

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
CENTRAL VALLEY REGION

ORDER NO. R5-2004-0088

WASTE DISCHARGE REQUIREMENTS  
FOR  
CITY OF CHICO REDEVELOPMENT AGENCY

FOR  
CLOSURE OF  
HUMBOLDT ROAD BURN DUMP OPERATIONAL UNIT  
BUTTE COUNTY

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

1. The Humboldt Road Burn Dump (HRBD) is a group of properties in the City of Chico used in the past for waste disposal. The HRBD, as a whole, consists of one primary disposal area located on APN 011-030-015, which formerly operated as the City of Chico Burn Dump, and fourteen other waste disposal areas on adjacent properties. Some of the wastes on the adjacent properties may also have been burned. The primary disposal area operated from the early 1900s until approximately 1965 when the Butte County Neal Road Landfill opened. Wastes from the City of Chico and the unincorporated portions of Butte County were historically dumped, burned, and then leveled in a cyclic fashion at the primary disposal area. No site preparations, such as pit excavations or base liners, are known to have occurred. Overall, it has been determined that fifteen separate properties and approximately 70 of 157 total acres have been impacted by waste disposal operations.
2. In October 1997, the City of Chico applied to the Site Designation Committee with a Request for Designation Of Administering Agency pursuant to Health and Safety Code (HSC) section 25260, *et seq.* Unified Agency Review of Hazardous Materials Release Sites. The City of Chico requested the Regional Board be designated as Administering Agency for remediation of the HRBD. The Site Designation Committee adopted Resolution 97-16 on 11 December 1997 designating the Regional Board as Administering Agency. The Regional Board has been, in coordination with other support agencies including the Department of Toxic Substances Control and the Butte County Air Pollution Control District, overseeing the site investigation and remediation pursuant to HSC section 25260 *et seq.* HSC section 25260 *et seq.* requires the Administering Agency to ensure compliance with all applicable state and local laws.
3. On 3 June 2003, the Regional Board Executive Officer issued Cleanup and Abatement Order No. R5-2003-0707, pursuant to California Water Code section 13304 against all the parties responsible for the waste at the properties of the HRBD. Order No. R5-2003-0707 requires, among other things, that the responsible parties submit a draft Remedial Action

Plan (RAP) to the Regional Board for its review and approval. The City of Chico submitted the draft RAP on 21 May 2004 for certain properties of the HRBD and a public meeting was held in Chico to hear public comments. The RAP for the properties subject to this Order was approved by the Executive Officer on 8 July 2004. The remedy selected in the RAP is to consolidate waste from certain properties of the HRBD on the site of an existing portion of the Burn Dump to form a landfill. After consolidation the landfill must be closed to meet the standards of Title 27 California Code of Regulations (CCR) Division 2. This Order sets forth the requirements for closure of the landfill.

4. On 21 May 2004, the City of Chico Redevelopment Agency submitted a Report of Waste Discharge that proposes to consolidate waste from certain of the properties of the HRBD into a waste management unit (Unit), which will be constructed on Assessor's Parcel Number (APN) 011-030-015. The property (APN 011-030-015) is owned by the City of Chico Redevelopment Agency. The City of Chico Redevelopment Agency is hereafter referred to as the Discharger.
5. The proposed Unit, also called the Humboldt Road Burn Dump Operational Unit, will be located along Humboldt Road, approximately two miles east of the intersection of State Routes 32 and 99 in Chico, in Section 29, T22N, R2E, MDB&M, as shown in Attachment A, which is incorporated herein and made part of this Order. The Unit will consist of one landfill covering 10 acres as shown in Attachment B, which is incorporated herein and made part of this Order. Other HRBD parcels will be addressed by other responsible parties in other Orders.

#### **SITE DESCRIPTION**

6. The HRBD is located along the westernmost slope of the Sierra Nevada foothills. It is underlain by highly cemented deposits of an unnamed "fanglomerate" present throughout a wide area along the foothills east of Chico. In general, the fanglomerate contains only occasional stringers or lenses of granular material within a very low permeability matrix of volcanic ash and other related materials. Groundwater yields within these lenses tend to be small. Deeper granular and volcanic units of the underlying Tuscan Formation, however, form more significant groundwater aquifers.
7. The measured hydraulic conductivity of the native soils underlying the Unit ranges between  $0.5 \times 10^{-4}$  cm/sec and  $1.5 \times 10^{-4}$  cm/sec as measured during aquifer tests conducted on two monitoring wells located adjacent to the primary HRBD disposal area. Tests on these wells indicate the water bearing zones are of limited extent and volume.
8. The closest Holocene fault, the Cleveland Hill Fault, is approximately 27 miles to the south-southeast. Recorded magnitudes of seismic events along these faults range between

- 5.7 and 6.4 on the Richter scale. The maximum credible acceleration for the site is 0.45 to 0.60 g.
9. Current land uses identified for the HRBD includes open rangeland to the east, south, and west, and a retirement community to the north. A junior high school is located less than a half-mile west of the Unit. Current plans and zoning call for residential and/or commercial development to the north, south, and west of the Unit.
  10. The HRBD is located within the City of Chico, which receives an average of 26.4 inches of precipitation per year. The estimated pan evaporation rate for the Sacramento Valley, including the western half of Butte County, is 64 inches per year. The average evapotranspiration rate for pasture and grassland is approximately 52 inches per year.
  11. The 100-year, 24-hour precipitation event for the site is estimated to be 5.5 inches. The maximum 100-year annual precipitation is over 50 inches per year.
  12. The estimated 100-year flow in the reach of Dead Horse Slough that passes through the HRBD is 400 cubic feet per second (cfs), based on the Federal Emergency Management Agency's 100-year peak flow calculations. Based on an estimate of the slope and cross section of Dead Horse Slough below the proposed Unit, the water surface would be approximately 50 feet wide at a flow of 400 cfs.
  13. Based on information provided in the June 2001 Remedial Investigation Report, Geology and Groundwater, Humboldt Road Burn Dump, Chico, California, it is estimated that four domestic water supply wells exist within ½ mile of the site, with a well on the Pleasant Valley Assembly of God of Chico (PVAG) property (APN 002-180-083), which has been inactive for many years, being the closest.

#### **WASTE AND SITE CLASSIFICATION**

14. For purposes of the overall site investigation, the HRBD was divided into eight distinct study areas, referred to as Areas 1 through 8, plus the PVAG property, as shown in Attachment C, which is incorporated herein and made part of this Order. Approximately 265,000 cubic yards (out of an estimated 400,000 cubic yards) of waste was disposed in Area 1 (APN 011-030-015), which is owned by the Discharger and is the site of the Humboldt Road Burn Dump Operational Unit; the remaining 135,000 cubic yards of waste was disposed in Areas 2 through 8. Area 2 (APN 002-180-089, 002-180-095, 002-180-087, 002-180-088), APN 011-030-137, and the PVAG property contain an estimated 40,000 cubic yards of waste scattered on approximately 30 acres. The wastes from parcels associated with Area 2 (except the PVAG property) will be consolidated with existing wastes on APN 011-030-015 in the Humboldt Road Burn Dump Operational Unit. Areas 3 through 8 (APN 011-030-136, 011-030-138, 011-030-139, 011-030-016, 011-780-018, 011-780-014, 002-180-084, 002-180-086) contain an estimated 95,000 cubic yards of

waste scattered on the remaining 40 acres. Dead Horse Slough, an ephemeral stream, flows through a part of Areas 3, 4, 5, and 6.

15. Scattered piles of waste proposed for removal from Areas 3 through 6 (APN 011-030-136, 011-030-138, 011-030-139, 011-030-016), including the impacted area of Dead Horse Slough lying within the property boundaries, will be combined with waste that currently exists on APN 011-030-138 and consolidated in the Humboldt Road Private Properties Operational Unit, located on the parcel directly west of the Humboldt Road Burn Dump Operational Unit. Wastes collected from Areas 7 and 8 and the PVAG property may also be placed in the Humboldt Road Private Properties Operational Unit, or they may be hauled off-site for disposal at an appropriate disposal facility.
16. Area 3 was used as either a staging area for the larger burn dump activities, and /or as a separate, smaller operation. Waste material, consisting of broken glass, bottles, rusted metal, and concrete rubble in a soil matrix with some ash, is spread over large portions of Area 3 and small waste piles exist in several locations. Dead Horse slough flows through the northern edge of the property. The only waste associated with sediment is along Dead Horse Slough, where broken glass, plastic, ceramic, and other miscellaneous debris have been transported down the slough from upstream waste piles.
17. Area 4 was reportedly operated as an independent burn dump. Except in the vicinity of the southern fence line, waste material consisting of broken glass, bottles, rusted metal, plastic, plastic sheeting, wire, paper, and wood in an ash matrix is present throughout the area.
18. Historically, Area 5 had no activities associated with the burn dump operations. However, waste materials were observed in thin slivers along the immediate southern boundary similar to that described in Areas 3 and 4. Waste material noted along the southern fence line consists of broken glass, rusted metal, wood, and rusted cans. Broken glass was noted in the portions of Dead Hose Slough west of Areas 3 and 4.
19. Area 6, located east of Area 3, is subdivided into exposure areas EA-A, B, C, and D. Each exposure area contains waste piles. EA-A has broken glass, rusted metal, bricks, concrete rubble, burnt wood in a soil matrix, and ash in one waste pile. EA-B has scattered waste piles containing broken glass, metal, wood, occasional tires, and fence material or waste spread thinly across the surface. EA-C contains the largest accumulation of waste material consisting of broken glass, rusted metal, cans and concrete rubble in an ash matrix. EA-D has occasional broken fence material (wood posts and barbed wire), and metal cans.
20. Area 7 represents the location of a reported former battery recycling facility. No waste piles are present in the area, but broken glass, rusted metal, and fence material is present on the surface over a large portion of the area.

21. Area 8 is characterized by native soil except in the vicinity of a stock pond levee that was constructed with material removed from Area 2 during the construction of the Bruce Road extension. Waste present in the stock pond levee primarily includes broken glass.
22. The PVAG property (APN 002-180-083) is also part of the HRBD parcels. Wastes on this property are located in a berm along the eastern portion of the parcel and include broken glass and metal. Initial sampling identified lead and arsenic concentrations above soil remedial action goals described in Finding 23 below. However, subsequent sampling found lead and arsenic levels below the remedial action goals.
23. As part of the Soil Remedial Investigation, chemical concentrations were obtained from samples collected throughout the HRBD. Approximately 255 discrete soil samples, 55 soil-gas samples, 21 samples composited from 96 additional discrete samples, and the analysis of 78 discrete samples that made up the initial composite samples have been evaluated. Chemical analyses included metals, volatile organic compounds, semi-volatile organic compounds, polychlorinated biphenyls, chlorinated pesticides, dioxin compounds, total recoverable petroleum hydrocarbons, asbestos, and ionizing radiation. The laboratory results found the following constituents in concentrations exceeding the U.S. Environmental Protection Agency's Preliminary Remediation Goals for residential soil exposure: lead (Areas 3, 4, 5B, 6, and Dead Horse Slough), arsenic (Areas 3 and 4), antimony (area 8), and dioxin compounds (Areas 3, 4, 5B, and 6). Soil remedial action goals were established for lead (224 mg/kg), arsenic (6.12 mg/kg), antimony (31 mg/kg), and dioxin compounds (0.0005 mg/kg). Confirmation sampling will be conducted after the wastes have been collected from the impacted parcels to ensure waste concentrations are below remedial action goals.
24. The Humboldt Road Burn Dump Operational Unit will contain the wastes from Areas 1 and 2, as described in Finding 14.

### **SURFACE WATER CONDITIONS**

25. The *Water Quality Control Plan for the Sacramento River and the San Joaquin River Basin, Fourth Edition* (hereafter Basin Plan), designates beneficial uses, establishes water quality objectives, and contains implementation plans and policies for all waters of the Basin.
26. Surface drainage is toward Dead Horse Slough, an ephemeral drainage that passes through the HRBD. Dead Horse Slough is tributary to Little Chico Creek, in the Butte Basin Hydrologic Area (520.40) of the Sacramento Hydrologic Basin.
27. Dead Horse Slough passes through many of the impacted parcels that make up the HRBD. The watercourse has cut through mounds of waste on APN 011-030-016 exposing cuts over five feet tall. Solid wastes in the form of metal, glass, and plastic have been observed

caving into Dead Horse Slough and have been traced some distance down stream. Sample results have shown a steady increase in soluble salts (measured in the field as Total Dissolved Solids) as the watercourse moved through the exposed wastes. The Total Dissolved Solids (TDS) in Dead Horse Slough has ranged from a background of 80 mg/L upstream of the waste piles to a maximum of 1,560 mg/L adjacent to the primary HRBD disposal area. No volatile or semivolatile organic compounds have been detected in samples from Dead Horse Slough. However, based on the sampling conducted to date, it appears that water quality in Dead Horse Slough has been impacted by wastes disposed at the HRBD, including wastes disposed on the Discharger's parcels.

28. Consistent with the Basin Plan and applicable state and federal law, the beneficial uses of Dead Horse Slough are identified based on the designated uses for the Sacramento River, to which Dead Horse Slough is tributary, via Little Chico Creek, and include domestic and municipal supply, agricultural supply, industrial service supply, water contact and non-contact recreation, warm and cold freshwater habitat, wildlife habitat, groundwater recharge, and freshwater replenishment.

#### **GROUNDWATER CONDITIONS AND MONITORING**

29. The designated beneficial uses of groundwater, as specified in the Basin Plan, are domestic and municipal supply, agricultural supply, industrial service supply, and industrial process supply.
30. Groundwater in the fanglomerate beneath the site is sporadic and discontinuous. Aquifer test data from the two monitoring wells located near the primary disposal area of the HRBD show the water bearing zones are of limited extent and volume.
31. Two monitoring wells exist in the vicinity of the HRBD. Both wells were installed in May 1992 as part of a Solid Waste Assessment Test (SWAT) investigation. Well HR-1 (referred to as MW-1 in HRBD investigation reports) was drilled to 39 feet bgs with a 15-foot screen interval between 23.75 feet bgs and 38.75 feet bgs. This well is located on APN 011-030-138 along the northern boundary of the Humboldt Road Burn Dump Operational Unit. Well HR-2 (referred to as MW-2 in HRBD investigation reports) was drilled to 56 feet bgs with a 20-foot screen interval between 35 feet bgs and 55 feet bgs. This well is located on the Discharger's property (APN 011-030-015) along the western boundary of the Humboldt Road Burn Dump Operational Unit. A third nearby boring was drilled to 108 feet bgs but did not produce any groundwater, so no well was completed there. No gradient or groundwater flow direction has been determined. Neither well is considered a "background" well, so there is no background water quality data currently available.
32. Analytical data from two existing monitoring wells located near the Humboldt Road Burn Dump Operational Unit shows elevated concentrations of nitrates and salts (Total

Dissolved Solids, Chloride, Sulfate, Calcium, and Magnesium). However, no background groundwater quality data is available to compare with data from the two wells, and it is unknown whether the elevated nitrates and salts are due to previous waste disposal practices or natural variation. No volatile or semivolatile organic compounds have been detected in groundwater from the two monitoring wells.

33. Further investigation of the groundwater quality is warranted and the Discharger has proposed installation of three monitoring wells for use in the groundwater detection monitoring program. These wells, in addition to the two existing monitoring wells described in Finding 32, will be installed after cleanup of the impacted parcels has been completed. One well will be installed up gradient of the consolidated Unit and two wells will be installed down gradient of the Unit. Monitoring of the wells will satisfy the requirements for a detection monitoring program contained in Title 27 CCR Division 2.

#### **SITE REMEDIATION AND CLOSURE CONSTRUCTION FOR CONSOLIDATION UNIT**

34. Wastes that have been disposed and/or scattered across the impacted properties will be collected, transported to the Discharger's parcel (APN 011-030-015), consolidated into a waste management unit, and then capped for containment and isolation of the wastes and to prevent moisture infiltration into the wastes. Wastes are located in numerous locations across the parcels to be remediated, including Dead Horse Slough, which meanders through the impacted properties.
35. It is estimated that more than 35,000 cubic yards of waste will be compacted on top of approximately 265,000 cubic yards of existing waste already in place at the Humboldt Road Burn Dump Operational Unit. These wastes include broken glass, bottles, rusted metal, concrete rubble, and burn ash contaminated with heavy metals and dioxin. The primary heavy metals of concern are lead, arsenic, and antimony, with lead being the predominant waste constituent. Laboratory analysis of samples collected from various locations on the parcels indicates that some heavy metal concentrations exceed hazardous waste criteria.
36. As the wastes and burn ash are collected for consolidation in the Discharger's Unit, airborne dust emissions are expected to increase. The RAP and the environmental document prepared pursuant to the California Environmental Quality Act for this action have identified mitigation measures to reduce the potential environmental impacts to below a level of significance. As a mitigating measure, the Discharger will suppress dust emissions by spraying water and adding moisture prior to and during excavating or collecting the wastes. The use of water will be limited to the amount necessary for suppressing particulate air emissions. In addition, the Discharger will be required to monitor air emissions during consolidation activities.

37. Collected wastes will be transported to the Unit on APN 011-030-015 for compaction and consolidation purposes. The wastes to be contained in the Unit are not highly mobile in the subsurface. Natural geologic formations are considered adequate for protecting groundwater quality, especially once an engineered cap is installed over the wastes, so no bottom liner will be constructed. The Humboldt Road Burn Dump Operational Unit will be constructed over two years. The wastes will be capped, from bottom to top, with a one foot thick foundation layer of compacted clean soil, a nonwoven geotextile for protection of the barrier layer, 60-mil high-density polyethylene (HDPE) plastic barrier layer, a geocomposite drainage layer, and 18 inches of clean soil for construction of a vegetative erosion resistant layer. A passive landfill gas venting system will be installed directly beneath the foundation layer. Although the wastes contain very little, if any, organic matter and no subsidence or differential settlement is expected, two survey monuments will be installed into the cap so that the location and elevation of wastes, containment structures, and monitoring facilities can be determined throughout the postclosure maintenance period.
38. California Water Code Section 13360(a)(1) allows the Regional Board to specify the design, type of construction, and/or particular manner in which compliance must be met in waste discharge requirements or orders for the discharge of waste at solid waste disposal facilities.
39. Construction will proceed only after all applicable construction quality assurance and design plans have been approved by the Executive Officer.

#### **CEQA AND OTHER CONSIDERATIONS**

40. On behalf of the Chico Redevelopment Agency, the City of Chico prepared a mitigated negative declaration for the project and filed a Notice of Determination on 19 May 2004 in accordance with the California Environmental Quality Act (Public Resources Code Section 21000 et seq.) and CEQA guidelines (14 CCR Section 15000 et seq.). The Regional Board as a responsible agency pursuant to CEQA considered the mitigated negative declaration for the project and has incorporated mitigation measures into this Order and approved mitigation measures in the RAP as authorized by CEQA.
41. This Order implements:
  - a. *The Water Quality Control Plan for the Sacramento River and San Joaquin River Basins, Fourth Edition;*
  - b. The prescriptive standards and performance goals of Title 27 CCR Division 2, Subdivision 1, Chapters 1 through 7, effective 18 July 1997, and subsequent revisions.



42. California Water Code Section 13267(b) of California Water Code provides:

"In conducting an investigation specified in subdivision (a), the Regional Board may require that any person who has discharged, discharges, or is suspected of discharging, or who proposed to discharge within its region, or any citizen or domiciliary, or political agency or entity of this state who had discharged, discharges, or is suspected of discharging, or who proposed to discharge waste outside of its region that could affect the quality of the waters of the state within its region shall furnish, under penalty of perjury, technical or monitoring program reports which the board requires. The burden, including costs of these reports, shall bear a reasonable relationship to the need for the reports and the benefits to be obtained from the reports. In requiring those reports, the regional board shall provide the person with a written explanation with regard to the need for the reports, and shall identify the evidence that supports requiring that person to provide the reports."

The monitoring and reporting program required by this Order and the attached "Monitoring and Reporting Program No. R5-2004-0088" are necessary to assure compliance with these waste discharge requirements. The Discharger owns the property where wastes have been discharged and is subject to this Order.

#### **PROCEDURAL REQUIREMENTS**

43. All local agencies with jurisdiction to regulate land use, solid waste disposal, air pollution, and to protect public health have approved the use of this site for the discharges of waste to land stated herein.
44. The Regional Board notified the Discharger and interested agencies and persons of its intent to prescribe waste discharge requirements for this discharge, and has provided them with an opportunity to submit their written comments.
45. The Regional Board held public hearing on 9 July 2004 and heard and considered all comments pertaining to this Order.
46. Any person affected by this action of the Regional Board may petition the State Water Resources Control Board to review the action in accordance with Title 23 California Code of Regulations Sections 2050 through 2068. The petition must be received by the State Water Resources Control Board, Office of Chief Counsel, P.O. Box 100, Sacramento, California 95812, within 30 days of the date of issuance of this Order. Copies of the laws and regulations applicable to the filing of a petition are available on the Internet at [http://www.swrcb.ca.gov/water\\_laws/index.html](http://www.swrcb.ca.gov/water_laws/index.html) and will be provided on request.

IT IS HEREBY ORDERED, pursuant to California Water Code Sections 13263 and 13267, that the Discharger, its agents, successors, and assigns, in order to meet the provisions of Division 7

of the California Water Code and the regulations adopted thereunder, shall comply with the following:

**A. PROHIBITIONS**

1. The discharge of wastes outside of a Unit or portions of a Unit specifically designed for their containment is prohibited.
2. The discharge of waste to a closed Unit is prohibited.
3. The discharge shall not cause the release of pollutants, or waste constituents in a manner which could cause a condition of nuisance, degradation, contamination, or pollution of groundwater to occur, as indicated by the most appropriate statistical or nonstatistical data analysis method and retest method, the Monitoring and Reporting Program, or the Standard Provisions and Reporting Requirements.
4. The discharge of solid or liquid waste or leachate to surface waters, surface water drainage courses, or groundwater is prohibited.
5. The discharge shall not cause any increase in the concentration of waste constituents in soil-pore gas, soil-pore liquid, soil, or other geologic materials outside of the Unit if such waste constituents could migrate to waters of the State — in either the liquid or the gaseous phase — and cause a condition of nuisance, degradation, contamination, or pollution.

**B. DISCHARGE SPECIFICATIONS**

1. All wastes, including broken glass, bottles, ceramic pieces, plastic, metal pieces, cans, concrete rubble, burn ash and soil or materials contaminated with heavy metals or dioxins that exceed the Remedial Action Goals established in the Baseline Risk Assessment dated August 2001, shall be collected and transported to the Unit for consolidation and containment of wastes.
2. The Discharger shall contain the waste within the designated disposal area at all times.

**C. FACILITY SPECIFICATIONS**

1. The Discharger shall, in a timely manner, remove and relocate any wastes discharged at this facility in violation of this Order.
2. The Discharger shall immediately notify the Regional Board of any flooding, unpermitted discharge of waste off-site, equipment failure, slope failure, or other change

in site conditions, which could impair the integrity of waste or leachate containment facilities or precipitation and drainage control structures.

3. Water used for facility maintenance shall be limited to the minimum amount necessary for dust control and construction.
4. The Discharger shall maintain in good working order any facility, control system, or monitoring device installed to achieve compliance with the waste discharge requirements.

#### **D. CONSOLIDATION UNIT CLOSURE CONSTRUCTION SPECIFICATIONS**

1. The Discharger shall submit for Executive Officer review and approval **prior to construction**, design plans and specifications for the Unit that include the following:
  - a. A Construction Quality Assurance Plan meeting the requirements of Title 27 CCR Section 20324;
  - b. A groundwater detection monitoring system in accordance with Title 27 CCR Section 20415(b).
2. The cover system for the Unit shall be constructed in accordance with the following design, in ascending order: one foot of compacted clean soil for construction of the foundation layer over the waste pile, a nonwoven geotextile for protection of the barrier layer, a 60 mil HDPE plastic barrier layer, a geocomposite drainage layer, and an two foot thick erosion resistant layer. A passive landfill gas venting system will be installed directly beneath the foundation layer.
3. The Discharger may propose changes to the final cover system design prior to construction, provided that approved components are not eliminated, the engineering properties of the components are not substantially reduced, and the proposed final cover system results in the protection of water quality equal to or greater than the design prescribed by Title 27 CCR and this Order. The proposed changes may be made following approval by the Executive Officer. Substantive changes to the design require reevaluation as an engineered alternative, with approval by the Regional Board.
4. The closed Unit shall be graded to at least a three percent grade and maintained to prevent ponding over the Unit.
5. The closed Unit shall be provided with two permanent monuments, installed by a licensed surveyor, from which the location and elevation of all wastes, containment structures, and monitoring facilities can be determined throughout the postclosure maintenance period.

6. The Discharger shall complete all construction activities associated with closure of the Unit **by 15 October 2005**.
7. A third party independent of both the Discharger and the construction contractor shall perform all of the construction quality assurance monitoring and testing during the construction of a liner system.
8. Following the completion of construction of a Unit or portion of a Unit, the final documentation required in Title 27 CCR Section 20324(d)(1)(C) shall be submitted to the Executive Officer for review and approval. The report shall be prepared by, or under the supervision of, and signed by a registered civil engineer or a certified engineering geologist. It shall contain sufficient information and test results to verify that construction was in accordance with the design plans and specifications, and with the prescriptive standards and performance goals of Title 27 CCR Division 2.
9. Closure shall not proceed in the absence of closure waste discharge requirements.

#### **E. DETECTION MONITORING SPECIFICATIONS**

1. The Discharger shall submit **by 15 October 2004** a proposal for a groundwater detection monitoring program Executive Officer review and approval. This Order requires installation of at least three groundwater monitoring wells that shall be installed and operational **by 1 January 2006**.
2. The Discharger shall comply with the detection monitoring program provisions of Title 27 for groundwater and in accordance with Monitoring and Reporting Program No. R5-2004-0088. The Monitoring and Reporting Program sets forth monitoring requirements that may be revised by the Executive Officer as appropriate.
3. The Discharger shall provide Regional Board staff a minimum of **one week** notification prior to commencing any field activities related to the installation, repair, or abandonment of monitoring devices, and a minimum 48 hour notification prior to the collection of samples associated with a detection monitoring program.
4. The Discharger shall submit **by 15 October 2004** a Sample Collection and Analysis Plan for Executive Officer review and approval. The Sample Collection and Analysis Plan shall at a minimum include:
  - a. Sample collection procedures describing purging techniques, sampling equipment, and decontamination of sampling equipment;
  - b. Sample preservation information and shipment procedures;

- c. Sample analytical methods and procedures;
- d. Sample quality assurance/quality control (QA/QC) procedures; and
- e. Chain of Custody control.
- f. Data analysis and interpretation.

## **F. PROVISIONS**

1. The Discharger shall maintain a copy of this Order at the facility, or at the Discharger's office, and make it available at all times to facility operating personnel, who shall be familiar with its contents, and to regulatory agency personnel.
2. The Discharger shall comply with all applicable provisions of Title 27 that are not specifically referred to in this Order.
3. The Discharger will record with the Butte County Recorder's Office, a deed restriction that runs with the land, that identifies the exact location of the landfill, and that restricts activities that will impact the integrity of the cap of the Unit. The deed restriction must indicate that the restrictions may not be removed without approval the Regional Board. Prior to recording the deed restriction, the Discharger will submit the proposed deed restriction to the Regional Board Executive Officer for approval prior to recording.
4. The Discharger shall comply with Monitoring and Reporting Program No. R5-2004-0088, which is incorporated into and made part of this Order.
5. The Discharger shall comply with the applicable portions of the Standard Provisions and Reporting Requirements for Waste Discharge Requirements for Nonhazardous Solid Waste Discharges Regulated by Title 27 and/or Subtitle D (Title 27 CCR Section 20005 et seq. and 40 CFR 258 et seq.), dated August 1997, which are hereby incorporated into this Order.
6. All reports and transmittal letters shall be signed by persons identified below:
  - a. For a corporation: by a principal executive officer of at least the level of senior vice-president.
  - b. For a partnership or sole proprietorship: by a general partner or the proprietor.
  - c. For a municipality, state, federal or other public agency: by either a principal executive officer or ranking elected or appointed official.
  - d. A duly authorized representative of a person designated in a, b or c above if;

- 1) The authorization is made in writing by a person described in a, b, or c of this provision;
  - 2) The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as the position of plant manager, operator of a Unit, superintendent, or position of equivalent responsibility. (A duly authorized representative may thus be either a named individual or any individual occupying a named position); and
  - 3) The written authorization is submitted to the Regional Board.
- e. Any person signing a document under this Section shall make the following certification:

“I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.”

5. The Discharger shall take all reasonable steps to minimize any adverse impact to the waters of the State resulting from noncompliance with this Order. Such steps shall include accelerated or additional monitoring as necessary to determine the nature, extent, and impact of the noncompliance.
6. The owner of the Unit shall have the continuing responsibility to assure protection of waters of the state from discharged wastes and from gases and leachate generated by discharged waste during the active life, closure, and postclosure maintenance period of the Unit and during subsequent use of the property for other purposes.
7. The fact that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with this Order shall not be regarded as a defense for the Discharger’s violations of the Order.
8. To assume ownership or operation under this Order, the succeeding owner or operator must apply in writing to the Regional Board requesting transfer of the Order within 14 days of assuming ownership or operation of this facility. The request must contain the requesting entity’s full legal name, the State of incorporation if a corporation, the name and address and telephone number of the persons responsible for contact with the Regional Board, and a statement. The statement shall comply with the signatory requirements contained in Provision F.6. and state that the new owner or operator assumes full responsibility for compliance with this Order. Failure to submit the request

shall be considered a discharge without requirements, a violation of the California Water Code. Transfer of this Order shall be approved or disapproved by the Regional Board.

9. The Discharger shall prepare a post closure maintenance plan and submit it **by 15 October 2005** to the Executive Officer for review and approval.
10. The Discharger shall establish cost estimates for postclosure maintenance at the facility and submit these estimates **by 15 October 2005** to the Executive Officer for review and approval. The postclosure maintenance period is a minimum of 30 years and shall continue until it is demonstrated that the wastes no longer pose a threat to water quality.
11. The Discharger is required to maintain financial assurance mechanisms for postclosure maintenance costs as specified in Title 27 CCR Division 7, Chapter 6. The Discharger is required to submit **by 1 January 2006** the financial assurance mechanism to the Executive Officer for review and approval.
12. The Discharger shall complete the tasks contained in these waste discharge requirements in accordance with the following time schedule:

| <u>Task</u>   | <u>Compliance Date</u> |
|---|------------------------|
| <b>A. Sample Collection and Analysis Plan</b>   |                        |
| Submit a Sample Collection and Analysis Plan for Executive Officer review and approval.<br>(see Detection Monitoring Specification E.4)     | <b>15 October 2004</b> |
| <b>B. Groundwater Detection Monitoring Program</b>  |                        |
| Submit a proposal for a groundwater detection monitoring program that includes installation of at least three groundwater monitoring wells. | <b>15 October 2004</b> |
| Complete installation of at least three groundwater monitoring wells.<br>(see Detection Monitoring Specification E.1)                       | <b>1 January 2006</b>  |

**C. Postclosure Maintenance Plan**

Submit Postclosure Maintenance Plan  
(see Provision F.9) **15 October 2005**

**D. Cost Estimates**

Submit cost estimates for  
postclosure maintenance of the Unit.  
(see Provision F.10) **15 October 2005**

**E. Financial Assurances**

Submit proof of financial assurances in  
the amounts of the approved cost estimates  
for postclosure maintenance of the Unit.  
(see Provision F.11) **1 January 2006**

**F. Final Closure Construction Report**

Submit a construction report upon completion  
of the closure project demonstrating construction  
was in accordance with approved construction  
plans for Executive Officer review and approval.  
(see New Unit Closure Construction Specification D.8) **1 January 2006**

I, THOMAS R. PINKOS, Executive Officer, do hereby certify that the foregoing is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, Central Valley Region, on 9 July 2004.

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THOMAS R. PINKOS, Executive Officer

KLC:flm: 06/04/2004



CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
CENTRAL VALLEY REGION

MONITORING AND REPORTING PROGRAM NO. R5-2004-0088

FOR  
CITY OF CHICO REDEVELOPMENT AGENCY

FOR  
CLOSURE OF  
HUMBOLDT ROAD BURN DUMP OPERATIONAL UNIT  
BUTTE COUNTY

Compliance with this Monitoring and Reporting Program, with Title 27, California Code of Regulations, Section 20005, et seq. (hereafter Title 27), and with the *Standard Provisions and Reporting Requirements for Waste Discharge Requirements for Nonhazardous Solid Waste Discharges Regulated by Title 27 and/or Subtitle D (27 CCR §20005 et seq. and 40 CFR 258)*, dated August 1997, is ordered by Waste Discharge Requirements Order No. R5-2004-0088.

**A. REQUIRED MONITORING REPORTS**

| <u>Report</u>  | <u>Due</u>                     |
|--|--------------------------------|
| 1. Groundwater Monitoring (Section D.1)                                      | <b>See Tables I and II</b>     |
| 2. Facility Monitoring (Section D.5)   | <b>Annually by 15 November</b> |
| 3. Response to a Release<br>(Standard Provisions and Reporting Requirements) | <b>As necessary</b>            |

**B. REPORTING**

The Discharger shall report monitoring data and information as required in this Monitoring and Reporting Program and as required in Order No. R5-2004-0088 and the Standard Provisions and Reporting Requirements. Reports that do not comply with the required format will be **REJECTED** and the Discharger shall be deemed to be in noncompliance with the waste discharge requirements. In reporting the monitoring data required by this program, the Discharger shall arrange the data in tabular form so that the date, the constituents, the concentrations, and the units are readily discernible. The data shall be summarized in such a manner so as to illustrate clearly the compliance with waste discharge requirements or the lack thereof. Data shall also be submitted in a digital format acceptable to the Executive Officer.

Field and laboratory tests shall be reported in each monitoring report. Semiannual and annual monitoring reports shall be submitted to the Board in accordance with the following schedule for the calendar period in which samples were taken or observations made.

| <u>Sampling Frequency</u> | <u>Reporting Frequency</u> | <u>Reporting Periods End</u> | <u>Report Date Due</u>              |
|---------------------------|----------------------------|------------------------------|-------------------------------------|
| Semiannually              | Semiannually               | 30 June<br>31 December       | <b>31 July</b><br><b>31 January</b> |

The Discharger shall submit an **Annual Monitoring Summary Report** to the Board **by 31 January** covering the previous monitoring year. The annual report shall contain the information specified in the Standard Provisions and a discussion of compliance with the waste discharge requirements.

The results of **all monitoring** conducted at the site shall reported to the Regional Board in accordance with the reporting schedule above for the calendar period in which samples were taken or observations made.

### C. **MONITORING**

The Discharger shall comply with the detection monitoring program provisions of Title 27 for groundwater in accordance with Detection Monitoring Specification E.2 of Waste Discharge Requirements, Order No. R5-2004-0088. All monitoring shall be conducted in accordance with a Sample Collection and Analysis Plan, which include quality assurance/quality control standards, that are acceptable to the Executive Officer.

All detection monitoring program groundwater monitoring wells shall be sampled and analyzed for monitoring parameters and constituents of concern as indicated and listed in Tables I and II.

Method detection limits and practical quantitation limits shall be reported. All peaks shall be reported, including those that cannot be quantified and/or specifically identified. Metals shall be analyzed in accordance with the methods listed in Table II.

The Discharger may, with the approval of the Executive Officer, use alternative analytical test methods, including new USEPA approved methods, provided the methods have method detection limits equal to or lower than the analytical methods specified in this Monitoring and Reporting Program.

#### 1. **Groundwater**

The Discharger shall operate and maintain a groundwater detection monitoring system that complies with the applicable provisions of §20415 and §20420 of Title 27 in accordance with a Detection Monitoring Program approved by the Executive Officer. The Discharger shall collect, preserve, and transport groundwater samples in accordance with an approved Sample Collection and Analysis Plan.

The Discharger shall determine the groundwater flow rate and direction in the uppermost aquifer and in any zones of perched water and in any additional zone of saturation monitored pursuant to this Monitoring and Reporting Program, and report the results semiannually, including the times of highest and lowest elevations of the water levels in the wells.

Hydrographs of each well shall be submitted showing the elevation of groundwater with respect to the elevations of the top and bottom of the screened interval and the elevation of the pump intake. Hydrographs of each well shall be prepared quarterly and submitted annually.

Groundwater samples shall be collected from the point-of-compliance wells, background wells, and any additional wells added as part of the approved groundwater monitoring system. Samples shall be collected and analyzed for the monitoring parameters in accordance with the methods and frequency specified in Tables I and II. The initial sampling and analysis for Dioxin and Furan compounds shall occur **by no later than 30 December 2008**.

If specifically requested, the monitoring parameters shall also be evaluated in the Annual Monitoring Summary Report that includes a cation/anion balance, and a graphically presented using a Stiff diagram, a Piper graph, or a Schueller plot.

## **2. Leachate Monitoring**

There is no leachate collection and removal system for this facility. However, any leachate that seeps to the surface of the Unit shall be sampled and analyzed for each monitoring parameter and constituent of concern listed in Tables I and Table II upon detection. The Discharger shall notify the Executive Officer within 24 hours of observing leachate seeping to the surface of the Unit. The quantity of leachate shall be estimated and reported as Leachate Flow Rate (in gallons/day).

## **3. Facility Monitoring**

a. **Standard Observations**

Standard Observations shall be performed **monthly** during the wet season (October 1 to April 30) and **quarterly** during the dry season (May 1 to September 30) and shall include those elements identified in Standard Provisions. Each semiannual monitoring report shall include a summary and certification of completion of all Standard Observations. Field logs of standard observations shall also be included in the report.

b. **Regular Maintenance Inspections**

Unit facilities (i.e. monitoring wells) shall be inspected **quarterly** to identify the need for maintenance and repairs. Necessary repairs shall be completed within 30 days of each inspection. Field logs of these inspections and documentation of the repairs shall be included in each semiannual monitoring report.

c. **After Storm Events**

The Discharger shall inspect the Unit and all precipitation, diversion, and drainage facilities for damage within 7 days after each *major storm event*. **A major storm event is one that produces 1 inch or more of precipitation within a 24-hour period.** Areas of erosion or sedimentation observed during the inspection(s) shall be flagged and repaired **within 7 days** of identification. If repairs cannot be completed within the seven-day time frame, the Discharger shall notify the Regional Board of such and provide a schedule for completing necessary repairs. Findings and repairs implemented as a result of these inspections shall be included in each semiannual monitoring report. If no inspection was conducted because there was no significant storm event during the semiannual period, the report shall state such fact.

d. **Site Winterization**

Annually, prior to the anticipated rainy season, but no later than **30 September**, the Discharger shall conduct an inspection of the facility for the purpose of winterizing the site. The inspection shall identify any damage to the landfill cover, grade, precipitation and drainage controls, access roads, and other facilities. Any necessary construction, maintenance, or repairs shall be conducted in compliance with the approved postclosure maintenance plan and completed by **31 October**.

The Discharger shall document the results of the winterization inspection

and any repair measures implemented in an Annual Report due  
**by 31 January** of each year.

Documentation of the results of the above inspections and any repairs implemented shall include field observations, the location of any damage observed (i.e. on a site map), photographs of the damage, and a description of any repairs implemented, including post-repair photographs.

The Discharger shall implement the above monitoring program on the effective date of this Program.

Ordered by: \_\_\_\_\_  
THOMAS R. PINKOS, Executive Officer

\_\_\_\_\_ 9 July 2004 \_\_\_\_\_  
(Date)

**TABLE I**  
**GROUNDWATER DETECTION MONITORING PROGRAM**

| <u>Parameter</u>  | <u>Units</u>             | <u>Frequency</u> |
|---|--------------------------|------------------|
| <b>Field Parameters</b>   |                          |                  |
| Groundwater Elevation   | Ft. & hundredths, M.S.L. | Semiannual       |
| Temperature   | °C                       | Semiannual       |
| Electrical Conductivity   | µmhos/cm                 | Semiannual       |
| pH  | pH units                 | Semiannual       |
| Turbidity   | Turbidity units          | Semiannual       |
| <b>Monitoring Parameters</b>                                      |                          |                  |
| Total Dissolved Solids (TDS)                                      | mg/L                     | Semiannual       |
| Chloride  | mg/L                     | Semiannual       |
| Carbonate   | mg/L                     | Semiannual       |
| Bicarbonate   | mg/L                     | Semiannual       |
| Nitrate - Nitrogen  | mg/L                     | Semiannual       |
| Sulfate   | mg/L                     | Semiannual       |
| Calcium   | mg/L                     | Semiannual       |
| Magnesium   | mg/L                     | Semiannual       |
| Potassium   | mg/L                     | Semiannual       |
| Sodium  | mg/L                     | Semiannual       |
| Boron   | mg/L                     | Semiannual       |
| Inorganics – dissolved (see Table II)                             | mg/L                     | Semiannual       |
| <b>Constituents of Concern (see Table II)</b>                     |                          |                  |
| Total Organic Carbon  | mg/L                     | Semiannual       |
| Volatile Organic Compounds<br>(USEPA Method 8260B, extended list) | µg/L                     | Semiannual       |
| Semi-Volatile Organic Compounds<br>(USEPA Method 8270C)           | µg/L                     | Semiannual       |
| Chlorophenoxy Herbicides<br>(USEPA Method 8151A)                  | µg/L                     | Semiannual       |
| Organophosphorus Compounds<br>(USEPA Method 8141A)                | µg/L                     | Semiannual       |
| Dioxin and Furan Compounds<br>(USEPA Method 8290)                 | pg/L                     | 5 years          |

**TABLE II**  
**CONSTITUENTS OF CONCERN & APPROVED USEPA ANALYTICAL METHODS**

| <b><u>Inorganics (dissolved):</u></b> | <b><u>USEPA Method</u></b> |
|---------------------------------------|----------------------------|
| Aluminum                              | 6010                       |
| Antimony                              | 7041                       |
| Barium                                | 6010                       |
| Beryllium                             | 6010                       |
| Cadmium                               | 7131A                      |
| Chromium                              | 6010                       |
| Cobalt                                | 6010                       |
| Copper                                | 6010                       |
| Silver                                | 6010                       |
| Tin                                   | 6010                       |
| Vanadium                              | 6010                       |
| Zinc                                  | 6010                       |
| Iron                                  | 6010                       |
| Manganese                             | 6010                       |
| Arsenic                               | 7062                       |
| Lead                                  | 7421                       |
| Mercury                               | 7470A                      |
| Nickel                                | 7521                       |
| Selenium                              | 7742                       |
| Thallium                              | 7841                       |
| Cyanide                               | 9010B                      |
| Sulfide                               | 9030B                      |

**Volatile Organic Compounds:**

**USEPA Method 8260**

Acetone  
Acetonitrile (Methyl cyanide)  
Acrolein  
Acrylonitrile  
Allyl chloride (3-Chloropropene)  
Benzene  
Bromochloromethane (Chlorobromomethane)  
Bromodichloromethane (Dibromochloromethane)  
Bromoform (Tribromomethane)  
Carbon disulfide  
Carbon tetrachloride  
Chlorobenzene  
Chloroethane (Ethyl chloride)  
Chloroform (Trichloromethane)  
Chloroprene  
Dibromochloromethane (Chlorodibromomethane)

**TABLE II**

**CONSTITUENTS OF CONCERN & APPROVED USEPA ANALYTICAL METHODS**

**Continued**

1,2-Dibromo-3-chloropropane (DBCP)  
1,2-Dibromoethane (Ethylene dibromide; EDB)  
o-Dichlorobenzene (1,2-Dichlorobenzene)  
m-Dichlorobenzene (1,3-Dichlorobenzene)  
p-Dichlorobenzene (1,4-Dichlorobenzene)  
trans- 1,4-Dichloro-2-butene  
Dichlorodifluoromethane (CFC 12)  
1,1 -Dichloroethane (Ethylidene chloride)  
1,2-Dichloroethane (Ethylene dichloride)  
1,1 -Dichloroethylene (1, 1-Dichloroethene; Vinylidene chloride)  
cis- 1,2-Dichloroethylene (cis- 1,2-Dichloroethene)  
trans- 1,2-Dichloroethylene (trans- 1,2-Dichloroethene)  
1,2-Dichloropropane (Propylene dichloride)  
1,3-Dichloropropane (Trimethylene dichloride)  
2,2-Dichloropropane (Isopropylidene chloride)  
1,1 -Dichloropropene  
cis- 1,3-Dichloropropene  
trans- 1,3-Dichloropropene  
Di-isopropylether (DIPE)  
Ethanol  
Ethyltertiary butyl ether  
Ethylbenzene  
Ethyl methacrylate  
Hexachlorobutadiene  
Hexachloroethane  
2-Hexanone (Methyl butyl ketone)  
Isobutyl alcohol  
Methacrylonitrile  
Methyl bromide (Bromomethane)  
Methyl chloride (Chloromethane)  
Methyl ethyl ketone (MEK; 2-Butanone)  
Methyl iodide (Iodomethane)  
Methyl t-butyl ether  
Methyl methacrylate  
4-Methyl-2-pentanone (Methyl isobutyl ketone)  
Methylene bromide (Dibromomethane)  
Methylene chloride (Dichloromethane)  
Naphthalene  
Propionitrile (Ethyl cyanide)  
Styrene  
Tertiary amyl methyl ether  
Tertiary butyl alcohol  
1,1,1,2-Tetrachloroethane  
1,1,2,2-Tetrachloroethane



**TABLE II**

**CONSTITUENTS OF CONCERN & APPROVED USEPA ANALYTICAL METHODS**

**Continued**

Tetrachloroethylene (Tetrachloroethene; Perchloroethylene; PCE)  
Toluene  
1,2,4-Trichlorobenzene  
1,1,1-Trichloroethane, Methylchloroform  
1,1,2-Trichloroethane  
Trichloroethylene (Trichloroethene; TCE)  
Trichlorofluoromethane (CFC- 11)  
1,2,3-Trichloropropane  
Vinyl acetate  
Vinyl chloride (Chloroethene)  
Xylene (total)

**Semi-Volatile Organic Compounds:**

**USEPA Method 8270 - base, neutral, & acid extractables**

Acenaphthene  
Acenaphthylene  
Acetophenone  
2-Acetylaminofluorene (2-AAF)  
Aldrin  
4-Aminobiphenyl  
Anthracene  
Benzo[a]anthracene (Benzanthracene)  
Benzo[b]fluoranthene  
Benzo[k]fluoranthene  
Benzo[g,h,i]perylene  
Benzo[a]pyrene  
Benzyl alcohol  
Bis(2-ethylhexyl) phthalate  
alpha-BHC  
beta-BHC  
delta-BHC  
gamma-BHC (Lindane)  
Bis(2-chloroethoxy)methane  
Bis(2-chloroethyl) ether (Dichloroethyl ether)  
Bis(2-chloro-1-methylethyl) ether (Bis(2-chloroisopropyl) ether; DCIP)  
4-Bromophenyl phenyl ether  
Butyl benzyl phthalate (Benzyl butyl phthalate)  
Chlordane  
p-Chloroaniline  
Chlorobenzilate  
p-Chloro-m-cresol (4-Chloro-3-methylphenol)  
2-Chloronaphthalene  
2-Chlorophenol

**TABLE II**

**CONSTITUENTS OF CONCERN & APPROVED USEPA ANALYTICAL METHODS**

**Continued**

4-Chlorophenyl phenyl ether  
Chrysene  
o-Cresol (2-methylphenol)  
m-Cresol (3-methylphenol)  
p-Cresol (4-methylphenol)  
4,4'-DDD  
4,4'-DDE  
4,4'-DDT  
Diallate  
Dibenz[a,h]anthracene  
Dibenzofuran  
Di-n-butyl phthalate  
3,3'-Dichlorobenzidine  
2,4-Dichlorophenol  
2,6-Dichlorophenol  
Dieldrin  
Diethyl phthalate  
p-(Dimethylamino)azobenzene  
7,12-Dimethylbenz[a]anthracene  
3,3'-Dimethylbenzidine  
2,4-Dimethylphenol (m-Xylenol)  
Dimethyl phthalate  
m-Dinitrobenzene  
4,6-Dinitro-o-cresol (4,6-Dinitro-2-methylphenol)  
2,4-Dinitrophenol  
2,4-Dinitrotoluene  
2,6-Dinitrotoluene  
Di-n-octyl phthalate  
Diphenylamine  
Endosulfan I  
Endosulfan II  
Endosulfan sulfate  
Endrin  
Endrin aldehyde  
Ethyl methanesulfonate  
Famphur  
Fluoranthene  
Fluorene  
Heptachlor  
Heptachlor epoxide  
Hexachlorobenzene  
Hexachlorocyclopentadiene  
Hexachloropropene  
Indeno(1,2,3-c,d)pyrene

**TABLE II**

**CONSTITUENTS OF CONCERN & APPROVED USEPA ANALYTICAL METHODS**

**Continued**

Isodrin  
Isophorone  
Isosafrole  
Kepone  
Methapyrilene  
Methoxychlor  
3-Methylcholanthrene  
Methyl methanesulfonate  
2-Methylnaphthalene  
1,4-Naphthoquinone  
1-Naphthylamine  
2-Naphthylamine  
o-Nitroaniline (2-Nitroaniline)  
m-Nitroaniline (3-Nitroaniline)  
p-Nitroaniline (4-Nitroaniline)  
Nitrobenzene  
o-Nitrophenol (2-Nitrophenol)  
p-Nitrophenol (4-Nitrophenol)  
N-Nitrosodi-n-butylamine (Di-n-butylnitrosamine)  
N-Nitrosodiethylamine (Diethylnitrosamine)  
N-Nitrosodimethylamine (Dimethylnitrosamine)  
N-Nitrosodiphenylamine (Diphenylnitrosamine)  
N-Nitrosodipropylamine (N-Nitroso-N-dipropylamine; Di-n-propylnitrosamine)  
N-Nitrosomethylethylamine (Methylethylnitrosamine)  
N-Nitrosopiperidine  
N-Nitrosopyrrolidine  
5-Nitro-o-toluidine  
Pentachlorobenzene  
Pentachloronitrobenzene (PCNB)  
Pentachlorophenol  
Phenacetin  
Phenanthrene  
Phenol  
p-Phenylenediamine  
Polychlorinated biphenyls (PCBs; Aroclors)  
Pronamide  
Pyrene  
Safrole  
1,2,4,5-Tetrachlorobenzene  
2,3,4,6-Tetrachlorophenol  
o-Toluidine  
Toxaphene  
2,4,5-Trichlorophenol  
0,0,0-Triethyl phosphorothioate

**TABLE II**  
**CONSTITUENTS OF CONCERN & APPROVED USEPA ANALYTICAL METHODS**

**Continued**

sym-Trinitrobenzene

**Chlorophenoxy Herbicides:**

**USEPA Method 8151A**

2,4-D (2,4-Dichlorophenoxyacetic acid)  
Dinoseb (DNBP; 2-sec-Butyl-4,6-dinitrophenol)  
Silvex (2,4,5-Trichlorophenoxypropionic acid; 2,4,5-TP)  
2,4,5-T (2,4,5-Trichlorophenoxyacetic acid)

**Organophosphorus Compounds:**

**USEPA Method 8141A**

Atrazine  
Chlorpyrifos  
0,0-Diethyl 0-2-pyrazinyl phosphorothioate (Thionazin)  
Diazinon  
Dimethoate  
Disulfoton  
Ethion  
Methyl parathion (Parathion methyl)  
Parathion  
Phorate  
Simazine

**Dioxin and Furan Compounds**

**USEPA Method 8290 HRMS**

## INFORMATION SHEET

ORDER NO. R5-2004-0088  
CITY OF CHICO REDEVELOPMENT AGENCY  
FOR CLOSURE OF  
HUMBOLDT ROAD BURN DUMP OPERATIONAL UNIT  
BUTTE COUNTY

The Humboldt Road Burn Dump Operational Unit is located along Humboldt Road, approximately two miles east of the intersection of State Routes 32 and 99 in Chico. The property where this Unit is located is part of a group of properties commonly referred to as the Humboldt Road Burn Dump (HRBD). The HRBD, as a whole, consists of one primary disposal area known as the City of Chico Burn Dump, located on assessor parcel number (APN) 011-030-015, and fourteen other waste disposal areas on adjacent properties. The Humboldt Road Burn Dump Operational Unit will be constructed over existing buried wastes on APN 011-030-015. The primary disposal area operated as a burn dump from the early 1900s until approximately 1965 when the Butte County Neal Road Landfill opened.

During construction of the Bruce Road extension connecting Bruce Road with State Route 32 in 1987, excavated earthen material containing waste from the HRBD was relocated to APN 011-780-014 for construction of a stock pond levee. In response to citizen complaints, Regional Board staff collected soil samples from the levee. Analyses of the samples showed the presence of polynuclear aromatic hydrocarbons and heavy metals, with lead concentrations as high as 3,400 mg/kg.

On 27 January 1988, the Executive Officer issued Cleanup and Abatement Order (CAO) No. 88-700 to the City of Chico and the owners of APN 011-780-014 (John D. Drake and James E. Simmons, et al.) requiring cleanup of the waste in the stock pond levee. Discussions between Regional Board staff and Department of Toxic Substances Control staff indicated that a much larger volume of waste, probably contaminated with heavy metals, existed in parcels adjacent to the Bruce Road Extension. In an effort to identify all the waste material and evaluate threats to human health and the environment, Regional Board staff deferred enforcement of CAO Order No. 88-700. After years of environmental assessments and review of sample data, the Executive Officer issued CAO Order No. R5-2003-0707 on 3 June 2003 to the property owners where burn dump wastes had been scattered or disposed. CAO No. R5-2003-0707 required the owners of the impacted properties to cleanup and abate the effects of the wastes.

In response to the requirements of CAO No. R5-2003-0707, the City of Chico agreed to remediate the properties under their control and the properties that were directly linked to the historical City of Chico Burn Dump operation. The City of Chico Redevelopment Agency has proposed to collect, consolidate, and cap the wastes from these parcels into the Humboldt Road Burn Dump Operational Unit on APN 011-030-015, owned by the City of Chico Redevelopment Agency.

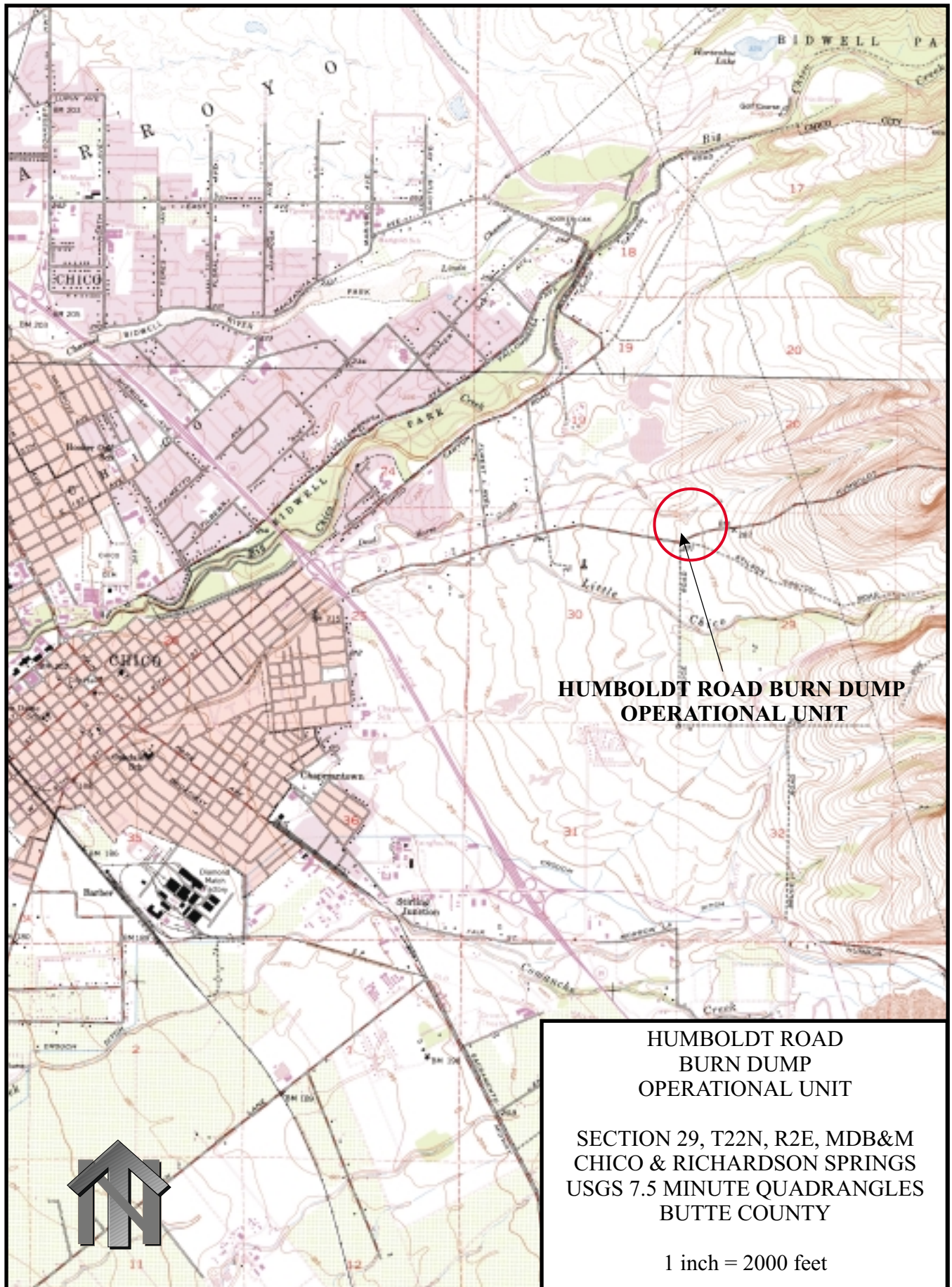
The owners of the remaining impacted properties agreed to remediate their respective parcels and consolidate and cap the wastes in the Humboldt Road Private Properties Operational Unit on APN 011-030-138, which is directly adjacent and east of the City of Chico's Unit.

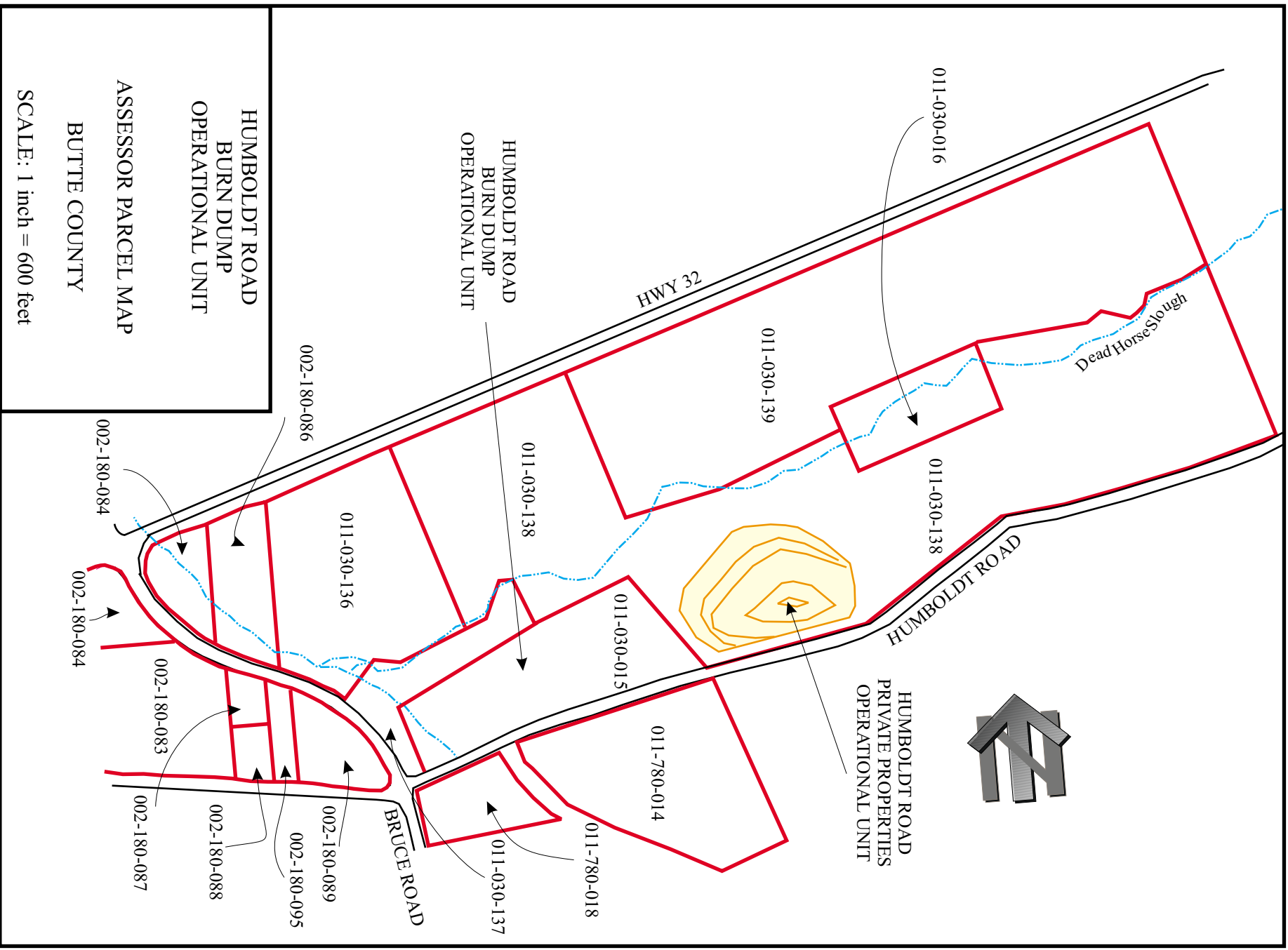
The Humboldt Road Burn Dump Operational Unit is located along the westernmost slope of the Sierra Nevada foothills. It is underlain by highly cemented deposits of an unnamed "fanglomerate" present throughout a wide area along the foothills east of Chico. In general, the fanglomerate contains only occasional stringers or lenses of granular material within a very low permeability matrix of volcanic ash and other related materials. Natural geologic formations are considered adequate for protecting groundwater quality, especially once an engineered cap is installed over the wastes, so no base liner will be constructed.

The excavation, consolidating, and capping of the wastes will occur over two years. The wastes will be capped in ascending order, with a two foot thick soil foundation layer, a nonwoven geotextile for protection of the barrier layer, 60-mil high density polyethylene plastic as a barrier layer, a geocomposite drainage layer, and a vegetative erosion resistant layer.

A groundwater monitoring network consisting of at least three wells will be installed to assess groundwater quality in the vicinity of the Unit. Dead Horse Slough, an ephemeral stream that runs through the HRBD properties, will also be assessed semiannually as required by this Order.

This Order prescribes closure and postclosure maintenance requirements for the Humboldt Road Burn Dump Operational Unit in accordance with applicable sections of Title 27 of the California Code of Regulations and the California Water Code. It is anticipated that CAO No. 88-700 and CAO No. R5-2003-0707 will be rescinded upon completion of the remediation projects.





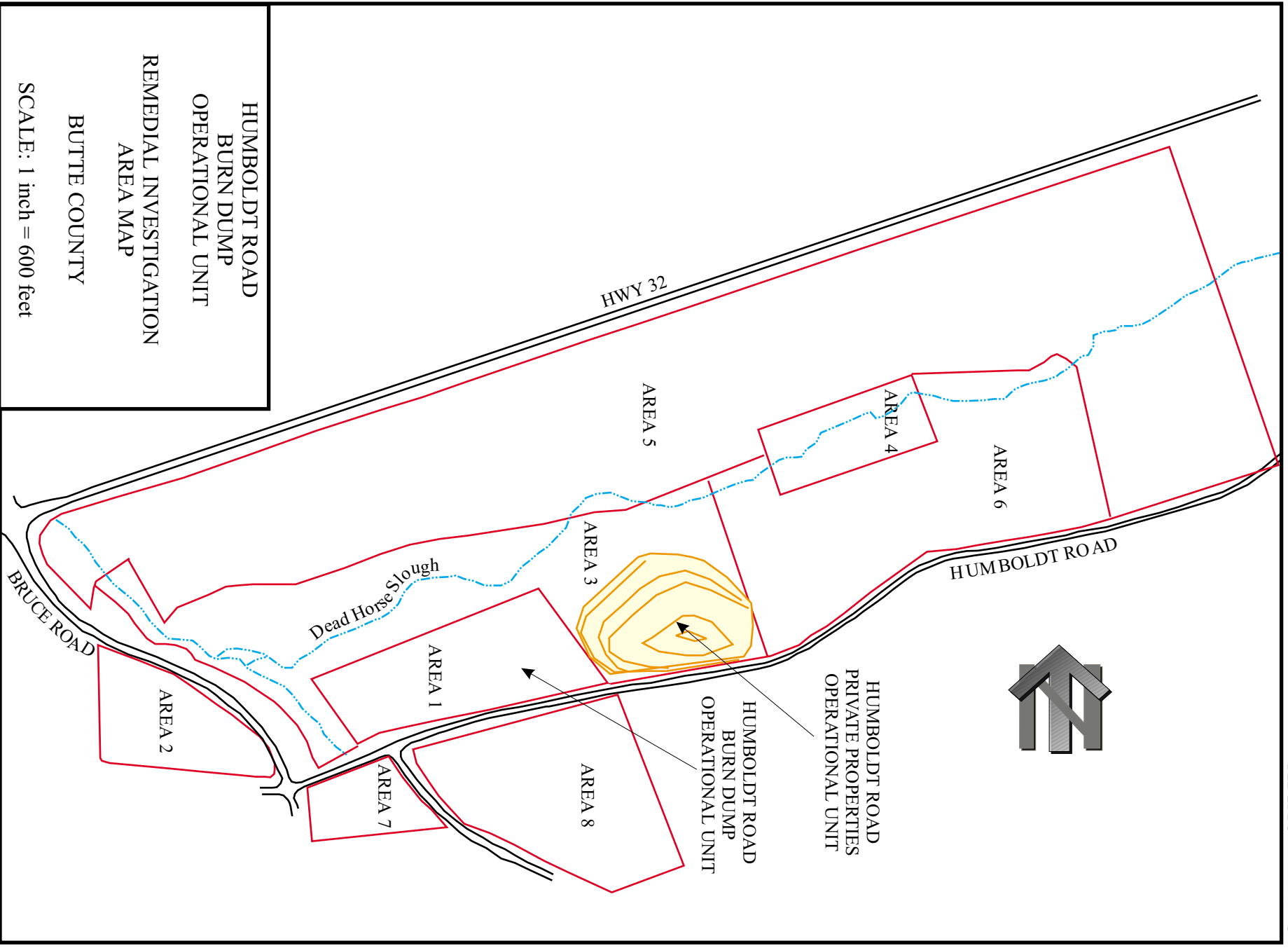
HUMBOLDT ROAD  
BURN DUMP  
OPERATIONAL UNIT

ASSESSOR PARCEL MAP

BUTTE COUNTY

SCALE: 1 inch = 600 feet





HUMBOLDT ROAD  
BURN DUMP  
OPERATIONAL UNIT

REMEDIAL INVESTIGATION  
AREA MAP

BUTTE COUNTY

SCALE: 1 inch = 600 feet

HUMBOLDT ROAD  
PRIVATE PROPERTIES  
OPERATIONAL UNIT

HUMBOLDT ROAD  
BURN DUMP  
OPERATIONAL UNIT