated beneficial uses of Poso Creek are: Agricultural supply (AGR), water contact recreation, (REC-1), non-contact water recreation (REC-2), warm freshwater habitat (WARM), cold freshwater habitat (COLD), wildlife habitat (WILD), ground water recharge (GWR), and freshwater replenishment (FRSH). The Basin Plan at page II-2 states that the “...beneficial uses of any specifically identified water body generally apply to its tributary streams.” However, the Calloway Canal is a man-made conveyance and as a result, the beneficial uses of the tributary rule do not

apply. The beneficial uses of the Calloway Canal are as follows: AGR, which is an existing use, and MUN as a water without listed beneficial uses in the Basin Plan. MUN does not exist downstream of the discharge and may not be attainable.

Additionally, NPDES permits must implement the requirements of the CWA. The regulations implementing the CWA create a rebuttable presumption that all waters be fishable and swimmable. The quality of water in the Calloway Canal must be suitable for REC-1 and WARM.

The Basin Plan on page II-1 states: *“Protection and enhancement of beneficial uses of water against quality degradation is a basic requirement of water quality planning under the Porter-Cologne Water Quality Control Act. In setting water quality objectives, the Regional Water Board must consider past, present, and probable future beneficial uses of water.”* and with respect to disposal of wastewaters states that *“...use of waters for disposal of wastewaters is not included as a beneficial use...and are subject to regulation as activities that may harm protected uses.”*

The federal CWA section 101(a)(2), states: *“it is the national goal that wherever attainable, an interim goal of water quality which provides for the protection and propagation of fish, shellfish, and wildlife, and for recreation in and on the water be achieved by July 1, 1983.”* Federal Regulations, developed to implement the requirements of the CWA, create a rebuttable presumption that all waters be fishable and swimmable (WARM and REC-1). 40 CFR 131.3(e) defines existing beneficial uses as those uses actually attained after November 28, 1975, whether or not they are included in the water quality standards. 40 CFR 131.10 requires that uses be obtained by implementing effluent limitations, requires that all downstream uses be protected and states that in no case shall a state adopt waste transport or waste assimilation as a beneficial use for any waters of the United States. Thus the water in the Calloway Canal must be protected to meet the minimum federal threshold of WARM and REC-1 to ensure that, should discharge to the Poso Creek occur, its beneficial uses will be protected.

The Calloway Canal flows through two to the Detailed Analysis Units (DAUs) described in the Basin Plan and the discharge has the potential to impact groundwater in both these DAUs. The Basin plan designates the following beneficial uses for DAU 255, and 256, respectively: MUN, AGR, industrial service supply (IND) and WILD; and MUN, AGR, IND and industrial process supply (PRO).

2. Thermal Plan – Not Applicable

3. Bay-Delta Plan – Not Applicable

- 4. Antidegradation Policy.** 40 CFR 131.12 requires that the state water quality standards include an antidegradation policy consistent with the federal policy. The State Water Board established California’s antidegradation policy in State Water Board Resolution No. 68-16. Resolution No. 68-16 incorporates the federal antidegradation policy where the federal policy applies under federal law.

Resolution No. 68-16 requires that existing water quality be maintained unless degradation is justified based on specific findings. The Regional Water Board's Basin Plan implements, and incorporates by reference, both the State and federal antidegradation policies. As discussed in detail in the Fact Sheet (Attachment F, Section IV.D.4.) the discharge is consistent with the antidegradation provisions of 40 CFR 131.12 and State Water Board Resolution 68-16.

5. **Anti-Backsliding Requirements.** Sections 402(o)(2) and 303(d)(4) of the CWA and 40 CFR 122.44(l) prohibit backsliding in NPDES permits. These anti-backsliding provisions require that effluent limitations in a reissued permit must be as stringent as those in the previous permit, with some exceptions in which limitations may be relaxed. Compliance with the Anti-Backsliding requirements is discussed in Section IV.D.3.
6. **Emergency Planning and Community Right to Know Act – Not Applicable**
7. **Storm Water Requirements.** USEPA promulgated Federal Regulations for storm water on 16 November 1990 in 40 CFR 122, 123, and 124. The NPDES Industrial Storm Water Program regulates storm water discharges from industrial activity. Oil recovery and wastewater treatment and disposal systems are applicable industries under the storm water program and are obligated to comply with the Federal Regulations.
8. **Endangered Species Act.** This Order does not authorize any act that results in the taking of a threatened or endangered species or any act that is now prohibited, or becomes prohibited in the future, under either the California Endangered Species Act (Fish and Game Code sections 2050 to 2097) or the Federal Endangered Species Act (16 U.S.C.A. sections 1531 to 1544). This Order requires compliance with effluent limits, receiving water limits, and other requirements to protect the beneficial uses of waters of the state. The Discharger is responsible for meeting all requirements of the applicable Endangered Species Act.

D. Impaired Water Bodies on CWA 303(d) List

1. Under Section 303(d) of the 1972 Clean Water Act, states, territories and authorized tribes are required to develop lists of water quality limited segments. The waters on these lists do not meet water quality standards, even after point sources of pollution have installed the minimum required levels of pollution control technology. On 25 July 2003 USEPA gave final approval to California's 2002 Section 303(d) List of Water Quality Limited Segments. The Basin Plan references this list of Water Quality Limited Segments (WQLSs), which are defined as "*...those sections of lakes, streams, rivers or other fresh water bodies where water quality does not meet (or is not expected to meet) water quality standards even after the application of appropriate limitations for point sources (40 CFR 130, et seq.)*." The Basin Plan also states, "*Additional treatment beyond minimum federal standards will be imposed on dischargers to [WQLSs]. Dischargers will be assigned or allocated a maximum*

allowable load of critical pollutants so that water quality objectives can be met in the segment.” The Calloway Canal is not listed on the 303(d) List.

2. **Total Maximum Daily Loads.** The US EPA requires the Regional Water Board to develop total maximum daily loads (TMDLs) for each 303(d) listed pollutant and water body combination. There are no 303(d) listed pollutants for the Calloway Canal.

E. Other Plans, Polices and Regulations – Not Applicable

IV. RATIONALE FOR EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

Effluent limitations and toxic and pretreatment effluent standards established pursuant to Sections 301 (Effluent Limitations), 302 (Water Quality Related Effluent Limitations), 304 (Information and Guidelines), and 307 (Toxic and Pretreatment Effluent Standards) of the Clean Water Act (CWA) and amendments thereto that are applicable to the discharge are contained herein.

The Federal CWA mandates the implementation of effluent limitations that are as stringent as necessary to meet water quality standards established pursuant to state or federal law [33 U.S.C., Section 1311(b)(1)(C); 40 CFR 122.44(d)(1)]. NPDES permits must incorporate discharge limits necessary to ensure that water quality standards are met. This requirement applies to narrative criteria as well as to criteria specifying maximum amounts of particular pollutants. Pursuant to Federal Regulations, 40 CFR 122.44(d)(1)(i), NPDES permits must contain limits that control all pollutants that “*are or may be discharged at a level which will cause, have the reasonable potential to cause, or contribute to an excursion above any state water quality standard, including state narrative criteria for water quality.*” 40 CFR 122.44(d)(1)(vi) further provides that “[w]here a state has not established a water quality criterion for a specific chemical pollutant that is present in an effluent at a concentration that causes, has the reasonable potential to cause, or contributes to an excursion above a narrative criterion within an applicable State water quality standard, the permitting authority must establish effluent limits.”

The CWA requires point source discharges to control the amount of conventional, non-conventional, and toxic pollutants that are discharged into the waters of the United States. The control of pollutants discharged is established through effluent limitations and other requirements in NPDES permits. There are two principal bases for effluent limitations: 40 CFR 122.44(a) requires that permits include applicable technology-based limitations and standards, and 40 CFR 122.44(d) requires that permits include water quality-based effluent limitations to attain and maintain applicable numeric and narrative water quality criteria to protect the beneficial uses of the receiving water where numeric water quality objectives have not been established. The Regional Water Board’s Basin Plan, page IV-21, contains an implementation policy “Application of Water Quality Objectives”) that specifies that the Regional Water Board “*will, on a case-by-case basis, adopt numerical limitations in orders which will implement the narrative objectives.*”

This Policy complies with 40 CFR 122.44(d)(1). With respect to narrative objectives, the

Regional Water Board must establish effluent limitations using one or more of three specified sources, including (1) EPA's published water quality criteria, (2) a proposed state criterion (*i.e.*, water quality objective) or an explicit state policy interpreting its narrative water quality criteria (*i.e.*, the Regional Water Board's "Policy for Application of Water Quality Objectives")(40 CFR 122.44(d)(1) (vi) (A), (B) or (C)), or (3) an indicator parameter. The Basin Plan contains a narrative objective requiring that: "*All waters shall be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life*" (narrative toxicity objective). The Basin Plan states that material and relevant information, including numeric criteria, and recommendations from other agencies and scientific literature will be utilized in evaluating compliance with the narrative toxicity objective. The Basin Plan also limits chemical constituents in concentrations that adversely affect surface water beneficial uses. For waters designated as municipal, the Basin Plan specifies that, at a minimum, waters shall not contain concentrations of constituents that exceed Maximum Contaminant Levels (MCL) of CCR Title 22. The Calloway Canal is indirectly designated MUN as noted above. The Basin Plan further states that, to protect all beneficial uses, the Regional Water Board may apply limits more stringent than MCLs.

Federal regulations require implementation of the most stringent of Technology Based and Water Quality Based effluent limitations.

A. Discharge Prohibitions

1. As stated in section I.G of Attachment D, Standard Provisions, this Order prohibits bypass from any portion of the treatment facility. Federal Regulations, 40 CFR 122.41 (m), define "bypass" as the intentional diversion of waste streams from any portion of a treatment facility. This section of the Federal Regulations, 40 CFR 122.41 (m)(4), prohibits bypass unless it is unavoidable to prevent loss of life, personal injury, or severe property damage. In considering the Regional Water Board's prohibition of bypasses, the State Water Board adopted a precedential decision, Order No. WQO 2002-0015, which cites the Federal Regulations, 40 CFR 122.41(m), as allowing bypass only for essential maintenance to assure efficient operation.
2. Discharge of waste into the Calloway Canal except in accordance with a valid formal agreement between Equilon Enterprises, LLC and the managers and owners of the Calloway Canal is prohibited.

B. Technology-Based Effluent Limitations

1. Scope and Authority

The CWA requires that technology-based effluent limitations be established based on several levels of controls:

- Best practicable treatment control technology (BPT) represents the average of the best performance by plants within an industrial category or subcategory. BPT standards apply to toxic, conventional, and non-conventional pollutants.

- Best available technology economically achievable (BAT) represents the best existing performance of treatment technologies that are economically achievable within an industrial point source category. BAT standards apply to toxic and non-conventional pollutants.
- Best conventional pollutant control technology (BCT) represents the control from existing industrial point sources of conventional pollutants including BOD, TSS, fecal coliform, pH, and oil and grease. The BCT standard is established after considering the “cost reasonableness” of the relationship between the cost of attaining a reduction in effluent discharge and the benefits that would result, and also the cost effectiveness of additional industrial treatment beyond BPT.
- New source performance standards (NSPS) represent the best available demonstrated control technology standards. The intent of NSPS guidelines is to set limitations that represent state-of-the-art treatment technology for new sources.

The CWA requires USEPA to develop effluent limitations, guidelines and standards (ELGs) representing application of BPT, BAT, BCT, and NSPS. Section 402(a)(1) of the CWA and 40 CFR 125.3 authorize the use of best professional judgment (BPJ) to derive technology-based effluent limitations on a case-by-case basis where ELGs are not available for certain industrial categories and/or pollutants of concern. Where BPJ is used, the permit writer must consider specific factors outlined in 40 CFR 125.3.

2. Applicable Technology-Based Effluent Limitations

- a. **Flow.** This Order contains a Maximum Daily Discharge Flow limit of 0.25 mgd based on the treatment system design flow.

C. Water Quality-Based Effluent Limitations (WQBELs)

1. Scope and Authority

40 CFR 122.44(d)(1)(i), requires permits to include WQBELs for pollutants (including toxicity) that are or may be discharged at levels that cause, have reasonable potential to cause, or contribute to an in-stream excursion above any state water quality standard. The process for determining reasonable potential and calculating WQBELs when necessary is intended to protect the designated uses of the receiving water as specified in the Basin Plan, and achieve applicable water quality objectives and criteria that are contained in other state plans and policies, or any applicable water quality criteria contained in the CTR and NTR.

2. Applicable Beneficial Uses and Water Quality Criteria and Objectives

- a. **Receiving Water.** The receiving stream is the Calloway Canal. The applicable beneficial uses of the Calloway Canal are described above in Attachment F, Section III.C.1.
- b. **Hardness.** Effluent hardness is typically used to assess the need for and development of effluent limitations for certain metals. To avoid anti-backsliding issues, effluent limits for lead are carried over from the previous permit. These limits are more stringent than those that would be calculated based on effluent hardness.
- c. **Assimilative Capacity/Mixing Zone.** Based on the available information, the worst-case dilution is assumed to be zero to provide protection for the receiving water beneficial uses. The impact of assuming zero assimilative capacity within the receiving water is that discharge limitations are end-of-pipe limits with no allowance for dilution within the receiving water.

3. Determining the Need for WQBELs

- a. The Regional Water Board conducted the RPA in accordance with Section 1.3 of the SIP. Although the SIP applies directly to the control of CTR priority pollutants, the State Water Board has held that the Regional Water Board may use the SIP as guidance for water quality-based toxics control.¹ The SIP states in the introduction “*The goal of this Policy is to establish a standardized approach for permitting discharges of toxic pollutants to non-ocean surface waters in a manner that promotes statewide consistency.*” Therefore, in this Order the RPA procedures from the SIP were used to evaluate reasonable potential for both CTR and non-CTR constituents.
- b. The Discharger submitted CTR effluent data on October 2003 and April 2004. Based on this data, information submitted as part of the application, and as directed by monitoring and reporting programs, effluent results for CTR constituents do not exceed CTR criteria. Thus, water quality-based effluent limitations (WQBELs) for new pollutants are not included in this Order. However, effluent limitations for the following constituents of concern are carried over from the existing permit: pH, benzene, carcinogenic polynuclear aromatic hydrocarbons (PAHs), ethylene dichloride, ethylbenzene, ethylene dibromide, lead, methanol, methyl t-butyl ether (MTBE), naphthalene, tertiary butyl alcohol (TBA), toluene, total petroleum hydrocarbons (TPHs), and xylene, as will the effluent limit for radionuclides. Effluent limitations for boron, chloride and electrical conductivity (EC) are added to the Order, as per the Basin Plan.
- c. **pH.** The Basin Plan includes a water quality objective for surface waters that the “*...pH of water shall not be depressed below 6.5, raised above 8.3, or changed at*

¹ See, Order WQO 2001-16 (Napa) and Order WQO 2004-0013 (Yuba City)

any time more than 0.3 units from normal ambient pH.” Effluent Limitations for pH are included in this Order based on the Basin Plan objectives for pH.

- d. **Salinity.** The discharge contains electrical conductivity (EC) and chloride. These are water quality parameters that are indicative of the salinity of the water. Their presence in water can be growth limiting to certain agricultural crops and can affect the taste of water for human consumption. There are no USEPA water quality criteria for the protection of aquatic organisms for these constituents. However the Basin Plan authorizes specific limits for these constituents.

Table F-4. Salinity Water Quality Criteria/Objectives

Parameter	Agricultural WQ Goal ¹	Secondary MCL ³	Basin Plan	Effluent	
				IRM-2 Avg	IRM-2 Max
EC (µmhos/cm)	700 ²	900, 1,600, 2,200	1,000 ⁴	376	590
Chloride (mg/L)	106 ²	250, 500, 600	175 ⁵	---	---

1. Agricultural water quality goals based on *Water Quality for Agriculture*, Food and Agriculture Organization of the United Nations—Irrigation and Drainage Paper No. 29, Rev. 1 (R.S. Ayers and D.W. Westcot, Rome, 1985).
2. Agricultural water quality goals listed provide no restrictions on crop type or irrigation methods for maximum crop yield. Higher concentrations may require special irrigation methods to maintain crop yields or may restrict types of crops grown.
3. The secondary MCLs are stated as a recommended level, upper level, and a short-term maximum level.
4. The water quality objective for EC applies to industrial wastewater.
5. The Basin Plan, page IV-10, prescribes effluent limitations for chloride in Discharges to Navigable Waters.

- i. **Chloride.** The secondary MCL for chloride is 250 mg/L, as recommended level, 500 mg/L as an upper level, and 600 mg/L as a short-term maximum. The recommended agricultural water quality goal for chloride, that would apply the narrative chemical constituent objective, is 106 mg/L as a long-term average based on *Water Quality for Agriculture*, Food and Agriculture Organization of the United Nations—Irrigation and Drainage Paper No. 29, Rev. 1 (R.S. Ayers and D.W. Westcot, Rome, 1985). The 106 mg/L water quality goal is intended to protect against adverse effects on sensitive crops when irrigated via sprinklers.

Chloride samples were not required to be analyzed during the previous permit. A final effluent limit of 175 mg/L for chloride is included based on the Basin Plan.

- ii. **Electrical Conductivity (EC).** The Basin Plan includes effluent EC requirements that limit discharges of industrial wastewaters to source water EC plus 500 umhos/cm or 1,000 umhos/cm, whichever is less. The Basin Plan effluent limitations are included in this permit.

A review of the Discharger’s monitoring reports from April 1, 2002 through September 30, 2006 for IRM-2, Discharge Point 002 show a maximum effluent EC of 590 µmhos/cm and a minimum effluent EC of 149 µmhos/cm for 1,377 samples. Regional Water Board staff samples indicate influent and

effluent ECs are similar. No receiving water data were available. As the discharge is limited to the same sources by prohibition, the character of the discharge should not change.

e. **Toxicity.** See Section IV.C.5. of the Fact Sheet regarding whole effluent toxicity.

4. WQBELs Calculations – Not Applicable

Summary of Water Quality-based Effluent Limitations

Table F-5. Summary of Water Quality-based Effluent Limitations IRM-2, Discharge Point 001

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Conventional Pollutants						
PH	Standard Units	---	---	---	6.5	8.3
Priority Pollutants						
Lead (Total Recoverable)	µg/L	2.0	---	2.0	---	---
	Lbs/day ¹	0.002	---	0.002	---	---
Benzene	µg/L	< 0.5	---	< 0.5	---	---
Ethylbenzene	µg/L	< 0.5	---	29	---	---
Ethylene Dichloride (1,2-Dichloroethane)	µg/L	< 0.5	---	< 0.5	---	---
Napthalene	µg/L	< 5.0	---	20	---	---
Toluene	µg/L	< 0.5	---	42	---	---
Non-Conventional Pollutants						
Carcinogenic Polynuclear Aromatic Hydrocarbons (PAHs)	µg/L	< 0.05	---	< 0.05	---	---
Ethylene Dibromide (1,2-Dibromomethane)	µg/L	< 0.5	---	< 0.5	---	---
Methanol	µg/L	< 20	---	3,500	---	---
Methyl t-Butyl Ether (MTBE) plus other ether oxygenates ²	µg/L	< 5.0	---	5.0	---	---
Tertiary Butyl Alcohol (TBA)	µg/L	< 20	---	< 20	---	---
Total Petroleum Hydrocarbons (TPHs)	µg/L	< 50	---	100	---	---
Xylene	µg/L	< 1.0	---	17	---	---

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- ¹. Based on a long term average flow of 0.10 mgd (excludes unreported data between 10/1/02 and 12/31/02).
². The limit applies to the sum of MTBE, Di-isopropyl Ether (DIPE), Ethyl Tertiary Butyl Ether (ETBE) and Tertiary Amyl Methyl Ether (TAME).

- a. **Electrical Conductivity.** The annual average EC of the discharge shall not exceed the flow-weighted average of EC in the source water, plus 500 μ mhos/cm, or a total of 1,000 μ mhos/cm, whichever is more stringent.
- b. **Chloride.** The annual average chloride concentration of the discharge shall not exceed 175 mg/L.
- c. **Boron.** The annual average boron concentration of the discharge shall not exceed 1.0 mg/L.

5. Whole Effluent Toxicity (WET)

For compliance with the Basin Plan's narrative toxicity objective, this Order requires the Discharger to conduct whole effluent toxicity testing for acute and chronic toxicity, as specified in the Monitoring and Reporting Program (Attachment E, Section V.). This Order also contains effluent limitations for acute toxicity and requires the Discharger to implement best management practices to investigate the causes of, and identify corrective actions to reduce or eliminate effluent toxicity.

- a. **Acute Aquatic Toxicity.** The Basin Plan contains a narrative toxicity objective that states, "*All waters shall be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life.*" (III-6). The Basin Plan also states that, "*...effluent limits based upon acute biotoxicity tests of effluents will be prescribed where appropriate...*" USEPA Region 9 provided guidance for the development of acute toxicity effluent limitations in the absence of numeric water quality objectives for toxicity in its document titled "Guidance for NPDES Permit Issuance", dated February 1994. In section B.2. "Toxicity Requirements" (pgs. 14-15) it states that, "*In the absence of specific numeric water quality objectives for acute and chronic toxicity, the narrative criterion 'no toxics in toxic amounts' applies. Achievement of the narrative criterion, as applied herein, means that ambient waters shall not demonstrate for acute toxicity: 1) less than 90% survival, 50% of the time, based on the monthly median, or 2) less than 70% survival, 10% of the time, based on any monthly median. For chronic toxicity, ambient waters shall not demonstrate a test result of greater than 1 TUc.*" Accordingly, effluent limitations for acute toxicity have been included in this Order as follows:

Acute Toxicity. Survival of aquatic organisms in 96-hour bioassays of undiluted waste shall be no less than:

- i. 70% for any one bioassay; and
 - ii. 90% for the median for any three consecutive bioassays.
- b. **Chronic Aquatic Toxicity.** The Basin Plan contains a narrative toxicity objective that states, "All waters shall be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life." (III-6) Adequate WET data is not available to determine if the discharge has reasonable potential to cause or contribute to an in-stream excursion above of the Basin Plan's narrative toxicity objective. Attachment E of this Order requires quarterly chronic WET monitoring for demonstration of compliance with the narrative toxicity objective.

In addition to WET monitoring, Special Provisions VI.C.2.a. requires the Discharger to submit to the Regional Water Board an Initial Investigative TRE Work Plan for approval by the Executive Officer, to ensure the Discharger has a plan to immediately move forward with the initial tiers of a TRE, in the event effluent toxicity is encountered in the future. The provision also includes a numeric toxicity monitoring trigger and requirements for accelerated monitoring, as well as, requirements for TRE initiation if a pattern of toxicity is demonstrated.

D. Final Effluent Limitations

1. Mass-based Effluent Limitations.

40 CFR 122.45(f)(1) requires effluent limitations be expressed in terms of mass, with some exceptions, and 40 CFR 122.45(f)(2) allows pollutants that are limited in terms of mass to additionally be limited in terms of other units of measurement. This Order includes effluent limitations expressed in terms of mass and concentration for lead only. In addition, pursuant to the exceptions to mass limitations provided in 40 CFR 122.45(f)(1), some effluent limitations are not expressed in terms of mass, such as pH and temperature, and when the applicable standards are expressed in terms of concentration (e.g., CTR criteria and MCLs) and mass limitations are not necessary to protect the beneficial uses of the receiving water.

Mass-based effluent limitations were calculated based upon the permitted average daily discharge flow allowed in Section IV.A.1.c. of the Limitations and Discharge Requirements.

Mass-based effluent limitations were calculated for lead by multiplying the concentration limitation by the Facility's reasonable measure of actual flow and the appropriate unit conversion factor. Based on flow monitoring data submitted by the Discharger from January 2002 through December 2004 the long-term average flow is 0.10 mgd for Discharge Point 002 (i.e., IRM-2). Consistent with 40 CFR

122.45(b)(2)(i), the reasonable measure of actual long term average flow for the Facility is 0.10 mgd. Unless otherwise noted, all mass limitations or mass emission rates (MERs) in this Order were calculated using the reasonable measure of actual flow.

2. Satisfaction of Anti-Backsliding Requirements.

Generally, effluent limitations in this Order are at least as stringent as the effluent limitations in the previous Order. The exception is the effluent limit for EC. This Order implements Basin Plan effluent limits for EC. Order No. R5-2002-0085 limits effluent EC to the electrical conductivity of groundwater extracted by the GWCS. The permit thus appears to allow an increase in effluent EC.

40 CFR 122.44(l)(2)(i)(B)(2) grants exception for less stringent effluent limitations if regulator determines technical mistakes or mistaken interpretations of law were made in issuing the permit. Not applying Basin Plan effluent limitations is considered a mistake. The proposed Order applies EC effluent limits consistent with Basin Plan criteria for this type of discharge. This relaxation of effluent limitations is consistent with the anti-backsliding requirements of the CWA and federal regulations. In actuality, the EC will remain the same, as the sources will be the same.

3. Satisfaction of Antidegradation Policy

The permitted discharge is consistent with the antidegradation provisions of 40 CFR 131.12 and State Water Board Resolution 68-16. Compliance with these requirements will result in the use of best practicable treatment or control of the discharge. The existing permit was found consistent with State and federal antidegradation requirements. The removal of IRM 1 will result in a smaller mass of pollutants discharged. No degradation over what was previously authorized will occur.

**Summary of Final Effluent Limitations
 IRM-2, Discharge Point 001**

Table F-6. Summary of Final Effluent Limitations

Parameter	Units	Effluent Limitations					Basis ²
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum	
Conventional Pollutants							
PH	Standard units	---	---	---	6.5	8.3	E
Priority Pollutants							
Lead (Total Recoverable)	µg/L	2.0	---	2.0	---	---	E
	lbs/day ¹	0.002	---	0.002	---	---	
Benzene	µg/L	< 0.5	---	< 0.5	---	---	E
Ethylbenzene	µg/L	< 0.5	---	29	---	---	E

Parameter	Units	Effluent Limitations					Basis ²
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum	
Ethylene Dichloride (1,2-Dichloroethane)	µg/L	< 0.5	---	< 0.5	---	---	E
Naphthalene	µg/L	< 5.0	---	20	---	---	E
Toluene	µg/L	< 0.5	---	42	---	---	E
Non-Conventional Pollutants							
Carcinogenic Polynuclear Aromatic Hydrocarbons (PAHs)	µg/L	< 0.05	---	< 0.05	---	---	E
Ethylene Dibromide (1,2-Dibromomethane)	µg/L	< 0.5	---	< 0.5	---	---	E
Methanol	µg/L	< 20	---	3,500	---	---	E
Methyl t-Butyl Ether (MTBE) plus other ether oxygenates ³	µg/L	< 5.0	---	5.0	---	---	E
Tertiary Butyl Alcohol (TBA)	µg/L	< 20	---	< 20	---	---	E
Total Petroleum Hydrocarbons (TPHs)	µg/L	< 50	---	100	---	---	E
Xylene	µg/L	< 1.0	---	17	---	---	E

¹ Based on a long term average flow of 0.10 mgd (excludes unreported data between 10/1/02 and 12/31/02).

² E = Existing, CTR = California Toxics Rule, BP= Basin Plan.

³ The limit applies to the sum of MTBE, Di-isopropyl Ether (DIPE), Ethyl Tertiary Butyl Ether (ETBE) and Tertiary Amyl Methyl Ether (TAME).

- a. **Acute Whole Effluent Toxicity.** Survival of aquatic organisms in 96-hour bioassays of undiluted waste shall be no less than:
 - i. 70% for any one bioassay; and
 - ii. 90% for the median for any three consecutive bioassays.
- b. **Maximum Daily Discharge Flow.** The maximum daily discharge flow shall not exceed 0.25 mgd.
- c. **Radionuclides.** The concentration of the radionuclides in the discharge shall not exceed the concentration in groundwater extracted by the GWCS
- d. **Electrical Conductivity.** The annual average EC of the discharge shall not exceed the flow-weighted average of EC in the source water, plus 500 µmhos/cm, or a total of 1,000 µmhos/cm, whichever is more stringent.
- h. **Chloride.** The annual average chloride concentration of the discharge shall not exceed 175 mg/L.
- e. **Boron.** The annual average boron concentration of the discharge shall not exceed 1.0 mg/L.

E. Interim Effluent Limitations – Not Applicable

F. Land Discharge Specifications – Not Applicable

G. Reclamation Specifications – Not Applicable

V. RATIONALE FOR RECEIVING WATER LIMITATIONS

Basin Plan water quality objectives to protect the beneficial uses of surface water and groundwater include numeric objectives and narrative objectives, including objectives for chemical constituents, toxicity, and tastes and odors. The toxicity objective requires that surface water and groundwater be maintained free of toxic substances in concentrations that produce detrimental physiological responses in humans, plants, animals, or aquatic life. The chemical constituent objective requires that surface water and groundwater shall not contain chemical constituents in concentrations that adversely affect any beneficial use or that exceed the maximum contaminant levels (MCLs) in Title 22, CCR. The tastes and odors objective states that surface water and groundwater shall not contain taste- or odor-producing substances in concentrations that cause nuisance or adversely affect beneficial uses. The Basin Plan requires the application of the most stringent objective necessary to ensure that surface water and groundwater do not contain chemical constituents, toxic substances, radionuclides, or taste and odor producing substances in concentrations that adversely affect domestic drinking water supply, agricultural supply, or any other beneficial use.

A. Surface Water

1. CWA section 303(a-c), requires states to adopt water quality standards, including criteria where they are necessary to protect beneficial uses. The Regional Water Board adopted water quality criteria as water quality objectives in the Basin Plan. The Basin Plan states that “[t]he numerical and narrative water quality objectives define the least stringent standards that the Regional Board will apply to regional waters in order to protect the beneficial uses.” The Basin Plan includes numeric and narrative water quality objectives for various beneficial uses and water bodies. This Order contains Receiving Surface Water Limitations based on the Basin Plan numerical and narrative water quality objectives for biostimulatory substances, chemical constituents, color, dissolved oxygen, floating material, oil and grease, pH, pesticides, radioactivity, salinity, sediment, settleable material, suspended material, tastes and odors, temperature, toxicity, turbidity, and electrical conductivity.

Numeric Basin Plan objectives for bacteria, dissolved oxygen, pH, temperature, and turbidity are applicable to this discharge and have been incorporated as Receiving Surface Water Limitations. This permit proscribes the discharge from causing the following in the receiving water:

- a. **Un-ionized Ammonia.** Un-ionized ammonia to be present in amounts that adversely affect beneficial uses nor to be present in excess of 0.025 mg/L (as N).

- b. **Biostimulatory Substances.** Water to contain biostimulatory substances, which promote aquatic growths in concentrations that cause nuisance or adversely affect beneficial uses.
- c. **Chemical Constituents.** Chemical constituents to be present in concentrations that adversely affect beneficial uses.
- d. **Color.** Discoloration that causes nuisance or adversely affects beneficial uses.
- e. **Dissolved Oxygen:**
 - i. The monthly median of the mean daily dissolved oxygen concentration to fall below 85 percent of saturation in the main water mass at centroid of flow;
 - ii. The 95 percentile dissolved oxygen concentration to fall below 75 percent of saturation; nor
 - iii. The dissolved oxygen concentration to be reduced below 5.0 mg/L at any time.
- f. **Floating Material.** Floating material to be present in amounts that cause nuisance or adversely affect beneficial uses.
- g. **Oil and Grease.** Oils, greases, waxes, or other materials to be present in concentrations that cause nuisance, result in a visible film or coating on the surface of the water or on objects in the water, or otherwise adversely affect beneficial uses.
- h. **pH.** The pH to be depressed below 6.5, raised above 8.3, nor changed by more than 0.3 units; A one-month averaging period may be applied when calculating the pH change of 0.3 units.
- i. **Pesticides:**
 - i. Pesticides to be present, individually or in combination, in concentrations that adversely affect beneficial uses;
 - ii. Pesticides to be present in bottom sediments or aquatic life in concentrations that adversely affect beneficial uses;
 - iii. Pesticides to be present in concentration in excess of the maximum contaminant levels specified in Table 64444-A (Organic Chemicals) of Section 64444 of Title 22 of the California Code of Regulations.
- j. **Radioactivity:**
 - i. Radionuclides to be present in concentrations that are deleterious to human, plant, animal, or aquatic life nor that result in the accumulation of radionuclides in the food web to an extent that presents a hazard to human, plant, animal, or aquatic life.

- ii. Radionuclides to be present in excess of the maximum contaminant levels specified in Table 4 (MCL Radioactivity) of Section 64443 of Title 22 of the California Code of Regulations.
- k. **Suspended Sediments.** The suspended sediment load and suspended sediment discharge rate of surface waters to be altered in such a manner as to cause nuisance or adversely affect beneficial uses.
- l. **Settleable Substances.** Substances to be present in concentrations that result in the deposition of material that causes nuisance or adversely affects beneficial uses.
- m. **Suspended Material.** Suspended material to be present in concentrations that cause nuisance or adversely affect beneficial uses.
- n. **Taste and Odors.** Taste- or odor-producing substances to be present in concentrations that impart undesirable tastes or odors to fish flesh or other edible products of aquatic origin, or to domestic or municipal water supplies.
- o. **Temperature.** The natural temperature to be increased by more than 5°F.
- p. **Toxicity.** Toxic substances to be present, individually or in combination, in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life.
- q. **Turbidity.** The turbidity to increase as follows:
 - i. More than 1 Nephelometric Turbidity Unit (NTU) where natural turbidity is between 0 and 5 NTUs.
 - ii. More than 20 percent where natural turbidity is between 5 and 50 NTUs.
 - iii. More than 10 NTU where natural turbidity is between 50 and 100 NTUs.
 - iv. More than 10 percent where natural turbidity is greater than 100 NTUs.

B. Groundwater

1. The beneficial uses of the underlying ground water are municipal and domestic supply, agricultural supply, industrial service supply, industrial process supply and wildlife habitat.
2. The discharge consists of groundwater treated to remove certain pollutants. The mineral quality will remain essentially the same as extracted. Due to the quality and low volume of discharge and distance to groundwater, the discharge is will not adversely impact groundwater.

VI. RATIONALE FOR MONITORING AND REPORTING REQUIREMENTS

40 CFR 122.48 requires that all NPDES permits specify requirements for recording and reporting monitoring results. Water Code sections 13267 and 13383 authorizes the Regional Water Board to require technical and monitoring reports. The Monitoring and Reporting Program (MRP), Attachment E of this Order, establishes monitoring and reporting requirements to implement federal and state requirements. The following provides the rationale for the monitoring and reporting requirements contained in the MRP for this facility.

A. Influent Monitoring - Not Applicable

B. Effluent Monitoring

1. Pursuant to the requirements of 40 CFR 122.44(i)(2) effluent monitoring is required for all constituents with effluent limitations. Effluent monitoring is necessary to assess compliance with effluent limitations, assess the effectiveness of the treatment process, and to assess the impacts of the discharge on the receiving stream and groundwater.
2. The SIP states that if “...*all reported detection limits of the pollutant in the effluent are greater than or equal to the C [water quality criterion or objective] value, the RWQCB [Regional Water Board] shall establish interim requirements...that require additional monitoring for the pollutant...*” All reported detection limits for pH, boron, electrical conductivity, and chlorides are greater than or equal to corresponding applicable water quality criteria or objectives. Monitoring for these constituents has been included in this Order in accordance with the SIP.

C. Whole Effluent Toxicity Testing Requirements

1. **Acute Toxicity.** 96-hour bioassay testing is required to demonstrate compliance with the effluent limitation for acute toxicity.
2. **Chronic Toxicity.** Chronic whole effluent toxicity testing is required in order to demonstrate compliance with the Basin Plan’s narrative toxicity objective.

D. Receiving Water Monitoring

1. Surface Water

- a. Receiving water monitoring is necessary to assess compliance with receiving water limitations and to assess the impacts of the discharge on the receiving stream.

2. Groundwater

Given the affects on quality will not be measurable and the depth to groundwater, the benefit of monitoring groundwater does not outweigh the cost. No groundwater monitoring is required.

E. Other Monitoring Requirements

1. **Biosolids Monitoring** - Not Applicable
2. **Water Supply Monitoring** - Not Applicable

VII. RATIONALE FOR PROVISIONS

A. Standard Provisions

Standard Provisions, which apply to all NPDES permits in accordance with 40 CFR 122.41, and additional conditions applicable to specified categories of permits in accordance with 40 CFR 122.42, are provided in Attachment D. The discharger must comply with all standard provisions and with those additional conditions that are applicable under 40 CFR 122.42.

40 CFR 122.41(a)(1) and (b) through (n) establish conditions that apply to all State-issued NPDES permits. These conditions must be incorporated into the permits either expressly or by reference. If incorporated by reference, a specific citation to the regulations must be included in the Order. 40 CFR 123.25(a)(12) allows the state to omit or modify conditions to impose more stringent requirements. In accordance with 40 CFR 123.25, this Order omits federal conditions that address enforcement authority specified in 40 CFR 122.41(j)(5) and (k)(2) because the enforcement authority under the Water Code is more stringent. In lieu of these conditions, this Order incorporates by reference Water Code section 13387(e).

B. Special Provisions

1. Reopener Provisions

- a. **Pollution Prevention.** Not Applicable.
- b. **Whole Effluent Toxicity.** This Order requires the Discharger to investigate the causes of, and identify corrective actions to reduce or eliminate effluent toxicity through a Toxicity Reduction Evaluation (TRE). This Order may be reopened to include a numeric chronic toxicity limitation, a new acute toxicity limitation, and/or a limitation for a specific toxicant identified in the TRE. Additionally, if a numeric chronic toxicity water quality objective is adopted by the State Water Board, this Order may be reopened to include a numeric chronic toxicity limitation based on that objective.

- c. **Water Effects Ratio (WER) and Metal Translators.** Not applicable.
- d. **Discharge Agreement.** Discharge of wastewater to the Calloway Canal is subject to an agreement between Equilon Enterprises, LLC (dba Shell Oil Products US) and the North Kern Water Storage District and City of Bakersfield. The current agreement expires on 1 January 2011; this permit expires 5 years from the date of adoption. To discharge to the Calloway Canal after 1 January 2011, the Discharger must submit a new, signed agreement specifying the terms of use of the canal. This Order may be reopened if necessary to ensure the discharge is compatible with a new agreement.

2. Special Studies and Additional Monitoring Requirements

- a. **Chronic Whole Effluent Toxicity Requirements.** The Basin Plan contains a narrative toxicity objective that states, "All waters shall be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life." (Basin Plan at III-8.00.) Adequate WET data was not provided during the permit term from the Discharger. Samples collected by the Regional Water Board on April 16, 2007 demonstrated 100% survival but reduced reproduction. Therefore, the Discharger will be required to perform chronic toxicity testing during its first discharge following adoption of the Order and at quarterly thereafter to determine if the discharge has reasonable potential to cause or contribute to an in-stream excursion above of the Basin Plan's narrative toxicity objective. Attachment E of this Order requires quarterly chronic WET monitoring for demonstration of compliance with the narrative toxicity objective.

In addition to WET monitoring, this provision requires the Discharger to submit to the Regional Water Board an Initial Investigative TRE Work Plan for approval by the Executive Officer, to ensure the Discharger has a plan to immediately move forward with the initial tiers of a TRE, in the event effluent toxicity is encountered in the future. The provision also includes a numeric toxicity monitoring trigger and requirements for accelerated monitoring, as well as, requirements for TRE initiation if a pattern of toxicity is demonstrated.

Monitoring Trigger. A numeric toxicity monitoring trigger of > 1 TUC (where TUC = $100/\text{NOEC}$) is applied in the provision, because this Order does not allow any dilution for the chronic condition. Therefore, a TRE is triggered when the effluent exhibits a pattern of toxicity at 100% effluent.

Accelerated Monitoring. The provision requires accelerated WET testing when a regular WET test result exceeds the monitoring trigger. The purpose of accelerated monitoring is to determine, in an expedient manner, whether there is a pattern of toxicity before requiring the implementation of a TRE. Due to possible seasonality of the toxicity, the accelerated monitoring should be performed in a timely manner, preferably taking no more than 2 to 3 months to complete.

The provision requires accelerated monitoring consisting of four chronic toxicity tests every two weeks using the species that exhibited toxicity. Guidance regarding accelerated monitoring and TRE initiation is provided in the *Technical Support Document for Water Quality-based Toxics Control, EPA/505/2-90-001, March 1991* (TSD). The TSD at page 118 states, "EPA recommends if toxicity is repeatedly or periodically present at levels above effluent limits more than 20 percent of the time, a TRE should be required." Therefore, four accelerated monitoring tests are required in this provision. If no toxicity is demonstrated in the four accelerated tests, then it demonstrates that toxicity is not present at levels above the monitoring trigger more than 20 percent of the time (only 1 of 5 tests are toxic, including the initial test). However, notwithstanding the accelerated monitoring results, if there is adequate evidence of a pattern of effluent toxicity (i.e. toxicity present exceeding the monitoring trigger more than 20 percent of the time), the Executive Officer may require that the Discharger initiate a TRE.

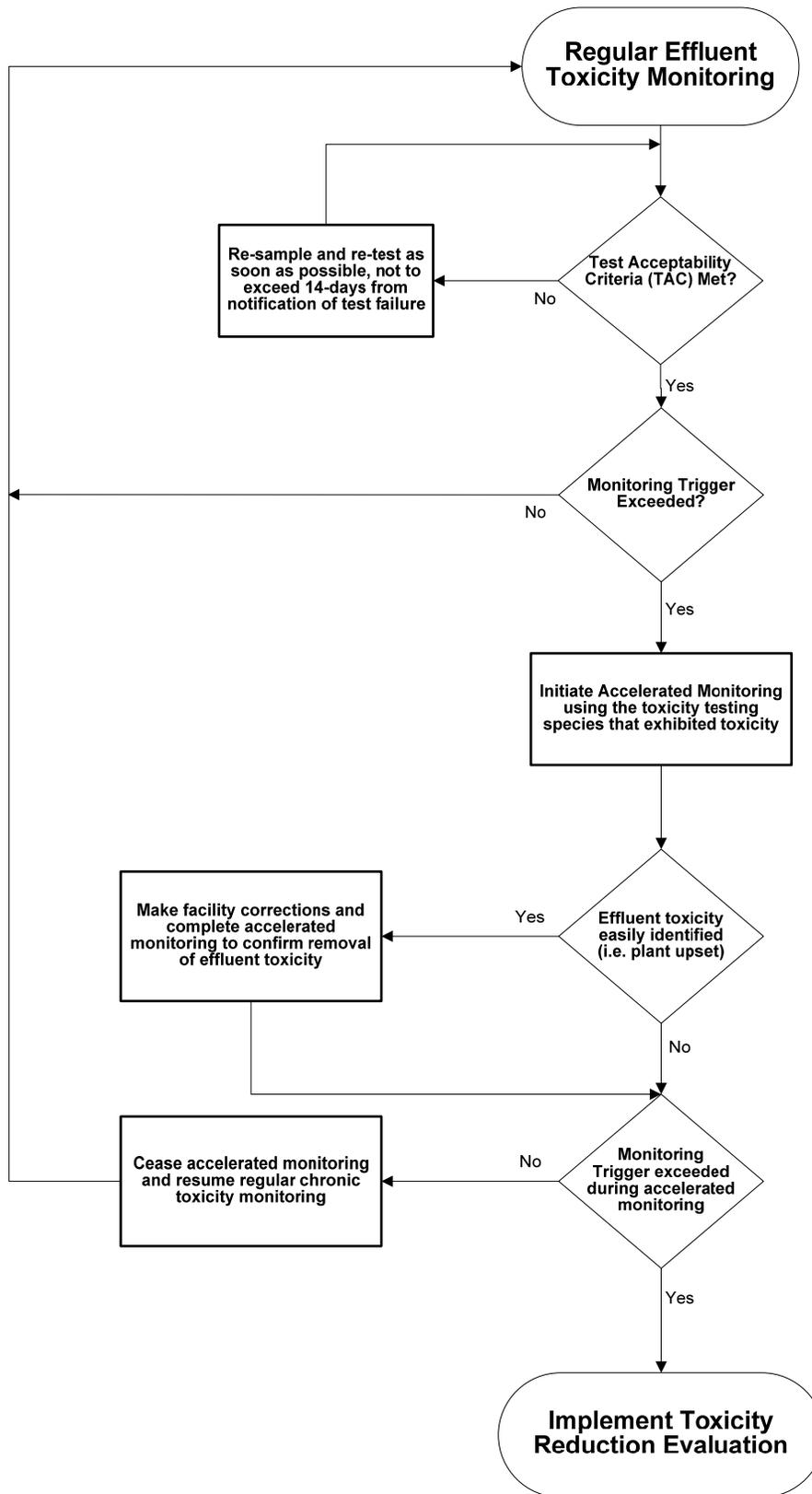
See the WET Accelerated Monitoring Flow Chart (Figure F-X), below, for further clarification of the accelerated monitoring requirements and for the decision points for determining the need for TRE initiation.

TRE Guidance. The Discharger is required to prepare a TRE Work Plan in accordance with USEPA guidance. Numerous guidance documents are available, as identified below:

- *Toxicity Reduction Evaluation Guidance for Municipal Wastewater Treatment Plants*, (EPA/833B-99/002), August 1999.
- *Generalized Methodology for Conducting Industrial TREs*, (EPA/600/2-88/070), April 1989.
- *Methods for Aquatic Toxicity Identification Evaluations: Phase I Toxicity Characterization Procedures*, Second Edition, EPA 600/6-91/005F, February 1991.
- *Toxicity Identification Evaluation: Characterization of Chronically Toxic Effluents, Phase I*, EPA 600/6-91/005F, May 1992.
- *Methods for Aquatic Toxicity Identification Evaluations: Phase II Toxicity Identification Procedures for Samples Exhibiting acute and Chronic Toxicity*, Second Edition, EPA 600/R-92/080, September 1993.
- *Methods for Aquatic Toxicity Identification Evaluations: Phase III Toxicity Confirmation Procedures for Samples Exhibiting Acute and Chronic Toxicity*, Second Edition, EPA 600/R-92/081, September 1993.
- *Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms*, Fifth Edition, EPA-821-R-02-012, October 2002.

- *Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms*, Fourth Edition, EPA-821-R-02-013, October 2002.
- *Technical Support Document for Water Quality-based Toxics Control*, EPA/505/2-90-001, March 1991

Figure F-3
WET Accelerated Monitoring Flow Chart



3. Best Management Practices and Pollution Prevention – Not Applicable.

4. Construction, Operation, and Maintenance Specifications - Not Applicable.

5. Special Provisions for Municipal Facilities (POTWs Only) - Not Applicable.

6. Other Special Provisions

a. Filter Waste and Solids Disposal:

1. Collected screenings, sludges, and other solids removed from liquid wastes or used to treat liquid wastes shall be disposed of in a manner than is consistent with Division 3, Title 27, of the CCR and approved by the Executive Officer.
2. Any proposed change in filter waste use or solids disposal practice from a previously approved practice shall be reported to the Executive Officer and EPA Regional Administrator at least 90 days in advance of the change.

7. Compliance Schedules – Not applicable

VIII. PUBLIC PARTICIPATION

The California Regional Water Quality Control Board, Central Valley Region (Regional Water Board) is considering the issuance of waste discharge requirements (WDRs) that will serve as a National Pollutant Discharge Elimination System (NPDES) permit for Equilon Enterprises, LLC. As a step in the WDR adoption process, the Regional Water Board staff has developed tentative WDRs. The Regional Water Board encourages public participation in the WDR adoption process.

A. Notification of Interested Parties

The Regional Water Board has notified the Discharger and interested agencies and persons of its intent to prescribe waste discharge requirements for the discharge and has provided them with an opportunity to submit their written comments and recommendations. Notification was provided by mailing to interested parties, posting on the on the Regional Water Board’s web site, the Facility, and other public places.

B. Written Comments

The staff determinations are tentative. Interested persons are invited to submit written comments concerning these tentative WDRs. Comments must be submitted either in person or by mail to the Executive Office at the Regional Water Board at the address above on the cover page of this Order.

To be fully responded to by staff and considered by the Regional Water Board, written comments should be received at the Regional Water Board offices by 12:00 p.m. on 10 December 2007.

C. Public Hearing

The Regional Water Board will hold a public hearing on the tentative WDRs during its regular Board meeting on the following date and time and at the following location:

Date: 24/25 January 2008
Time: 8:30 am
Location: Regional Water Quality Control Board, Central Valley Region
11020 Sun Center Dr., Suite #200
Rancho Cordova, CA 95670

Interested persons are invited to attend. At the public hearing, the Regional Water Board will hear testimony, if any, pertinent to the discharge, WDRs, and permit. Oral testimony will be heard; however, for accuracy of the record, important testimony should be in writing.

Please be aware that dates and venues may change. Our Web address is <http://www.waterboards.ca.gov/rwqcb5/> where you can access the current agenda for changes in dates and locations.

D. Waste Discharge Requirements Petitions

Any aggrieved person may petition the State Water Resources Control Board to review the decision of the Regional Water Board regarding the final WDRs. The petition must be submitted within 30 days of the Regional Water Board's action to the following address:

State Water Resources Control Board
Office of Chief Counsel
P.O. Box 100, 1001 I Street
Sacramento, CA 95812-0100

E. Information and Copying

The Report of Waste Discharge (RWD), related documents, tentative effluent limitations and special provisions, comments received, and other information are on file and may be inspected at the address above at any time between 8:30 a.m. and 4:45 p.m., Monday through Friday. Copying of documents may be arranged through the Regional Water Board staff by calling (559) 445-5116.

F. Register of Interested Persons

Any person interested in being placed on the mailing list for information regarding the WDRs and NPDES permit should contact the Regional Water Board, reference this facility, and provide a name, address, and phone number.

G. Additional Information

Requests for additional information or questions regarding this order should be directed to W. Dale Harvey (559) 445-6190.