SECTION V – FACILITY DESIGN (TREATMENT)

N/A, Asbury Environmental Services - Chico does not employ any treatment processes.

TRAINING PLAN

A. TRAINING

Asbury Environmental Services - Chico has developed a training program for all facility personnel involved in the management of hazardous waste or the supervision of these activities. The training program is relevant to the job responsibilities and activities conducted at the AES- Chico facility.

All personnel associated with the management of hazardous wastes are required to successfully complete a program of instruction that trains them to perform their duties safely and in compliance with regulatory requirements.

A written training plan has been developed and is maintained at the facility. The purpose of these requirements is to ensure that all facility personnel have adequate training to perform their duties safely and in compliance with regulatory standards.

In addition to the requirements in Section 66264.16, Title 22, CCR, the training program also address Cal-OSHA worker-training requirements identified in CCR, Title 8, Section 5192.

Guidelines for the implementation and evaluation of the AES - Chico Personnel Training Program can be found in Appendix VI-A.

Since AES Chico does not have permanent employees at the AES- Chico facility, personnel training records will be kept at the Asbury Environmental Services Compton facility, located at 1300 South Santa Fe, Compton, Los Angeles County, California, for examination by a DTSC representative upon request. The training records for current AES - Chico personnel are kept on file at the Asbury Environmental Services - Compton facility until the AES- Chico facility closes. The training records of former employees will be kept for at least 3 years from their last date of employment at the Asbury Environmental Services- Compton facility.

B. TRAINING PROGRAM

The AES - Chico training program consists of an introductory training program and a continuing training program, or annual review. The training program ensures that the necessary training and management skills needed to perform their jobs in a competent manner that will protect human health and the environment

Type of Training

Introductory Training Program

The introductory training program must be completed by each facility employee within the first six months of employment or six months after a change of position. Until the employee has completed this training, he/she may not work in an unsupervised position. The introductory training program includes a combination of classroom training and On the Job Training (OJT). Introductory Training consists of:

- Orientation
- Hazardous Waste Operations and Emergency Response
- DOT Hazardous Material Transportation
- Hazardous Waste Management Procedures-- Relevant to the position in which the individual is employed

All new AES - Chico personnel must attend classroom training to receive direct, formal instruction on hazardous waste management and handling procedures applicable to the employee's specific job responsibilities.

Operation procedures provide hazardous waste definitions and protocol for inspections, manifesting, sampling, testing, and transporting hazardous wastes. Operation procedures also identify the responsibilities of plant supervisors and waste operators. In addition, Drivers Safety Manual has been developed for many specialized hazardous waste operations for AES drivers. The Driver Safety Manual provides detailed instructions on performing those hazardous waste activities that are unique to the AES drivers. All AES - Chico personnel receive training on those documents.

To augment classroom training, AES - Chico provides On the Job Training (OJT). OJT is formally structured to provide specific standards for job performance. Acceptable employee performance is based on his/her ability to apply classroom knowledge to the actual job situation. OJT objectives and completion of training programs are documented and retained in each employee's file.

Cross training of personnel is accomplished on a continuing basis to increase flexibility of assignments and to ensure qualified personnel are available to support all situations at AES - Chico (i.e. vacation or sickness).

In addition to the training courses previously described, all employees in contact with hazardous materials are required to complete the initial 40-hour OSHA hazardous worker training and a refresher 8-hour training course annually as required by CCR, Title 8, Section 5192.

Each employee must participate annually in an update, or refresher, of the initial training. The refresher should keep personnel up to date with changes at the facility, such as the characteristics of new wastes managed at your facility or updates to the contingency plan, as well as changes in the field of hazardous waste management

Listed below are the Job titles of AES - Chico personnel who are subject to the training program requirements.

- Operations Personnel (OP): Drivers/Operators.

- Supervisory Staff (Sup): Shift Supervisors, Operations Manager.

CONTINUING TRAINING PROGRAM

Continuing training is comprised of classroom instruction. The courses present a review of hazardous waste generator requirements and emergency response procedures. All AES - Chico personnel undergo an annual review of training requirements.

The Safety Director (SD) is responsible for development, assessment, and implementation of the continuing training program. The SD has the responsibility for OJT and selecting training programs for personnel associated with AES - Chico operations. The SD has completed all of the training described above. Qualifications of the SD are listed above.

At times, specialized and commercial courses are presented by hazardous waste specialists and by professional organizations.

C. TRAINING PLAN

The introductory and continuing training required for AES - Chico personnel is shown in Appendix VI-A, Personnel Training Program.

D. TRAINING RECORDS

Since AES Chico does not have permanent employees at the AES- Chico facility, personnel training records will be kept at the Asbury Environmental Services Compton facility, located at 1300 South Santa Fe, Compton, Los Angeles

County, California. The training records for current AES - Chico personnel are kept on file at the Asbury Environmental Services - Compton facility until the AES- Chico facility closes. The training records of former employees must be kept for at least 3 years from their last date of employment at the Asbury Environmental Services- Compton facility.

The training records are kept in the individual employee's file and are maintained by the Safety Director. The facility must retain a record of the dates on which employees received their initial training and annual reviews. Documentation that the required training has been completed for each employee includes:

- Course titles
- Completion dates
- Trainee's signature

At any time, the SD can view the training record of each individual. The records are also used to flag the names of personnel who have not completed training.

The SD or his/her designated assistant is responsible for a monthly review of personnel training records to determine which individuals have not completed training or which are approaching their annual refresher training date. The SD or his/her designated assistant notifies the individual's supervisor by memo and provides the date of the next available required training course. The following is a listing of information used to identify the type of training required for the specific job function.

- Job title.
- Name of employee filling job.
- Written job description.
- Required qualifications (e.g., skill, education, etc.).

Appendix VI-A

Personnel Training Program

AES - Chico
Personnel Training Program

1.0. OVERVIEW

Employees at AES - Chico are trained to perform all operations using safe procedures. To ensure that this safety goal is met, each employee receives training specific to their job requirements. Each employee is encouraged to practice "safety first" while performing his/her job. The principal objectives of the AES - Chico personnel training program include:

1. Personnel safety
2. Protection of human health and the environment
3. Compliance with regulatory requirements
4. Efficient operations

These objectives have been established to ensure the health and safety of AES - Chico personnel, visitors to the plant, and the surrounding community. In addition, federal, state, and local laws require implementation of a training program for personnel handling hazardous wastes.

Equipment at AES - Chico consists primarily of storage tanks and drums. AES - Chico's primary operation is the storage and transfer of used oils, oily water, and antifreeze. The equipment has been designed to ensure the safe, efficient, and effective operation of the facility.

The following presents the AES - Chico training program and its implementation at the facility. Training is provided to all employees and it covers general safety aspects of the facility and specifics for each job function. The training also establishes requirements for the safe and efficient job performance by each employee.

1.1. TRAINING REQUIREMENTS

The AES - Chico hazardous waste management program training is tailored to meet the specific needs of each job function. Table VI-1 summarizes training requirements for each job function at the AES - Chico facility.

The Safety Director identifies the personnel involved in hazardous materials handling and ensures that each individual receives the necessary training. As required personnel shall not work unsupervised until the completion of introductory training.

1.2. TRAINING PROGRAM

Upon employment at AES - Chico each person receives a copy of the Drivers Safety Manual. Each new employee is placed on a 30-day probationary period. When an employee is introduced to his/her job area, each is assigned to a shift supervisor. Until the new employee has had sufficient training in the work area, the employee remains under constant and direct supervision.

The training program consists of two phases involving introductory training for new employees, and continuing training for experienced employees. Each of these phases is described in detail in the following sections.

1.2.1. Introductory Training

Introductory training consists of a combination of classroom training and On-the-Job-Training (OJT). The classroom training provides direct, formal instruction on necessary actions and requirements of the employee's specific job. The OJT demonstrates to the employee how to apply the knowledge obtained in the classroom to the specific job function. Introductory training is primarily intended for new employees, but at times, experienced employees will be enrolled as part of AES - Chico's periodic retraining efforts. The training programs are developed by the Safety Director.

Training must be completed by all personnel handling hazardous waste within 6 months from their start of employment at AES - Chico.

In addition to training courses, the AES Drivers Safety Manual has been developed for the types of hazardous waste operations performed by AES drivers. The manual contains responsibilities of the drivers/operators, and supervisors. The manual also contains details on loading/unloading activities, manifesting of hazardous wastes, inspections, sampling, and testing. All AES - Chico personnel who may be involved in those operations receive training on these documents.

Cross training of personnel is performed to increase flexibility of assignments and to ensure qualified personnel are available to support all situations (i.e. vacations, leaves, and sickness) at the AES - Chico facility.

CLASSROOM TRAINING

All new personnel must attend classroom training to receive direct, formal instruction on hazardous waste management and handling procedures pertinent to the employee's specific job responsibilities. The AES - Chico training program includes:

- Orientation
- Hazardous Waste Operations and Emergency Response
- Emergency Response Training Program
- DOT Hazardous Material Transportation
- Hazardous Waste Management Procedures -- Relevant to the position in which the individual is employed

Orientation
All new AES-Chico plant employees attend a 1-hour orientation, which includes instruction in

- Drivers Safety Manual
- General On-site Facility Compliance
- Hazard Communication
- IIPP
- Emergency Evacuation Procedures
- Reporting Accident/Unsafe Conditions
- Facility Tour Showing Locations of:
  - Fire Extinguisher
  - Eye Wash Stations
  - Emergency Exits
  - First Aid Kits
  - MSDS'
  - Hazardous Material/Waste Storage Areas
  - Designated Smoking Areas
  - Parking

Hazardous Waste Operations and Emergency Response

All persons handling hazardous waste at the AES-Chico facility are required to complete the initial 40-hour OSHA/hazardous worker training required by CCR, Title 8, Section 5192. The AES - Chico Hazardous Waste Operations

and Emergency Response program is designed to meet all applicable regulatory requirements.

The training program is designed to identify, evaluate, and control safety and health hazards, and provide for emergency response for hazardous waste operations.

This program incorporates the following:

- Hazardous waste laws, regulations, and policies.
- Site Characterization – Hazards specific to AES - Chico
- Training Program – Safe Work Practices, Handling & Storage of Hazardous Materials/Wastes, Safe Use of Equipment.
- Personal Protective Equipment – Use, Care, and Limitations
- Site Control – Protect public from site's hazards and prevent vandalizism
- Decontamination
- Site Emergencies

Emergency Response Training Program

The emergency response training provides specific information to each employee depending upon his/her duties. Before an employee can be a member of the emergency response team, completion of the training must occur.

The following sections describe the training that is required of AES - Chico emergency responders.

First Responder Training - First responders are trained to respond to material releases in a defensive manner and they are not responsible for stopping the release. Their function is to contain the release from a safe distance and prevent human exposure.

Hazardous Materials Technician Training - Hazardous materials technicians are individuals who respond to releases or potential releases of waste. Their job is to prevent or stop the release of the waste as well as clean up the release.

DOT Hazardous Material Transportation Training

This program incorporates the following:

- Laws, regulations, and policies
- Training & Security

- Shipping Papers; Hazardous Waste Manifest & Bill of Lading
- Marking
- Labeling
- Placards
- Loading/Unloading
- Incident Reporting

Hazardous Waste Management Procedures

Training is relevant to the position in which the individual is employed. The hazardous waste management procedure training centers on complying with the Facility's Standardized Permit.

- Hazardous Waste Management Practice

  Employees learn and understand process flow diagrams showing how and where the hazardous wastes are stored and transferred.

- Waste Analysis Plan Training

  The Waste Analysis Plan (WAP) Training purpose is to characterize each waste stream shipment that is received at AES - Chico to ensure that the facility is authorized to manage the waste received. Employees employ proper sampling techniques and testing procedures as indicated in the WAP.

- Inspection Training

  Facility inspections are conducted by the assigned AES driver in accordance with the AES - Chico Operations Plan. Responsible AES - Chico employees are trained to conduct formal inspections. The inspection checklists are provided in Section VII, Inspection Plan.

  The assigned AES driver conducts daily inspections when he/she arrives at the facility to off-load their truck. Fire extinguishers are inspected on a monthly basis. All problems identified will be corrected immediately. Records of inspections are kept at Asbury Environmental Service - Dixon facility located at 7300 Chevron Way, Dixon, Solano County, California in the Administrative Building.

- Repair and Replacement

  Repair and replacement of emergency and monitoring equipment is performed by the AES - Chico personnel. Depending on the nature of

the repair, a contractor may be used. The SD and the Operations Supervisor are authorized to write maintenance work orders.

- Contingency Plan and Emergency Procedures

  AES - Chico facility personnel undergo in-plant emergency response training based upon their duties and function within the emergency response program. Training ensures a thorough understanding of the Contingency Plan.

- Communications System and Alarm System Training

  AES - Chico personnel, during their classroom training and OJT program, learn when and how to use the Communications System and Alarm System. There are no internal communications systems or alarms at AES – Chico transfer area. Cell phones assigned to the AES – Chico drivers, provide external communications, and will be used to communicate in cases of emergency.

- Shutdown of Operations Training

  AES - Chico personnel involved in the daily operations of the hazardous waste management units undergo process shutdown training. The training includes both classroom instruction and OJT.

- Personal Protective Equipment

  All AES - Chico personnel who may become exposed to hazardous substances undergo training for personal protective clothing requirements and the proper use of them.

1.2.2. On-the-Job Training

To augment classroom training, AES - Chico provides OJT, which provides the employee instructions on how to use the acquired information during job performance. OJT is formally structured to provide specific standards of performance. Performance measurement is based on the ability to apply the acquired knowledge to actual job tasks.

OJT provides instruction in procedures specific and unique to each job function. This instruction will be provided by a fully trained supervisor. Until completion of this training, personnel shall only perform jobs when supervised.

1.3. PROGRAM ADMINISTRATION

The training program administration involves activities in record keeping, program audit and review. These efforts are necessary to assure that the training program complies with the regulatory requirements. Completion of each training area are documented and retained in the employee's file. Records are retained for a minimum of three years after employment has terminated or until the facility closes.

1.3.1. Record Keeping

Employees who have received and successfully completed the training shall receive a written certification by the instructor. AES - Compton also maintains the following information on each employee:

- Employee name
- Job title
- Job description, and duties assigned
- Required qualifications
- Documentation of completion of necessary training

1.3.2. Medical Surveillance

Medical surveillance is provided to all employees who are or may be exposed to hazardous substances or health hazards at or above permissible exposure limits (PELs), including a physical examination and medical surveillance annually.

The examination includes a medical and work history evaluation. The exam focuses on symptoms related to the handling of hazardous substances and “fitness for duty", such as the ability to wear any required PPE. The results of the medical examination are made available to employees when requested. All medical examinations and procedures shall be performed by or under the supervision of a licensed physician knowledgeable in occupational medicine. The exam is provided without cost to the employee, without loss of pay, and at a reasonable time and place.

The medical examination shall be made available:

- Prior to assignment

- At least once per year, unless the attending physician believes a longer interval (not greater than biennially) is appropriate

- At termination of employment or reassignment to an area where the employee would not be covered, if the worker has not had an exam within the last six months

- As soon as possible upon notification by an employee that the employee has developed signs or symptoms indicating possible overexposure to hazardous substances, or that the employee has been injured or exposed above the acceptable limits in an emergency situation

- At more frequent times, if the examining physician determines the necessity

INFORMATION PROVIDED TO THE PHYSICIAN

- A description of the employee's duties as they relate to the employee's exposures;

- The employee's exposure levels or anticipated exposure levels;

- A description of any personal protection equipment used or to be used.

PHYSICIAN'S WRITTEN OPINION

AES - Chico shall obtain and furnish the employee with a copy of a written opinion from the attending physician containing the following:

- The physician's opinion will state if there are any detected medical conditions which would place the employee at an increased health risk while performing his/her job.

- The physician's recommended limitations upon the employee's assigned work.

- The results of the medical examination and tests if requested by the employee.

- A statement that the employee has been informed by the physician of the results of the medical examination and any medical conditions which require further examination or treatment.

MEDICAL RECORD KEEPING

An accurate record of the medical surveillance shall be retained by AES - Chico for the period specified and meet the criteria of CCR, Title 8, Section 5192.

The record shall include the following information:

- The name and social security number of the employee
- Physician's written opinions, recommended limitations, and results of examinations and tests
- Any employee medical complaints related to exposure to hazardous substances

1.4. TRAINING PROGRAM REVIEW AND AUDIT

To ensure that the training program is being properly and effectively implemented, the Safety Director, will review and audit training activities biennially. When problems are identified, more frequent review will be conducted until the Safety Director is satisfied that the issue has been resolved. Whenever a proposal to update the training program is made, Asbury-Chico will notify DTSC in accordance with Title 22, CCR, Section 66270.42 of the proposed revision(s) and the reason(s) for the revision(s).

As a minimum, this auditing will review the following areas:

- Identification of personnel requiring training.
- Identification of specific classroom and job site training requirements (including introductory training and training updates) for various personnel.
- Conformance of training provided to employees with their training needs.
- Qualification and training of instructors.
- Procedures to prevent unsupervised work with hazardous wastes by employees who have not completed training.

- Accuracy and completeness of training records.

Qualifications of Training Director

AES - Chico combines the responsibilities of Training Director and Safety Director and refers to that person as Safety Director. It is the responsibility of the Safety Director (SD) to identify the specific training needs for each employee and oversee the training programs. The SD must be proficient in the facility operations, have extensive knowledge of all emergency response procedures, and be aware of all applicable health and safety requirements.

Qualifications of the Safety Director:

- High School Diploma and four years of College or equivalent combination of education and experience,
- 4 - 6 years related experience in hazardous waste industry or in a manufacturing or similar industrial environment, with at least two years in a Supervisory capacity,
- Posses working knowledge of Federal (i.e. EPA, DOT, OSHA), State (i.e. Cal OSHA, DTSC, CHP), and Local Environmental and Health and Safety laws and regulations,
- Must be proficient in the facility's operations and site-specific policies and procedures,
- Be able to communicate effectively with people both in writing and orally,
- Must have the ability to plan, organize, and implement training programs.

The Facility Manager may replace the designated SD at any time with an equally qualified person without modifying this permit.

The responsibilities of the Safety Director include:

- Assessment of training requirements.
- Development of training plans and forecasts.
- Approval of courses developed and presented to contractors.
- Preparation and approval of all announcements and schedules of courses to be presented.
- Approval of rosters of employees to attend training courses.
- Maintenance of records of training activities, and surveillance of costs associated with training activities.

Appendix VI-B

Tables

Table VI-1 Required Training for AES-Chico Transfer Facility

TESTS	Test Required Yes/No			Location	Schedule
	Operations Manager	Operations Supervisor	Driver / Operator		
Medical Exam	Yes	Yes	Yes	Outside Medical Clinic	Annually
Drug Test	Yes	Yes	Yes	Outside Medical Clinic	Annually
MD Certification	Yes	Yes	Yes	Outside Medical Clinic	Annually
TRAINING	**Training Required Yes/No**			**Location**	**Schedule**
	Operations Manager	**Operations Supervisor**	**Driver / Operator**		
Orientation	Yes	Yes	Yes	In House	Initial, First Day
Job Description	Yes	Yes	Yes	In House	Initial
Hazardous Waste Management Procedures / Drivers Safety Manual	Yes	Yes	Yes	In House	Initially and Annually
40 Hour HAZWOPER Training	Yes	Yes	Yes	Outside	Initial
Annual 8 hour HAZWOPER Refresher Training	Yes	Yes	Yes	Outside	Annually
Supervisor Training	Yes	Yes	No	Outside	Initial
Emergency Response	Yes	Yes	Yes	In House	Annually
TSDF Permit and Application	Yes - Detail	Yes- Detail	Yes - Summary	In House	Annually
DOT & Manifest Training	Yes	Yes	Yes	In House / Outside	Every 2 years
Loading & Unloading Procedures	Yes	Yes	Yes	In House	Annually
Fire Extinguisher	Yes	Yes	Yes	Outside	Annually

Table VI-2 Trainers

Robert Milling, C.P.S.A.
Certified Practicing Safety Administrator
Director of Safety, Training & Compliance
Asbury Environmental Services
1300 South Santa Fe Avenue
Compton, CA 90221
(310) 886-3400

Roy Cooray
Safety Director
DeMenno/Kerdoon
2100 N. Alameda
Compton, CA 90222
(310) 537-7100

NES-Network Environmental Systems, Inc.
1141 Sibley Street
Folsom, CA 95630
(916) 353-2360

Cal Inc.
2040 Peabody Road, Suite 400
Vacaville, CA 95687
(800) 359-4467

Safety Management Systems
Gil Prieto
5405 Alton Parkway, Ste 549
Irvine, CA 92604
(800) 922-3520

This list is a living document that will be revised from time to time to reflect improved practices, regulatory changes, and recommendations by regulatory agencies. Revisions to this document do not require approval by any governmental agency.

SECTION VII – INSPECTION PLAN

A. Inspection Plan

The Inspection Plan specifies a schedule and method of inspection of various equipment, structural and operational features of the Asbury Environmental Services – Chico (AES – Chico) Facility. The regular schedule inspections help the facility operator to identify and correct situations that could lead to sudden or non-sudden occurrences that may threaten human health or the environment, or identify and act to minimize sudden occurrences that may threaten human health or the environment. The Inspection Plan is part of an overall strategy to help the AES - Chico facility to plan, organize, and maintain a consistent standard of operation.

1. FACILITY INSPECTION

Copies of the AES - Chico inspection checklists can be found in Appendix VII-A, Inspection Checklists. Inspection checklists shall be maintained in the operating records for at least three years from the date of inspection. Records shall include date, time, inspector's name, observations, repairs required, and repairs performed.

Since the AES-Chico facility is unmanned, records of inspections are kept on file at Asbury Environmental Service - Dixon facility located at 7300 Chevron Way, Dixon, Solano County, California in the Administrative Building. However, at a minimum, one week of inspections is kept at the AES-Chico facility located in a weather protected storage box.

Regular scheduled drivers assigned to the AES-Chico facility are responsible to perform the daily and weekly inspection. The AES-Chico Facility Manager, located at the Asbury Environmental Service - Dixon facility, is responsible to assure that the inspections are performed, complete, reviewed, and file appropriately.

Frequency of Inspection

a. Container Storage Area – Weekly

   (1) Aisle space

   (2) Containers correctly stored

(3) Storage capacity not exceeded

(4) Containers stored within secondary containment area

(5) Containers are in good condition

(6) Containers are labeled

(7) Containers are closed

(8) Containment free of liquids and cracks

(9) Signs are posted

b. Tanks – Daily

All hazardous waste tanks, their foundations, their seismic protection, and associated equipment are visually inspected daily for signs of damage or leakage. This inspection also includes the pipes and valves attached to the tanks. During this inspection, the secondary containment area is visually inspected for signs of deterioration, including concrete cracks and gaps.

c. Facility Equipment

(1) Emergency Equipment

(a) Eyewash - Weekly

(b) First Aid Kit – Weekly

(2) Spill Control Materials – Weekly

(3) Fire Extinguisher - Weekly

(4) Monitoring Equipment

(a) Process and operations monitoring - Daily

(5) Other

(a) Loading / Unloading Area– Daily

The loading and unloading area is inspected daily for signs of leaks, spills, cracks, and gaps.

(b) Security Devices - Weekly

1. The perimeter fence and gates are visually inspected weekly for deterioration or breaches.
2. The exterior signs are inspected weekly to ensure that they have not been stolen or obstructed with graffiti.

AES - Chico or the Operator will inspect the facility for malfunctions and deteriorations, operator errors, and releases to secondary containment or the environment which may cause or may lead to the release of hazardous waste constituents to the environment or threaten human health. When such problems arise, steps shall be taken immediately to correct the situation. In the event of a release procedures outlined in the Contingency Plan shall be implemented as appropriate. The Contingency Plan is located in Section VIII of the Standardized Permit Application.

If inspections reveal equipment malfunctions or operational deficiencies, notations will be marked in the inspection checklist. Deficiencies that can be immediately corrected will be corrected by the inspector followed by the necessary documentation. Deficiencies that cannot be corrected immediately will be corrected in a timely manner as required by regulations. The nature of repairs to be performed will be noted, and then the Inspector will initial and date the inspection checklist when the corrections have been made. For deficiencies which cannot be immediately corrected or which require significant allocation of manpower, equipment, or budget, the Inspector will submit a Work Order (see Appendix VII-B, Figure VII-1) to the Operations Manager. If the deficiency or malfunction represents a significant threat to human health and/or the environment, all operations affected by the deficiency will cease until the necessary corrections are made. An Inspector will inspect the finished work, record the nature of repairs, and initial and date the inspection checklist as soon as the deficiency is corrected.

Appendix VII-A

Inspection Checklists

This program is a living document that will be revised from time to time to reflect improved practices, regulatory changes, and recommendations by regulatory agencies. Revisions to this document do not require approval by any governmental agency. However, AES-Chico will notify DTSC in writing of any changes made to the inspection checklist.

ASBURY ENVIRONMENTAL SERVICES - CHICO, CA -- DAILY INSPECTION CHECKLIST																														
Inspector's Name:	Print:						Print:						Print:						Print:						Print:					
	Signature:						Signature:						Signature:						Signature:						Signature:					
Day/Date/Time	**M. / /** am/pm						**T. / /** am/pm						**W. / /** am/pm						**Th. / /** am/pm						**F. / /** am/pm					
Tank Farm Area Check	Tank 1 Used Oil 10,000 g.		Tank 2 Antifreeze 1,000 g.		Tank 3 Used Oil 500 g.		Tank 1 Used Oil 10,000 g.		Tank 2 Antifreeze 1,000 g.		Tank 3 Used Oil 500 g.		Tank 1 Used Oil 10,000 g.		Tank 2 Antifreeze 1,000 g.		Tank 3 Used Oil 500 g.		Tank 1 Used Oil 10,000 g.		Tank 2 Antifreeze 1,000 g.		Tank 3 Used Oil 500 g.		Tank 1 Used Oil 10,000 g.		Tank 2 Antifreeze 1,000 g.		Tank 3 Used Oil 500 g.	
	Y	**N**	**Y**	**N**	**Y**	**N**	**Y**	**N**	**Y**	**N**	**Y**	**N**	**Y**	**N**	**Y**	**N**	**Y**	**N**	**Y**	**N**	**Y**	**N**	**Y**	**N**	**Y**	**N**	**Y**	**N**	**Y**	**N**
Area clean and free of oil spills/stormwater																														
Tank level gauges functional																														
Tank gauge level indicated (gallons)																														
Valves, connectors, pipes functional																														
Valve locks available																														
Shell in good condition																														
Bottom in good condition																														
Containment/Berm free from cracks, gaps																														
Warning Signs posted																														
Loading/Unloading Area Check	Load/ Unload Area		Sump		Drum Storage Area		Load/ Unload Area		Sump		Drum Storage Area		Load/ Unload Area		Sump		Drum Storage Area		Load/ Unload Area		Sump		Drum Storage Area		Load/ Unload Area		Sump		Drum Storage Area	
	Y	**N**	**Y**	**N**	**Y**	**N**	**Y**	**N**	**Y**	**N**	**Y**	**N**	**Y**	**N**	**Y**	**N**	**Y**	**N**	**Y**	**N**	**Y**	**N**	**Y**	**N**	**Y**	**N**	**Y**	**N**	**Y**	**N**
Area clean and free of oil spills/stormwater																														
Containment/Berm free from cracks, gaps																														
Security Check	Fences need repair		Walls need repair		Signs Posted		Fences need repair		Walls need repair		Signs Posted		Fences need repair		Walls need repair		Signs Posted		Fences need repair		Walls need repair		Signs Posted		Fences need repair		Walls need repair		Signs Posted	
	Y	**N**	**Y**	**N**	**Y**	**N**	**Y**	**N**	**Y**	**N**	**Y**	**N**	**Y**	**N**	**Y**	**N**	**Y**	**N**	**Y**	**N**	**Y**	**N**	**Y**	**N**	**Y**	**N**	**Y**	**N**	**Y**	**N**

ASBURY ENVIRONMENTAL SERVICES - CHICO, CA – WEEKLY INSPECTION CHECKLIST				
Drum Storage Area Check	**Date/Time: / / am/pm**			Comments:
	Y	**N**		
Spill Kit Available			Oldest Accumulation Date:____/____/____	
Fire Extinguishers Operational				
Eyewash/Shower Operational			Number of Full Drums: _____	
Compatible Segregation				
Proper Aisle Space				
Containers Labeled			Number of Empty Drums: _____	
Containers Closed				
Containers Deteriorating				
Leaks/Spills/Stormwater Noted				
Ground free from Cracks/Gaps				
Debris/Trash Noted			Inspector (Print):_____	Signature:_____

WEEKEND INSPECTION ITEMS

(To be performed when any AES waste receiving activity occurs on the weekend)

Inspector's Name:	Print:						Print:					
	Signature:						Signature:					
Day/Date/Time:	**SAT. / /**					am/pm	**SUN. / /**					am/pm
Tank Farm Area Check	Tank 1 Used Oil 10,000 g.		Tank 2 Antifreeze 1,000 g.		Tank 3 Used Oil 500 g.		Tank 1 Used Oil 10,000 g.		Tank 2 Antifreeze 1,000 g.		Tank 3 Used Oil 500 g.	
	Y	**N**	**Y**	**N**	**Y**	**N**	**Y**	**N**	**Y**	**N**	**Y**	**N**
Area clean and free of oil spills/stormwater												
Tank level gauges functional												
Tank gauge level indicated (gallons)												
Valves, connectors, pipes functional												
Valve locks available												
Shell in good condition												
Bottom in good condition												
Containment/Berm free from cracks, gaps												
Warning signs posted												
Loading/Unloading Area Check	Load/Unload Area		Sump		Drum Storage Area		Load/Unload Area		Sump		Drum Storage Area	
	Y	**N**	**Y**	**N**	**Y**	**N**	**Y**	**N**	**Y**	**N**	**Y**	**N**
Area clean and free of oil spills/stormwater												
Containment/Berm free from cracks, gaps												
Security Check	Fences need repair		Walls need repair		Signs Posted		Fences need repair		Walls need repair		Signs Posted	
	Y	**N**	**Y**	**N**	**Y**	**N**	**Y**	**N**	**Y**	**N**	**Y**	**N**

Comments:

Appendix VII-B
Figures

This program is a living document that will be revised from time to time to reflect improved practices, regulatory changes, and recommendations by regulatory agencies. Revisions to these documents do not require approval by any governmental agency.

Figure VII-1
AES - Chico
Work Order

DeMenno/Kerdoon
2000 N. ALAMEDA STREET
COMPTON, CA 90222
PHONE #: (310) 537-7100
FAX #: (310) 639-2946

W.O. 35535

Unit or Area	Date Generated	Date Available	Due Date	Craft	Priority

☐ Environment	☐ Rule 462	☐ Rule "BB"	☐ Safety	☐ Plant Shut Down

Equipment Name or Service	Equipment I.D. Number

Description of Problem

SAFETY PRECAUTIONS

☐ Hearing Protection	☐ Fresh Air	☐ Goggles	☐ Lock Out / Tag Out
☐ Rubber Boots	☐ Respirator	☐ Face Shield	☐ Confined Space Entry
☐ Rubber Gloves	☐ Dust Mask	☐ Blinds	☐ Hot Work Permit

Requested By: (Print Name)	Supervisor's Signature	Final Approval

Sign On Section: Only sign on after the following checklist has been initialed by operations and maintenance

Checklist	Day One		Day Two		Day Three	
	Operator	Maintenance	Operator	Maintenance	Operator	Maintenance
Equipment depressured, purged & drained						
Equipment has been isolated or blinded						
Lock out / Tag out procedures are completed						
Safety permits and Safety Equipment are provided						

SIGN ON	Operator's Signature	Maintenance Signature	Date
Day One			
Day Two			
Day Three			

Sign Off Section: Only sign off after the following checklist has been initialed by operations and maintenance

Checklist	Day One		Day Two		Day Three	
	Operator	Maintenance	Operator	Maintenance	Operator	Maintenance
Hazardous waste is properly disposed						
Trash and debris have been removed from area						
Area is free of oil and oily water						
All locks have been removed & electrical equipment check						

SIGN OFF	Operator's Signature	Maintenance Signature	Date
Day One			
Day Two			
Day Three			

Description of the Work Performed:

Work Order Completed	Operator's Signature	Maintenance Signature	Date

MAINTENANCE

Appendix VII-C

Equipment Replacement Policy

AES - Chico
Equipment Replacement Policy

From time to time individual pieces of equipment in hazardous waste management units deteriorate or malfunction, requiring their replacement. Examples of equipment that may be replaced include: pumps, valves, piping, and heat exchangers. It is AES - Chico's policy to replace such equipment with functionally equivalent replacements of equal or higher quality. Whenever a piece of equipment is not being replaced with an identical piece of equipment, AES - Chico will evaluate the alternatives available, their costs, and their potential impact on human health and the environment. If practical, AES - Chico will select the alternative equipment with lower potential impact to human health and the environment. This may not happen if this option is excessively expensive or its availability is excessively delayed compared with the need, but AES - Chico will still ensure that the piece of equipment selected will not cause any adverse impact to human health and the environment. Examples of such replacements would include replacing a pump that has a chronically leaky seal with a pump that has a double mechanical seal or one that is seal-less.

Any replacement of a piece of equipment will be noted in the Operating Record.

A permit modification request will be submitted to DTSC as required by Title 22, CCR, Section 66270.42.

SECTION VIII – CONTINGENCY PLAN

A. CONTINGENCY PLAN / EMERGENCY PREPAREDNESS

1. EMERGENCY PREPAREDNESS AND PREVENTION

Article 3 of Chapter 14, Title 22, CCR (Sections 66264.30 et seq) identifies facility requirements that are intended to minimize the possibility of a fire, explosion, or any unplanned release of hazardous waste to the environment.

The Asbury Environmental Services – Chico (AES-Chico) facility was designed, constructed, and is operated to minimize the possibility of a fire, explosion, or any unplanned release of hazardous waste.

The AES-Chico facility is not in the 100-year flood plain.

The facility drainage and containment systems are designed to handle the 25-year, 24-hour rainstorm. The waste transfer facility that manages transfer and storage of hazardous waste is completely covered with concrete.

2. REQUIRED EQUIPMENT

a. Internal Communication

The AES-Chico facility does not have internal communications or alarm systems located at the waste transfer area. Hand-held two-way radio/cell phone are carried by all supervisors and drivers/operators on-duty.

b. Telephone, Two-way Radio

The radio/cell phone will be used to summon emergency assistance from local police, fire departments, or emergency response team. Hand-held two-way radio/cell phone are carried by all supervisors and drivers/operators on-duty.

c. Portable fire extinguishers and other fire control equipment

Portable extinguishers are located in the transfer area as indicated on the Safety / Emergency Equipment Map located In Appendix VIII-B, Maps.

The fire extinguishers are inspected on a monthly basis. Records of the facility inspections are kept on file as part of the Facility Inspection File at the Administration Office at the Asbury Environmental Services- Dixon facility located at 7300 Chevron Way, Dixon, Solano County, California.

The AES- Chico facility is routinely inspected by the City of Chico Fire Department.

d. Spill control equipment

The primary emergency response equipment includes:

- Adsorbent material
- Broom
- Shovel
- Empty Drums

AES-Chico has arranged with Asbury Environmental Services to make available and provide additional vacuum trucks should any oil spill emergency response arise. In addition, AES-Chico has arranged with the following Licensed Permitted Hazardous Waste Transporter firm to provide oil spill emergency response and decontamination clean-up assistance:

- NRC Environmental Services (800) 337-7455

e. Decontamination equipment

AES-Chico has arranged with the following Licensed Permitted Hazardous Waste Transporter firm to provide oil spill emergency response and decontamination clean-up assistance:

- NRC Environmental Services (800) 337-7455

f. Water supply systems

All water is supplied to the Northgate Petroleum Company Property is via the California Water Service Company water main. The Northgate Petroleum Company facility has adequate water volume and pressure available from the California Water Service Company water supply system to operate all emergency

equipment and systems. The AES – Chico waste transfer area does not utilize any utilities.

g. Artificial lighting

The facility is well lit. The facility lighting is provided and controlled by the property owner, Northgate Petroleum Company.

3. ARRANGEMENTS WITH LOCAL EMERGENCY SERVICES AND AUTHORITIES

See table VIII-5 for Emergency Contact Phone Numbers

(a) Local police/Sheriff

No specific prior arrangements are required by the City of Chico Police Department for emergency situations.

(b) Fire Department

No specific prior arrangements are required by the City of Chico Fire Department for emergency situations.

The City of Chico Fire Department has a copy of the AES-Chico Contingency Plan on file. The City of Chico Fire Department routinely inspects the AES-Chico facility.

Should an incident occur the senior Fire Chief responding will have overall authority to coordinate the emergency response. The AES-Chico Emergency Coordinator (EC) will provide full cooperation and support as needed.

(c) Butte County Department of Environmental Management, Environmental Health Division

The Butte County Environmental Health Department has a copy of the AES-Chico Contingency Plan on file. The Butte County Environmental Health Department routinely inspects the AES-Chico facility.

Should an incident occur, the AES-Chico EC will notify the Butte County Department of Environmental Management, Environmental Health Division and provide full cooperation and support as needed.

(d) Clinics & Hospitals
Hospital / Emergency Room:

Enloe Medical Center Hospital
1531 Esplanade
Chico, CA 95926
530-332-7300

(e) Contractors

AES-Chico has arranged with the following Licensed Permitted Hazardous Waste Transporter firm to provide oil spill emergency response assistance:

- NRC Environmental Services (800) 337-7455
- Asbury Environmental Services (800) 727-2879

(f) Local emergency response teams

Emergency response teams are available for assistance through the City of Chico Fire Department.

(g) State emergency response teams

State Office of Emergency Services is notified in the event of a spill when deemed necessary by the EC. The State Office of Emergency Services 24 hour phone number is:
(800) 852-7550

4. The AES-Chico contingency plan describes the actions that the AES-Chico facility will take in the event of an emergency or accident involving hazardous wastes. This plan provides a structured list of procedures that allow AES-Chico to respond immediately and appropriately to incidents such as fires, explosions and unplanned releases, or spills, of hazardous wastes or hazardous waste constituents to the air, soil or surface water. This process minimizes the hazards to human health and the environment that may occur as a result of emergencies involving hazardous wastes. The regulations that specify the contingency plan requirements and the plan contents are found in the California Code of Regulations (CCR), Title 22, Chapter 14, Article 4, beginning with 66264.50. AES - Chico keeps one copy of the plan on site, and any revisions made to the plan, and submits when required a copy of the plan and its revisions to each of the agencies that may provide emergency response, including DTSC, local police departments, fire departments, hospitals, and local and State emergency response teams.

A. CONTAINER SPILL AND LEAKAGE

1. Procedures

Container spills and leaks will be handled in much the same way as tank spills and leaks. The procedure for cleanup will depend on the type of leak. For operational purposes, spills of any hazardous material shall be divided into two levels: Less than 55 gallon or greater than 55 gallon. A leak is a release from a container via a puncture or weak spot in the container. Slow leaks are defined as a slow discharge of a material while major leaks are defined as a rapid discharge of more than 55 gallon of material. Any spill of less than 55 gallon or slow leak in the facility may be cleaned up by the employee at his discretion, following instructions outlined in the appropriate Material Safety Data Sheet (MSDS) or a method approved by the Operations Supervisor. MSDS sheets will be kept on-site in the office building. Any spill or leak will be brought to the attention of the EC. Any spill or release with potential threat to human health and/or the environment must be reported to the EC.

Spills will be contained by erecting a dike around the area with an appropriate material. Free liquids will be pumped up or absorbed using an appropriate spill absorbent material. MSDS instructions will be followed. All cleanup waste will be placed in an appropriate hazardous waste container and transported off-site for proper treatment or disposal.

2. Timing

In order to prevent container leaks and spills, all containers will be inspected on a regular basis to ensure that rusting or structural defects will not be allowed to propagate. An inspection schedule can be found In appendix VIII-A, Table VIII-4, and sample inspection log sheets can be found in Section VII, Inspection Plan of the Standardized Permit Application.

Spilled materials and material within the leaky container will be immediately removed from the area and transferred to a sound container.

B. TANK SPILL AND LEAKAGE

A spill is defined as an unexpected release of any material from a container or tank. The following procedures are designed to be used in the case of a spill from a tank.

1. Procedures to stop waste addition

In the instance of a tank leak occurring while waste is being transferred, the flow rate will be reduced so truck pumps can be shut down. All tank and loading valves will be closed. The waste will be removed. The tank level will be emptied to a level that stops the leak.

2. Procedures for removing waste

Any spill of less than 55 gallon or a slow leak in the facility may be cleaned up by the employee at his discretion, following instructions outlined in the appropriate MSDS sheet or a method approved by the Operations Supervisor. MSDS records can be found in the office building. Any spill or leak will be brought to the attention of the EC. Any spill or release with potential threat to human health and/or the environment must be reported immediately to the EC.

Appropriate PPE shall be worn as indicated on the MSDS. If the spill is of reportable size, the workers shall not reenter the contaminated area until the EC investigates the situation. The EC will also select appropriate spill response equipment.

If a tank has been found to leak, it will be immediately repaired and re-certified by a professional engineer before being used again.

The EC will contain the spill area by building a dike around the area with an appropriate material. If existing systems cannot contain the leak the workers will erect a temporary dike.

All free liquids will be pumped up or absorbed using appropriate absorbent material and workers will follow any instructions for the neutralization or detoxification of any hazardous spilled materials. The contained spill and absorbent are placed into an appropriate container.

Workers will then clean, repair and recondition all emergency response equipment. The EC must certify the area before it is

returned to normal use. All spills, leaks, air-releases, and details of the cleanup operation will be noted and filed.

3. Procedures for immediate containment of visible releases

(a) Recovered waste

Recovered waste is stored on-site prior to using a licensed hazardous waste transporter for transportation to an off-site permitted commercial treatment, recycling, or disposal facility depending on the nature of the recovered material, its composition, and the availability of AES-Chico facilities to manage the recovered waste.

(b) Contaminated soil

Contaminated soil will be treated in-situ as feasible in coordination with the appropriate agency. Soil requiring off-site management will be excavated and transported using a licensed transporter to an off-site permitted, commercial treatment or disposal facility. The preference in all cases is to treat in-situ.

(c) Contaminated surface water

A storm drain located approximately 200 feet North of the AES-Chico transfer area, on Scott Avenue, is close enough to be affected by a major spill. Should a spill occur that affects the storm drain, the contaminated water will be collected and transported to an off-site, authorized, commercial treatment facility.

(d) Air

In the event of a release into the air, all employees are to leave the area. The person who detects the release shall immediately notify the EC. The only possible types of releases to the air are light hydrocarbon vapors. The EC will take the following actions:

Determine the nature of the release and take immediate measures to stop it (i.e., stop truck loading, or shutdown unit).

Determine the type of material released and take the necessary precautions for containment, clean-up, or control (i.e., leaks). If required, all material within the faulty system

will be pumped out and contained until repairs are made. Proper PPE shall be worn during all handling procedures.

Notify the agencies, as required.

C. The Contingency Plan will be amended under the following conditions:

1) Facility permit is prepared

It is the responsibility of the AES-Chico Emergency Coordinator (EC) to amend the site-specific plan if the permit is amended. It is the responsibility of the AES-Chico EC to approve changes to the site-specific plan. If any changes are made to the emergency plan, the AES-Chico EC will communicate changes to all the required offices including DTSC.

2) Regulations are Prepared

The plan will be periodically reviewed and updated by the AES-Chico EC to ensure that it meets all current regulations. At a minimum, the Contingency Plan will be reviewed yearly.

3) Plan fails in an emergency

It is the responsibility of the AES- Chico EC to hold an out-briefing to discuss the emergency response effort following an event. The AES-Chico EC is responsible for amending the site-specific plan as discussed in the out-briefing and is responsible for approving the changes. The AES-Chico EC has the responsibility to communicate any changes to the emergency plan due to failure of the plan to all the required institutions, including DTSC.

4) Emergency coordinator changes

The AES- Chico EC is responsible for amending the list of Emergency Response members provided in the site-specific plan whenever there is a change in personnel or personnel data. Any changes in emergency coordinator will be communicated to DTSC and all other concern parties.

5) Equipment changes

It is the responsibility of the AES-Chico EC to revise the site-specific plan to be consistent with facility changes or changes in

the facility-wide plan. It is the responsibility of the AES-Chico EC to approve the changes. The AES-Chico EC is responsible for maintaining an updated list of emergency equipment in the site-specific Contingency Plan.

COPIES OF THE CONTINGENCY PLAN

1. AES-Chico facility

A copy of the Contingency Plan will be maintained in a box located in the tank farm. Also, a copy will be located in the main office of Northgate Petroleum Company, the property owner.

2. Local authorities

Copies of the plan are submitted to the local authorities as listed below:

- City of Chico Fire Department
- Butte County Environmental Health Department

1. The AES-Chico plan's provisions include:

a. Emergency Coordinator:

The AES- Chico emergency coordinator is familiar with all aspects of the AES-Chico's operations, activities, facility layout, contingency plan, location of records and characteristic of the hazardous waste (i.e. waste oil, oily water and waste antifreeze) managed at the facility. The AES-Chico emergency coordinator has the authority to commit the necessary resources to respond to any emergency or release.

Names, addresses, and telephone numbers of the AES-Chico Emergency Coordinator and others in sequence to become primary person:

Primary: Jimmy Reese
Facility Operations Supervisor
Availability: Weekdays day shift
Office: (707) 693-0008
(800) 727-2879
Cell: (510) 760-4122

Alternate: Ken Sykes

Facility Driver/Operator
Availability: Weekdays day shift
Office: (707) 639-0008
(800) 727-2879
Cell: (530) 519-4001

b. Emergency Procedures: The AES-Chico facility does not have internal communications or alarm systems located at the waste transfer area. Hand-held two-way radios/cell phone are carried by all supervisors and drivers / operators on-duty. If there is an imminent or actual emergency, the on-duty driver / operator shall notify Northgate Petroleum facility personnel, North Valley Disposal and Recycling Center, if applicable, the AES-Chico emergency coordinator, and notify the appropriate local and State agencies with emergency response roles. The radio/cell phone will be used to summon emergency assistance from City of Chico Police Department, the City of Chico Fire Department, The Butte County Environmental Health Department, and NRC Environmental Services, emergency response team. Additional Emergency response teams are available for assistance through the City of Chico Fire Department.

c. If there is a fire, explosion or release of hazardous waste or hazardous waste constituents, the AES-Chico emergency coordinator shall:

The following is a description of actions to be taken by AES-Chico personnel and Emergency Coordinator in response to emergencies:

1. Response to Fires

Fire protection is provided by the City of Chico Fire Department. In the event of a fire, the discoverer shall notify the City of Chico Fire Department and then the AES-Chico Emergency Coordinator (EC) by using the two-way radios/ cell phone. Only trained individuals shall extinguish fires. If the situation represents a hazard, the area shall be evacuated immediately.

2. Response to Explosions

If there is a threat of explosion, all personnel in the area will be evacuated at once. The City of Chico Fire Department and then the AES-Chico Emergency Coordinator (EC) shall be notified immediately by using the two-way radios/ cell phone.

3. Response to Injuries

Any personnel injuries will be provided first aid and evaluated by the shift supervisor. If, in his judgment, the injured party requires medical assistance, the AES-Chico EC will be notified. Enloe Medical Center Hospital will then be contacted to arrange treatment. If a fatality should occur, the City of Chico Police Department will be promptly notified by the AES-Chico EC.

4. Response to Hostage Situations

In the unlikely event that a hostage situation should arise at the AES-Chico facility, the AES-Chico EC will promptly call the City of Chico Police Department and take no further action until the police arrive at which time the senior officer responding will be in charge and the EC will provide full cooperation and support as needed.

5. Response to unplanned sudden or non-sudden releases to:

(a) Air

In the unlikely event of a release into the air, all employees are to leave the area. The person who detects the release shall immediately notify the AES-Chico EC. The only possible types of releases to the air are light hydrocarbon vapor. The AES-Chico EC will take the following actions:

Determine the nature of the release and take immediate measures to stop it (i.e., stop truck loading, shutdown unit, and block in tank). All drivers/operators are trained in start-up and shut-down procedures.

Determine the type of material released and take the necessary precautions for containment, clean-up, or control (i.e., leaks). If required, all material within the faulty system will be pumped out and contained until repairs are made. Proper safety equipment shall be worn during all handling procedures.

Notification to the external agencies, as required.

(b) Soil

All hazardous waste management activities occur in secondary containment. All secondary containments are capable of containing the entire volume of the largest tank or

10% of all of the tanks in the secondary containment, whichever is greater, plus a 24-hour 25-year rain event. These containments have been certified to meet the state requirements. Section IV, Facility Design of the Standardized Permit Application discusses in detail the secondary containments.

In the case that the containment is inadequate for the volume spilled, the following emergency procedure shall be followed:

If a release to soil occurs, or is thought to have occurred, the discoverer shall notify the AES-Chico EC immediately by using the two-way radios/ cell phone. The trained staff shall begin to remove excess liquids from the scene using the pump truck. If it is not possible to pump the material, absorbent that is compatible with the spilled material will be used to clean up the remaining material. Evacuation shall be ordered as appropriate. The AES-Chico EC will report the incident to the appropriate agencies.

(c) Surface Water

A storm drain located approximately 200 feet North of the AES-Chico transfer area, on Scott Avenue, is close enough to be affected by a major spill. This storm drain serves as part of the flood control for this area. A spill into this storm drain could ultimately reach surface waters. If such an incident threatened to occur, the same response as for a release to soil will be initiated and preventive measures would be implemented at once.

The AES-Chico facility is not in the 100-year flood plain.

Notification to the State Office of Emergency Services

In all cases, the emergency coordinator must notify the State Office of Emergency Services (OES). The report to OES must include:

- Name of reporter;
- Telephone number of reporter;
- Name of facility;
- Address of facility;

- Time of incident;
- Type of incident (e.g., fire, release);
- Name of material(s) involved;
- Quantity of material(s) involved, to the extent known;
- Extent of injuries, if any, and;
- Possible hazards to human health or the environment outside facility.

d. During an emergency, the emergency coordinator must take reasonable measures to ensure that fires, explosions or releases do not occur, recur or spread to other hazardous waste at the facility.

   In the event of an incident, the AES-Chico EC must stop any operation that could spread or cause a reoccurrence of the emergency. The AES-Chico EC is responsible to collect and contain any released waste and manage it properly in a timely manner. The AES -Chico EC must remove any containers or transfer waste from any tank that that could spread or cause a reoccurrence of the emergency.

   After an emergency incident, the AES-Chico EC must continue to monitor all systems to prevent and control any leaks and rupture of pipes that may occur.

e. Immediately after any emergency, the AES-Chico emergency coordinator shall make arrangements for treating, storing and/or disposing of recovered waste, contaminated soil or surface water, or any other material resulting from the incident. Unless AES-Chico demonstrates that the recovered material is not a hazardous waste, the material is considered a hazardous waste and must comply with all applicable hazardous waste requirements.

   The AES-Chico EC must ensure that until the released material is completely cleaned up, no waste that may be incompatible with the released material may be transferred, treated, stored or disposed of in the affected areas. In addition the AES-Chico EC must ensure that all emergency equipment listed in the

contingency plan is clean and fit for its intended use before facility operations resume.

Should any operations be halted due to the incident, the operations must not be resumed until the City of Chico Fire Department and the DTSC, have been notified that no incompatible wastes are in contact with the affected areas and all emergency equipment listed in the contingency plan is ready for use.

f. Recording and Reporting: Any time the contingency plan is used, AES-Chico personnel must note in its operating record the time, date and details of the incident. AES-Chico EC must also submit a report to DTSC within 15 days after the incident including the name, address and telephone number of the owner/operator, the name address and telephone number of the facility; the date, time, and type of incident; the name and quantity of materials involved; the extent of any injuries; an assessment of any actual or potential hazards to human health or the environment; and the estimated quantity and disposition of recovered material that resulted from the incident.

g. Emergency Services: No specific prior arrangements are required by the City of Chico Police Department, or by the City of Chico Fire Department for emergency situations. Should an incident occur the senior Fire Chief responding will have overall authority to coordinate the emergency response. The AES-Chico Emergency Coordinator (EC) will provide full cooperation and support as needed.

h. AES-Chico transfers and stores waste oil, oily water and waste antifreeze. AES-Chico has arranged with the following Licensed Permitted Hazardous Waste Transporter firms to provide emergency response assistance:

- NRC Environmental Services (800) 337-7455
- Asbury Environmental Services (800) 727-2879

In addition, in case of catastrophic event, emergency response teams are available for assistance through the City of Chico Fire Department.

i. Emergency Equipment:

AES-Chico spill control, safety, and emergency equipment are listed in Appendix VIII-A, Tables VIII-1 through VIII-3, respectively.

A testing and maintenance schedule for AES-Chico's emergency equipment is detailed in Table VIII-4. Sample inspection log sheets are provided in Section VII, Inspection Plan, Appendix VII-A, of the Standardized Permit Application.

j. Evacuation Plan:

In the event an uncontrolled emergency should require evacuation, the AES-Chico EC, or his designee, or driver/operator will immediately evacuate and notify Northgate Petroleum Company by using his/her cell phone.

The evacuation map can be found in Appendix VIII-A, Maps.

If an evacuation is required, the following procedures will be followed if these items can be accomplished without significant risk to personnel.

The AES-Chico EC will designate someone to make a search if possible of all premises, buildings, offices, etc. for personnel (most likely this will be the Fire Department).

All personnel are to gather at the rally points north west of the facility on Scott Avenue and Park Avenue. A head count will be taken, and no one is to leave until his/her name has been recorded on paper. Anyone missing should be reported immediately to the emergency coordinator/fire department.

AES-Chico EC is to designate manpower that will be required due to the emergency.

Cellular telephones and portable radios will be available for communication.

k. OES Contact:
State Office of Emergency Services is notified in the event of a spill when deemed necessary by the EC. The State Office of Emergency Services Phone Number: (800) 852-7550

Appendix VIII-A, Tables

TABLE VIII-1

SPILL CONTROL EQUIPMENT

EQUIPMENT	TYPE	QUANTITY	LOCATION
Adsorbent Material	Granular Clay/ Vermiculite	5 Bags	Drum Storage Area
Spill Kit (Broom, Shovel, Drums)		One	Drum Storage Area

TABLE VIII-2

SAFETY EQUIPMENT

EQUIPMENT	TYPE	QUANTITY	LOCATION
Material Safety Data Sheets	Misc.	One Set	Tank Farm

TABLE VIII-3

EMERGENCY EQUIPMENT

EQUIPMENT	TYPE	QUANTITY	LOCATION
First Aid	Kit	One	Tank Farm Entrance
Eyewash	Bottles	One	Drum Storage Area
Fire Extinguisher	ABC	Two	Tank Farm Entrance & Stairs

TABLE VIII-4

TESTING AND MAINTENANCE SCHEDULE

EQUIPMENT	DAILY	WEEKLY	MONTHLY
Fire Extinguishers			X
Eyewash		X	
SPILL CONTROL SYSTEM and DECONTAMINATION			
Dikes & Berms	X		
Adsorbent Material		X	
Spill Kit (Broom, Shovel, Drums)		X	

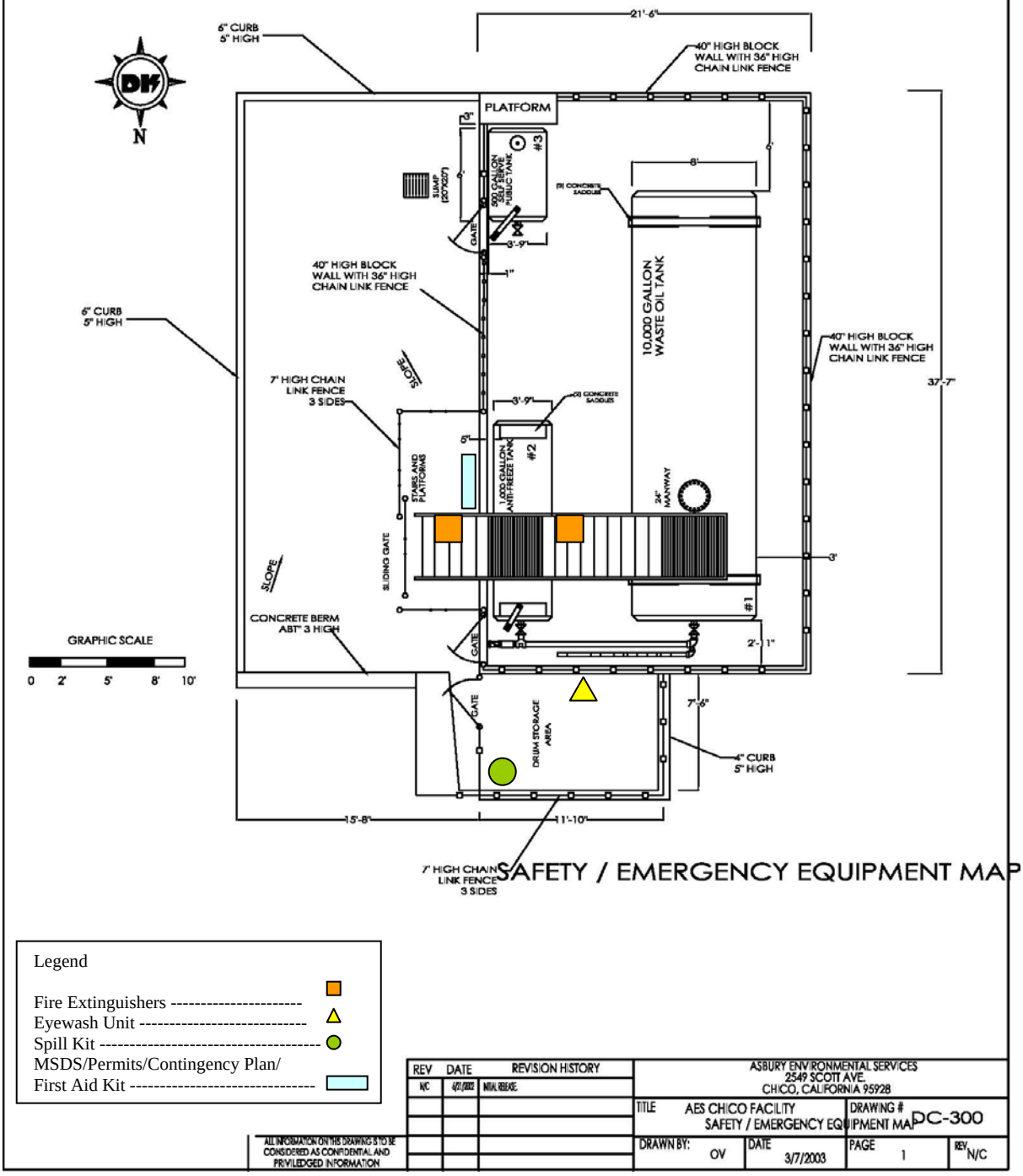
TABLE VIII-5
Emergency Contact Phone Numbers

The following telephone numbers have been provided to allow the user a quick reference to find specific numbers that will help in the event of an emergency situation.

AGENCY NAME		TELEPHONE NUMBER
Local Emergency Number		911
Fire - City of Chico		911
Police - City of Chico		911
AES Emergency Numbers		
Normal Business Hours		800-727-2879
After Hours	Jimmy Reese- Cellular Number:	510-760-4122
National Response Center		800-424-8802
Chemtrec		800-424-9300
Office of Emergency Services		800-852-7550
U.S. Coast Guard:		24-Hours: 510-437-3075
Butte County Environmental Health Dept.		24 Hours: 530-538-7282
California Poison Control Services		800-876-4766
Northgate Petroleum Company		530-342-6504
Bud Caldwell (owner of Northgate) Home number		530-877-4642
General Information Numbers		
Department of Toxic Substance Control		916-324-1807
DTSC Transportation Unit		916-323-3219
California Highway Patrol Motor Carrier Unit		916-445-1865
State Water Resources Control Board		916-657-1444
Department of Transportation Hotline		202-366-4488
Northern California Office of Motor Carriers		916-551-1300
US Environmental Protection Agency		916-445-3846
Hospital / Emergency Room		
Enloe Medical Center Hospital 1531 Esplanade Chico, CA 95926		530-332-7300
Emergency Response Contractor		
NRC Environmental Services 1605 Ferry Point Alameda, CA 94501		800-337-7455

Appendix VIII-B, Maps

Safety/Emergency Equipment Map



Legend

Fire Extinguishers ----------
Eyewash Unit ----------
Spill Kit ----------
MSDS/Permits/Contingency Plan/
First Aid Kit ----------

REV	DATE	REVISION HISTORY
N/C	4/1/2003	INITIAL RELEASE

ASBURY ENVIRONMENTAL SERVICES
2549 SCOTT AVE.
CHICO, CALIFORNIA 95928

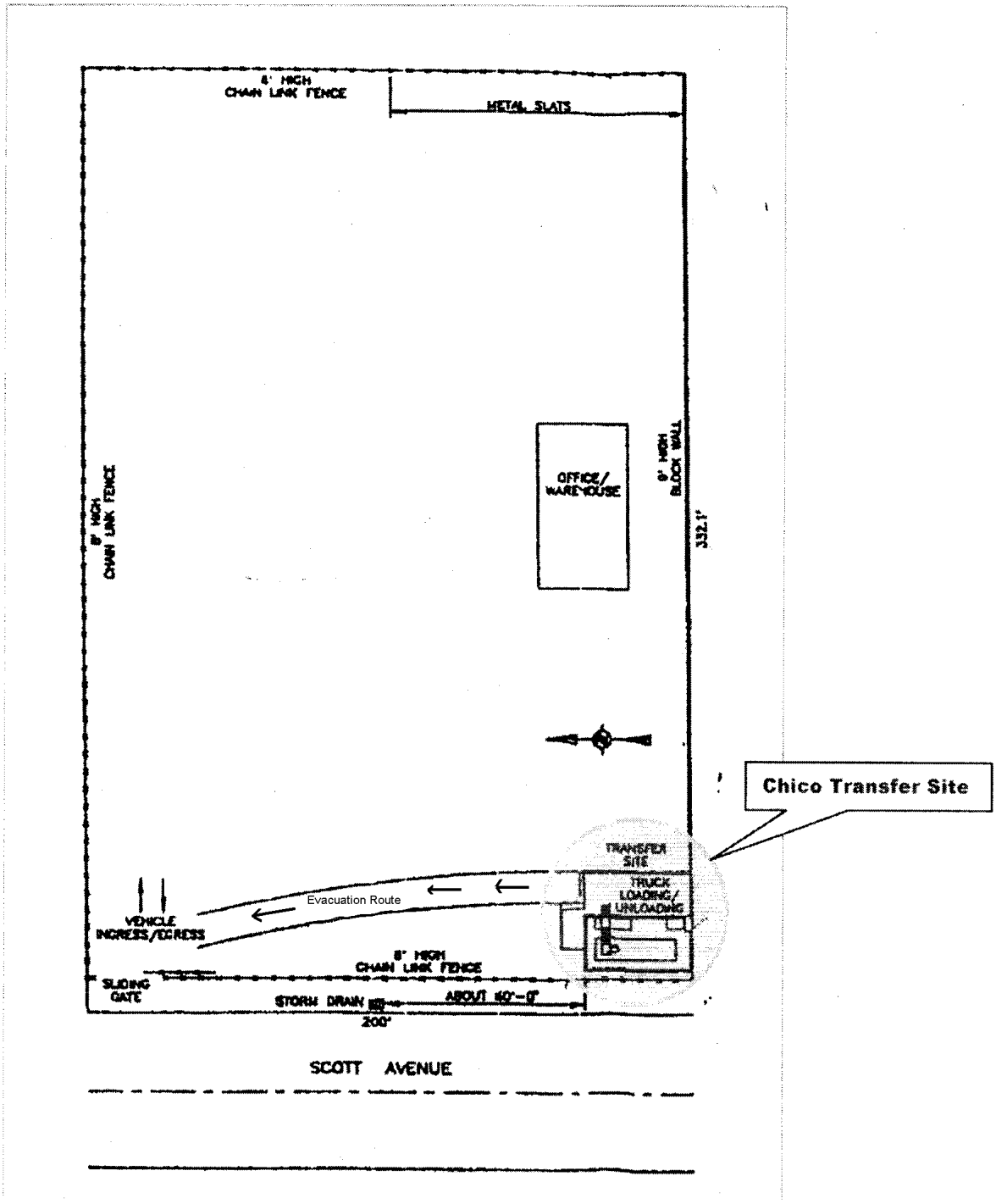
TITLE	DRAWING #
AES CHICO FACILITY SAFETY / EMERGENCY EQUIPMENT MAP	PC-300

DRAWN BY:	DATE	PAGE	REV
OV	3/7/2003	1	N/C

ALL INFORMATION ON THE DRAWING IS TO BE CONSIDERED AS CONFIDENTIAL AND PRIVILEDGED INFORMATION

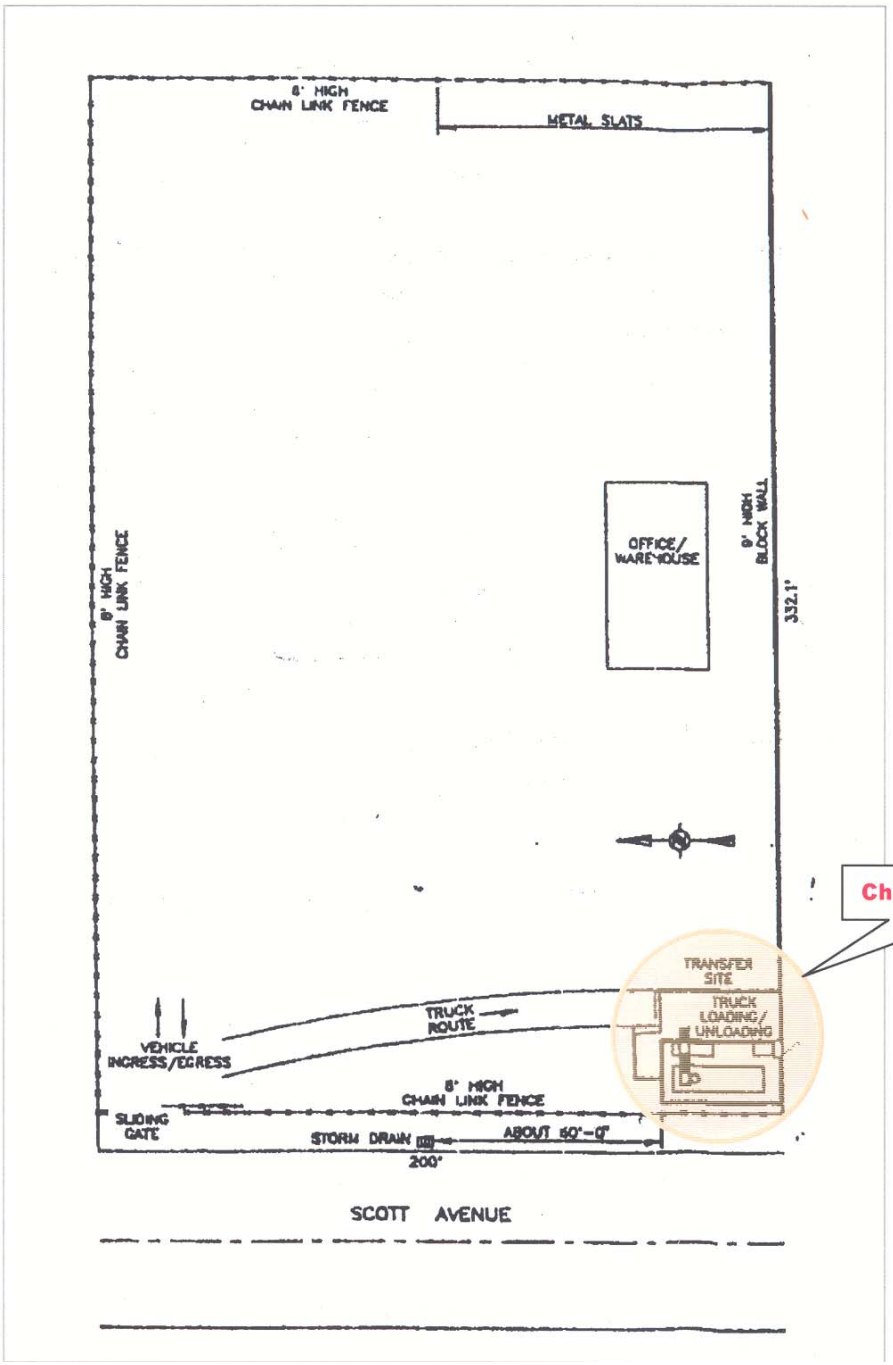
Evacuation Map

Asbury Environmental Services
2549 Scott Avenue
Chico, CA 95928



Asbury Environmental Services
2549 Scott Avenue
Chico, CA 95928

Truck Traffic Map



SECTION IX – CLOSURE PLAN

A. INTRODUCTION

The following closure plan outlines Asbury Environmental Services – Chico's (AES – Chico) approach to closing the facility.

This closure plan is based on using third party contractors. All wastes in inventory and all waste generated during closure will be shipped off-site to third party treatment and/or disposal facilities. A California Registered Professional Engineer will be hired to implement the closure plan, oversee the closure, and issue the final closure certification after closure activities have been completed.

The details of this Closure Plan are presented below and the Closure Cost Estimate Tables IX-1 through IX-6 are contained in Appendix IX-A.

The AES - Chico facility is anticipated to be closed as a clean site. If the standards cannot be met, AES - Chico proposes to close the site to health-based standards such that it poses no significant risk to human health or the environment. A Health Risk Assessment (HRA) will be prepared upon DTSC's request and submitted for DTSC's approval.

The following sections provide a brief history and description of the facility and of the processes and equipment at AES - Chico which are affected by this closure plan.

History

Prior to 1922 the land was vacant. In 1922, Puritz Oil operated a gas and diesel bulk storage facility using above ground storage tanks, truck parking, and warehousing. In August 1989, Northgate Petroleum Company acquired the property from Puritz Oil. Northgate Petroleum Company operates a large petroleum distribution facility which contains a fueling station for gasoline and diesel fuel, above ground storage tanks for bulk storage, truck parking, and a small waste transfer area.

In 1991, Evergreen Oil Company began operating the waste transfer area in the southwest corner of the Northgate Petroleum Company property. In December 30, 1997 The Department of Toxic Substances Control (DTSC) issued a Standardized Permit to Evergreen Oil Company.
January 3, 2002, Evergreen Oil Company filed a permit Modification with

DTSC to transfer the standardized permit to Asbury Environmental Services. March 2003, DTSC issued the permit to Asbury Environmental Services. Asbury Environmental Services continues to operate the waste transfer facility.

Regional Geology

The site is located in the Sacramento Valley Province, a nearly level alluvial plain, separated geologically from the San Joaquin Valley to the south by a buried fault in the vicinity of Stockton. On the north, the Valley terminates at the Klamath Mountain foothills. The Valley is drained by the Sacramento River, passing through various flood basins.

Recent alluvium underlying the valley intermingle with the numerous stream deposits of silt, sand, and gravels which were deposited by streams from the Sierra Nevada foothills to the east. These recent deposits consist mainly of reddish, sandy clay and black humus topsoils overlying unconsolidated sand, silt, clay, and gravel.

Butte County and the surrounding area are located on the western portion of a faulted and downwarped series of ancient metamorphic rocks of the Western Sierra Nevada Mountains. The City of Chico is located in a Seismic Hazard Zone 3 and there are no active faults (those that have moved in Holocene time, i.e. the last 11,000 years) within the city.

Regional Hydrogeology

The regional hydrogeology of the project site is considered to be in the northern Butte Basin, where groundwater occurs in unconsolidated alluvial fan deposits of the recent geologic past, sometimes referred to as the Modesto formation. It also occurs, deeper, in the underlying fanglomeratic sediments of low-to-moderate permeability, and in the Tuscan formation beneath them. Water usually moves within individual formations, but does recharge to depth east of and within Chico itself. Regional static ground-water levels in the alluvium tend to fluctuate about 10 feet seasonally, and an additional 10 to 15 feet over cycles of wet and dry years.

Regionally, all waters ultimately drain to the Sacramento River floodplain. Comanche Creek, (located near the facility) has a small watershed (13.0 square miles) that extends approximately 6 miles up- stream into the Sierra Nevada foothills. The creek, which is also known as Edgar Slough and Crouch Ditch, flows along the southern fringe of the City of Chico before intersecting Little Chico Creek on the Sacramento River floodplain.

Site Specific Geology/Hydrogeology

The facility site is located on the alluvial plain of the Sacramento Valley. Site soil is classified as Redsluff Gravelly Loam, a fine-loamy alluvium derive from igneous, metamorphic, and sedimentary rocks over gravelly alluvium derived from volcanic rocks. This soil type has a moderately slow permeability near the soil surface (0 to 29 inches)

The site is located approximately 500 feet north of Comanche Creek, but outside of the 100-year floodplain.

Cleveland Hill fault is the closest active fault, approximately 17 miles to the southeast. The last movement of this fault occurred in 1975.

Depth to Groundwater

Groundwater has been recently measure in the near vicinity of the facility site as between 15 and 16 feet below ground surface. There are no known wells on the site or surrounding property.

In managing the wastes, AES - Chico's activities involve consolidation, storage and transfer. There is no treatment or disposal of hazardous waste at the AES - Chico site.

The wastes received are managed in one or more of the following waste management units:

- Waste Oil/Used Oil Tank
- Used/Waste Antifreeze Tank / Oily Water Tank
- DIY Public Recycling Used Oil Tank

Wastes in inventory at the start of closure and any wastes generated during closure will be shipped off-site as hazardous waste. At the completion of the closure, no inventory will remain.

Description of Hazardous Waste Management Units

The AES - Chico facility utilizes the following waste management units:

Waste Oil/Used Oil Tank	Tank 1
Waste/Used Antifreeze / Oily Water Tank	Tank 2
Truck Loading & Unloading Area	6,500 gallons
Drum Storage Area	8 x 55

The units identified above receive and store the wastes. Generated wastes are properly stored and manifested and shipped off-site to an approved disposal facility.

Brief descriptions for these processes are provided below.

Waste Oil/Used Oil Receiving & Storage Unit The Waste Oil/Used Oil Receiving and Storage Unit receives and stores waste oil/used oil. Used Oil / Waste Oil is pump to using the truck's pump, and consolidated in Tank 1 for storage prior to shipment off-site for recycling or appropriate disposal at an authorized facility.

The Waste Oil/Used Oil Receiving and Storage Unit consist of one tank.

Tank 1 – 10,000 gallon horizontal, above ground, carbon steel, dished head.

The Waste Oil/Used Oil Receiving & Storage Unit system consists of the following primary equipment:

Feed system is composed of manual valves and piping.

The Loading & Unloading Area is a concrete pad sloped to concrete sump.

The loading and unloading area is located immediately east of the tank farm

The location and boundary of this waste management unit are shown in Appendix IX-B, Figure IX-1.

Waste antifreeze/Used Antifreeze Receiving & Storage Unit The Waste Antifreeze/Used Antifreeze Receiving and Storage Unit receives and stores Waste Antifreeze/Used Antifreeze mixtures. Used Antifreeze is pump to, using the truck's pump, and consolidated in Tank 2 for storage prior to shipment off-site for recycling or appropriate disposal at an authorized facility.

The Waste Antifreeze/Used Antifreeze Receiving and Storage Unit consists primarily of one tank that may be used in an alternate service known as the **Oily Water Receiving & Storage Unit.** The Oily Water Receiving and Storage Unit receives and stores oil & water mixtures. Oily Water is pump to, using the truck's pump, and consolidated in Tank 2 for storage prior to shipment off-site for recycling or appropriate disposal at an

authorized facility.

The Waste Antifreeze/Used Antifreeze Receiving and Storage Unit and the Oily Water Receiving and Storage Unit waste types are not mixed together. Tank 2 is completely emptied before a different waste stream is placed into the tank.

Waste Antifreeze/Used Antifreeze Receiving and Storage Unit / Oily Water Receiving and Storage Unit consists of one tank.

Tank 2 – 1,000 gallon horizontal, above ground, carbon steel, dished head.

The Waste Antifreeze/Used Antifreeze Receiving and Storage Unit / Oily Water Receiving & Storage Unit system consists of the following equipment:

Feed system is composed of manual valves and piping.

The Loading & Unloading Area is a concrete pad sloped to a concrete sump.

The loading and unloading area is located immediately east of the tank farm.

The location and boundary of this waste management unit are shown in Appendix IX-B, Figure IX-1.

DIY Public Recycling Waste Oil/Used Oil Receiving & Storage Unit

The DIY Public Recycling Waste Oil/Used Oil Receiving and Storage Unit only receives and stores waste oil/used oil from public household collections. DIY Public Recycling Used Oil / Waste Oil is consolidated into Tank 3 for storage prior to shipment off-site for recycling or appropriate disposal at an authorized facility.

The DIY Public Recycling Waste Oil/Used Oil Receiving and Storage Unit system consists of one tank.

Tank 3 – 500 gallon horizontal, above ground, carbon steel, dished head.

The Loading & Unloading Area is a concrete pad sloped to a concrete sump.
The loading and unloading area is located immediately east of the tank farm.

The location and boundary of this waste management unit are shown in Appendix IX-B, Figure IX-1.

B. CLOSURE PERFORMANCE STANDARD

Tanks and Equipment:

All tanks and equipment destined for scrap metal recycling will be decontaminated to scrap metal standards.

The closure performance standard for metal tanks, vessels and equipment shall meet the scrap metal standards as defined in Title 22, section 66260.10 and section 66261.6(a)(3)(B).

All tanks and equipment destined for scrap metal recycling or landfill shall be visually inspected and screened for Volatile Organic Compounds (VOC) using a Photo Ionization Detector (PID) Monitor meeting EPA Method 21 by a third-party certified engineer. A PID is a portable vapor and gas detector that detects VOCs.

The closure performance standard for decontamination of tanks destine for reuse, for only the purpose of hazardous waste storage, will use non-detection level based on hazardous waste criteria; the method detection limits (MDL) or practical quantification limits (PQL) for each analyte.

For the purpose of this closure plan's closure cost estimate (worst case senario), all tanks are assumed to be destine for hazardous waste landfill. However, cost associated with confirmation wipe sampling should the tanks be destine for reuse have also been included in the closure cost estimate.

Structures:

Containment and pad surfaces shall be a non-detection level based on hazardous waste criteria (the method detection limits (MDL) or practical quantification limits (PQL) for each analyte). If non-detection level cannot be achieved, then clean closure may be based on established, protective, risk-based levels such that it poses no significant risk to human health or the environment, including the threat to groundwater.

Soil:

The closure performance standard for metals in soil will be based on background soil concentrations provided by near off-site soil samples. Samples must not exceed the statistically calculated (per SW-846)

background concentrations, to meet the standard.

For VOCs and PCBs, a non-detection level based on the method detection limits (MDL) or practical quantitation limits (PQL) shall be used.

If the above standards cannot be met, AES - Chico proposes to close the site to health- based standards such that it poses no significant risk to human health or the environment. A Health Risk Assessment (HRA) will be prepared upon DTSC's request and submitted to DTSC for approval.

The potential removal of contaminated soils to limit the remaining concentrations of constituents for either a background/MDL or health-based closure standard is discussed in Section E.5.

C. MAXIMUM INVENTORY ESTIMATES

The following is the worst-case scenario, maximum quantity of waste (by waste type) that may be stored onsite during closure. Appendix IX-A, Table IX-3 indicates capacities and services for tanks. In addition, for purposes of the closure cost estimate, 20 tons (20 cubic yards) of contaminated surface soils and 10 tons (10 cubic yards) of concrete are assumed to be disposed at an off-site facility.

Maximum Hazardous Waste Inventory

Waste Type	**Maximum Quantity**
Waste Oil / Use Oil (Includes DIY Public Recycling Tank)	10,500 Gallons
Waste/Used Antifreeze	1,000 Gallons
Oily Solids	8 x 55 Gallon Drums
Rinse / Decon Water	10,332 Gallons
Contaminated Soil	20 Cubic Yards
Concrete	10 Cubic Yards

Appendix IX-A, Table IX-2 describes the maximum hazardous waste inventory that will be at the site at any one time over the active life of the AES - Chico facility. The maximum inventory is a sum of all hazardous waste storage capacity and the estimated waste generated from closure activities.

D. WASTE REMOVAL / TREATMENT

Wastes in inventory at the start of closure and any wastes generated

during closure will be shipped off-site as hazardous waste. At the completion of the closure, no inventory will remain. Waste oil and waste antifreeze will be shipped in tanker trucks to a permitted TSDF for recycling. Oily water and decon water will be shipped in tanker trucks to a permitted TSDF for treatment. Oily solids, oily debris, and contaminated soil, if present, will be shipped in DOT drums or roll-off bins to a permitted TSDF for land disposal. Oily sludge will be shipped in appropriate DOT tank trucks or drums to a permitted TSDF for appropriate treatment and disposal.

Examples of off-site TSD facilities for these wastes, along with their distances are included in Appendix IX-A, Table IX-4.

The characterization of all wastes shipped off-site will be determined by review of the facility Operating Record and analytical results. The Operating Record contains a log for each hazardous waste management unit showing all of the waste and waste codes that have entered the unit since it was last empty and/or cleaned. This list of codes will be used in manifesting wastes from each hazardous waste management unit. In addition, the generator's manifest and all analytical associated with the wastes received by AES - Chico will be used to confirm these determinations.

All wastes that are shipped off-site will be properly manifested and transported by permitted haulers.

E. DECONTAMINATION PROCEDURE

This section of the closure plan identifies all structures, and equipment that the facility plans to decontaminate.

Appendix IX-A, Table IX-2 provides tank, equipment, structure locations, capacities, services, and proposed number of samples used to confirm decontamination of the various units.

1. Containers

Any hazardous waste or hazardous material container will be emptied of their contents in accordance with California empty container standards (Title 22, CCR section 66261.7), prior to reuse or for recycling. Alternatively, those containers not emptied in accordance with the California empty container standards will be shipped to a permitted off-site hazardous waste facility for treatment and/or disposal.

For the purposes of the closure cost estimate, eight drums of oily solids/ oily debris are assumed to be disposed of as hazardous waste at an off-site facility.

2. Tanks

Tanks which contain or have contained hazardous wastes and are destined for scrap metal recycling or reuse will require decontamination at facility closure.

Tanks destined for scrap metal recycling will be decontaminated to scrap metal standards prior to being cut up for scrap and shipped off-site to a metal recycler.

Tanks destined for reuse, for only the purpose of hazardous waste storage, will be decontaminated to non-detect levels based on hazardous waste criteria; the method detection limits (MDL) or practical quantification limits (PQL) for each analyte.

Tanks not destined to be scrapped or reused will be emptied, rinsed, cut up, and shipped off-site as hazardous waste.

For the purpose of this closure plan's closure cost estimate (worst case scenario), all tanks are assumed to be destined for hazardous waste landfill.

The following are the major steps involved in emptying and cleaning all tanks at AES - Chico:

1. Tanks are emptied one at a time using Standard Work Procedures (AES SWP –13101), Removing Waste Material from Tanks and Vessels to Make Empty. The AES SWP-13101 is located in Appendix IX-D.

2. A high-pressure hydroblaster, or hot water pressure washer, or steam cleaner and appropriate detergent is used to clean the interior surfaces of the tank. Water from the decon washing will be sucked up by a vacuum truck and will be shipped off-site as hazardous waste.

3. Testing for tanks will include a visual inspection and a Volatile Organic Compounds (VOC) screening utilizing a Photo Ionization Detector (PID) Monitor meeting EPA Method 21. The PID Monitor is a portable vapor and gas detector that detects VOCs. The PID Monitor must meet the specification and performance criteria as indicated in the Method 21-Determination of Volatile Organic

Compound Leaks document located in Appendix IX-E, Method 21.

4. If contamination is indicated by the PID monitor, AES SWP -13101 will be repeated. AES SWP -13101 does not need to be repeated if tanks are destined for landfill.

5. For tanks destine for reuse: Testing for tanks will include taking wipe samples from the bottom, sides, and top interior surfaces of the tank. If contamination is indicated by the wipe sample results, the tank will be re-cleaned to remove the remaining residuals; DKD SWP -13101 will be repeated. However, AES SWP -13101 does not need to be repeated if AES - Chico opts to send the tanks to landfill.

6. After cleaning and inspection, the tank is released to the salvage crew for demolition. The tanks will be cut up and sold as scrap, shipped off-site for hazardous waste disposal, or will be forwarded to a used equipment dealer for dismantling and equipment salvage.

7. Some of the tanks destine for reuse may be shipped off-site for temporary storage pending sale.

3. Ancillary Equipment and Piping

Hazardous waste piping, valves and related equipment destined for scrap recycling or reuse will require decontamination. Hazardous waste piping, valves and related equipment not destined to be scrapped may not require decontamination if shipped off-site as hazardous waste.

When tanks and equipment are taken out of service, the pipelines connected to them must be emptied, cleaned, and removed. The following are the major steps involved in the cleaning process for ancillary equipment and pipes destined for scrap recycling or reuse purposes:

1. Pipelines that are taken out of service must first be emptied. This is accomplished by flushing the line with water or steam.

2. The lines will still be connected to the tanks so that the lines can be flushed in place without dismantling.

3. Once drained and flushed, the line will be disconnected from the tanks and equipment and the inside will be hydroblasted with one end of the line connected to either a vacuum truck hose or a temporary, portable containment basin. Water from the decon washing will be sucked up by a vacuum truck and will be shipped

off-site as hazardous waste

4. To ensure that the piping and equipment is suitable for shipment off-site to a scrap metal recycler, testing for pipes, valves and pumps will include a visual inspection and a VOC screening utilizing a PID Monitor meeting EPA Method 21. If contamination is indicated by the PID monitor, cleaning procedures will be repeated. Re-cleaning procedures do not need to be repeated if the pipes, valves and pumps are destined for landfill.

5. To ensure that the piping and equipment is suitable for shipment off-site to be reused, rinseate samples will be analyzed for hazardous waste constituents. Cleaning procedures will be repeated until a non-detect result is obtained from the samples. However, cleaning procedures do not need to be repeated if AES - Chico opts to send the piping, valves, and pumps to landfill.

6. After cleaning and inspecting the piping and equipment, the pipes and equipment will be released to the salvage crew. The pipeline will be cut up and sold as scrap, shipped off-site for hazardous waste disposal, or will be forwarded to a used equipment dealer for dismantling and equipment salvage.

4. Secondary Containments and Concrete Pads

Following the removal of tanks and equipment, the secondary containment area, which contained Tanks 1 through 3, the drum storage area, and the loading/unloading area, will be cleaned using the following procedures:

1. The containment or pad surfaces shall be hydroblasted with a hot water pressure washer until the surface is visually clean or additional hydroblasting does not change the appearance. High-pressure hydroblasting with hot water should be very effective for removal of most surface constituents. In areas where organic staining (oils and grease) is not readily removed with just hot water, nonhazardous degreasers or surfactants may be added to the hydroblast water to help remove such constituents. Alternatively, steam cleaning may be used for this purpose. A vacuum truck will be used to collect the wash water that is generated. The water will be shipped off-site following characterization.

2. Once cleaning is complete, concrete chip samples will be taken to confirm decontamination of the concrete, see Appendix IX-C.

3. Seven chip samples points are proposed. If the chip samples indicate contamination is still present, re-washing and/or sand

blasting of the concrete surface will be used in an attempt to remove the remaining contamination. Alternatively, if the contamination is found to be present within the concretes' structure, removal and disposal of this concrete as hazardous waste will be performed. If the chip samples indicate contamination is not present, the secondary containment and/or concrete pad will be left in place.

5. Contaminated Soil

Any soil contamination discovered during closure will be cleaned to background limits, MDL, or risk based levels that are determined to pose an insignificant risk to public health and the environment, including groundwater, or excavated and disposed of at an appropriate off-site hazardous waste facility. For purposes of the closure cost estimate, 20 tons (20 cubic yards) of soil is assumed to be disposed at an off-site hazardous waste facility. For purposes of the closure cost estimate, the location of the contaminated soil is assumed to be in proximity of the drive path to the truck loading and unloading containment area.

5.1. Procedures for Soil Excavation:

The actual excavation methods, procedures, and equipment to be used will be determined after the need for excavation, the estimated quantity, and locations have been determined. A site plan showing the location of the contamination and the extent of proposed excavation will be provided after contamination has been determined.

Generally, soil excavation would involve the use of a backhoe. Contaminated soils are expected to be excavated in a logical, layer-by-layer sequence until all of the contaminated soil has been removed. The excavated contaminated soil would be stockpiled on site (on polyethylene sheeting), and characterized by sampling analysis.

Should soil excavation be required, fugitive dust will be controlled with a water spray.

Excavation will not be scheduled on rainy days, to limit the potential effect of rainfall that may transport contaminants further through the soil.

5.2 On-site Cleanup of Soil:

On-site cleanup of soil is not anticipated at this time.

F. CONFIRMATION SAMPLING PLAN FOR STRUCTURES, EQUIPMENT, AND BUILDINGS

The AES - Chico sampling plan will demonstrate that the closure performance standards have been met. The sampling plan is used to verify that the decontamination procedures have been effective or will demonstrate that no contamination has ever taken place. All sampling procedures will be conducted only after a thorough visual inspection and proper decontamination has been performed.

The sampling plan describes the sampling procedures to be used for sampling buildings, equipment and structures for contamination.

The number of samples to be taken, sampling methods, location of sampling points and rationale used for selecting sampling point locations are discussed within the sampling plan. All structures, equipment and buildings identified in the AES - Chico permit application are included in the sampling plan.

The AES - Chico sampling plan is located in Appendix IX-C.

G. CONFIRMATION SOIL SAMPLING PLAN

Based on the operations conducted at the facility, confirmation soil samples shall be analyzed for those constituents common with the waste managed at AES - Chico. Appendix IX-A, Table IX-5 lists analytical tests to be performed. If hazardous waste had migrated through the secondary containment (cracks, defects), one or more of these analytical parameters would detect contamination

The hazardous waste facility and surrounding soils will be visually inspected for evidence of soil contamination. Where contamination is observed, sampling of the suspected area will be performed. The sampling procedures are described below.

Samples will be taken from the secondary containment areas and any areas of apparent soil contamination (visible staining) to verify the soil conditions if contamination is found, corrective actions will be proposed and taken upon approval from DTSC. Any contaminated soil identified during the closure of the facility will be remediated to cleanup levels determined to pose an insignificant risk to public health and the environment, or be shipped off-site as hazardous waste to a permitted facility.

Appendix IX-A, Table IX-2 provides containment area and pad sizes, and

proposed number of samples used to confirm decontamination for the secondary containment areas. The proposed location of the soil samples is located in Appendix IX-B, Figure IX-2, Sample Plot Plan.

Four soil sampling locations are proposed. For each boring location, separate soil samples will be taken at the soil surface, at a 3-foot depth, at a 6-foot depth, and an additional three feet to a total depth of 12 feet to allow partial delineation of contamination which may be present. Additional samples will be collected at any major lithologic breaks. A two-inch concrete core shall be drilled at these locations to provide access to the underlying soil surface.

Only samples from the top 6 feet will be initially analyzed. The remaining samples shall be held by the lab at 4°C until the results of the initial samples are obtained. If the results of the 6-foot sample yield values above the background levels then the deeper sample will be analyzed. Holding times shall not be exceeded pending determination of analyses. Extraction of samples may be required. If the 12-foot sample yields results above background levels, a determination to return to the boring location and take deeper samples shall be determined jointly by DTSC's geologist and AES - Chico's consulting geologist based on the understanding of the lithology and the type of contamination being investigated.

Appendix IX-A, Table IX-5 provides analysis to be performed for soil samples.

There will be three background samples taken from near off-site from locations chosen at the time of closure and approved by DTSC.

Groundwater Sampling and Monitoring Plan

The Owner and Operator of the AES- Chico facility are not aware of any groundwater contamination at this time. A groundwater sampling plan will be submitted upon request of DTSC if groundwater contamination is suspected or confirmed.

H. ANALYTICAL TEST METHODS

All laboratory analyses conducted under this closure plan will be performed by a California Certified Analytical Laboratory, except for field pH and PID Monitor measurements.

Appendix IX-C, Sampling Plan and Appendix IX-A, Table IX-5 indicates

analytical test methods to be used to analyze closure confirmation samples. All analytical methods used for closure will conform with Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW-846, 3rd Edition and Title 22, California Code of Regulation, Section 66261.126, Appendix III.

I. CLOSURE COST ESTIMATE

The AES - Chico closure plan provides an estimate of the cost to properly close the facility. The closure cost estimate is consistent with the work proposed in the closure plan.

1. The closure cost estimate is high enough to ensure that, when at any time, the AES - Chico facility begins closure the cost would not exceed the cost estimate.

2. The closure cost estimate is based on the cost of hiring a third party to close the facility. A third party is an independent party who cannot be employed by a parent company or by a subsidiary of the facility's company.

3. The closure cost estimate does not incorporate any salvage value that may be recouped with sale of wastes, structures, equipment, and other assets.

4. The closure cost reflects the cost of sending waste off- site for treatment or disposal.

5. A 20% contingency cost has been added to the final closure cost estimate to account for any unknowns or errors.

6. The remediation cost for treating/removing contaminated soil may be required as a necessary part of the closure cost estimate.

7. The closure cost estimate must provide sufficient detail for DTSC to fully evaluate its validity.

AES - Chico closure cost estimate will be updated when any of the following occur:

1. Annually for inflation. (To account for annual inflation, the facility may either recalculate estimates every year using that year's current prices or update the cost estimate annually by multiplying the current estimates by an inflation factor);

2. Changes in the facility's operation;

3. An increase in the amount of hazardous waste managed; or

4. Any remediation that may be required at the time of closure.

See Appendix IX-A, Table IX-1 for summary totals of the closure cost estimate and Table IX-2 for details to the closure cost estimate.

J. CLOSURE SCHEDULE

When AES - Chico decides to close the facility, AES - Chico shall notify DTSC of our intent of closure at least 90 days prior to the beginning of the closure plan implementation. AES - Chico understands that DTSC may require AES - Chico to amend the closure plan that time to comply with current regulations.

Wastes will be removed and structures/equipment decontaminated within 60 days of the date that the facility stopped receiving hazardous waste or when the closure plan was approved, whichever is later. AES - Chico's plan accomplishes removal of all hazardous waste inventories in about 30 days and decontamination and removal of tanks completed within 60 days. The date (days after the start of closure) that each hazardous waste management unit has been decontaminated and dismantled is shown in Appendix IX-A, Table IX-6, Closure Schedule.

After decontamination and dismantling of the tanks and their related equipment, the soil sampling and cleanup is expected to take an additional 90 days. Closure will then be complete within 180 days after closure began.

K. CLOSURE HEALTH AND SAFETY PLAN

At the time of closure, the AES - Chico facility will submit to DTSC an updated health and safety plan (H&S Plan) that will provide protection to personnel during the closure activities. The H&S Plan shall be reviewed and approved by a certified industrial hygienist.

The AES - Chico updated health and safety plan will address the following:

1. Hazard Identification - Identifies the hazards that will be present during closure (e.g., confined spaces, heat stress, chemical

hazards, heavy equipment use, etc.).

2. Hazard Evaluation - Evaluates the impact of closure on personnel or public health. The evaluation is usually accomplished by referring to the standard reference for data and guidelines on permissible levels of exposure.

3. Personal Protective Equipment (PPE) - Lists the PPEs that will be used during the closure activities.

4. Environmental Monitoring - Monitoring of atmosphere and personnel to ensure a safe site environment.

5. Site Work Zones - Delineates zones or area at the facility where different types of closure activity will take place. The zones are defined to prevent the spread of hazardous waste.

6. Decontamination of Workers - Establishes the procedures for decontaminating closure personnel.

L. CLOSURE CERTIFICATION REPORT

After all closure activities have been completed at AES - Chico, a closure certification will be submitted. The certification will be submitted to DTSC by registered mail within 60 days of completion of closure activity.

The AES - Chico Closure Certification Report will include the following:

1. A certification signed by an independent professional engineer registered in California in accordance with Title 22, California Code of Regulations, Section 66270.11(d).

2. Supervisory Personnel Description - Identifies the person(s) or companies who were responsible for supervision of closure activities at the site, including transportation of waste and sample collection

3. Summary of Closure Activities - Briefly describes the main activities performed for each closure activity.

4. Field Engineer Observation Report

5. Sampling Data and Analysis - All sampling information such as sampling locations, soil boring log, chain of custody, analytical results will be included

6. Discussion of Analytical Results

7. Manifests - Copies of manifests showing the disposition of the waste inventory

8. Modifications and Amendments to Closure Plan, if any

9. Photographs

The AES - Chico facility will keep and maintain the following documents at the D/K Dixon facility located at 3700 Chevron Way, Dixon, California, Solano County until the closure certification approval:

1. Approved Closure Plan

2. Copies of the independent Professional Engineer's field observation reports

3. Laboratory results of samples analyzed

4. Quality assurance/quality control demonstrations

5. Manifests

6. Miscellaneous documents

7. Closure certification report

Appendix IX- A
Tables

Table IX-1 Closure Cost Estimate Summary
Table IX-2 Hazardous Waste Management Units
Table IX-3 Tank Inventory Tank Details
Table IX-4 Off-Site Disposal Facilities & Transporters
Table IX-5 Analytical Test Methods
Table IX-6 Closure Schedule

Appendix IX- B
Maps

Figure IX-1 - Facility Plot Plan/Legal Boundary Map
Figure IX-2 - Sampling Plot Plan

FIGURE IX-1
Facility Plot Plan/Legal Boundary Map

Asbury Environmental Services
2549 Scott Avenue
Chico, CA 95928

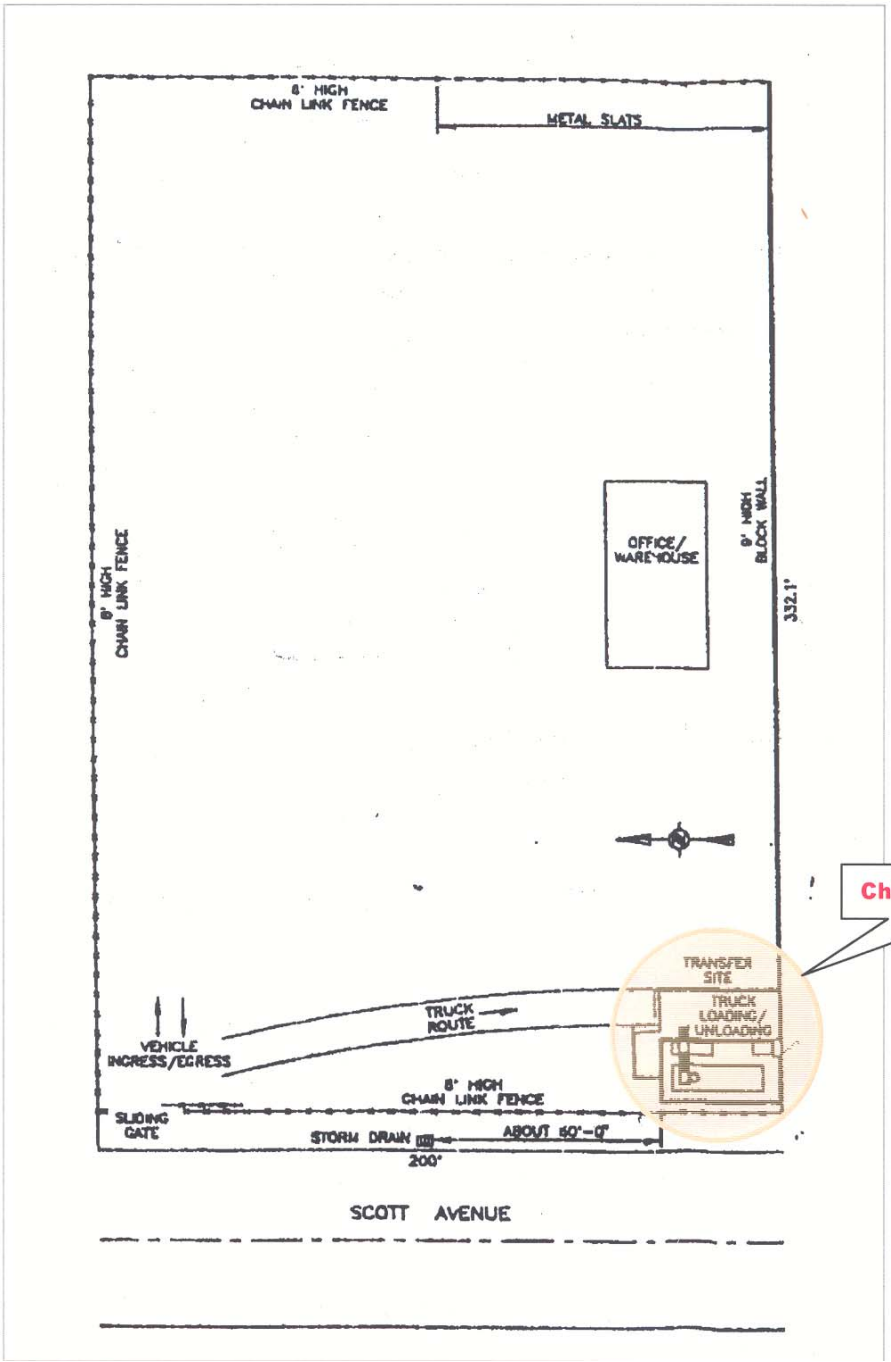
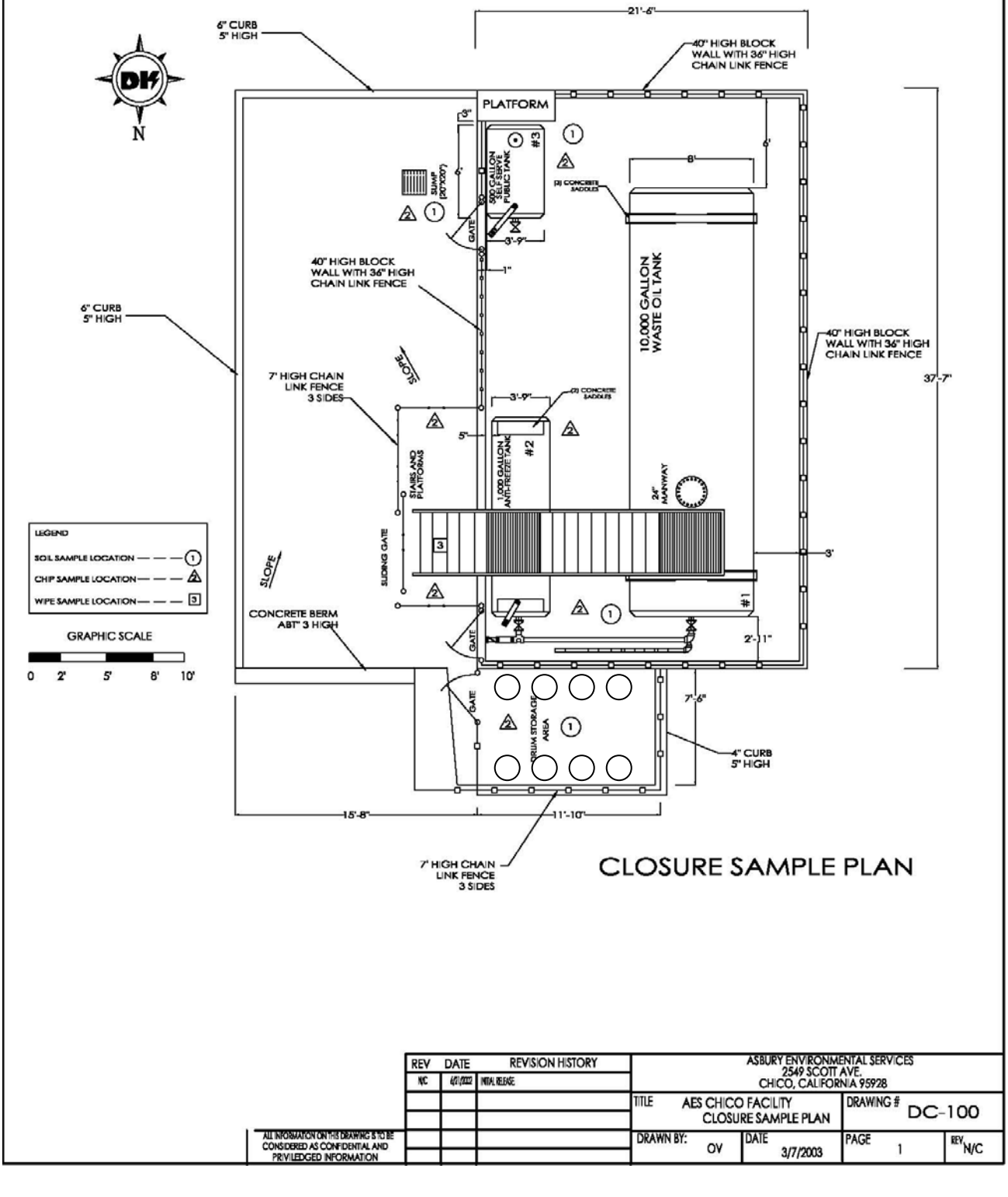


FIGURE IX-2
Sampling Plot Plan



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ASBURY ENVIRONMENTAL SERVICES
2549 SCOTT AVE.
CHICO, CALIFORNIA 95928

TITLE	DRAWING #
AES CHICO FACILITY CLOSURE SAMPLE PLAN	DC-100

DRAWN BY:	DATE	PAGE	REV.
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Appendix IX- C
Closure Sampling Plan

1.0 INTRODUCTION

The Closure Sampling Plan was prepared to address those sampling activities which are not part of routine operation at Asbury Environmental Services – Chico (AES – Chico).

2.0 SAMPLING OBJECTIVES

The wipe samples, chip samples, or rinseate samples for tanks, structures, equipment, and secondary containments are to demonstrate that the decontamination process has been sufficient that these items can either be sent offsite for disposal or recycle; left at the site after closure; or that further decontamination is required during the closure process.

The objective of the soil investigations is to identify the nature and extent, if any of soil contamination and to provide the data needed to determine if soil remediation is required during closure.

2.1 Rationale for Choosing Sampling:

The requirements for sampling are based on the waste transfer and storage operations conducted at the AES - Chico facility.

3.0 SAMPLE COLLECTION

This section discusses the field methodology to be used in collection of each type of sample including: chip samples, soil boring samples, wipe samples, and rinseate samples to be collected to confirm the removal of contamination. Both biased and statistical sampling methods will be conducted during closure procedures to ensure clean-up standards.

3.1 CHIP SAMPLING

Chip sampling shall be used for all coated and uncoated (non-epoxy coated) concrete surfaces.

Chip samples will consist of the top one-inch of a 100 cm^2 area (i.e., 10 cm by 10 cm) which should be marked out prior to sampling with a template. The sample shall be chipped out of the surface using a new or decontaminated chisel or other appropriate equipment. The material will be placed into a sample container and sealed with a Teflon-lined cap. The sample shall be properly labeled then placed into a cooler and chilled to 4°C for transport to the laboratory.

Both biased and statistical sampling methods will be conducted for chip sampling. The decision as to which sampling method at which point will be made after decontamination and inspection is completed. Chip samples shall be taken from locations of potential contamination (former staining or cracks in concrete surfaces) with one or more samples taken from each containment area. Seven chip samples are proposed. However, the number of samples may be modified depending on conditions observed during the closure process.

Concrete chip sampling will be conducted only after a thorough visual inspection and proper decontamination has been performed.

3.2 SOIL SAMPLING

This section discusses the soil sampling methodology to be used at the site. Detailed SOPs for sample collection using hand auger, hollow stem auger and Direct Push Technology are attached as SOPs # 1, 2 and 3, respectively, following this document.

Both biased and statistical sampling methods will be conducted for soil sampling. The decision as to which sampling method at which point will be made after the inspection is completed. Four soil sample points and three background sample points are proposed. For each boring location, separate soil samples will be taken at the soil surface, at a 3 foot depth, at a 6 foot depth, and every additional three feet to a total depth of 12 feet to allow partial delineation of contamination which may be present. Additional samples will be collected at any major lithologic breaks. A two-inch concrete core shall be drilled at these locations to provide access to the underlying soil surface.

Only samples from the top 10 feet will be initially analyzed. The remaining samples shall be held by the lab at 4°C until the results of the initial samples are obtained. If the results of the 10-foot sample yields values are above the background levels then the deeper samples will be analyzed. Holding times shall not be exceeded pending determination of analyses. Extraction of samples may be required. If the 20-foot sample yields results above background levels, a determination to return to the boring location and take deeper samples shall be made based on either DTSC direction or the result of a preliminary risk assessment.

The choice of specific soil sampling method, either hand auger, hollow stem drilling and Direct Push Technology shall be made at the time of closure based on access and soil conditions (i.e., hand auger shall be used if soils permit).

At a minimum one equipment blank will be prepared each day of soil sampling. One trip blank will be used shipping containers containing samples to be analyzed for VOCs. Duplicate samples will be collected at the rate of 1 duplicate for every 20 samples collected (i.e., 5%). If less than 20 soil samples are collected, one FD samples will be collected.

3.3 WIPE SAMPLING

Wipe samples will be used for evaluation of tanks destined for reuse. Four samples per tank are proposed. Samples will be taken using sterile gauze or ash-less analytical filter paper moistened with distilled water or pre-moistened sampling wipes. The size of sampling wipes must be reviewed with the laboratory to ensure that samples will contain a high enough concentration for detection of contaminants.

Each wipe sample must represent 100 cm^2 of surface area. A template with a 100 cm^2 opening shall be placed at the sampling location surface. The templates used can be of varying shapes (i.e., square, rectangle, etc) depending on the need. Each template must either be new or decontaminated before use to prevent cross contamination. New disposable gloves or decontaminated stainless steel forceps shall be used to hold each wipe as the entire surface within the template is wiped with firm strokes, first in a vertical then horizontal motion. The wipe sample will then immediately be placed into a small vial or bottle and sealed with a Teflon-lined cap. The sample shall be property labeled then placed into a cooler and chilled to 4°C for transport to the laboratory.

One wipe blank sample shall be prepared each day of sampling. In the case of remoistened wipes, the wipe will be removed from its wrapper then immediately placed into the sample container. In the case of other wipes, they will be wetted with distilled water prior to being placed into the sample container.

Wipe sampling will be conducted only if the tanks are destined for reuse. Wipe sampling will be conducted only after a thorough visual inspection and proper decontamination has been performed.

3.4 RINSEATE SAMPLING

The use of rinseate samples for confirmation of decontamination shall be used for equipment that has interior surfaces that are not accessible such as piping, valves, and pumps that are destined for reuse. For such equipment, once decontamination (steaming or water flush) is complete fresh clean water is flushed through the equipment (final rinse) and a sample of this water is taken. The water is collected into laboratory-supplied containers (with appropriate preservatives) including zero headspace VOA bottles (for VOCs).

4.0 SAMPLE MANAGEMENT

Sections 4.1, 4.2, and 4.3 respectively present the methodology for QA/QC Sample Generation; Sampling Logs and Labeling; and Disposal of Sampling- Derived Wastes.

4.1 QA/QC SAMPLE COLLECTION

One trip blank (TB) will be used shipping containers containing samples to be analyzed for VOCs and one equipment blank (EB) will be prepared or collected for each day of sampling. The TB will be generated by the laboratory using deionized water before the sample containers are sent to the field. The trip blank will be sealed, placed in the cooler, and accompany the empty sample containers to the field. It will not be opened in the field, but just kept with the other samples and transported back to the laboratory in the cooler. The trip blank checks for contamination from inadequate sample container cleaning and from cross-contamination from the other containers and the cooler.

The EB will be prepared by sampling personnel by pouring deionized water over sampling equipment after the standard cleaning procedure is followed. The EB checks the thoroughness of the cleaning procedure and the extent of cross-contamination between samples

Field duplicate (FD) samples will be collected at the rate of 1 FD per 20 soil samples collected (i.e. 5%). If less than 20 soil samples are collected, one FD samples will be collected.

4.2 SAMPLING LOGS AND LABELING

Field Log Book: Sampling personnel will record general information about each sampling event and specific information about each sample in a field logbook at the time of sampling. All entries will be made using permanent ink. Errors will be corrected by drawing a line through the entry and entering the correct information. Any changes will be initialed and no entries will be completely covered so they are unreadable.

General sampling information will be recorded in sufficient detail so that such information can be reconstructed at a later time. On a facility map, all sample locations will be noted showing linear dimensions between all sample locations and surface landmarks. Where applicable, the following general sampling information about each sampling event will be recorded in the field log book:

- Facility name
- Purpose of sampling

- Location at sampling site
- Field contact
- Field sample log
- Description of sampling procedures
- Date and time of collection
- Weather and other pertinent conditions at time of sample collection
- Sample types (wipe, rinseate, chip, vapor, soil)
- Soil classification (when applicable)
- Field measurements and relevant observations
- Photos, if any
- Sampling personnel present
- Level of personal protective equipment
- Signature of person responsible for sampling

Field Sample Log: The field sample log in the field logbook, which serves as a record of specific sample information, will include the following:

- Sample Number
- Sample Location
- Depth (soil)
- Date
- Time
- Sample Description (wipe, rinseate, chip, soil vapor, or soil)
- Monitoring Data (OVA reading odor, appearance)

Sample Labels and Seals: All sample containers shall be sealed and labeled with the following information:

- Sample Number
- Sample Date
- Sample Location
- Depth (for soils)
- Project Number
- Time
- Sample Type (wipe, rinseate, chip, vapor, soil)
- Handling Precautions
- Analytes
- Laboratory
- Initials of Sampling Personnel

Sample Custody: Sample containers (bottles, bags, or sleeves) will be labeled and placed in a cooler with ice or frozen cooler packs (e.g., Blue Ice). In accordance with "Test Methods for Evaluating Solid Waste, Physical Chemical

Methods," SW-846, 3rd edition, USEPA, 1987 (SW-846), a Chain of Custody (COC) will be filled out to document sample possession from the time of collection until the samples are analyzed. The record also serves as a sample inventory and analysis order form. When the samples are transferred from sampling personnel to a courier, the COC will be signed by both parties. The COC will be included with the analytical data in an appendix to the report.

4.3 DISPOSAL OF SAMPLE DERIVED WASTES

The disposal of investigation derived materials will be conducted in accordance with applicable California and Federal regulations. It is anticipated that both liquid and solid materials will be produced. Liquids will be produced by equipment decontamination. They will be shipped off-site. Soil boring will generate soil cuttings, which will be containerized or placed on plastic and covered. The field sample results will be evaluated to determine if the cuttings meet the facility acceptance criteria. If the soil meets the criteria, it will be transferred to the onsite soil roll-off bins and be shipped off-site to an appropriate treatment or disposal facility.

5.0 SAMPLING SPECIFICS

5.1. SAMPLE LOCATIONS

5.1.1 Secondary Containments, Pads, and Soil

The entire facility will be visually inspected for evidence of soil contamination. Where contamination is observed, sampling of the suspected area will be performed. Since tanks are located on an above–ground, raised, concrete pedestal, samples will be taken within the containment areas after the tanks have been removed seven concrete chip samples and four soil boring locations are proposed. However, the number of samples may be modified depending on conditions observed during the closure process. Remaining sample locations (if needed) will be chosen by AES - Chico, the independent Professional Engineer providing certification of the closure, and DTSC personnel.

Final sample locations will be measured in the field and noted on a scaled map of the area.

5.1.2 Tanks

Surface samples (wipe and chip samples) taken from tanks and other equipment as well as secondary containment shall be analyzed for those constituents common with the waste managed within the various hazardous waste management units at AES - Chico.

Tank wipe samples will be taken from the center of the bottom, the center top, and on the east and west sides of the shell, approximately one third of the height of the shell above the shell bottom seam.

5.2 SAMPLE DEPTHS

Soil samples will be taken for each boring at the following depths:

- Immediately below the concrete and soil interface
- 3 feet below the interface
- Every three feet or major lithologic break to a total depth of 12 feet. Only samples from the top 6 feet will be initially analyzed. The remaining samples shall be held by the lab at 4°C until the results of the initial samples are obtained. If the results of the 6 foot sample yield values above background levels then the deeper samples will be analyzed for those analytes. Holding times shall not be exceeded pending determination of analyses. Extraction of samples may be required. If the 12-foot sample yields results above background level, a determination to take deeper samples shall be made based on either DTSC direction or the result of a preliminary risk assessment.

5.3 ANALYTICAL METHODS

The analytical methods and associated analytes/properties to be used for evaluation of each type of sample are presented in Appendix IX-A, Table IX-5. The following sections describe the basis for selection of analytes for each type.

5.3.1 Concrete Chip Samples

Appendix IX-A, Table IX-5 references the analytical methods used for concrete chip samples.

Concrete chip samples will be analyzed for: EPA Method 418.1 TPH.

5.3.2 Soil Samples

Appendix IX-A, Table IX-5 references the analytical methods used for soil samples. Soil samples shall be analyzed for those constituents common with the waste managed within the various hazardous waste management units, i.e. waste oil/used oil, oily water and waste antifreeze.

Soil samples will be analyzed for: SW-846 Method 8260 - Volatile Organics, CAM (17) - Metals, SW-846 Method 8080 - PCBs, EPA Method 418.1 - TPH, and SW-846 Method 8015-M/8270C-M – Glycol.

5.3.3 Wipe Samples

Wipe samples are appropriate for non-volatile contaminants only. Wipe samples will be analyzed for those constituents common with the waste managed within the specific hazardous waste management units, i.e. waste oil/used oil tanks, oily water tanks, and waste antifreeze tank. Appendix IX-A, Table IX-5 references the analytical methods used for wipe samples.

Used Oil/Waste Oil tank wipe samples will be analyzed for: SW-846 Method 8270 – Semi-Volatile Organics, CAM (17) - Metals, and SW-846 Method 8080 – PCBs.

Oily Water tank wipe samples will be analyzed for: SW-846 Method 8270 – Semi-Volatile Organics, CAM (17) - Metals, SW-846 Method 8080 - PCBs, SW-846.

Waste Antifreeze tank wipe samples will be analyzed for: SW-846 Method 8260 - Volatile Organics, and CAM (17) – Metals.

5.3.4 Rinseate

Appendix IX-A, Table IX-5 references the analytical methods used for rinseate samples. Rinseate samples shall be analyzed for those constituents common with the waste managed within the various hazardous waste management units, i.e. waste oil/used oil, oily water and waste antifreeze.

Used Oil/Waste Oil rinseate samples will be analyzed for: SW-846 Method 8260 - Volatile Organics, EPA Method 150.1- pH. SW-846 Method 8080 – PCBs will be tested only if PCB was detected in the initial tank liquid and/or sludge sample.

Oily Water rinseate samples will be analyzed for: SW-846 Method 8260 - Volatile Organics, and EPA Method 150.1- pH. Method 8080 – PCBs will be tested only if PCB was detected in the initial tank liquid and/or sludge waste sample.

Waste Antifreeze rinseate samples will be analyzed for: SW-846 Method 8260 - Volatile Organics.

5.4 CERTIFIED LABORATORY

All laboratory analyses will be performed by a California Certified Analytical Laboratory.

All analytical methods used for closure will conform with Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW-846, 3rd Edition and Title 22, California Code of Regulation, Section 66261.126, Appendix III.

SOP #1 Hand Auger Sampling Protocols

Hand auger sampling equipment consists of a hand-auger system and a slide-hammer sampler (colloquially called a "slam-hammer'). The hand-auger system typically consists of an auger barrel (or "bucket"), rod and extensions, and a T-handle. Rod/rod and rod/bucket connections may either be threaded or "quick-disconnect”. The T-handle may be ratcheted. Auger barrels are available that are specifically designed for use in clay, sand, and mixed lithology terranes. Hand auger rods and related equipment is typically formed of stainless steel, in 4-foot lengths. Sample barrels are 18-inch long, and 2-inches or greater in diameter. The barrels have two cutting tabs at the bottom of the bucket. A drive sampler consists of a heavy handle that slides up and down on a steel rod. The other end of the steel rod has a threaded fitting that accepts a single-sleeve sampling barrel.

The appropriate bucket is attached to the hand auger handle. The handle is turned in a clockwise direction (especially if the handle is ratcheted) until the bucket is filled. The bucket should be emptied onto plastic sheeting (if being returned to the borehole as backfill) or into an approved container. The bucket may be tapped lightly to help dislodge the cuttings but should not be pounded on. Pounding distorts the shape of the barrel and results in the barrel sticking in the borehole. The hand auger may be turned upside-down to empty the barrel, however the practice of slamming the T-handle onto the ground is discouraged. This results in a damaged handle.

Once the sample depth is reached, the drive sampler is fitted with the appropriate number of extensions with the sampler at the bottom. The sampler is placed at the bottom of the borehole. A crayon mark or piece of tape should be put on the extension rod about 6-inches above the ground level. This marks the minimum distance the sampler should be driven into the ground to fill up the sample sleeve. The handle is raised, and then dropped, repeatedly until the sampler has been driven down the appropriate distance. It is important not to wiggle the slam hammer excessively while hammering for two reasons: the sample may fall out of the sampler and/or the connection between the rod and sampler may break. On occasion (e.g., excessively dry sands), samples may fall out of the drive sample bucket. When this occurs, soil samples may be collected by driving a sample sleeve directly into the full auger barrel, or by emptying the barrel contents into a sampling jar. This technique may also be used if the analytes of concem are not volatile organic compounds (VOCs).

SOP #2 Hollow STEM AUGER (HSA) DRILLING AND Soil Sampling Protocols

Hollow stem auger (HSA) drilling rigs are generally truck-mounted and diesel-powered. Each 5-foot-long auger flight consists of a hollow center pipe wrapped with cutting blades in a "corkscrew" fashion (hence the name "hollow stem"). The string of connected flights is rotated and pressed down by hydraulic rams to penetrate the subsurface. The bit is slightly larger than the diameter of the drill string and is armed with peg-like "teeth" that grind the soil into soil cuttings. The spinning auger flight moves drill cuttings upwards to the surface, which clears the soil cuttings from the borehole. A California modified split-spoon sampler or solid barrel sampler is generally utilized for soil sample collection. Augers will be sized to accommodate the well casing diameter, if a well is to be installed in the borehole. A center plug is used to prevent super-saturated sands (called "heaving sands") from entering the inside of the auger string as the borehole is advanced. No lubricants, circulating fluid, drilling moods, or other additives are used during drilling. Occasionally water is introduced down the center of the drill string to cool off the drill bit, to loosen a sticking drill bit, or to facilitate the cutting action of the drill bit.

Preparation Duties:

Final soil boring locations will be marked or staked in the field based upon phase-specific approved sampling locations, as directed by the Field Team Leader. Utility clearance will be required for each drilling location to identity any subsurface utilities prior to drilling and sampling.

All drilling and sampling equipment will be decontaminated with a steam-cleaner prior to drilling. This equipment includes all drill pipe, auger flights, split-spoon samplers, brass sleeves, stainless steel bowls and spoons, tools, and unpackaged well screen and casing. Steam cleaning will be conducted after placing equipment, tools, and non-packaged screen and casing on racks, in tubs, on plastic, or otherwise out of contact with the ground surface. After steam cleaning is completed, cleaned equipment will be placed on plastic or otherwise segregated to prevent cross-contamination until used. Borings will be located according to the Work Plan. No borings will be drilled within 5 feet of marked underground utility lines or within 10 feet of active overhead power lines. Boring locations will be adjusted, as necessary.

Because of the number of analytical methods that will be performed on each sample, a fairly large sample volume will need to be collected. Therefore, two additional sample rings will be collected immediately adjacent to the location of the first sample ring. The three 6-inch sample rings represent a single sample. The middle ring will be immediately sampled for VOCs follow EPA 5035 protocol.

Two subsamples will be collected using an Encore© sampler or equivalent. Once collected, the steel ring will immediately be capped, labeled and placed in an iced cooler. Once the rings arrive at the analytical laboratory , the laboratory will homogenize material into a uniform single sample from which splits will be taken for each of the requisite analyses.

Once the soil sample has been acquired, it is necessary to handle it in such a way as to remain a representative sample, that is, to handle it in such a way as to retain all its chemical and physical attributes during its handling and transport to the laboratory for analysis. Therefore, it is necessary to get the sample "on ice" as soon as is possible and to disturb it as little as possible. The sampling person should be wearing a fresh pair of nitrile gloves. Sample sleeves should be full - air space at the end of the tubes may result in lost volatile chemical compounds. If there is an air space, it should be filled with cuttings from the same sampling horizon, or some inert soil, or, as a last resort, any available soil. This is said with the realization that in the lab, the soil from the sleeve will be extruded and sampled from the middle part of the tube.

Sleeved samples are to be capped by Teflon sheets and plastic end caps immediately after acquisition. The field name, date, time, and analyses should be written on both ends of the sample (on the end caps) in indelible ink. For orientation, an arrow may be written so as to indicate the top or bottom of the sample. Related samples should be "bagged" in large freezer bags, preferably the "Ziploc" variety. For example if two or more samples are collected from the same sampling horizon, they may be bagged together. The bags are then placed in a cooler filled with ice. The "blue ice" that is available rarely keeps the cooler at 4°C as it should be.

All of the above should happen prior to any "paper work". Once the sample is in the cooler, then the chain-of-custody may be filled out. Any notes should then be written in the field book.

The above comments are made specifically for samples containing volatile or semi-volatile chemical compounds that are the analytes of concern. If, for example, heavy metals or general minerals (non-volatile) are of interest, the handling protocols are a bit more relaxed. Plastic bags or glass containers are appropriate as sample containers in these instances. It is important to match the containers to the sampled media. For example, it would not be prudent to collect a highly acidized soil sample in a plastic baggie.

The final step in the sampling process is the transferal of the sample to the laboratory using a completed COC. This shows that the sample has been under someone's control from the time it was sampled until delivery to the lab.

SOP #3 Direct Push Technology (OPT) and Soil Sampling Protocols

Direct-push technology (OPT) rigs may be truck/van mounted, track-mounted, or mounted on limited access platforms (electric carts, ATVs), etc. Push rigs depend upon the static weight of whatever they are mounted on to push/hammer pipe into the ground. A cart-mounted rig obviously has less pushing power than a truck-mounted rig because it weighs less. Some cart or hand-truck-mounted push rigs are bolted to the ground or floor to increase their depth rating. The total depth (TD) attainable by push rigs is dependent upon many other factors, not the least of which is the grain size of the soil being penetrated. Gravel, pebbles, and cobbles generally result in "refusal". Ironically, very- fine, dry, silt- sized sand particles (called "desert flour") will often result in "refusal" as well. The size of the hammer (measured in foot-pounds) has an effect upon drilling depth, with the larger hammer resulting in a greater the depth of penetration (generally). Hammer power ranges of 90-, 150-, 250-, and 450-foot-pounds are common. The arrangement of the hydraulic rams (the ones that move the hammer up and down and pull the pipe out of the ground) is critical to depth rating. Hydraulic rams push better than they pull. On some rigs the rams are built upside down so that their pull power is greater than their push power. The pullback force to extract the pipe from the ground can exceed 30,000 foot- pounds.

Direct-push rigs typically push a hollow steel rod 1 7/8-inches in outer-diameter (called "A-rod") with a hydraulic oil-actuated hammer. Hydraulic hammer systems are capable of directional drilling into the subsurface at up to 37.5 degrees. Most truck- or cart-mounted systems utilize standard 48-inch-long (4 feet) pipe and/or tools. Hydraulic hammer systems mounted on hollow-stem auger rigs are capable of advancing longer tools into the subsurface.

Some version of a proprietary system developed by Geoprobe® is used to collect soil samples with a DPT rig. If a continuous core is desired, the sampling barrel is lined with clear acetate, which fills up with soil as the barrel is driven into the ground. Coring barrels (and other samplers) are generally 1.5- to 3-feet in length and range from 1- to 3-inches in diameter. The coring barrel is retrieved and the acetate liner extruded. The site geologist examines the liner and selects a portion to be sent to the lab for analysis, based upon lithology, color, odor, etc. The remainder of the acetate liner is utilized for headspace analysis or for lithologic description (see below). The barrel is cleaned, reloaded with an acetate liner, and placed back into the borehole to be driven deeper into the ground. If depth discrete soil samples are required, a California modified split- spoon sampler or solid barrel sampler is driven into the ground to the required depth. In this case, the sampler is usually lined with brass or stainless steel sleeves. A drive point is attached to a rod which threads through the hollow sampler and is locked into place by a steel pin. When the sampler is driven to the proper depth, the steel pin

is unscrewed using thin rods which are placed inside the A-rods. When the pin is removed, the drive tip will retract up inside the sampler as it is driven downwards, allowing the sampler to fill with soil. The sampler is then retrieved and the sleeves extruded.

Preparation Duties:

Final soil boring locations will be marked or staked in the field based upon phase-specific approved sampling locations, as directed by the Field Team Leader. Utility clearance will be requested for each drilling location to identify any subsurface utilities prior to drilling and sampling.

All drilling and sampling equipment will be decontaminated prior to drilling. This equipment includes all drill pipe, split-spoon samplers, sleeves, and tools. After cleaning is completed, equipment will be placed on plastic or otherwise segregated to prevent cross-contamination until used. Borings will be located according to the Work Plan. No borings will be drilled within 5 feet of marked underground utility lines or within 10 feet of active overhead power lines. Boring locations will be adjusted, as necessary.

Because of the number of analytical methods usually performed on each sample, a fairly large sample volume needs to be collected. The three 6-inch sample rings are usually collected from each sampling level. If EPA 5035 sampling protocols are required, the middle ring will be immediately sampled using Encore© samplers. It is important to contact the laboratory to determine what it is that they require for sample size and handling. It is just as important to contact the lead regulatory agency to determine what it is that they require for sample size and handling. It is not always the same protocol for EPA 5035 sampling from site to site. For example, some regulators require that the Encore© samples be preserved with methanol and/or sodium bisulfate in the field. Some even require that the samples be weighed in the field. If these are required, there is a new level of preparedness required for the successful completion of the task. Once the Encore© samples have been collected, the remainder of that sample sleeve and at least one other (for analyses other than VOCs) will be capped, labeled and placed in an iced cooler.

Once the soil sample has been acquired, it is necessary to handle it in such a way as to remain a representative sample, that is, to handle it in such a way as to retain all its chemical and physical attributes during its handling and transport to the laboratory for analysis. Therefore, it is necessary to get the sample "on ice" as soon as is possible and to disturb it as little as possible. The sampling person should be wearing a fresh pair of nitrile gloves. Sample sleeves should be full - air space at the end of the tubes may result in lost volatile chemical compounds. If there is an air space, it should be filled with cuttings from the same sampling horizon, or some inert soil, or, as a last resort, any available soil. This is said with

the realization that in the lab, the soil from the sleeve will be extruded and sampled from the middle part of the tube. Sleeved samples are to be capped by Teflon sheets and plastic end caps immediately after acquisition. The field name, date, time, and analyses should be written on both ends of the sample (on the end caps) in indelible ink. For orientation, an arrow may be written so as to indicate the top or bottom of the sample. Related samples should be "bagged" in large freezer bags, preferably the "Ziploc" variety. For example if two or more samples are collected from the same sampling horizon, they may be bagged together. The bags are then placed in a cooler filled with ice. The "blue ice" that is available rarely keeps the cooler at 4°C as it should be.

All of the above should happen prior to any "paper work". Once the sample is in the cooler I then the chain-of-custody may be filled out. Any notes should then be written in the field book.

The above comments are made specifically for samples containing volatile or semi-volatile chemical compounds that are the analytes of concern. If, for example, heavy metals or general minerals (non-volatile) are of interest, the handling protocols are a bit more relaxed. Plastic bags or glass containers are appropriate as sample containers in these instances. It is important to match the containers to the sampled media. For example, it would not be prudent to collect a highly acidized soil sample in a plastic baggie.

The final step in the sampling process is the transferal of the sample to the laboratory using a completed COC. This shows that the sample has been under someone's control from the time it was sampled until delivery to the lab.

Appendix IX- D

Standard Work Procedure (AES SWP-13101)

Standard Work Procedure (AES SWP-13101)

REMOVING WASTE MATERIAL FROM TANKS AND VESSELS
TO MAKE EMPTY

Scope:

The purpose of this procedure is to define the necessary operator functions required to safely remove the contents from a tank or vessel to make it empty. This procedure will also detail the necessary steps to empty the tank or vessel regardless of its contents and to safely and efficiently complete the tasks.

Process Description:

Emptying a tank or vessel is a process in which the contents within that particular tank or vessel are completely evacuated using a process pump and/or a vacuum tanker truck to transfer the content to another tank or vessel or for transport off-site for safe management. The empty tank or vessel may then be cleaned, if necessary, with pressured water or steam and detergent, to allow for entry to perform routine internal inspection – visual and or ultrasonic, and maintenance repairs.

Process Safety:

AES - Chico's primary consideration is the employee's health and safety. Personal Protective Equipment (PPE) such as hardhat, safety goggles, half/full-face air purifying respirator, appropriate Tyvek suit, rubber boots, gloves, etc., is required for this operation. However, the AES - Chico PPE policy and guidance manual shall be utilized at all times and PPE shall be selected based on the physical and chemical characteristics of the waste material in the tank or vessel being emptied.

Please explicitly follow the AES - Chico PPE policy and guidance manual for the correct PPE requirement to manage various waste types.

Prior to starting work, the job crew leader shall locate fire extinguishers, eyewash/shower unit, evacuation route, water supply, pumps, switches, and other necessary equipment to be used. The crew leader responsible for the particular job is required to conduct a safety tailgate meeting prior to starting work. The crew leader will discuss and inform all personnel assigned to the particular job of the required PPE and the location of all emergency safety equipment.

Firefighting equipment, eyewash/shower units and evacuation route must be kept unobstructed and available for use at all times. No open flame, ignition sources, smoking, eating, or drinking is allowed at any time on the job site during this process.

Tank or Vessel Contents:

To ensure that personnel are aware of the type of waste contained within the tank or vessel being emptied, the crew leader responsible for the particular job is required to review all data such as the tank or vessel consolidation log and any laboratory analysis associated with the content of that particular tank or vessel with all personnel on the job. Moreover, personnel assigned to the job are personally responsible for reviewing the data on the content of the tank or vessel being worked on and understanding the information. The tank or vessel may contain liquid, sludge, solids, or a combination of liquid, sludge, and solids.

Equipment:

The type of equipment utilized for safely removing the contents of a particular tank or vessel is based on the material being evacuated. However, equipment such as portable pumps, transfer hoses, fixed piping, vacuum tank trucks, Guzzler trucks, shovels, buckets, pressure-washer, DOT containers, caution tape, and signs may be utilized.

Lock-out/Block-out Tank and/or Vessel:

- Before starting work on tank or vessel, verify that all valves on interconnecting piping are closed and tagged. Any open valve on the particular tank or vessel must be reported to and addressed by the Operations supervisor on shift before proceeding.
- Verify the level in the tank or vessel via the level instrument.

Emptying Tank or Vessel:

- Verify the level in the tank or vessel designated to receive the waste material being transferred to ensure there is adequate space to prevent overfill.
- Verify compatibility of the waste material being transferred with the content of the tank or vessel designated to receive the transferred waste material. This test should be performed in the lab in accordance with the procedure for compatibility tests.
- Start transfer using pump and hoses, or vacuum tank truck and hose, as determined by job-specific requirement.

- When the level in the tank or vessel has been lowered to below the manhole/cleanout flange, remove the cover from the manhole/cleanout flange.
- Continue to remove content from the bottom of the tank or vessel through the manhole/cleanout flange. Pressured water may be used to assist in the removal of heavy solids.
- Manage cleanout of sludge/solids in accordance with job specific instructions for the particular waste solids.
- If confined space entry is required to complete removal of the content, prepare Confined Space Entry Permit.
- Enter the tank or vessel, in accordance with procedure for confined space, and complete removal of the content using shovel, pressured water, squeegee, and suction hose.
- When all waste material has been removed, the inside walls and the floor of the tank or vessel may be cleaned using detergent, if needed, and the pressure washer.
- Rinsate/washwater and equipment decon-water shall be removed for proper disposal in accordance with job specific requirements and instructions.
- Used PPE shall be managed and disposed of in accordance with job specific requirements and instructions.

Procedure for Tanks or Vessels Containing Liquids:

- Check with supervisor for designated tank, vessel, or DOT container to receive the contents of the tank or vessel.
- Verify the level in the tank, vessel, or DOT container designated to receive the waste material being transferred to ensure there is adequate space to prevent overfill.
- Verify compatibility of the waste material being transferred with the content of the tank or vessel designated to receive the transferred waste material. This test should be performed in the lab in accordance with the procedure for compatibility tests.
- Review tank or vessel log and any analytical representing the tank or vessel contents.
- Wear appropriate PPE.
- Install caution tape and/or warning signs such as “men working”.
- Verify that all other tanks or vessels connected to the transfer line (piping) are blocked in.
- Open appropriate valves on tank or vessel to be filled and open appropriate valves on tank or vessel to be emptied. Tanks or vessels may be emptied by gravity flow. The waste may be pumped to a designated

tank or vessel by interconnection pipe or may be pumped from the top of the tank or vessel using a standby pump and hose into a DOT container such as totes or vacuum tank truck for off-site disposal.

- If hoses are used:
    - Hook discharge hose from the diaphragm pump to the vacuum truck
    - Hook suction line from diaphragm pump to the tank or vessel valve.
    - Open the valve on the pump
    - Open the valve on the tank or vessel to be emptied.
    - Slowly open air to diaphragm pump.
    - Verify that there are no leaking hose connections.
- When the level in the tank or vessel has been lowered to below the manhole/cleanout flange, prior to removal of the cover from the manhole/cleanout flange, implement Confined Space Procedures.
- Prepare Confined Space Entry Permit.
- Once the tank or vessel is certified for entry, enter the tank or vessel, in accordance with procedure for confined space, and complete removal of the content using shovel, pressured water, squeegee, and suction hose.
- Continue to remove contents from the bottom of the tank or vessel through the manhole/cleanout flange. Pressured water may be used to assist in the removal of heavy solids.
- Once emptied, the tank or vessel will be decontaminated - washed with water or appropriate solvent. Then the decon-water will be pumped out of the tank or vessel into a designated receiving tank, vessel, or DOT container.
- If hoses and pumps are used:
    - Flush hoses and pump with water or appropriate solvent into designated tank, vessel, or DOT container.
    - Unhook hoses and store in proper area.
    - Return pump to proper storage area.

Procedure for Tanks or Vessels Containing Pumpable Sludge:

If any liquids are contained within the tank or vessel, first follow the procedure for Tanks or Vessels Containing Liquids.

- When the liquid level in the tank or vessel has been lowered to maximum ability, prior to removal of the cover from the manhole/cleanout flange, implement Confined Space Procedures.
- Prepare Confined Space Entry Permit.

- Once the tank or vessel is certified for entry, enter the tank or vessel, in accordance with procedure for confined space, and complete removal of the content using shovel, pressured water, squeegee, and suction hose.
- Continue to remove content from the bottom of the tank or vessel through the manhole/cleanout flange. Pressured water may be used to assist in the removal of heavy solids.
- Manage cleanout of sludge/solids in accordance with job specific instructions for the particular waste solids.
- Once emptied, the tank or vessel will be decontaminated - washed with water or appropriate solvent. Then the decon-water will be pumped out of the tank or vessel into a designated receiving tank, vessel, or DOT container.
- If hoses and pumps are used:
    - Flush hoses and pump with water or appropriate solvent into designated tank or vessel or DOT container.
    - Unhook hoses and store in proper area.
    - Return pump to proper storage area.

Tanks or Vessels Containing Non-Pumpable Sludge:

If any liquids are contained within the tank or vessel, first follow the procedure for Tanks or Vessels Containing Liquids.

- When the liquid level in the tank or vessel has been lowered to its ability, prior to removal of the cover from the manhole/cleanout flange, implement Confined Space Procedures.
- Prepare Confined Space Entry Permit.
- Once the tank or vessel is certified for entry, enter the tank or vessel, in accordance with procedure for confined space, and complete removal of the content using shovel, pressured water, squeegee, and suction hose.
- Continue to remove content from the bottom of the tank or vessel through the manhole/cleanout flange. Pressured water may be used to assist in the removal of heavy solids.
- Manage cleanout of sludge/solids in accordance with job specific instructions for the particular waste solids.
- Once emptied, the tank or vessel will be decontaminated - washed with water or appropriate solvent. Then the decon-water will be pumped out of the tank or vessel into a designated receiving tank or vessel or DOT container.

Appendix IX-E

Method 21

METHOD 21 - DETERMINATION OF VOLATILE ORGANIC COMPOUND LEAKS

1.0 Scope and Application.

1.1 Analytes

Analyte	CAS No.
Volatile Organic Compounds (VOC)	No CAS number assigned

1.2 Scope. This method is applicable for the determination of VOC leaks from process equipment. These sources include, but are not limited to, valves, flanges and other connections, pumps and compressors, pressure relief devices, process drains, open-ended valves, pump and compressor seal system degassing vents, accumulator vessel vents, agitator seals, and access door seals.

1.3 Data Quality Objectives. Adherence to the requirements of this method will enhance the quality of the data obtained from air pollutant sampling methods.

2.0 Summary of Method.

2.1 A portable instrument is used to detect VOC leaks from individual sources. The instrument detector type is not specified, but it must meet the specifications and performance criteria contained in Section 6.0. A leak definition concentration based on a reference compound is specified in each applicable regulation. This method is intended to locate and classify leaks only, and is not to be used as a direct measure of mass emission rate from individual sources.

3.0 Definitions.

3.1 *Calibration gas* means the VOC compound used to adjust the instrument meter reading to a known value. The calibration gas is usually the reference compound at a known concentration approximately equal to the leak definition concentration.

3.2 *Calibration precision* means the degree of agreement between measurements of the same known value, expressed as the relative percentage of the average difference between the meter readings and the known concentration to the known concentration.

3.3 *Leak definition concentration* means the local VOC concentration at the surface of a leak source that indicates that a VOC emission (leak) is present. The leak definition is an instrument meter reading based on a reference compound.

3.4 *No detectable emission* means a local VOC concentration at the surface of a leak source, adjusted for local VOC ambient concentration, that is less than 2.5 percent of the specified leak definition concentration that indicates that a VOC emission (leak) is not present.

3.5 *Reference compound* means the VOC species selected as the instrument calibration basis for specification of the leak definition concentration. (For example, if a leak definition concentration is 10,000 ppm as methane, then any source emission that results in a local concentration that yields a meter reading of 10,000 on an instrument meter calibrated with methane would be classified as a leak. In this example, the leak definition concentration is 10,000

ppm and the reference compound is methane.)

3.6 *Response factor* means the ratio of the known concentration of a VOC compound to the observed meter reading when measured using an instrument calibrated with the reference compound specified in the applicable regulation.

3.7 Response time means the time interval from a step change in VOC concentration at the input of the sampling system to the time at which 90 percent of the corresponding final value is reached as displayed on the instrument readout meter.

4.0 Interferences [Reserved]

5.0 Safety

5.1 Disclaimer. This method may involve hazardous materials, operations, and equipment. This test method may not address all of the safety problems associated with its use. It is the responsibility of the user of this test method to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to performing this test method.

5.2 Hazardous Pollutants. Several of the compounds, leaks of which may be determined by this method, may be irritating or corrosive to tissues (*e.g.*, heptane) or may be toxic (*e.g.*, benzene, methyl alcohol). Nearly all are fire hazards. Compounds in emissions should be determined through familiarity with the source. Appropriate precautions can be found in reference documents, such as reference No. 4 in Section 16.0.

6.0 Equipment and Supplies.

A VOC monitoring instrument meeting the following specifications is required:

6.1 The VOC instrument detector shall respond to the compounds being processed. Detector types that may meet this requirement include, but are not limited to, catalytic oxidation, flame ionization, infrared absorption, and photoionization.

6.2 The instrument shall be capable of measuring the leak definition concentration specified in the regulation.

6.3 The scale of the instrument meter shall be readable to ±2.5 percent of the specified leak definition concentration.

6.4 The instrument shall be equipped with an electrically driven pump to ensure that a sample is provided to the detector at a constant flow rate. The nominal sample flow rate, as measured at the sample probe tip, shall be 0.10 to 3.0 l/min (0.004 to 0.1 ft^3/min) when the probe is fitted with a glass wool plug or filter that may be used to prevent plugging of the instrument.

6.5 The instrument shall be equipped with a probe or probe extension for sampling not to exceed 6.4 mm (1/4 in) in outside diameter, with a single end opening for admission of sample.

6.6 The instrument shall be intrinsically safe for operation in explosive atmospheres as defined by the National Electrical Code by the National Fire Prevention Association or other applicable regulatory code for operation in any explosive atmospheres that may be encountered in its use. The instrument shall,

at a minimum, be intrinsically safe for Class 1, Division 1 conditions, and/or Class 2, Division 1 conditions, as appropriate, as defined by the example code. The instrument shall not be operated with any safety device, such as an exhaust flame arrestor, removed.

7.0 Reagents and Standards.

7.1 Two gas mixtures are required for instrument calibration and performance evaluation:

7.1.1 Zero Gas. Air, less than 10 parts per million by volume (ppmv) VOC.

7.1.2 Calibration Gas. For each organic species that is to be measured during individual source surveys, obtain or prepare a known standard in air at a concentration approximately equal to the applicable leak definition specified in the regulation.

7.2 Cylinder Gases. If cylinder calibration gas mixtures are used, they must be analyzed and certified by the manufacturer to be within 2 percent accuracy, and a shelf life must be specified. Cylinder standards must be either reanalyzed or replaced at the end of the specified shelf life.

7.3 Prepared Gases. Calibration gases may be prepared by the user according to any accepted gaseous preparation procedure that will yield a mixture accurate to within 2 percent. Prepared standards must be replaced each day of use unless it is demonstrated that degradation does not occur during storage.

7.4 Mixtures with non-Reference Compound Gases. Calibrations may

be performed using a compound other than the reference compound. In this case, a conversion factor must be determined for the alternative compound such that the resulting meter readings during source surveys can be converted to reference compound results.

8.0 Sample Collection, Preservation, Storage, and Transport.

8.1 Instrument Performance Evaluation. Assemble and start up the instrument according to the manufacturer's instructions for recommended warmup period and preliminary adjustments.

8.1.1 Response Factor. A response factor must be determined for each compound that is to be measured, either by testing or from reference sources. The response factor tests are required before placing the analyzer into service, but do not have to be repeated at subsequent intervals.

8.1.1.1 Calibrate the instrument with the reference compound as specified in the applicable regulation. Introduce the calibration gas mixture to the analyzer and record the observed meter reading. Introduce zero gas until a stable reading is obtained. Make a total of three measurements by alternating between the calibration gas and zero gas. Calculate the response factor for each repetition and the average response factor.

8.1.1.2 The instrument response factors for each of the individual VOC to be measured shall be less

than 10 unless otherwise specified in the applicable regulation. When no instrument is available that meets this specification when calibrated with the reference VOC specified in the applicable regulation, the available instrument may be calibrated with one of the VOC to be measured, or any other VOC, so long as the instrument then has a response factor of less than 10 for each of the individual VOC to be measured.

8.1.1.3 Alternatively, if response factors have been published for the compounds of interest for the instrument or detector type, the response factor determination is not required, and existing results may be referenced. Examples of published response factors for flame ionization and catalytic oxidation detectors are included in References 1-3 of Section 17.0.

8.1.2 Calibration Precision. The calibration precision test must be completed prior to placing the analyzer into service and at subsequent 3-month intervals or at the next use, whichever is later.

8.1.2.1 Make a total of three measurements by alternately using zero gas and the specified calibration gas. Record the meter readings. Calculate the average algebraic difference between the meter readings and the known value. Divide this average difference by the known calibration value

and multiply by 100 to express the resulting calibration precision as a percentage.

8.1.2.2 The calibration precision shall be equal to or less than 10 percent of the calibration gas value.

8.1.3 Response Time. The response time test is required before placing the instrument into service. If a modification to the sample pumping system or flow configuration is made that would change the response time, a new test is required before further use.

8.1.3.1 Introduce zero gas into the instrument sample probe. When the meter reading has stabilized, switch quickly to the specified calibration gas. After switching, measure the time required to attain 90 percent of the final stable reading. Perform this test sequence three times and record the results. Calculate the average response time.

8.1.3.2 The instrument response time shall be equal to or less than 30 seconds. The instrument pump, dilution probe (if any), sample probe, and probe filter that will be used during testing shall all be in place during the response time determination.

8.2 Instrument Calibration. Calibrate the VOC monitoring instrument according to Section 10.0.

8.3 Individual Source Surveys.

8.3.1 Type I - Leak Definition Based on Concentration. Place the probe inlet at the surface of the component interface where leakage could occur. Move the probe along the interface periphery while observing the instrument readout. If an increased meter reading is observed, slowly sample the interface where leakage is indicated until the maximum meter reading is obtained. Leave the probe inlet at this maximum reading location for approximately two times the instrument response time. If the maximum observed meter reading is greater than the leak definition in the applicable regulation, record and report the results as specified in the regulation reporting requirements. Examples of the application of this general technique to specific equipment types are:

8.3.1.1 Valves. The most common source of leaks from valves is the seal between the stem and housing. Place the probe at the interface where the stem exits the packing gland and sample the stem circumference. Also, place the probe at the interface of the packing gland take-up flange seat and sample the periphery. In addition, survey valve housings of multipart assembly at the surface of all interfaces where a leak could occur.

8.3.1.2 Flanges and Other Connections. For

welded flanges, place the probe at the outer edge of the flange-gasket interface and sample the circumference of the flange. Sample other types of nonpermanent joints (such as threaded connections) with a similar traverse.

8.3.1.3 Pumps and Compressors. Conduct a circumferential traverse at the outer surface of the pump or compressor shaft and seal interface. If the source is a rotating shaft, position the probe inlet within 1 cm of the shaft-seal interface for the survey. If the housing configuration prevents a complete traverse of the shaft periphery, sample all accessible portions. Sample all other joints on the pump or compressor housing where leakage could occur.

8.3.1.4 Pressure Relief Devices. The configuration of most pressure relief devices prevents sampling at the sealing seat interface. For those devices equipped with an enclosed extension, or horn, place the probe inlet at approximately the center of the exhaust area to the atmosphere.

8.3.1.5 Process Drains. For open drains, place the probe inlet at approximately the center of the area open to the atmosphere. For covered drains, place the probe at the surface of the cover interface and conduct a peripheral

traverse.

8.3.1.6 Open-ended Lines or Valves. Place the probe inlet at approximately the center of the opening to the atmosphere.

8.3.1.7 Seal System Degassing Vents and Accumulator Vents. Place the probe inlet at approximately the center of the opening to the atmosphere.

8.3.1.8 Access door seals. Place the probe inlet at the surface of the door seal interface and conduct a peripheral traverse.

8.3.2 Type II - "No Detectable Emission". Determine the local ambient VOC concentration around the source by moving the probe randomly upwind and downwind at a distance of one to two meters from the source. If an interference exists with this determination due to a nearby emission or leak, the local ambient concentration may be determined at distances closer to the source, but in no case shall the distance be less than 25 centimeters. Then move the probe inlet to the surface of the source and determine the concentration as outlined in Section 8.3.1. The difference between these concentrations determines whether there are no detectable emissions. Record and report the results as specified by the regulation. For those cases where the regulation requires a specific device installation, or that specified vents be ducted or piped to a

control device, the existence of these conditions shall be visually confirmed. When the regulation also requires that no detectable emissions exist, visual observations and sampling surveys are required. Examples of this technique are:

8.3.2.1 Pump or Compressor Seals. If applicable, determine the type of shaft seal. Perform a survey of the local area ambient VOC concentration and determine if detectable emissions exist as described in Section 8.3.2.

8.3.2.2 Seal System Degassing Vents, Accumulator Vessel Vents, Pressure Relief Devices. If applicable, observe whether or not the applicable ducting or piping exists. Also, determine if any sources exist in the ducting or piping where emissions could occur upstream of the control device. If the required ducting or piping exists and there are no sources where the emissions could be vented to the atmosphere upstream of the control device, then it is presumed that no detectable emissions are present. If there are sources in the ducting or piping where emissions could be vented or sources where leaks could occur, the sampling surveys described in Section 8.3.2 shall be used to determine if detectable emissions exist.

8.3.3 Alternative Screening Procedure.

8.3.3.1 A screening procedure based on the formation of bubbles in a soap solution that is sprayed on a potential leak source may be used for those sources that do not have continuously moving parts, that do not have surface temperatures greater than the boiling point or less than the freezing point of the soap solution, that do not have open areas to the atmosphere that the soap solution cannot bridge, or that do not exhibit evidence of liquid leakage. Sources that have these conditions present must be surveyed using the instrument technique of Section 8.3.1 or 8.3.2.

8.3.3.2 Spray a soap solution over all potential leak sources. The soap solution may be a commercially available leak detection solution or may be prepared using concentrated detergent and water. A pressure sprayer or squeeze bottle may be used to dispense the solution. Observe the potential leak sites to determine if any bubbles are formed. If no bubbles are observed, the source is presumed to have no detectable emissions or leaks as applicable. If any bubbles are observed, the instrument techniques of Section 8.3.1 or 8.3.2 shall be used to determine if a leak exists, or if the source has detectable emissions, as applicable.

9.0 Quality Control.

Section	Quality Control Measure	Effect
8.1.2	Instrument calibration precision check	Ensure precision and accuracy, respectively, of instrument response to standard
10.0	Instrument calibration	

10.0 Calibration and Standardization.

10.1 Calibrate the VOC monitoring instrument as follows. After the appropriate warmup period and zero internal calibration procedure, introduce the calibration gas into the instrument sample probe. Adjust the instrument meter readout to correspond to the calibration gas value.

NOTE: If the meter readout cannot be adjusted to the proper value, a malfunction of the analyzer is indicated and corrective actions are necessary before use.

11.0 Analytical Procedures. [Reserved]

12.0 Data Analyses and Calculations. [Reserved]

13.0 Method Performance. [Reserved]

14.0 Pollution Prevention. [Reserved]

15.0 Waste Management. [Reserved[

16.0 References.

1. Dubose, D.A., and G.E. Harris. Response Factors of VOC analyzers at a Meter Reading of 10,000 ppmv for Selected Organic Compounds. U.S. Environmental Protection Agency, Research Triangle Park, NC. Publication No. EPA 600/2-81051. September 1981.

1. Brown, G.E., *et al*. Response Factors of VOC Analyzers Calibrated with Methane for Selected Organic Compounds. U.S. Environmental Protection Agency, Research Triangle Park, NC. Publication No. EPA 600/2-81-022. May 1981.

1. DuBose, D.A. *et al*. Response of Portable VOC Analyzers to Chemical Mixtures. U.S. Environmental Protection Agency, Research Triangle Park, NC. Publication No. EPA 600/2-81-110. September 1981.

1. Handbook of Hazardous Materials: Fire, Safety, Health. Alliance of American Insurers. Schaumberg, IL. 1983.

17.0 Tables, Diagrams, Flowcharts, and Validation Data.

[Reserved]

Table IX-1 AES - Chico Final Closure Cost Estimate - Summary

Maximum Waste Inventory Disposal at Closure	34,821.47
Secondary Containment	8,573.51
Tank Removal - Miscellaneous	11,010.00
Soil Investigation	20,313.00
Soil Excavation	13,011.00
Closure Certification and Oversight	13,159.35
Subtotal	$100,888.32
20% Contingency	$20,177.66
Total Cost Estimate	**$121,065.99**

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Table IX-2 AES - Chico Final Closure Cost Estimate - Detail Page 1of 2

Maximum Waste Inventory at Closure

Waste Category	**Used Oil/Waste Oil**				**Used Glycol**			
Unit	**Tanks 1 and 3 (10,500)**				**Tank 2 (1,000)**			
Waste Inventory	Gallons	10,500			Gallons	1,000		
Tanks	9,450		Empty/Pounc	5,703	900		Empty/Pour	700
Piping/Pumps	40		Empty/Pounc	40	20		Empty/Pour	20
Tank Bottom Solids/Sludge	1,050				100			
Tank Surface Area (sqft)	888				174			
Confirmatory Waste Samplir	**Units**	**$/Unit**	**Volume**	**$**	**Units**	**$/Unit**	**Volume**	**$**
Liquids	Number	$270.00	2	$540.00	Number	$165.00	1	$165.00
Labor Technician	Hours	$90.00	2	$180.00	Hours	$90.00	1	$90.00
Removal of Wastes	**Units**	**$/Unit**	**Volume**	**$**	**Units**	**$/Unit**	**Volume**	**$**
Liquids Disposal Cost	Gallon	$0.05	9,490	$474.50	Gallon	$0.35	920	$322.00
Solid Surcharge								
Labor/ Loading	Hour/load	$90.00	4	$360.00	Hour/load	$90.00	2	$180.00
Transportation Liquids	**Units**	**$/Unit**	**Volume**	**$**	**Units**	**$/Unit**	**Volume**	**$**
Volume	Gallons		9,490		Gallon		920	
Liquid Transportation	8 Hr/Load	$680.00	2	$1,075.53	8 Hr/Load	$680.00	1	$680.00
Confirmatory Waste Samplir	**Units**	**$/Unit**	**Volume**	**$**	**Units**	**$/Unit**	**Volume**	**$**
Solids/Sludges	Number	$425.00	2	$850.00	Number	$320.00	1	$320.00
Labor Technician	Hours	$90.00	2	$180.00	Hours	$90.00	1	$90.00
Removal of Wastes	**Units**	**$/Unit**	**Volume**	**$**	**Units**	**$/Unit**	**Volume**	**$**
Labor Technician	Hour	$90.00	16	$1,440.00	Hour	$90.00	8	$720.00
Labor Supervisor	Hour	$70.00	16	$1,120.00	Hour	$70.00	8	$560.00
Labor Project Manager	Hour	$90.00	8	$720.00	Hour	$90.00	8	$720.00
Decon Labor Technician	Hour	$90.00	4	$360.00	Hour	$90.00	2	$180.00
Decon Labor Supervisor	Hour	$70.00	2	$140.00	Hour	$70.00	1	$70.00
PPE & Supplies	Unit	$25.00	6	$150.00	Unit	$25.00	3	$75.00
Solids/Sludges Disposal Cost	Ton	$155.00	4	$608.77	Ton	$155.00	0	$64.64
Transportation Solids/Sludg	**Units**	**$/Unit**	**Volume**	**$**	**Units**	**$/Unit**	**Volume**	**$**
Solid/Sludge Volume	tons		4		Ton		0	
Soild/SludgeTransportation	Bin	$750.00	1	$750.00	Bin	$750.00	0	$31.28
Decon Rinseate Disposal	Gallon	$0.55	3,592	$1,975.60	Gallon	$0.55	716	$393.80
Decon Waste Transportation	8 Hr/Load	$680.00	1.0	$680.00	8 Hr/Load	$680.00	1.0	$680.00
Confirmatory Waste Samplir	**Units**	**$/Unit**	**Volume**	**$**	**Units**	**$/Unit**	**Volume**	**$**
Liquid Decon Water	Number	$238.00	1	$238.00	Number	$165.00	1	$165.00
Wipe (Tanks & Platform)	Number	$425.00	14	$5,950.00	Number	$320.00	4	$1,280.00
Demolition	**Units**	**$/Unit**	**Volume**	**$**	**Units**	**$/Unit**	**Volume**	**$**
Removal of tanks	Pounds		5,703		Pounds		700	
Removal of Equipment & PPE	Pounds		50		Pounds		50	
Removal of Tank Saddles	Pounds		700		Pounds		400	
Labor Technician	Hour	$45.00	16	$720.00	Hour	$45.00	8	$360.00
Labor Supervisor	Hour	$70.00	16	$1,120.00	Hour	$70.00	8	$560.00
Labor Project Manager	Hour	$95.00	8	$760.00	Hour	$95.00	8	$760.00
Tank Disposal	Ton	$155.00	3	$500.11	Ton	$155.00	1	$89.13
Tank/debrisTransportation	Bin	$750.00	1	$750.00	Bin	$750.00	0	$43.13
Total				**$21,642.51**				**$8,598.96**

Table IX-2 AES - Chico Final Closure Cost Estimate - Detail Page 2 of 2

Tank Removal - Miscellaneou	$/Unit	Volume	Total	Comments
Removal of Tanks			$6,000.00	Transportation and Crane Rental included
Utility Gear Truckw/Pressure w	$120.00	16	$1,920.00	
Steam Cleaner	$35.00	40	$1,400.00	
Detergent	$500.00	1	$500.00	
Sample Supplies	$5.00	38	$190.00	
Misc Supplies			$1,000.00	
Scrap Metal Disposal				Actual scrap metal will have a rebate $3,000 -$4,500
Total			**$11,010.00**	

Waste Category	Secondary Containment				Secondary Containment			
Unit	Tank Farm & Loading/Unloading Area				Drum Storage Area			
Waste Inventory	Sq ft	1,410			Sq ft	96		
	Gallons	5,640			Gallons	384		
Decontamination	**Units**	**$/Unit**	**Volume**	**$**	**Units**	**$/Unit**	**Volume**	**$**
Labor Technician	Hour	$90.00	8	$720.00	Hour	$90.00	8	$720.00
Labor Supervisor	Hour	$70.00	8	$560.00	Hour	$70.00	8	$560.00
PPE & Supplies	Unit	$25.00	3	$75.00	Unit	$25.00	3	$75.00
Rinseate Disposal	Gallons	$0.55	5,640	$3,102.00	Gallons	$0.55	384	$211.20
Transportation	8 Hr/Load	$680.00	1	$697.31	8 Hr/Load	$680.00	1	$680.00
Confirmatory Waste Samplir	**Units**	**$/Unit**	**Volume**	**$**	**Units**	**$/Unit**	**Volume**	**$**
Liquid Decon Water	Number	$238.00	1	$238.00	Number	$238.00	1	$238.00
Chip	Number	$61.00	6	366.00	Number	$61.00	1	$61.00
Labor Technician	Hours	$90.00	2	180.00	Hours	$90.00	1	$90.00
Total				**$5,938.31**				**$2,635.20**
Soil Investigation	**Units**	**$/Unit**	**Volume**	**$**	**Units**	**$/Unit**	**Volume**	**$**
Drilling Subcontractor	Fat rate	$2,500.00	1	$2,500.00				
Soil Borings (+3 background)	$10/ft (20ft	$200.00	6	$1,200.00	$10/ft (20ft	$200.00	1	$200.00
Soil Samples	Number		6	$0.00	Number		1	0
Soil Samples (QAQC)	Number		1	$0.00	Number		1	$0.00
Analysis	Soil	$546.00	18	$9,828.00	Soil	$546.00	3	$1,638.00
Analysis (QAQC)	Soil	$546.00	1	$546.00	Soil	$546.00	1	$546.00
Labor Technician	Hour	$90.00	8	$720.00	Hour	$90.00	8	$720.00
Labor Supervisor	Hour	$70.00	8	$560.00	Hour	$70.00	8	$560.00
Empty Drum Supply	Drum	$60.00	6	$360.00	Drum	$60.00	1	$60.00
Borings Disposal	Drum	$75.00	6	$450.00	Drum	$75.00	1	$75.00
Transportation	Drum	$50.00	6	$300.00	Drum	$50.00	1	$50.00
Total				**$16,464.00**				**$3,849.00**

Waste Category	Drums Oily Solids/Debris			
Confirmatory Waste Samplir	**Units**	**$/Unit**	**Volume**	**$**
Drums Solids/Sludges	Number	$425.00	8	$3,400.00
Labor Technician	Hours	$90.00	2	$180.00
Solid/Sludge Disposal	Drum	$75.00	8	$600.00
Transportation	Drum	$50.00	8	$400.00
Total				**$4,580.00**

Soil Remediation	Unit	$/Unit	Volume	$
Volume Soil (20) concrete (10)	cuyd		30	
Soil & Concrete Excavation	Fat rate	$3,000.00	1	$3,000.00
Labor Technician	Hour	$90.00	6	$540.00
Labor Supervisor	Hour	$70.00	6	$420.00
Analysis stock pile	Soil	$546.00	1	$546.00
Analysis (QAQC)	Soil	$546.00	1	$546.00
Soil & Concrete Disposal	Ton	$155.00	30	$4,650.00
Soil & Concrete Transportation	Bin	$750.00	2	$1,125.00
Analysis post removal	Soil	$546.00	3	$1,638.00
Analysis (QAQC)	Soil	$546.00	1	$546.00
Total				**$13,011.00**

Table IX-3 AES - Chico Final Closure Cost Estimate - Tank Table

Tank Number	Closure Group	Capacity (gallons)	Diameter (ft)	Length (ft)	Foot Print (Ft^2)	Surface Area (Ft^2)	Closure Day
1	Used Oil / Waste Oil	10,000	8'	27' 4"	saddle	790	20
3	Used Oil / Waste Oil (DIY)	500	4'	6'	saddle	98	30
	Used Oil / Waste Oil	10,500					
2	Used Glycol/ Antifreeze	1,000	4'	12' 3"	saddle	174	20
	Used Glycol / Antifreeze	1,000					
Total All Tanks		11,500					

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Table IX-4 AES - Chico Final Closure Cost Estimate - Transportation

Examples of Off-Site Facilities that can be Used During Closure

Facility	Location California	EPAID	Disposal Cost	Trans Cost Basis	Transportation Cost per Trip				One Way
					Units	Number	$ / Unit	$ / Load	Mileage
Used Oil / Waste Oil									
DeMenno/Kerdoon	Compton	CAT080013352	$0.05 /gallon	Hourly	Hrs/RT	20	$85	$1,700	485.4
Ramos Environmental	Sacramento	CAD044003556	No Charge	Hourly	Hrs/RT	4	$85	$340	88.93
Evergreen Oil	Newark	CAD980887418	$0.05/gallon	Hourly	Hrs/RT	8	$85	$680	199.02
Oily Water / Rinsate									
DeMenno/Kerdoon	Compton	CAT080013352	$0.35/gallon	Hourly	Hrs/RT	20	$85	$1,700	485.4
Evergreen Oil	Newark	CAD980887418	$0.35/gallon+1.75	Hourly	Hrs/RT	8	$85	$680	199.02
Ramos Environmental	Sacramento	CAD044003556	$0.55/gallon+2.75	Hourly	Hrs/RT	4	$85	$340	88.93
Used Glycol									
DeMenno/Kerdoon	Compton	CAT080013352	$0.35/gallon	Hourly	Hrs/RT	20	$85	$1,700	485.4
Ramos Environmental	Sacramento	CAD044003556	$0.15/gallon	Hourly	Hrs/RT	4	$85	$340	88.93
Evergreen Oil	Newark	CAD980887418	$0.35/gallon	Hourly	Hrs/RT	8	$85	$680	199.02
Non-RCRA Tank Sludge									
DeMenno/Kerdoon	Compton	CAT080013352	$50.00/Tn	Hourly	Hrs/RT	20	$85	$1,700	485.4
Chemical Waste Manager	Kettleman City	CAT000646117	$70.00/Tn	Hourly	Flat Rate	Per Bin	$750	$750	328
Clean Harbors	Buttonwillow	CAD980675276	$50.00/Tn	Hourly	Flat Rate	Per Bin	$750	$750	360
Non-RCRA Soil									
Chemical Waste Manager	Kettleman City, C	CAT000646117	$70.00/Tn	Hourly	Flat Rate	Per Bin	$750	$750	328
Clean Harbors	Buttonwillow, CA	CAD980675276	$50.00/Tn	Hourly	Flat Rate	Per Bin	$750	$750	360

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Table IX-5 AES - Chico Final Closure Cost Estimate - Sample Analysis

	Metals	Volatiles (Purgeable Organics	Semi Volatiles	Ignitable	pH	PCB	TPH	Glycol	
Method	CAM	SW 846 Method 8260	SW 846 Method 8270	EPA Method 1010	EPA Method 150.1	SW 846 Method 8080	EPA Method 418.1	SW Method 8015-M / 8270C-M	**Cost, $ / Sample**
Cost, $/Test	$155	$165	$150	$40	$8	$65	$61	$100	
Used Oil / Waste Oil		X		X		X			$270
Oily Water		X			X	X			$238
Used Glycol		X							$165
Used Oil Sludge & Wipe	X	X -Sludge Only	X-Wipe Only	X		X			$425
Oily Water Sludge & Wipe	X	X -Sludge Only	X-Wipe Only			X			$385
Used Glycol Sludge & Wipe	X	X -Sludge Only	X-Wipe Only						$320
Concrete Chip							X		$61
Soil	X	X				X	X	X	$546

Tank Bottoms and Debris and Contaminated Soil **Clean Harbors, Buttonwillow** Non-RCRA Solids Landfill	**Non-RCRA Tank Bottoms/Soil=$35.00 cuyd** + 10% Kern County Tax + 17.87/Ton BOE fees + 11% Recovery Fee = $64.00 cuyd = $1,280 / 20 cuyd bin **Non-RCRA Debris= $35.00/cubic yard** + 10% Kern County Tax + 17.87/Ton BOE fees + 11% Recovery Fee = $64.00 cuyd = $1,280 / 20 cuyd bin
Tank Bottoms and Debris and Contaminated Soil **Chemical Waste Management** Non-RCRA Solids Landfill	$45.00 cuyd + 10% King's County Tax + 17.87/Ton BOE fees = $70.00 cuyd = $1,400 / 20 cuyd bin
Tank Bottoms and Debris and Contaminated Soil **Chemical Waste Management** RCRA Solids Landfill	$75.00 cuyd + 10% King's County Tax + 17.87/Ton BOE fees = $100.00 cuyd = $2,000 / 20 cuyd bin
Tank Bottoms and Debris and Contaminated Soil **US Ecology** Non-RCRA Solids Landfill	$40.00 cuyd/Ton; Tax included = $800.00 / 20 cuyd bin
Tank Bottoms and Debris and Contaminated Soil **US Ecology** RCRA Solids Landfill	$70.00 cuyd/Ton; Tax included = $800.00 / 20 cuyd bin

Table IX-6 AES - Chico Final Closure Cost Estimate - Schedule for Closure

Waste Management Units	Day Completed	Tank Numbers
Disposal Oil/Used Oil Waste from Tank & Ancillary	20	Tank 1
Disposal Oil/Used Oil Waste from Tank & Ancillary	30	Tank 3
Disposal Waste Antifreezefrom Tank & Ancillary	20	Tank 2
Disposal Drummed Waste	30	8 Drums - Inventory
Tank Decontamination & Disposal of Waste	30	All Tanks 1-3
Decontamination Ancillary Equipment Waste	30	All ancillary
Demolition Removal of Tanks	60	All Tanks 1- 3
Decontamination of Secondary Containments	70	
Soil Sampling	90	
Soil Excavation, if needed	80	
Closure Certification	180	

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SECTION X – CERTIFICATIONS

Owner / Operator certifications are available for the following portions of the Standardized Permit application:

1. Security
2. Location, Seismic and Precipitation Information
3. Manifest System, Record Keeping, and Reporting
4. Preparedness and Prevention

The facility owner/operator must carefully read and understand the requirements identified in the certification guidance materials, and maintain the records that demonstrate compliance with the certified portions of the application. Only the signed certifications are to be submitted with the application package.

SECURITY

I hereby certify the following:

1. I have read and understood Sections 66264.14, and 66270.14(b)(4), Title 22 of the California Code of Regulations (Security).

2. The security procedures and equipment for my facility will be in compliance with these regulations.

3. I understand that this certification is an integral part of the formal application for a Standardized Permit for my facility and that any falsification is equivalent to a false statement under Health and Safety Code Section 25191 and may be grounds for a permit denial.

Steve Kerdoon, President
Printed Name

Signature 12/29/06
Date

AES Chico- 2549 Scott Avenue, Chico, CA 95927
Facility Address

SECURITY (INFORMATION ONLY)

Asbury Environmental Services – Chico (AES – Chico) shall prevent unauthorized entry onto the facility. This is to ensure adequate protection against potential hazards to human health, domestic livestock or wildlife. Signs are used to alert employees and visitors of possible dangers within a designated area. Fences or other barriers are used to control access of wildlife, livestock, and unauthorized persons.

A. SECURITY MEASURES

The following security measures must be taken:

1. The AES - Chico transfer facility perimeter is surrounded by a barrier, the East and North sides has a six-foot high chain link fence, which is then topped with barbed wire. The South and West sides have an eight-foot high chain link fence, which is then topped with barbed wire.

   The AES - Chico transfer facility is fully fenced with the gates kept closed unless an employee is transferring waste or inspecting the transfer facility.

   Whenever the transfer facility is unmanned, all gates within the transfer facility are closed and locked.

B. SIGNS

The following signs are posted on the perimeter fence located on and/or near all gates. The wording of each of these signs is provided below with their approximate dimensions. All signs described in this document are legible from a distance of 25 feet

"Warning Detectable amounts of chemicals known to cause cancer, birth defects, or other reproductive harm may be found in and around this facility. California Health & Safety Code, Section 25249.6 "
(20"W x 14"H)

"Peligro Cantidades detectables de quimicos conocidas al estado de California que causan cancer, defectos de naciemiento u otro dano reproductivo podrian encontrarse en o alrededor de esta facilidad. California Health & Safety Code, Section 25249.6"
(14"W x 10"H)

"Caution Hazardous Waste Storage Area Unauthorized Persons Keep Out"
(20"W x 14"H)

"Precaucion Zona de Residuos Peligrosos se prohibe la entrada a personas desautorizadas"
(20"W x 14"H)

Additional signs are posted at the area where wastes are stored. The signs are as follow:

1. **"No Smoking Area"**

   "No Smoking" signs are posted at the hazardous waste tank farm area.

2. **Safety equipment (e.g., fire extinguisher, eye wash and showers)**

   Appropriate safety equipment signs are posted.

C. LIGHTING

AES - Chico is located within the confines of Northgate Petroleum Company. All lighting at the site is owned and operated by the property owner for the entire industrial site and is not directly associated with the facility. Northgate Petroleum Company has sufficient artificial lighting provided to ensure safe and effective operation.

D. Artificial lighting at the facility will be used for the following purposes:

1. To handle hazardous waste during indoor and/or night operations.

   Should night operations occur at AES - Chico, artificial lighting will be used.

2. For emergency response after daylight hours.

   Should emergency response after daylight hours occur at AES - Chico, artificial lighting will be used.

3. For security measures

   Artificial lighting is used during night hours to light the facility.

FACILITY LOCATION, SEISMIC AND PRECIPITATION INFORMATION

I hereby certify the following:

1. I have read and understood Sections 66264.25 and 66270.14(b)(11), Title 22, of the California Code of Regulations on Facility location, Seismic and Precipitation Information.

2. I certify that the nearest fault to my facility is the Cleveland Hills Fault and is 17 miles to the southeast away from my facility.

3. I certify that my facility is not in the 100-year flood plain; otherwise I will provide the information required under section 66270.14 (b)(11)(D).

   AES - Chico is not in the 100-year flood plain.

4. I understand that this certification is an integral part of the formal application for a Standardized Permit for my facility and that any falsification is equivalent to a false statement under Health and Safety Code Section 25191 and may be grounds for a permit denial.

Steve Kerdoon, President
Print Name and Title

Signature

12/29/06
Date

AES Chico- 2549 Scott Avenue, Chico, CA 95927
Facility Address

E. FACILITY LOCATION / SITING INFORMATION

1. FLOOD PLAINS

Section 66264.18 states that a facility located in a 100-year floodplain shall be designed, constructed, operated and maintained to prevent washout of any hazardous waste, unless the owner or operator can demonstrate to DTSC's satisfaction that the facility would be able to safely remove the waste before the flood waters can reach the facility.

AES - Chico is not located in a 100-year floodplain. A Federal Flood Insurance Administration Flood Map is located in Appendix X-A, FEMA Flood Map.

2. DISTANCE FROM HOLOCENE FAULTS

The AES - Chico facility is not located within 3,000 feet of a Holocene fault

3. PRECIPITATION DESIGN

The AES - Chico drainage control system is designed to function without failure when subjected to a 24-hour probable maximum precipitation storm.

MANIFEST SYSTEM, RECORD KEEPING AND REPORTING

I hereby certify the following:

1. I have read and understood sections 66264.70 through 66264.78, Title 22, of the California Code of Regulations on Manifest System, Record Keeping and Reporting requirements. I will have or prepare, for my facility, the required records and reports to be in compliance with all applicable regulations.

2. I certify that a copy of the required records or reports will be maintained at D/K Dixon, 3700 Chevron Way, Dixon, Solano County, CA, 95620 and will be available to local, state or federal agencies upon request. I understand that this certification is an integral part of the formal application for a standardized permit for my facility. And that any falsification is equivalent to a false statement under Health and Safety Code section 25191 and may be grounds for a permit denial.

3. My facility is an offsite facility. I have sent a notice to generators that may use my facility's services and I have the appropriate permit(s) (section 66264.12(b)). A copy of my notice is kept in my facility.

Steve Kerdoon, President
Print Name and Title

Signature 12/29/06
Date

AES Chico- 2549 Scott Avenue, Chico, CA 95927
Facility Name and Address

PREPAREDNESS AND PREVENTION

I hereby certify the following:

1. I have read and understood Sections 66264.30 through 66264.35, 66264.37,and 66270.14(b)(8) and (b)(9), Title 22 of the California Code of Regulations (Preparedness and Prevention).

2. The procedures and equipment for my facility will be in compliance with these regulations. My facility will be designed, constructed, maintained and operated to minimize the possibility of a fire, explosion, or any unplanned sudden or non-sudden release of hazardous waste or hazardous waste constitutes to air, soil, or surface water which could threaten human health or the environment.

3. I understand that this certification is an integral part of the formal application for a Standardized Permit for my facility and that any falsification is equivalent to a false statement under Health and Safety Code Section 25191 and may be grounds for a permit denial.

Steve Kerdoon, President
Print Name and Title

12/29/06
Signature Date

AES Chico- 2549 Scott Avenue, Chico, CA 95927
Facility Name and Address

Appendix X-A, FEMA Flood Map

Please contact project manager listed in envirostor for copy of map

FEMA Flood Map