CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LAHONTAN REGION

BOARD ORDER NO. 6-98-75
NPDES NO. CA G916001

WASTE DISCHARGE REQUIREMENTS

FOR

UPDATED NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT FOR SURFACE WATER DISPOSAL OF TREATED GROUND WATER

_____Lahontan Region_____

The California Regional Water Quality Control Board, Lahontan Region (Regional Board), finds:

1. Justification for the General Permit

Numerous unauthorized releases of petroleum product and chlorinated hydrocarbon pollutants have impacted ground waters of the Lahontan Region. Releases occur from leaking underground and aboveground fuel tanks and other unauthorized discharges.

Several treatment technologies currently employed for remediation include the extraction and aboveground treatment of ground water. Such methods may include disposal to nearby surface waters.

The discharge of water from a ground water treatment unit to navigable waters is a discharge of waste that could affect the quality of the waters of the United States. This Permit covers the discharge of treated water from cleanups of pollution, other than through a community wastewater collection and treatment facility, to surface waters of the United States.

40 Code of Federal Regulations (CFR) 122.28 provides for the issuance of general permits to regulate discharges of waste which are generated from similar sources. On September 22, 1989, the United States Environmental Protection Agency (USEPA) and the State Water Resources Control Board (SWRCB) entered into a memorandum of agreement which authorized and established procedures for the SWRCB and the Regional Boards to issue general National Pollutant Discharge Elimination System (NPDES) Permits in accordance with 40 CFR 122.28.

2. Issuance of the General Permit

The responsible party(ies) and property owner, or solely the property owner, are considered as "Discharger" for the purposes of this Permit.

An NPDES application must be filed by the Discharger for each proposed discharge to be covered by this Permit. The application must include an appropriate filing fee. Information necessary to support the application is listed in a separate document titled Information to Support Discharge of Treated Ground Water to Surface Waters (Application). This document may be obtained from either Regional Board Office.

This Permit shall only apply to Dischargers to whom a Notice of Applicability (NOA) has been issued by the Executive Officer. A NOA must be issued for each proposed discharge.

3. Wastewater Description

The primary pollutants covered by this Permit are petroleum product and chlorinated hydrocarbon constituents. Petroleum hydrocarbon constituents include total petroleum hydrocarbons measured as gasoline, diesel, kerosene, fuel oil, and heavier carbon ranges; benzene, toluene, ethylbenzene, xylenes; methyl-tertiary-butyl ether (MTBE); tetraethyl lead; and, ethylene dibromide. Chlorinated hydrocarbon constituents include trichloroethene and tetrachlorothene and their secondary degradation products. Other constituents may be present in the polluted water to be treated. A complete list of constituents covered by this Permit are included in the Discharge Specification section of the Permit.

4. Water Quality Control Plan

The Regional Board adopted Water Quality Control Plan for the Lahontan Region (Basin Plan), on March 31, 1995. This Permit implements this Plan, as amended.

The SWRCB has adopted a Water Quality Plan for the Lake Tahoe Basin. This Plan contains water quality objectives for all waters of the Lake Tahoe Basin. This Permit implements the Lake Tahoe Plan.

The Basin Plan contains prohibitions for the discharge of waste to surface waters in the following areas of the Lahontan Region:

i. Surprise Valley, Eagle Lake, Madeline Plains, and the Honey Lake Hydrologic Unit.

ii. Truckee River, Lake Tahoe, East and West Fork Carson River, and East and West Fork Walker River Hydrologic Unit.

iii. Glenshire and Devonshire subdivisions.

iv. Mono - Owens Planning Unit

(1) Mill Creek and Lee Vining Creek Watersheds

(2) Rush Creek Watershed above the outlet from Grant Lake

(3) The Owens River and tributaries upstream of Crowley Lake above elevation 7,200 feet

(4) The Owens River and Tributaries downstream of Crowley Lake above elevation 5,000 feet

(5) Mammoth Creek Watershed above elevation 7,650 feet, including the drainage area of the community of Mammoth Lakes

(6) Inyo County Service Area No. 1, including Assessment Districts No. 1 and No. 2, Rocking K subdivision, and City of Bishop

v. Antelope Valley Planning Area

(1) The Antelope Hydrologic Unit above elevation 3,500 feet

vi. Mojave River Planning Area

(1) The Mojave Hydrologic Unit above elevation 3,200 feet

(2) Silver Lake Watershed

(3) Deep Creek Watershed above elevation 3,200 feet

(4) Grass Valley Creek Watershed above elevation 3,200 feet

(5) Area North of State Highway 18 within the area commonly known as Apple Valley Desert Knolls

Certain exemptions may apply.

5. Beneficial Uses

The beneficial uses of ground waters within the Lahontan Region as designated in the Basin Plan are:

a. municipal and domestic supply
b. industrial service supply
c. agricultural supply
d. freshwater replenishment

These beneficial uses apply to all ground waters of the Region except where lesser beneficial uses are designated in the Basin Plan.

The beneficial uses of surface waters in the Lahontan Region as designated in the Basin Plan are:

a. municipal and domestic supply
b. agricultural supply
c. industrial service supply
d. ground water recharge
e. water contact recreation
f. non-contact water recreation
g. warm freshwater habitat
h. cold freshwater habitat
i. wildlife habitat
j. inland saline water habitat
k. hydropower generation
l. rare, threatened or endangered species
m. freshwater replenishment
n. industrial process supply
o. navigation
p. commercial and sportsfishing
q. aquaculture
r. preservation of biological habitats of special significance
s. migration of aquatic organisms
t. spawning, reproduction, and development
u. water quality enhancement
v. flood peak attenuation / flood water storage

These beneficial uses apply to surface waters of the Lahontan Region except where lesser beneficial uses are designated in the Basin Plan.

6. Discharge Prohibition Exemption

The proposed discharges covered by this Permit are waters that are treated by methods to achieve nondetectable contaminant concentrations. The discharge specifications of this Order contain a 30-day median effluent limit of less than laboratory detection limits and a daily maximum value that is protective of water quality objectives. The discharge allowed by this General Permit will not individually or collectively, directly or indirectly, affect water quality or result in a pollution or nuisance. Therefore, the proposed discharges may be granted an exemption to the above discharge prohibitions where such exemptions are allowed for in the Basin Plan.

7. Established Water Quality Standards

SWRCB Resolution No. 68-16

SWRCB Resolution No. 68-16 is a part of the Basin Plan for the Lahontan Region and describes a nondegradation policy for the waters of the State. Man-made fuel and solvent constituents are not naturally occurring, and thus pre-existing background concentrations of these constituents are considered nondetectable (below current analytical laboratory detection limits) in waters of the Region.

Existing Best Practicable Treatment (BPT) for the treatment of organic constituents in polluted water is capable of reliably removing most man-made constituents to nondetectable levels. The commonly achieved detection limits for these constituents in treated water are as follows:

Constituent	**Detection Level**	**Units**	**Analytical Methods***
Total Petroleum Hydrocarbons	50	µg/l	EPA Method 8015 (C_2 - C_{46})
Benzene	0.1	µg/l	EPA Method 602
Toluene	0.5	µg/l	EPA Method 602
Xylene	0.5	µg/l	EPA Method 602
Ethylbenzyne	0.5	µg/l	EPA Method 602
Total Lead	1.0	µg/l	Graphite Furnace AA
Naphthalene	0.5	µg/l	EPA 610
Methyl tertiary-butyl ether (MTBE)	1.0	µg/l	EPA 8020 or 8260
Ethylene Dichloride (EDB)	0.02	µg/l	DHS-AB1803
1,2 Dichloroethane (1,2 DCA)	0.5	µg/l	EPA 601
Trichloroethane (1,1,1 TCA)	0.5	µg/l	EPA 601
Tetrachloroethene (PCE)	0.5	µg/l	EPA 601
Trichloroethene (TCE)	0.5	µg/l	EPA 601
Trans-1,2 Dichloroethene (Trans-1,2 DCE)	0.5	µg/l	EPA 601
Cis-1,2 Dichloroethene (Cis-1,2 DCE)	0.5	µg/l	EPA 601
1,1 Dichloroethene (1,1 DCE)	0.5	µg/l	EPA 601
1,1 Dichloroethane (1,1 DCA)	0.5	µg/l	EPA 601
1,1,2 Trichloroethane (1,1,2 TCA)	0.5	µg/l	EPA 601
Vinyl Chloride	0.5	µg/l	EPA 601

* Alternative analytical methods that provide equivalent detection limits may be proposed in the NPDES Permit application or site specific Sampling and Analysis Plan.

Primary Drinking Water Standards

The State of California and/or the USEPA have set primary drinking water standards for the following hydrocarbon constituents as follows:

Constituent	**Level**	**Units**	**Consideration**
EDB	0.02	µg/l	Primary State of CA MCL
1,2 DCA	0.50	µg/l	Primary State of CA MCL
Total Lead	15	µg/l	Primary State of CA MCL
Benzene	1.0	µg/l	Primary State of CA MCL
Toluene	100	µg/l	Primary State of CA MCL
Xylenes	680	µg/l	Primary State of CA MCL
Ethylbenzene	1760	µg/l	Primary State of CA MCL
MTBE	14	g/l	Draft State of CA PHG
PCE	5	µg/l	Primary State of CA MCL
TCE	5	µg/l	Primary State of CA MCL
1,1,1 TCA	200	µg/l	Primary State of CA MCL
trans-1,2 DCE	10	µg/l	Primary State of CA MCL
cis-1,2 DCE	6	µg/l	Primary State of CA MCL
1,1 DCE	6	µg/l	Primary State of CA MCL
1,1 DCA	5	µg/l	Primary State of CA MCL
1,1,2 TCA	32	µg/l	Primary State of CA MCL
Vinyl Chloride	0.5	ug/l	Primary State of CA MCL

Secondary Drinking Water Standards

The State of California has set secondary drinking water standards for taste and odor of all constituents at a maximum contaminant level of three threshold odor units (TOU), Section 64473, Title 22, of the California Code of Regulations. The Federal EPA has proposed secondary drinking water standards for a select group of constituents based on a three TOU concentration (Federal Register, Vol. 54, No. 97, pp. 22138, 22139). The following proposed secondary standards are lower than or equal to the primary drinking water standards set for these constituents by the State of California.

Constituent	**Level**	**Units**	**Consideration**
Total Petroleum Hydrocarbons (C_2-C_{15})	50	µg/l	Taste and Odor
Total Petroleum Hydrocarbons (C_{16}-C_{46})	100	µg/l	Taste and Odor

Constituent	Level	Units	Consideration
Toluene	42	µg/l	Taste and Odor
Ethylbenzene	29	µg/l	Taste and Odor
Total Xylenes	17	µg/l	Taste and Odor
MTBE	5	µg/l	Proposed Taste and Odor

EPA Health Advisory Levels

The USEPA has established Health Advisory levels for selected petroleum product constituents in ground water as follows:

Constituent	Level	Units	Consideration
Naphthalene	20	µg/l	Health Advisory
MTBE	35	µg/l	Health Advisory

8. Antidegradation Policy

The Regional Board has considered antidegradation pursuant to 40 CFR 131.12 and SWRCB Resolution No. 68-16 and finds that the subject discharges are consistent with the provisions of these policies. An antidegradation analysis is not necessary for this Permit. Discharges not consistent with the provisions of these policies and regulations are not covered by this general Permit.

9. Clean Water Act

Effluent limitations, toxic, and pretreatment effluent standards established pursuant to Sections 301, 302, 304, and 307 of the Clean Water Act and amendments thereto are applicable to the discharge.

10. California Environmental Quality Act Compliance

The action to adopt an NPDES Permit is exempt from the provisions of the California Environmental Quality Act (CEQA) (Public Resources Code Section 21000, it seq.) in accordance with Section 13389 of the California Water Code and Section 15263 of the CEQA.

11. Notification of Interested Parties

The Regional Board has notified interested agencies and persons of its intent to adopt the General NPDES Permit.

12. Consideration of Public Comments

The Regional Board, in a public hearing, heard and considered all comments pertaining to the General NPDES Permit.

IT IS HEREBY ORDERED that the Discharger shall comply with the following:

I. DISCHARGE SPECIFICATIONS

A. Effluent/Discharge Limitations

Numerical effluent limitations listed below include 30-day median and daily maximum values. Thirty-day median concentration limits listed below are based on what is achievable by Best Practicable Treatment (BPT). BPT for petroleum and chlorinated hydrocarbon constituents is capable of reliably treating to below laboratory detection limits. Daily maximum values are based on established water quality standards which are protective of beneficial uses of ground and surface waters of the Lahontan Region.

Thirty-day median values are to be calculated based on the analytical results of samples obtained over 30 successive days ("running 30-day median"). A sufficient number of samples must be collected and analyzed to demonstrate compliance with the effluent limitations.

Discharge Specifications of this Permit list the 30-day median effluent limitations of specific constituents to be monitored are listed in the NOA issued to the Discharger. If the analytical results of effluent sampling indicate a detectable concentration of a constituent that is listed in the NOA, then sufficient samples must be collected and analyzed during the ensuing 30 days to demonstrate compliance with the 30-day median effluent limitations. The running 30-day median time frame shall begin the day the sample containing a detectable concentration was collected. Any detected concentration above a daily maximum value listed in this Permit is a violation of the Permit.

1. The discharge of an effluent in excess of the following limits is prohibited. All samples of effluent are to be single grab samples.

Constituents	**Units**	**30-day Median**	**Daily Maximum**
Total Petroleum Hydrocarbons (C_2-C_{46})	µg/l	<50	100
Benzene	µg/l	<0.50	1.0
Toluene	µg/l	<0.50	42.0
Ethylbenzene	µg/l	<0.50	29.0

Constituents	Units	30-day Median	Daily Maximum
Total Xylenes	µg/l	<0.50	17.0
Total Lead	µg/l	<1.0*	15.0
Naphthalene	µg/l	<0.5	20
MTBE	µg/l	<1.0	35
EDB	µg/l	<0.02	0.02
1,2 DCA	µg/l	<0.50	0.50
1,1,1 TCA	µg/l	<0.50	200
PCE	µg/l	<0.50	5.0
TCE	µg/l	<0.50	5.0
Trans-1,2 DCE	µg/l	<0.50	10
Cis-1,2 DCE	µg/l	<0.50	6
1,1 DCE	µg/l	<0.50	6
1,1 DCA	µg/l	<0.50	5
1,1,2 TCA	µg/l	<0.50	32
vinyl chloride	ug/l	<0.50	0.50

* This 30-day median limit could be set above 1.0 µg/l if the Discharger can demonstrate in the NPDES Permit Application that background Total Lead concentrations in the receiving water are greater than 1.0 µg/l. Any 30-day median limit allowed above 1.0 µg/l will be listed in the NOA. All samples for total lead are to be filtered samples.

2. The discharge shall not have a pH of less than 6.5 nor greater than 8.5.

3. There shall be no acute or chronic toxicity in undiluted effluent. Acute toxicity is defined as less than ninety percent survival fifty percent of the time, and less than seventy percent survival ten percent of the time. The tests shall be conducted using standard test organisms in undiluted effluent in 96-hour static or continuous flow tests. Chronic toxicity shall be in accordance with and as defined in Short-Term Methods for Estimating the Chronic Toxicity of Effluent and Receiving Waters to Freshwater Organisms, EPA-600/4-85-014.

B. Receiving Water Limitations

1. The discharge shall not cause the presence of the following substances or conditions in a receiving water:

   a. Concentrations of dissolved oxygen to fall below 7.0 mg/l. If background dissolved oxygen of the receiving water is less than 7.0 mg/l, then the discharge shall not depress the natural dissolved oxygen concentration.

b. Oils, greases, waxes, or other materials to form a visible film or coating on the water or ground surface.

c. Oils, greases, waxes, floating material (liquids, solids, foams, and scums) or suspended material to create a nuisance or adversely affect beneficial uses.

d. Toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, aquatic life.

e. Aesthetically undesirable discoloration.

f. Fungi, slimes, or other objectionable growths.

g. Turbidity to increase to more than 10 percent of background levels, and/or to levels toxic to natural flora and/or fauna.

h. The normal ambient pH to fall below 6.5, exceed 8.5, change by more than 1.0 units, or change to a level that is toxic to the natural flora and/or fauna.

i. Deposition of material that causes nuisance or adversely affects beneficial uses.

j. The normal ambient temperature to be altered more than five degrees Fahrenheit.

k. Radionuclides to be present in concentrations that are harmful to human, plant, animal, or aquatic life, or that results in the accumulation of radionuclides in the food web to an extent that presents a hazard to human, plant, animal, or aquatic life.

l. Concentrations of radionuclides in excess of the maximum contaminant levels specified in the California Code of Regulations, Title 22.

m. Taste or odor-producing substances to impart undesirable tastes or odors to fish flesh or other edible products of aquatic origin, or to cause nuisance or adversely affect beneficial uses.

n. Violation of any applicable water quality standard for receiving waters adopted by the Regional Board or the SWRCB pursuant to the Clean Water Act and regulations adopted thereunder.

C. General Requirements and Discharge Prohibitions

1. All discharges covered by this Permit shall be limited to treated water from the investigation and remediation of identified or potential ground water pollution. This Permit shall apply only to discharges that meet the following conditions.

   a. The identified pollutants have effluent limitations prescribed in this general Permit;

   b. The treatment system is capable of reliably meeting all prescribed effluent limitations in this general Permit; and

   c. The general water quality of the discharge is of equal to or better water quality than that of the receiving water. General water quality is to be determined as part of the Permit application process.

2. There shall be no discharge, bypass, or diversion of polluted or partially treated water, sludge, grease, oils, purge water, development water, or pump test water from the collection, transport, or disposal facilities to adjacent land areas or surface waters.

3. The discharge shall not cause a pollution as defined in Section 13050 of the California Water Code, or a threatened pollution.

4. Neither the treatment nor the discharge shall cause a nuisance as defined in Section 13050 of the California Water Code.

5. The discharge of treated wastewater except to the disposal point(s) authorized in the NOA is prohibited.

6. The discharge shall not cause erosion of sediments.

II. PROVISIONS

A. Discharge Prohibitions

Discharges regulated by this Order are hereby exempt from the Discharge Prohibitions described in the Basin Plan where the Basin Plan provides for such exemptions.

B. Standard Provisions

The Discharger shall comply with the "Standard Provisions for NPDES Permits," in Attachment "A," which is made part of this Permit.

C. Monitoring and Reporting

1. Pursuant to the California Water Code Section 13267(b), the Discharger shall comply with the Monitoring and Reporting Program No. 93-104 as specified by the Executive Officer.

2. The Discharger shall comply with the "General Provisions for Monitoring and Reporting," dated September 1, 1994, which is attached to and made part of the Monitoring and Reporting Program.

D. Applicability

1. Wastewater remediated by the treatment unit may typically be generated from the following sources during the investigation and/or remediation of ground water pollution:

   a. Ground water extracted from the underlying aquifer as part of the ground water remediation process.

   b. Potentially polluted ground water generated during aquifer pump tests.

   c. Potentially polluted well development water or purge water generated during ground water monitoring.

   d. Other waste water generated during site investigations or cleanups.

2. This Permit does not pre-empt or supersede the authority of other agencies to prohibit, restrict, or control the discharge of treated ground water.

3. When individual Waste Discharge Requirements are issued to a Discharger otherwise subject to this Permit, the applicability of this Permit to the Discharger is automatically terminated on the effective date of the individual Permit.

4. Discharges currently regulated under an existing NPDES Permit shall continue to be regulated by the existing Permit until its expiration. At least 180 days prior to expiration of the existing Permit, the Discharger shall file a revised Report of Waste Discharge (RWD). The Discharger shall be subject to the requirements of this general Permit only after a NOA has been issued by the Executive Officer.

E. Expiration Date

This general Permit expires on **November 6, 2003**. However, the general Permit shall continue in force and effective until a new general Permit is issued.

F. National Pollutant Discharge Elimination System

This Permit shall become the NPDES Permit pursuant to Section 402 of the Federal Water Pollution Control Act or amendments thereto upon its adoption by the Regional Board.

The NPDES Permit becomes effective 10 days after adoption by the Regional Board provided no objection from the USEPA has been received. If the Regional Administrator objects to its issuance, the Permit shall not become effective until such objection is withdrawn.

G. Definitions

"Waste" as used in this Permit includes, but is not limited to, any waste or waste constituent as defined in Section 13050 of the California Water Code, or Section 2601, Article 10, Chapter 15, Title 23, of the California Code of Regulations.

H. Operation and Maintenance

The Discharger shall not allow pollutant-free wastewater to be discharged into the collection, treatment, and disposal system in amounts that significantly diminish the system's capability to comply with this Permit. Pollutant-free wastewater may include rainfall, ground water, surface water, cooling waters, and condensates.

I. Notifications of Modifications

1. At least 180 days prior to making any change in the method of treatment or other factors which may affect the quality of the discharge, discharge point (Outfall), place of use, purpose of use of the wastewater, the Discharger shall file a new RWD/NPDES application. Any change in the character of the influent shall be reported to the Regional Board within 48 hours.

2. In the event of any change in control or ownership of land or waste discharge facilities presently owned or controlled by the Discharger, the Discharger shall notify the succeeding owner or operator of the existence of this Permit by letter. A copy of this letter should be immediately forwarded to this office.

3. The Discharger shall notify the Regional Board within 30 days when the clean-up activities are complete or the discharge will no longer occur. At that time the Executive Officer will consider withdrawal of the NOA. Once the NOA is withdrawn, the discharge will no longer be covered by this Permit and no discharge may occur prior to compliance with provisions of the California Water Code.

I, Harold J. Singer, Executive Officer, do hereby certify that the foregoing is a full, true, and correct copy of an NPDES Permit adopted by the California Regional Water Quality Control Board, Lahontan Region, on November 5, 1998.

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HAROLD J. SINGER
EXECUTIVE OFFICER

Attachments: Standard Provisions for Waste Discharge Requirements

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STANDARD PROVISIONS FOR NPDES PERMITS

1. The permittee must comply with all of the terms, requirements, and conditions of this permit. Any violation of this permit constitutes violation of the Act, its regulations and the California Water Code, and is grounds or enforcement action, permit termination, permit revocation, and reissuance, denial of an application for permit reissuance; or a combination thereof.

2. The permittee shall comply with effluent standards or prohibitions established under 307(a) of the Clean Water Act (CWA) for toxic pollutants within the time provided in the regulations that establish these standards or prohibitions, even if this permit has not yet been modified to incorporate the requirement. [40 CFR 122.41(a)(1)]

   The California Water Code provides that any person who violates a waste discharge requirement (same as permit condition), or a provision of the California Water Code, is subject to civil penalties of up to $1,000 per day or $10,000 per day of violation, or when the violation involves the discharge of pollutants, is subject to civil penalties of up to $10 per gallon per day or $20 per gallon per day of violation; or some combination thereof, depending on the violation, or upon the combination of violations.*

   Violations of any of the provisions of the NPDES program, or of any of the provisions of this permit, may subject the violator to any of the penalties described herein, or any combination thereof, at the discretion of the prosecuting authority; except that only one kind of penalty may be applied for each kind of violation.*

3. The Clean Water Act (CWA) provides that any person who violates a permit condition implementing sections 301, 302, 306, 307, or 308 of the CWA is subject to a civil penalty not to exceed $10,000 per day of such violation. Any person who willfully or negligently violates permit conditions implementing these sections of the CWA is subject to a fine of not less than $2,500, nor more than $25,000 per day of violation, or by imprisonment for not more than 1 year, or both. [40 CFR 122.41(a)(2)]

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

5. It shall not be a defense for a permittee 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 permit. [40 CFR 122.41(c)]

6. The permittee shall take all reasonable steps to minimize or prevent any discharge that has a reasonable likelihood of adversely affecting health or the environment. [40 CFR 122.41(d)]

7. The permittee shall, at all times, properly operate and maintain all the facilities and systems of treatment and control (and related appurtenances) that are installed or used by the permittee to achieve compliance with this permit. Proper operation and maintenance 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 permittee only when necessary to achieve compliance with the conditions of this permit. [40 CFR 122.41(e)]

8. This permit may be modified, revoked and reissued, or terminated for **cause.** The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any permit condition. [CFR 122.41(g)]

9. This permit does not convey any property rights of any sort, or any exclusive privilege. [40 CFR 122.41(f)]

10. The permittee shall furnish, within a reasonable time, any information the Board or EPA may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit. The permittee shall also furnish to the Board, upon request, copies of records required to be kept by this permit. [40 CFR 122.41(h)]

11. The Board, EPA, and other authorized representatives shall be allowed:

    a) Entry upon premises where a regulated facility or activity is located or conducted, or where records are kept under the conditions of this permit;

    b) Access to copy any records that are kept under the conditions of this permit;

    c) To inspect any facility, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and

    d) To photograph, sample, and monitor for the purpose of assuring compliance with this permit, or as otherwise authorized by the Clean Water Act.

    [40 CFR 122.41(j)]

12. Monitoring and records.

    a) Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity.

    b) The permittee shall retain records of all monitoring information, including all calibration and maintenance monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit, for a period of at least three years from the date of the sample, measurement, report, or application. This period may be extended by request of the Regional Board or EPA at any time.

    c) Records of monitoring information shall include:

        i) The date, exact place, and time of sampling or measurements;
        ii) The individual(s) who performed the sampling or measurements;
        iii) The date(s) analyses were performed;
        iv) The individual(s) who performed the analyses;
        v) The analytical techniques or methods used; and
        vi) The results of such analyses.

    d) Monitoring must be conducted according to test procedures under 40 CFR Part 136, unless other test procedures have been specified in this permit.

    e) The Clean Water Act provides that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device, or method required to be

maintained under this permit shall, upon conviction, be punished by a fine of not more than $10,000 per violation, or by imprisonment for not more than six months per violation, or by both.

[40 CFR 122.41(j)]

13. All applications, reports, or information submitted to the Board shall be signed and certified in accordance with 40 CFR 122.22. [40 CFR 122.41(k)(l)]

14. The CWA provides that any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or noncompliance shall, upon conviction, be punished by a fine of not more than $10,000 per violation, or by imprisonment for not more than 6 months per violation, or by both. [40 CFR 122.41(k)(2)]

15. Reporting requirements:

a) The permittee shall give advance notice to the Board, as soon as possible of, any planned physical alterations, or additions to the permitted facility.

b) The permittee shall give advance notice to the Regional Board of any planned changes in the permitted facility or activity that may result in noncompliance with permit requirements.

c) This permit is not transferable to any person, except after notice to the Regional Board. The Board may require modification, or revocation and reissuance of the permit to change the name of the permittee, and incorporate such other requirements as may be necessary under the Clean Water Act.

d) Monitoring results shall be reported at the intervals specified elsewhere in this permit.

i) Monitoring results must be reported in a Discharge Monitoring Report (DMR).
ii) If the permittee monitors any pollutant more frequently than required by this permit using test procedures approved under 40 CFR Part 136 or as specified in this permit, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the DMR.
iii) Calculations for all limitations that require averaging of measurements shall utilize an arithmetic mean unless otherwise specified in this permit.

e) Report of compliance or noncompliance with, or any progress reports on interim and final requirements contained in any compliance schedule of this permit shall be submitted no later than 14 days following each schedule date.

f) Twenty-four hour reporting.

i) The permittee shall report any noncompliance that may endanger health or the environment to the Board. Any information shall be provided orally within 24 hours from the time the permittee becomes aware of the circumstances. A written submission shall also be provided within five days of the time the permittee 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 time 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.

ii) The following shall be included as information that must be report within 24 hours under this paragraph:

a) Any unanticipated bypass that exceeds any effluent limitation in the permit.

b) Any upset that exceeds any effluent limitation in the permit.

c) Violation of a maximum daily discharge limitation for any of the pollutants listed in this permit to be reported within 24 hours.

iii) The Board may waive the above-required written report on a case-by-case basis.

g) The permittee shall report all instances of noncompliance, not otherwise reported under the above paragraphs, at the time monitoring reports are submitted. The reports shall contain all information listed in paragraph 15(f) above.

[40 CFR 122.41(1)]

16. Bypass (the intentional diversion of waste streams from any portion of facility) is prohibited. The Board may take enforcement action against the Discharger for bypass unless:

a) Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage. (Severe property damage means substantial physical damage to property, damage to the treatment facilities that 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.);

b) There were no feasible alternatives to bypass, such as the use of auxiliary treatment facilities, retention of untreated waste, or maintenance during normal periods of equipment down time. 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 could occur during normal periods of equipment downtime or preventive maintenance; and

c) The permittee submitted a notice, at least ten days in advance, of the need for a bypass to the appropriate Board.

The permittee may allow a bypass to occur that does not cause effluent limitations to be exceeded, but only if it is for essential maintenance to assure efficient operation. In such a case, the above bypass conditions are not applicable.

The permittee shall submit notice of an unanticipated bypass as required in paragraph 15(f) above.

[40 CFR 122.41(m)]

17. Upset means an exceptional incident in which there is unintentional and temporary noncompliance with permit effluent limitations because of factors beyond the reasonable control of the permittee. 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 action. A permittee that wishes to establish the affirmative defense of an upset in an action brought for noncompliance shall demonstrate, through signed, contemporaneous operating logs, or other relevant evidence that:

a) an upset occurred and that the permittee can identify the cause(s) of the upset;

b) the permitted facility was being properly operated at the time of the upset;

c) the permittee submitted notice of the upset as required in paragraph 15(f) above; and

d) the permittee complied with any remedial measures required under paragraph 7.

No determination made before an action for noncompliance, such as during administrative review of claims that noncompliance was caused by an upset, is final administrative action subject to judicial review.

In any enforcement proceeding, the permittee seeking to establish the occurrence of an upset has the burden of proof.

[40 CFR 122.41(n)]

18. All existing manufacturing, commercial, mining, and silvicultural dischargers must notify the Board as soon as they know or have reason to believe:

a) that any activity has occurred or will occur that would result in the discharge of any toxic pollutant that is not limited in this

permit, if that discharge will exceed the highest of the following "notification levels:"

i) One hundred micrograms per liter (100 ug/l);
ii) Two hundred micrograms per liter (200 ug/l) for acrolein and acrylonitrile; five hundred micrograms per liter (500 ug/l) for 2,4-dinitrophenol and 2-methyl-4,6-dinitrophenol; and one milligram per liter (1 mg/l) for antimony;
iii) Five (5) times the maximum concentration value reported for that pollutant in the permit application; or
iv) The level established by the Regional Board in accordance with 40 CFR 122.44(f).

b) that they have begun or expect to begin to use or manufacture as an intermediate or final product or byproduct any toxic pollutant that was not reported in the permit application.

[40 CFR 122.42(a)]

* This paragraph was added or modified by the State Water Quality Control Board to the California Water Code.

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LAHONTAN REGION

MONITORING AND REPORTING PROGRAM NO. 98-75
NPDES NO. CA G916001

FOR

UPDATED NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT FOR SURFACE WATER DISPOSAL OF TREATED GROUND WATER

_____Lahontan Region_____

I. MONITORING

The Information to Support Discharge of Treated Ground Water to Surface Waters (Application) necessitates the submittal of laboratory analytical data from samples collected from ground water monitoring wells within the ground water pollution plume or are otherwise representative of waters to be treated and discharged according to the General Permit. Based on these analysis, the final Report of Waste Discharge (RWD) should indicate all constituents of concern (COCs) that will be treated by the water treatment system.

The following Influent, Effluent, and Receiving Water Monitoring schedules detail sampling frequency. Constituents to be sampled for will be listed in the Notice of Applicability (NOA). Under certain adverse conditions, more frequent sampling is required if it is appropriate. An adverse condition is defined as any problem which does or could affect treatment facility compliance or efficiency. If at any time the system is shut down for a continuous time period greater than 60 days, the influent, effluent, and receiving water monitoring programs and toxicity testing must be reinitiated unless otherwise specifically approved by the Executive Officer.

A. Treatment Facility Startup Monitoring

Prior to disposal of any treatment effluent, the Discharger shall conduct startup monitoring to confirm that the treatment unit will produce effluent that complies with standards prescribed in the National Pollutant Discharge Elimination System (NPDES) Permit. During startup monitoring, the Discharger shall direct the treatment unit discharge to a temporary, impervious storage container. Startup monitoring shall be conducted until two consistent, consecutive sample results indicate that the treatment system effluent has stabilized and is in compliance with the Permit. Samples shall be collected a minimum of twelve and a maximum of 72 hours apart. Only treatment unit effluent is required to be analyzed during startup monitoring. Any treatment unit discharge that does not meet discharge specifications for effluent shall not be discharged to surface waters.

B. Flow Monitoring

The following information shall be recorded in a permanent log book:

1. The total volume, in gallons, of wastewater flow to the treatment facility for each day.

2. The total volume, in gallons, of wastewater flow to the treatment facility each month.

3. The average flow rate, in gallons per day, of wastewater flow to the treatment facility for each month.

4. The total volume of wastewater discharged from the treatment facility each month.

C. Treatment Facility Influent Monitoring

The purpose of the required influent monitoring is to verify the efficiency of the treatment system. Influent samples shall be collected after the last connection and before the wastes enter the treatment system. Influent samples should be representative of the volume and nature of the influent. Time of collection for grab samples must be discretely recorded. Specific constituents to be monitored shall be named in the NOA.

The minimum sampling frequency shall be as follows:

1. During the first two months of treatment unit operation, influent samples shall be collected on the 1st, 2nd, 4th, 7th, 14th, 21st, 28th, 42nd, and 56th days of operation.

2. During the third to sixth month, influent sampling shall be conducted every 30 days.

3. Thereafter, influent sampling shall be conducted every 90 days.

Sampling shall be conducted at a minimum according to the above schedule, and frequently enough to ensure that the effluent is in compliance with the discharge specifications of the permit. Site specific conditions, such as monitoring for potential breakthrough of the treatment system, may require more frequent monitoring.

D. Treatment Facility Effluent Monitoring

Effluent samples shall be collected immediately downstream of the last connection through which wastes can be admitted into the outfall. Effluent samples should be representative of the volume and nature of the discharge. Time of collection of grab samples shall be discretely recorded. The required sampling frequency shall be the same as that for the influent monitoring program as described above.

E. Receiving Water Monitoring

All receiving water samples shall be grab samples. Receiving water samples shall be collected in the same frequency as detailed in the influent monitoring program above. Receiving water samples shall be obtained from the following:

Station	*Description*
R-1	Upstream from the discharge point at a location specified in the NOA
R-2	No greater than 100 feet down stream of the discharge point at a location specified in the NOA
R-3	If applicable, the ultimate receiving water at a location specified in the NOA

In conducting any receiving water sampling in accordance with the required sampling frequency, a log shall be kept of the receiving water conditions throughout the reach bounded by Stations R-1, R-2, and R-3. Attention shall be given to the presence or absence of:

a. floating or suspended matters
b. discoloration
c. bottom deposits
d. aquatic life
e. erosion and/or sediment deposition

Notes on receiving water conditions shall be maintained in a permanent logbook and summarized in the monitoring report.

II. TOXICITY TESTING

1. The Discharger shall perform toxicity testing, as described below, on the undiluted effluent. The effluent sample shall be collected immediately after discharge from the treatment unit, but prior to the wastewater reaching the receiving water. The tests shall be performed upon startup of the treatment facility and may also be required annually thereafter depending on the results of the initial toxicity testing.

   Subsequent rounds of annual sampling shall be performed within 365 days of the startup date, and the results submitted to the California Regional Water Quality Control Board Lahontan Region (Regional Board) within 30 days thereafter. The results of the subsequent four annual tests, if required, shall be submitted to the Regional Board within 30 days of each annual sampling event. The species to be used in the toxicity analysis and procedures are described below.

2. All tests shall be conducted on grab samples of undiluted treatment facility effluent. Analysis of Variance (ANOVA) shall be used to determine whether differences between control and effluent data are significant.

   a. The Discharger shall conduct a seven day Ceriodaphnia survival and reproduction test on samples of undiluted effluent. Toxicity will be demonstrated if there is a statistically significant difference at the 95% confidence level in survival or growth between Ceriodaphnia exposed to an appropriate control water and undiluted effluent. All test solutions shall be renewed daily. If in any control, more than 20% of the test organisms die, that test (control and effluent) shall be repeated. Further, if in any control, the reproduction rate (of offspring per female) averages less than 15, that test (control and effluent) shall be repeated.

   b. The Discharger shall conduct an eight day Pimephales promelas (fathead minnow) embryo larval survival and teratogenicity test on samples of undiluted effluent. Toxicity will be demonstrated if there is a statistically significant difference at the 95% confidence level in survival or growth between Pimephales promelas exposed to an appropriate control water and undiluted effluent. All test solutions shall be renewed daily. If in any control, more than 20% of the test organisms die, that test (control and effluent) shall be repeated.

c. The Discharger shall conduct a four day aquatic plant growth test on samples of undiluted effluent. Toxicity will be demonstrated if there is a statistically significant difference at the 95% confidence level in cell density, biomass, or chlorophyll absorbance between Selenastrum capricornutum exposed to appropriate control water and undiluted effluent. If in any control, the initial cell density decreases by more than 20%, that test (control and effluent) shall be repeated.

3. If any one test indicates the effluent is toxic, then another confirmatory chronic toxicity test using the specified methodology and same test species shall be conducted within 15 days. In no case shall the second confirmatory test results be submitted to the Regional Board later than 365 days from the previous annual sampling.

4. All test species, procedures, and quality assurance criteria used shall be in accordance with Short-term Methods for Estimating the Chronic Toxicity of Effluent and Receiving Waters to Freshwater Organisms, Section 13; Ceriodaphnia Survival and Reproduction Test Method 1002.0, Section 12; Fathead Minnow (Pimephales promelas) Embryo Larval Survival and Teratogenicity Test Method 1001.0, Section 14; Algal (Selenastrum capricornutum) Growth Test Method 1003.0, EPA 600/4-85-014. After one year of toxicity monitoring the results of the three species tests will be evaluated by the Regional Board, and a determination will be made as to which species is most sensitive to the undiluted effluent. Thereafter, all subsequent annual toxicity testing shall be performed on the one species considered most sensitive.

5. A toxicity monitoring program shall be prepared that includes procedures and techniques for sample collection, sample preservation and shipment, analytical procedures, and chain of custody control. The program shall be submitted not less then 60 days prior to startup of the treatment facility.

III. REPORTING

A. General Provisions

The Discharger shall comply with the "General Provisions for Monitoring and Reporting," which is made part of this Monitoring and Reporting Program.

B. Submittal Periods

Quarterly reports shall be submitted to the Regional Board by the fifteenth (15th) day of January, April, July, and October of each year.

In reporting the monitoring data, the Discharger shall arrange the data in tabular form so that the date of sample collection, the constituents, and the concentrations detected are readily discernible. Additionally, the data shall be narratively summarized in such a manner as to illustrate clearly to status of compliance with the Permit.

Upon written request, the Discharger shall submit an annual report to the Regional Board by **January 30th** of the following year. The report shall contain tabular, graphic, and narrative descriptions of the monitoring data obtained during the previous year. Additionally, the report shall clearly document the status of compliance with the Permit. If any corrective actions were necessary during the year to maintain or retain compliance, this annual report shall discuss these actions in detail.

The Discharger shall implement the above monitoring program immediately upon the commencement of the initial Discharger covered by this general Permit.

Ordered by: _____ Date: November 5, 1998

HAROLD J. SINGER
EXECUTIVE OFFICER

Attachments: General Provisions for Monitoring and Reporting

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CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LAHONTAN REGION

GENERAL PROVISIONS
FOR MONITORING AND REPORTING

1. SAMPLING AND ANALYSIS

a. All analyses shall be performed in accordance with the current edition(s) of the following documents:

   i. Standard Methods for the Examination of Water and Wastewater

   ii. Methods for Chemical Analysis of Water and Wastes, EPA

b. All analyses shall be performed in a laboratory certified to perform such analyses by the California State Department of Health Services or a laboratory approved by the Regional Board Executive Officer. Specific methods of analysis must be identified on each laboratory report.

c. Any modifications to the above methods to eliminate known interferences shall be reported with the sample results. The methods used shall also be reported. If methods other than EPA-approved methods or Standard Methods are used, the exact methodology must be submitted for review and must be approved by the Regional Board Executive Officer prior to use.

d. The discharger shall establish chain-of-custody procedures to insure that specific individuals are responsible for sample integrity from commencement of sample collection through delivery to an approved laboratory. Sample collection, storage, and analysis shall be conducted in accordance with an approved Sampling and Analysis Plan (SAP). The most recent version of the approved SAP shall be kept at the facility.

e. The discharger shall calibrate and perform maintenance procedures on all monitoring instruments and equipment to ensure accuracy of measurements, or shall insure that both activities will be conducted. The calibration of any wastewater flow measuring device shall be recorded and maintained in the permanent log book described in 2.b, below.

f. A grab sample is defined as an individual sample collected in fewer than 15 minutes.

g. A composite sample is defined as a combination of no fewer than eight individual samples obtained over the specified sampling period at equal intervals. The volume of each individual sample shall be proportional to the discharge flow rate at the time of sampling. The sampling period shall equal the discharge period, or 24 hours, whichever period is shorter.

2. OPERATIONAL REQUIREMENTS

a. Sample Results

Pursuant to California Water Code Section 13267(b), the discharger shall maintain all sampling and analytical results including: strip charts; date, exact place, and time of sampling; date analyses were performed; sample collector's name; analyst's name; analytical techniques used; and results of all analyses. Such records shall be retained for a minimum of three years. This period of retention shall be extended during the course of any unresolved litigation regarding this discharge, or when requested by the Regional Board.

b. Operational Log

Pursuant to California Water Code Section 13267(b), an operation and maintenance log shall be maintained at the facility. All monitoring and reporting data shall be recorded in a permanent log book.

3. REPORTING

a. For every item where the requirements are not met, the discharger shall submit a statement of the actions undertaken or proposed which will bring the discharge into full compliance with requirements at the earliest time, and shall submit a timetable for correction.

b. Pursuant to California Water Code Section 13267(b), all sampling and analytical results shall be made available to the Regional Board upon request. Results shall be retained for a minimum of three years. This period of retention shall be extended during the course of any unresolved litigation regarding this discharge, or when requested by the Regional Board.

c. The discharger shall provide a brief summary of any operational problems and maintenance activities to the Board with each monitoring report. Any modifications or additions to, or any major maintenance conducted on, or any major problems occurring to the wastewater conveyance system, treatment facilities, or disposal facilities shall be included in this summary.

d. Monitoring reports shall be signed by:

i. In the case of a corporation, by a principal executive officer at least of the level of vice-president or his duly authorized representative, if such representative is responsible for the overall operation of the facility from which the discharge originates;

ii. In the case of a partnership, by a general partner;

iii. In the case of a sole proprietorship,by the proprietor; or

iv. In the case of a municipal, state or other public facility, by either a principal executive officer, ranking elected official, or other duly authorized employee.

e. Monitoring reports are to include the following:

i. Name and telephone number of individual who can answer questions about the report.

ii. The Monitoring and Reporting Program Number.

iii. WDID Number.

f. Modifications

This Monitoring and Reporting Program may be modified at the discretion of the Regional Board Executive Officer.

4. NONCOMPLIANCE

Under Section 13268 of the Water Code, any person failing or refusing to furnish technical or monitoring reports, or falsifying any information provided therein, is guilty of a misdemeanor and may be liable civilly in an amount of up to one thousand dollars ($1,000) for each day of violation.

INFORMATION TO SUPPORT
DISCHARGE OF TREATED GROUND WATER
TO LAND OR TO SURFACE WATER

This guidance document outlines the minimum information required by the California Regional Water Quality Control Board, Lahontan Region, prior to considering issuance of a Notice of Applicability for general waste discharge requirements for the discharge of treated ground water to land or to surface water. In addition to the information outlined in this document, a completed State Form 200 and filing fee must also be submitted.

Discharges to land regulated by the general Order include the following:

1. percolation trenches or basins
2. irrigation of landscaping
3. spray disposal
4. evaporation trenches or basins
5. subsurface infiltration
6. other similar discharges

Discharges to surface water regulated by the general Order include discharges to all bodies defined as surface waters in the Code of Federal Regulations, Section 122.2.

A. Background Information

A basic description of the proposed discharge must be provided to allow staff to determine if a general permit is applicable to the proposed discharge. This information generally includes:

1. Identification of the source of pollutants (source areas), the potential seasonal variations in the concentrations of pollutants and flow rates, and a general description of the proposed treatment and disposal systems.

2. Identification of the surface drainage controls, drainage courses and surface water bodies, including rivers, streams, lakes and ponds within one mile of the facility.

3. Locations of all recharge areas (e.g. ephemeral stream channels, percolation ponds, subsurface sewage disposal systems, irrigated agriculture, etc.) within one mile of the facility.

4. Identification of all piezometers and all wells, including monitoring, extraction, injection and supply wells, onsite and offsite within one mile of the site or within an area that may potentially be influenced by the discharge.

5. Property boundaries.

6. Buildings, dwellings, and other significant structures.

7. Map(s) of the site which depicts the location of all surface features identified above, including the process and source areas, the points of discharge and the extraction, treatment and disposal facilities.

8. Documentation of any compliance with the California Environmental Quality Act (CEQA) and all necessary local and state permits. Submit a copy of an Environmental Impact Report (EIR) or a Negative Declaration, if either has been prepared.

B. Chemical and Physical Wastewater Characteristics

A chemical and physical evaluation of the wastewater is needed to allow staff to assess the need for discharge standards and monitoring, and to evaluate the potential for impacts on water quality. The specifics of the characterization varies with the type of wastes being discharged. The following are minimum requirements for ground water cleanup discharges:

1. A minimum of one of each of the following analyses of the wastewater:

    a. Chlorinated volatile hydrocarbons (EPA Methods 601 or 8010).

    b. Aromatic volatile hydrocarbons (EPA Methods 602 or 8020).

    c. Total petroleum hydrocarbons (TPH) in the gasoline and diesel ranges (3550 GCFID). Additional or alternative TPH analyses may be required if the suspected pollutants contain hydrocarbon fractions outside the range of these tests.

    d. General or standard minerals analyses, including but not limited to, total dissolved solids (TDS), chloride, sulfate, nitrate, electrical conductivity (EC), pH and temperature.

    e. Other analyses associated with specific types of waste streams; for example, dissolved oxygen (DO) and suspended solids (SS).

2. On a site-by-site basis, a proposed surface water discharges may be required to conduct acute and chronic toxicity testing (EPA/600-4-85-014 and EPA/440/4-85-032).

C. Disposal Analysis

The disposal analysis usually contains the following:

1. An evaluation of land disposal options for the purpose of screening feasible disposal alternatives. Land disposal alternatives to be evaluated include those listed on page 1 of this document. An evaluation of the environmental and financial constraints for each alternative must be provided. The proposed disposal system may consist of two or more disposal alternatives.

2. A narrative and schematic description of each of the proposed alternatives in the disposal system. Identification of whether disposal occurs on a seasonal basis. Information on the type and size of the disposal alternative(s). Provide design details, including flows, for each disposal alternative.

3. A water mass balance for each land disposal alternative must be provided to assure that sufficient disposal capacity is available at all times under all weather and operational conditions.

4. A discussion on the potential hydraulic and other impacts of the selected wastewater disposal alternatives) on the migration and capture of the plume.

5. If treated water is to be used for irrigation, property owner, type and permeability of the soils, estimated quantities based on consumptive use, method of application, surface runoff controls and the irrigation season must be identified. Institutional arrangements for control of land must also be identified.

6. If ponds are used for the disposal of the treated wastewater, information on the freeboard and structural integrity and estimates of infiltration and evaporation must be provided.

D. **Wastewater treatment system and characteristics**

A description of the treatment facility is needed to assure that all waste streams are accounted for, and to aid in design of the monitoring program.

1. A detailed narrative description and schematic presentation of the proposed treatment system, including all processes.

2. Descriptions of the nature and concentration of any chemical additive used for treatment must be included. If the proposed treatment system uses activated carbon, submit an estimate of the breakthrough time for each carbon treatment unit. If the operations and maintenance include backflushing, or other required treatment for maintenance, then a full description of any discharges associated with these procedures must be included.

3. An estimate of the average, maximum and any variation in flows, as well as the design flows (hydraulic and treatment) for the treatment system. All necessary sizing calculations to accommodate the treatment volume must be included.

4. An operation plan describing general operations, maintenance procedures and process controls. Information on the provisions for stand-by power must be provided.

5. A description of the proposed performance monitoring system utilized to determine that the treatment and disposal system is in compliance with WDRs.

6. A spill plan including the preventive and contingency measures for controlling accidental discharges and for minimizing the effect of such an event.

7. Information required to assess protection of the facility from floods and frost.

8. A narrative and schematic description of the proposed extraction system. A discussion of the number, location and pumping rates of the extraction wells.

E. **Site Hydrogeology and Characterization of Pollution**

1. Depth to ground water, including seasonal variations.

2. Direction and gradient of ground water flow.

3. locations of any known geologic features (e.g. aquitards, subterranean channels, faults, etc.) which could affect pollution migration.

4. Information on the locations, construction, design and analytical results from monitoring wells used to define the lateral and vertical extent of the plume and wells used to monitor the effectiveness of the cleanup.

5. Aquifer characteristics (e.g., hydraulic conductivity, porosity, etc.) determined from a sufficient number of locations by aquifer tests, soil borings, geophysics, etc.

6. Ground water modeling results including calculations and results for extraction system spacings, pumping/collection rates, injection system spacings and injection/infiltration rates.

7. Location, construction and design details of extraction and injection systems (drilling methods, well designs, trench designs, etc.).

F. **Receiving Water**

1. Provide information on the water quality of the receiving water. Analytical results should be provided for all constituents found in the waste stream as listed under B.1 above. Additional analysis may be requested by Board staff.

2. Descriptions of the direction and magnitude of flows. Sources and seasonal flow variations for surface water and irrigation supply must be provided.

3. For discharges to surface water the following must be provided:

    a. Conduct an analysis of the impact of the wastewater discharge on the DO content and temperature of the surface receiving water. Calculations should be performed for the range of dilution and temperature conditions expected to be found in the receiving waters. All assumptions should be stated and a sample calculation should be included.

    b. Chronic toxicity testing (EPA/600-4-85-014 and EPA/440/4-85-032) using a dilution series with water from the surface receiving water source.