CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

REVISED MONITORING AND REPORTING PROGRAM NO. 97-100
FOR

TRANSHUMANCE INC., ELLENSBURG LAMB COMPANY, AND
SUPERIOR PACKING COMPANY
SOLANO COUNTY

The Discharger shall comply with this Monitoring and Reporting Program (MRP), issued pursuant to Water Code Section 13267, which describes requirements for monitoring industrial process wastewater and groundwater. The Discharger shall not implement any changes to this MRP unless and until a revised MRP is issued by the Executive Officer. The Discharger shall also comply with the Standard Provisions and Reporting Requirements dated 1 March 1991, which are a part of Waste Discharge Requirements Order No. 97-100.

All samples shall be representative of the volume and nature of the discharge or matrix of material sampled. The time, date, and location of each sample shall be recorded on the sample chain of custody form. Field test instruments (such as those used to measure pH and dissolved oxygen) may be used provided that:

1. The operator is trained in proper use and maintenance of the instruments.
2. The instruments are calibrated prior to each monitoring event.
3. The instruments are serviced and/or calibrated by the manufacturer at the recommended frequency.
4. Field calibration reports are submitted as described in the "Reporting" section of the MRP.

EFFLUENT MONITORING

Samples of the effluent wastewater from the meatpacking plant shall be collected as follows:

Constituents	Units	Type of Sample	Monitoring Frequency	Reporting Frequency
Flow	gallons	Meter/Totalizer	Daily	Monthly
pH	pH Units	Grab	Monthly	Monthly
Electrical Conductivity	µmhos/cm	Grab/Meter	Daily	Monthly
Total Dissolved Solids	mg/L	Grab	Monthly	Monthly
Total Fixed Dissolved Solids	mg/L	Grab	Monthly	Monthly
Total Kjeldahl Nitrogen	mg/L	Grab	Monthly	Monthly
Nitrate as Nitrogen	mg/L	Grab	Monthly	Monthly
Chloride	mg/L	Grab	Monthly	Monthly
Sodium	mg/L	Grab	Monthly	Monthly

WASTEWATER POND MONITORING (ALL)

Each of the active wastewater ponds shall be monitored as required below. The sample from the anaerobic pond may be collected at the point where it discharges to the aerobic ponds. Non-operational ponds shall be identified. Wastewater ponds shall be monitored as follows:

Constituents	Units	Type of Sample	Monitoring Frequency	Reporting Frequency
Freeboard[1]	Feet	Measurement	Weekly	Monthly
pH	pH Units	Grab/Meter	Monthly	Monthly
Dissolved Oxygen	mg/L	Grab/Meter	Monthly	Monthly
Electrical Conductivity	µmhos/cm	Grab/Meter	Monthly	Monthly
Pond Status[2]	NA	Observation	Weekly	Monthly

[1] Freeboard and field parameters shall be measured in each of the ponds in operation at time of sampling. Freeboard shall be measured for any pond in use. Freeboard shall be measured vertically to the lowest point of overflow.

[2] Pond status monitoring shall include whether it is active or inactive and the presence or absence of odors from each pond. "Active" ponds shall be monitored for the above constituents. Wastewater may be transferred to another active pond with sufficient capacity such that the pond status can become "inactive". Ponds with less than twelve inches of wastewater may be reported as "inactive".

WASTEWATER POND MONITORING (FIRST TWO)

Samples shall be collected from the anaerobic pond and the first aerobic pond for laboratory analysis. The sample from the anaerobic pond may be collected at the point where it discharges to the aerobic ponds. Wastewater ponds shall be monitored as follows:

Constituents	Units	Type of Sample	Monitoring Frequency	Reporting Frequency
Total Dissolved Solids	mg/L	Grab	Monthly	Monthly
Total Fixed Dissolved Solids	mg/L	Grab	Monthly	Monthly
Total Kjeldahl Nitrogen	mg/L	Grab	Monthly	Monthly
Nitrate as Nitrogen	mg/L	Grab	Monthly	Monthly
Chloride	mg/L	Grab	Monthly	Monthly
Sodium	mg/L	Grab	Monthly	Monthly

LAND APPLICATION AREA MONITORING

Monitoring of the land application areas, including the phytoremediation area shall be conducted **daily** during the irrigation season, and the results shall be included in the monthly monitoring report. Effluent monitoring results shall be used in calculations to ascertain

loading rates at the land application area. Monitoring of the land application area shall include the following:

Constituent	Units	Type of Sample	Monitoring Frequency	Reporting Frequency
Flow	Gallons	Continuous [1]	Daily	Monthly
Rainfall	Inches	Onsite Gauge	Daily	Monthly
Acreage Applied	Acres	Calculated	Daily	Monthly
Water Application Rate	gal/acre•day	Calculated	Daily	Monthly
Total Nitrogen Loading Rate[2]	lbs/ac•month	Calculated	Monthly	Monthly
TDS Loading Rate[2]	lbs/ac•month	Calculated	Monthly	Monthly

[1] Flow totalizer with daily recording.

[2] The loading rate shall be calculated for each application area using the daily applied volume of wastewater, estimated daily application area, and the most recent results of the pond data.

LAND APPLICATION AREA SOIL MONITORING

The Discharger shall monitor the soil in the irrigation and phytoremediation areas. Soil monitoring is needed to assess the effectiveness of the phytoremediation in reducing the salinity of the soil. Discrete soil samples shall be collected from a minimum of three locations within the land application area and at depths of 2 feet, 4 feet, and 6 feet at each location. The sampling locations shall remain constant each year. Samples shall be analyzed for the following compounds using a modified de-ionized waste extraction test with at least two-hour extraction:

Constituents	Units	Type of Sample	Frequency[1]
Electrical Conductivity	umhos/cm	Discrete	Annually
Total Fixed Dissolved Solids	mg/L	Discrete	Annually

[1] Samples shall be collected prior to the onset of the rainy season.

SUPPLY WELL MONITORING

Monitoring data collected from the supply wells shall be used to assess the character of the source water. Water quality data collected in accordance with other monitoring programs may be substituted to characterize the source water. Samples from each well shall be collected at the closest sampling port to the wellhead for the following:

Constituents	Units	Type of Sample	Monitoring Frequency	Reporting Frequency
pH	pH Units	Grab	Semi-Annually	Semi-Annually
Electrical Conductivity	µmhos/cm	Grab/Meter	Semi-Annually	Semi-Annually
Total Dissolved Solids	mg/L	Grab	Semi-Annually	Semi-Annually
Total Fixed Dissolved Solids	mg/L	Grab	Semi-Annually	Semi-Annually
Total Kjeldahl Nitrogen	mg/L	Grab	Semi-Annually	Semi-Annually
Nitrate as Nitrogen	mg/L	Grab	Semi-Annually	Semi-Annually
Chloride	mg/L	Grab	Semi-Annually	Semi-Annually
Sodium	mg/L	Grab	Semi-Annually	Semi-Annually

GROUNDWATER MONITORING

New and existing monitoring wells and temporary well points have been designated for corrective action groundwater monitoring. Groundwater samples shall be collected for analysis from each permanent monitoring well after the well has been adequately purged. Purging is typically defined as either three well volumes, until stabilization of temperature, pH and EC, or refilling of the well after dewatering. All wells (permanent and temporary) identified in this Order as part of the compliance well network shall be monitored for following:

Constituents	Units	Type of Sample	Monitoring Frequency[2]	Reporting Frequency
Depth to Groundwater	0.01 feet	Grab	Quarterly	Semi-Annually
Groundwater Elevation[1]	0.01 feet	Calculated	Semi-Annually	Semi-Annually
pH	pH Units	Grab	Semi-Annually	Semi-Annually
Electrical Conductivity	µmhos/cm	Grab/Meter	Semi-Annually	Semi-Annually
Total Dissolved Solids	mg/L	Grab	Semi-Annually	Semi-Annually
Total Fixed Dissolved Solids	mg/L	Grab	Semi-Annually	Semi-Annually
Total Kjeldahl Nitrogen	mg/L	Grab	Semi-Annually	Semi-Annually
Nitrate as Nitrogen	mg/L	Grab	Semi-Annually	Semi-Annually
Chloride	mg/L	Grab	Semi-Annually	Semi-Annually
Sodium	mg/L	Grab	Semi-Annually	Semi-Annually

[1] Groundwater elevation shall be determined based on depth-to-water measurements using a surveyed measuring point elevation on the well and a surveyed reference elevation.

[2] New monitoring wells shall be monitored **quarterly** for at least eight quarters.

REPORTING

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 type of sample (composite or grab) must be identified. The results of any monitoring done more frequently

than required at the locations specified in the Monitoring and Reporting Program shall be reported to the Board. All monitoring reports shall include chain-of-custody forms and analytical laboratory data sheets. Time, date, and location of sample collection shall be recorded and presented in the data summary for the monitoring period, consistent with the supporting analytical data sheet.

As required by the California Business and Professions Code Sections 6735, 7835, and 7835.1, all groundwater monitoring reports shall be prepared under the direct supervision of a California-registered professional and signed by the registered professional.

A. Monthly Monitoring Reports

Monthly Reports for pond monitoring and observation logs shall be submitted to the Regional Board by the **first day of the second month following the month of sampling** (i.e., the January monthly report is due by 1 March). Three monthly monitoring reports are to be submitted per calendar quarter. At a minimum, the reports shall include the following:

1. A scaled map showing relevant structures and features of the facility and the locations of all sampling stations.

2. Tabulated analytical results of pond freeboard, plant effluent, and wastewater pond monitoring.

3. Tabulated data and calculations for the required land application area monitoring.

4. Calibration log(s) verifying calibration of any field monitoring instruments (e.g., DO, pH, and EC meters) used to obtain data.

5. When requested by staff, copies of laboratory analytical report(s).

6. A comparison of the monitoring data to the discharge specifications and an explanation of any violation of these requirements. If applicable, include an update on the status of efforts to reduce wastewater salinity in the effluent and ponds to below limits in the waste discharge requirements.

B. Semi-Annual Monitoring Reports

Semi-Annual Monitoring Reports for groundwater monitoring, supply water monitoring, and irrigation area soil monitoring data shall be submitted to the Regional Board by **1 August** (for the first half of each year) and **1 February** (for the second half of each year). At a minimum, the report shall contain:

1. A scaled map showing relevant structures and features of the facility and the locations of all sampling stations, including permanent groundwater monitoring wells and temporary well points.

2. Tabulated cumulative monitoring data for groundwater, supply water, and land application area soil monitoring data. Each table shall include a calculated value for total volatile dissolved solids where applicable.

3. Tabulated cumulative monitoring data for required land application area monitoring.

4. Updates on tree planting, cultivation, and pruning activities, general observations of tree growth and grove conditions, and estimates of the volume of wastewater used for tree irrigation.

5. Calculation of groundwater elevations and determination of the groundwater flow direction and gradient on the date of measurement. A groundwater flow map shall be provided, which depicts the groundwater elevations in each monitoring well, and the direction and magnitude of flow.

6. Presentation of the lateral and vertical distribution of the salt and nitrate plumes on maps. Water quality data from each of the monitored zones from either permanent or temporary well points, as appropriate, shall be contoured. Separate maps shall be presented for salt and nitrate and for the A and B Zones.

7. Graphs of concentration vs. time for the cumulative monitoring data for each well for electrical conductivity, chloride, sodium, and nitrate as nitrogen.

8. A narrative discussion of the analytical results for all media and assessment of the progress of soil and groundwater cleanup. Any changes in groundwater flow and magnitude, and changes in pollutant concentrations from previous monitoring events shall be identified.

9. A narrative discussion of the data for the land application area monitoring including nitrogen application rates, water application rate, and rainfall data including an assessment of whether all nitrogen and water applied was used by the trees.

10. A narrative description of all preparatory, monitoring, sampling, and analytical testing activities. The narrative shall be sufficiently detailed to verify compliance with the WDRs, this MRP, and the Standard Provisions and Reporting Requirements. The narrative shall be supported by field logs for each well documenting depth to groundwater; parameters measured before, during, and after purging; method of purging; calculation of the casing volume; and total volume of water purged.

A letter transmitting the self-monitoring reports shall accompany each report. The 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 and Reporting Requirements Section B.3.

The Discharger shall implement the above monitoring program as of the date of this Order.

Ordered by :_____
PAMELA C. CREEDON, Executive Officer

26 February 2008
(Date)

WLB: 2/26/2008