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SCS ENGINEERS

January 27, 2011
Project No. 16210048.00

Mr. Francis Tran
Region 8 USEPA
1595 Wynkoop St.
Denver CO. 80202-1129

Subject: Draft TSCA Permit Application for ECDC Landfill
East Carbon, Utah

Dear Mr. Tran:

Attached is a draft application for authorization to operate a chemical waste landfill in accordance with 40 CFR 761.75. The draft application is submitted for your preliminary review and comment. We did receive your initial comments regarding the application, and are in the process of addressing those at this time. Republic requests that the public comment period not be initiated until the draft permit in finalized after incorporation of all comments. Please feel free to contact myself or Darin Olson at ECDC Landfill, (435-888-4418, x22) to discuss the submittal or if you have any questions.

My direct phone number is (817) 358-6111.

Sincerely,

Jeff Arrington, P.E.
Project Manager
SCS ENGINEERS

Attachment

cc: Darin Olson, Republic, Services
Scott Anderson, Utah Department of Solid and Hazardous Waste
Rich Thompson, Republic Services
Kirk Treece, Republic Services

SCS ENGINEERS

CHEMICAL WASTE LANDFILL PERMIT APPLICATION INITIAL REPORT

ECDC ENVIRONMENTAL LANDFILL EAST CARBON, UTAH

DRAFT

Prepared for
REPUBLIC SERVICES, INC
ECDC Landfill
1111 W Hwy 123
E Carbon, **Utah** 84520

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January, 2011
SCS File No 16210048 00

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Chemical Waste Landfill Permit
ECDC Landfill
East Carbon, Utah

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Figures

Appendices

1 INTRODUCTION AND LOCATION (§761.75(c)(1)(i))

The ECDC Environmental, L C (ECDC) landfill is located within the boundaries of East Carbon City, Carbon County, Utah adjacent to State Highway 123 It is owned and operated by Republic Waste Services, Ltd (Republic) The site encompasses approximately 2,400 acres excluding the Union Pacific Railroad (UPRR) right-of-way The ECDC landfill is an existing municipal and non-hazardous solid waste disposal landfill The ECDC landfill consists of office buildings, support buildings, and active landfill cells The initial cell was fully approved and operational in September 1992 and currently operates under permit number 9422 issued by the Utah Division of Solid and Hazardous Waste in 1996

Republic is seeking a chemical waste landfill permit pursuant to 40 CFR §761 75 authorizing the disposal of PCB waste with concentrations greater than or equal to 50 ppm PCBs, in the proposed chemical waste landfill cell at ECDC landfill Republic seeks authorization only to dispose of PCB waste and has no intent of storing materials onsite prior to disposal

This permit application has been organized to follow applicable portions of 40 CFR §761 75 and to demonstrate compliance with these regulations The application has eight sections covering each of the requirements under §761 75(c)(1) Section 3 contains the technical requirements required under §761 75(b) Figures are located in a separate section following the permit text Appendix A contains pertinent documents from the ECDC landfill's state Solid Waste Permit Appendix C includes waste screening forms

2 LANDFILL DESCRIPTION AND PLAN (§761.75(c)(1)(ii))

The ECDC landfill, in East Carbon, Utah seeks approval from United State Environmental Protection Agency (USEPA) to receive, process, and dispose of PCBs in accordance with 40 CFR §761 75 In order to properly manage PCBs, the ECDC landfill will utilize existing rail unloading facilities along with a new TSCA Landfill Cell The ECDC landfill will construct a new landfill cell dedicated to the disposal of PCBs separated from the non-PCB landfill cells by containment berms and a multi-layered liner system Figure 2 depicts the overall layout for the landfill including rail facilities, PCB waste receiving areas, roadways, and landfill disposal areas These facilities are described in detail under Section 6, Landfill Operations Plan Figures 5-9 provide site layouts and sections for the TSCA Landfill Cell The landfill design is further described in Section 3, Technical Requirements Additional groundwater monitoring is proposed for the TSCA Landfill Cell in accordance with §761 75(b)(6) Groundwater monitoring well locations, sampling procedures, and equipment are described in Section 3 6 – Monitoring Systems

3 TECHNICAL REQUIREMENTS (ENGINEERING REPORT) (§761.75(c)(1)(iii))

3.1 SOILS (§761 75(B)(1))

The ECDC landfill is located on the westward-sloping alluvial fan of Whitmore Canyon of the Book Cliffs, at elevations between 5,740 and 6,030 feet Underlying, sedimentary bedrock is the Mancos Shale of upper Cretaceous age which has been warped with a gentle dip to the north-northeast of three to five degrees from horizontal Soils within the alluvial fan are low to moderate permeability sands and gravelly silts ranging in thickness from zero to 50 feet The Mancos Shale formation consists of a low permeability silty shale layer that exceeds 1,000 ft m thickness Due to the permeability of the alluvial soils, a constructed liner system will be used for the TSCA Landfill Cell The proposed bottom liner system consists of two 60-milimeter (mil) HDPE geomembranes with a geocomposite over each membrane underlain by a three-foot clay liner

A detailed discussion of onsite soils and results of the subsurface exploration are presented in Appendix A-1 – Soils Reports Additional information on the geology of the site is included in Appendix A-2 – Geology Report from the ECDC landfill's Utah DEQ permit

3 2 LANDFILL LINER SYSTEM (§761 75(b)(2))

The proposed liner system for the TSCA Landfill Cell at ECDC landfill exceeds regulatory requirements under §761 75(b)(2) The TSCA Landfill Cell will have a bottom liner system consisting of:

- Three feet of compacted clay with permeability less than 1x10-7 cm/s
- 60-mil HDPE Geomembrane
- Geocomposite
- 60-mil HDPE Geomembrane
- Geocomposite
- Two foot protective soil cover

The TSCA Landfill Cell will have a sidewall liner system consisting of:

- Geosynthetic Clay Liner
- 60-mil HDPE Geomembrane
- Geocomposite
- 60-mil HDPE Geomembrane
- Two foot protective soil cover

The HDPE liner materials are chemically compatible with PCB waste and meet all requirements of §761 75(b)(2) All disposal operations for PCB waste will be conducted within the TSCA Landfill Cell lined as described herein This cell is reserved for disposal of TSCA waste and will

be separated from municipal solid waste with earthen containment berms and the constructed multi-layer liner system

Figures 7-8 provide Liner and Leachate Collection System Details for the TSCA Landfill Cell

3 3 HYDROLOGIC CONDITIONS (§761 75(b)(3))

The ECDC landfill is located in the alluvial fan of Whitmore Canyon of Book Cliffs Shallow groundwater is present on top of the Mancos Shale and therefore is monitored for groundwater quality in accordance with applicable Utah DEQ rules Groundwater generally flows east-northeast to west-southwest The ECDC landfill is not located in a floodplain, shore land, or recharge zone of any major or minor aquifer A complete description of the groundwater conditions at this site are presented in Appendix A-2 – Geology Report ECDC landfill has been monitoring the groundwater at the site for approximately 20 years Based on historical data, there is no evidence of groundwater contamination within the shallow groundwater zone located directly below the ECDC landfill

761 75(b)(3) states that "The bottom of the landfill liner system or natural in-place soil barrier shall be at least fifty feet from the historical high water table " Republic requests a waiver from this specific requirement due to the limited nature of the groundwater present at this site and the features of the TSCA cell liner design that provides significant groundwater protection and separation from waste Although the shallow groundwater present at this site is within the 50 foot limit it is not a significant groundwater resource or defined as a major or minor aquifer This zone will be monitored for potential contaminants, including PCBs, as discussed in Section 3 6 – Monitoring Systems

The base of the landfill is within the alluvium above the Mancos Shale The base grade of the proposed TSCA Landfill Cell will be approximately 10 feet above the historic high water table as mapped on Figure 3, although the distance varies across the ECDC landfill cell footprint

As previously described, the bottom liner system proposed for the ECDC landfill cells consists of a compacted clay liner overlain by HDPE geomembranes with primary and secondary leachate collection layers Based on the proposed bottom liner elevations, hydrostatic uplift will not be a factor at this site

3 4 FLOOD PROTECTION (§761 75(b)(4))

The ECDC landfill is not located in a floodplain or subject to flooding from the 100-year storm A perimeter berm is constructed around the TSCA Landfill Cell to prevent stormwater run-on Appendix A-3 – Topographic and Floodplain Maps documents the nearest 100-year floodplain limits All drainage features at the ECDC landfill are designed to prevent stormwater run-on as well as control of runoff from the active area of the ECDC landfill Figure 4 – Drainage Plan provides information on drainage patterns associated with the TSCA Landfill Cell development

3.5 TOPOGRAPHY (§761.75(b)(5))

The ECDC landfill is located in Carbon County, Utah Elevations range from approximately 6,030 feet mean sea level (msl) at the northeast boundary to 5,740 feet msl at the southwest corner of the site Topography is moderately sloping from east to west approximately four to five percent The elevations in the vicinity of the TSCA Landfill Cell are approximately 5,930-5,990 feet msl A topographic map of the site and vicinity representing predevelopment topography is included in Appendix A-3 – Topographic and Floodplain Maps

3 6 MONITORING SYSTEMS (§761 75(B)(6))

The ECDC landfill has a perimeter groundwater monitoring network consisting of three up-gradient and two down-gradient wells that monitor the uppermost groundwater zone present at the site Figure 3 is the proposed Groundwater Monitoring Plan Background sampling will be performed for the groundwater and results will be kept onsite All groundwater parameters that will be tested are listed in Section 6 6 Appendix A contains the following information related to groundwater monitoring at the ECDC landfill

- Appendix A-4 – Groundwater Sampling and Analysis Plan

A waiver is hereby requested from the requirements of 761 75(b)(6)(A-C) regarding sampling of surface water at the disposal site Currently, there are no surface water features located at the disposal site that could receive runoff from the proposed TSCA cell area This waiver request will not endanger the environment based on the fact that the proposed TSCA cell will be completely surrounded by a containment dike isolating it from storm water runoff The proposed groundwater monitoring system will provide appropriate monitoring of the shallow perched groundwater that is present below the landfill, without the need for surface water sampling

Testing for PCBs will continue after closure of the ECDC landfill through the thirty-year post-closure maintenance period

3 7 LEACHATE COLLECTION (§761 75(b)(7))

The leachate collection system (LCS) at the ECDC landfill is designed to efficiently remove leachate from the bottom liner The LCS consists of two geocomposite drainage layers directly above each 60-mil HDPE liner that convey leachate to central collector pipes bedded in gravel trenches These trenches lead to sumps where leachate accumulates and is removed regularly to maintain leachate levels below their maximum allowable level over the liner Leachate levels in the sumps are maintained by pumping out excess leachate though the pump riser pipes Leachate will be disposed of in the TSCA Landfill Cell after it has been solidified that it passes a paint filter test ECDC may also apply leachate directly to soil cover using a dedicated sprayer within the TSCA Landfill Cell as a means of dust control during dry conditions

Leachate collected from cells that are used for PCB waste disposal will be tested on a semi-annual basis m conjunction with groundwater sampling and analysis for the parameters listed in §761 75(b)(6)(in)

Figure 8 provides details of the leachate collection system for the TSCA Landfill Cell

3 8 CHEMICAL WASTE LANDFILL OPERATIONS (§761 75(b)(8))

The ECDC landfill will accept non-liquid PCBs from remediation wastes, bulk product wastes, and decontamination activities PCB liquids from incidental sources may be accepted under certain circumstances All PCB waste will be disposed of in the TSCA Landfill Cell

Site operations are described in detail in Section 6 – TSCA Landfill Operations Plan as well as the Landfill Operations Plan from the Utah DEQ Landfill Permit contained in Appendix A The following procedures are included within these plans, in the referenced sections

Recordkeeping Recordkeeping is addressed in Section 6 11 of the TSCA Landfill Operations Plan Additional recordkeeping requirements are included in Appendix A-6 – Class V Landfill Permit Application

Surface Water Handling Procedures Section 6 5 – Surface Water Handling Procedures

Excavation and Backfilling Section 6 4 2 – Waste Disposal Procedures

Vehicle and Equipment Movement Section 6 4 4 – Vehicle Movement and Roadways

Use of Roadways Section 6 4 4 – Vehicle Movement and Roadways

Leachate Collection Section 6 4 3 – Leachate Collection, Storage, and Disposal Procedures

Sampling and Monitoring Procedures and Monitor Wells Sampling and Monitoring Procedures are included in Appendix A-4 – Groundwater Sampling and Analysis Plan The Groundwater Monitoring System is discussed in Section 3 6 and Section 4

Environmental Emergency and Contingency Plans Section 6 7 – Environmental Emergency Contingency Plans describes training and emergency response procedures for PCBs Additional emergency procedures are included in Appendix A-5 – Landfill Operations Plan and Appendix A-6 – Class V Landfill Permit Application

Security Measures to Protect Against Vandalism and Unauthorized Waste Placements Section 3 9 – Supporting Facilities, describes site security fencing and access control

Segregation Burial Coordinates Each landfill cell that is used for PCB waste will be constructed in accordance with the approved design within this document and the Utah DEQ permit documents As-built construction plans for each PCB waste cell will be maintained on site and clearly designated that PCB waste containing materials are disposed within this cell The figures will contain coordinates and elevations of the horizontal and vertical limits of the landfill cell for clear delineation of PCB waste disposal locations

Disposal of Liquid Wastes containing greater than 500 ppm PCBs The ECDC landfill will not accept liquid waste containing greater than 500 ppm PCBs or from other than incidental sources

3 9 SUPPORTING FACILITIES (§761 75(b)(9))

The ECDC landfill has a site entrance road controlled by a gate Vehicles entering and leaving the ECDC landfill are monitored from the scale house located at the entrance to the landfill Due to the size and remote nature of the ECDC landfill, the boundary is not fenced in all locations Vehicle access will be controlled at the entrance to the TSCA Landfill Cell with a gate or other entrance control device Onsite personnel monitor all trucks carrying PCB waste at the TSCA Landfill Cell to prevent disposal of unauthorized waste material Appendix A-6 contains additional information covering site security, access control and internal and external roads

4 SAMPLING AND MONITORING EQUIPMENT (§761.75(C)(iv))

A detailed discussion of groundwater monitoring equipment and procedures is included in Appendix A-4 Groundwater Sampling and Analysis Plan

5 PCB WASTE ACCEPTANCE PLAN (§761.75(C)(V,VI))

The following are PCB wastes authorized to be accepted at the ECDC landfill

Accepted PCB Wastes

- Remediation Waste
- Bulk Product Waste
- Decontamination Waste
- Small PCB Capacitors, cleaned and rinsed
- Liquids with PCB concentrations <500 ppm from incidental sources

Conditionally Accepted PCB Wastes

- PCB transformers
- PCB hydraulic machines
- PCB-contaminated electrical equipment
- Natural gas pipeline systems containing PCBs
- Other PCB articles
- PCB containers
- PCB article containers

Prohibited PCB Wastes

- Demolitions or structural debris from PCB spill sites that have not been cleaned up
- PCB liquids ≥500 ppm or from other than incidental sources
- Large PCB Capacitors, as described in §761 60(b)(2)

PCB wastes will be received either by railcar, intermodal containers, or over-the-road trucks Waste volumes will vary depending on the timing of shipments to the ECDC landfill ECDC landfill is permitted by the State of Utah to receive up to 38,250 tons per day of wastes Daily PCB volumes will not exceed the allowable daily tonnage limit set by the state Procedures for handling PCB waste are included in Section 6 4 – PCB Waste Handling and Disposal Procedures Appendix C contains forms and checklists for receiving and profiling wastes

6 TSCA LANDFILL OPERATIONS PLAN (§761.75(C)(VII))

6.1 INTRODUCTION

This TSCA Operations Plan addresses the requirements contained in §761.75(b)(8). The plan discusses the procedures that the ECDC landfill will use to receive, process, and dispose of PCB wastes.

6.2 REGULATORY APPROVAL

40 CFR §761.75 provides for disposal management of PCB wastes, and chemical waste landfills must be approved by the USEPA Regional Administrator before they can legally accept PCB-containing items for disposal. The ECDC landfill near East Carbon, Utah is seeking permit approval from the USEPA Region 8 Administrator to accept certain types of PCB waste.

6.2.1 PCB Waste Authorizations

The ECDC landfill will accept non-liquid PCBs from remediation wastes, bulk product wastes, and decontamination activities. The ECDC landfill will also accept small PCB capacitors. PCB liquids from incidental sources will be accepted for disposal at the ECDC landfill provided they contain PCB concentrations < 500 ppm by volume. Section 5 contains a listing of accepted waste and prohibited PCB wastes.

6.2.2 Conditional PCB Waste Authorizations

In order for the ECDC landfill to accept certain PCB items such as transformers, hydraulic machines, contaminated electrical equipment, or natural gas pipeline systems, the items must be inspected at the site of generation or transport prior to arrival at the ECDC landfill to verify that free-flowing liquids are not present. If free-flowing liquids are present in the PCB items, they will not be accepted into the ECDC landfill for disposal. Additional guidance is provided in the checklist in Appendix C-1 to verify that the PCB items have been drained and flushed properly prior to their arrival at the ECDC landfill. This information will be provided to PCB generators and transporters to inform them of necessary procedures for PCB disposal acceptance at the ECDC landfill. Documentation shall be provided to ECDC landfill verifying that the wastes have been inspected to verify they are acceptable for disposal.

6.2.3 PCB Waste Prohibitions

All PCB liquids are prohibited from disposal in the ECDC landfill unless the liquid has PCB concentrations less than 500 ppm and was generated from incidental sources, such as precipitation, condensation, leachate, or load separation associated with PCB articles or non-liquid PCB wastes. Furthermore, if any PCB items such as transformers, hydraulic machines, contaminated electrical equipment, or natural gas pipeline systems have not been drained and flushed prior to arrival at the ECDC landfill, they will not be accepted for disposal. Regardless of prior draining and flushing procedures, large PCB capacitors (capacity greater than 3 lbs dielectric fluid) are not permitted for disposal at the landfill under any circumstances.

6.3 PCB WASTE RECIEVING PROCEDURES

6 3 1 Waste Collection Procedures

The checklist procedure in Appendix C-1 is followed when receiving PCB-containing wastes Conditionally accepted PCB wastes must be inspected at the site of generation or transport prior to being shipped to the ECDC landfill for disposal The inspection checklist in Appendix C-2, or a similar checklist, will be used to document the site inspection of conditionally accepted PCB wastes ECDC will require documentation from the generator of conditionally accepted PCB wastes to verify inspection was performed prior to transport

A special waste profile is required to be completed prior to disposing of PCB wastes at the ECDC landfill An example waste profile form is located m Appendix C-3

Upon arrival at the ECDC landfill, all PCB wastes are identified and inspected by trained landfill personnel Following the checklist m Appendix C-1, ECDC landfill personnel determine that only PCB-containing wastes authorized for disposal at the ECDC landfill will be accepted Following are PCB wastes authorized to be accepted at the ECDC landfill

Accepted PCB Wastes

- Remediation Waste
- Bulk Product Waste
- Decontamination Waste
- Small PCB Capacitors, cleaned and rinsed
- Liquids with PCB concentrations <500 ppm from incidental sources

Conditionally Accepted PCB Wastes

- PCB transformers
- PCB hydraulic machines
- PCB-contaminated electrical equipment
- Natural gas pipeline systems containing PCBs
- Other PCB articles
- PCB containers
- PCB article containers

Prohibited PCB Wastes

- Demolitions or structural debris from PCB spill sites that have not been cleaned up
- PCB liquids ≥500 ppm or from other than incidental sources
- Large PCB Capacitors as described in §761 60(b)(2)

6.4 PCB WASTE HANDLING AND DISPOSAL PROCEDURES

6 4 1 Waste Receiving and Transfer Operations

PCB wastes will be received at the ECDC landfill by one of three methods rail, intermodal container, or truck The primary method of PCB wastes receipt will be by rail Shipments will typically arrive in multi-car loads for disposal The PCB railcars will be separated from non-PCB loads for processing in one continuous batch Operators will verify that incoming loads do not contain prohibited wastes prior to unloading Railcars will then be cued up in the railcar shed for dumping at the Railcar Rotary Dump Landfill Each car will then be dumped on the tipping floor and the waste loaded into dump trucks with a front end loader If incidental free liquids are present in loads dumped on the rotary tipping floor, the load will be solidified in place Dump trucks will not track directly over the PCB waste A loading ramp will be provided within the rotary dump building to allow the dump trucks to remain above the tipping floor Front-end loaders used in the handling and loading of PCBs will not be used in non-TSCA operations without first being decontaminated

After unloading all of the railcars containing PCB waste, the railcars will be cleaned and decontaminated if necessary Some railcars to be received at the ECDC landfill with PCB waste loads are expected to be lined with HDPE to avoid direct contact between the railcar surfaces and PCB waste During the unloading process, each car will be visually inspected to determine if any PCB waste material has contacted the railcars Any car that had come in contact with PCB materials will be cleaned and decontaminated prior to leaving the ECDC landfill The dumping area in the railcar rotary dump landfill will be cleaned and decontaminated prior to using the landfill for unloading non-PCB wastes Decontamination procedures for railcars and the Rotary Dump Landfill are described in Section 6 9

PCB wastes may be received by ECDC landfill shipped inside intermodal containers Containers will be unloaded from railcars and hauled by trucks directly to the TSCA Landfill Cell for unloading After unloading of the PCB wastes, the inside surfaces of the containers will be cleaned and decontaminated if PCBs have directly contacted the container surfaces All cleaning and decontamination will take place within a designated decontamination area located within the lined area of the TSCA Landfill Cell Wash water will be handled in accordance with Section 6 5

PCB wastes may also be received by trucks over the road The gatehouse personnel will verify that proper documentation verifying that the PCB wastes in each truck meet the requirements for disposal at ECDC landfill and do not contain unauthorized wastes Trucks will be directed to the TSCA Landfill Cell for unloading Unloading procedures will be the same as other waste vehicles

6 4 2 Waste Disposal Procedures

All PCB waste will be disposed m the dedicated TSCA Landfill Cell located south of Cell 7 Refer to Figure 2 for the TSCA Landfill Cell location Trucks will unload waste at the working face in such a manner to avoid tracking directly over previously dumped PCB waste This will be accomplished by using a movable ramp and built-up haul roads that will allow trucks to avoid

tracking directly over waste Clean soil and aggregate materials will be used to construct the roads and the unloading area so that waste vehicles can avoid contact with previously dumped PCB wastes Equipment will spread and place the waste within the TSCA cell An operator will direct trucks to empty their loads at the proper location withm the lined area

The TSCA Landfill Cell will be completely surrounded by an embankment to prevent stormwater, run-on and runoff The TSCA Landfill Cell will be lined in accordance with Section 3 2 Lined embankment berms will be constructed on three sides and the phasing berm will be constructed on the fourth open side as shown on Figure 5

All solidification of incidental sources of PCB liquids including wash water, leachate, and will be performed in the designated solidification area located within the lined area of the cell away from the active disposal area Initial disposal of PCBs will be in Cell 8A following receipt of USEPA approval

6 4 3 Leachate Collection, Storage, and Disposal Procedures

Leachate generated from the TSCA landfill cell used for PCB waste disposal is collected via the leachate collection system (LCS) in the LCS sump Leachate will be periodically removed from the LCS sump by vacuum truck or pump for disposal The ECDC landfill will dispose of PCB-contaminated leachate in approved PCB disposal cells after the leachate has been solidified in the designated solidification area located within the TSCA Landfill Cell If the ECDC landfill chooses to do so, leachate can be removed from the ECDC landfill by a tanker truck and transported to an approved offsite landfill for disposal Sampling and analysis of the leachate disposed of offsite is limited to the approved offsite landfill's requirements Leachate may also be used for dust control within the TSCA Landfill Cell provided the liquids are effectively absorbed by soil cover or waste materials Additional information regarding leachate collection, storage, and disposal procedures can be found in Section 3 7

6 4 4 Vehicle Movement and Roadways

PCB wastes will be loaded into dump trucks at the Railcar Rotary Dump Landfill Dump trucks used for loading PCBs at the railcar rotary dump landfill will utilize an elevated ramp to avoid tracking over PCB waste dumped on the floor The loaded trucks will haul PCB waste from the loading area to the landfill cell along an existing road or a newly constructed haul road that will serve the TSCA Landfill Cell The proposed haul route is shown on the attached Site Plan, Figure 2 The haul roads will have all weather surfaces consisting of crushed aggregate or asphalt concrete Typical roadway sections will be approximately 30 feet wide with a three to six-inch crown Dump trucks will be directed into the cell to unload at the working face The unloading area will include a clean area for trucks to maneuver and unload so that they can avoid direct wheel contact with previously landfilled PCB waste The clean area will utilize a movable ramp to facilitate unloading of PCB wastes In the event that truck tires become contaminated, they will be decontaminated m a designated area over a lined portion of the cell, away from the waste operation, prior to leaving the cell area

Trucks hauling PCB waste over the road to ECDC landfill as well as trucks carrymg the intermodal containers will utilize the same internal roadways leading to the TSCA cell Trucks

will remain on the built-up clean area within the cell to tip their loads and avoid contamination of the vehicles

6 5 SURFACE WATER HANDLING PROCEDURES

The TSCA Landfill Cell is designed to prevent stormwater runoff from entering the cell by surrounding the cell with a bermed soil embankment a minimum of three feet above natural ground Stormwater runoff within the TSCA Landfill Cell will be separated from the active landfill area by soil berms Clean stormwater that collects within the cell that has not contacted waste will be pumped out of the cell into stormwater ponds or other onsite drainage channels The active disposal area will be surrounded with a diversion berm to minimize and contain PCB contaminated stormwater If contaminated stormwater accumulates within the bermed area, it will be pumped and managed appropriately All contaminated stormwater shall be managed in the same manner as leachate as described in Section 6 4 3

Contaminated wash water generated during the unloading and decontamination procedures will be contained inside the Rotary Dump The Rotary Dump building floor is sloped inward away from the entrance Prior to unloading, an earthen containment berm may be constructed at the entrance to provide better containment for wash water PCB contaminated wash water will either be solidified in place and hauled to the TSCA Landfill Cell for disposal, or removed from the ECDC landfill and hauled to another TSCA approved disposal landfill Wash water may also be pumped out and hauled to the TSCA Landfill Cell for solidification and disposal or use as dust control as described in Section 6 4 3

6 6 MONITORING AND SAMPLING PROCEDURES

Surface water samples are collected semi-annually after rainfall events from the onsite drainage system adjacent to the landfill site These samples are analyzed for PCBs, iron, and total suspended solids Surface water sampling locations are shown on Figure 4 Drainage Plan

Groundwater samples from monitoring wells are sampled and analyzed semi-annually for pH, PCBs, specific conductance, volatile organic compounds, and semi-volatile organic compounds Specific details regarding groundwater monitoring can be found in Appendix A-4 – Groundwater Sampling and Analysis Plan (GWSAP) for the ECDC landfill

6 7 ENVIRONMENTAL EMERGENCY CONTINGENCY PLANS

The ECDC Landfill Operations Plan contained in Appendix A-5 outlines landfill emergency procedures PCB spills will be handled as described in Section 6 10 2

6 8 LIQUID WASTES

The ECDC landfill will not accept bulk PCB liquid waste Liquids incidental to the disposal of PCBs will be handled in accordance with procedures outlines in this plan

6.9 DECONTAMINATION PROCEDURES

All equipment used in transport, storage, and disposal of PCB-containing wastes will be decontaminated before being used in non-PCB landfill operations The primary equipment expected to be used includes but is not limited to

- Railcars used to transport the PCB waste,
- Front end loaders used to transfer waste from the tipping floor to the dump trucks,
- Dump trucks used to transport the PCB waste from the railcar rotary dump landfill to the landfill,
- Landfill equipment,
- Vacuum truck,
- Small wheeled loader with attachments for cleaning and removing materials from the Rotary Dump Landfill floor, and,
- Water truck

The unloading equipment is decontaminated onsite with high pressure water cannons, sprayers or other similar equipment either within the rotary dump building or at a designated area within the TSCA Landfill Cell The equipment used at the TSCA Landfill Cell that needs to be decontammated will be cleaned and decontaminated within the lined cell at the designated wash-down area All equipment, tools, and surfaces that come in direct contact with PCBs will be cleaned using the double wash/rinse procedure outlined in Subpart S of §761 Since this decontamination procedure is considered self-implementing by USEPA (761 79(c)), no confirmation testing is required prior to reuse of the equipment for non TSCA activities

All liquids resulting from decontamination processes are periodically tested at least semi-annually for PCBs to determine proper disposal methods Decontamination liquids will be tested initially to determine PCB concentration If decontamination liquids have PCB concentrations <500 ppb, they are solidified within the rotary building before being disposed of in the PCB-approved landfill cell at the ECDC landfill If the decontamination liquids have PCB concentrations >500 ppb, they are transported to a landfill permitted to receive PCB-containmg liquid waste Subsequent testing of wash water may be performed if PCB waste being received changes significantly All cleaned surfaces on non-porous equipment that previously been in contact with non-liquid PCBs will be visually inspected to verify that these surfaces have been cleaned to Visual Standard No 2, Near-White Blast Cleaned Surface Finish, of the National Association of Corrosion Engineers (NACE) (NACE, 1994)

All surfaces withm the railcar rotary dump building that come in direct contact with PCB wastes will be washed with high pressure water cannons or high pressure sprayers All wash water will be contained within the building and solidified in place or removed by vacuum truck and hauled to the TSCA Landfill Cell for disposal Following decontamination, concrete or other porous surfaces within the building that have previously been in contact with liquid PCBs will initially undergo a standard wipe test to verify that ≤ 10 µg/100 cm^2 are present on the equipment surfaces Standard wipe tests will be performed within the rotary dump landfill initially to confirm that wash down procedures are effectively decontaminating the floor and other surfaces within the building coming into contact with PCB waste After initial confirmation testing,

additional wipe testing will be periodically performed at least semi-annually as further verification of decontamination procedures

The ECDC landfill may use an alterative method of decontamination for equipment and facilities that are used in the processing and disposal of PCB wastes Prior to implementing the alternative decontamination process, ECDC will obtain written approval from the USEPA Regional administrator in accordance with §761 7(h) The request for approval will include a description of the process and information demonstrating that it will effectively achieve the results required under §761 79(b)

6 10 PERSONNEL AND ENVIRONMENTAL PROTECTION

Personnel safety and environmental protection in the handling and disposal of PCB wastes is addressed through a variety of measures The ECDC landfill strives to comply with all applicable Occupational Safety and Health Administration (OSHA) regulations for personnel safety In addition to the environmental protection measures described in the previous sections, the following activities and procedures are in place at the ECDC landfill to minimize environmental impacts from PCB wastes disposed at the landfill

- Storm water monitoring,
- Groundwater momtormg,
- Spill prevention planning, and
- Spill response procedures

6 10 1 PCB Safety Training

Employees involved in the management of PCB wastes receive training and instruction on the proper techniques for safety and protection around PCBs Personal protective gear, such as dust masks or respirators, eye-protection, and non-porous gloves and boots, are worn by personnel involved with placement, inspection, and disposal activities for PCB waste Personnel involved in the decontamination of equipment shall wear additional protective clothing to avoid potential skin contact Waste management safety training will be updated at least every two years

The landfill general manager, site manager, load inspectors, equipment operators, and gate attendants are trained in the contents of this TSCA Operations Plan as well as the ECDC landfill's operations plan by ECDC landfill personnel In-house training addresses the following topics

- Customer notification and load inspection procedures,
- Identification of PCB wastes,
- Waste handling procedures (acceptable and prohibited wastes),
- Health and safety,
- Fire safety, and
- Recordkeeping

Documentation of training is maintained electronically or physically at the site Selected equipment operators, load inspectors, and other personnel receive training at Utah DEQ-sponsored or approved training courses as deemed appropriate by landfill management

6 10 2 Spill Control Methods

Railcars and containers transporting PCB wastes to the ECDC landfill will be covered or have waste fully enclosed to prevent exposure to wind or rain Customers shipping waste to ECDC are informed of these requirements prior to shipment Railcars containing PCB wastes are separated from other waste loads in order to process them in a continuous batch ECDC has excess rail siding capacity to accommodate anticipated volume of waste containers or railcars

In the event of an accident or spill that involves PCB-contammated waste at the landfill, but outside the approved disposal area, ECDC landfill personnel will recover the material using onsite equipment such as front end loaders and trucks in order to return the material onto the disposal vehicle if practical If the waste cannot safely be reloaded, it is taken directly to the landfill working face for proper disposal The term "spill" in this document is defined by 761 123 of USEPA's TSCA rules If any spills involving PCB wastes bound for the ECDC landfill occur within close proximity of the landfill, USEPA Region 8 and the Executive Director of the Utah DEQ will be notified along with the transporter If any waste materials come into contact with surface water, the water will be tested for PCB concentration and will be managed as contaminated water If the spill requires additional assistance, ECDC will contact a licensed spill clean-up contractor to perform the cleanup operation

6 11 RECORDKEEPING AND DOCUMENTATION

6 11 1 PCB Waste Inspections and Records

All PCB wastes received at the ECDC landfill must be accompanied by a pre-approved waste profile form and waste profile documentation The documentation must characterize the waste and describe the concentrations of PCBs that are contained withm the solid waste to be disposed Analytical data that provides PCB concentrations must be included with this documentation Testing frequency is based on the following

- One test per source or location of PCB waste

All records and documents are maintained at a centralized location at the ECDC landfill and are in either a physical or electromc format

6 11 1 1 PCB Liquid Inspections

All inspections of PCB items for free-flowing liquids must be documented for each railcar, container, and truck These inspection forms are recorded, kept on file at the landfill, and contain the following

- Name, date, and place of inspection,
- Name of the landfill inspector,

- Description of each PCB item inspected including serial numbers or markings that discretely identify the PCB item, and
- How the ECDC landfill inspector or generator verified that no bulk free-flowing liquids were present m each PCB item to be disposed

6 11 1 2 Leachate Sampling Results

Leachate sampling is performed by a third party contractor and analyzed by an independent contractor, test results of these analyses and the method used are kept on file in the site operating record at the ECDC landfill Records will also be kept regarding when and where the leachate was disposed and or solidified

6 11 1 3 Paint Filter Test Results

All PCB solidified waste must pass the Paint Filter Test (USEPA Method 9095, SW-846) before it is landfilled Periodic, semi-annual at a minimum, testing of solidified waste will be performed in addition to visual confirmation by operators Paint Filter Test results are recorded and kept on file at the landfill in the site operating record

6 11 1 4 PCB Storage and Disposal Logs

All PCB wastes are logged showing the date of arrival and the date the PCB or PCB item was disposed of in a landfill cell The location of the PCB wastes disposed of within the landfill cells are recorded and kept on file in the site operating record

6 11 2 Surface and Groundwater Monitoring Results

All procedures and methods used for surface water and groundwater monitoring are recorded along with the data Monitoring records are maintained and kept on file in the site operating record The procedures in the ECDC landfill GWSAP are followed for groundwater sampling Surface water monitoring is conducted in accordance with procedures m the ECDC landfill's storm water pollution prevention plan

6 11 3 PCB Spill Cleanup Records

Following each spill cleanup action, ECDC develops and maintains records of the cleanup Records will be maintained for "Spill" incidents as defined under 761 123 The records include the following

- Identification of the source of the spill,
- Estimated or actual date and time of the spill occurrence,
- Date and time cleanup was completed,
- Description of the spill location,
- Pre-cleanup sampling data used to establish spill boundaries if required because of insufficient visible traces, and a description of the sampling methodology used,
- Amount and type of waste cleanup material generated,

- Description of the solid surfaces cleaned and of the double wash/rinse method used, and if soil is the contaminated media, the depth of soil excavated and amount of soil removed for disposal,
- Post-cleanup verification sampling information such as a description of the sampling methodology used, the number of samples analyzed, and the analytical data, and
- A certification by the appropriate landfill officials stating that the cleanup levels required by USEPA were achieved, and that the record is true to the best of his/her knowledge

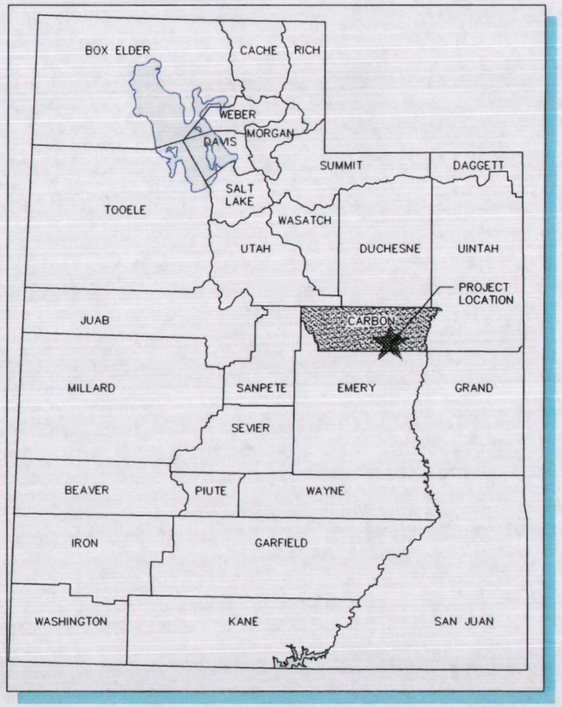
7 LIST OF STATE AND LOCAL PERMITS (§761.75(C)(VIII))

- Class V Landfill Permit #9422R1 – Utah DEQ, Solid and Hazardous Waste Division
- Title V Operating Permit #70004202 – Utah DEQ, Air Quality Division

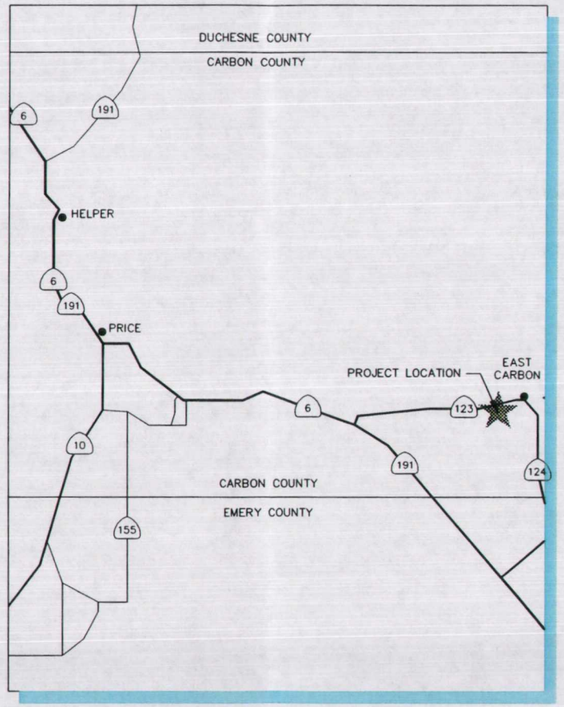
8 LANDFILL DEVELOPMENT SCHEDULE (§761.75(C)(IX))

The ECDC landfill will be constructing a new TSCA Landfill Cell for disposal of all PCB waste associated with this permit Other modifications and additions may include a new vehicle wash down and containment area, groundwater monitoring wells, and a new haul road The schedule for development and operation will depend on several factors After the landfill receives approval from USEPA, initial cell development will commence It is anticipated that landfill operations will begin withm six months of USEPA's approval for operation of a chemical waste disposal landfill The landfill development schedule will depend on the timing of waste shipments and the construction of the cell and other facilities required prior to commencing operations

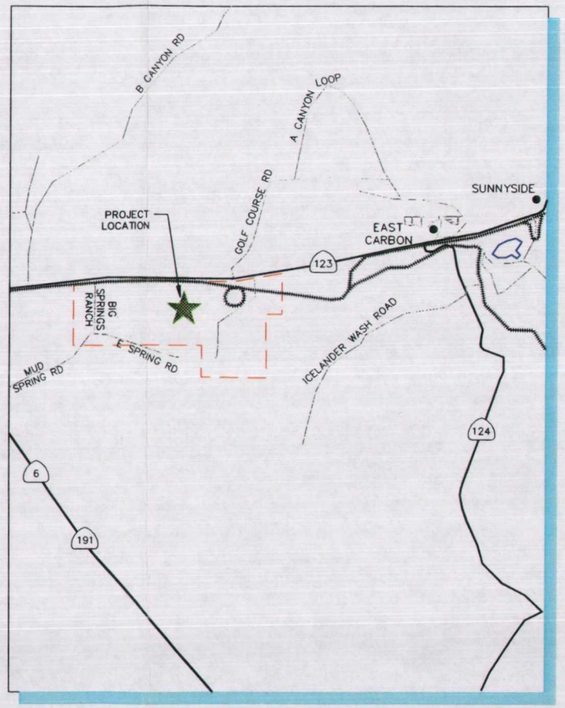
FIGURES



UTAH COUNTIES



REGIONAL MAP



VICINITY MAP

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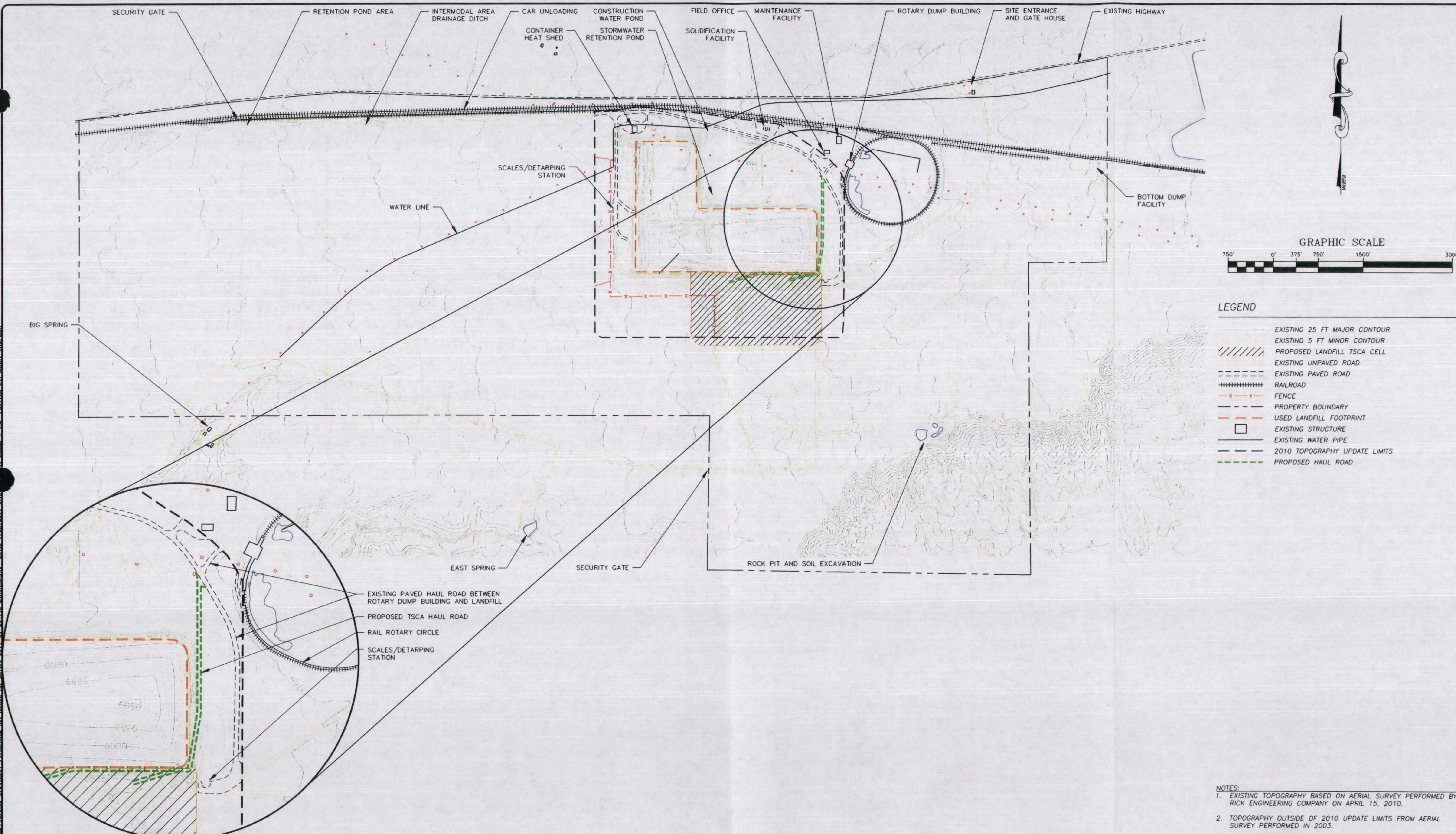
REPUBLIC SERVICES

ECDC ENVIRONMENTAL LANDFILL
TSCA CELL
EAST CARBON, UTAH
GENERAL LOCATION MAP

FIGURE NO. 1
PROJECT NO. USVC-0002727

ISSUED FOR REVIEW



LEGEND

- EXISTING 25 FT MAJOR CONTOUR
- EXISTING 5 FT MINOR CONTOUR
- PROPOSED LANDFILL TSCA CELL
- EXISTING UNPAVED ROAD
- EXISTING PAVED ROAD
- RAILROAD
- FENCE
- PROPERTY BOUNDARY
- USED LANDFILL FOOTPRINT
- EXISTING STRUCTURE
- EXISTING WATER PIPE
- 2010 TOPOGRAPHY UPDATE LIMITS
- PROPOSED HAUL ROAD

NOTES:
1. EXISTING TOPOGRAPHY BASED ON AERIAL SURVEY PERFORMED BY RICK ENGINEERING COMPANY ON APRIL 15, 2010.
2. TOPOGRAPHY OUTSIDE OF 2010 UPDATE LIMITS FROM AERIAL SURVEY PERFORMED IN 2003.

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ECDC ENVIRONMENTAL LANDFILL

TSCA CELL

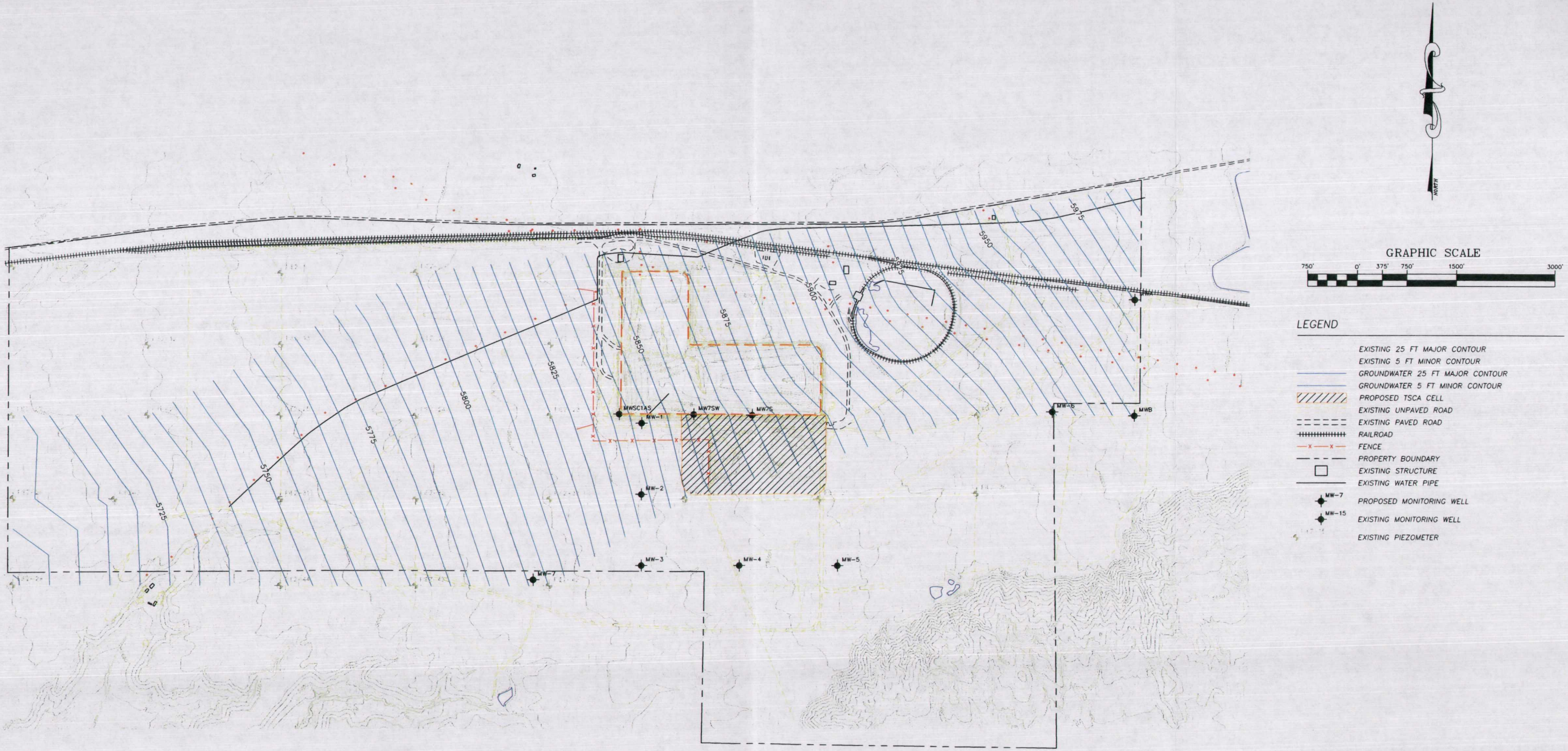
EAST CARBON, UTAH

EXISTING CONDITIONS AND SITE PLAN

FIGURE NO. 2

PROJECT NO. USVC-0002727

ISSUED FOR REVIEW



LEGEND

- EXISTING 25 FT MAJOR CONTOUR
- EXISTING 5 FT MINOR CONTOUR
- GROUNDWATER 25 FT MAJOR CONTOUR
- GROUNDWATER 5 FT MINOR CONTOUR
- PROPOSED TSCA CELL
- EXISTING UNPAVED ROAD
- EXISTING PAVED ROAD
- RAILROAD
- FENCE
- PROPERTY BOUNDARY
- EXISTING STRUCTURE
- EXISTING WATER PIPE
- MW-7 PROPOSED MONITORING WELL
- MW-15 EXISTING MONITORING WELL
- EXISTING PIEZOMETER

NOTES:

1. EXISTING TOPOGRAPHY BASED ON AERIAL SURVEY PERFORMED BY RICK ENGINEERING COMPANY ON APRIL 15, 2010.
2. TOPOGRAPHY OUTSIDE OF 2010 UPDATE LIMITS FROM AERIAL SURVEY PERFORMED IN 2003.
3. GROUNDWATER CONTOURS BASED ON MONITORING WELL MEASUREMENTS TAKEN BY HANSEN, ALLEN & LUCE INC., DATED OCTOBER, 2009.

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ECDC ENVIRONMENTAL LANDFILL

TSCA CELL

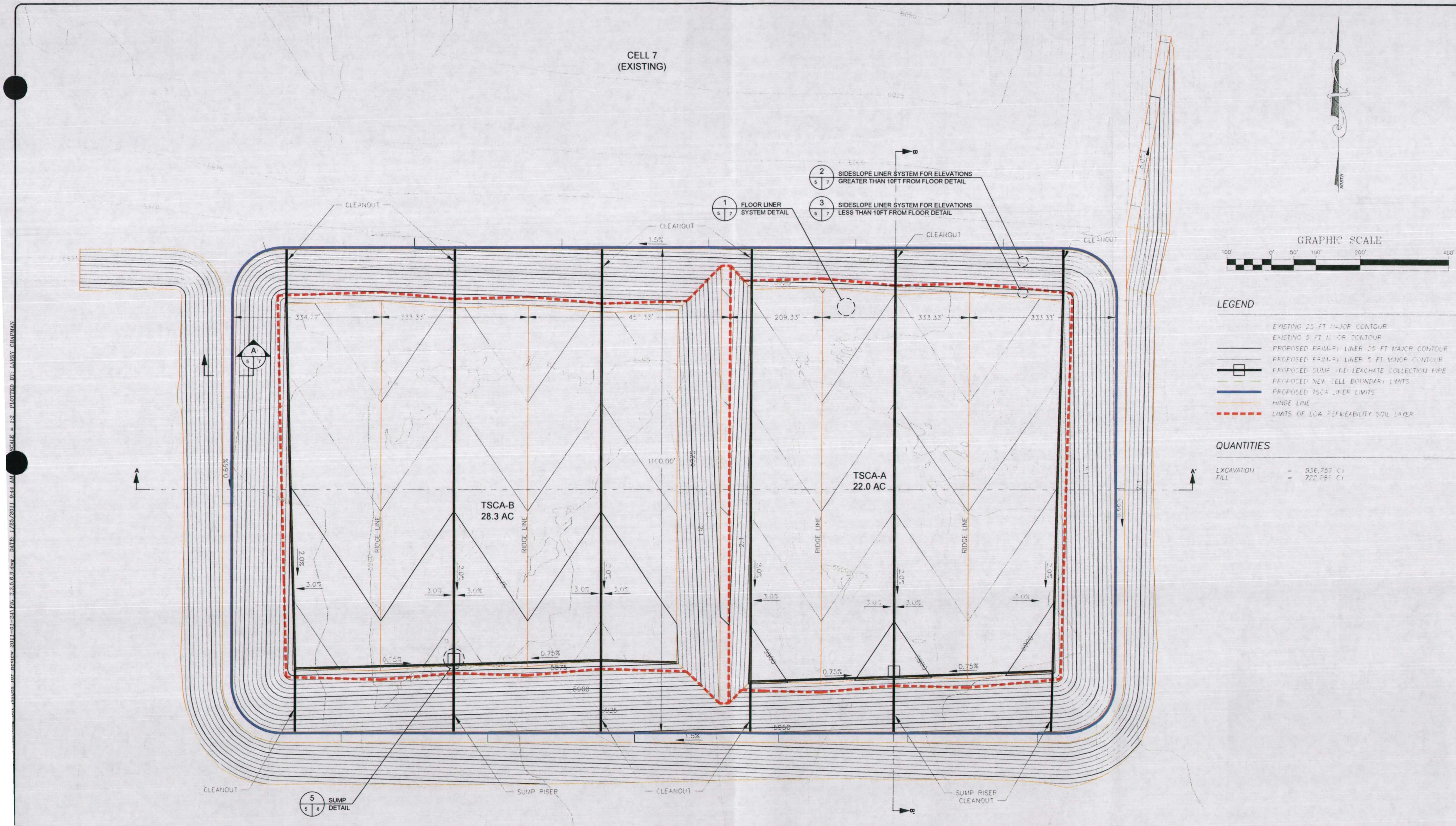
EAST CARBON, UTAH

GROUNDWATER MONITORING PLAN

FIGURE NO. 3

PROJECT NO. USVC-0002727

ISSUED FOR REVIEW



CELL 7
(EXISTING)
CLEANOUT
FLOOR LINER SYSTEM DETAIL
SIDESLOPE LINER SYSTEM FOR ELEVATIONS GREATER THAN 10FT FROM FLOOR DETAIL
SIDESLOPE LINER SYSTEM FOR ELEVATIONS LESS THAN 10FT FROM FLOOR DETAIL
1.5%
334.77'
333.33'
457.33'
209.33'
1100.00'
RIDGE LINE
2:1
TSCA-B
28.3 AC
TSCA-A
22.0 AC
2.0%
3.0%
0.75%
0.66%
SUMP DETAIL
SUMP RISER
SUMP RISER CLEANOUT
A
A'
B
B'
NORTH
GRAPHIC SCALE
100' 0' 50' 100' 200' 400'
LEGEND
EXISTING 25 FT MAJOR CONTOUR
EXISTING 5 FT MINOR CONTOUR
PROPOSED PRIMARY LINER 25 FT MAJOR CONTOUR
PROPOSED PRIMARY LINER 5 FT MINOR CONTOUR
PROPOSED SUMP AND LEACHATE COLLECTION PIPE
PROPOSED NEW CELL BOUNDARY LIMITS
PROPOSED TSCA LINER LIMITS
HINGE LINE
LIMITS OF LOW PERMEABILITY SOIL LAYER
QUANTITIES
EXCAVATION = 936,757 CY
FILL = 722,085 CY

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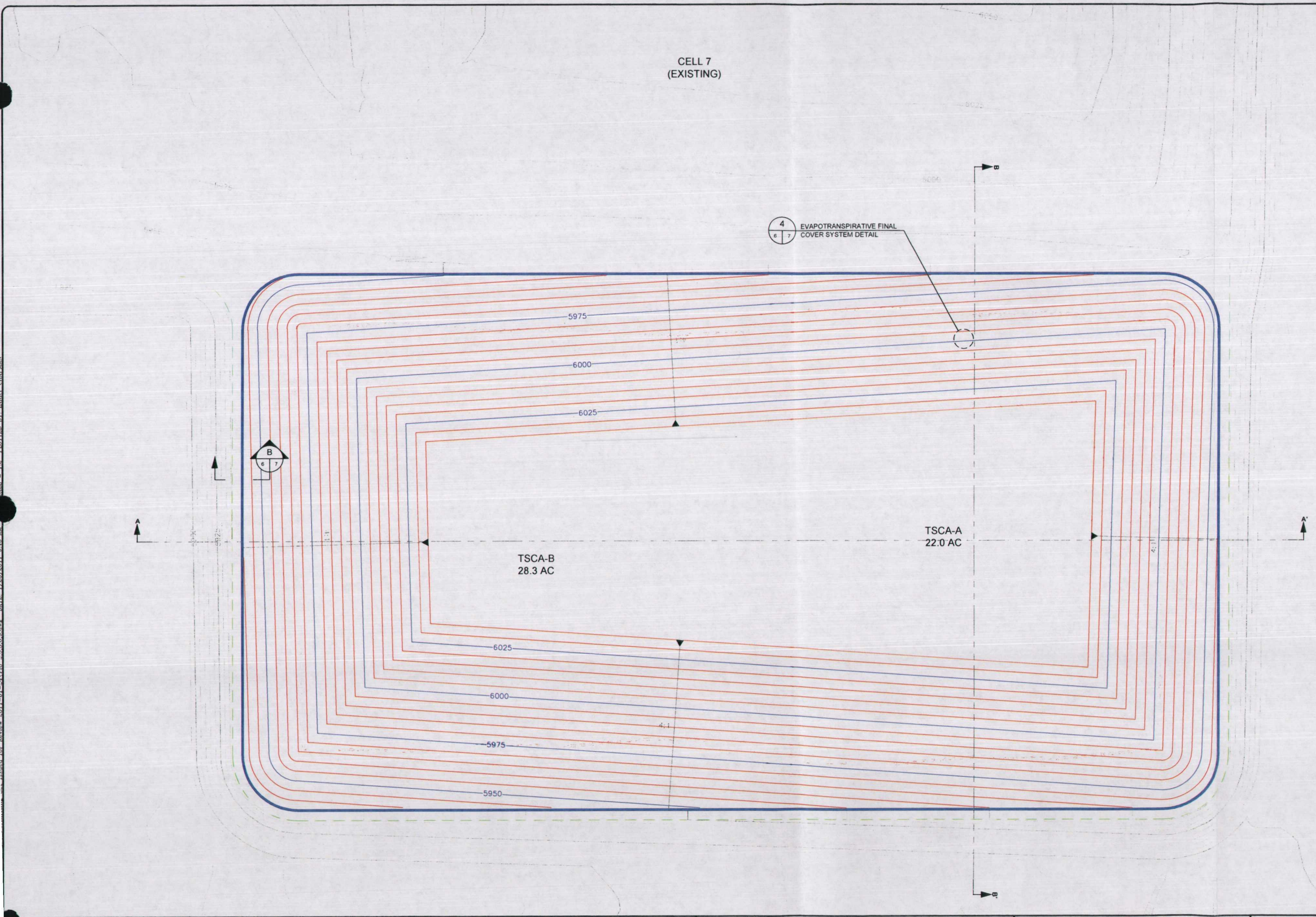
ECDC ENVIRONMENTAL LANDFILL
TSCA CELL
EAST CARBON, UTAH
CELL GRADING PLAN

FIGURE NO. 5
PROJECT NO. USVC-0002727

ISSUED FOR REVIEW



GRAPHIC SCALE

100' 0' 50' 100 200' 400'

LEGEND

- EXISTING 25 FT MAJOR CONTOUR
- EXISTING 5 FT MINOR CONTOUR
- PROPOSED FINAL COVER MAJOR CONTOUR
- PROPOSED FINAL COVER MINOR CONTOUR
- PROPOSED CELL TSCA LINER LIMITS
- HINGE LINE
- LIMITS OF LOW PERMEABILITY SOIL LAYER

QUANTITIES

WASTE FILL = 8,094,355 CY

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ECDC ENVIRONMENTAL LANDFILL
TSCA CELL
EAST CARBON, UTAH
FILL PLAN

FIGURE NO. 6
PROJECT NO. USVC-0002727

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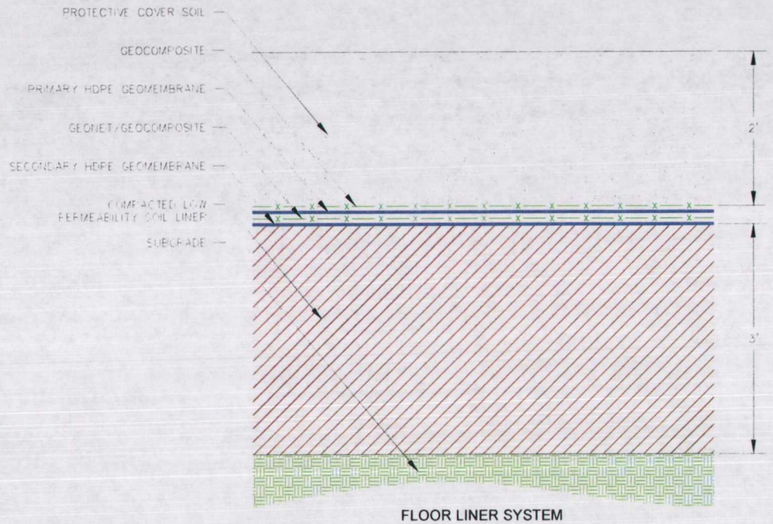
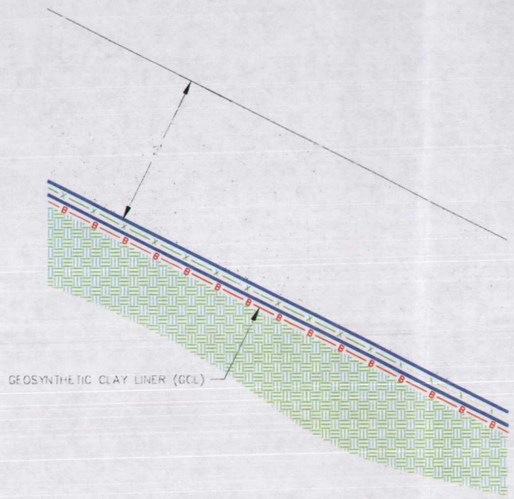


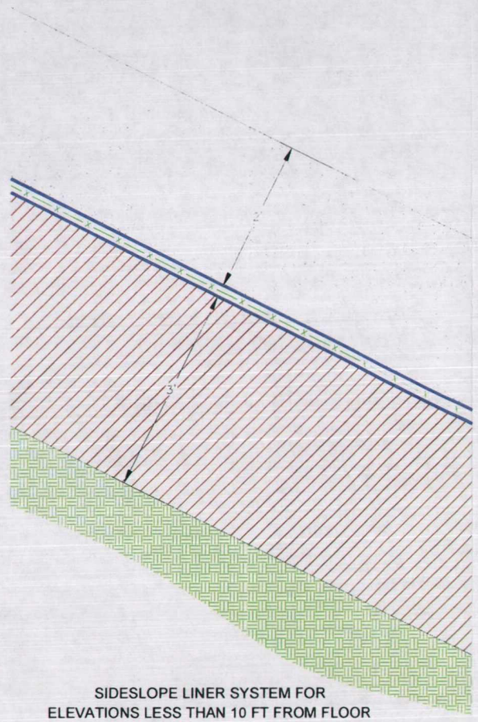
FLOOR LINER SYSTEM

DETAIL 1 (5 | 7) 1" = 1'



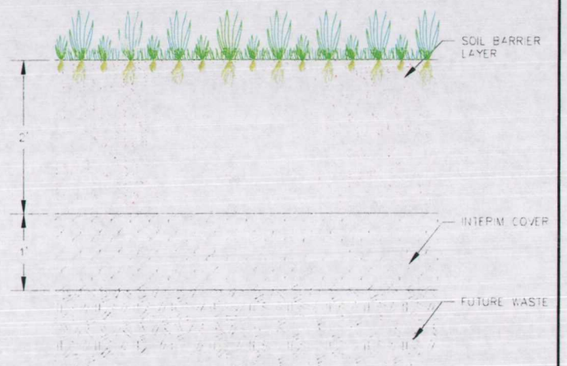
SIDESLOPE LINER SYSTEM FOR
ELEVATIONS GREATER THAN 10 FT FROM FLOOR

DETAIL 2 (5 | 7) 1" = 1'



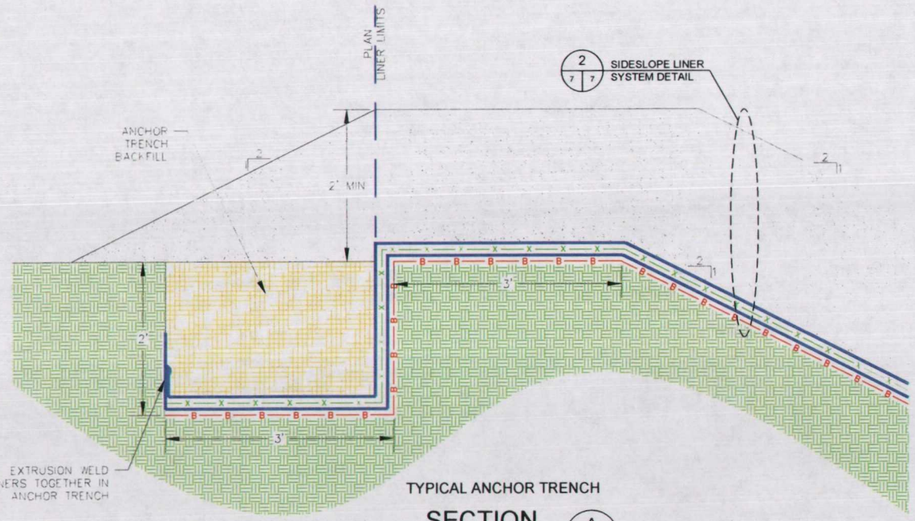
SIDESLOPE LINER SYSTEM FOR
ELEVATIONS LESS THAN 10 FT FROM FLOOR

DETAIL 3 (5 | 7) 1" = 1'



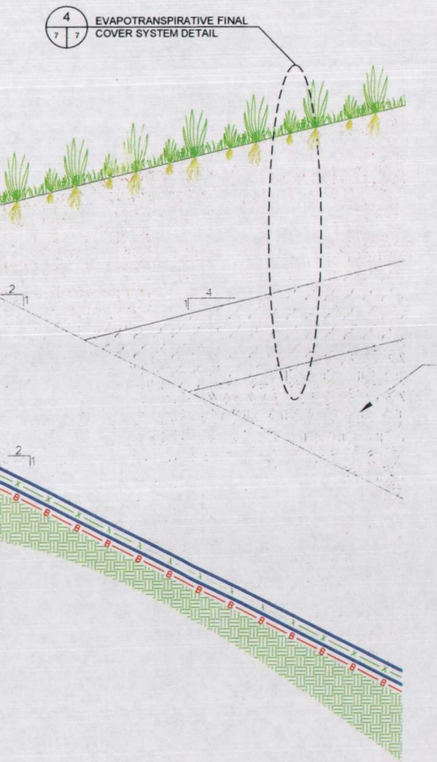
EVAPOTRANSPIRATIVE
FINAL COVER SYSTEM

DETAIL 4 (7 | 7) 1" = 1'



TYPICAL ANCHOR TRENCH

SECTION A (6 | 7) 1" = 1'



FINAL COVER
TERMINATION AT CLOSURE

SECTION B (6 | 7) 1" = 1'

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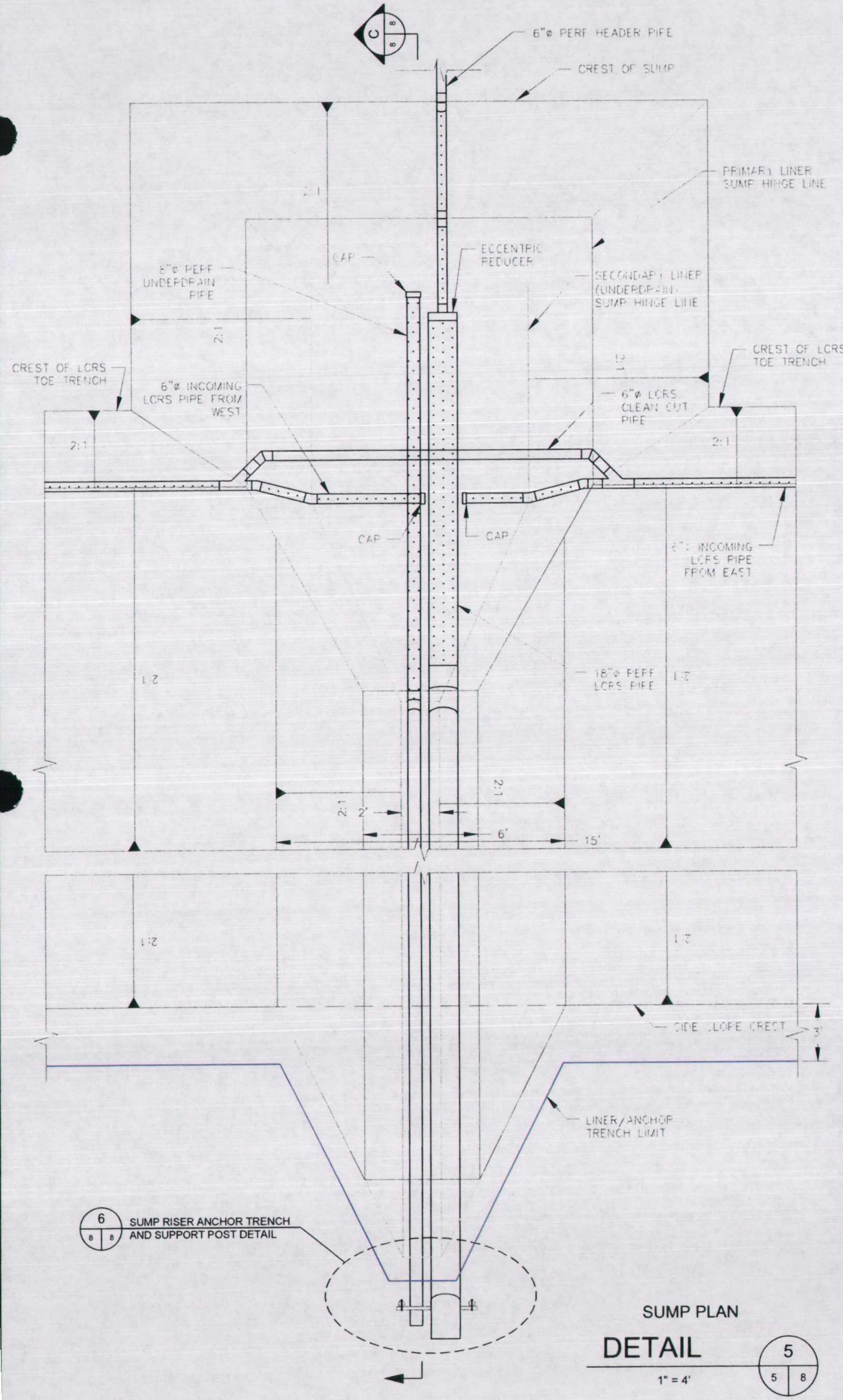
REPUBLIC SERVICES

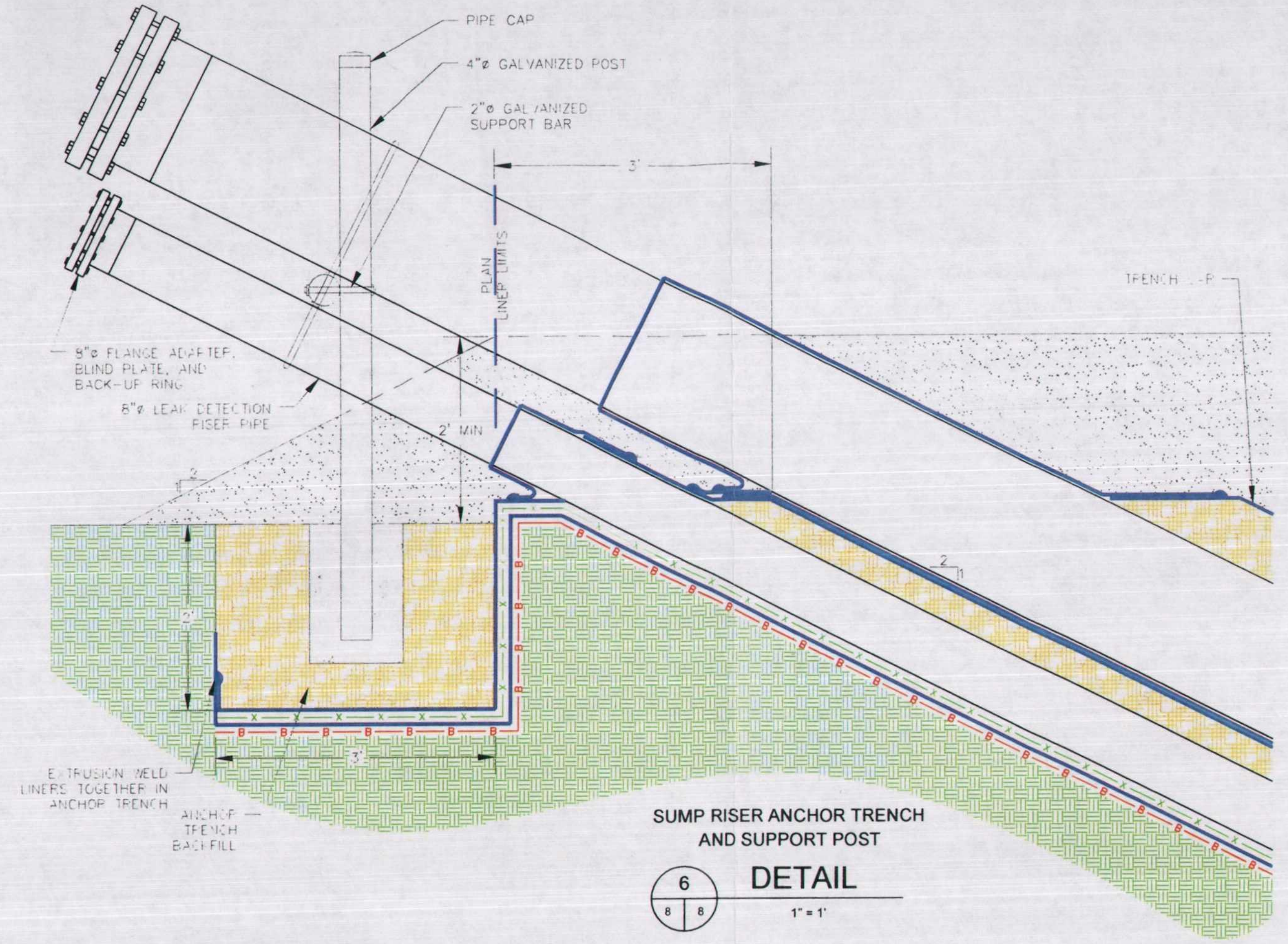
ECDC ENVIRONMENTAL LANDFILL
TSCA CELL
EAST CARBON, UTAH
LINER AND FINAL COVER DETAILS

FIGURE NO. 7
PROJECT NO. USVC-0002727

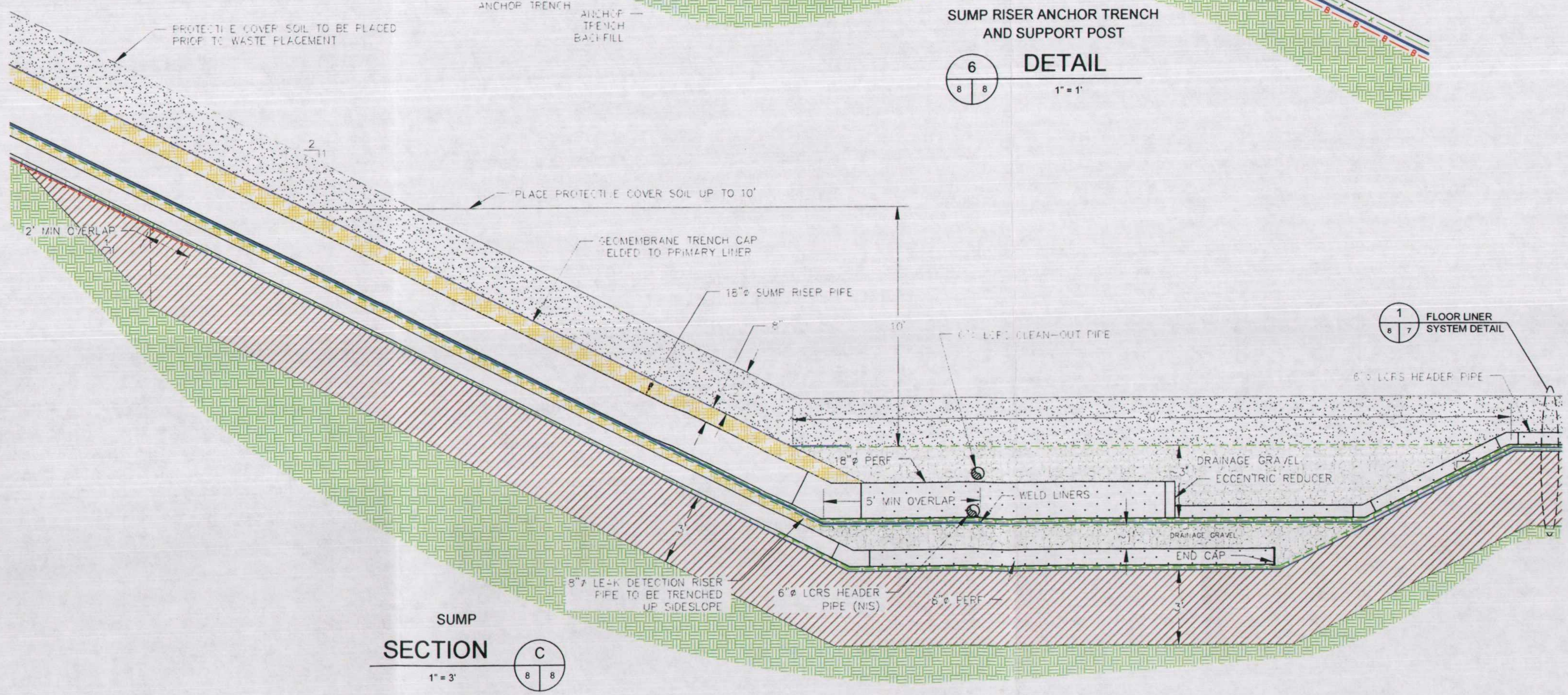
ISSUED FOR REVIEW



SUMP PLAN
DETAIL 5 (5/8)
1" = 4'



SUMP RISER ANCHOR TRENCH AND SUPPORT POST
DETAIL 6 (8/8)
1" = 1'



SUMP
SECTION C (8/8)
1" = 3'

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REPUBLIC SERVICES

ECDC ENVIRONMENTAL LANDFILL
TSCA CELL
EAST CARBON, UTAH
SUMP DETAILS

FIGURE NO. 8
PROJECT NO. USVC-0002727

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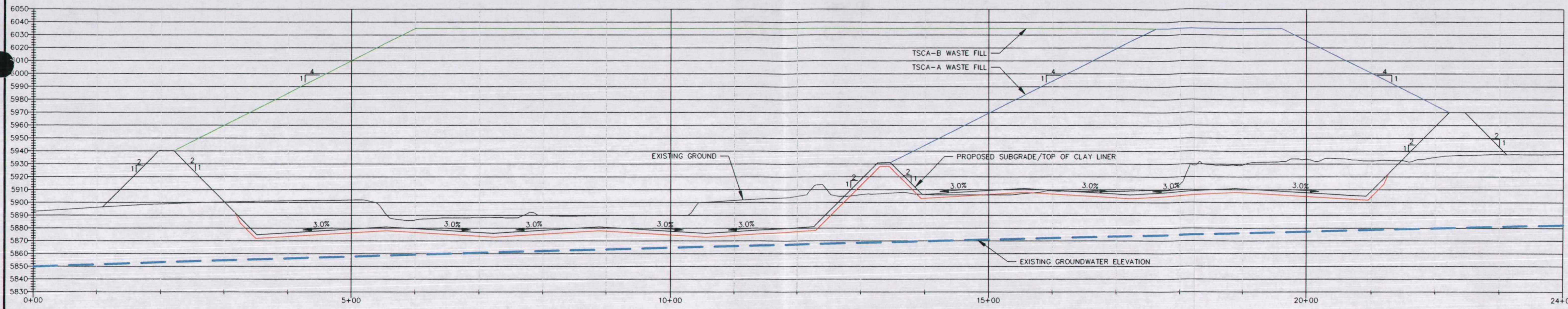
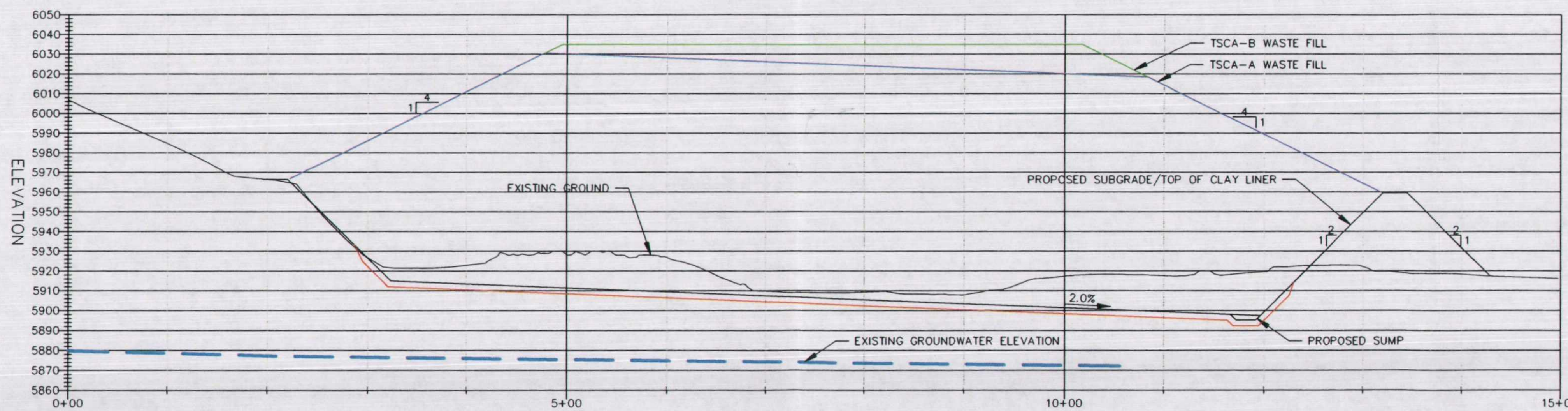


SECTION A-A'

HORIZ 1" = 75'
VERT 1" = 37.5'



SECTION B-B'

HORIZ 1" = 75'
VERT 1" = 37.5'

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ECDC ENVIRONMENTAL LANDFILL
TSCA CELL
EAST CARBON, UTAH
CROSS SECTIONS

FIGURE NO. 9
PROJECT NO. USVC-0002727

ISSUED FOR REVIEW

APPENDIX A

UTAH DEQ Permit Documents

A-1

Soils Reports

EAST CARBON DEVELOPMENT CORPORATION

November 1, 1991

Mr Roy Van Os
Solid and Hazardous Waste
Department of Pollution Control
Box 16690
Salt Lake City, Utah 84116-0690

Re Solid Waste Permit #90-2
East Carbon Development Corporation

Dear Mr. Van Os

Appendix 1 of the Response to NOD #2 (February, 1990) presents boring logs for the East Carbon Facility The ground water depth was shown incorrectly for Drill Hole 16-A as the enclosed letter (October 29, 1991) from RB&G Engineering indicates. Drill Hole 16-A was determined to be dry on January 31, 1990. I apologize for any confusion that this error has caused

Sincerely,

Steve Mason, P E
Vice President of Engineering and Construction

cc Steve Creamer, ECDC
Harold Marston, ECDC

UDH1191 1

Corporate Office
1878 Ridge Point Drive
Bountiful UT 84010
Telephone (801) 298-0620
Facsimile (801) 298-0693

Western Regional Office
220 Montgomery Street
Suite 1814
San Francisco CA 94104
Phone (415) 421 2044
FAX (415) 421 1462

Eastern Regional Office
800 W State St Suite 103
Doylestown PA 18901
Telephone (215) 345-7652
Facsimile (215) 340-1832

RB&G
ENGINEERING
INC

October, 29, 1991

Cardinal Environmental
6520 N Western
Suite 206
Oklahoma, OK 73116

Attn Steve Mason

Gentlemen

The test boring log for Drill Hole 16-A at the East Carbon Landfill site indicates a groundwater elevation at 27 feet below the ground surface A review of the original drilling log shows that the groundwater elevation is in error The test boring was drilling on January 30, 1990 Drill water stood in the boring to an elevation of 27 feet on that day The boring logs states that the test boring was dry on January 31, 1990 It is concluded that the water in the boring on January 30th was drill water and not the natural groundwater level

If there are any questions regarding the information provided above, please contact us

Sincerely,

RB&G ENGINEERING, INC

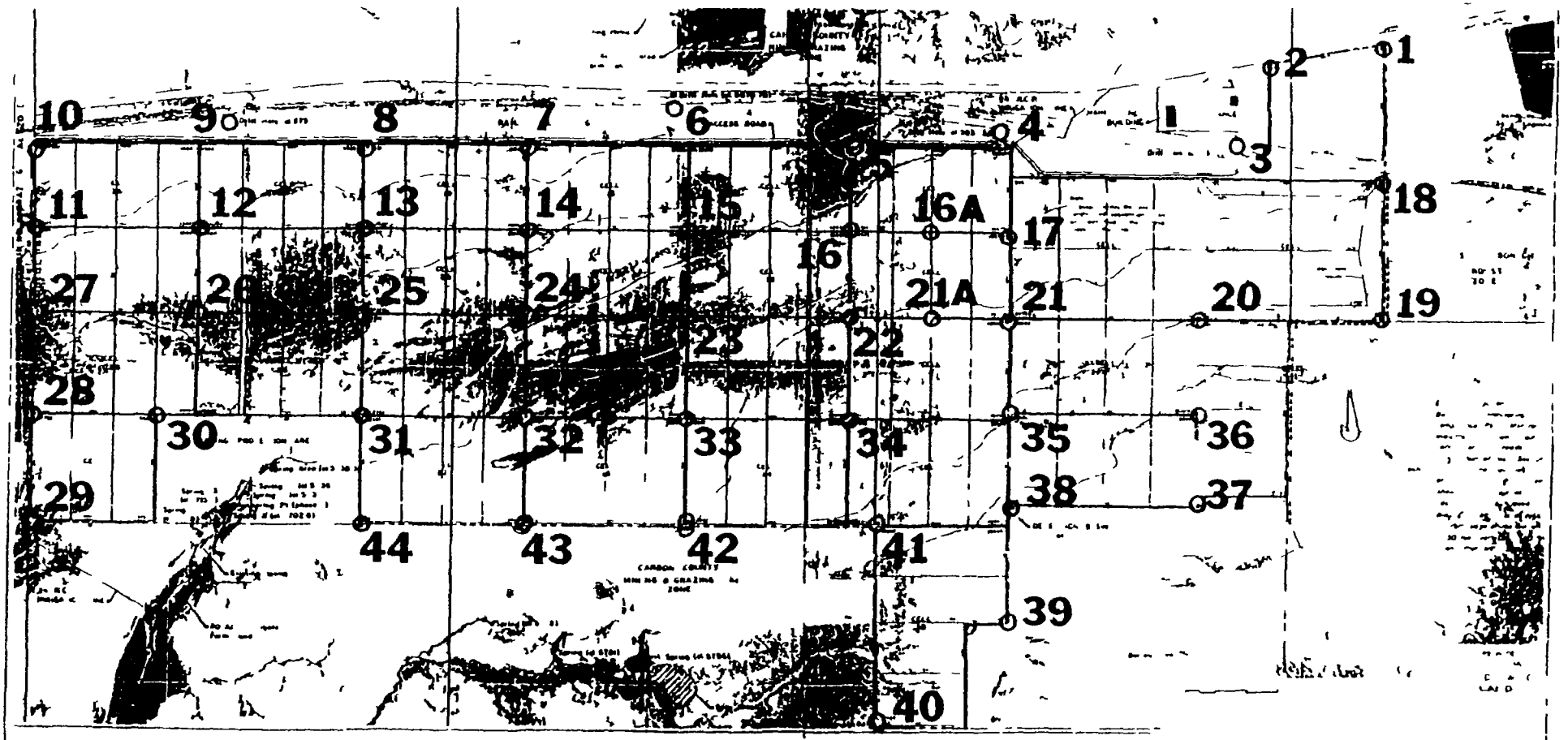
Brad Price

Bradford E Price, P E

bep/jag

1435 WEST 820 NORTH
PROVO UTAH 84601 1343

PROVO 801 374-5771
SALT LAKE CITY 801 521 5771

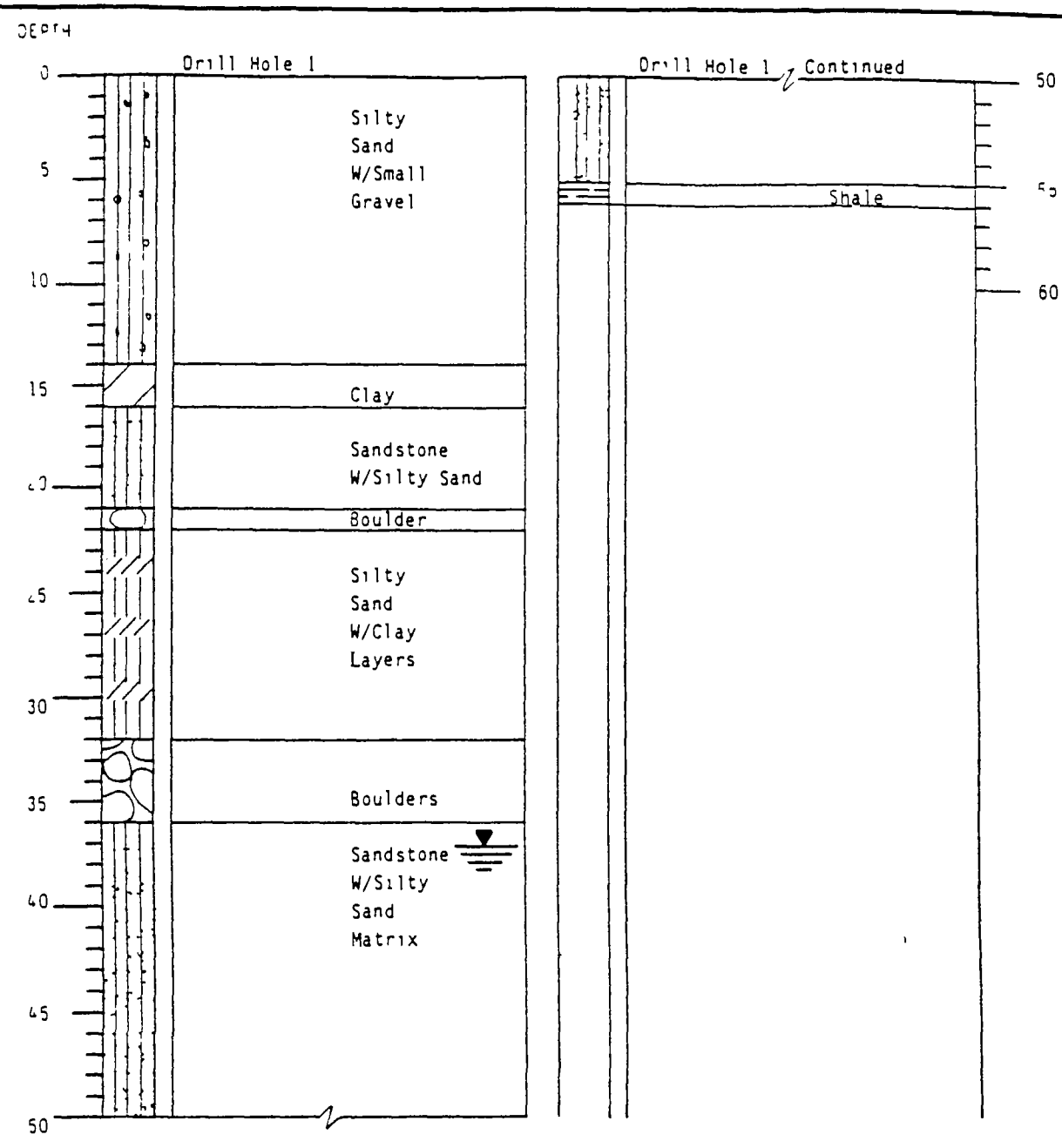


Scale 1 = 2000

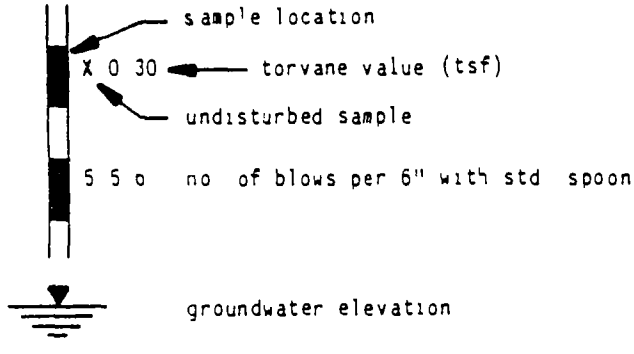
ROLLINS BROWN AND GUNNELL INC
PROFESSIONAL ENGINEERS

Location Map and Drill Hole Locations
EAST CARBON LANDFILL

FIGURE
NO. 1



LEGEND

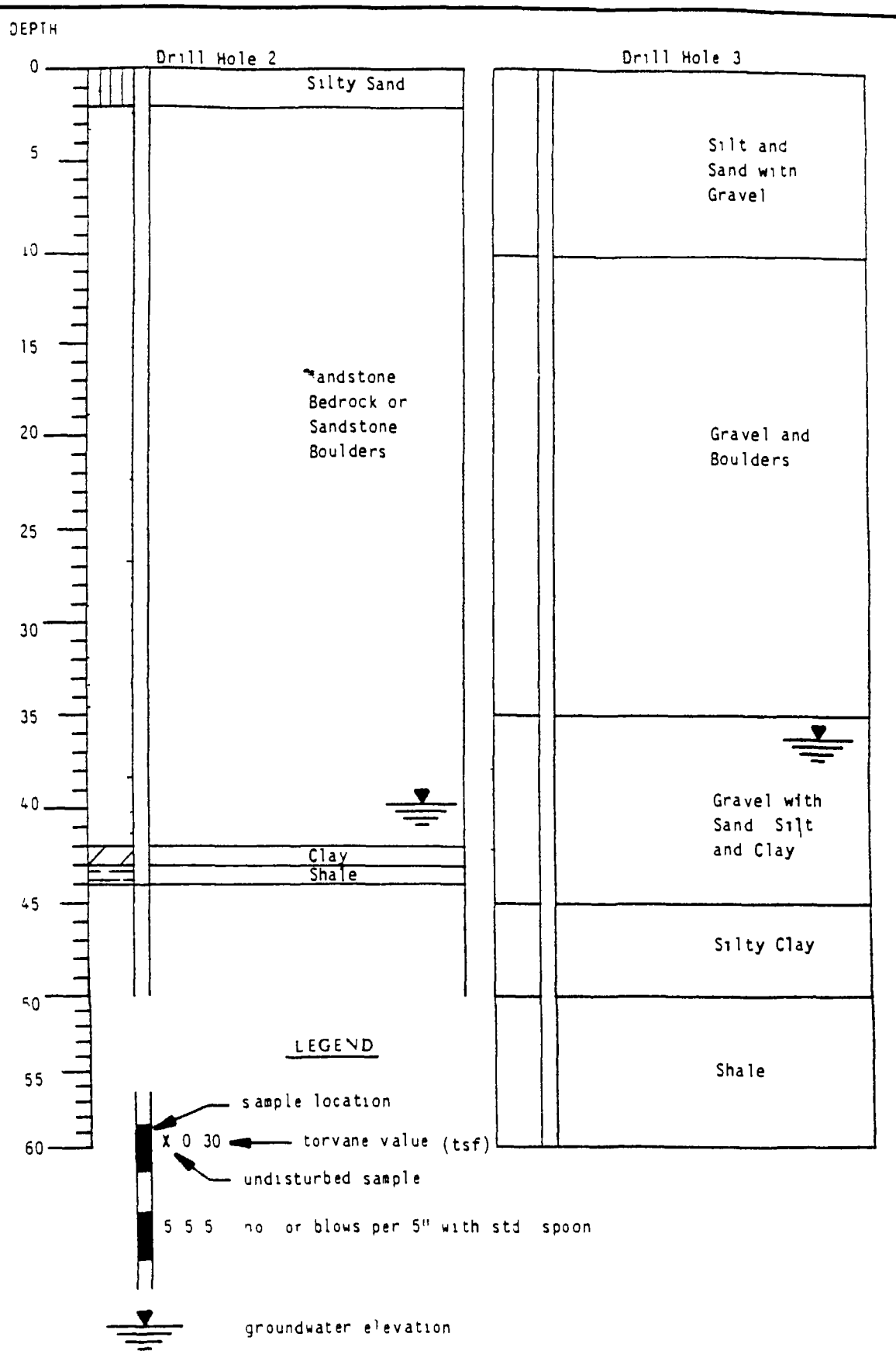


ROLLINS BROWN AND GUNNELL INC
PROFESSIONAL ENGINEERS

Log of Borings for

EAST CARBON LANDFILL

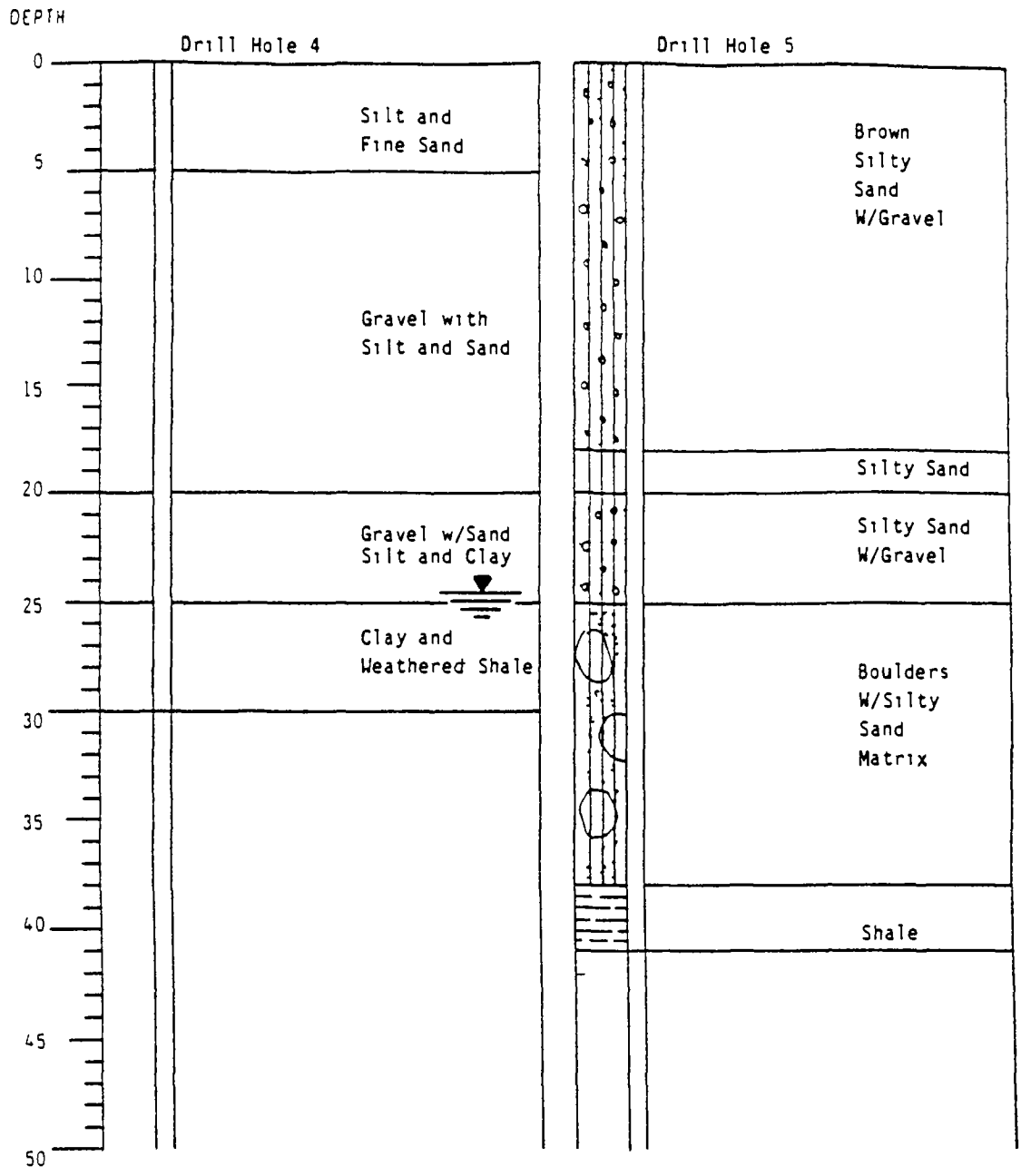
Figure No



ROLLINS BROWN AND GUNNELL INC
PROFESSIONAL ENGINEERS

Log of Borings for
EAST CARBON LANDFILL

Figure No



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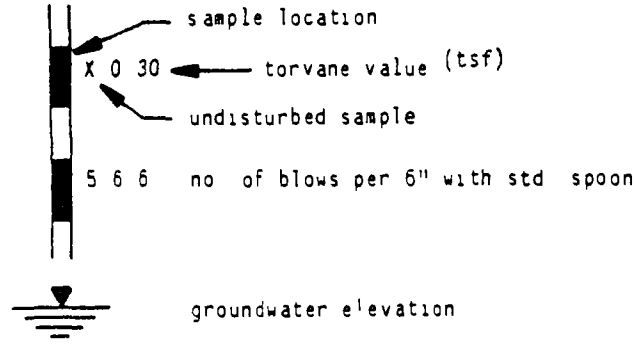

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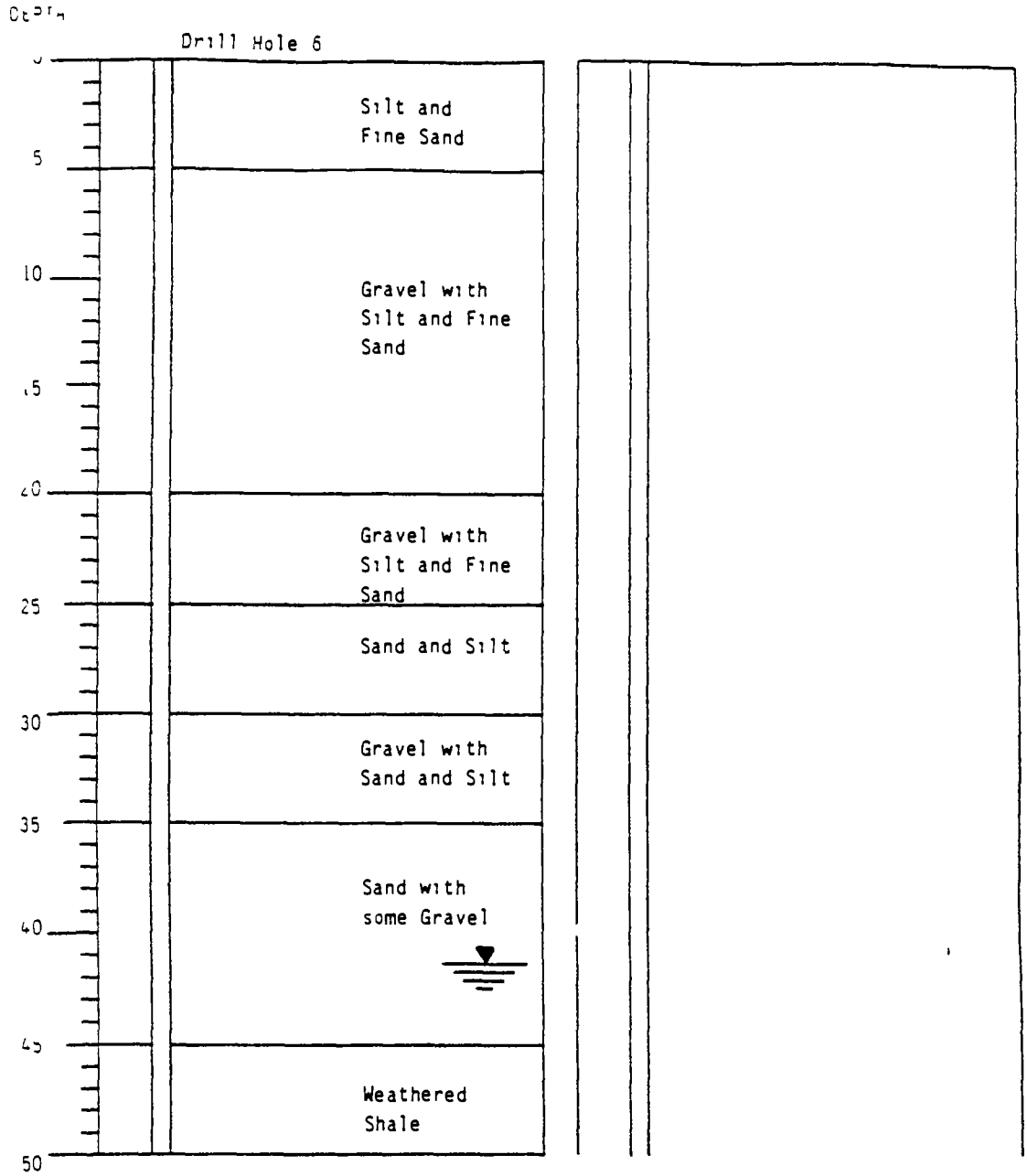
Log of Borings for

EAST CARBON LANDFILL

Figure No



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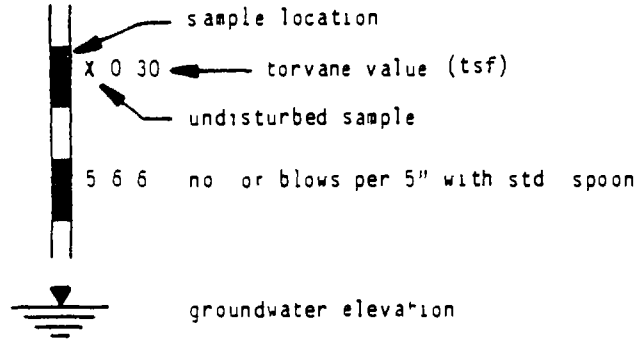

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Log of Borings for

EAST CARBON LANDFILL

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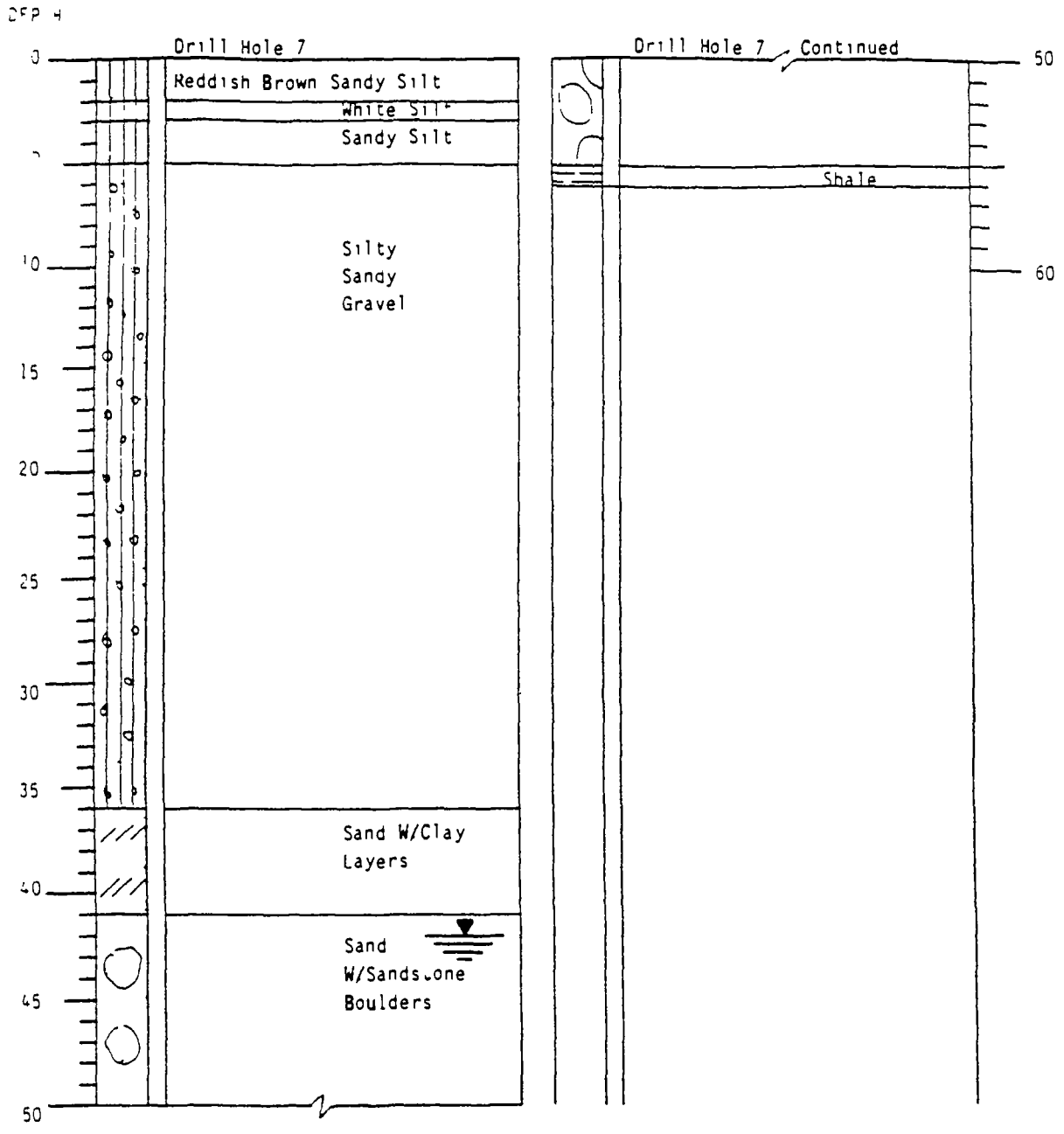

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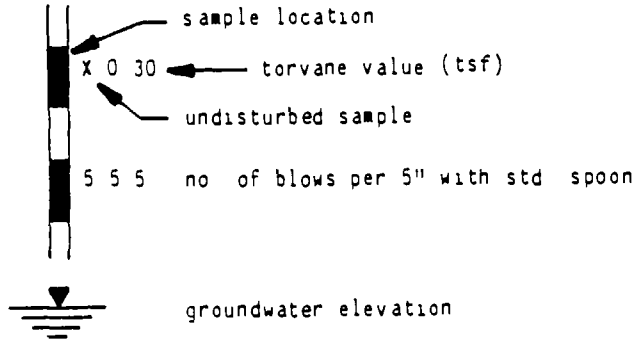

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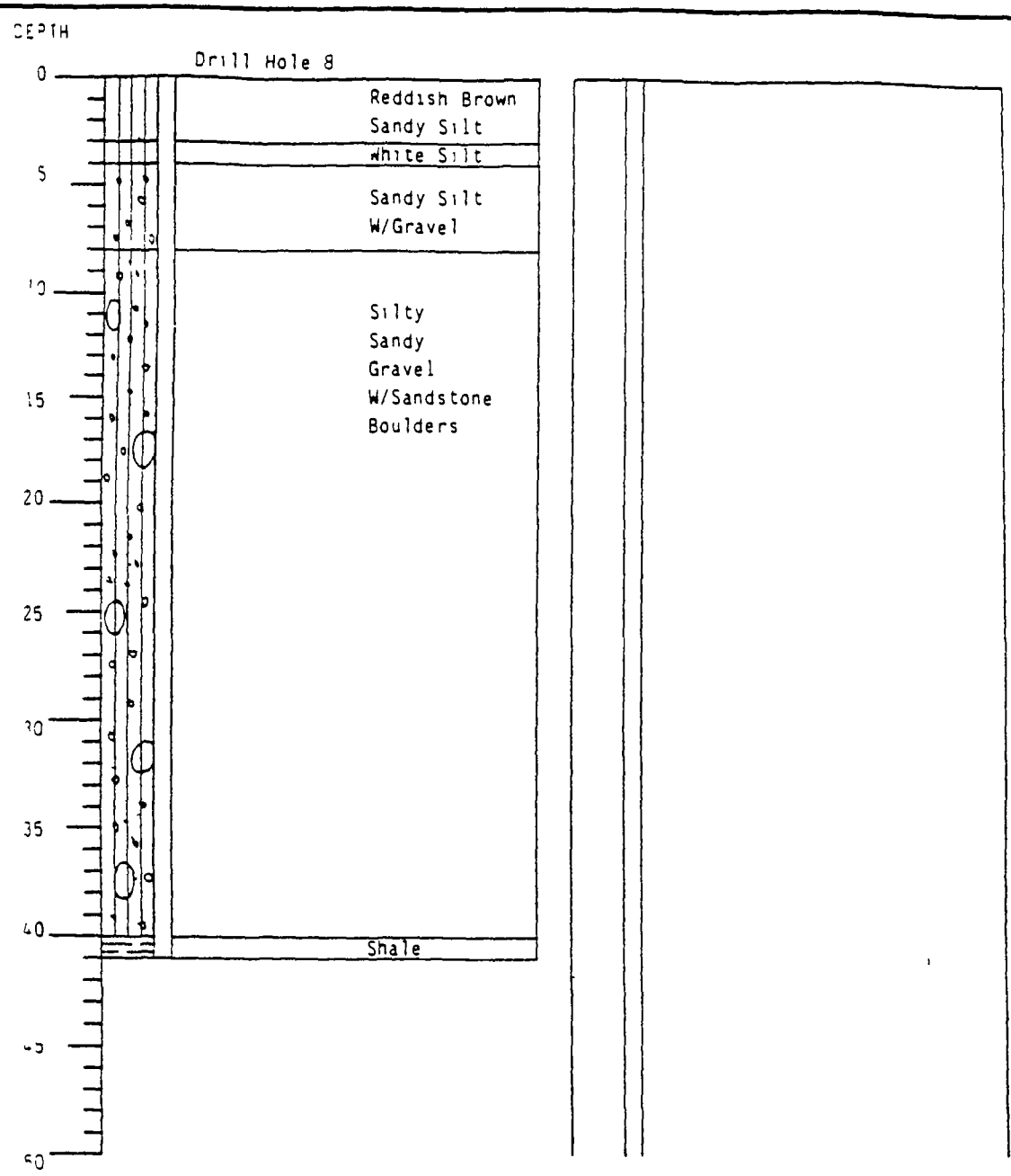
Log of Borings for

EAST CARBON LANDFILL

Figure No



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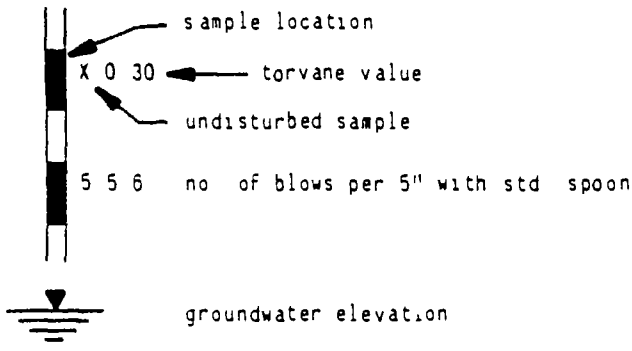

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Log of Borings for

EAST CARBON LANDFILL

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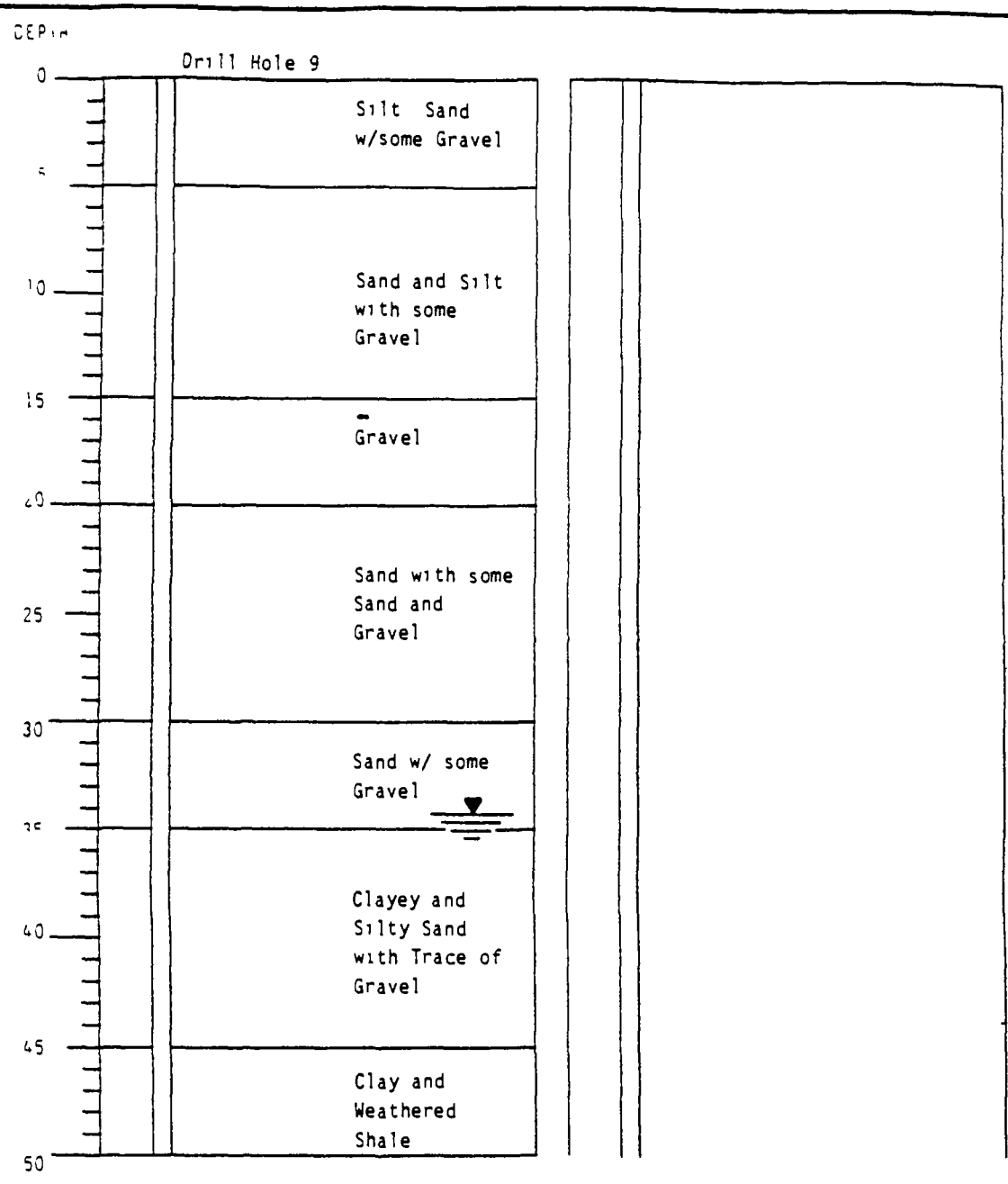

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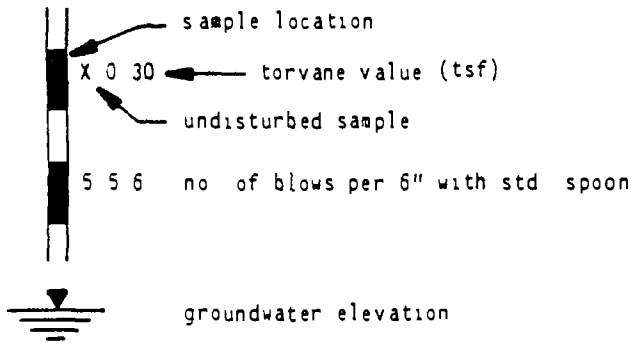

ROLLINS BROWN AND GUNNELL INC
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Log of Borings for
EAST CARBON LANDFILL

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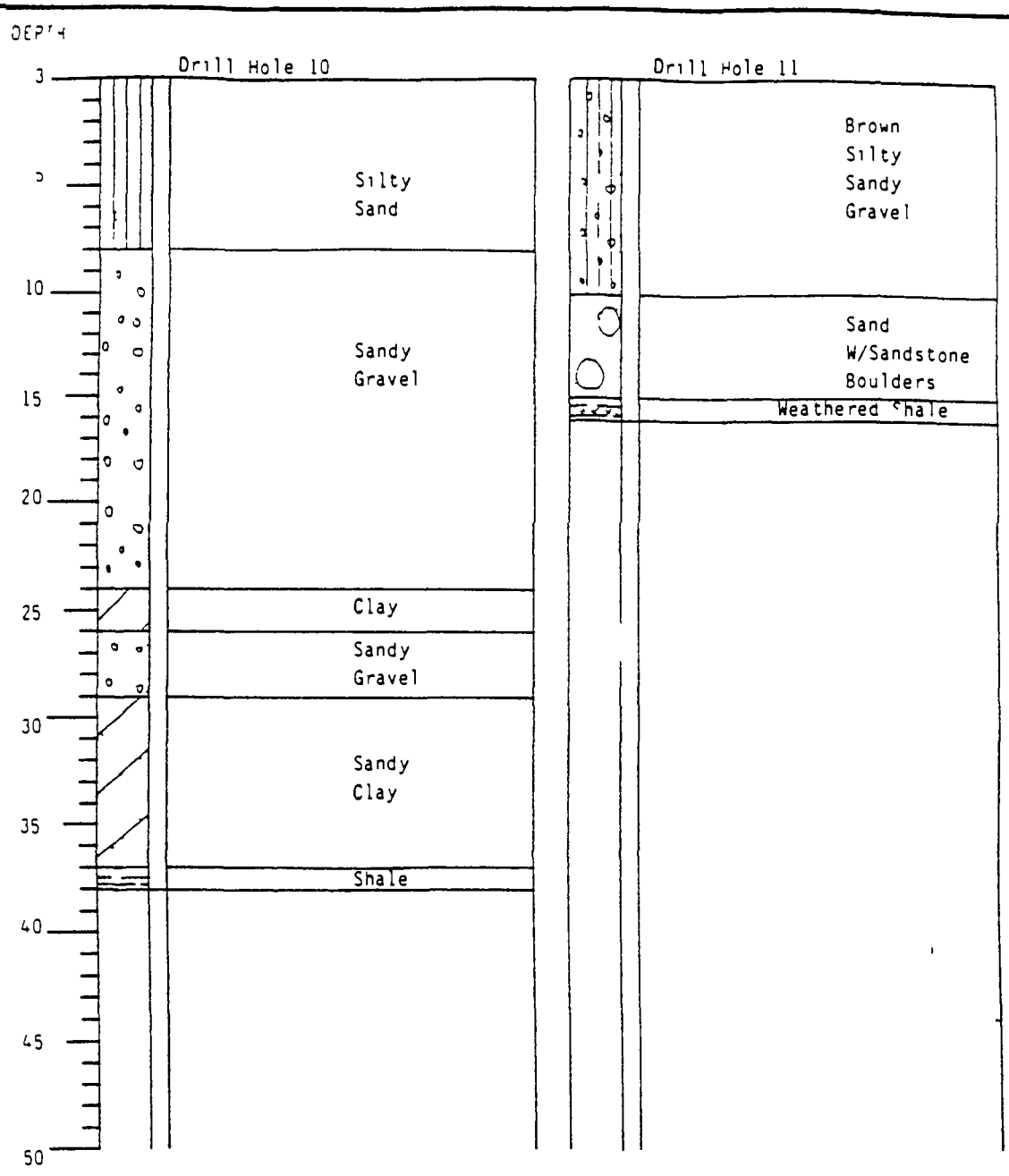

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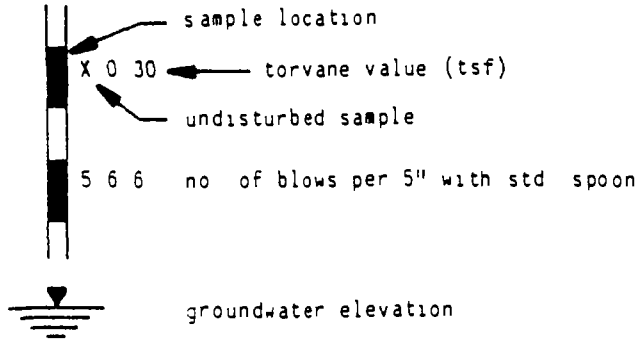

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Log of Borings for

EAST CARBON LANDFILL

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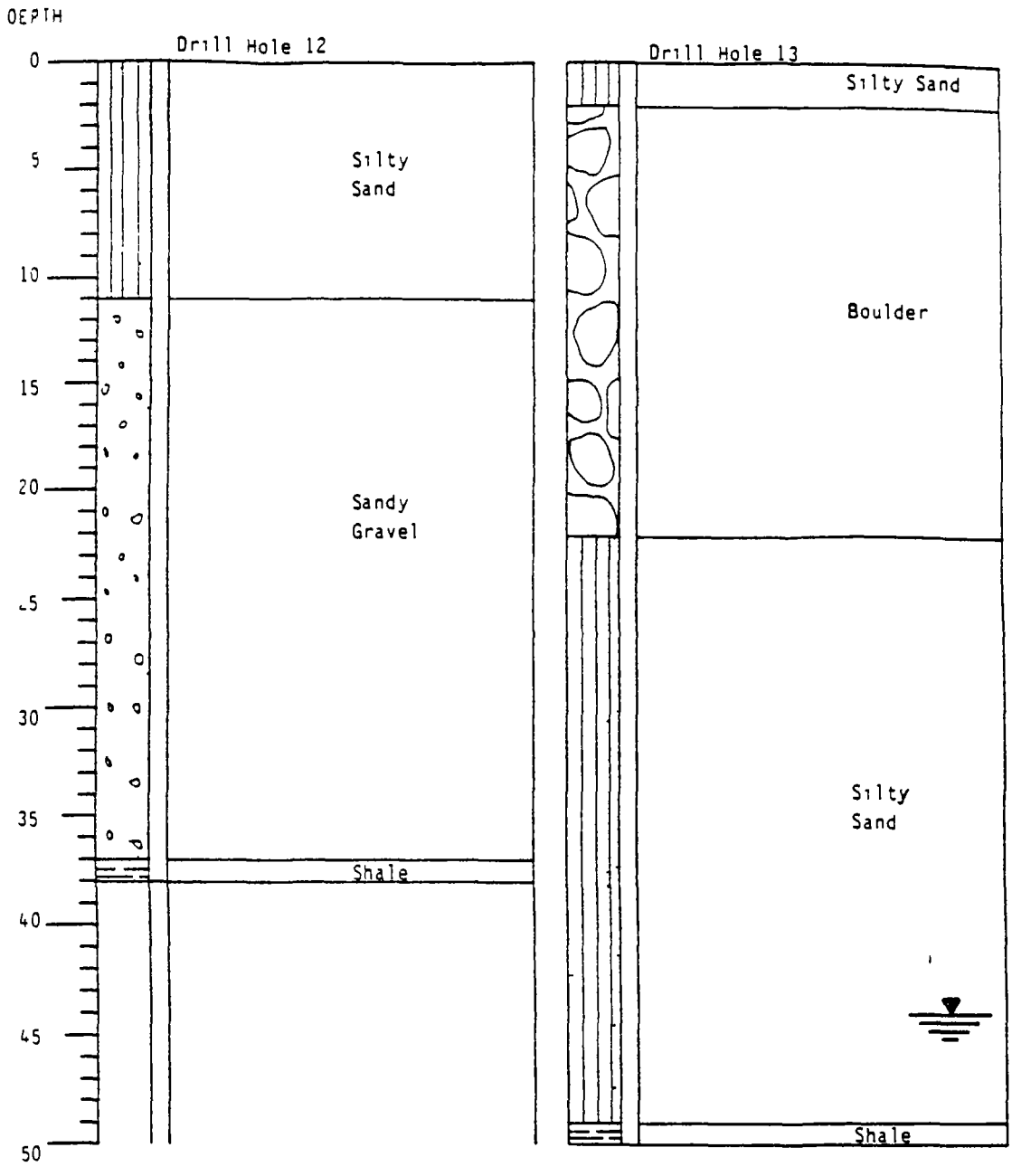

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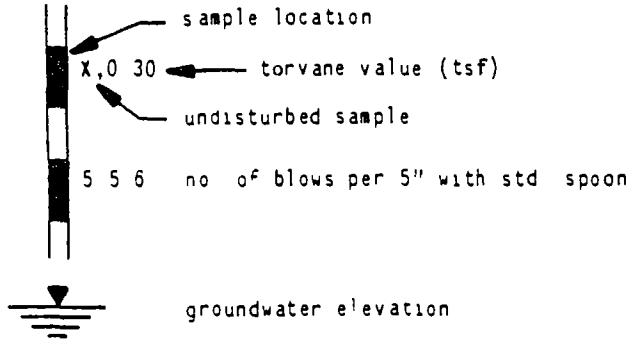

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Log of Borings for
EAST CARBON LANDFILL

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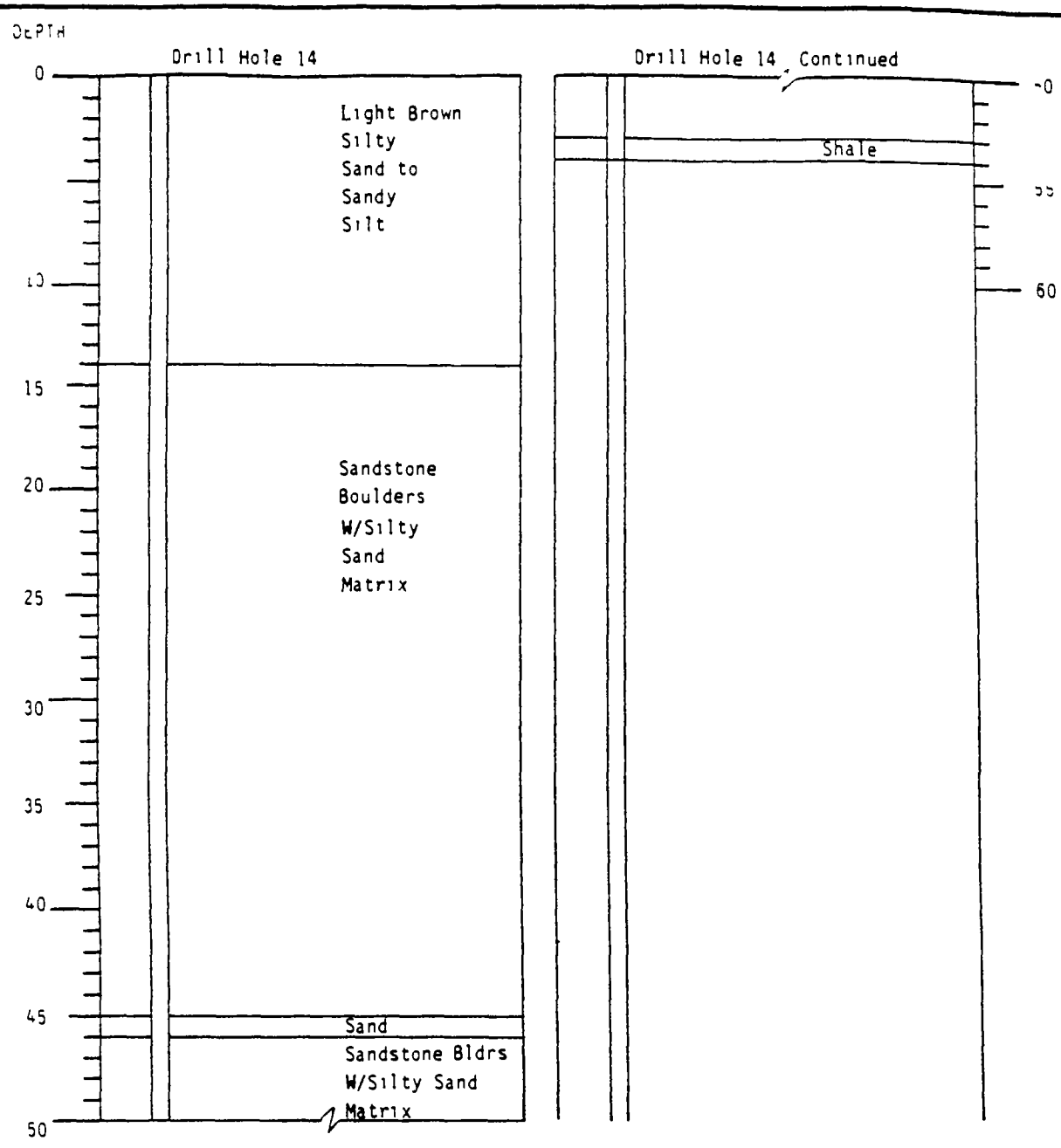

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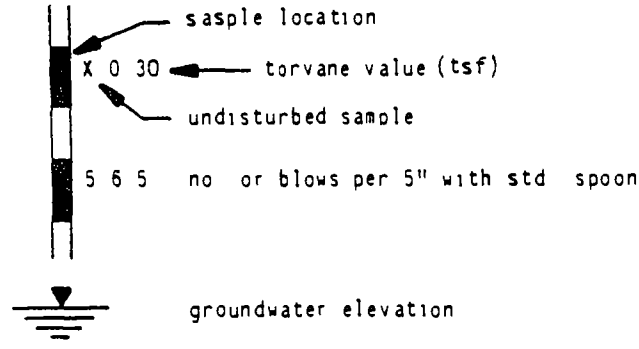

ROLLINS BROWN AND GUNNELL INC
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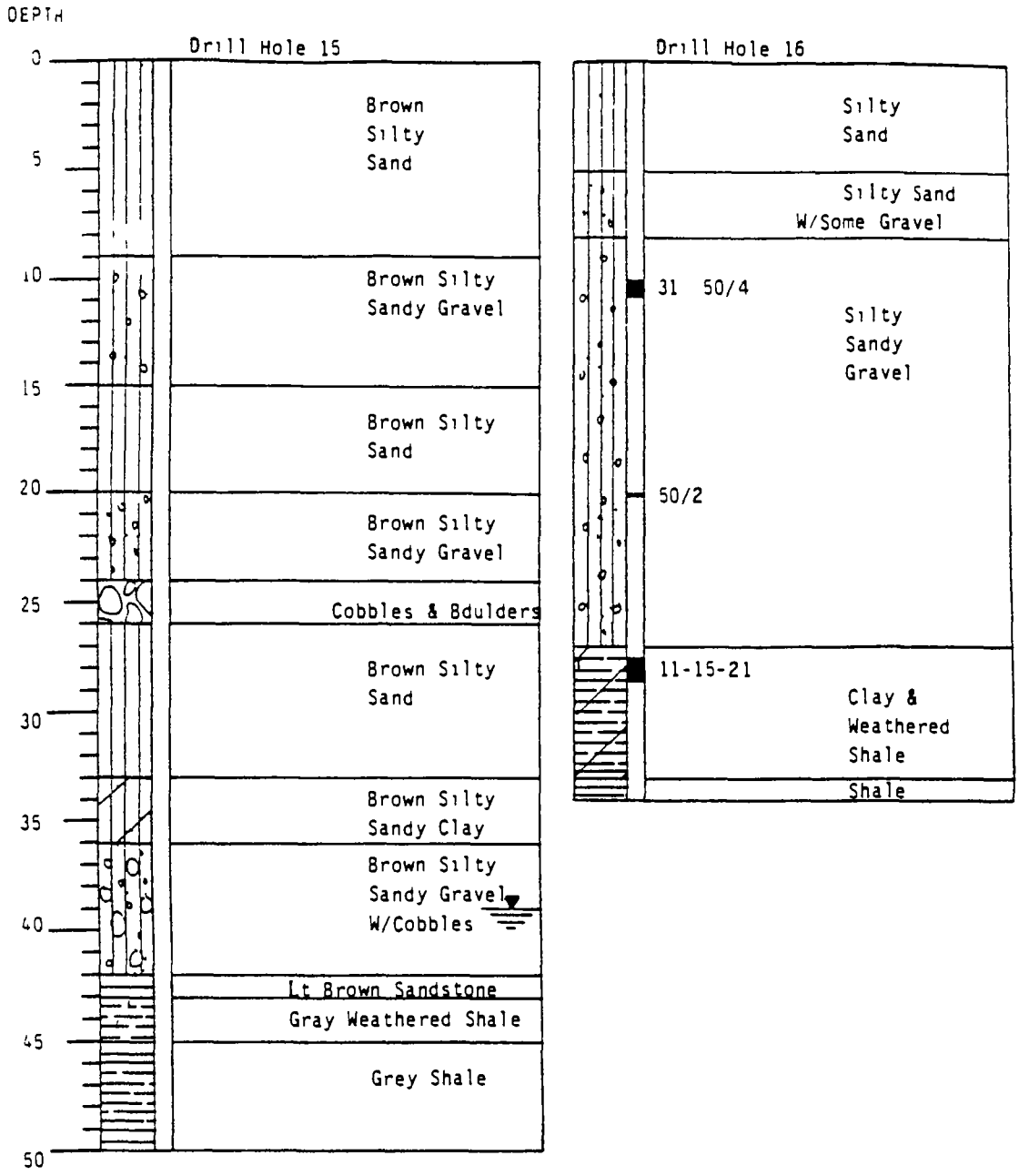
Log of Borings for
EAST CARBON LANDFILL



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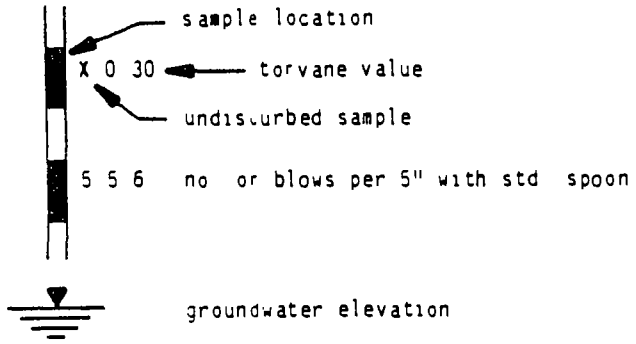

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Log of Borings for

EAST CARBON LANDFILL

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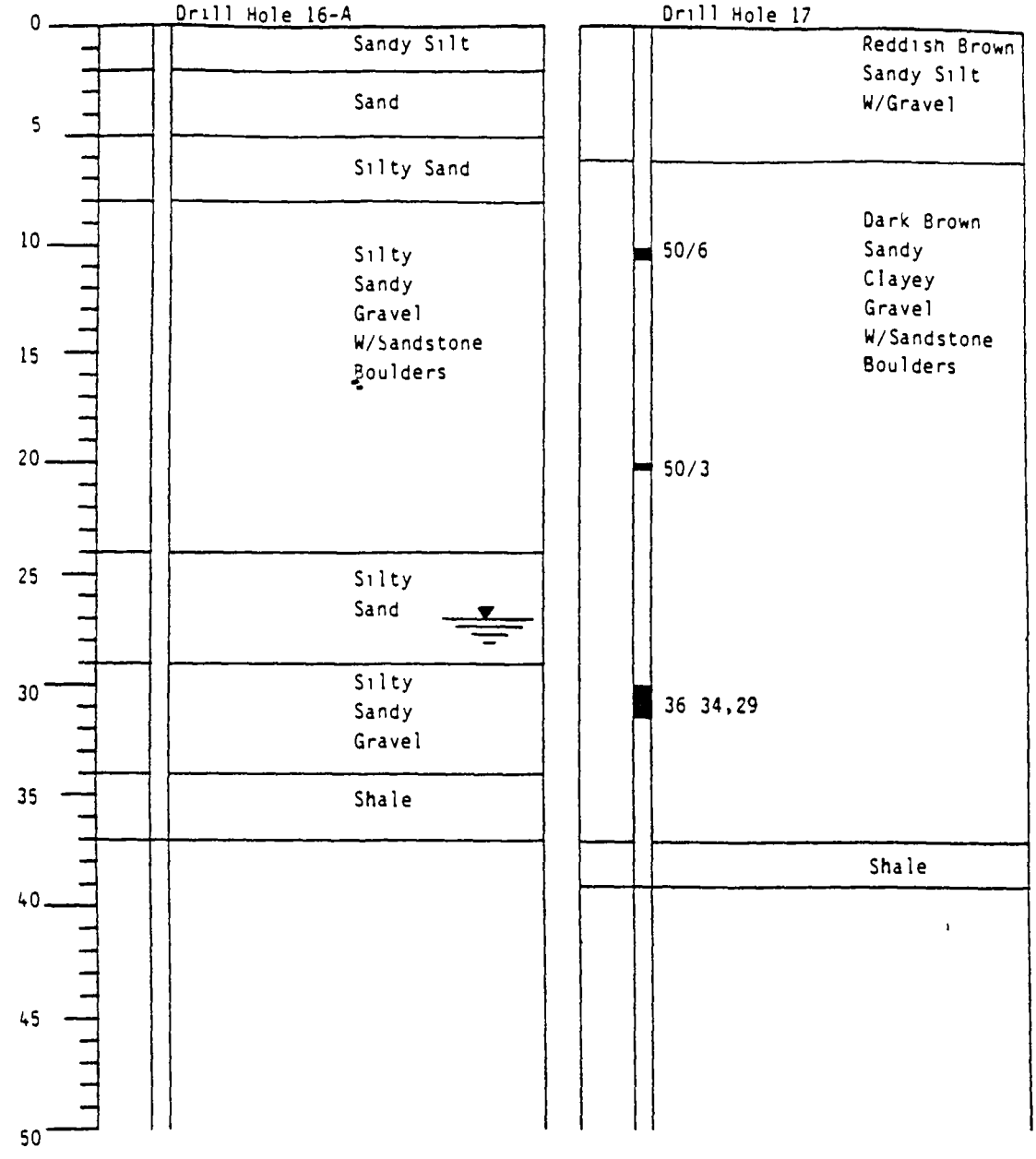

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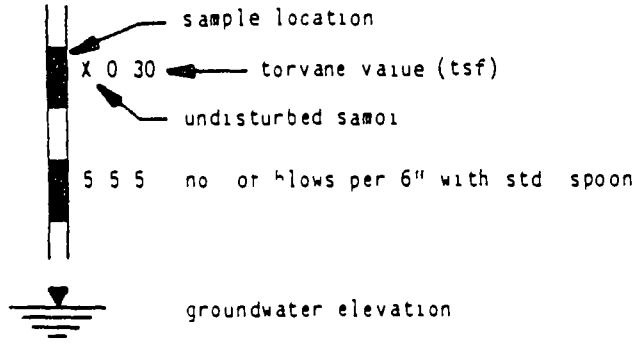

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Log of Borings for
EAST CARBON LANDFILL

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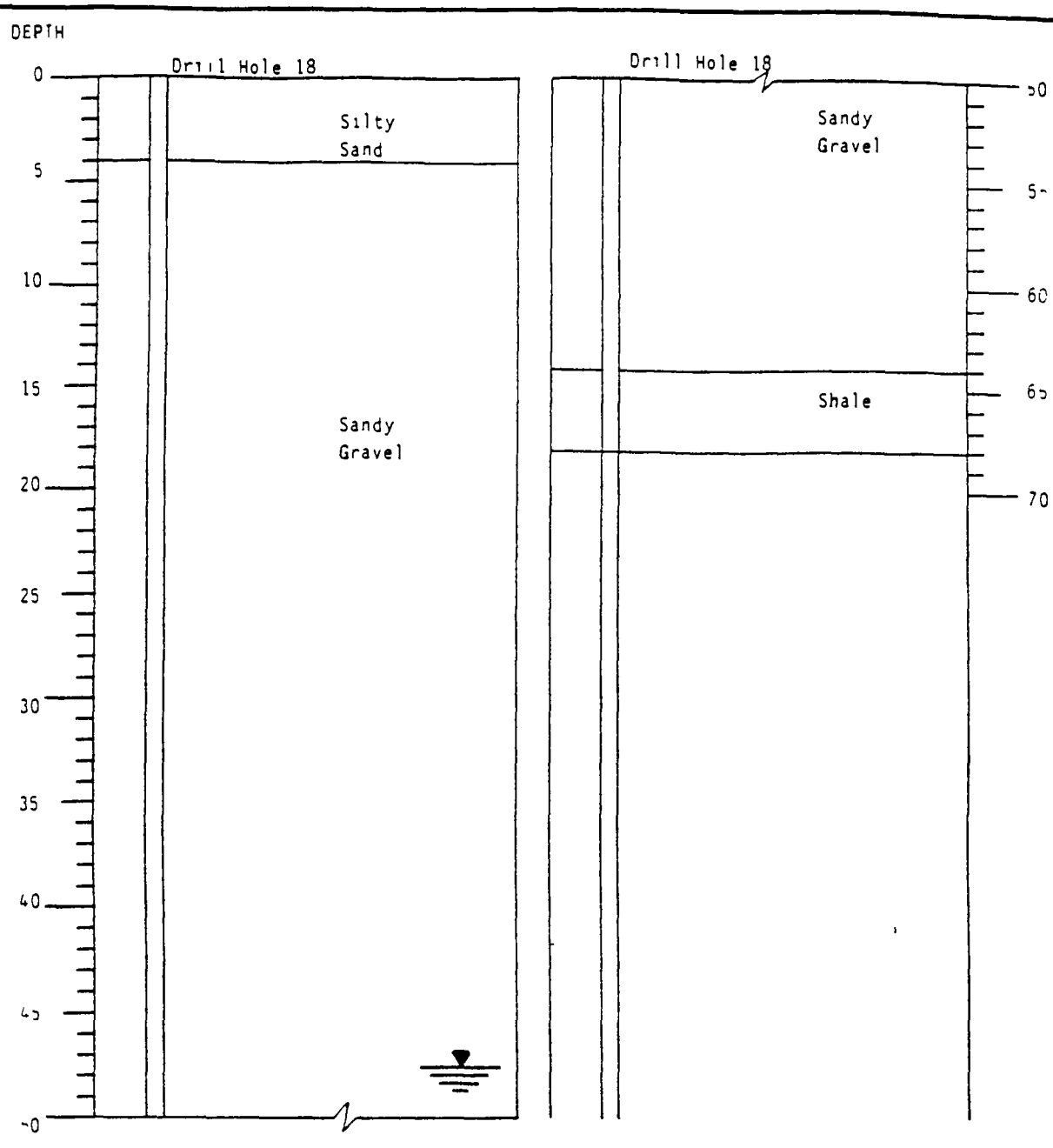

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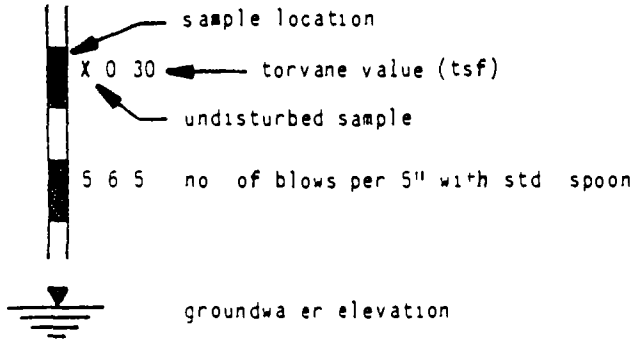

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Log of Borings for

EAST CARBON LANDFILL

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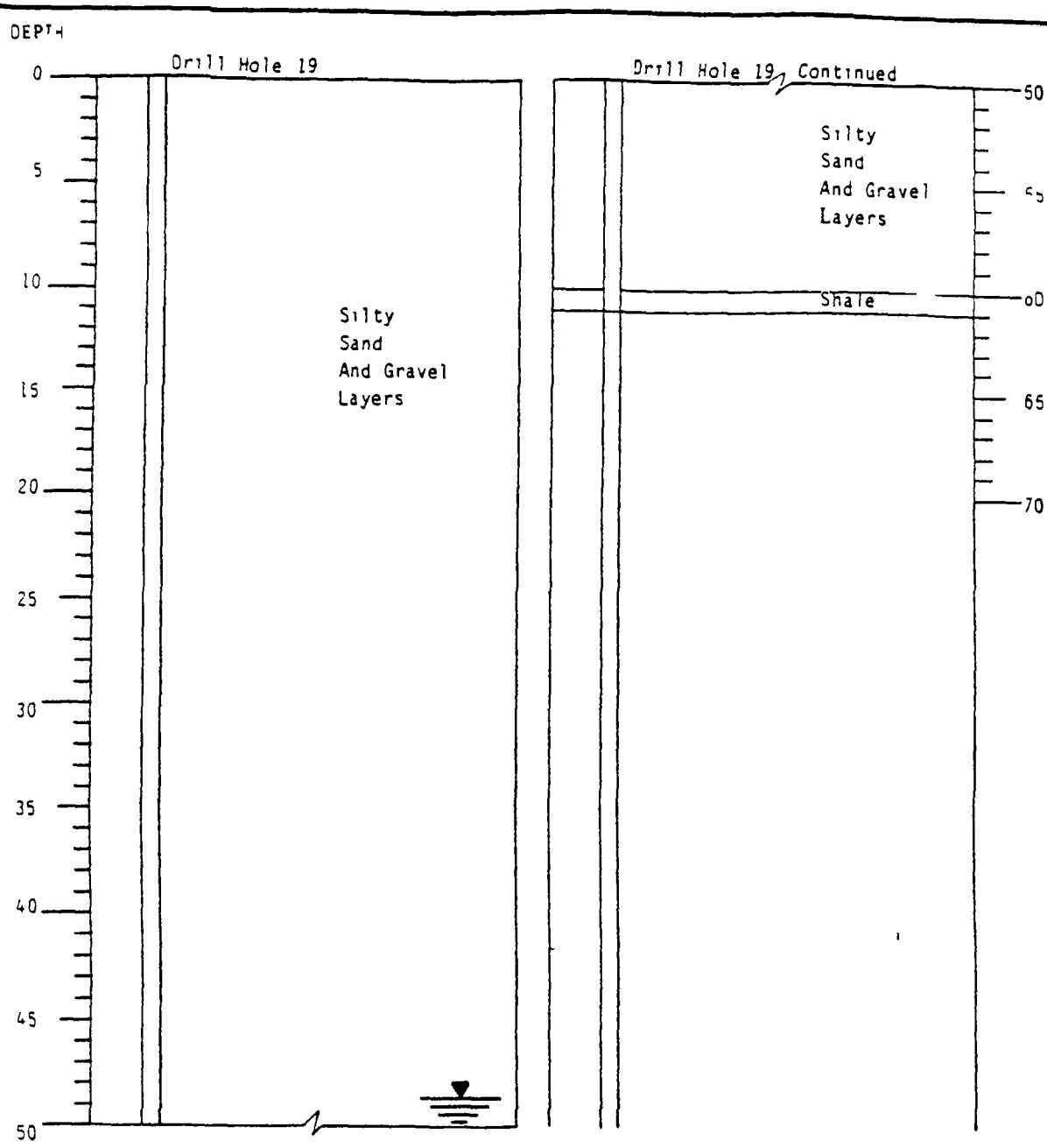

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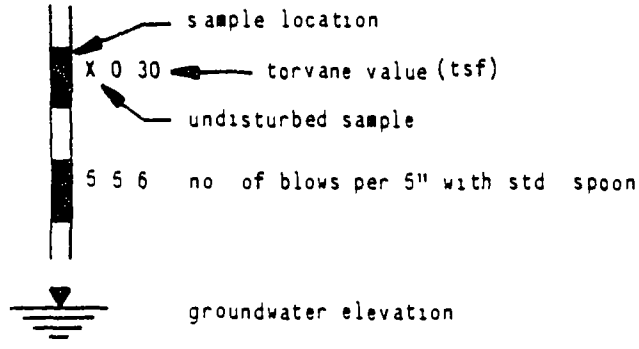

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Log of Borings for
EAST CARBON LANDFILL

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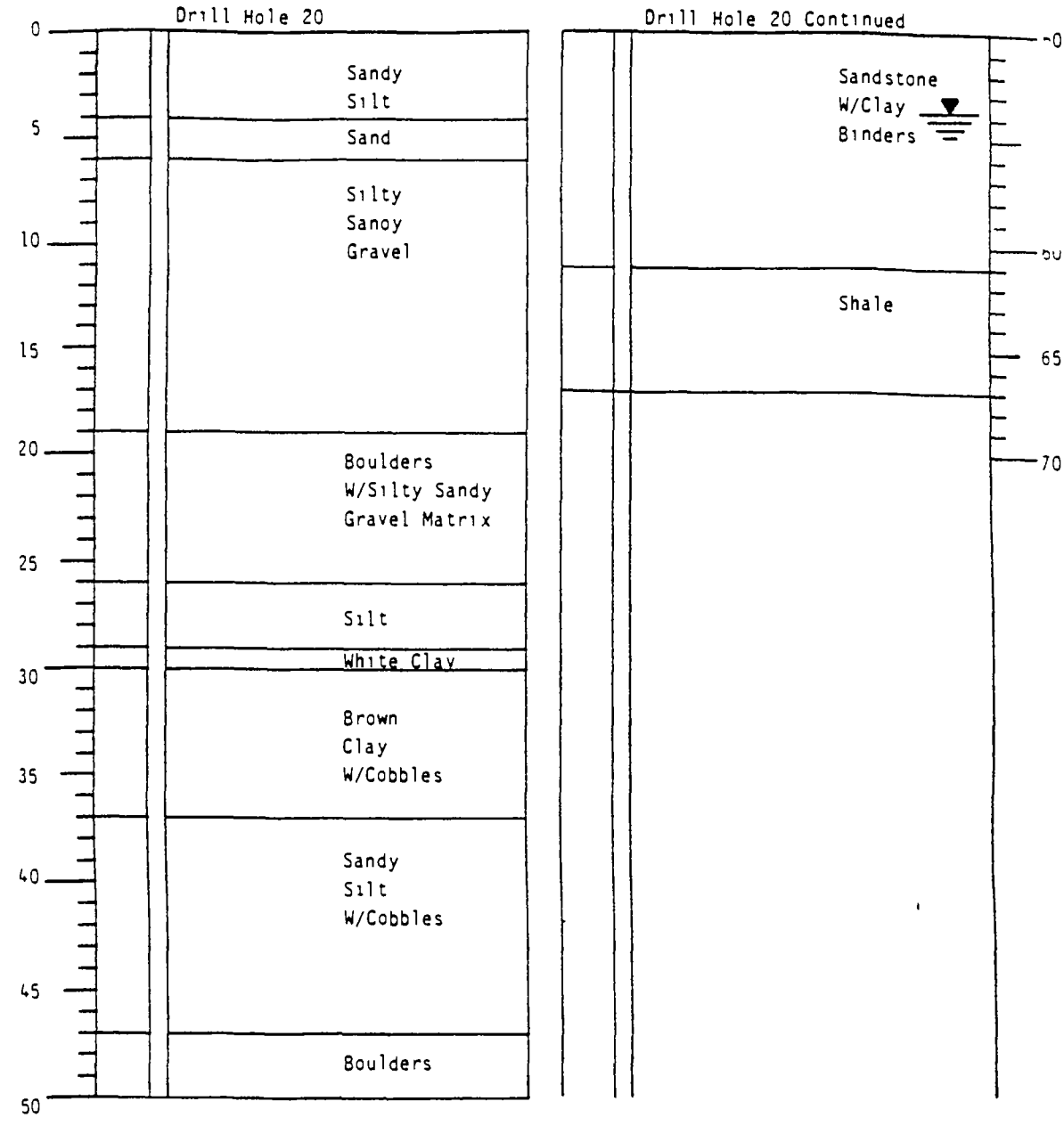

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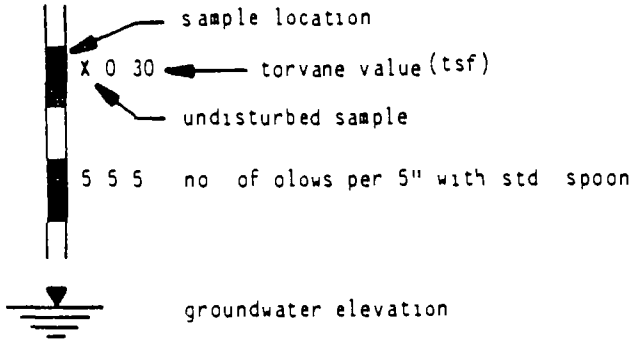

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Log of Borings for
EAST CARBON LANDFILL

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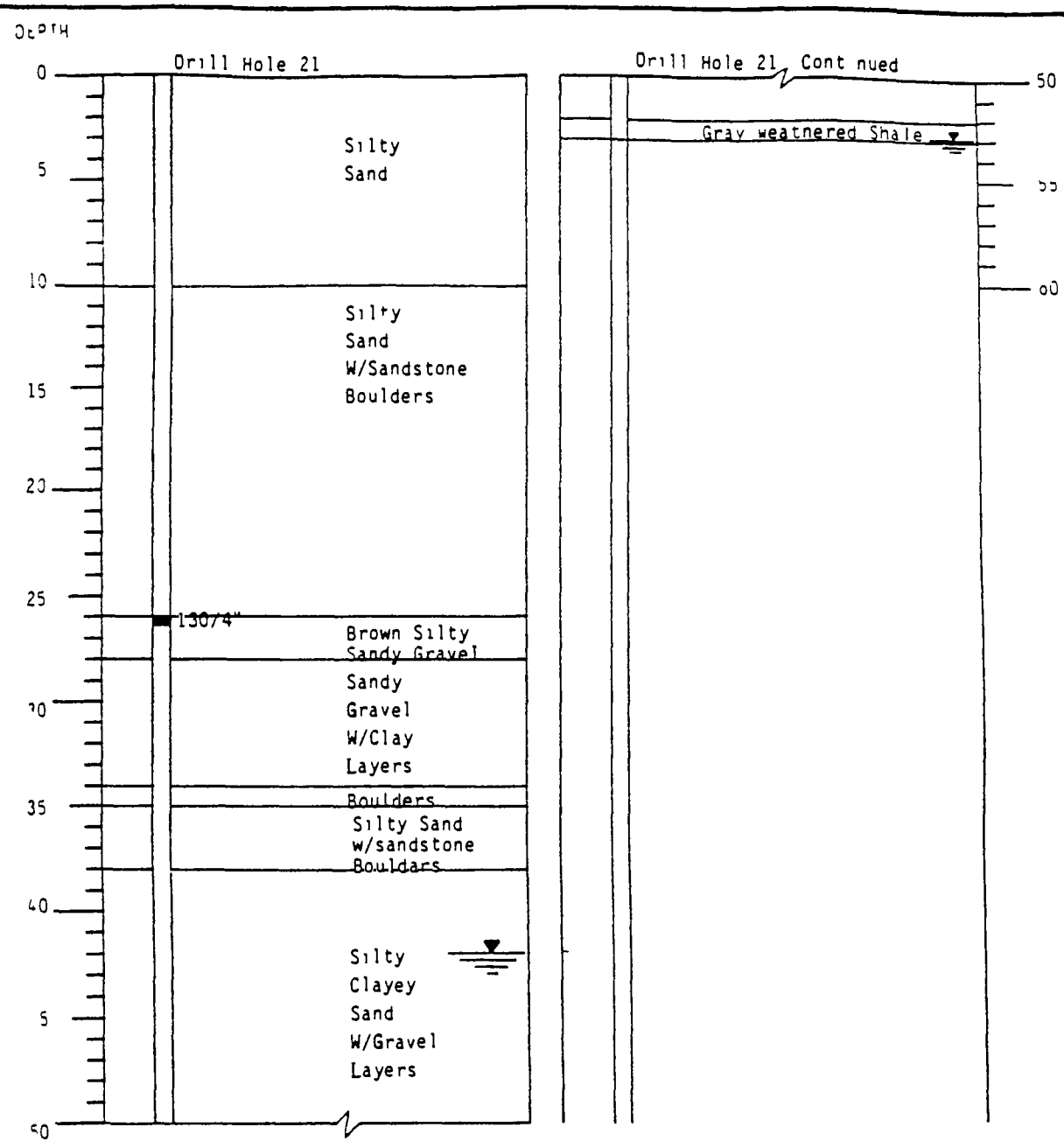

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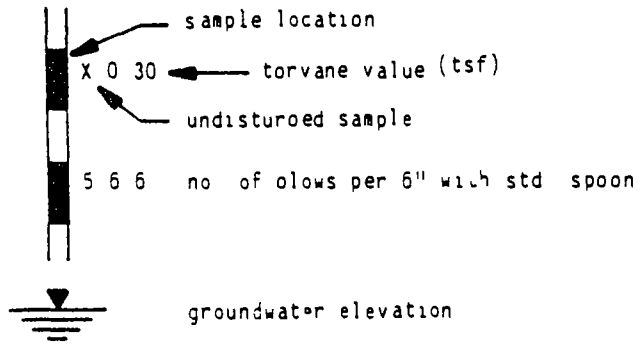

ROLLINS BROWN AND GUNNELL INC
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Log of Borings for
EAST CARBON LANDFILL

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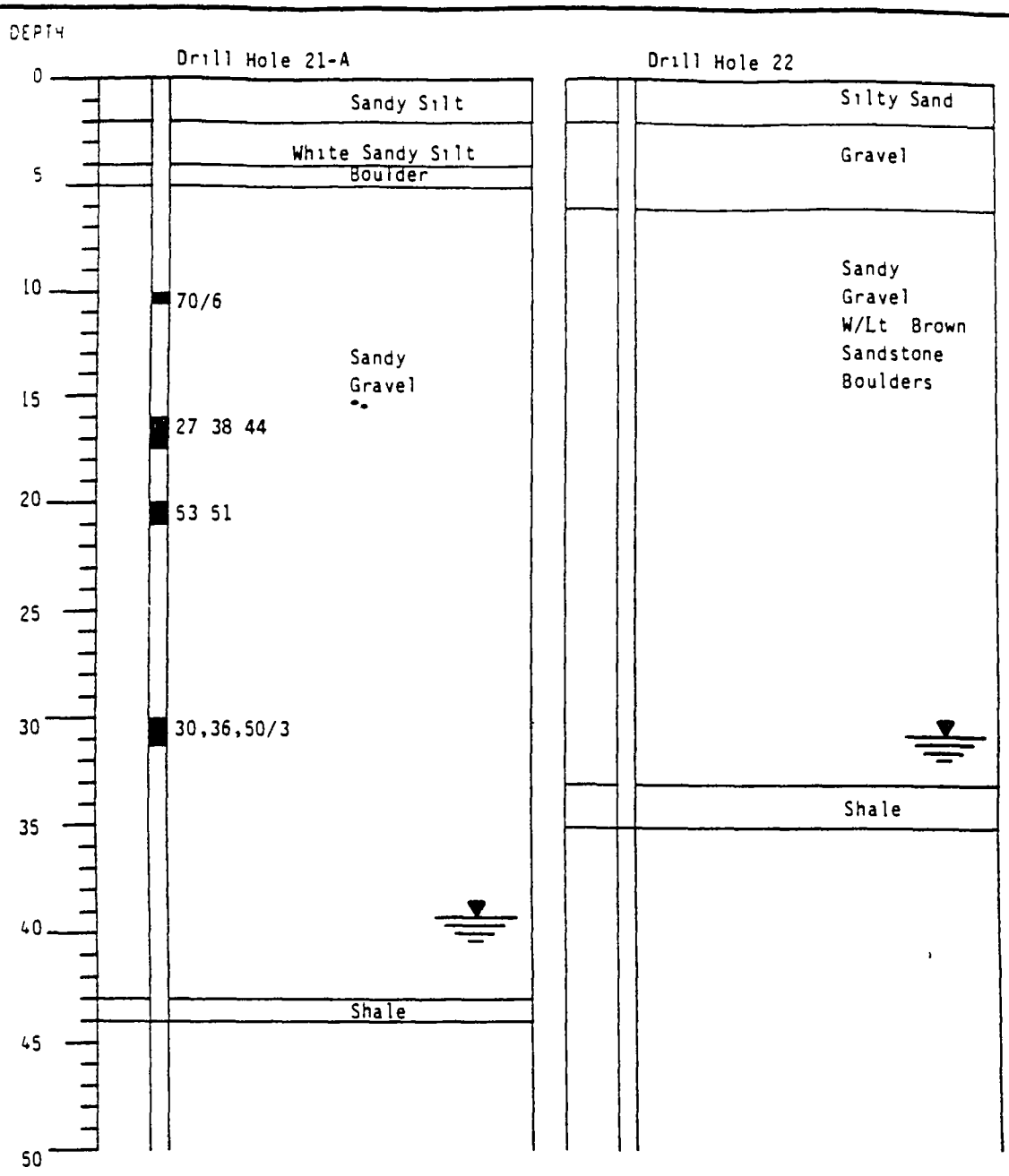

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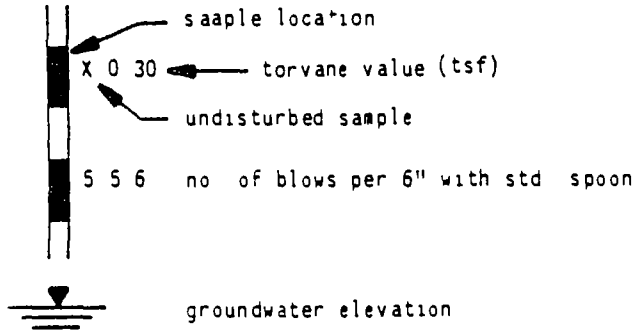

ROLLINS BROWN AND GUNNELL INC
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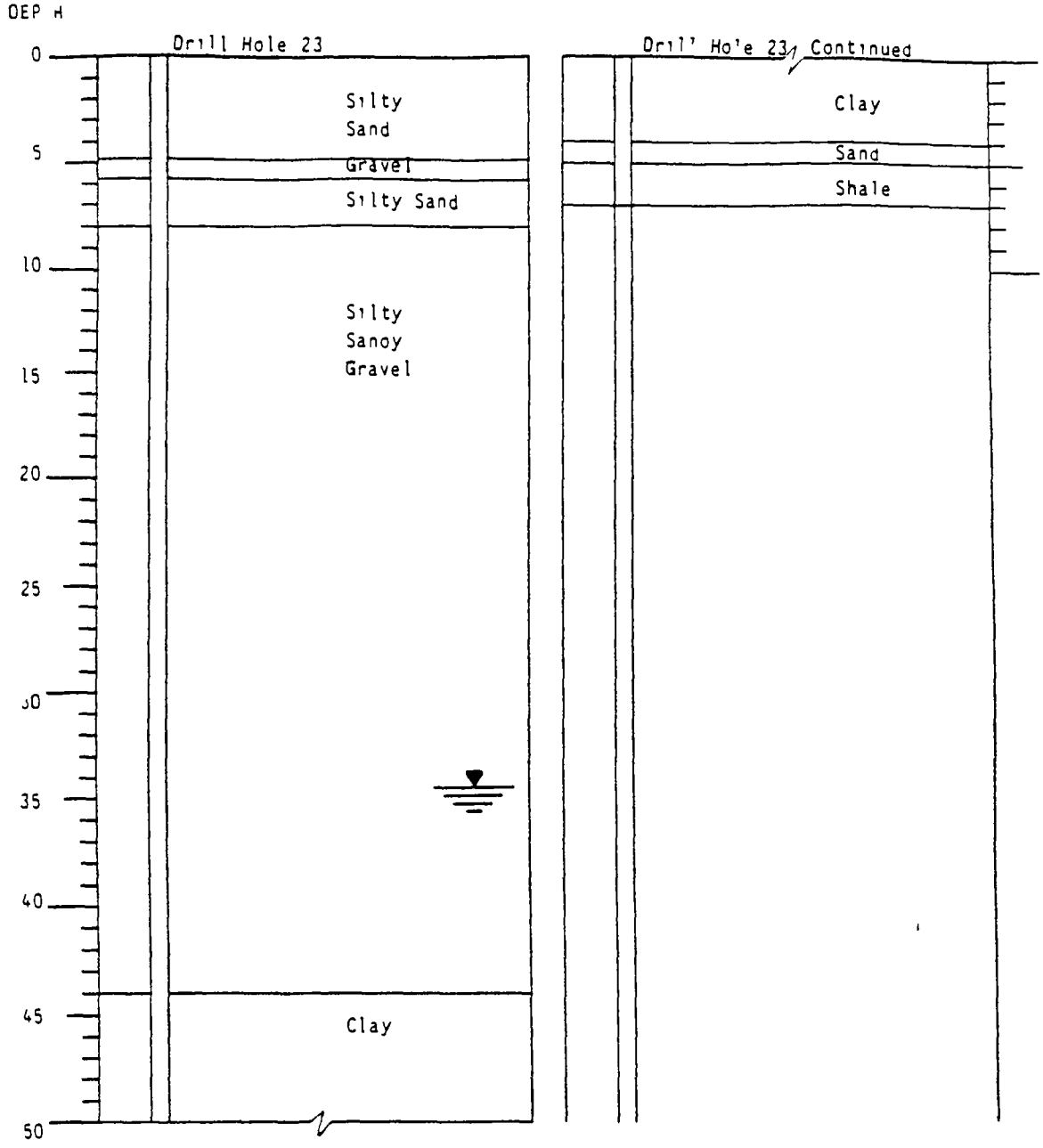
Log of Borings for
EAST CARBON LANDFILL



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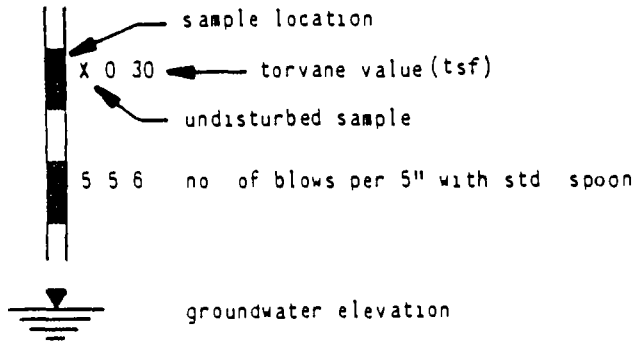

ROLLINS BROWN AND GUNNELL INC
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Log of Borings for

EAST CARBON LANDFILL

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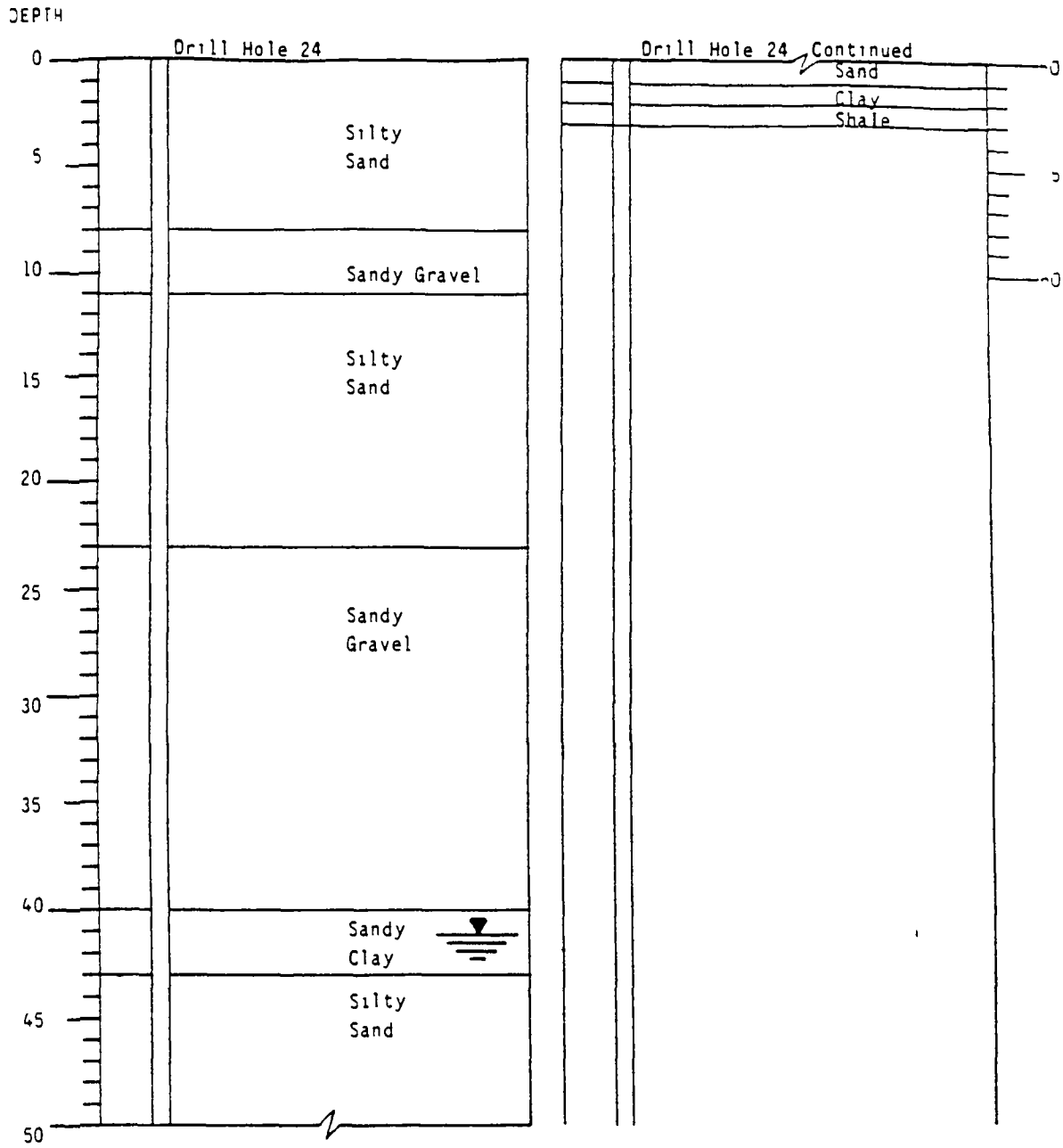

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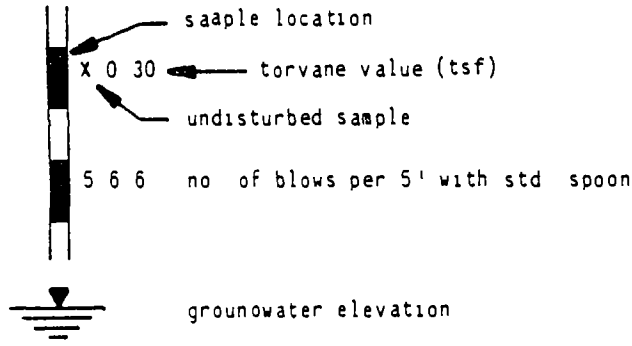

ROLLINS BROWN AND GUNNELL INC
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Log of Borings for

EAST CARBON LANDFILL

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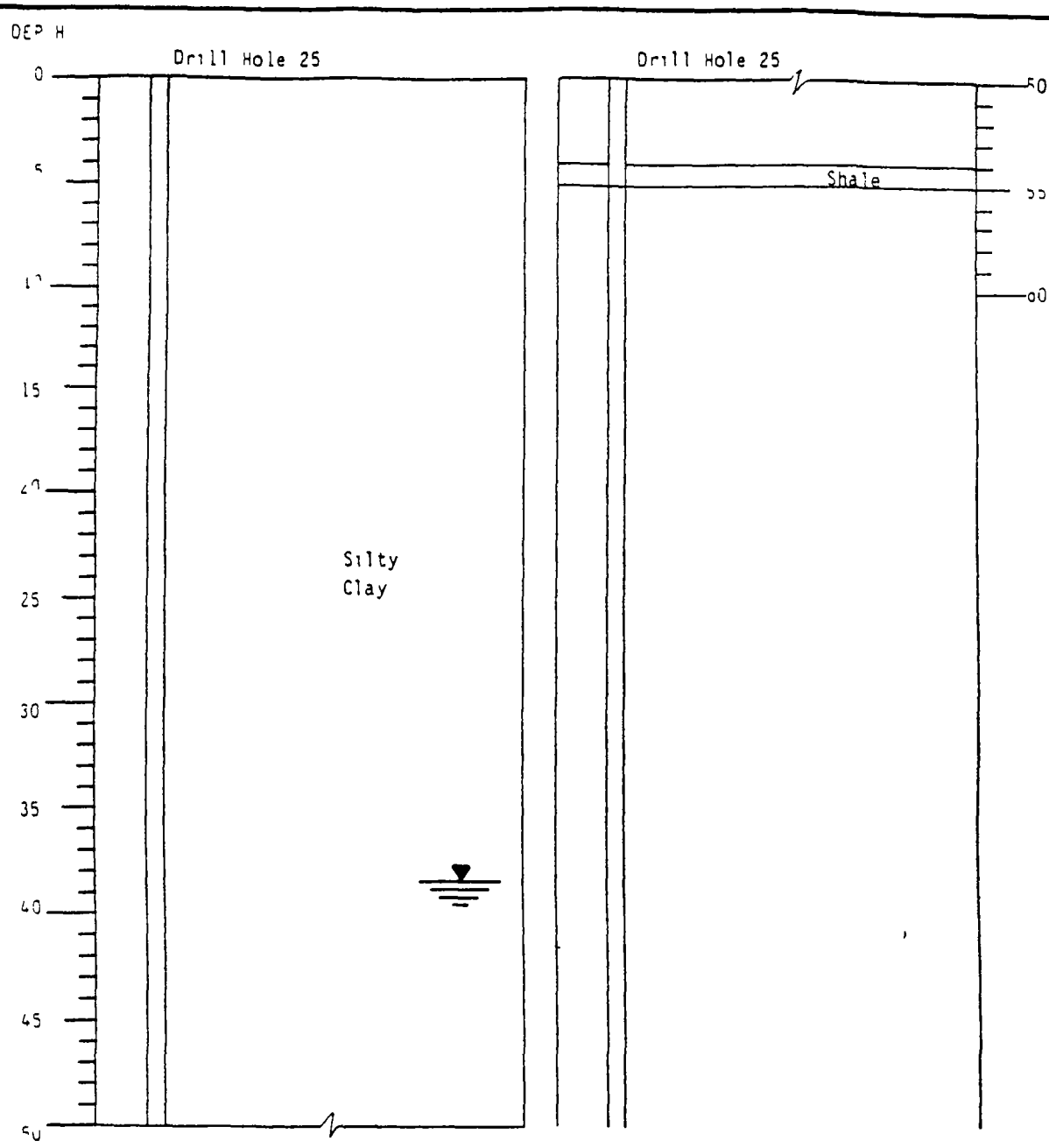

LEGEND

sample location

X 0 30 — torvane value (tsf)

undisturbed sample

5 6 5 no of blows per 6" with std spoon

groundwater elevation

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Log of Borings for

EAST CARBON LANDFILL

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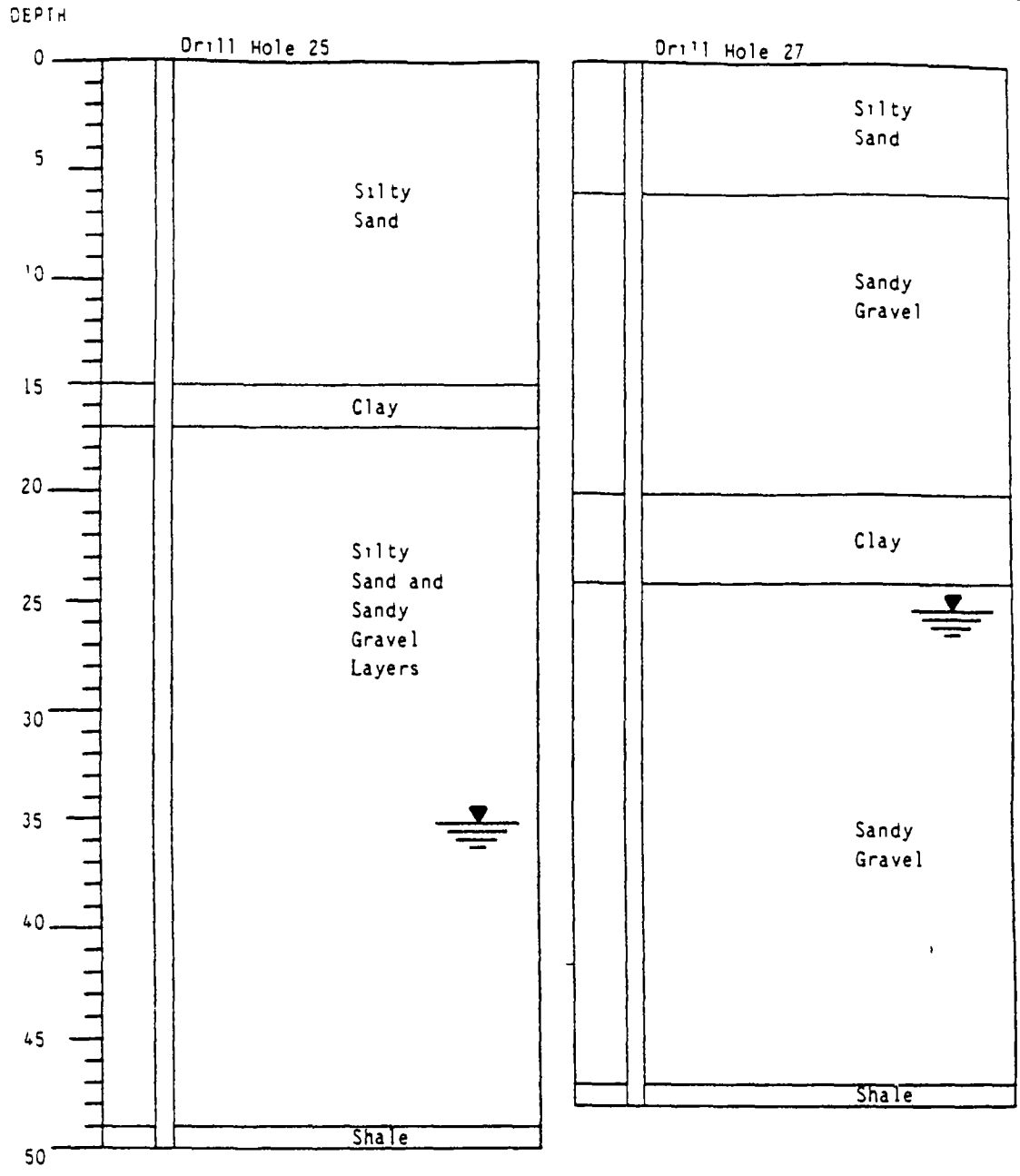

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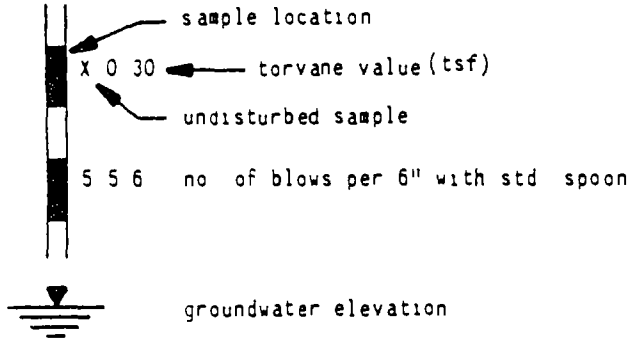

ROLLINS BROWN AND GUNNELL INC

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Log of Borings for

EAST CARBON LANDFILL

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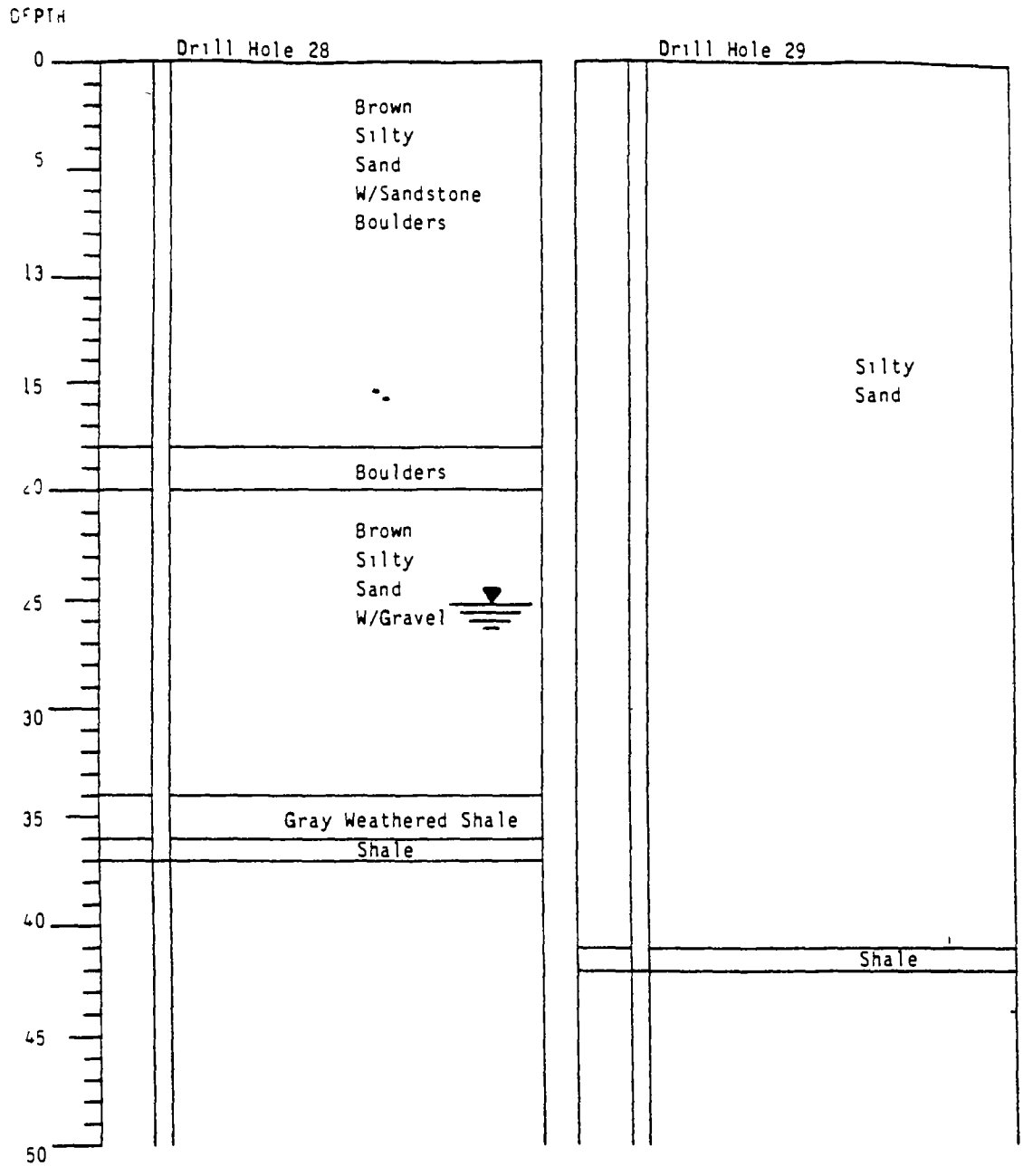

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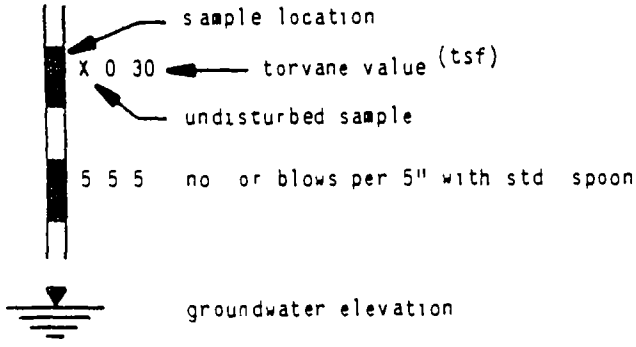

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Log of Borings for
EAST CARBON LANDFILL

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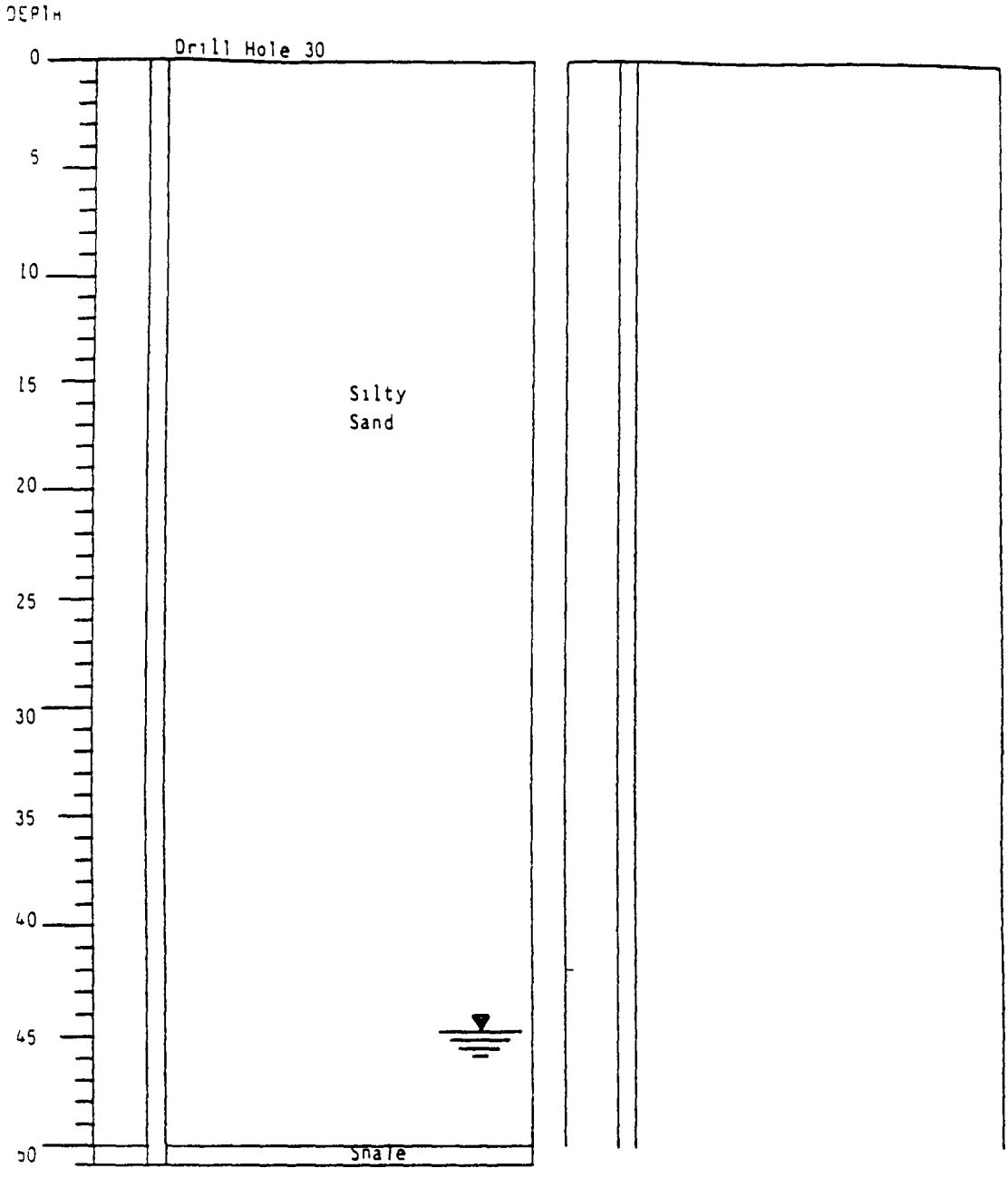

LEGEND

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groundwater elevation

ROLLINS BROWN AND GUNNELL INC

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Log of Borings for

EAST CARBON LANDFILL

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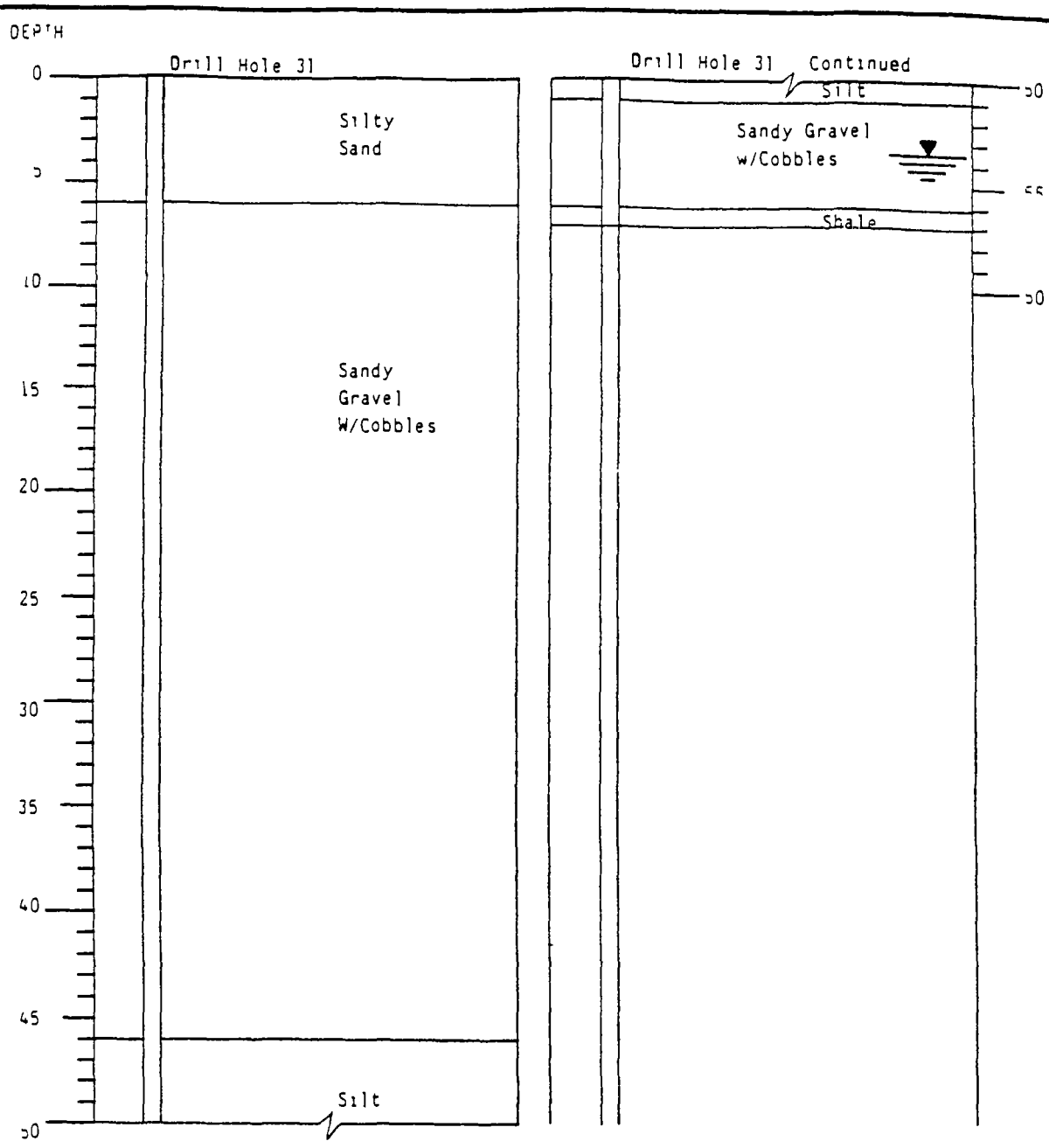

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ROLLINS BROWN AND GUNNELL INC

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EAST CARBON LANDFILL

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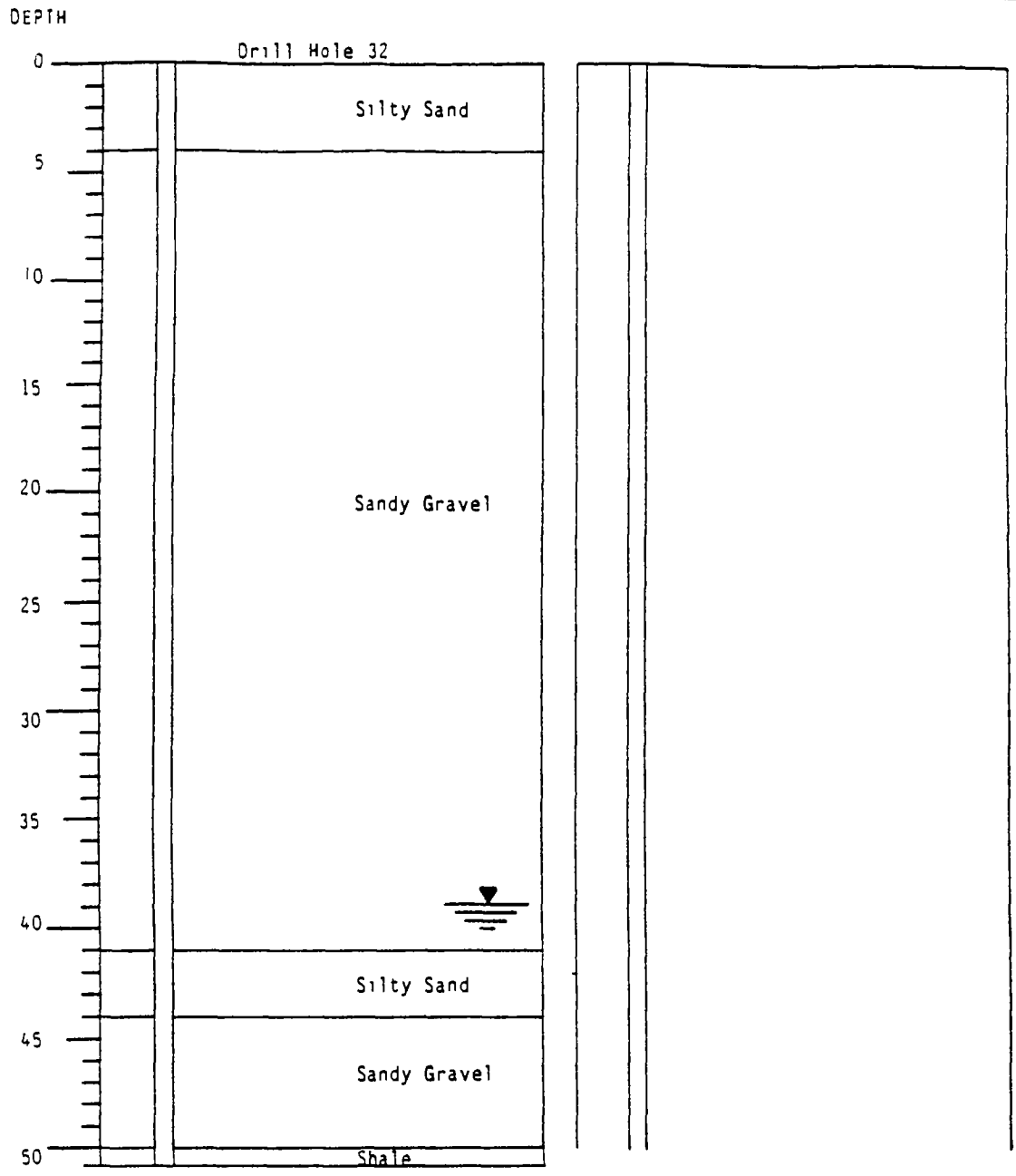

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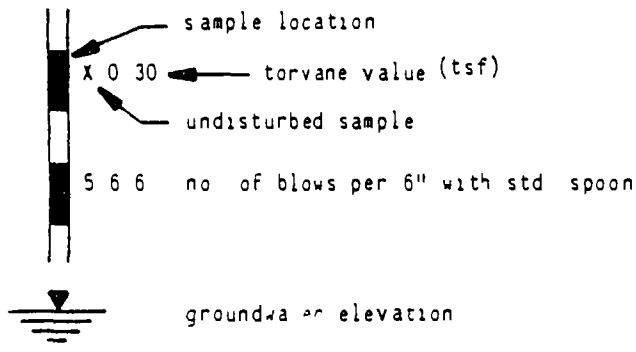

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Log of Borings for

EAST CARBON LANDFILL

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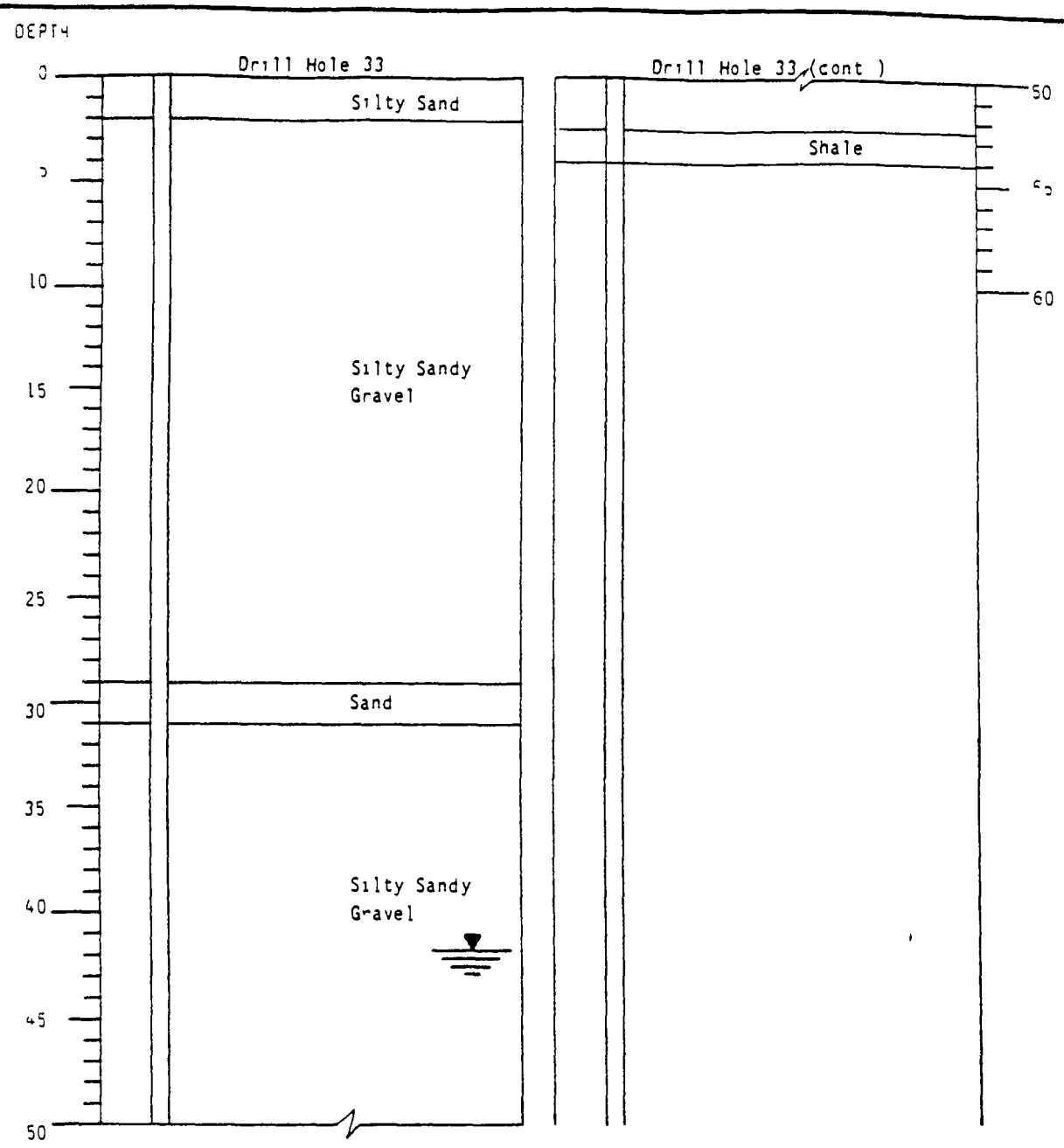

LEGEND

sample location

X 0 30 — torvane value (tsf)

undisturbed sample

5 6 6 no of blows per 5" with std spoon

grounowater elevation

ROLLINS BROWN AND GUNNELL INC

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Log of Borings for

EAST CARBON LANDFILL

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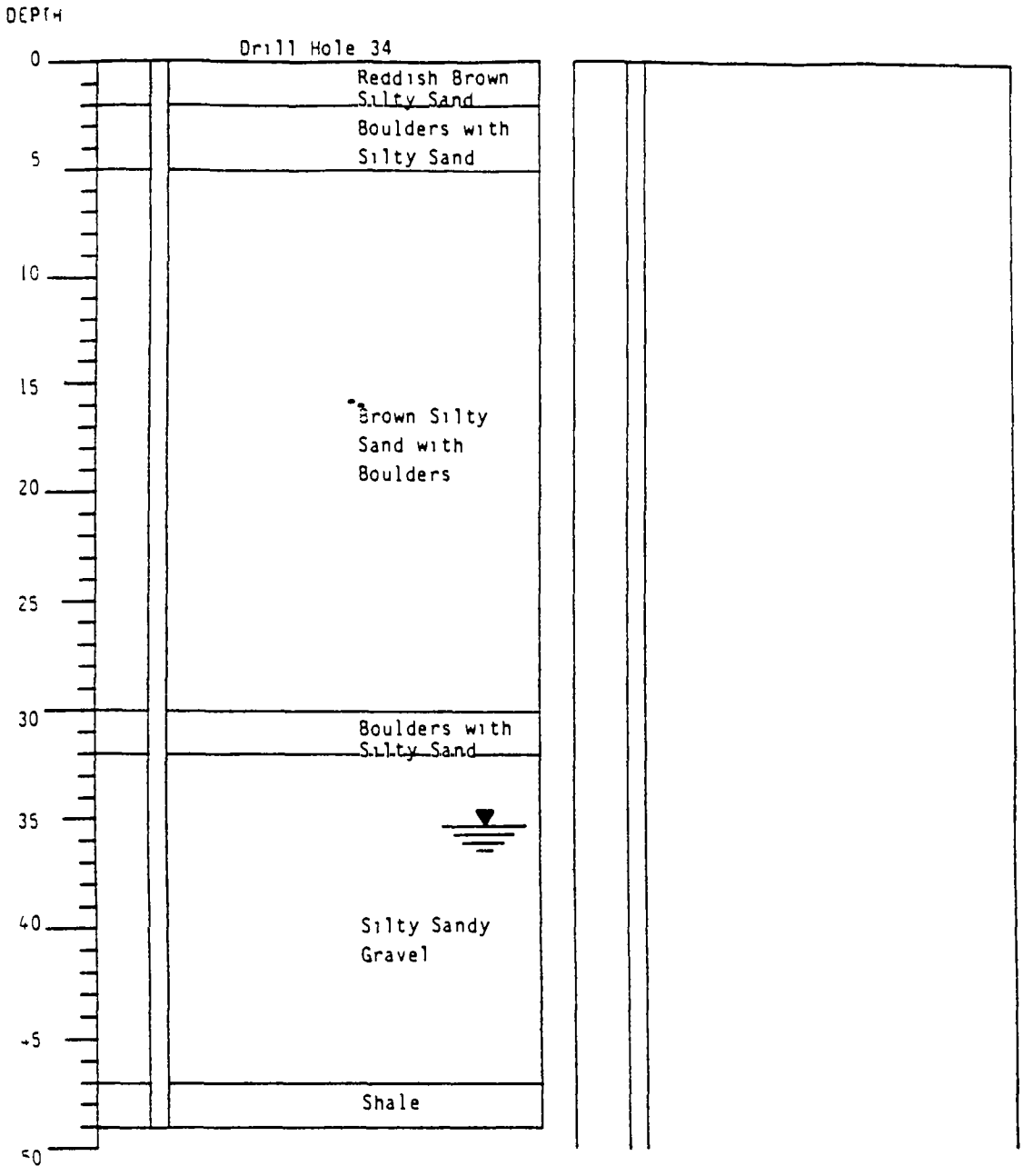

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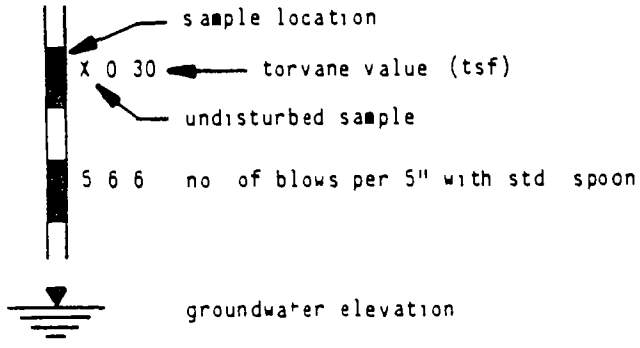

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Log of Borings for

EAST CARBON LANDFILL

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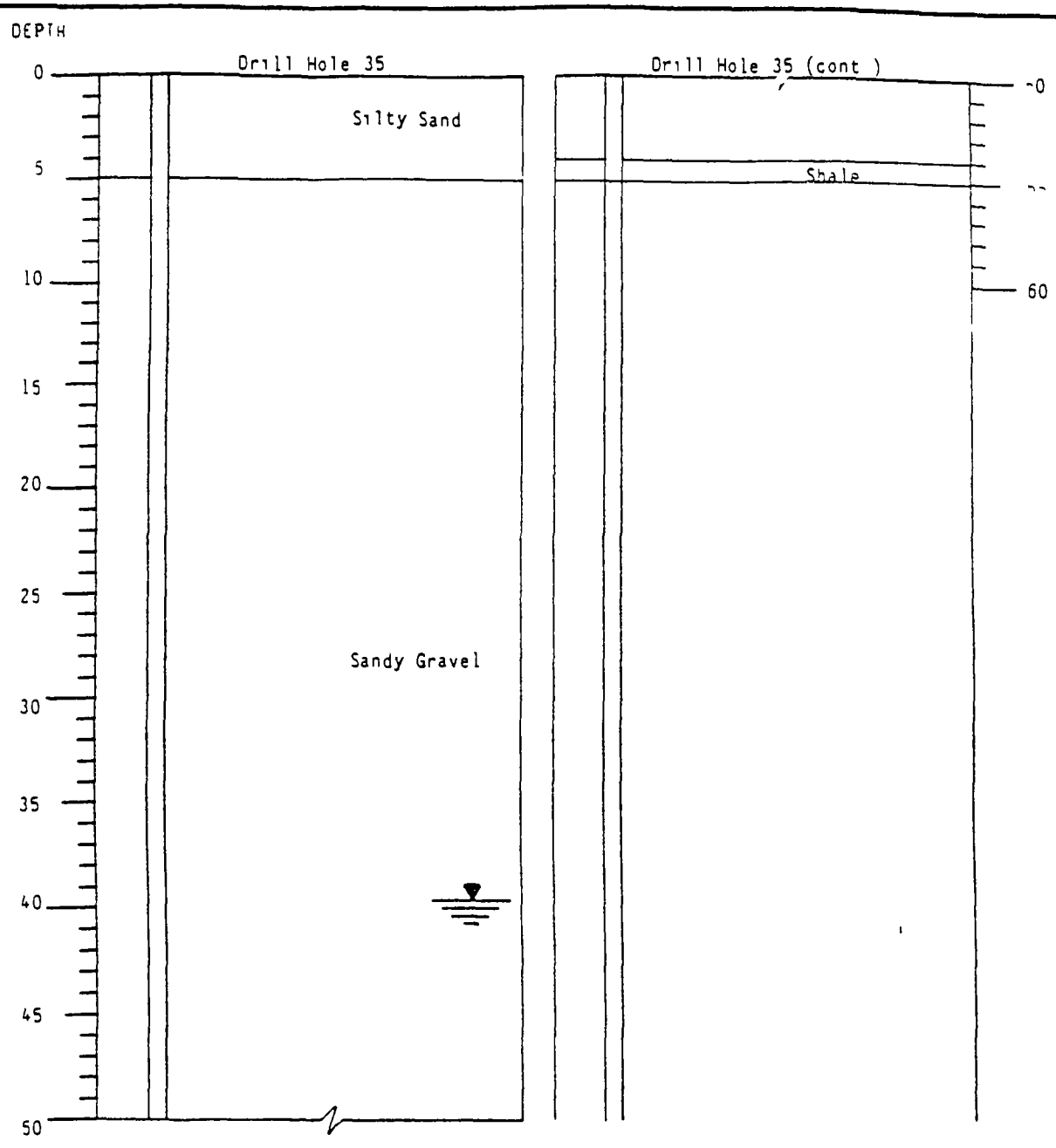

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undisturbed sample

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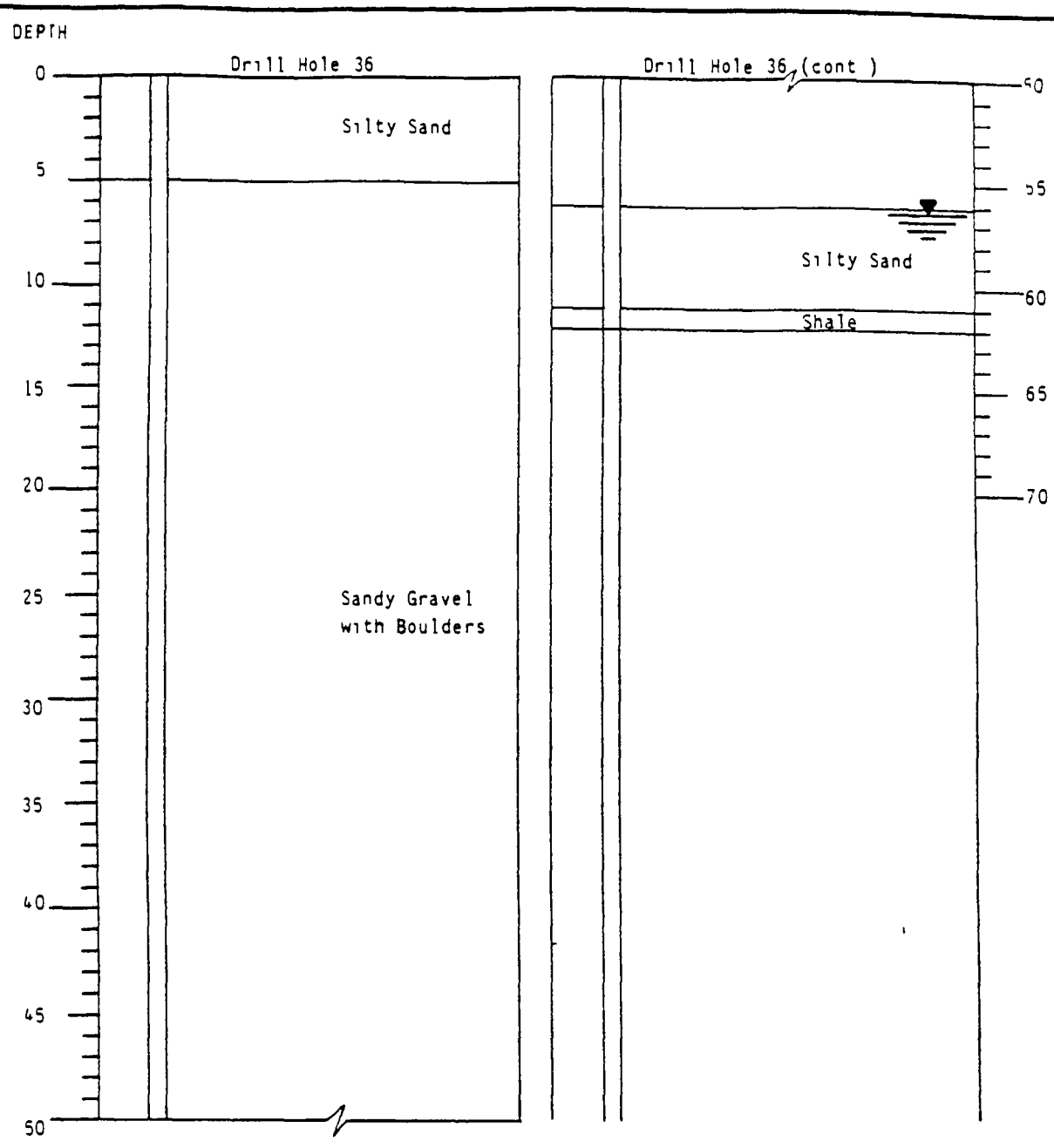
Log of Borings for

EAST CARBON LANDFILL



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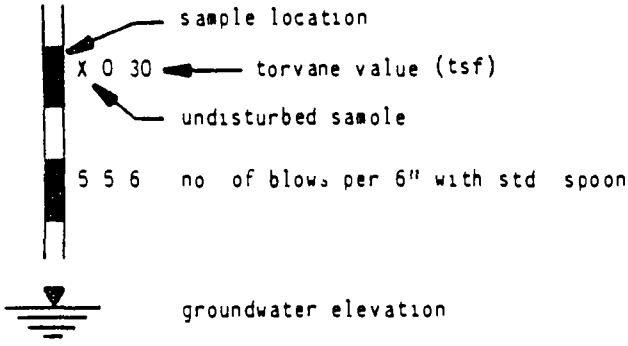

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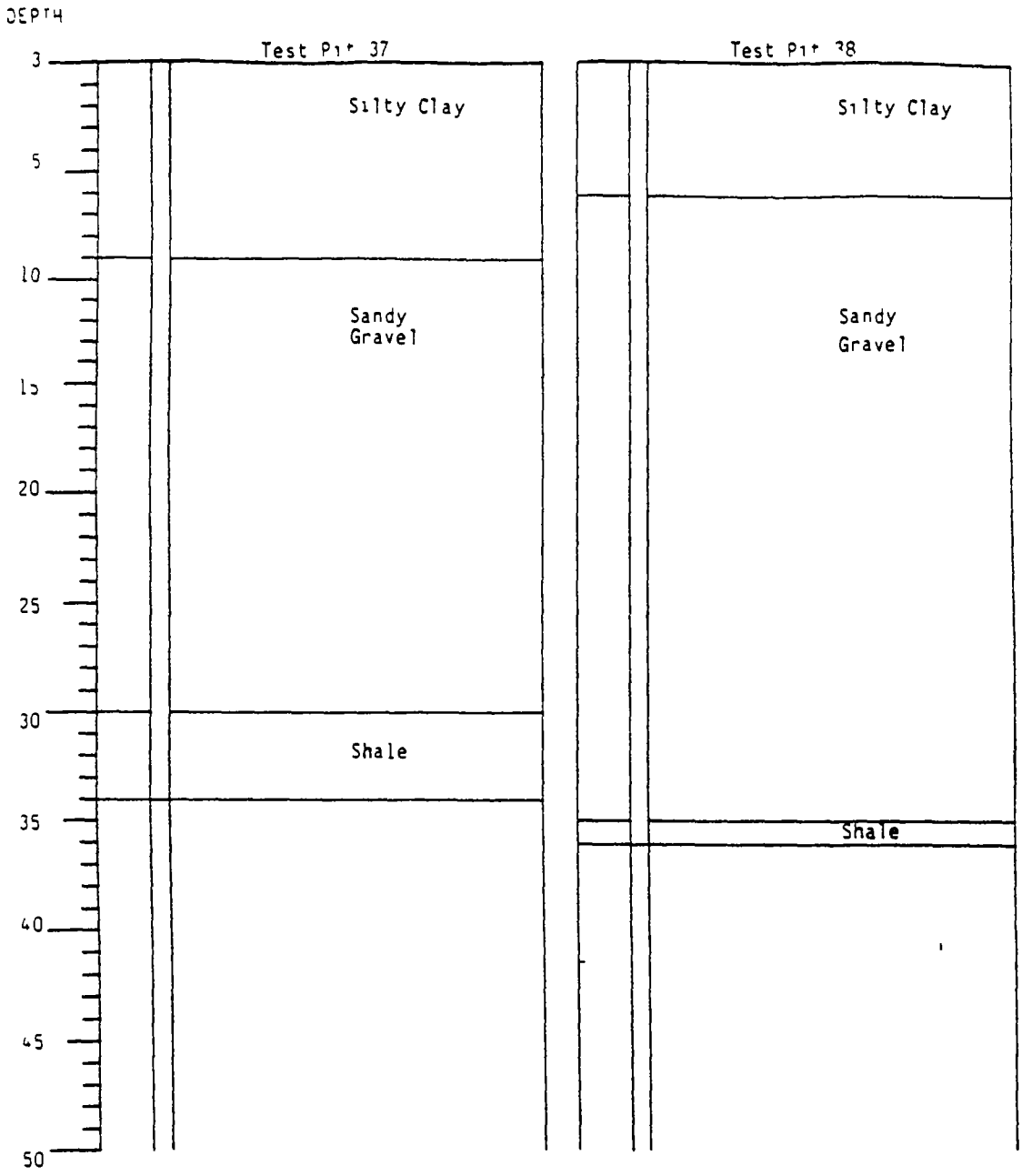
Log of Borings for

EAST CARBON LANDFILL



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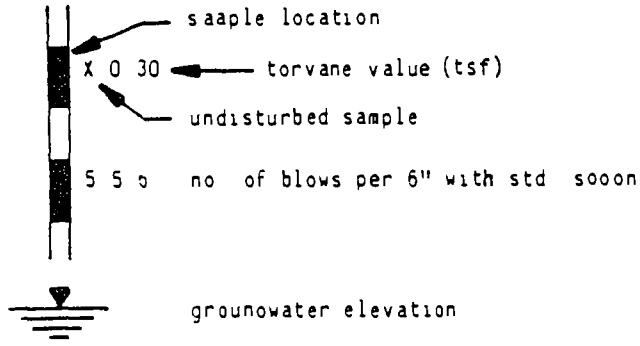
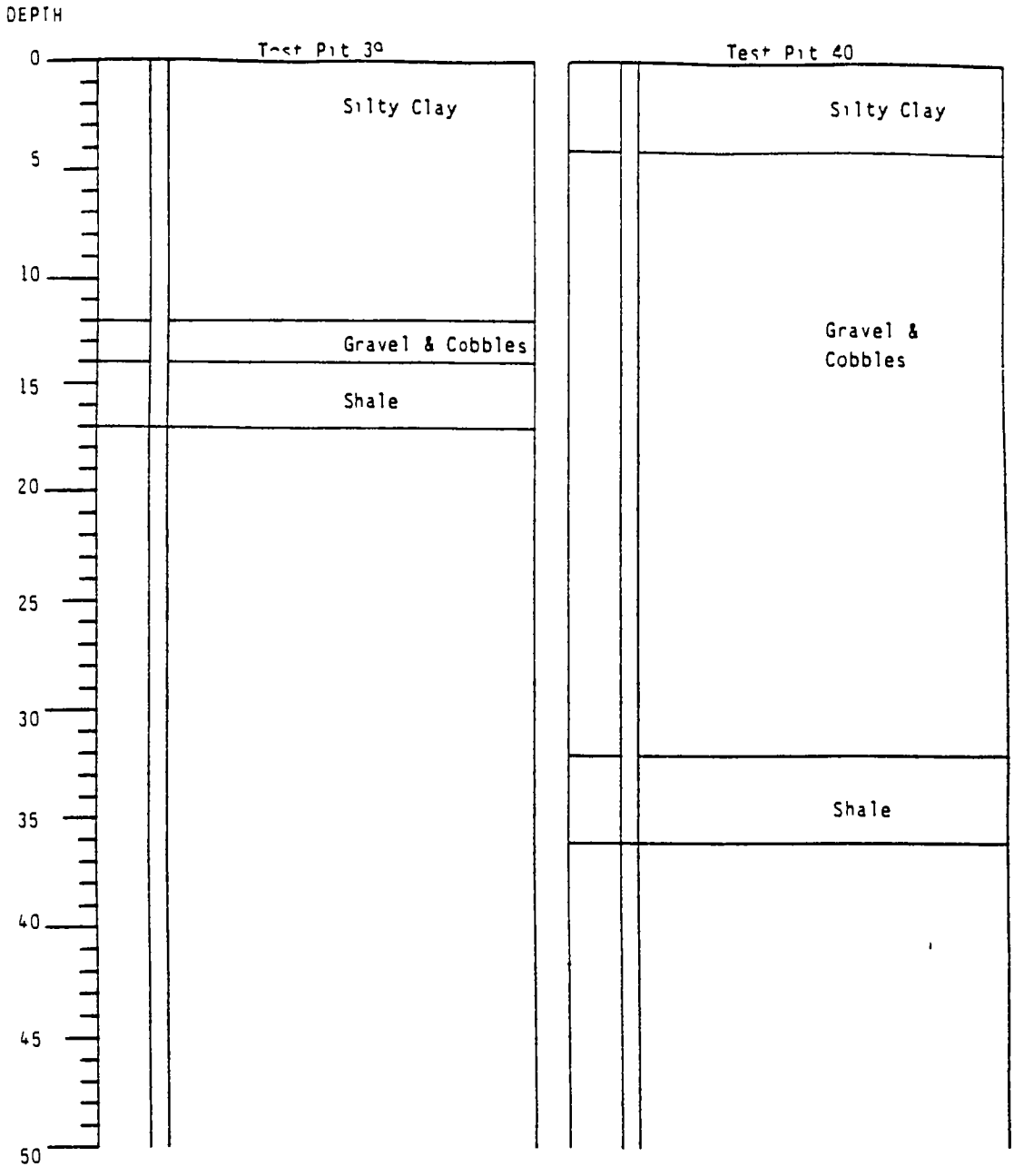


ROLLINS BROWN AND GUNNELL INC
PROFESSIONAL ENGINEERS

Log of Borings for
EAST CARBON LANDFILL



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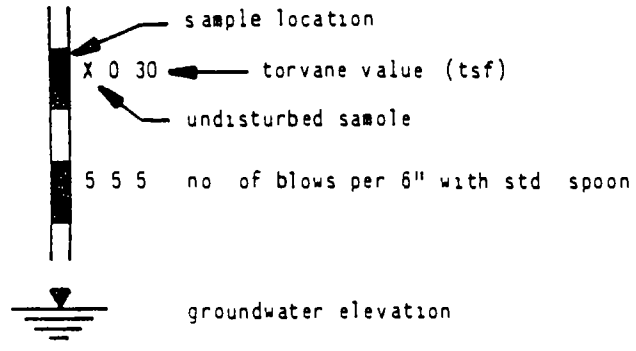

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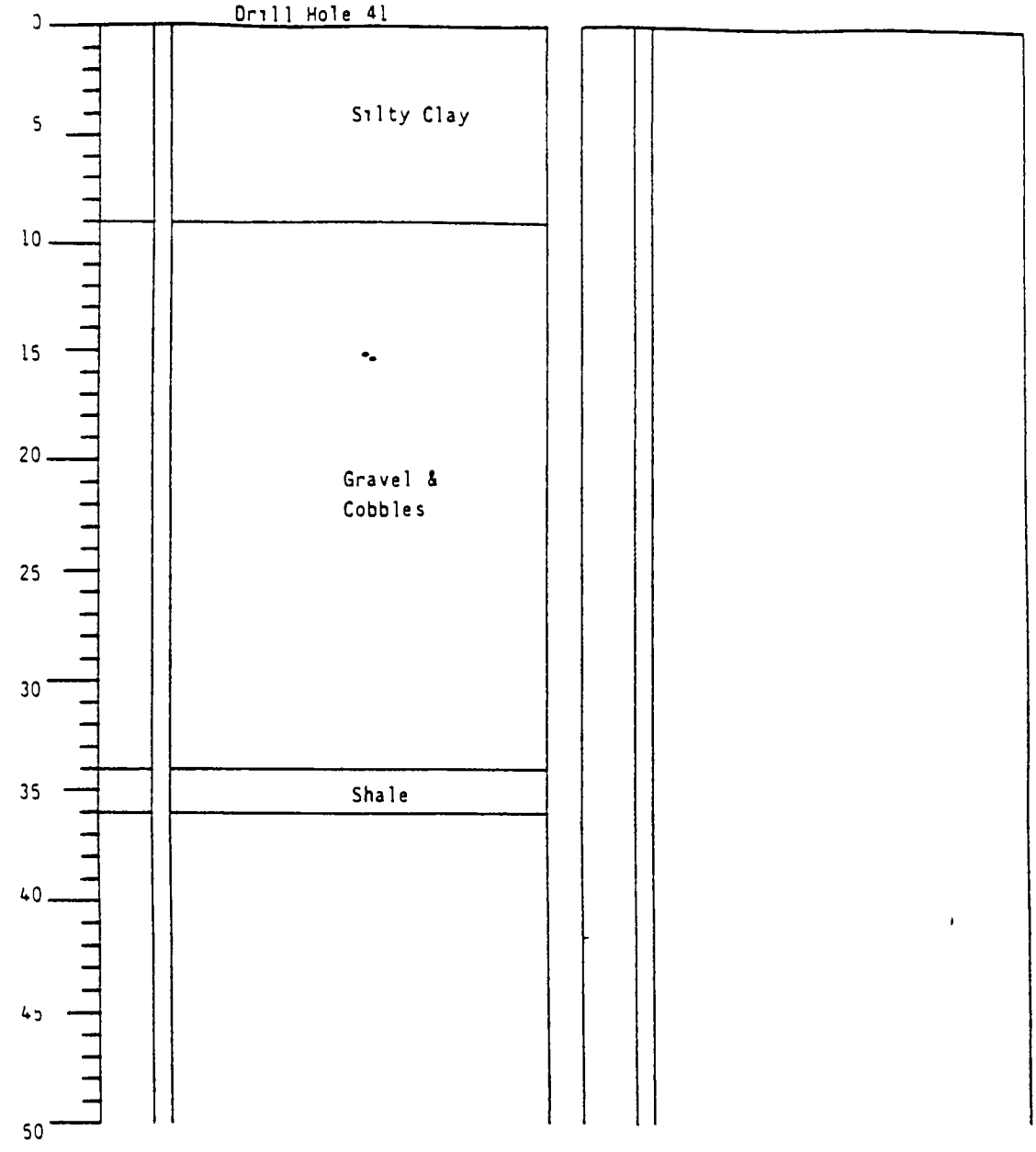
Log of Borings for

EAST CARBON LANDFILL



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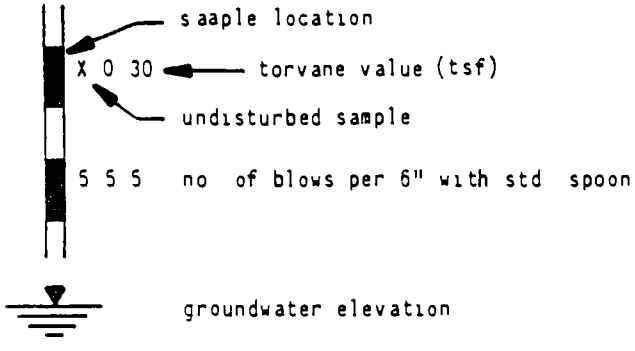

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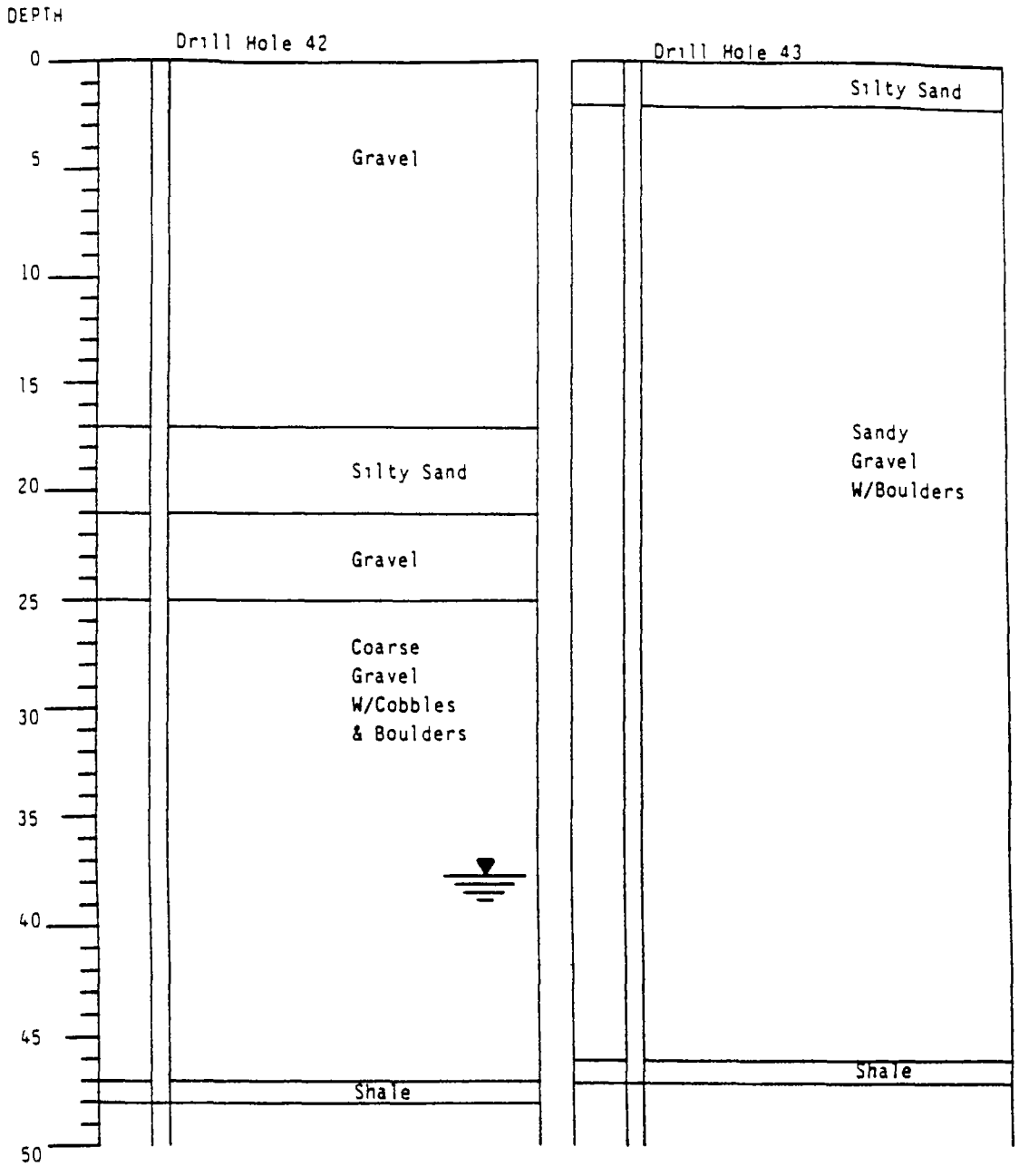
Log of Borings for

EAST CARBON LANDFILL



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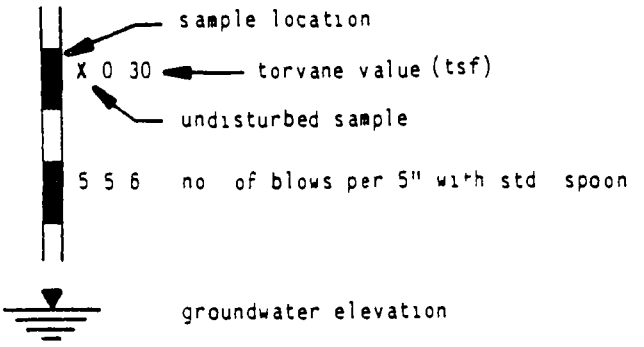

ROLLINS BROWN AND GUNNELL INC
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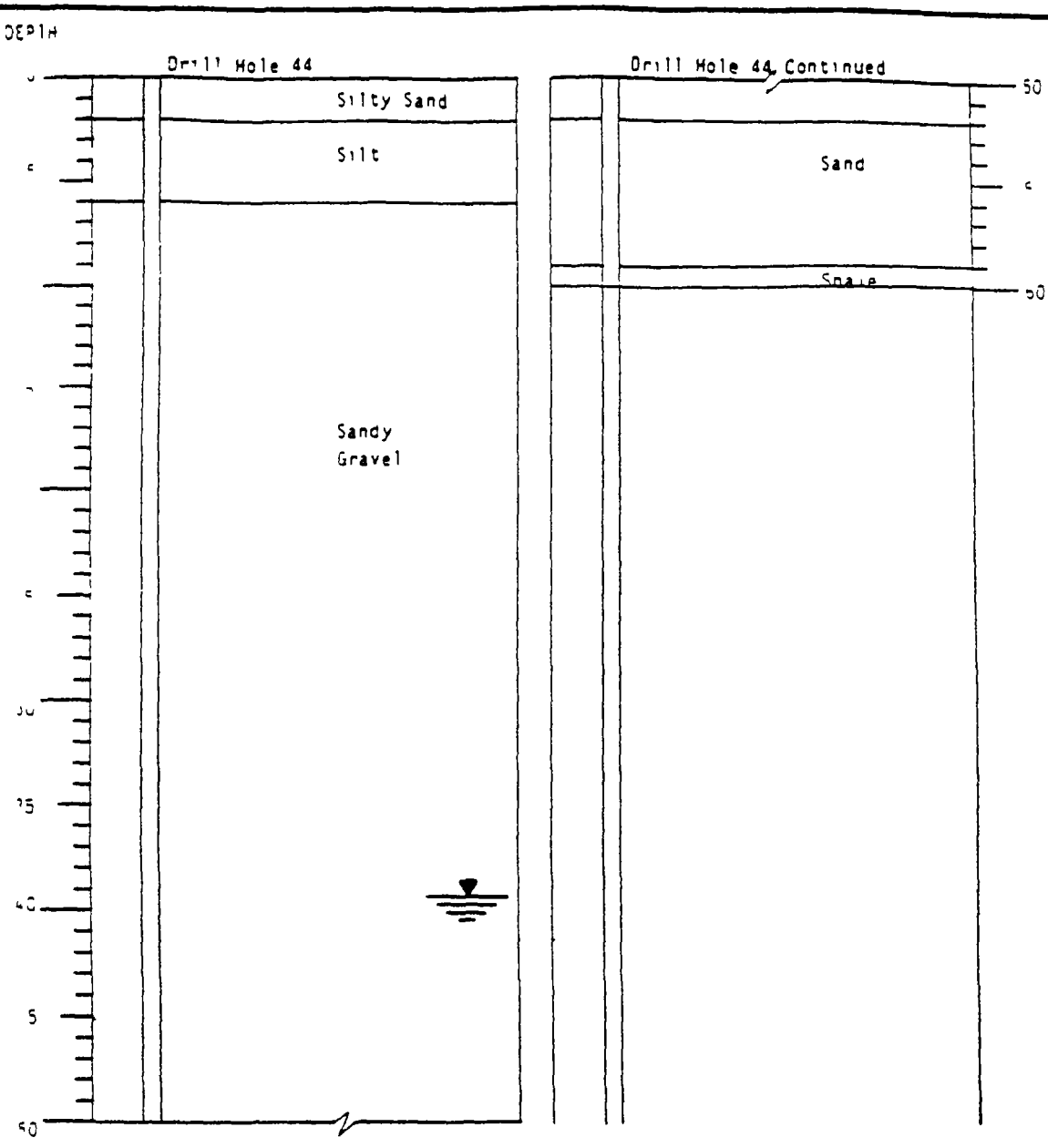
Log of Borings for

EAST CARBON LANDFILL

Figure No



LEGEND

saaple location

X 0 30 ← torvane value (tsf)

undisturbed saaple

5 6 6 no of blows per 6" with std spoon

grounowat* elevation

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Log of Borings for

EAST CARBON LANDFILL

Figure No

EAST CARBON LANDFILL

HOLE NO.	DEPTH	PERM.RATE FT./YR.	CM/SEC
1	50.0 56.0	41.9	4.05E-05
2	32.0 -43.0	4.9	4.71E-06
3	-		-
4	-		-
5	0.0 -41.0	12.4	1.20E-05
6	-		-
7	51.0 -56.0	14.6	1.41E-05
8	36.0 -41.0	15.3	1.48E-05
9	-		-
10	29.0 -37.0	0.6	6.10E-07
11	3.0 -16.0	50.6	4.90E-05
12	30.5 -38.0	779.7	7.54E-04
13	42.0 -50.0	1855.5	1.79E-03
14	49.0 54.0		-
15	45.0 -50.0	120.3	1.16E-04
16	27.0 -34.0	0.3	2.74E-07
16A	30.0 -37.0	1646.9	1.59E-03
17	32.0 -39.0	4.1	3.99E-06
18	58.0 -68.0	1081.0	1.05E-03
19	50.0 -60.0	1.1	1.04E-06
20	61.0 -67.0	3.8	3.69E-06
21	24.0 -53.0	173.8	1.68E-04
21	26.0 -53.0	204.7	1.98E-04
21A	37.0 -44.0	1848.0	1.79E-03
22	28.0 -35.0	11.9	1.15E-05
23	42.0 -47.0	10.0	9.70E-06
24	47.0 -54.0	1750.7	1.69E-03
25	48.5 -54.0	35.1	3.40E-05
26	41.5 -49.5	62.5	6.05E-05
27	40.0 -47.0	35.3	3.42E-05
28	31.0 -37.0	329.9	3.19E-04
29	32.0 -41.5	1368.6	1.32E-03
30	42.0 -50.0	197.2	1.91E-04
31	52.0 -57.0	3027.8	2.93E-03
32	41.0 -51.0	16.6	1.61E-05
33	48.0 -54.0	1261.5	1.22E-03
34	41.0 -49.0	902.8	8.73E-04
35	47.0 -55.0	1065.9	1.03E-03
36	51.0 -61.0	34.4	3.33E-05
37	-		-
38	-		-
39	-		-
40	-		-
41	-		-
42	40.5 -48.0	6.7	6.45E-06
43	39.0 -47.0	4.3	4.20E-06
44	52.0 -60.0	1588.5	1.54E-03

ROLLINS, BROWN and GUNNELL, INC

1435 WEST 820 NORTH
POST OFFICE BOX 711
PROVO UTAH 84603
(801) 374 5 71 Provo
(801) 571 5 71 N C

SOIL MOISTURE DENSITY RELATIONSHIP

Project EAST CARBON LANDFILL
Project no 9001-016
Feature Shale
Test date 2-2 90
Job technician
Mailing date

ASTM D 1557 78

Maximum dry density = 118 0 lbs/ft³

Optimum moisture = 13 1 %

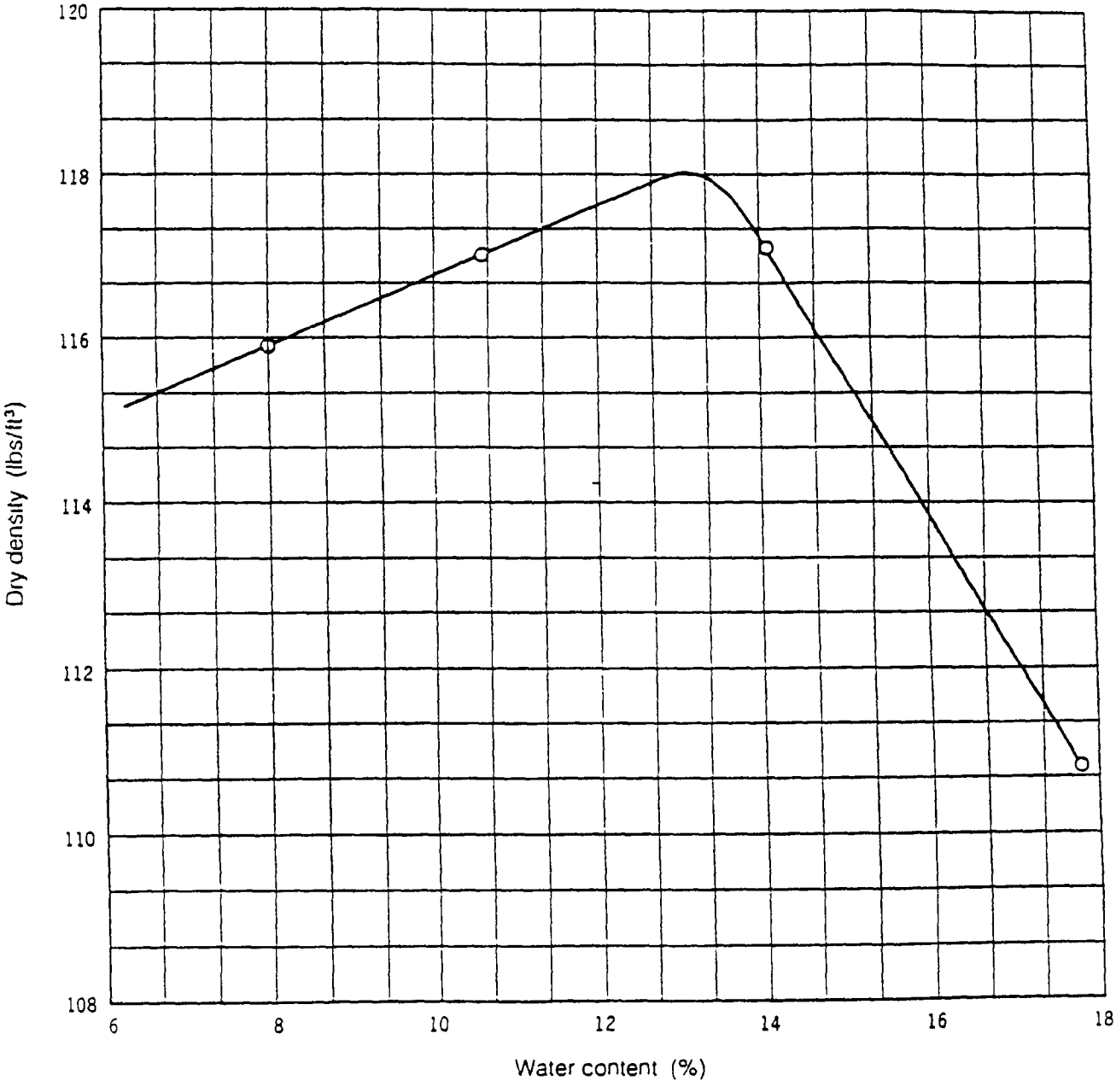


Table No 1 SUMMARY OF TEST DATA

Project EAST CARBON LANDFILL Feature _____ Location _____

HOLE NO	DEPTH BELOW GROUND SURFACE	STANDARD PENETRATION BLOWS PER FOOT	ASTM 0698			PERMEABILITY IN CM/SEC	SOLUBLE SALTS (X) BY DRY WT	CONSISTENCY LIMITS			MECHANICAL ANALYSIS			UNIFIED SOIL CLASSIFICATION SYSTEM
			Dry Unit Weight (lb/ft³)	Moisture (%)	Void Ratio			L L (%)	P L (%)	P I (%)	% Gravel	% Sand	% Silt & Clay	
	SHALE		118 0	13 1		$4\ 25 \times 10^{-7}$	1 0	35	21	14				CL-1
	CLAY		109 5	15 2		$5\ 61 \times 10^{-7}$	3 0	25	15	10				CL-1
	Lt Gray Clay		97 8	15 5		$3\ 4 \times 10^{-9}$		84	15	69				CH

ALLIED WASTE
ECDC ENVIRONMENTAL, INC

PIEZOMETERS AND
CELL 7 MONITORING WELLS

DRILLING LOGS

DARIN'S COPY

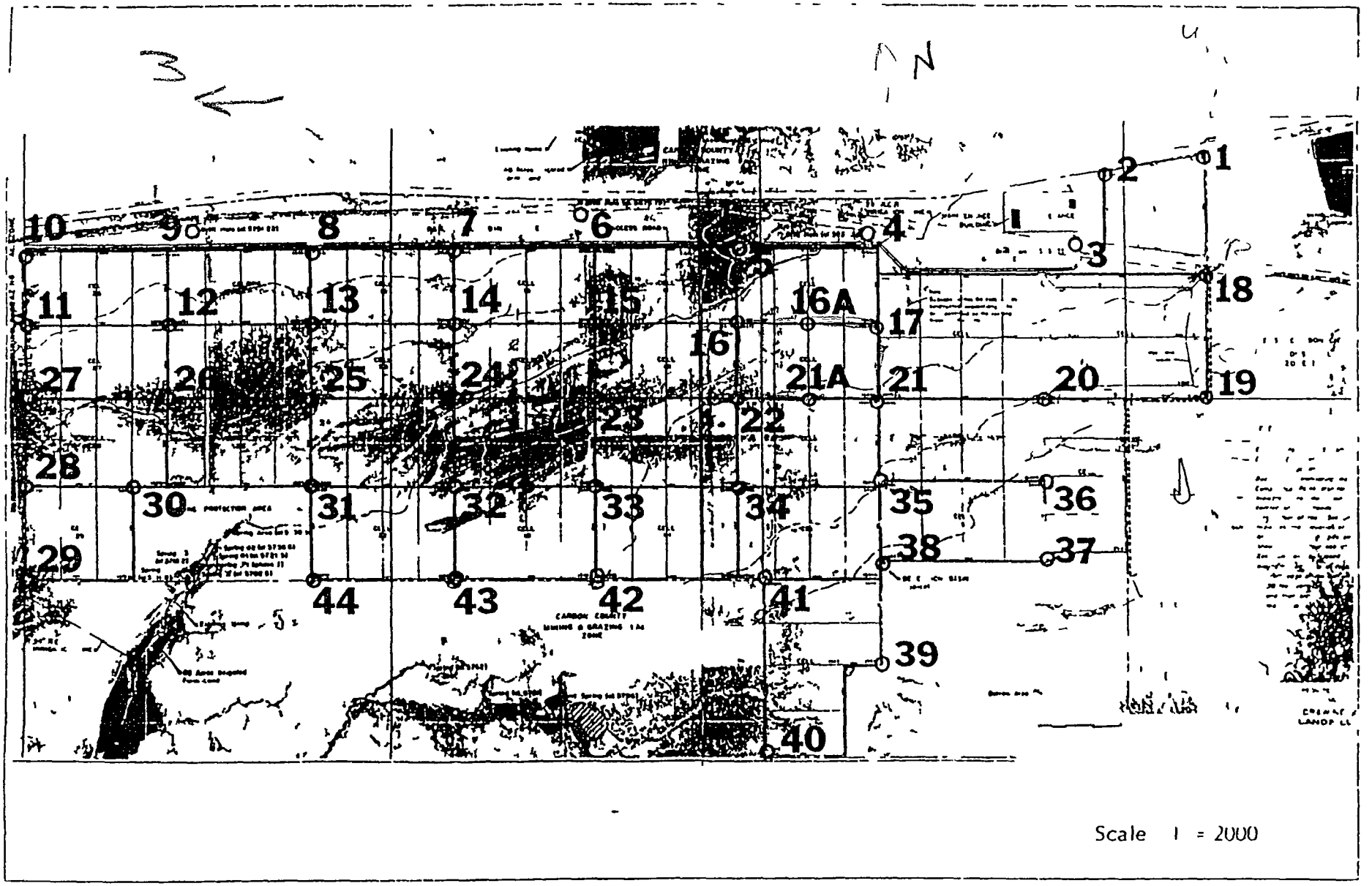
PIEZOMETERS

Appendix #1

Test Hole Logs

Permeability Results

Clay Samples



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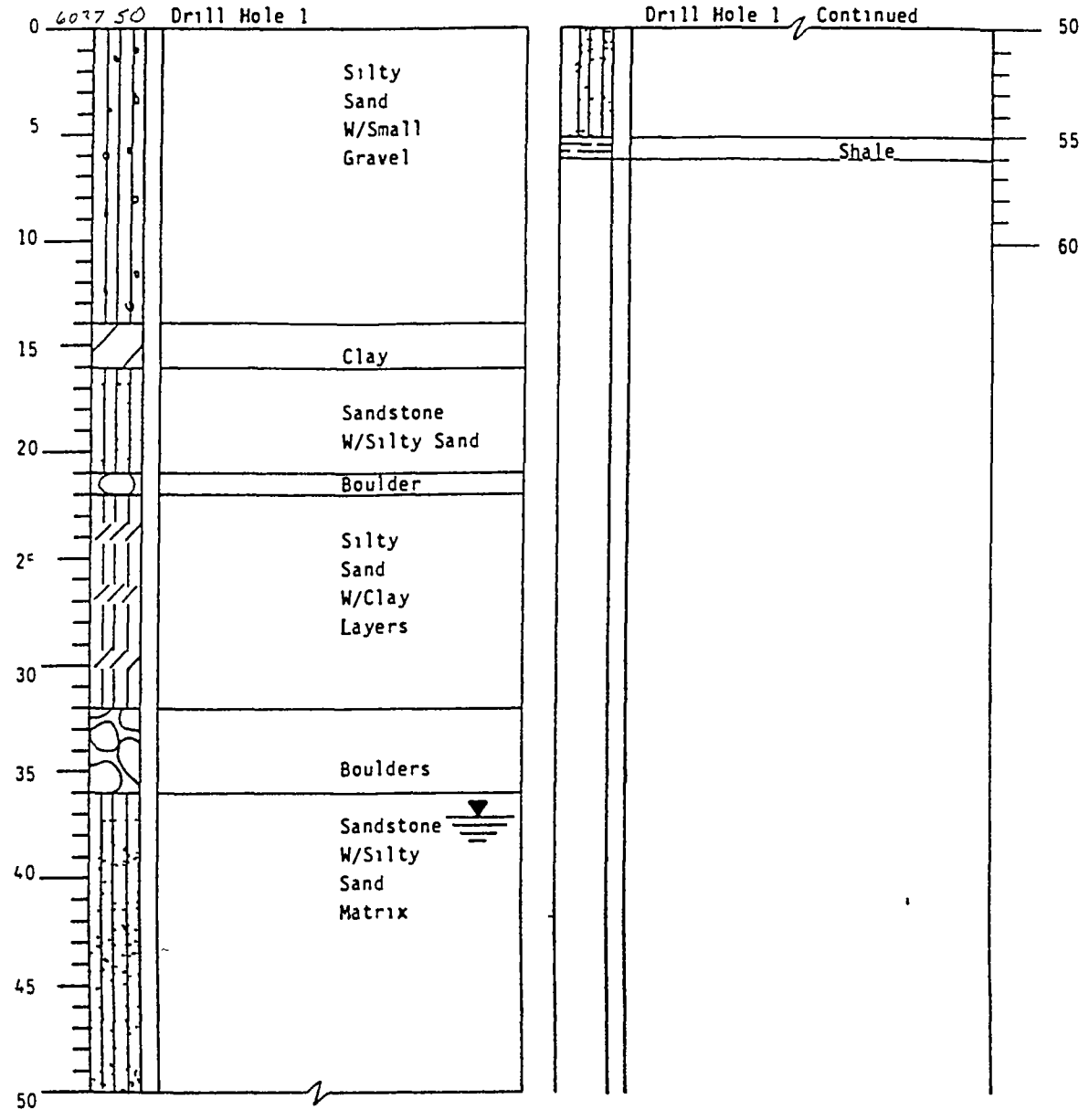
Location Map and Drill Hole Locations
EAST CARBON LANDFILL

FIGURE
NO 1

ECDC Environmental L C
Groundwater Elevations October, 1994

	GROUND EL	CAP EL	OCT READING	GW EL
WELL - 7W	5940 60	5942 60	DRY	DRY
WELL - 7S	5936 60	5938 86	79 70	5859 16
WELL - 7SW	5951 00	5952 40	79 55	5872 85
WELL - A	6038 10	6041 03	41 44	5999 59
WELL - B	6027 10	6029 88	50 92	5978 96
WELL - C	6010 40	6013 43	56 75	5956 68
PIEZ 1	6037 50	6038 14	38 10	6000 04
PIEZ 5	5906 00	5907 07	DRY	DRY
PIEZ 7	5841 80	5843 04	40 49	5802 55
PIEZ 8	5614 20	5815 16	DRY	DRY
PIEZ 10	5746 10	5747 84	DRY	DRY
PIEZ 12	5776 50	5777 66	37 00	5740 66
PIEZ 13	5809 80	5811 02	DRY	DRY
PIEZ 14	5637 40	5838 21	41 85	5796 36
PIEZ 15	5866 00	5867 07	38 08	5828 99
PIEZ 18	6027 20	6027 86	49 08	5978 78
PIEZ 20	5792 20	5973 67	56 31	5917 36
PIEZ 23	5858 50	5860 03	DRY	DRY
PIEZ 24	5829 80	5830 78	41 34	5789 44
PIEZ 25	5798 40	5799 37	38 53	5760 84
PIEZ 26	5771 00	5772 05	34 95	5737 10
PIEZ 27	5748 40	5749 79	38 90	5710 89
PIEZ 28	5733 90	5734 99	25 20	5709 79
PIEZ 29	5730 40	5732 23	32 55	5699 68
PIEZ 30	5758 00	5759 24	41 35	5717 89
PIEZ 31	5791 20	5792 44	45 32	5747 12
PIEZ 32	5820 90	5822 18	39 43	5782 75
PIEZ 33	5851 40	5853 21	44 00	5809 21
PIEZ 34	5886 40	5887 47	35 70	5851 77
PIEZ 35	5919 20	5920 04	39 00	5881 04
PIEZ 36	5962 20	5963 19	58 14	5905 05
PIEZ 42	5843 80	5845 14	38 93	5806 21
PIEZ 43	5811 20	5812 61	41 16	5771 45
PIEZ 44	5785 20	5786 45	41 24	5745 21



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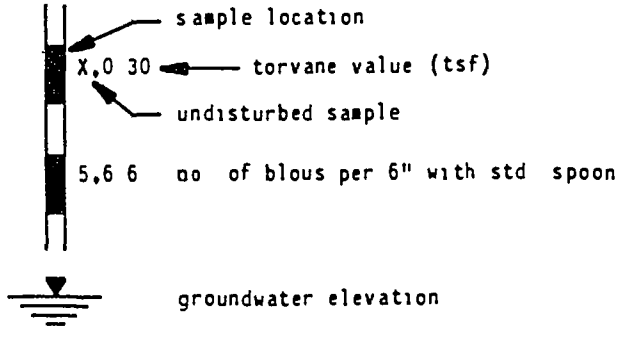

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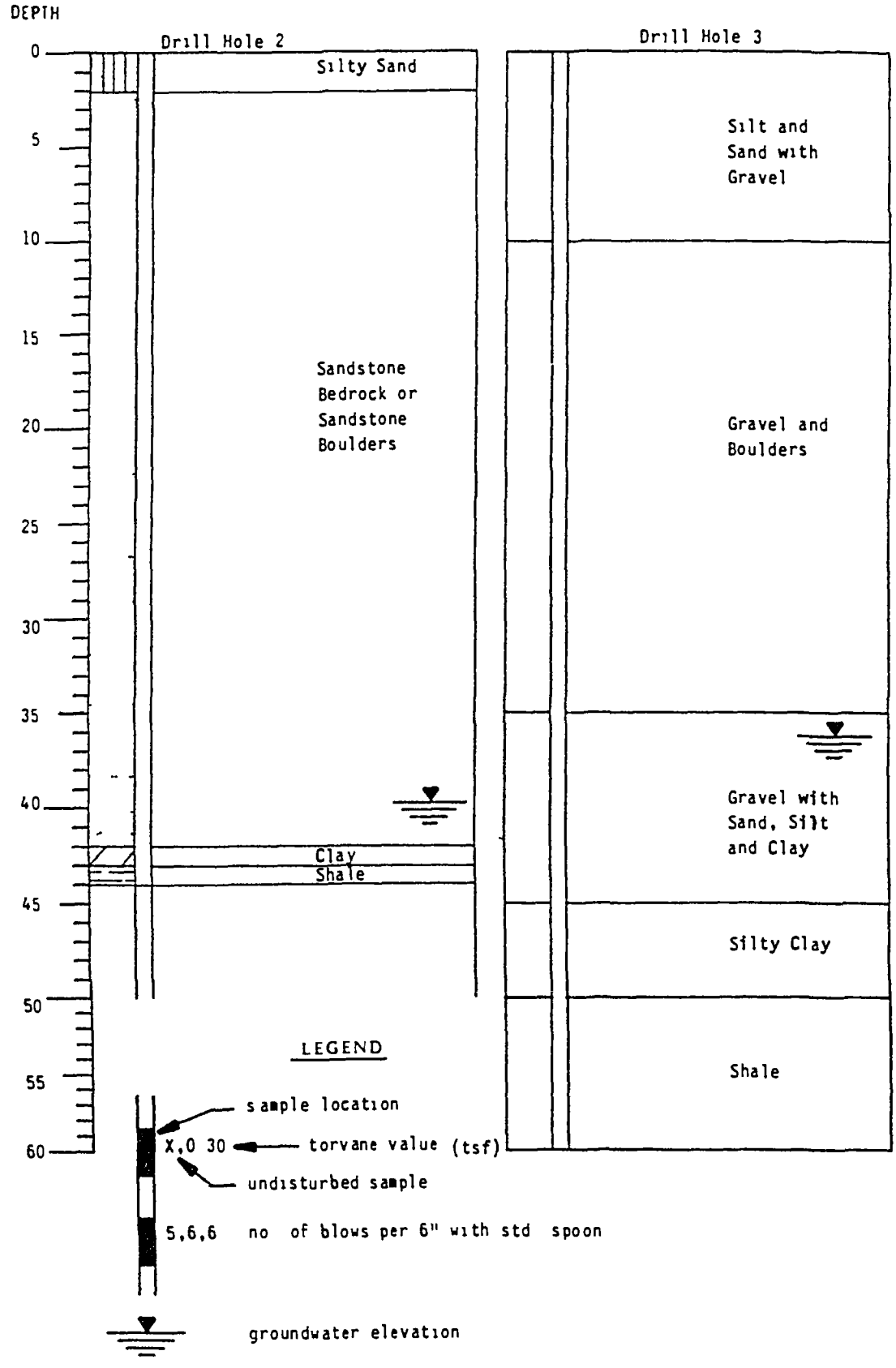
Log of Borings for
EAST CARBON LANDFILL

Figure No



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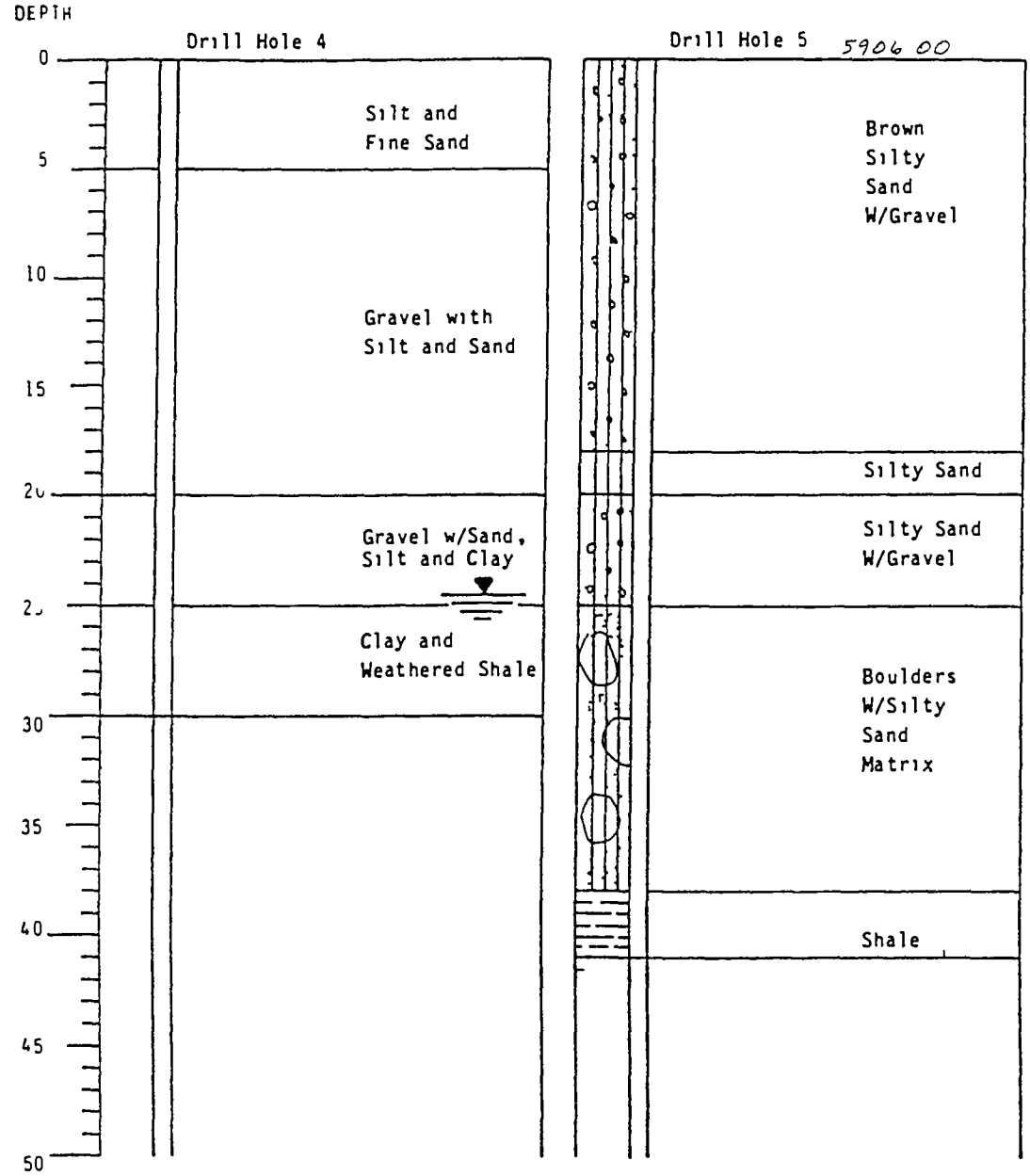

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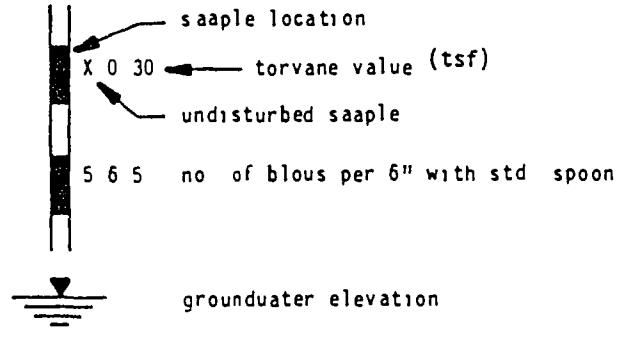

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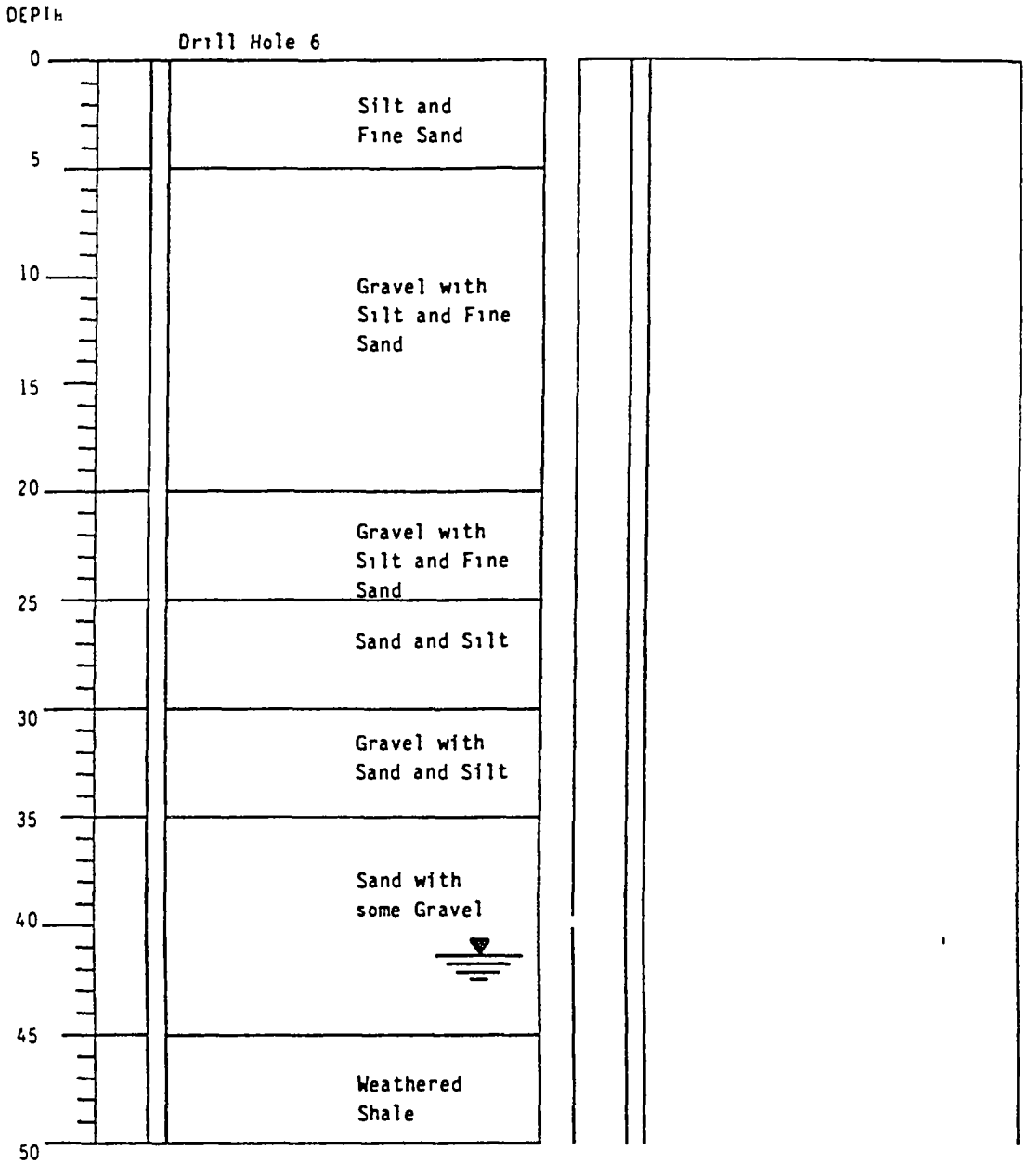

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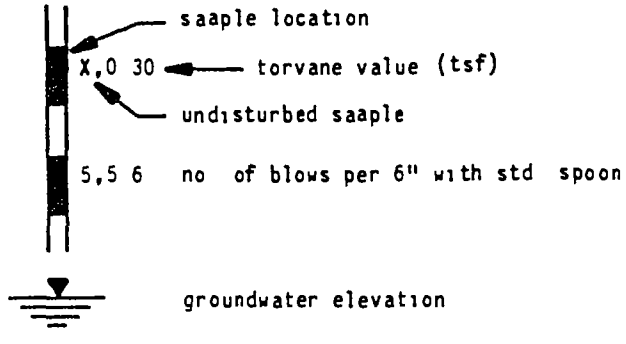

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Log of Borings for

EAST CARBON LANDFILL

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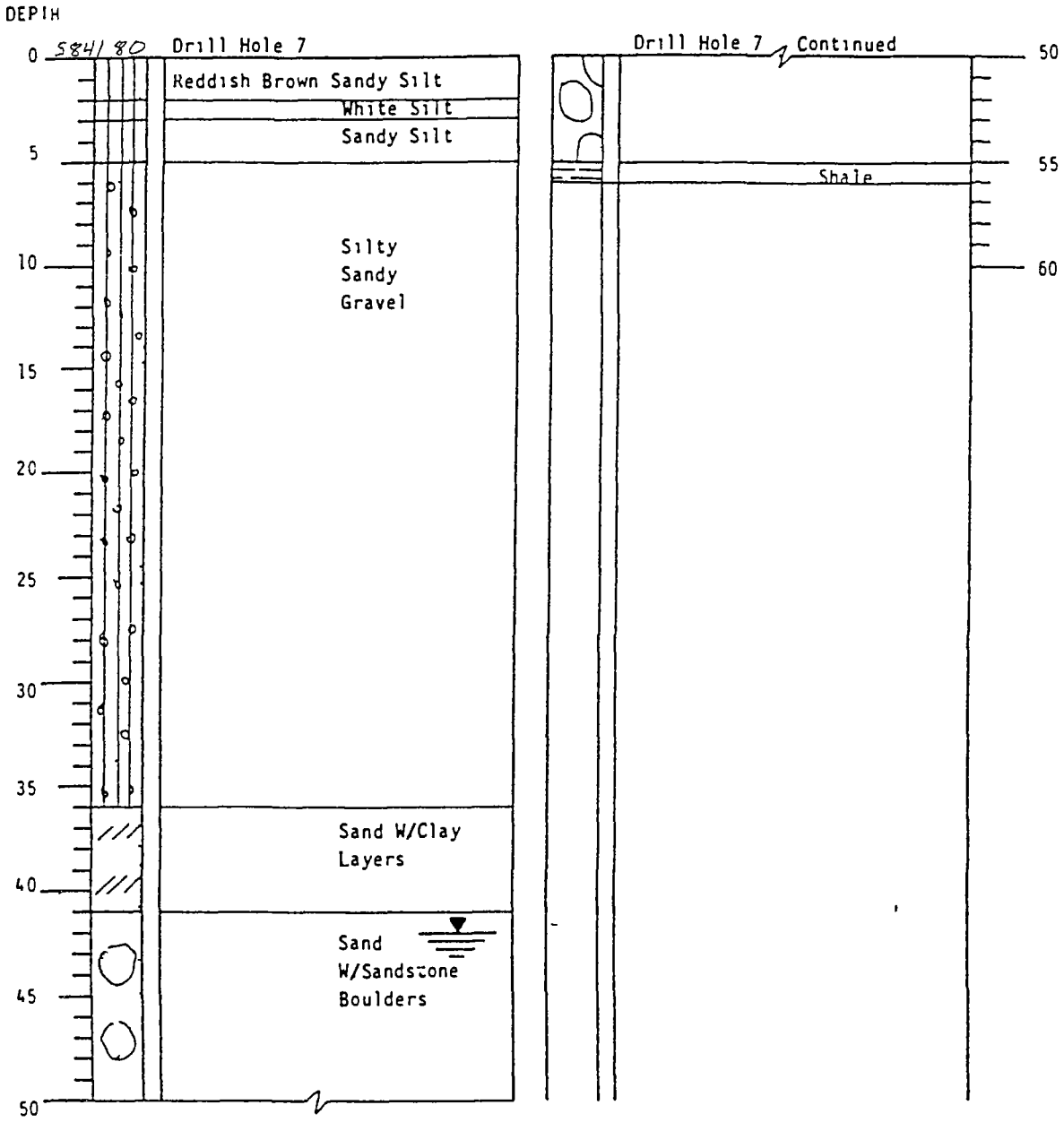

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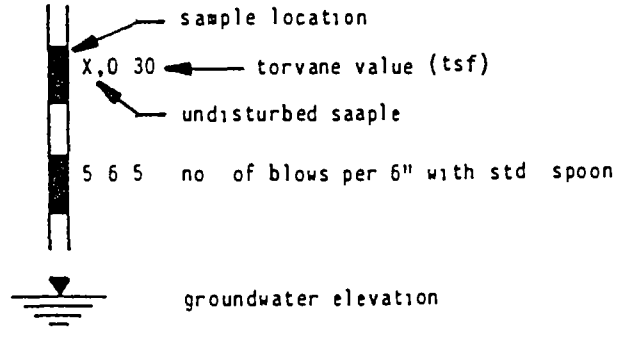

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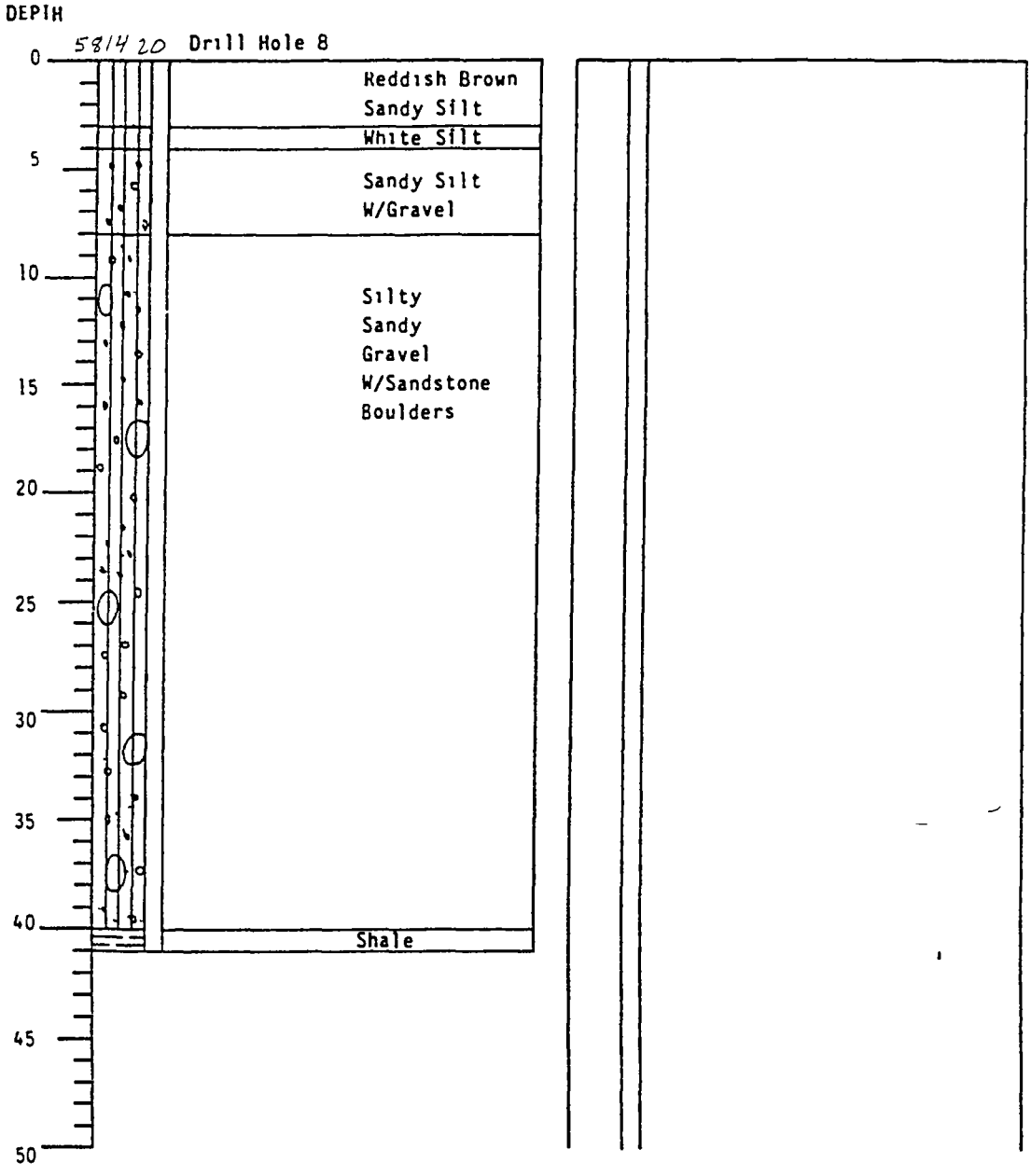

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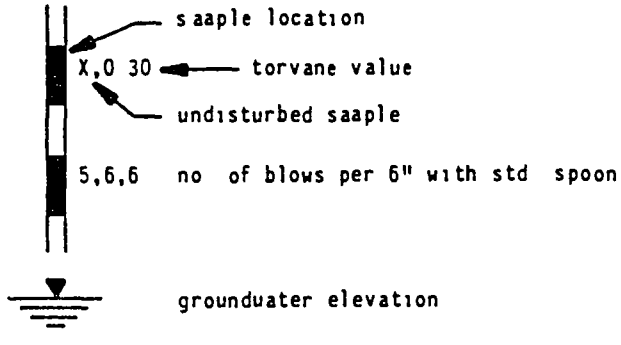

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Log of Borings for
EAST CARBON LANDFILL

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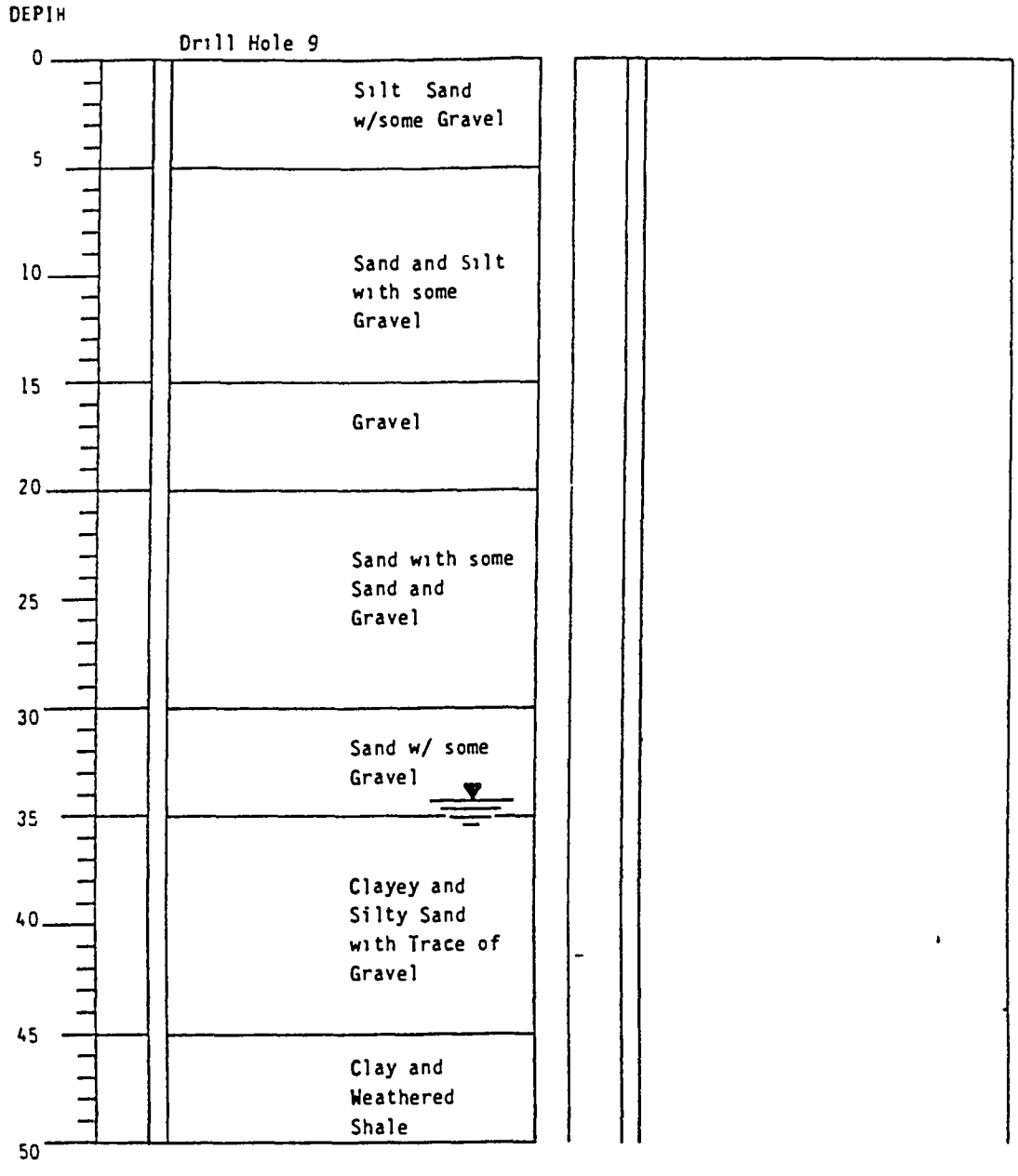

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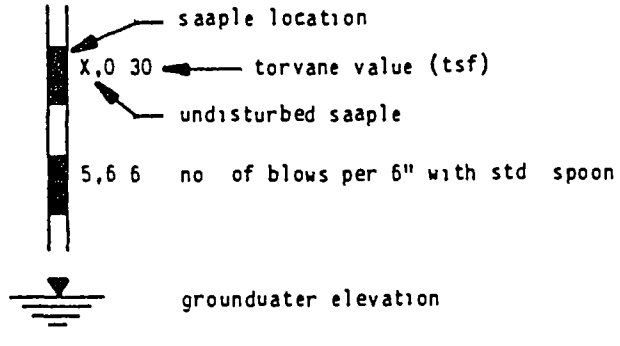

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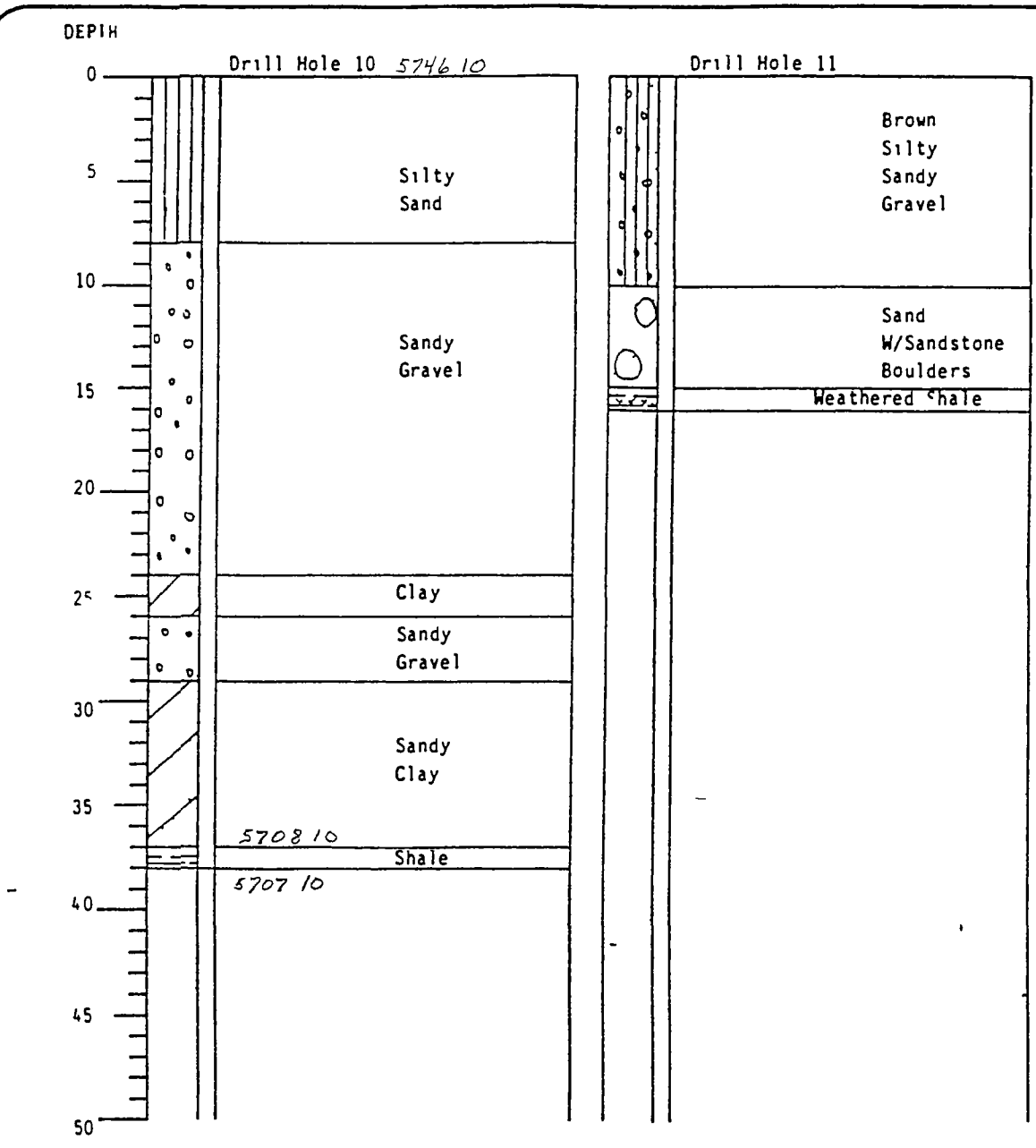

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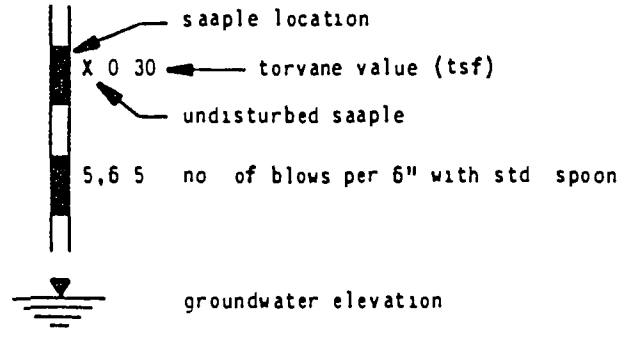

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Log of Borings for
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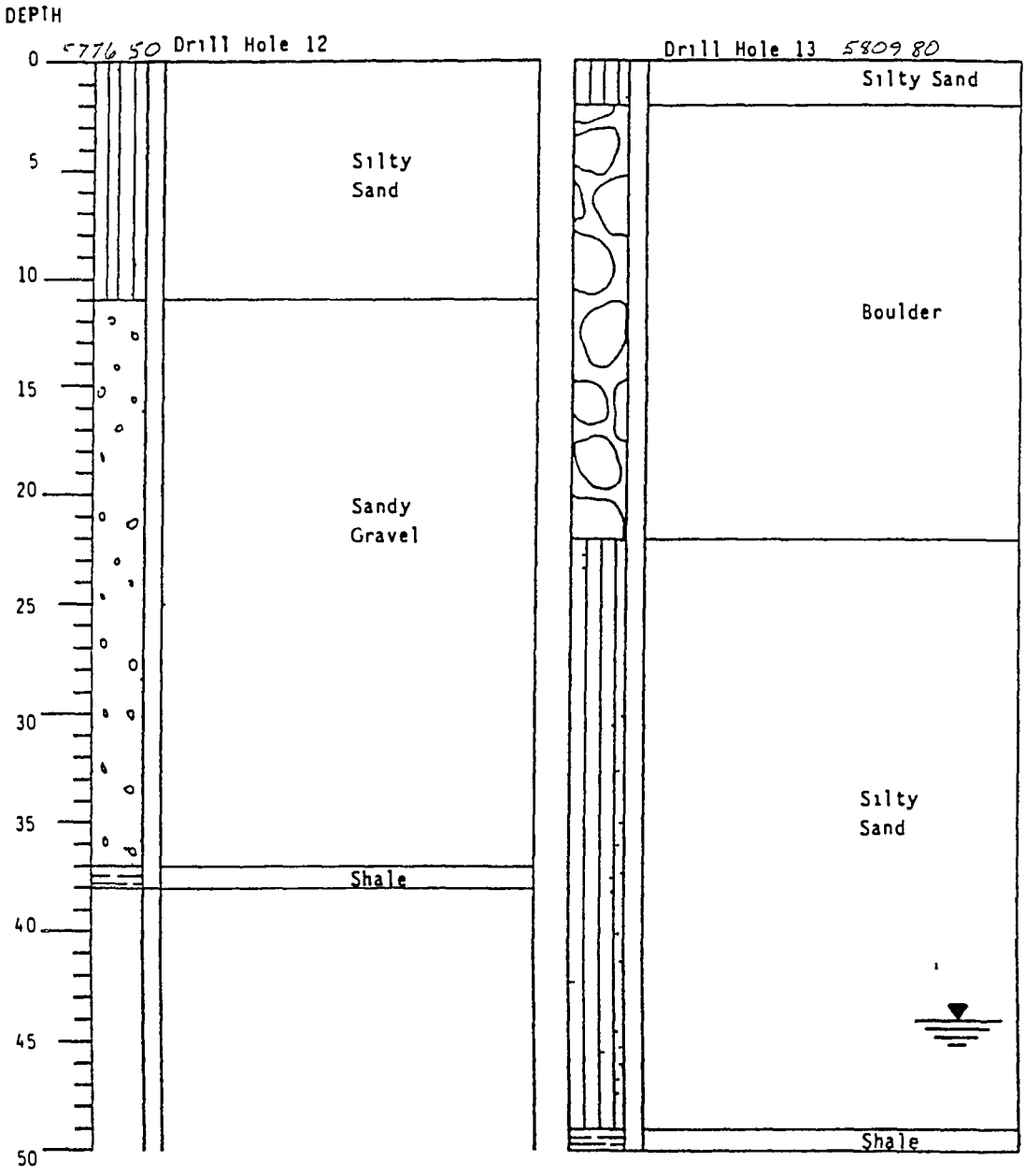

LEGEND

saaple location

X,0 30 ← torvane value (tsf)

undisturbed saaple

5,6,6 no of blows per 6" with std spoon

groundwater elevation

ROLLINS BROWN AND GUNNELL INC
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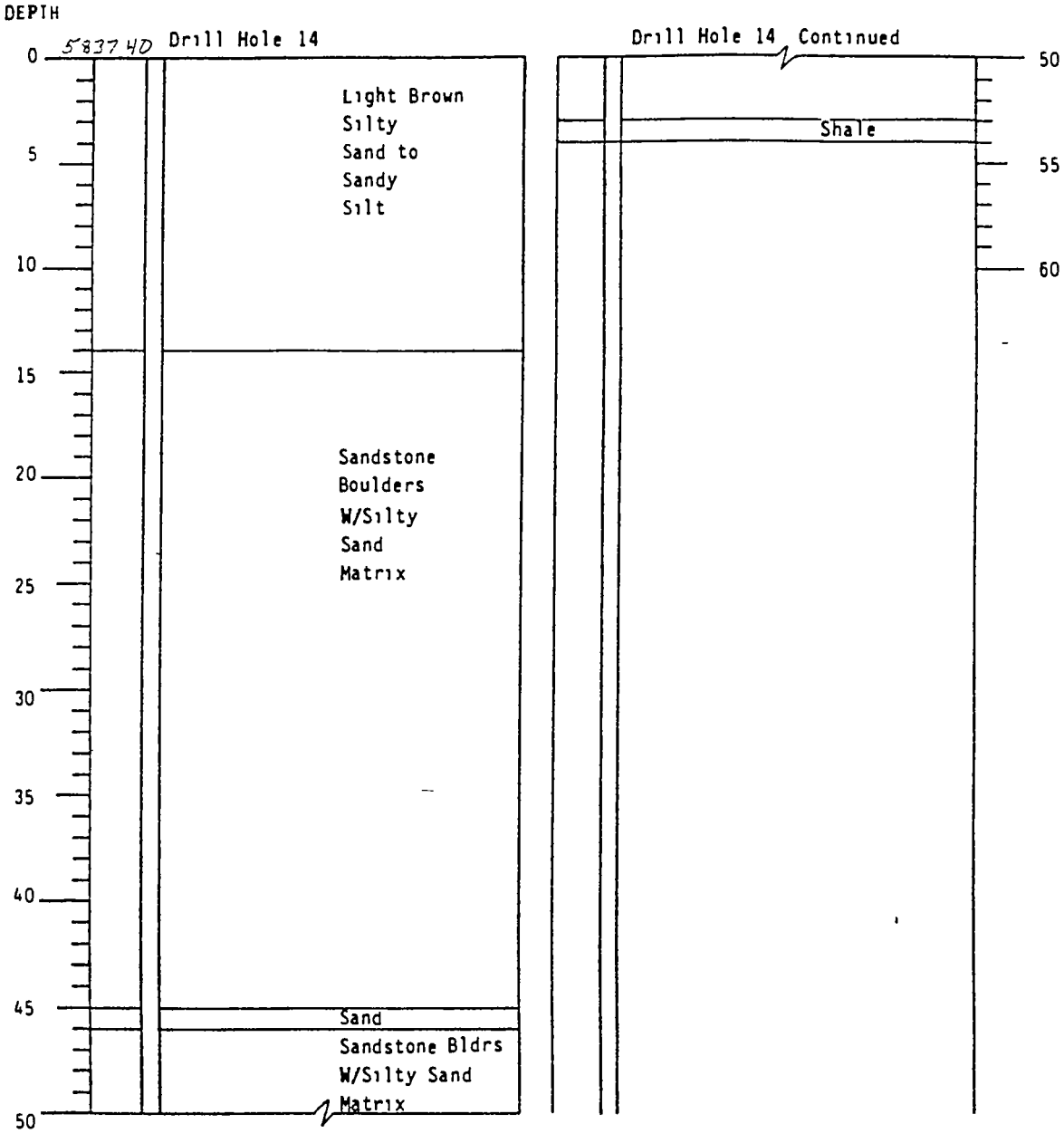
Log of Borings for
EAST CARBON LANDFILL

Figure No



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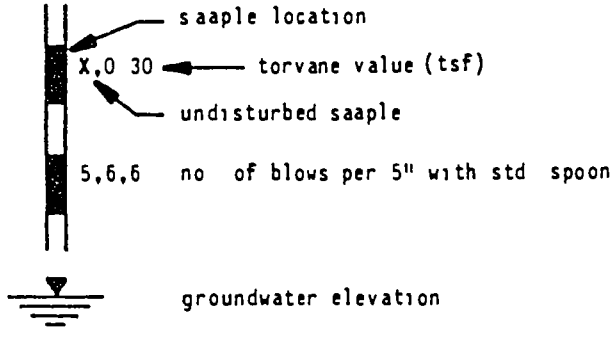

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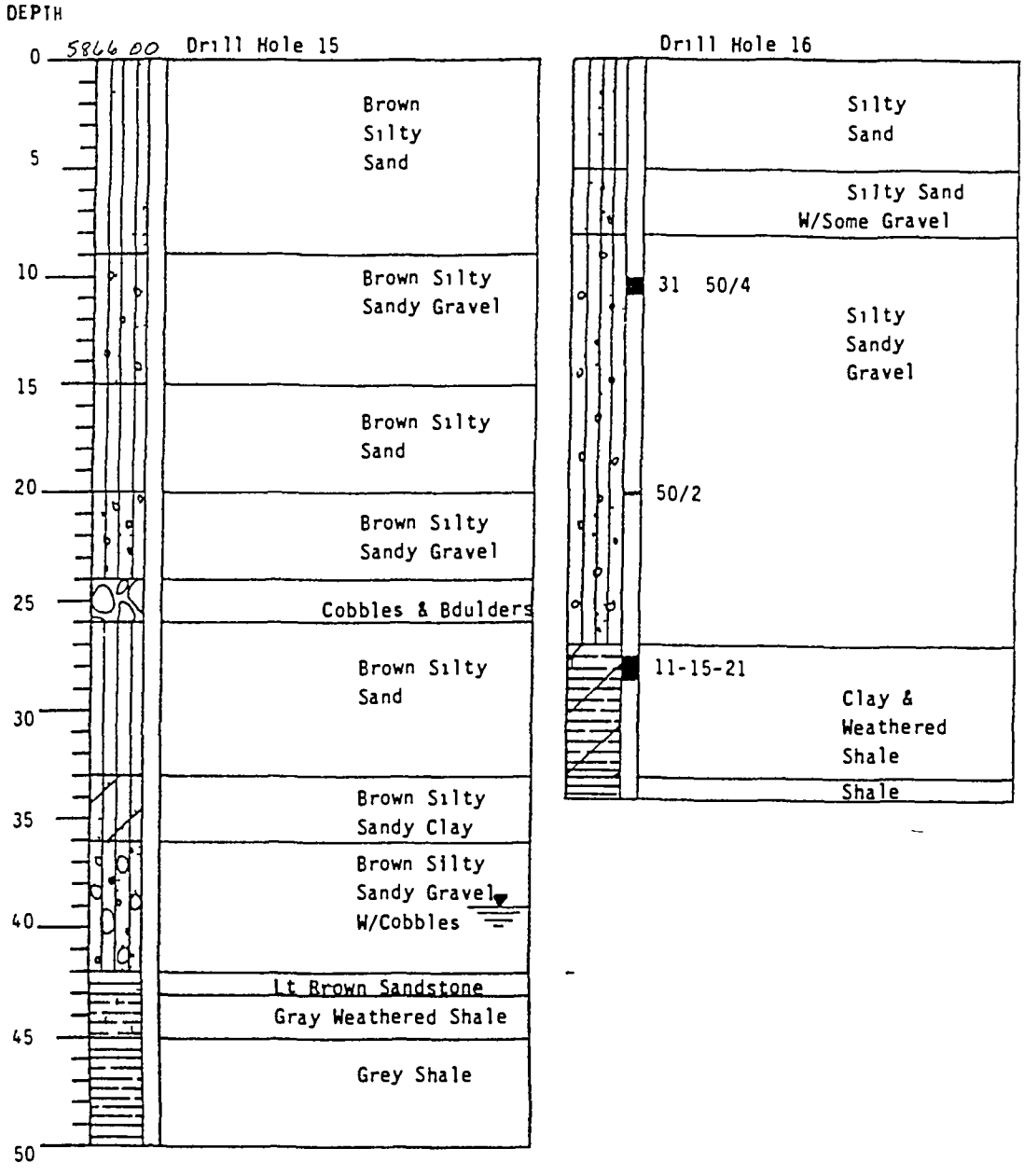

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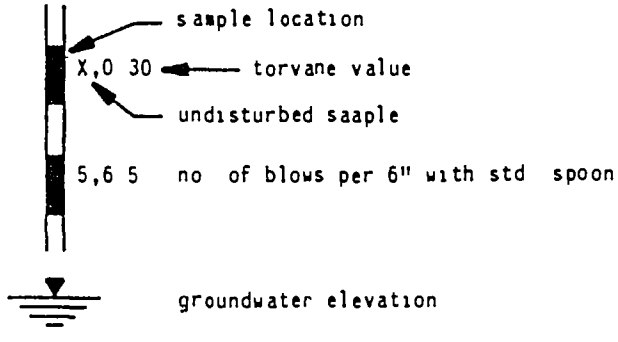

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Log of Borings for

EAST CARBON LANDFILL

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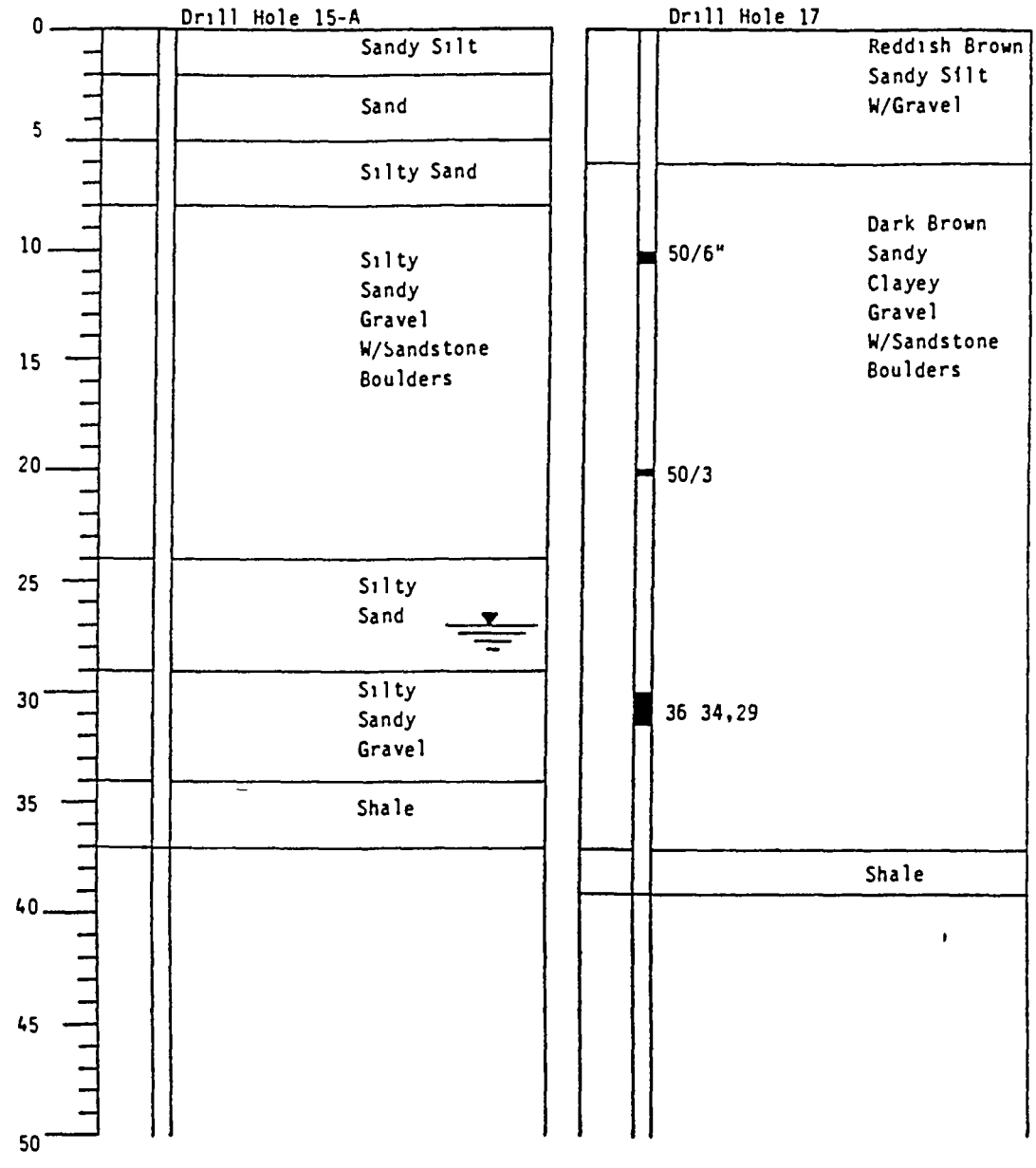

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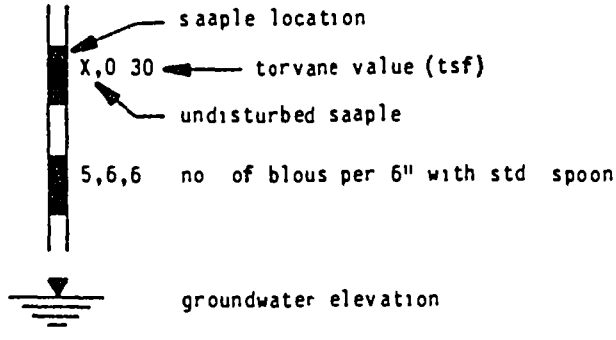

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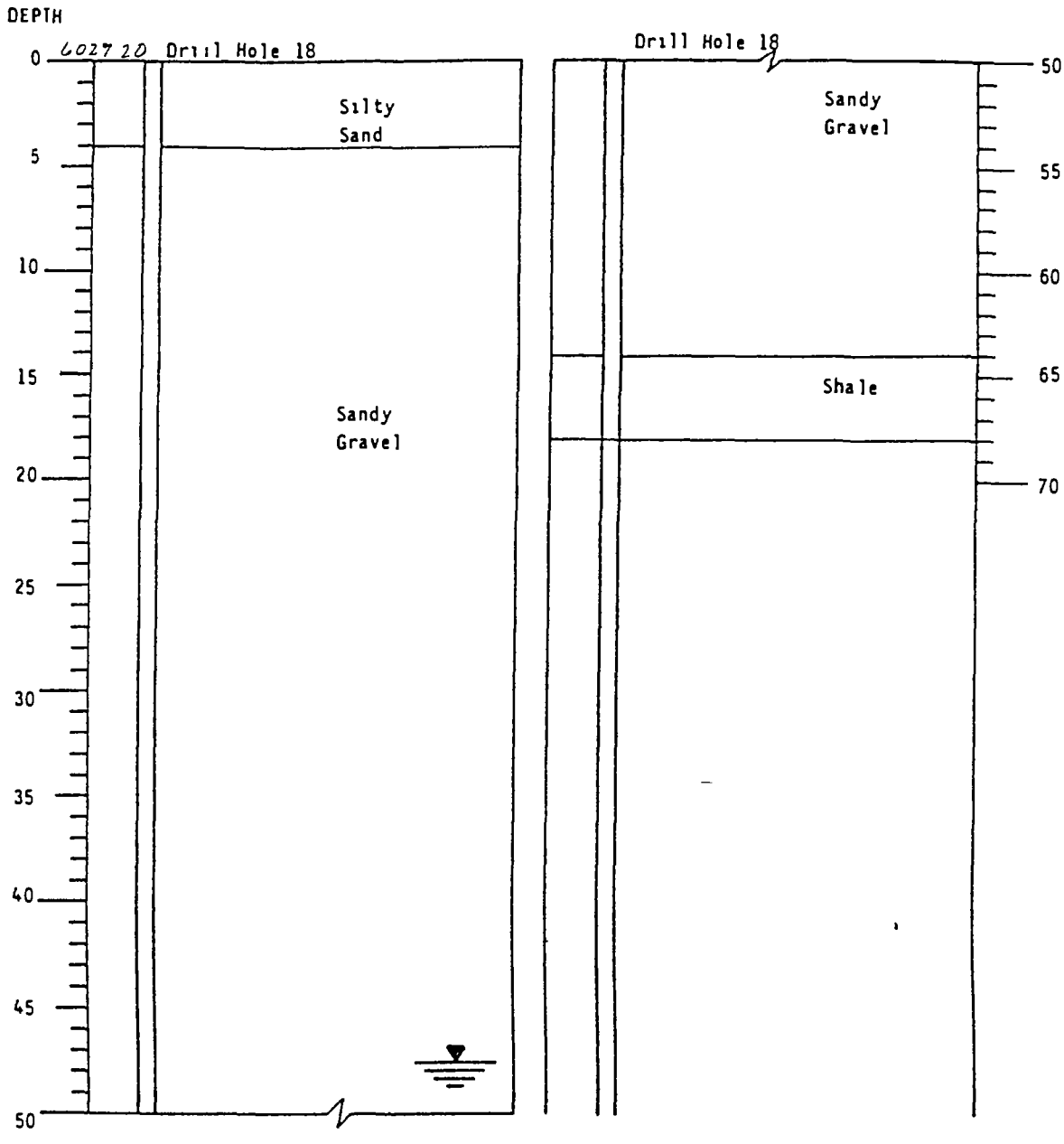

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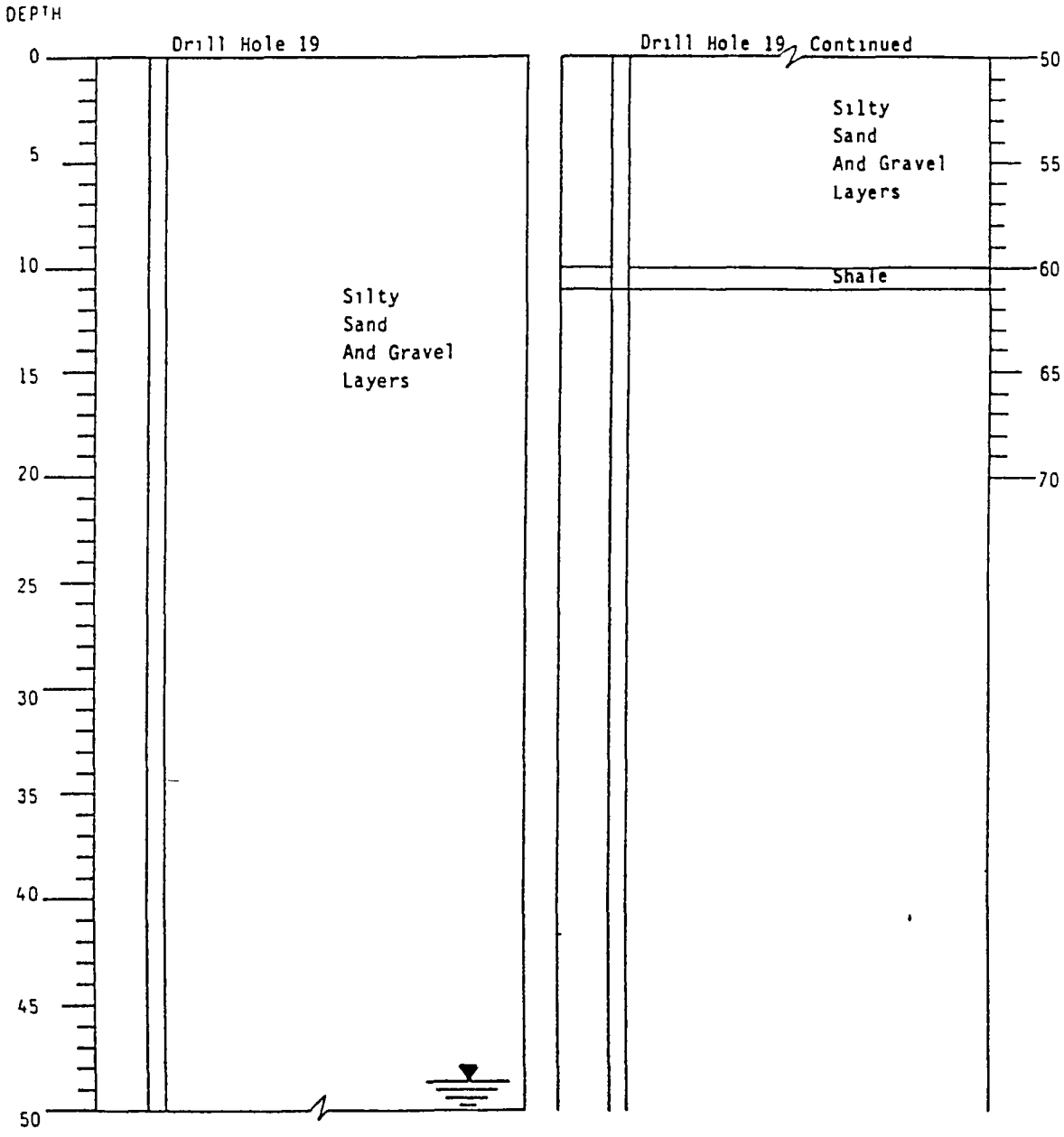

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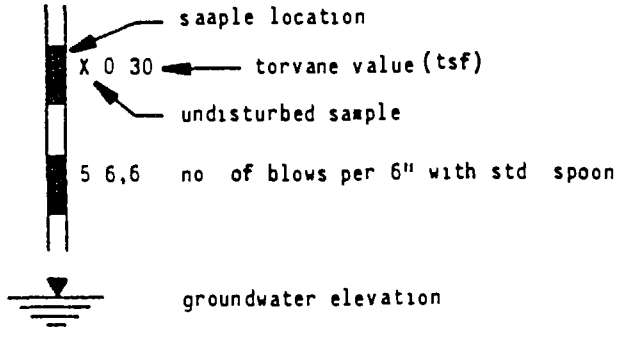

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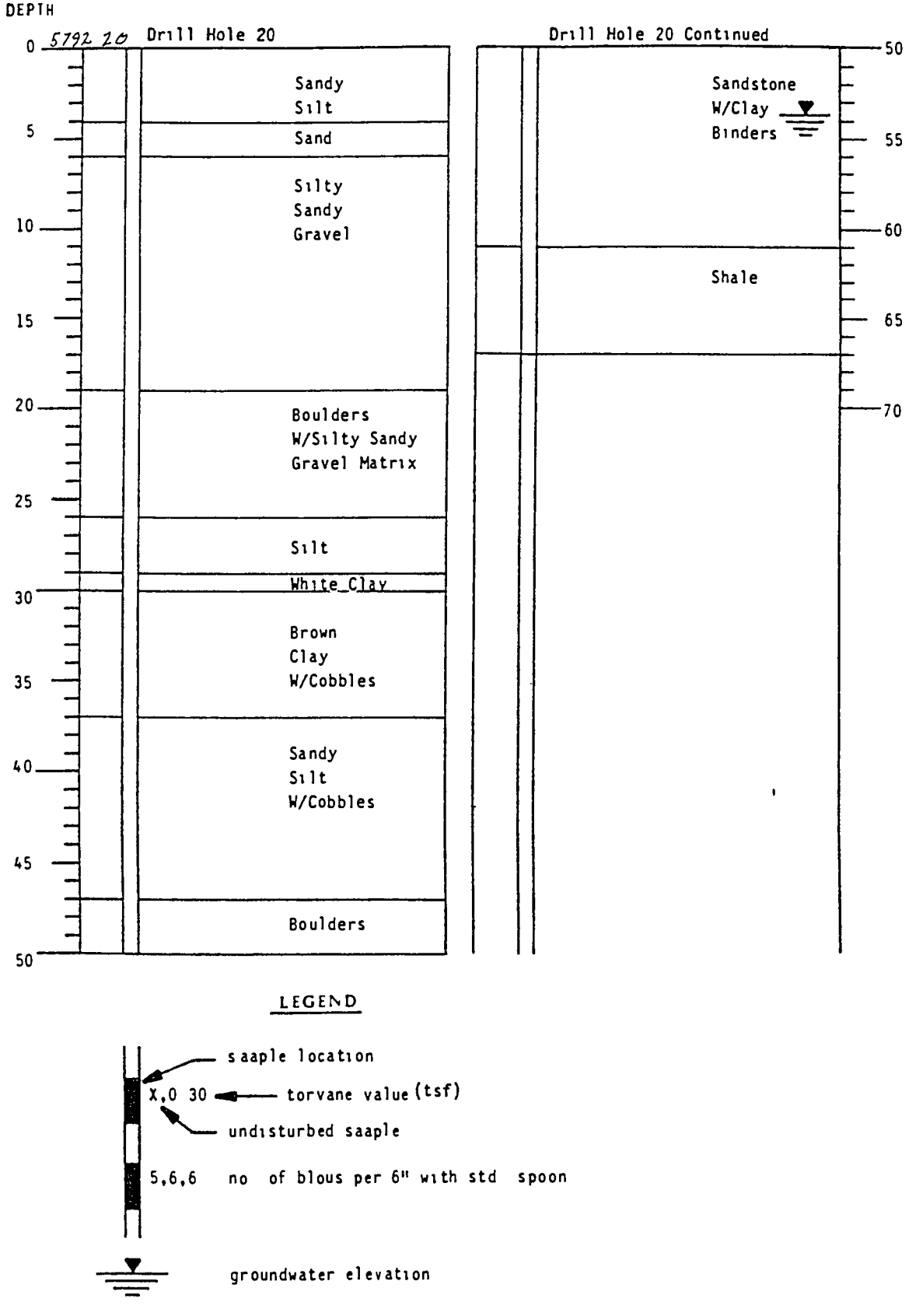

ROLLINS BROWN AND GUNNELL INC
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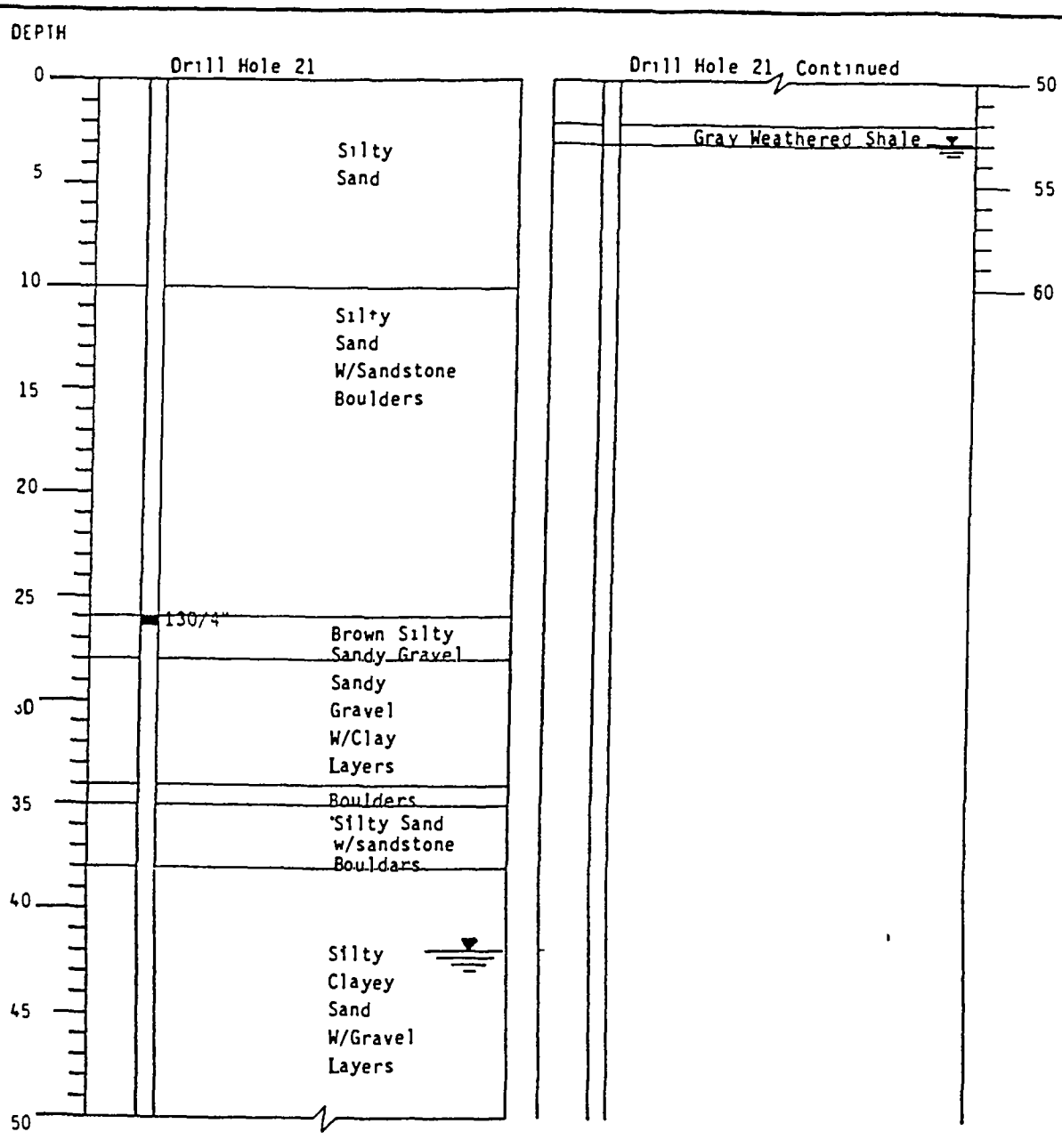
Log of Borings for
EAST CARBON LANDFILL

Figure No



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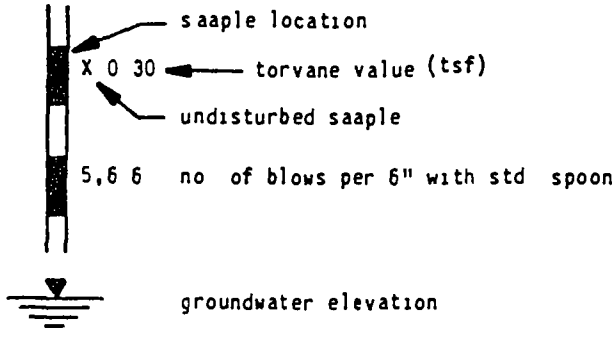

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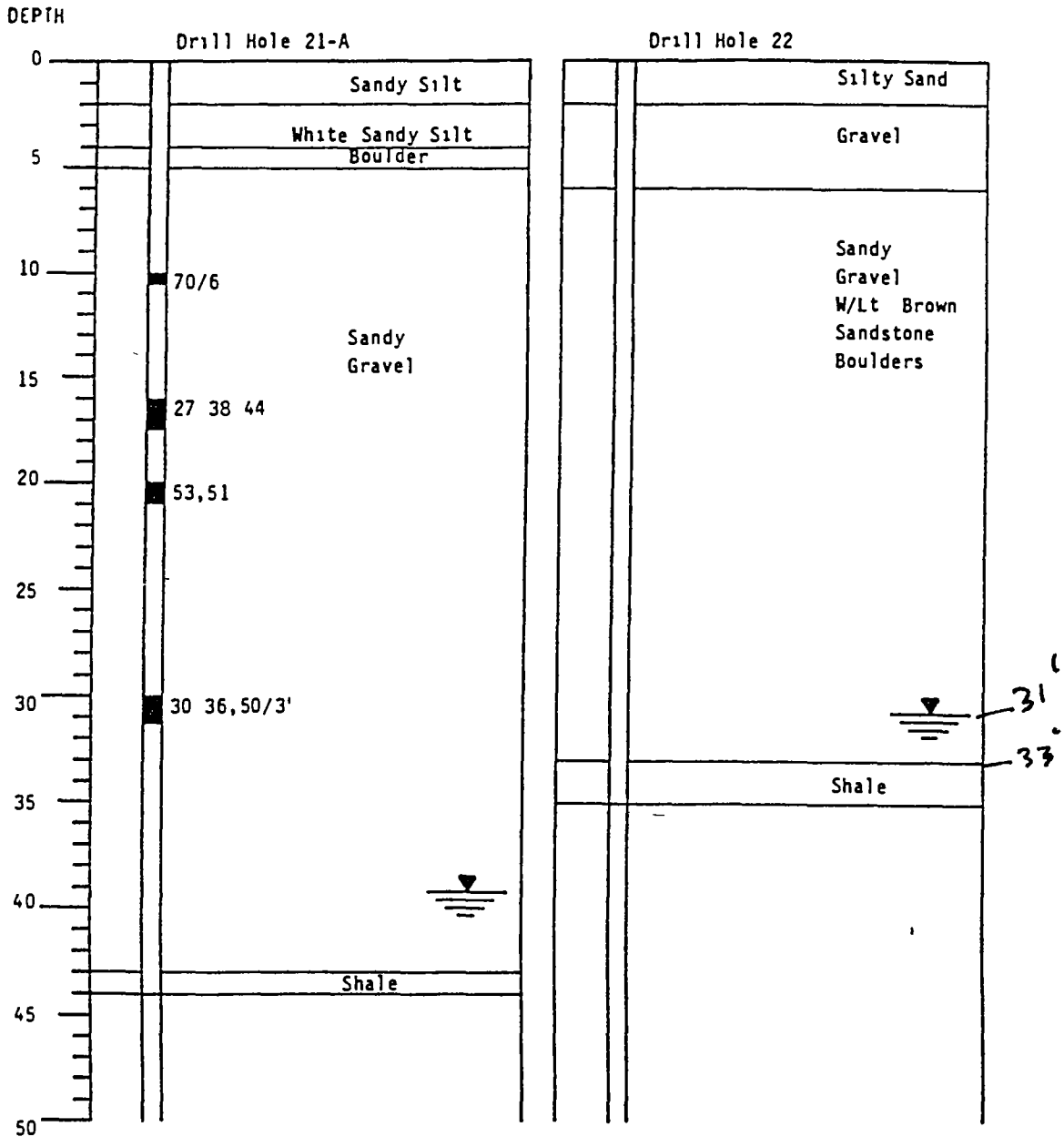

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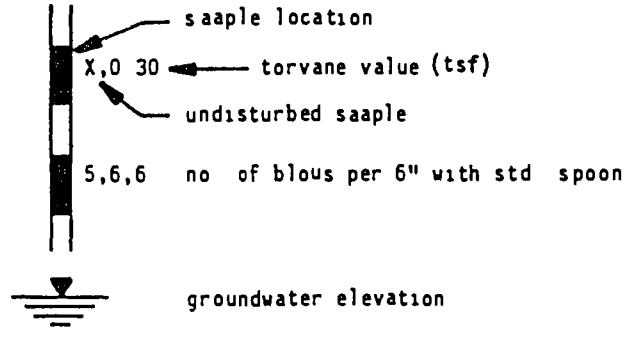

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PROFESSIONAL ENGINEERS

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EAST CARBON LANDFILL

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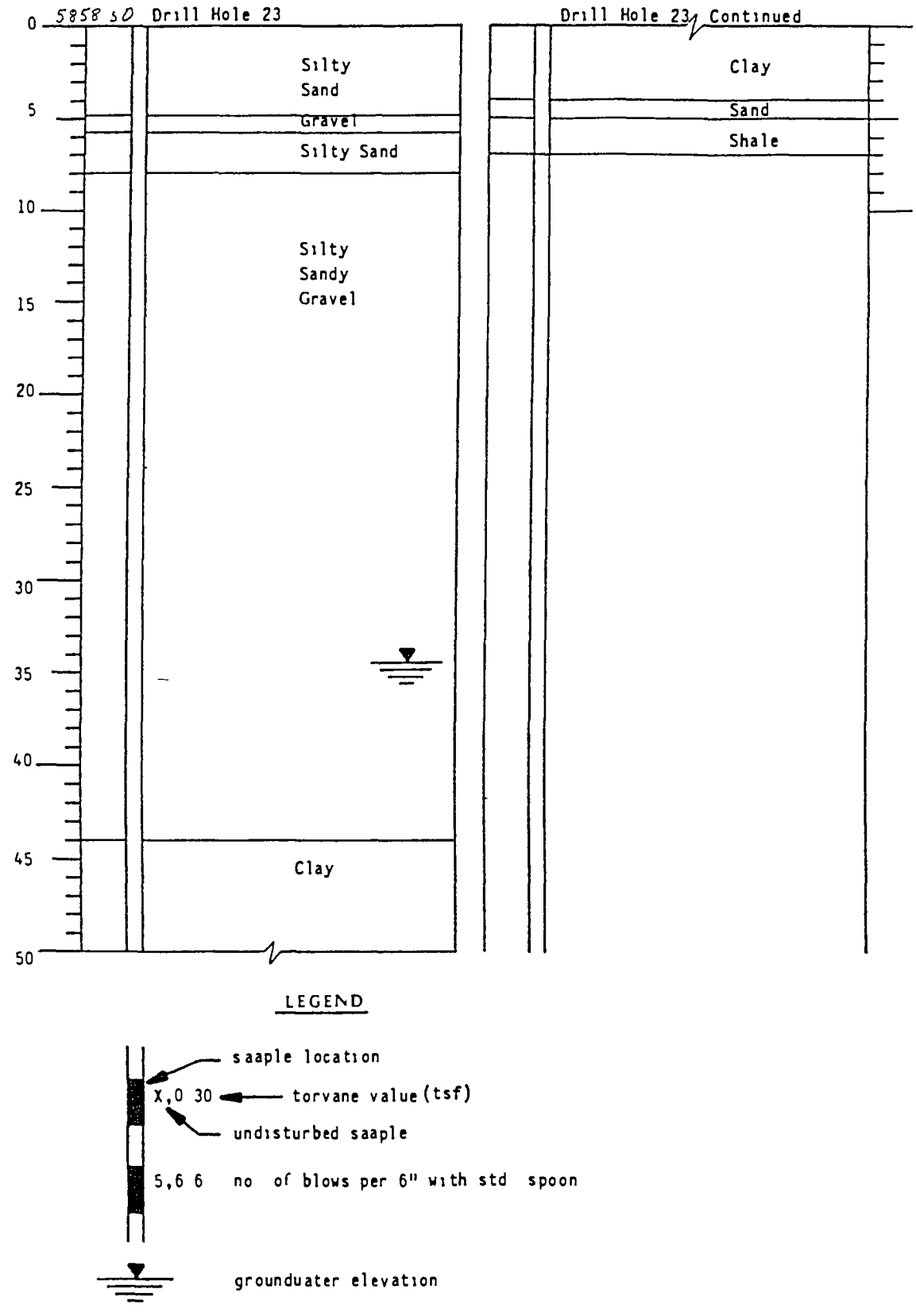

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Log of Borings for

EAST CARBON LANDFILL

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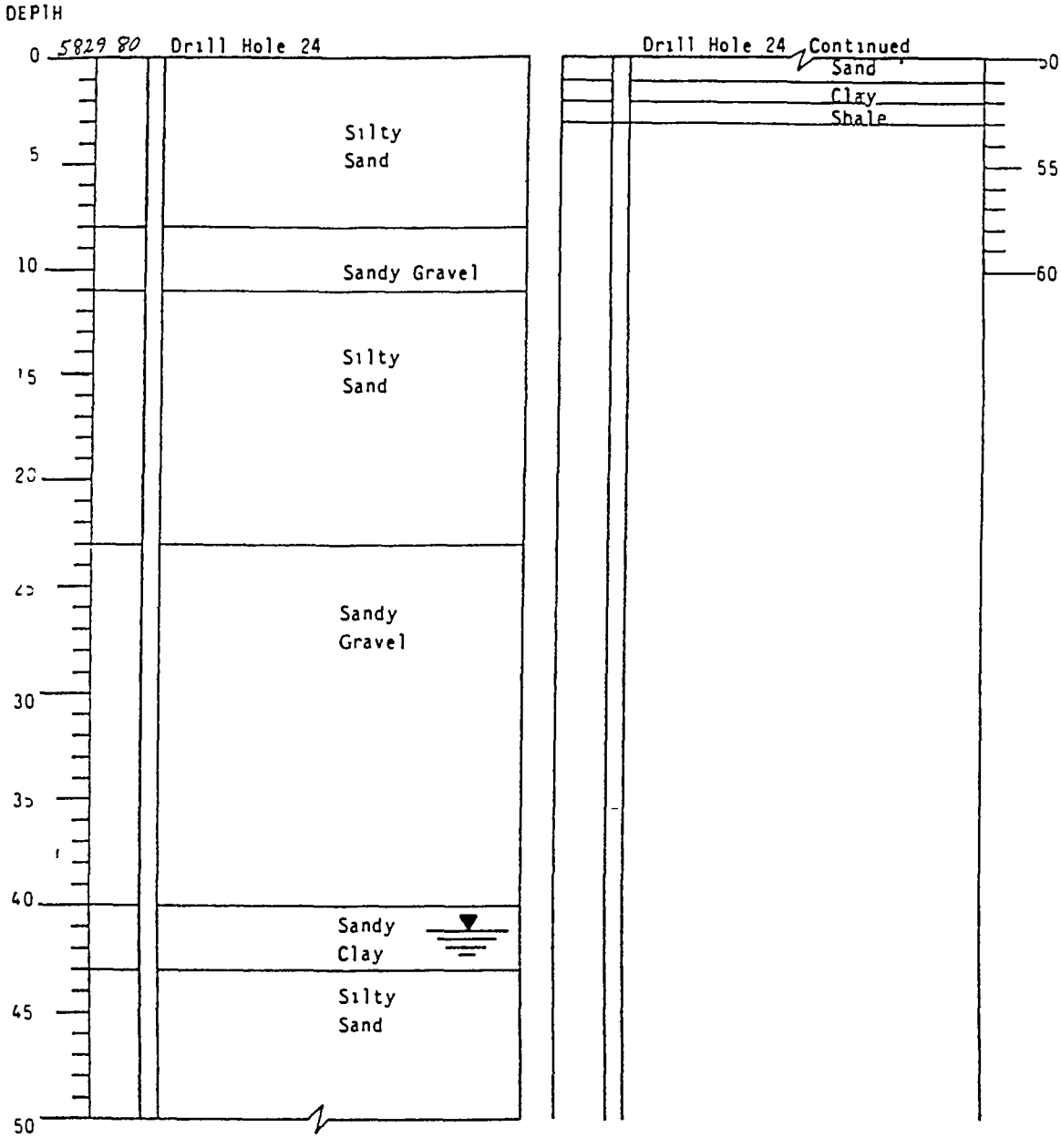

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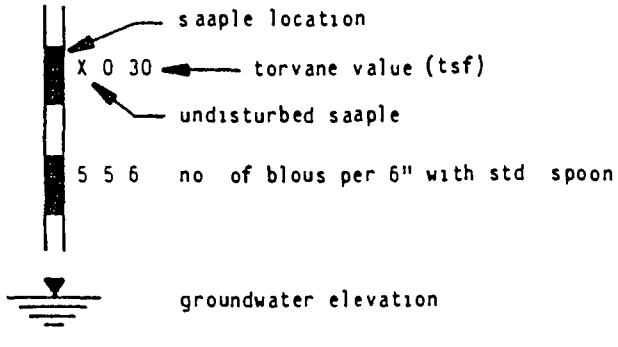

ROLLINS BROWN AND GUNNELL INC
PROFESSIONAL ENGINEERS

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EAST CARBON LANDFILL

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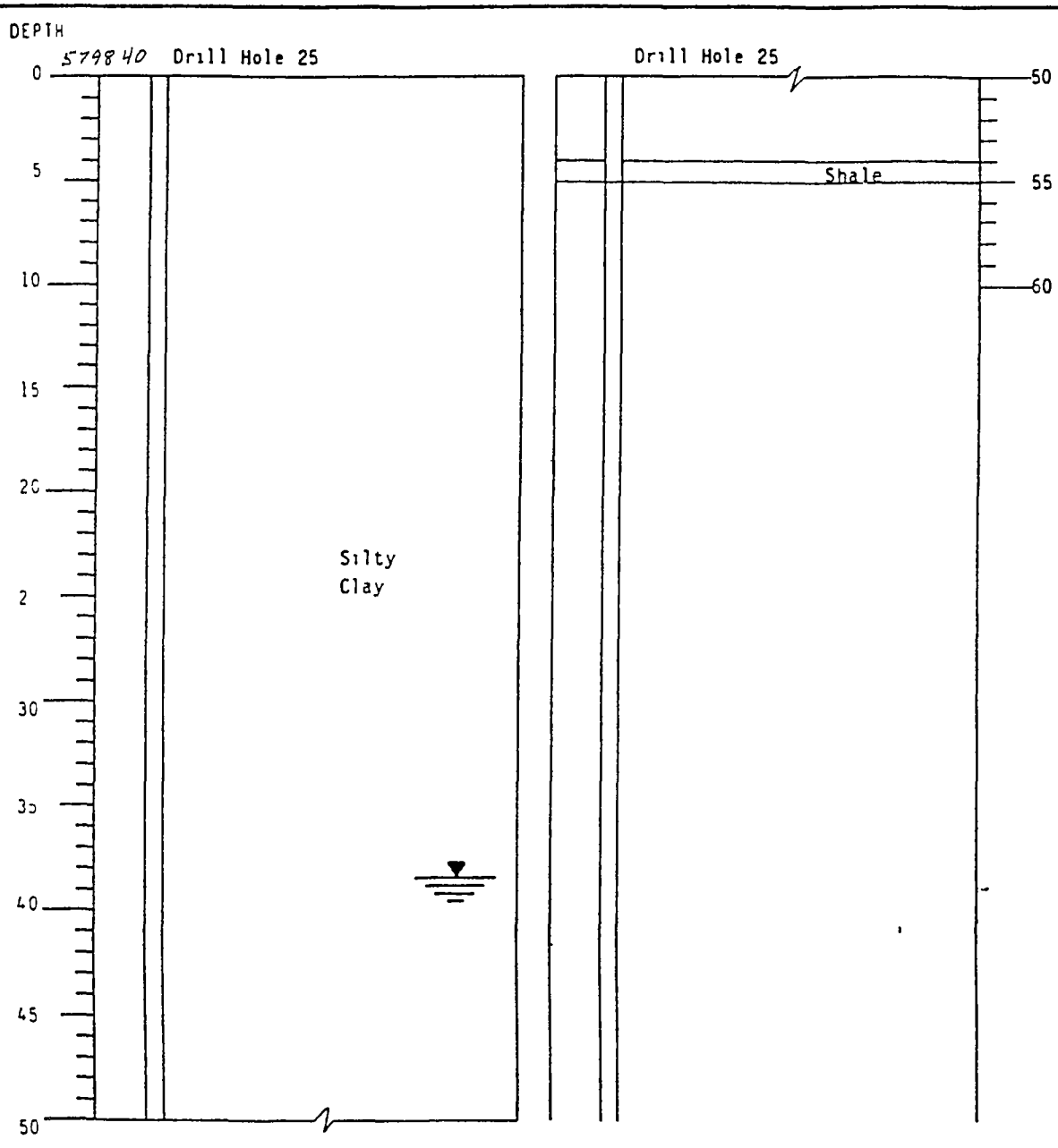

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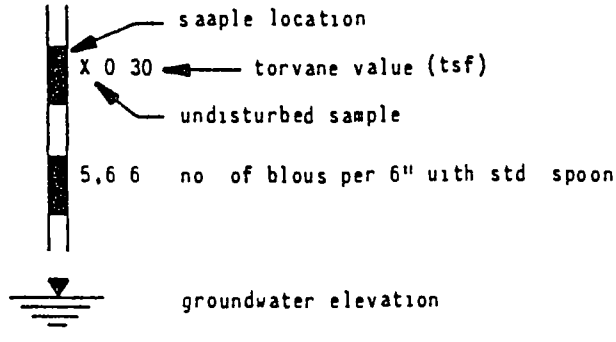

ROLLINS BROWN AND GUNNELL INC
PROFESSIONAL ENGINEERS

Log of Borings for
EAST CARBON LANDFILL

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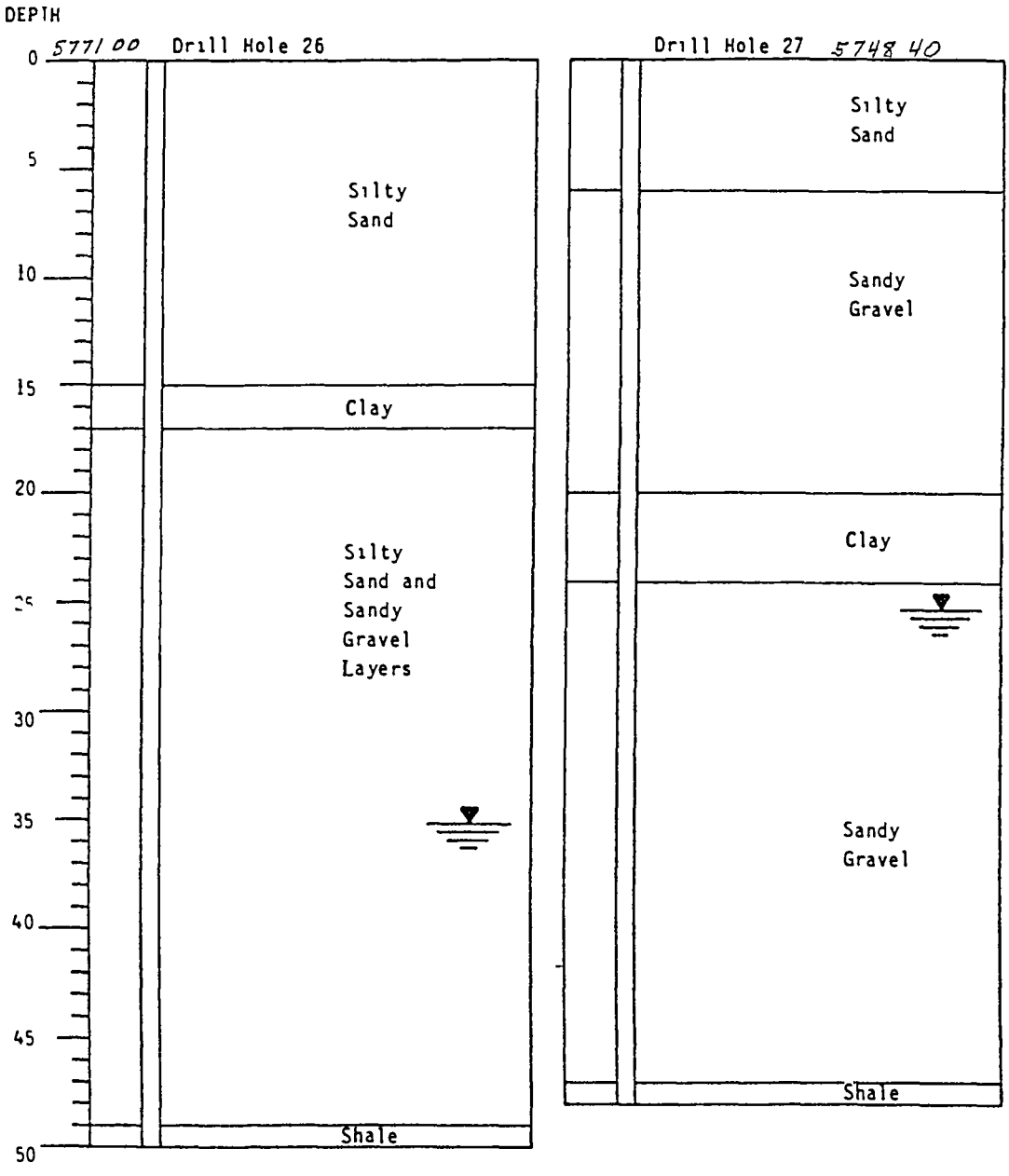

LEGEND

saaple location

X.0 30 torvane value (tsf)

undisturbed saaple

5 6 6 no of blous per 6" uith std spoon

grounduater elevation

ROLLINS BROWN AND GUNNELL INC

PROFESSIONAL ENGINEERS

Log of Borings for

EAST CARBON LANDFILL

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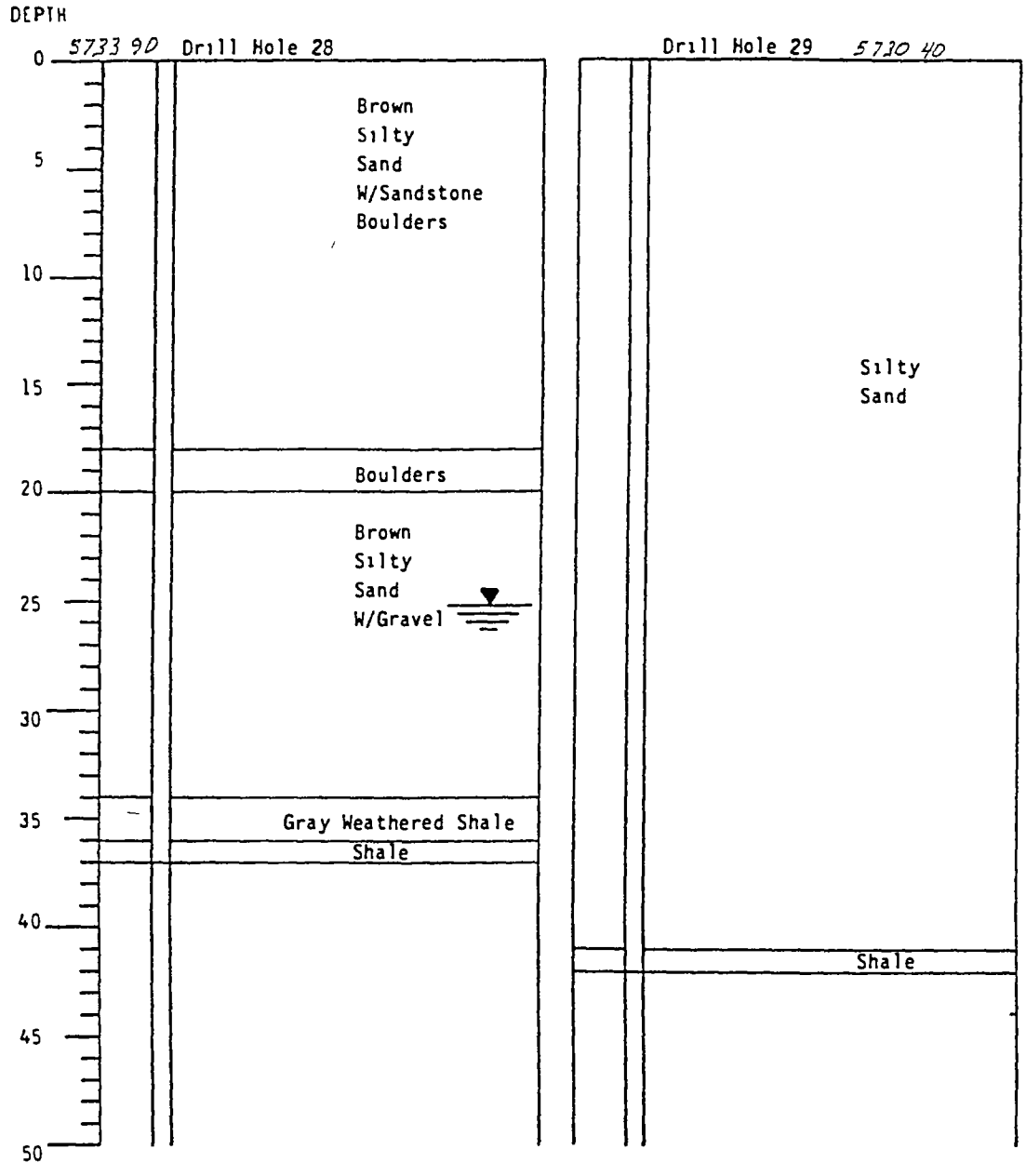

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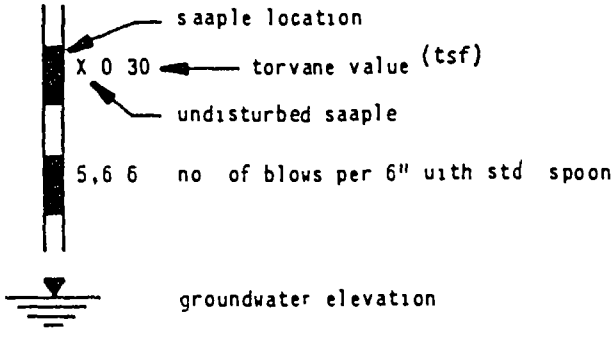

ROLLINS BROWN AND GUNNELL INC
PROFESSIONAL ENGINEERS

Log of Borings for
EAST CARBON LANDFILL

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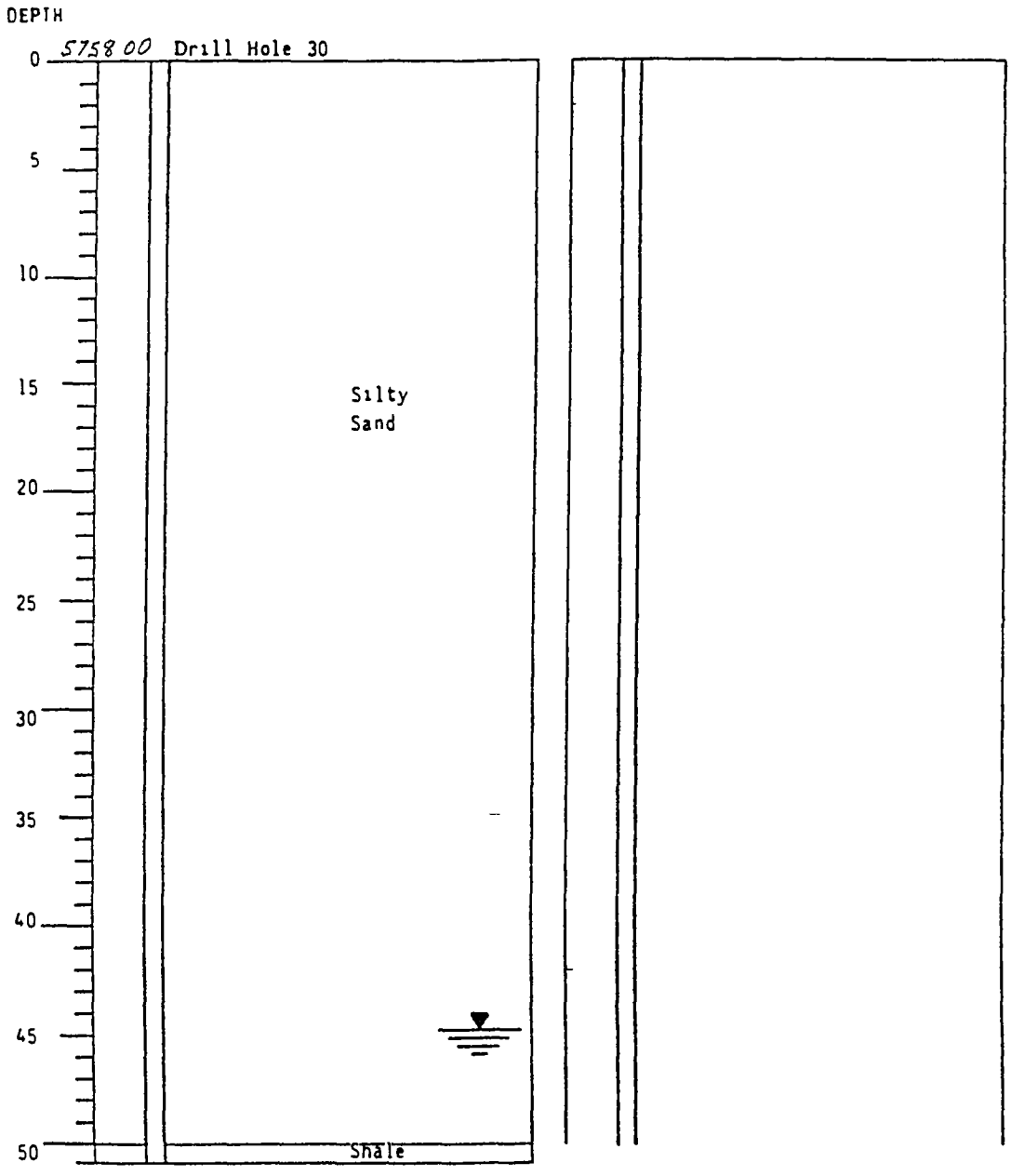

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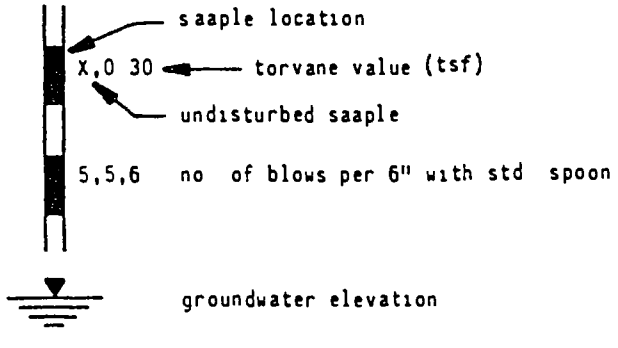

ROLLINS BROWN AND GUNNELL INC
PROFESSIONAL ENGINEERS

Log of Borings for
EAST CARBON LANDFILL

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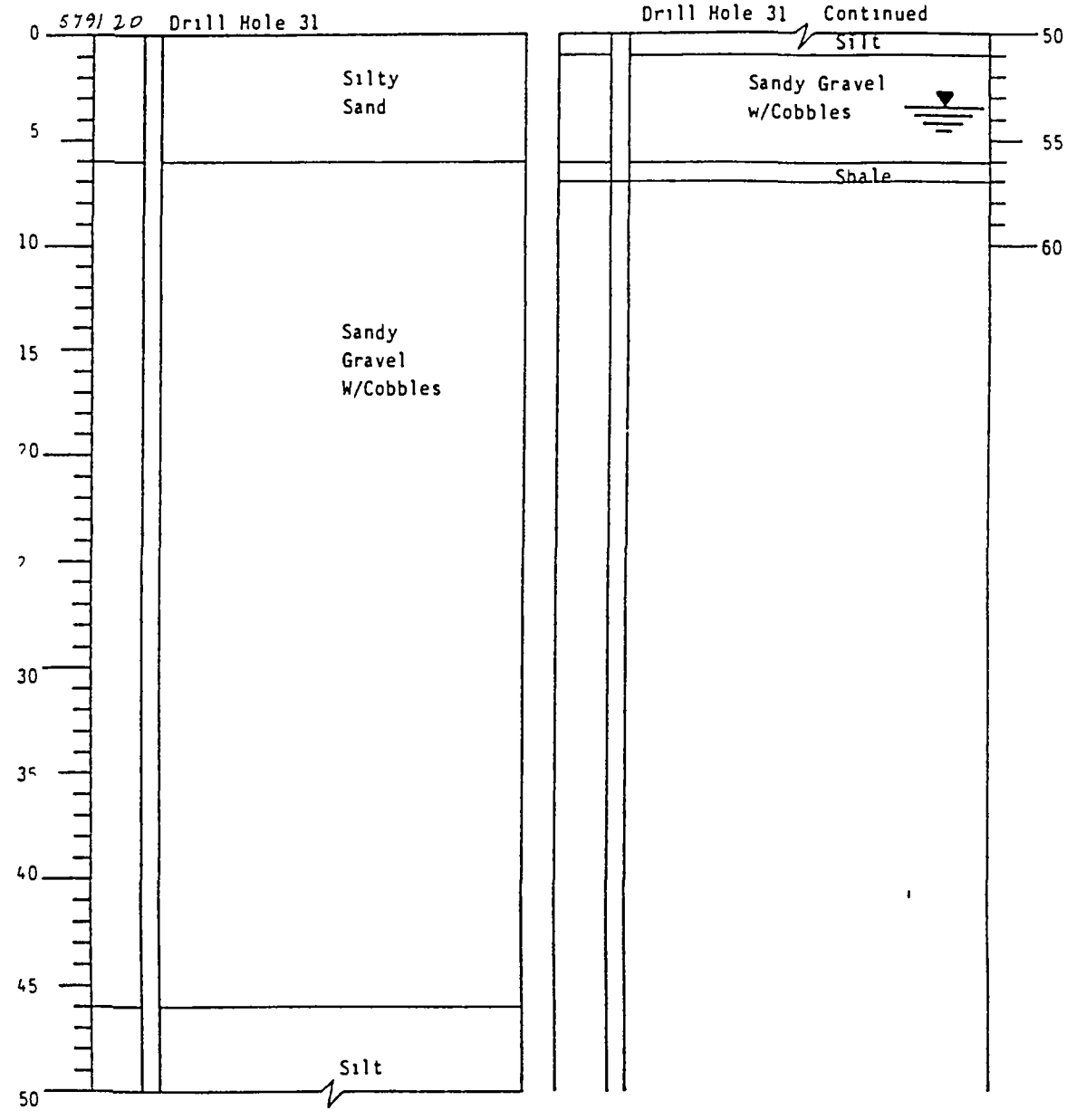

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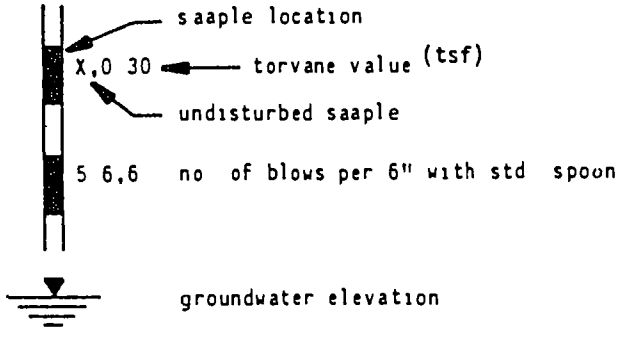

ROLLINS BROWN AND GUNNELL INC
PROFESSIONAL ENGINEERS

Log of Borings for
EAST CARBON LANDFILL

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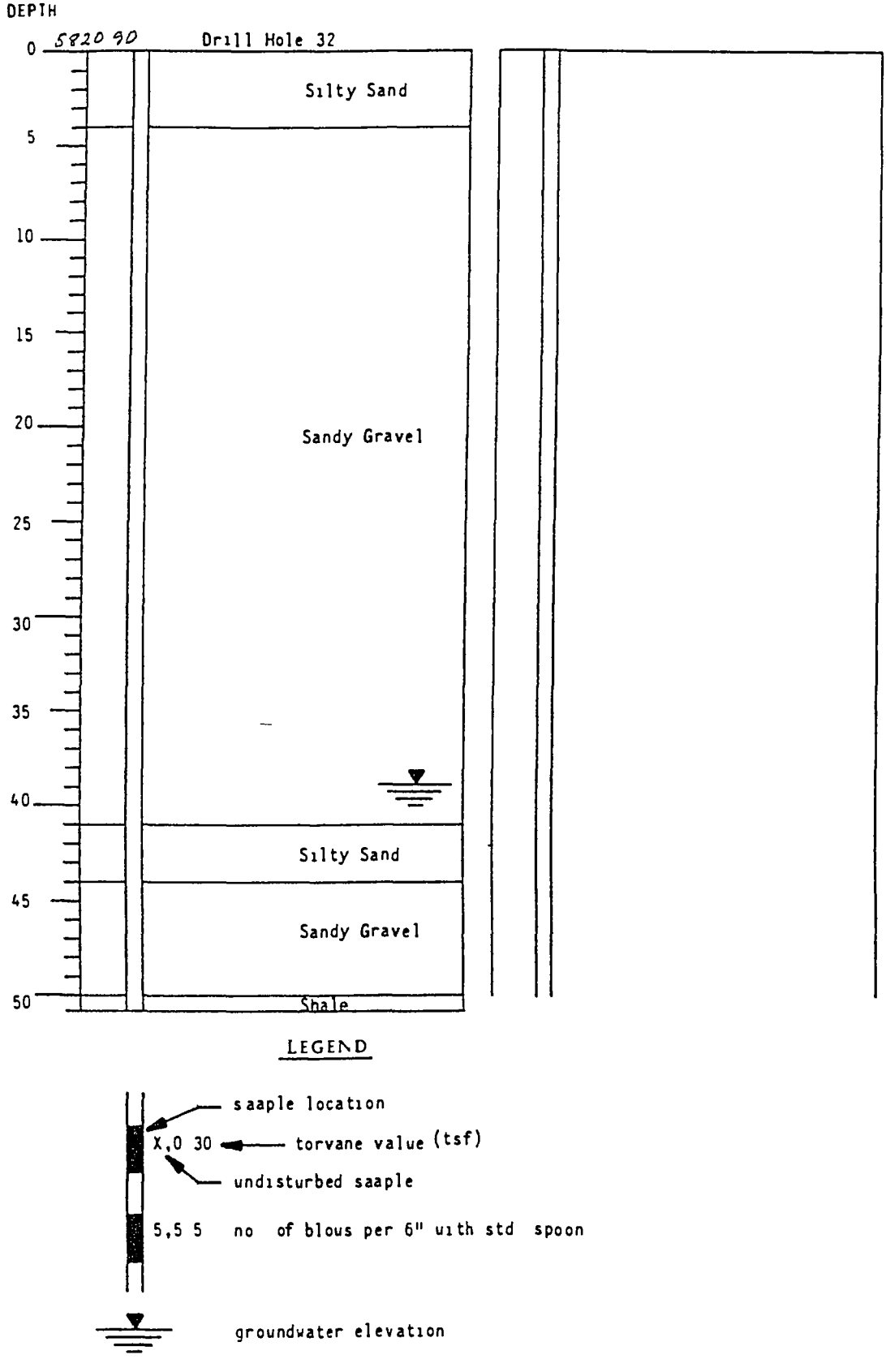
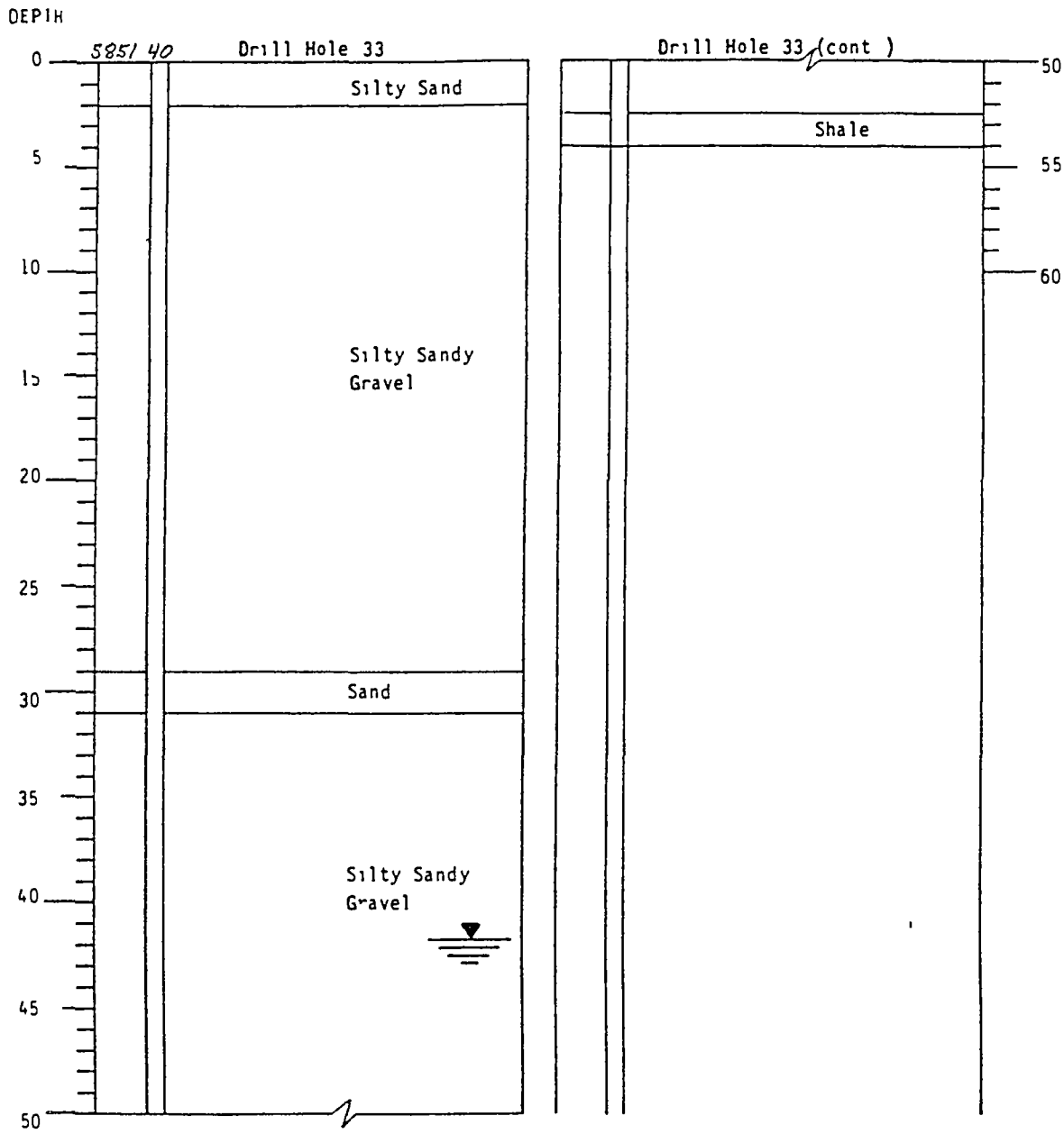


ROLLINS BROWN AND GUNNELL INC
PROFESSIONAL ENGINEERS

Log of Borings for

EAST CARBON LANDFILL

Figure No



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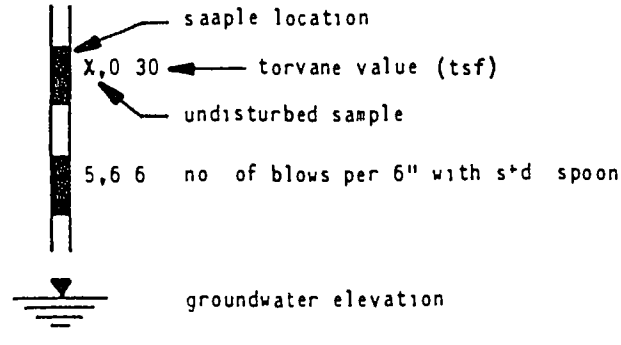

ROLLINS BROWN AND GUNNELL INC
PROFESSIONAL ENGINEERS

Log of Borings for

EAST CARBON LANDFILL

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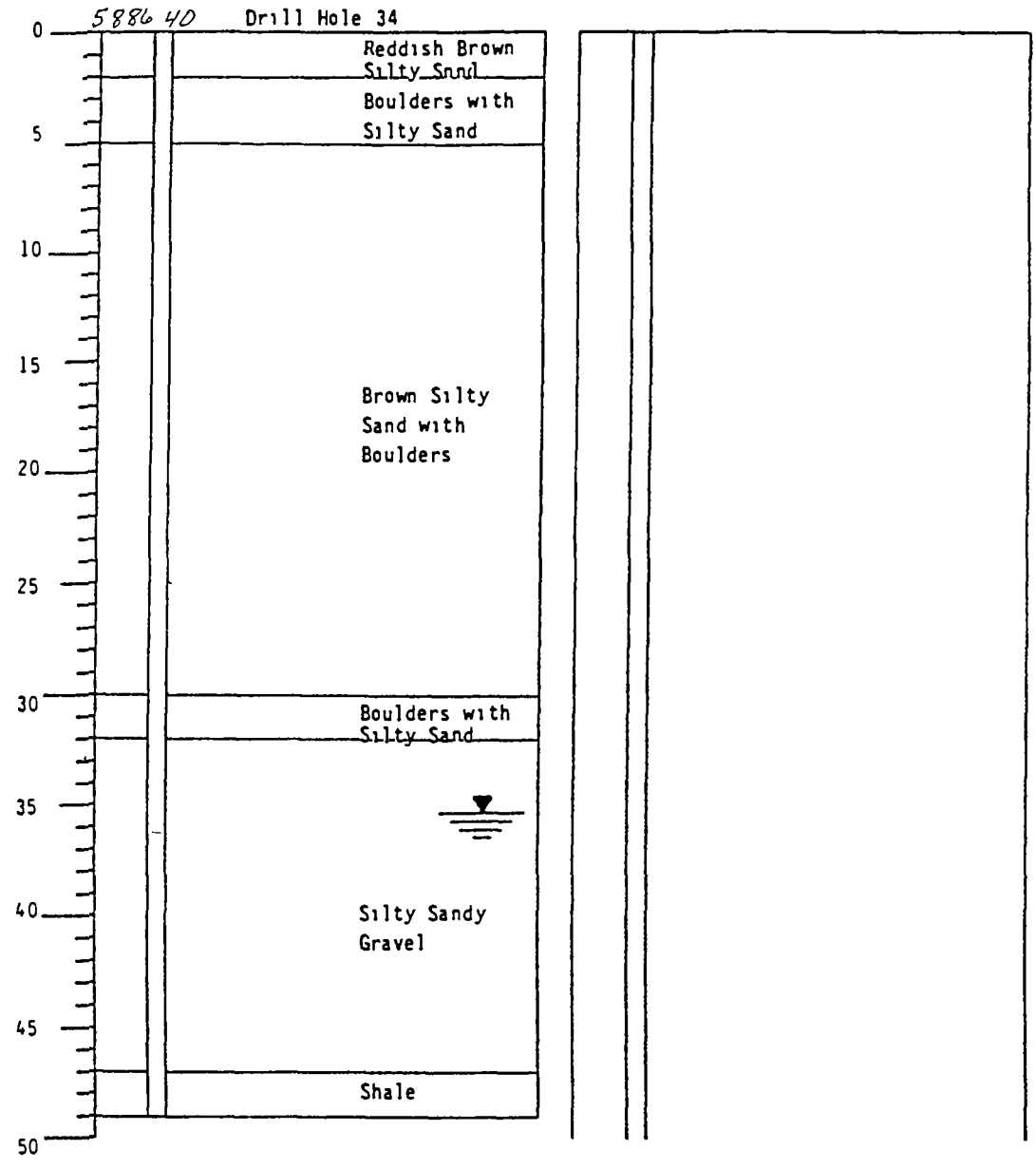

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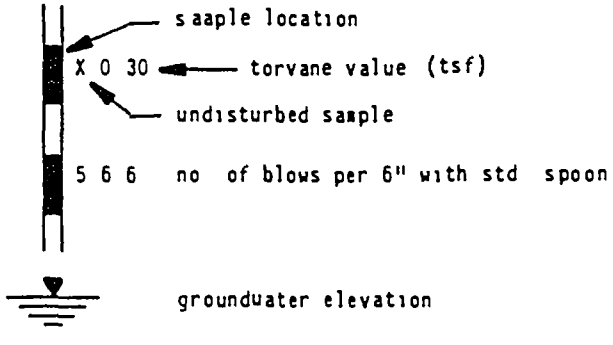

ROLLINS BROWN AND GUNNELL INC
PROFESSIONAL ENGINEERS

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EAST CARBON LANDFILL

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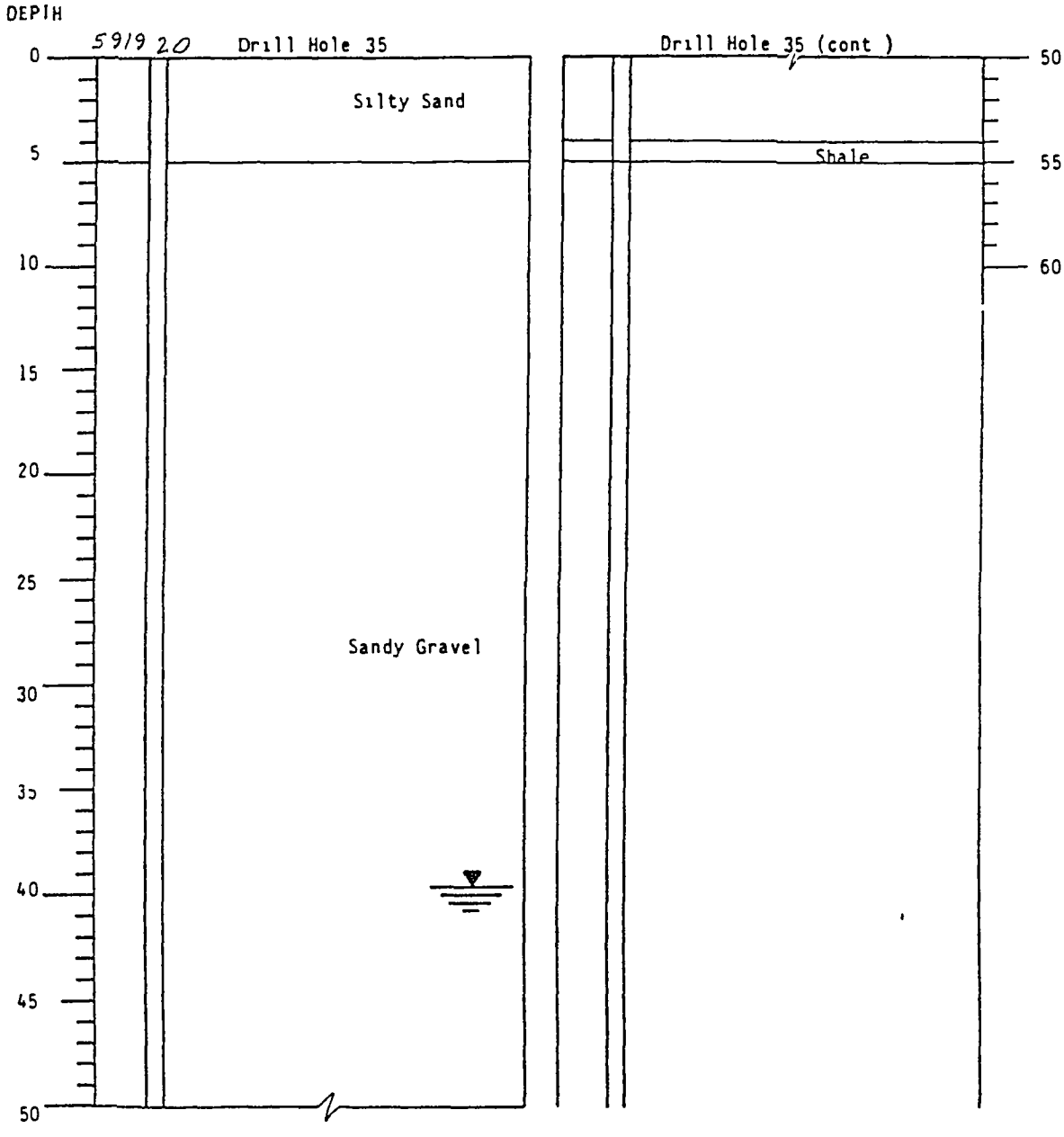

LEGEND

saaple location

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5,6 5 no of blous per 6" with std spoon

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ROLLINS BROWN AND GUNNELL INC

PROFESSIONAL ENGINEERS

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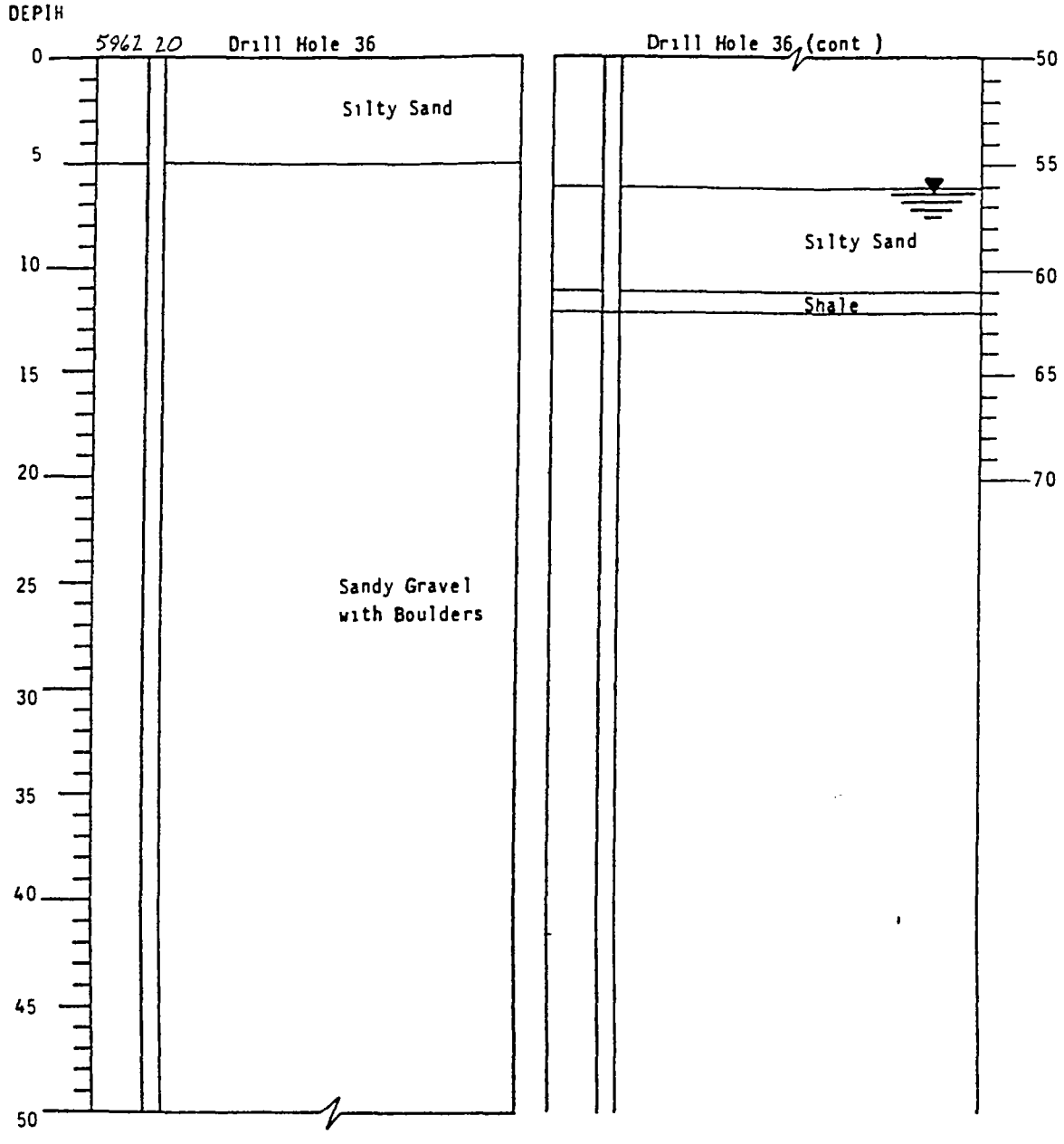

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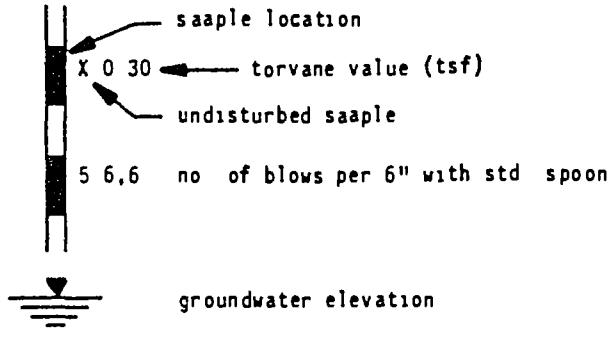

RÓLLINS BRÓWN AND GUNNELL INC
PROFESSIONAL ENGINEERS

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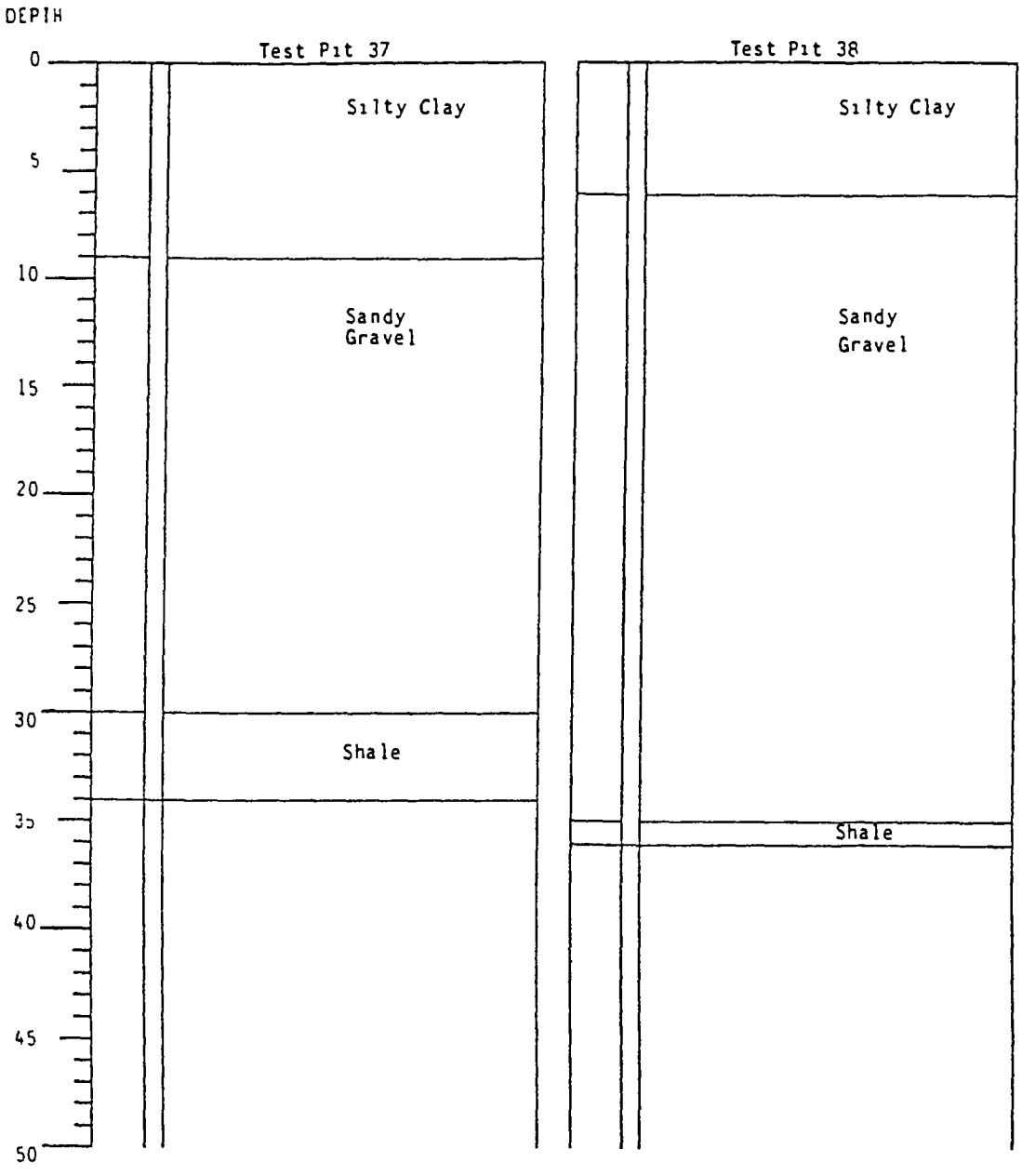

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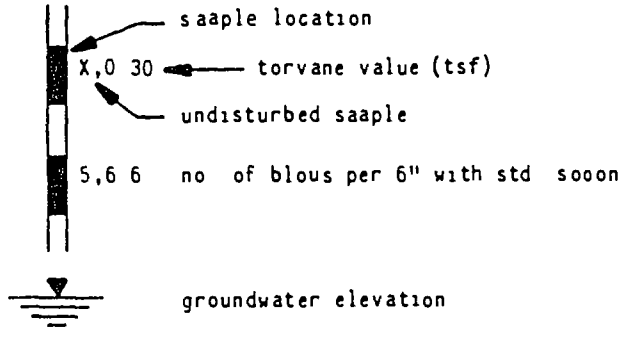

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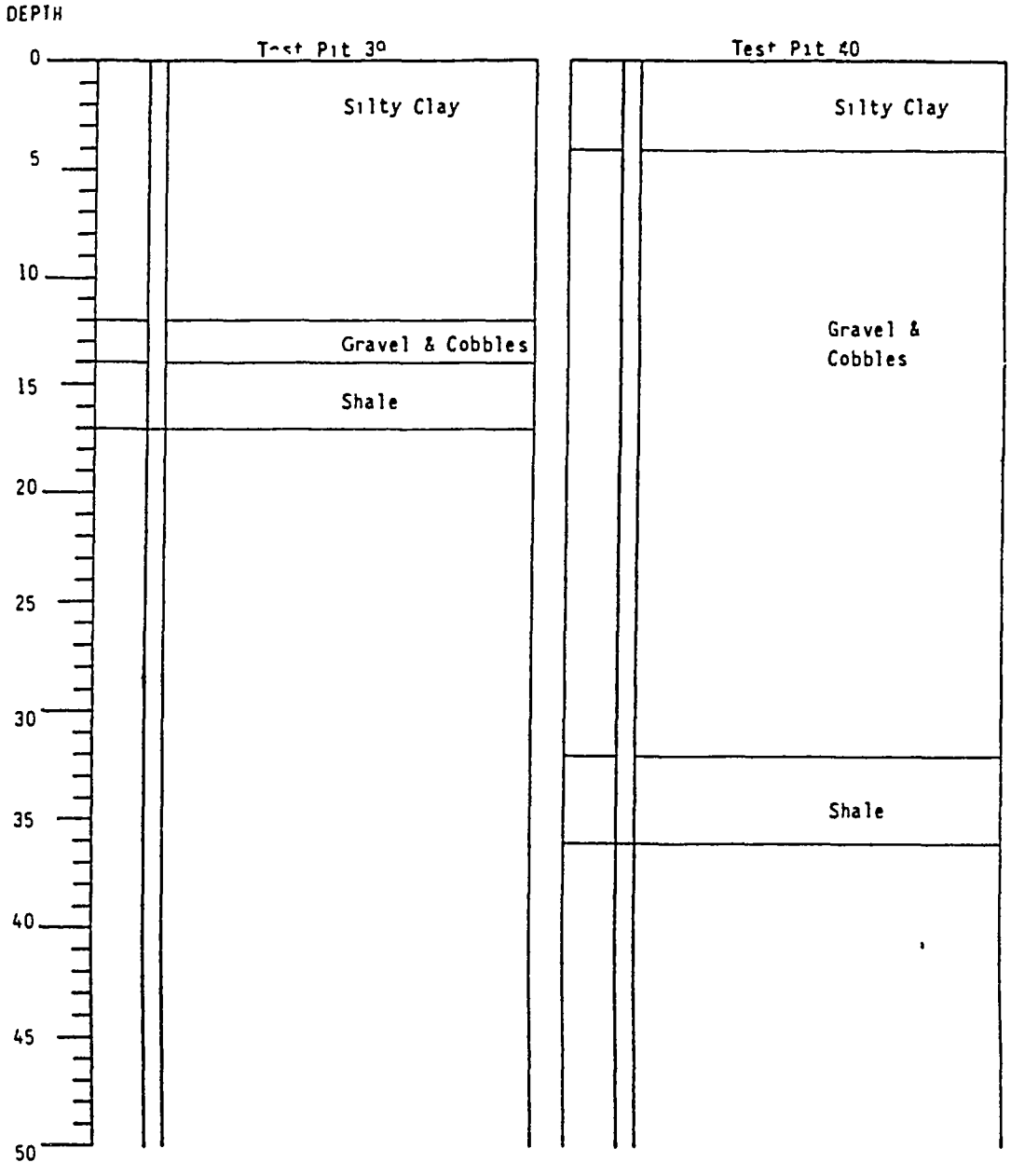

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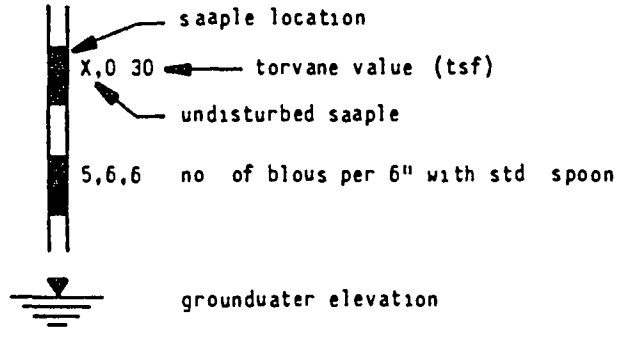

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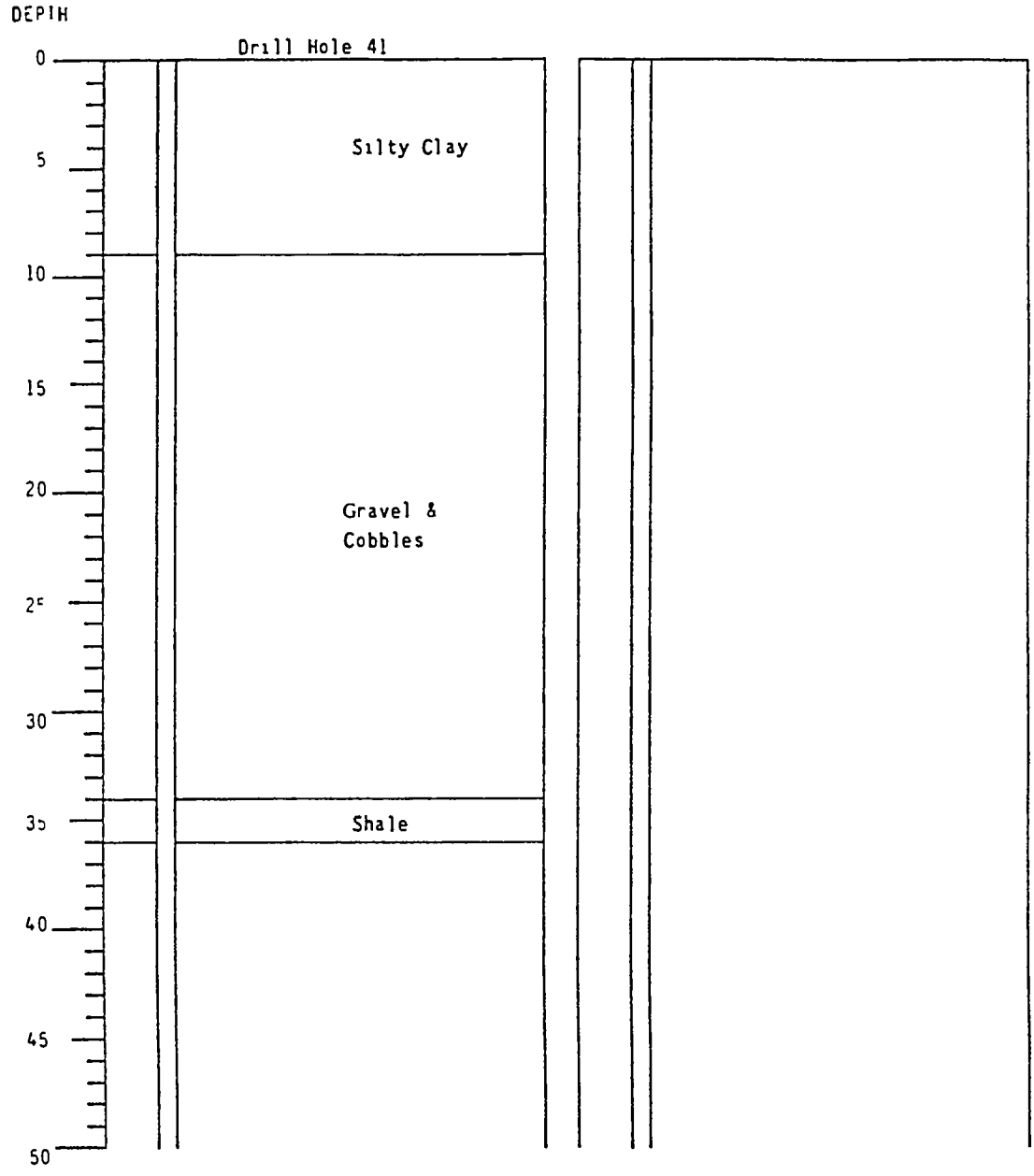

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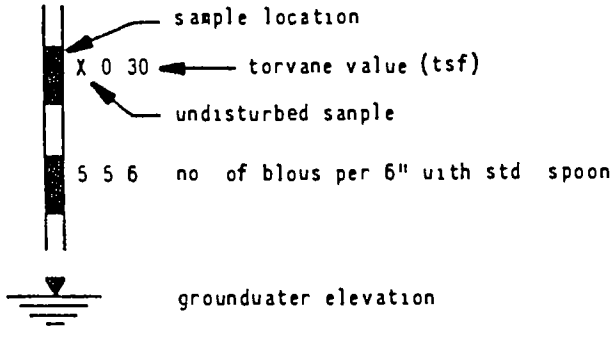

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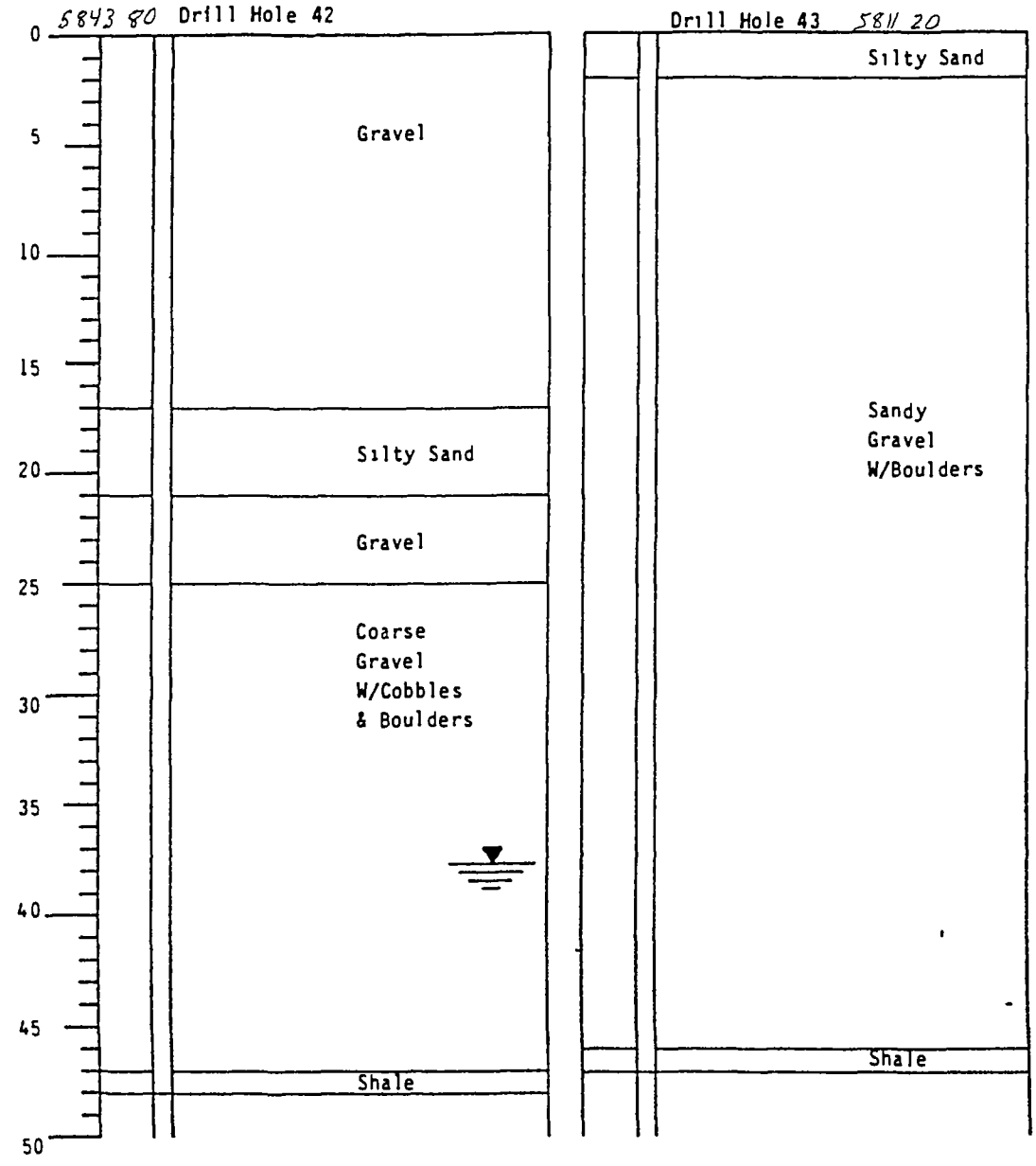

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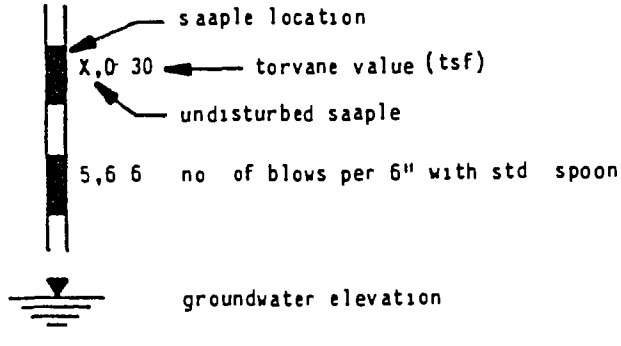

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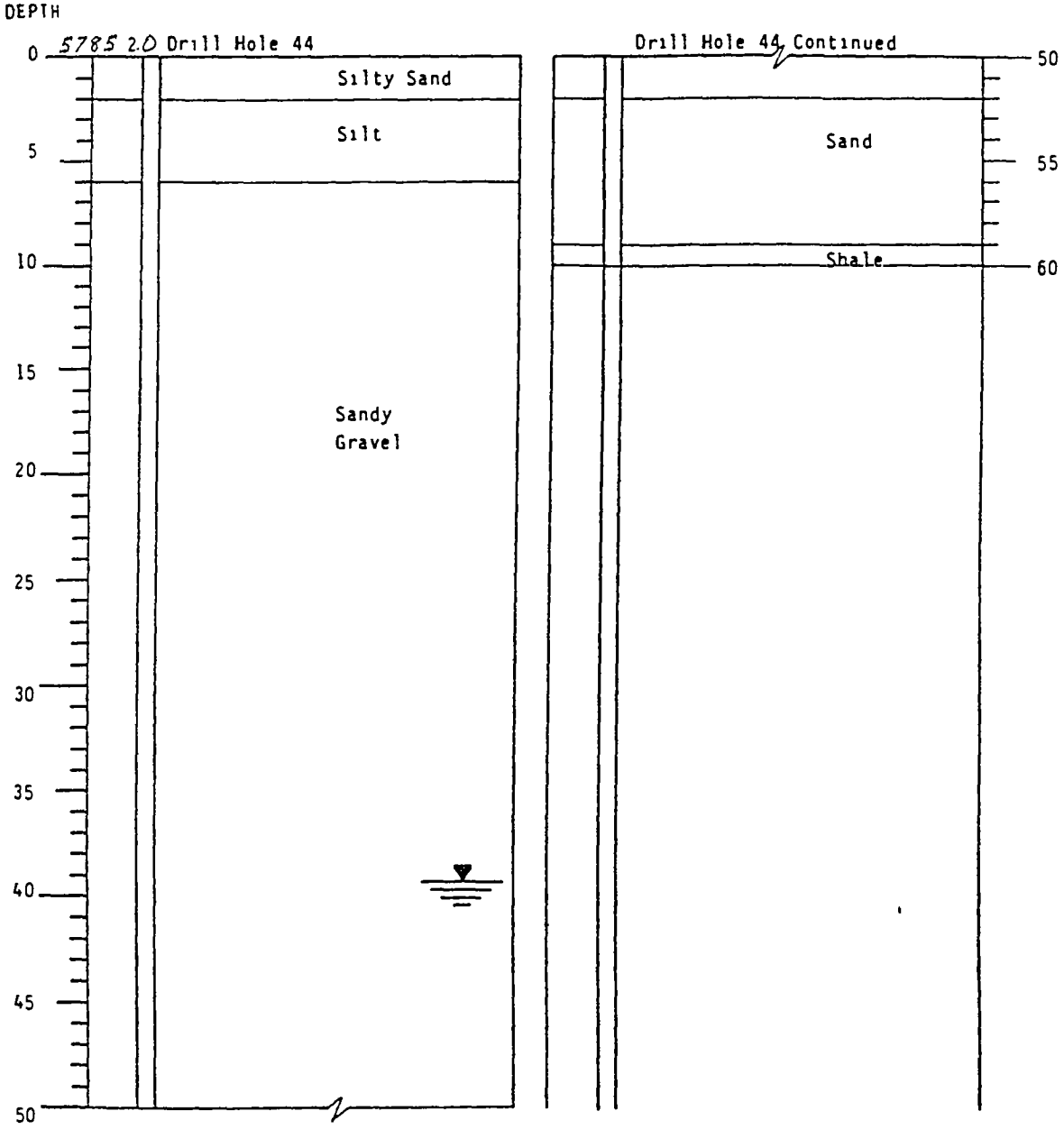

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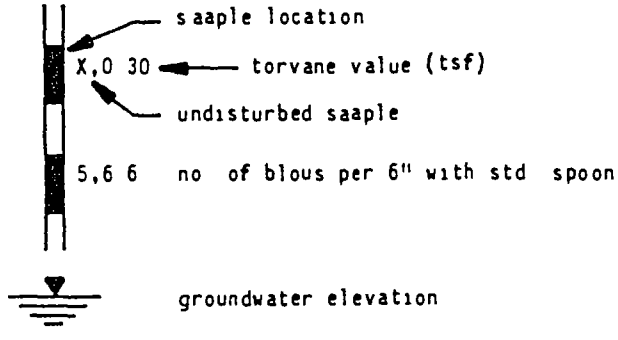


ROLLINS BROWN AND GUNNELL INC
PROFESSIONAL ENGINEERS

Log of Borings for
EAST CARBON LANDFILL

Figure No

EAST CARBON LANDFILL

HOLE ID	DEPTH	PERM RATE FT / YR	CM/SEC
1	5 / 56	1. 9	4 65E-05
2	-2 0 -43 0	4 9	4 71E-06
-	-		-
	-		-
5	0 -41 0	12 4	1 37E-05
	-		-
7	5) -56 0	14 6	1 41E-05
8	3- -41 0	.5 3	1 48E-05
9	-		-
	29 / -37 /	0 6	6 16E-07
11	3 0 -16 0	50 6	4 90E-05
12	30 5 -38 0	779 7	7 54E-04
13	42 -50	1855 5	1 79E-03
14	49 0 54 0		-
15	15 -50 0	120 3	1 16E-04
16	27 0 -34 0	0 3	2 74E-07
16R	30 0 -37 0	1646 9	1 59E-03
17	32 0 -39 0	4 1	3 99E-06
18	58 0 -68 0	1681 0	1 05E-03
19	5. / -60 0	1 1	1 04E-06
20	61 / -67 0	3 8	3 69E-06
20R	24 0 -52 0	173 8	1 68E-04
21	26 0 -53 0	204 7	1 98E-04
21R	37 0 -44 0	1848 0	1 79E-03
22	28 0 -35 0	11 9	1 15E-05
23	42 0 -47.0	10.0	9.70E-06
24	47 0 -54 0	1750 7	1 69E-03
25	48 5 -54 0	35 1	3 40E-05
26	41 5 -49 5	62 5	6 05E-05
27	40 0 -47 0	35 3	3 42E-05
28	31 0 -37 0	329 9	3.19E-04
29	32 0 -41 5	1368 6	1 32E-03
30	42 0 -50 0	197 2	1 91E-04
31	52 0 -57 0	3027 8	2.93E-03
32	41 0 -51 0	16 6	1 61E-05
33	48 0 -54 0	1261.5	1.22E-03
34	41 0 -49 0	902 8	8.73E-04
35	47 0 -55 0	1065 9	1 03E-03
36	51 0 -61 0	34 4	3.33E-05
37	-		-
38	-		-
39	-		-
40	-		-
41	-		-
42	40.5 -48 0	6 7	6 45E-06
43	39 0 -47 0	4 3	4 20E-06
44	52 0 -60 0	1588 5	1 54E-03

ROLLINS, BROWN and GUNNELL, INC
1435 WEST 820 NORTH
POST OFFICE BOX 711
PROVO UTAH 84603
(801) 374 5[illegible]
(801) 571 5[illegible]

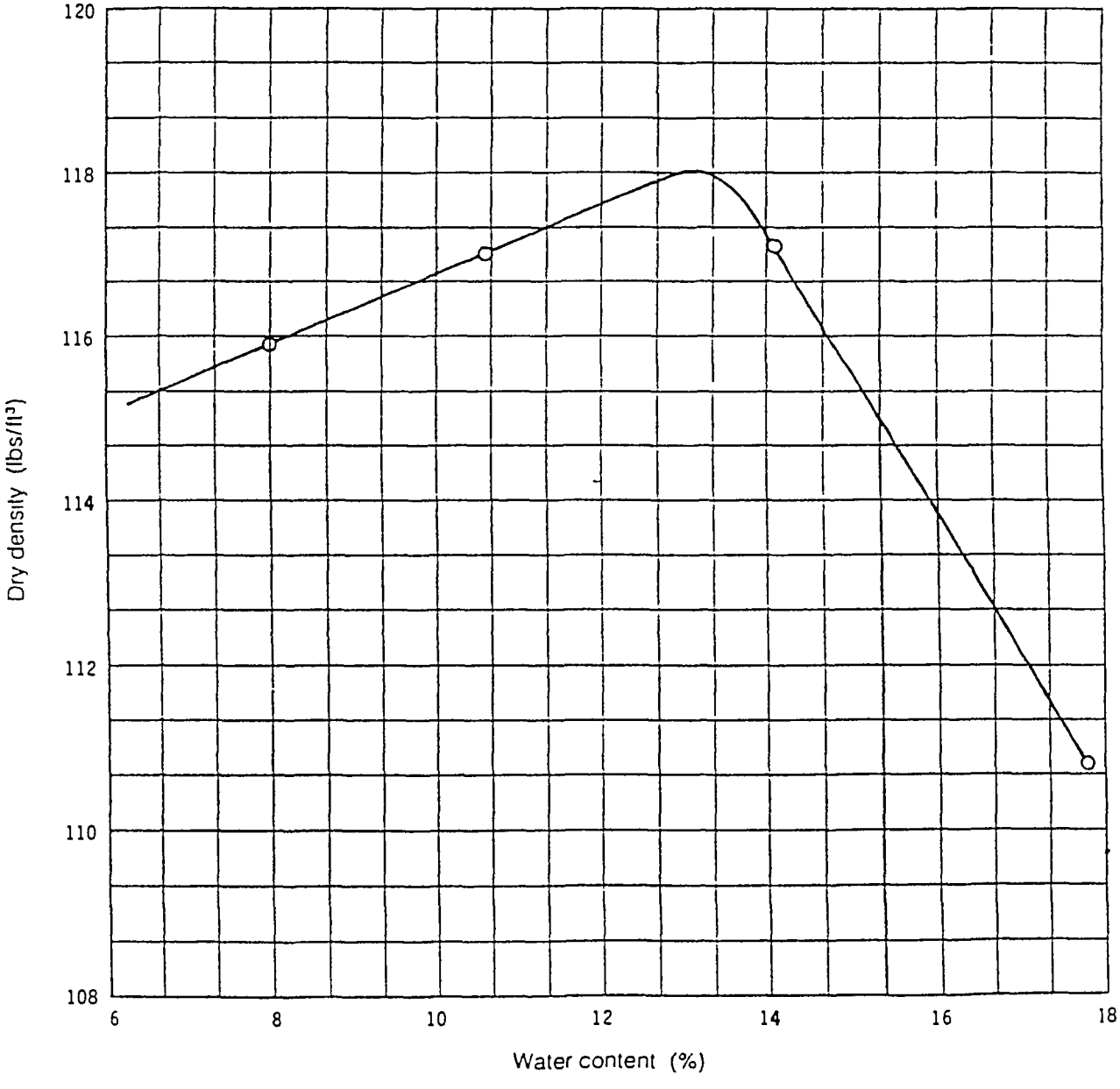
SOIL MOISTURE DENSITY RELATIONSHIP

Project EAST CARBON LANDFILL
Project no 9001-016
Feature Shale
Test date 2-2 90
Job technician
Mailing date

ASTM D 1557 78

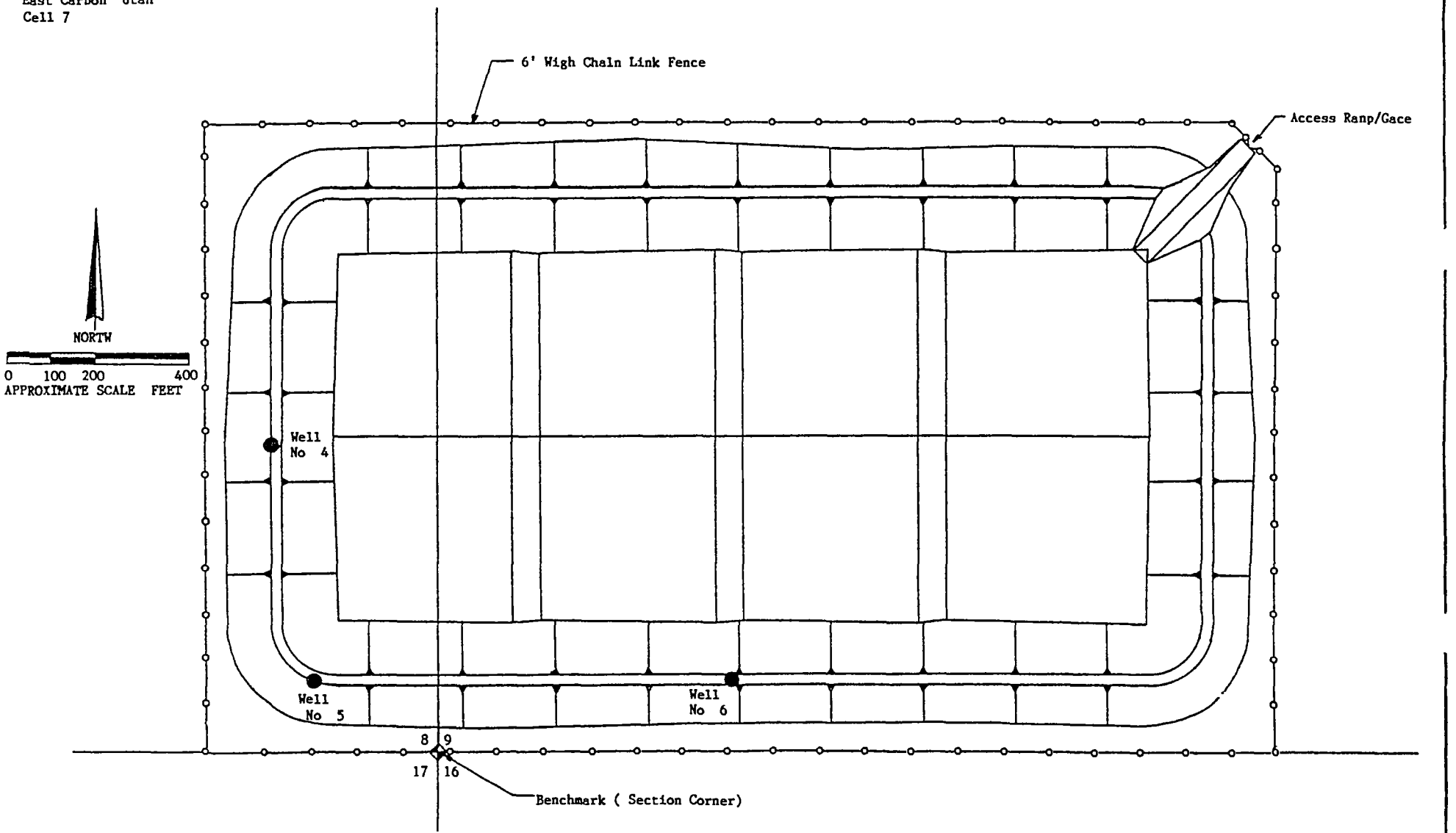
Maximum dry density = 118 0 lbs/ft³

Optimum moisture = 13 1 %



CELL 7 MONITORING WELLS

EAST CARBON DEVELOPMEWT CORPORATION
East Carbon Utah
Cell 7



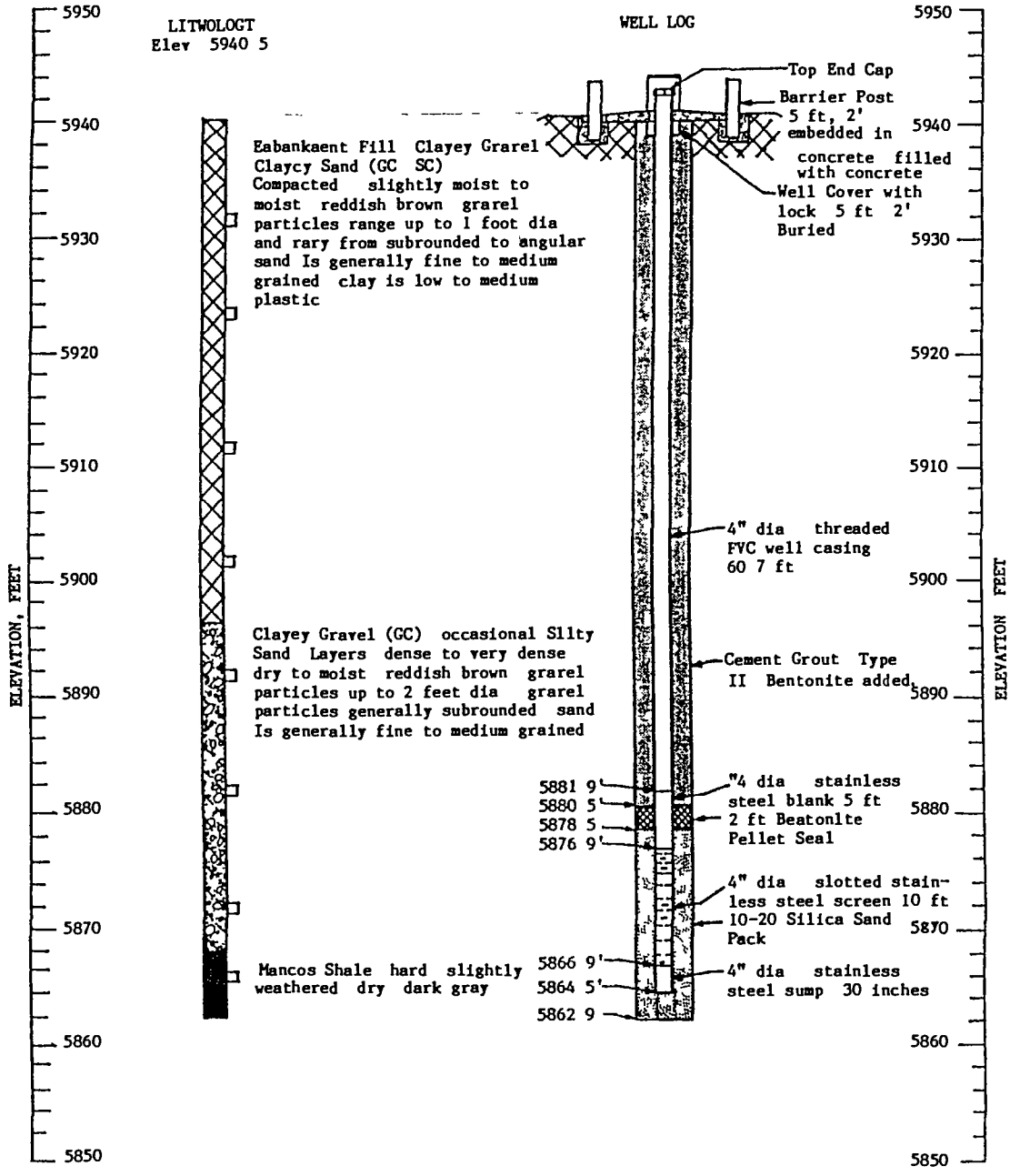
21892	A G E C	SITE PLAN/WELL LOCATIONS	FIGURE 1

EAST CARBON DEVELOPMENT CORPORATION
East Carbon Utah

DISPOSAL FACILITI CELL NO 7

MONITORING WELL NO 4
N 663 54 W 360 65 SE4 SE4
Section 8 T15S R13E

SALT LAKE BASE AND MERIDIAN
ELEV 5942 58 (Top of Well Casing)



NOTES

Indicates a disturbed bulk sample was obtained from the drilling cuttings

No groundwater was encountered in this monitoring well at the tine of installation

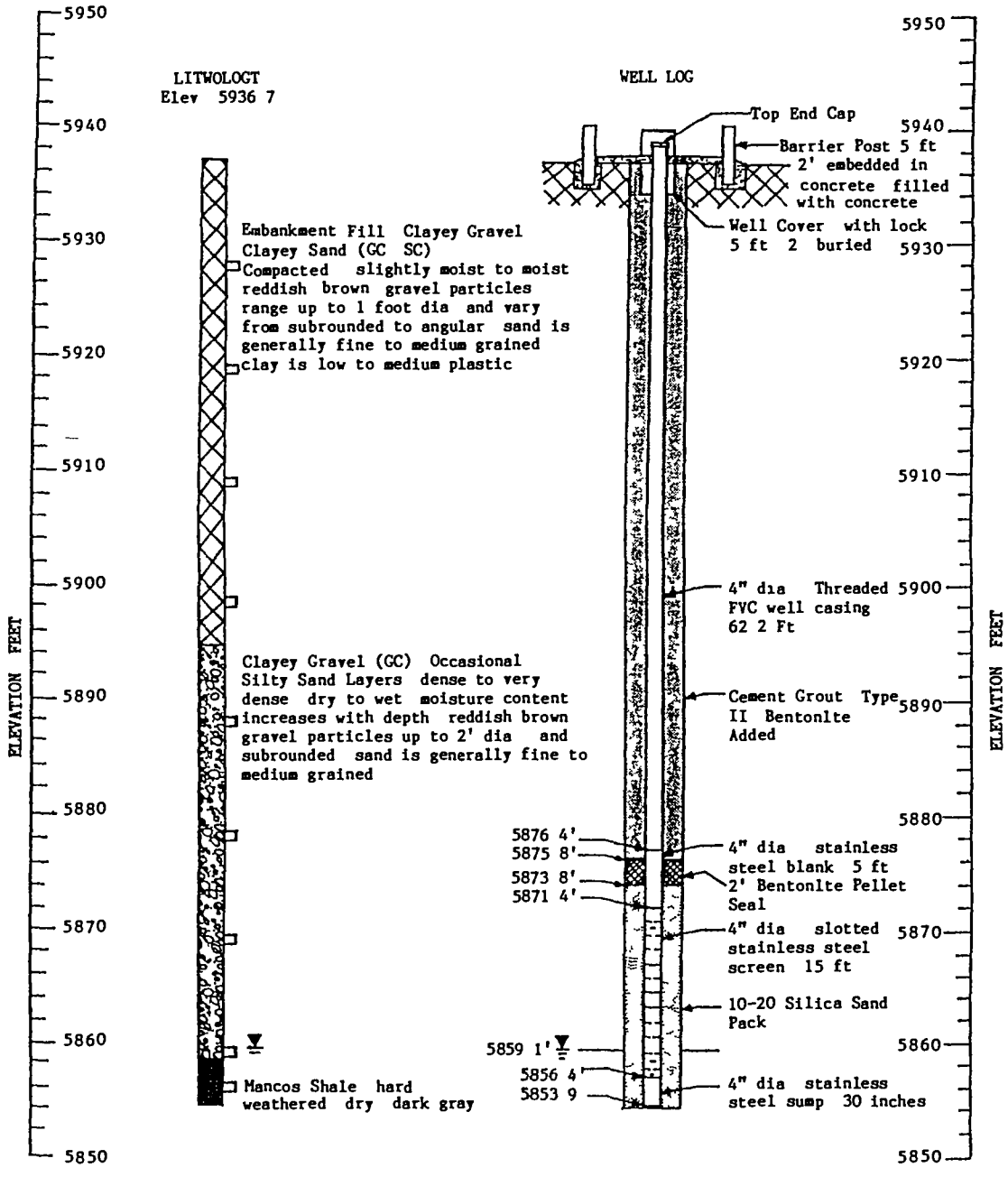
21892	A G E C	LITHOLOGY AND WELL LOG NO 4	FIGURF 2

EAST CARBON DEVELOPMENT CORPORATION
East Carbon Utah

DISPOSAL FACILITY CELL NO 7

MONITORING WELL NO 5
N 146 63 W 274 86 SE4 SE4
Section 8 T15S R13E

SALT LAKE BASE AND MERIDIAN
ELEV 5938 57 (Top of Casing)



NOTES

Indicates disturbed bulk sample was was obtained from the drilling cuttings

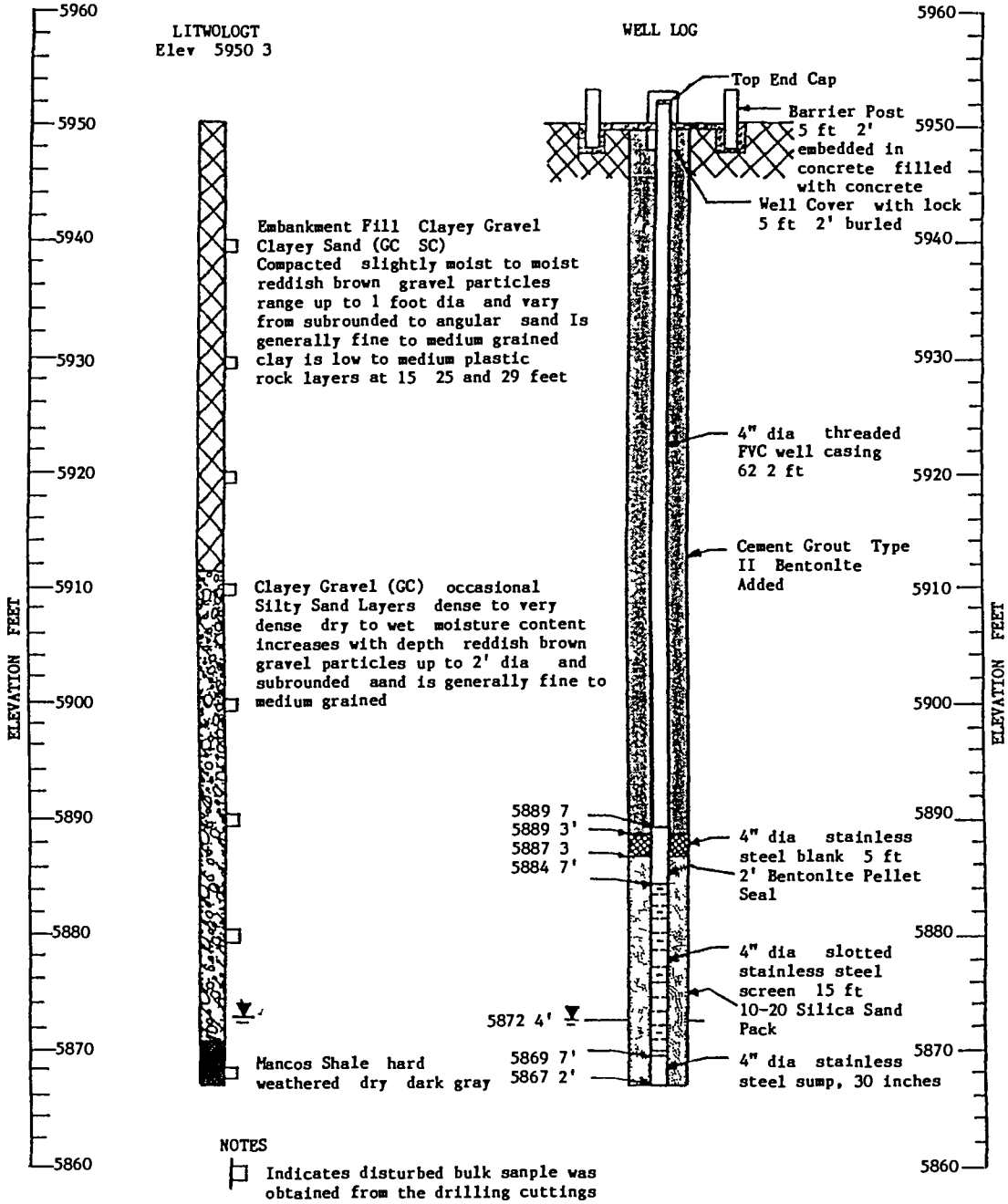
21892	A G E C	LITWOLOGY AND WELL LOG WELL NO 5	FIGURE 3

EAST CARBON DEVELOPMENT CORPORATION
Bast Carbon Utah

DISPOSAL FACILITY CELL NO 7

MONITORING WELL NO 6
N 150 64 E 623 70 SW4 SW4
Section 9 T15S R13E

SALT LAKE BASE AND MERIDIAN
ELEV 5951 88 (Top of Casing)



NOTES

Indicates disturbed bulk sanple was obtained from the drilling cuttings

21892	A G E C	LITHOLOGT AND WELL LOG WELL NO 6	FIGURE 4

WELL WATER MONITORING DURING DEVELOPMENT
TABLE I

Well No	Sample No	pH	Cond µS	Temp ° C
5	1	7 32		13
	2	7 36		13
	3	7 32		13
	4	7 46	1580	13
	5	7 55	1630	12
	6	7 59	1650	12
	7	7 66	1620	12
	8	7 70	1630	12
	9	7 68	1620	12
	10	7 75	1620	12
	11	7 75	1630	12
	12	7 77	1620	12
	13	7 77	1620	12
	14	7 78	1630	12
	15	7 78	1630	12
	16	7 77	1640	12
6	1	6 78	1580	13
	2	7 23	1574	13
	3	7 55	1620	12
	4	7 68	1600	12
	5	7 71	1590	12
	6	7 74	1580	12
	7	7 76	1590	12
	8	7 82	1590	13
	9	7 76	1590	13
	10	7 74	1590	13
	11	7 73	1590	13
	12	7 75	1590	13
	13	7 77	1590	13
	14	7 84	1590	13
	15	7 79	1590	13
	16	7 77	1590	13
	17	7 77	1590	13

USPCI MONITORING WELL CONSTRUCTION AND INSTALLATION DIAGRAM

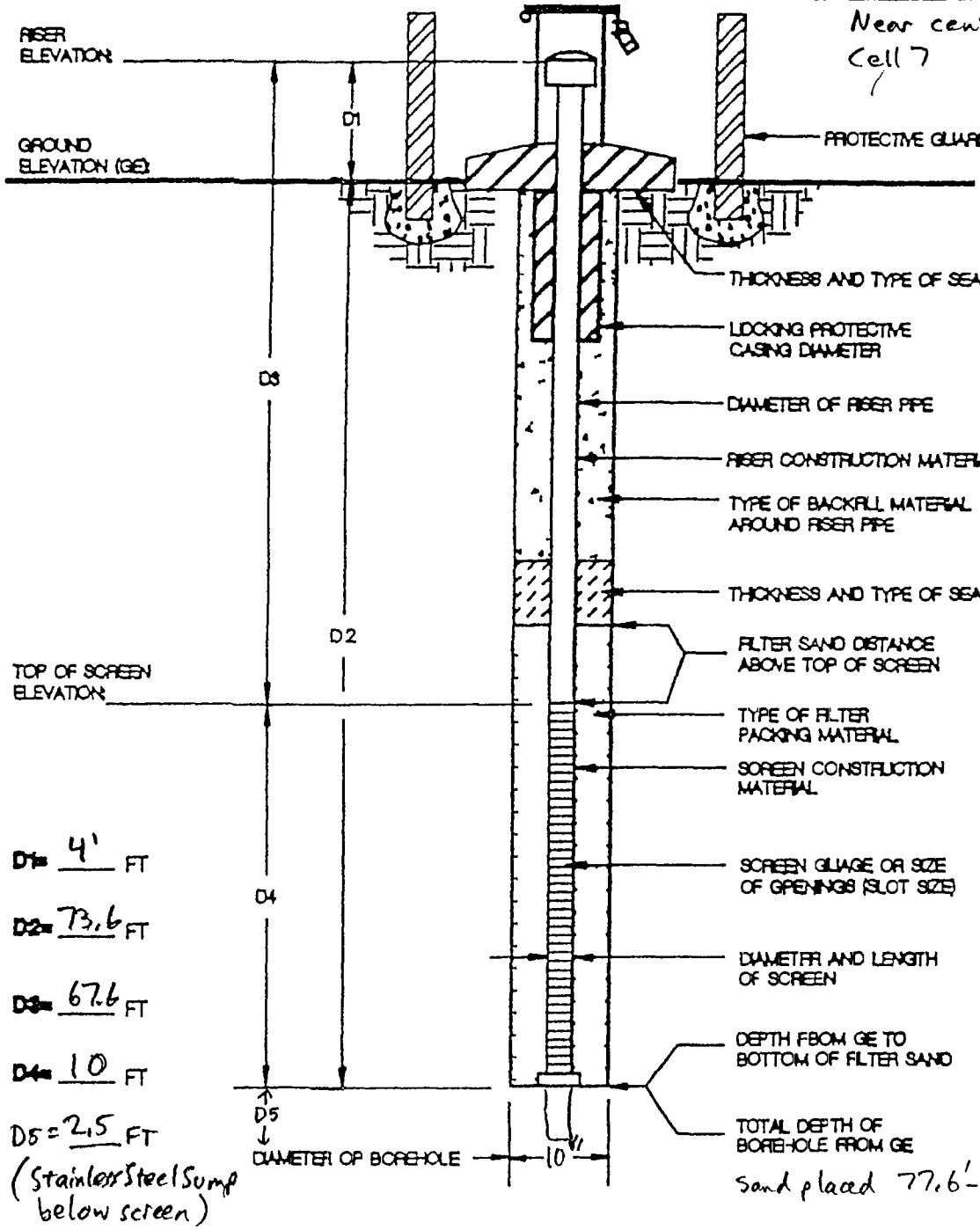
PROJECT NAME: ECDC Support Project

USPCI PROJECT NO. 96262

CONFIDENTIAL

MONITORING WELL NO. 3

Near center of west berm, Cell 7



THICKNESS AND TYPE OF SEAL	6" concrete pad, 4'x4'
LOCKING PROTECTIVE CASING DIAMETER	na
DIAMETER OF RISER PIPE	4"
RISER CONSTRUCTION MATERIAL	Sch. 80 PVC (62.6') "304" Stainless (5')
TYPE OF BACKFILL MATERIAL AROUND RISER PIPE	Cement grout
THICKNESS AND TYPE OF SEAL	1.8' (Bent. pellets)
FILTER SAND DISTANCE ABOVE TOP OF SCREEN	16'
TYPE OF FILTER PACKING MATERIAL	10/20 Silica Sd.
SCREEN CONSTRUCTION MATERIAL	"304" Stainless steel
SCREEN GUAGE OR SIZE OF OPENINGS (SLOT SIZE)	0.010"
DIAMETER AND LENGTH OF SCREEN	4" - 10'
DEPTH FROM GE TO BOTTOM OF FILTER SAND	77.6'
TOTAL DEPTH OF BOREHOLE FROM GE	77.6'

Sand placed 77.6'-76.1'

D1= 4' FT

D2= 73.6 FT

D3= 67.6 FT

D4= 10 FT

D5 = 2.5 FT (Stainless Steel Sump below screen)

NOT TO SCALE

MONITORING WELL INSTALLATION INFORMATION

DRILLING CONTRACTOR: Layne Env		DRILLER: Corey	
DRILLING RIG TYPE: AP-1000		DRILL METHOD: Dual-wall reverse circulation air rotary	
DATE STARTED: 9/1/92	DATE COMPLETED: 9/1/92	FORM COMPLETED BY: RMP	

USPCI
A Subsidiary of Union Pacific Corporation

USPCI MONITORING WELL CONSTRUCTION AND INSTALLATION DIAGRAM

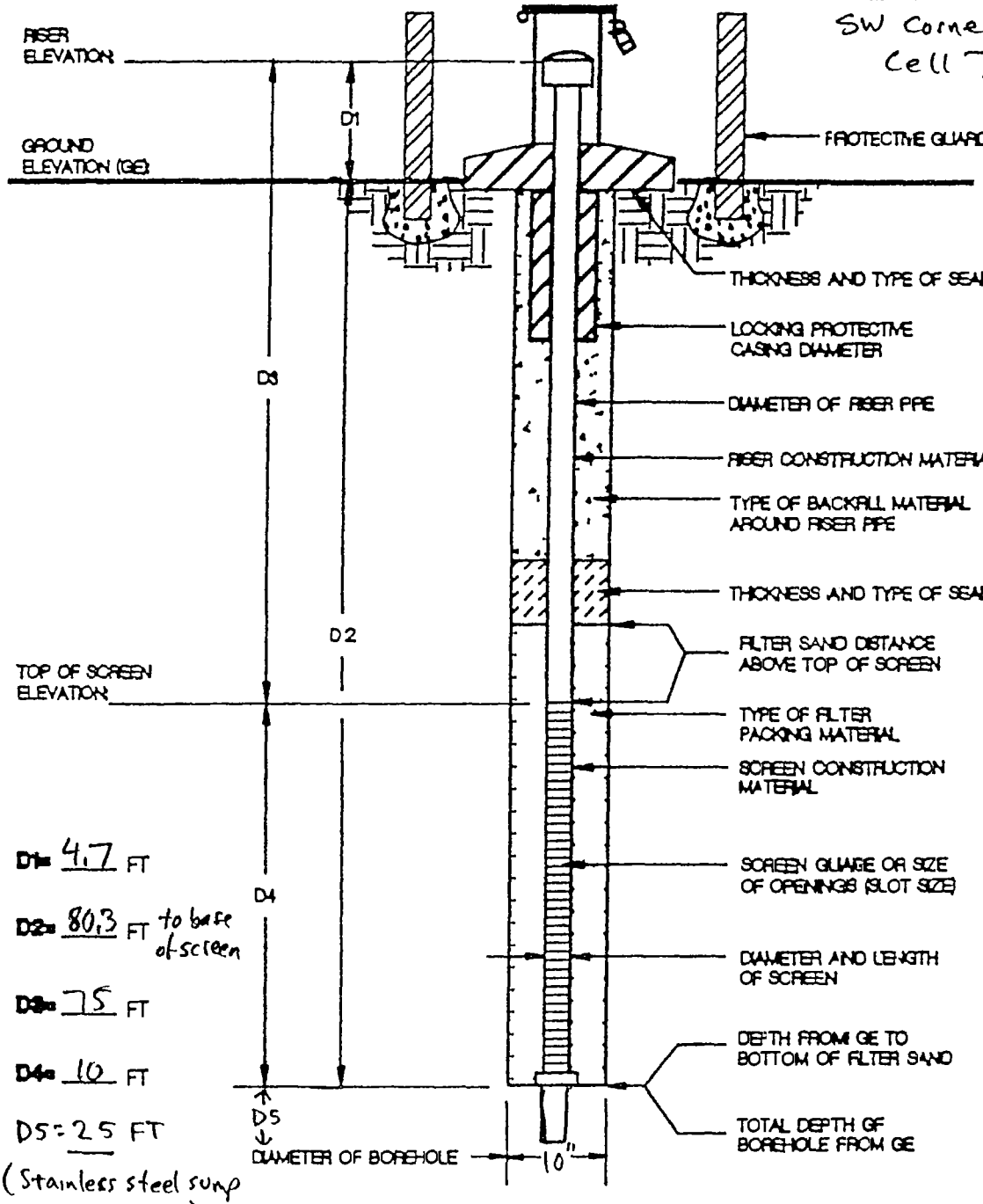
PROJECT NAME: ECDC Support Project

USPCI PROJECT NO. 96262

CONTRACT

MONITORING WELL NO. 4

SW Corner of berm, Cell 7



6" concrete pad, 4'x4'

na

4" Sch 80 PVC (70')

304 Stainless blk (5')

Cement grout (w/5% Bent.)

2' (Bent. pellets)

2'

10/20 Silica Sd

"304" Stainless Steel

0.010"

4" - 10'

82.8'

82.8'

D1= 4.7 FT

D2= 80.3 FT to base of screen

D3= 75 FT

D4= 10 FT

D5= 2.5 FT

(Stainless steel sump below screen)

NOT TO SCALE

MONITORING WELL INSTALLATION INFORMATION

DRILLING CONTRACTOR: Layne Env	DRILLER: Corey
DRILLING RIG TYPE: AP-1000	DRILL METHOD: Dual-wall reverse circulation air rotary
DATE STARTED: 9/1/92	DATE COMPLETED: 9/2/92
FORM COMPLETED BY: RMP	

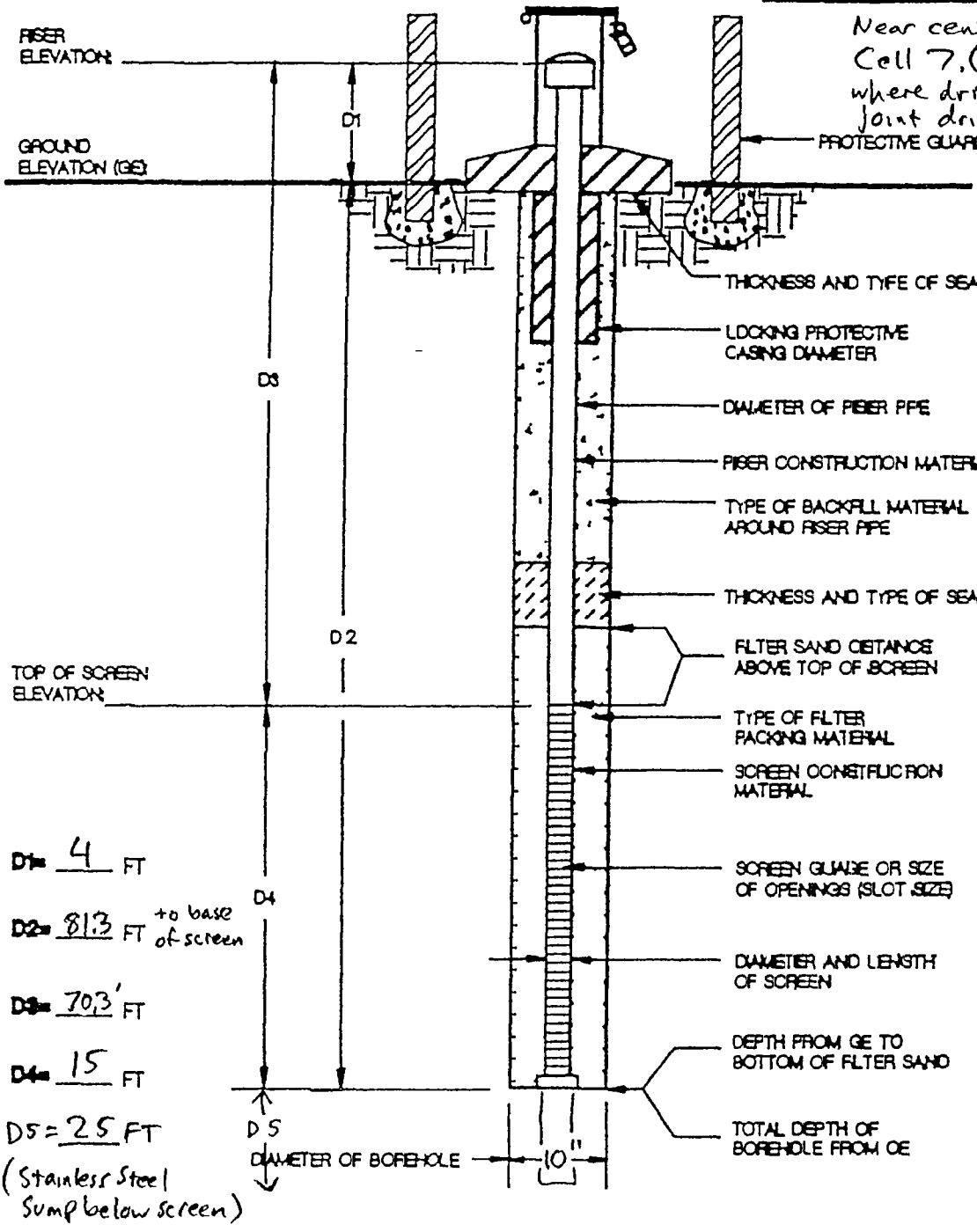
USPCI
A Subsidiary of Union Pacific Corporation

USPCI MONITORING WELL CONSTRUCTION AND INSTALLATION DIAGRAM

PROJECT NAME: ECDC Support Project

USPCI PROJECT NO. 96262

MONITORING WELL NO. 6



Near center of south berm, Cell 7. (Replaces well #5, where drill string broke one joint drill string & bit cemented in at bottom of well #5)

THICKNESS AND TYPE OF SEAL	6" concrete pad, 4'x4'
LOCKING PROTECTIVE CASING DIAMETER	na
DIAMETER OF RISER PIPE	4"
RISER CONSTRUCTION MATERIAL	Sch 80 PVC (65.3') "304" Stainless (blank) (5')
TYPE OF BACKFILL MATERIAL AROUND RISER PIPE	Cement grout (w/5% Bent)
THICKNESS AND TYPE OF SEAL	2' (Bent. pellets)
FILTER SAND DISTANCE ABOVE TOP OF SCREEN	3.3'
TYPE OF FILTER PACKING MATERIAL	10/20 Silica Sd
SCREEN CONSTRUCTION MATERIAL	"304" Stainless Steel
SCREEN GUAGE OR SIZE OF OPENINGS (SLOT SIZE)	0.010"
DIAMETER AND LENGTH OF SCREEN	4" - 15'
DEPTH FROM GE TO BOTTOM OF FILTER SAND	83.83'
TOTAL DEPTH OF BOREHOLE FROM GE	83.83'

D1= 4 FT

D2= 81.3 FT to base of screen

D3= 70.3' FT

D4= 15 FT

D5= 2.5 FT (Stainless Steel Sump below screen)

NOT TO SCALE

MONITORING WELL INSTALLATION INFORMATION

DRILLING CONTRACTOR: Layne Env	DRILLER: Corey
DRILLING RIG TYPE: AP-1000 ~~rotary~~ dual-wall reverse-circulation air	DRILL METHOD: Dual-wall reverse circulation air rotary
DATE STARTED: 9/3/92	DATE COMPLETED: 9/3/92
FORM COMPLETED BY: RMP	

USPCI
A Subsidiary of Union Pacific Corporation

Customer USPCI-BOULDER

Site/Location EAST CARBON DEV CORP

Salesperson ERI/RWL/CRD

Date 5/7/93

WELL ID NO	75W	75	A	B	C	_____
WELL SYSTEM TYPE	A	A	A	A	A	_____
Well Diameter (Inches)	4	4	4	4	4	_____
Well Depth	85	86	51	67	63	_____
Static Water Level	80	80	42	52	57	_____
Casing Length to Screen	75	76	41	57	53	_____
Screen Length	10	10	10	10	10	_____
BLADDER PUMP MODEL	P1101S	P1101S	P1101S	P1500	P1101S	_____
TUBING MODEL	PT5100	PT5100	PT5100	PT5610	PT5100	_____
TUBING LENGTH	82	83	48	60	60	_____
STICK-UP ABOVE CAP	1 5	1 5	1 5	1 5	1 5	_____
CAP MODEL	2120C	2120C	2120C	2650C	2120C	_____
Cap Adapter Model	_____	_____	_____	_____	_____	_____
Purge Pump Model	_____	_____	_____	_____	_____	_____
Tubing Model	_____	_____	_____	_____	_____	_____
Tubing Length	_____	_____	_____	_____	_____	_____
Purge Mizer Model	_____	_____	_____	_____	_____	_____
Cable/Tubing Model	_____	_____	_____	_____	_____	_____
Cable/Tubing Length	_____	_____	_____	_____	_____	_____
Drop Tubing Model	_____	_____	_____	_____	_____	_____
Drop Tubing Length	_____	_____	_____	_____	_____	_____
Water Level Probe Model	_____	_____	_____	_____	_____	_____
Probe Tubing Model	_____	_____	_____	_____	_____	_____
Tubing Length	_____	_____	_____	_____	_____	_____
Approximate Purge Times(min)	26	32	31	17	26	_____

TOTAL B P TUBING LENGTH (FT) 333

TOTAL P P TUBING LENGTH (FT) 0

TOTAL P M TUBING LENGTH (FT) 0

DROP TUBING LENGTH (FT) 0

TOTAL PROBE TUBING LENGTH (FT) 0

11 System Types

- Bladder Pump only
- Bladder Pump below Purge Pump
- Bladder Pump above Purge Pump
- Bladder Pump above Purge Mizer with Inlet Extension
- Bladder Pump below Purge Mizer
- Bladder Pump with Electric Submersible above
- Bladder Pump with Electric Submersible below
- Bladder Pump above Purge Mizer, with Purge Pump and Inlet Extension
- Bladder Pump, with tandem Purge Mizers
- Special Detail here

A-2

Geology Report

APPENDIX B

PRELIMINARY GEOLOGIC REPORT OF PROPOSED SOLID WASTE DISPOSAL SITE FOR EAST CARBON DEVELOPMENT CORPORATION

PRELIMINARY GEOLOGIC REPORT OP PROPOSED SOLID WASTE DISPOSAL SITE FOR EAST CARBON DEVELOPMENT CORPORATION

S Bryce Montgomery, Geologist, July 11, 1989

INTRODUCTION

The proposed solid waste disposal site is within Carbon County, Utah, west of East Carbon City, In Sections 7, 8, 9, 10, 16, 17 and 18, T15S, R13E, SLB&M, and is outlined on the attached geologic map It is adjacent to the Denver and Rio Grande Railroad and paved, State Highway 123 which are the north boundary

In addition to previous field work conducted in the region regarding exploration work, the author made a specific field examination of the site area on June 29-30, 1989 This included inquiries with local residents and professionals who have had direct involvement with the area

In addition, reference has been made to F R Clark (1928), Economic Geology of the Castlegate Wellington, and Sunnyside Quadrangles, Carbon County, Utah, U S Geological Bulletin 793, F W Osterwald and J O Maberry (1974), Engineering Geologic Map of the Woodside Quadrangle, Emery and Carbon Counties, Utah, U S Geological Survey Map 1-798, J W Hood and D J Patterson (1984), Bedrock Aquifers in the Northern San Rafael Swell Area, Utah, U S Geological Survey in cooperation with Utah Department of Natural Resources and Energy, Technical Publication No 75, W L Stokes and J H Madsen, Jr (1961), Geologic Map of Utah, Northeast Quarter, College of Mines and Mineral Industries, University of Utah, U S Department of Agriculture stereoscopic pairs of aerial photography (1974), U S Geological Survey Topographic 7 5 Minute Quadrangles, Sunnyside, Sunnyside Junction, and Patmos Head, Utah, E H Jensen and J W Borchert (1988), Soil Survey of Carbon Area, Utah, U S Department of Agriculture, Soil Conservation Service, and Project area topographic-aerial photo map prepared by Olympus Aerial Surveys Inc for East Carbon Development Corporation

Four test drill holes were drilled in the area June 12-13, 1989, by Zimmerman Well Service, at the request of East Carbon Development Corporation, and left cased for later water measurements The author examined the drill cuttings therefrom and conducted later ground water measurements therein The prepared logs are a part of this report In addition a driller's log for the Porter water well

located north of the subject area was obtained from the State Engineer's Area office in Price, Utah, and is included in this report

GEOLOGY, TOPOGRAPHY, SOILS, AND HYDROLOGY

The site is situated on the westward-sloping alluvial fan of Whitmore Canyon of the Book Cliffs, at elevations between 5740 and 6030 feet Underlying, sedimentary bedrock is the Mancos Shale of upper Cretaceous age which has been warped with a gentle dip to the north-northeast of 3 to 5 degrees from horizontal The large and prominent San Rafael Swell (uplift) is located immediately to the south and its northern end is plunging beneath the subject area Subsequent erosion of this great uplift has stripped thousands of feet of sedimentary rock strata off from its top and sides, with the eroded materials being transported away by the Colorado River system via the Green River drainage

Consequently, the subject bench area has been preserved as a dissected, arcuate-shaped, strike-valley between the Book Cliffs escarpment to the north, northeast and east, and the San Rafael Swell to the south Later erosion of this valley has formed another steep escarpment which bounds the subject area on the immediate south and southwest This has created the present-day, gently, westward-sloping, elevated plateau or bench upon which the proposed solid waste disposal site rests

During late (Quaternary) geologic time as the Book Cliffs continued to erode, unusually high water flows have periodically discharged from Whitmore Canyon (Sunnyside), depositing a thick blanket of sand, silt, gravel, cobbles, boulders and some large sandstone blocks (up to 20x20 feet) on the eroded surface of the Mancos Shale Subsequent erosion has intern removed part of this alluvial fan deposit

From eroded exposures along the escarpment at the south edge of the subject area, within road, railroad and ravine-wash cuts, and from test holes drilled, the underlying soil profile is well revealed This soil consists mainly of silt and sand with some clay, cobbles, boulders and widely-scattered large blocks of sandstone within the upper five feet This is in-part weakly cemented with lime-caliche in some areas In other areas such as the irrigated field in the NW/4 NW/4 Sec 16, T15S, R13E, the top-soil of silt and sand soil contains small, entrapped air-voids which causes soil collapsing upon wetting, creating small sinks and subsidences

Areas with scattered, large sandstone blocks from 6 to 20 feet in diameter are within the S/2 SW/4 and SW/4 NW/4 Sec 9, NW/4 SE/4 Sec 8, center of S/2 and S/2 SW/4 Sec 7, and NW/4 NW/4 Sec 18, all T15S, R13E The largest of these are seen in the center of S/2 Section 7, and evidence the principal, major stream channel locations of ancient times These ancient sediment-laden stream flows, sufficient to transport such large masses of rock from the mountains on the east, have deposited a continuous blanket of permeable alluvium, extending from the bottom of Whitmore Canyon throughout the subject area

Although, generally the alluvial fan deposits beneath the subject area have low to moderate permeability, there were apparently some ancient stream channels of relatively, clean washed gravels with higher permeabilities This is evidenced by the large-flowing Big Spring which exists within a ravine-cut through the alluvial fan materials, in the center of Section 18, T15S, R13E This Big Spring along with other smaller springs found in Sections 17 and 18 are formed similarly

The Big Springs was measured in 1975 (Hood and Patterson) to have a flow of 168 gpm of water The total dissolved mineral solids were reported to be 1,080 milligrams/liter (ppm) with sulfate being 480 mg/l and bicarbonate being 395 mg/l of the total At the time of my examination June 30, 1989, I estimated a flow of 150 gpm from the Big Spring, and about 15 gpm flowing from the East Spring, located within the Ne/4 SE/4 SW/4 Sec 17, T15S, R13E Other small springs in Sections 17 and 18 had estimated flows from 2 to 10 gpm Mr Woodrow Pilling, who has operated the Big Spring Ranch since 1942, believed the present flow from Big Spring to be close to 450 gpm based on the number of furrows he is able to irrigate with the water

As shown on the attached geologic map, geologic sections and drill hole logs, the preserved thickness of the alluvial fan materials blanketing the subject area is 0 to 50 feet Likely within some ancient stream channels eroded into the eroded surface of the unaerlying Mancos Shale, it may be thicker than 50 feet Below the top five feet of mainly gravelly silt and sand, the alluvial fan materials consist of silty and sandy gravels, cobbles and boulders, lensing into gravelly silt and sand with some clay Variable lime caliche weak cementation exists throughout the section Permeability is low to moderate, with some localized high, such as east of the Big Spring Woodrow Pilling related to me some small sink holes in the irrigated field within the NW/4 Section 16 which

have captured applied irrigation water at times in the past He further stated that when he has water available to him from Grassy Trail Creek to irrigate these bench fields and does so, he has noticed an Increase in the flow from Big Spring

Thus, underlying the capping, alluvial fan materials is the Mancos Shale of gray, clayey siltstone and silty shale which weathers at its contact to a tight clay, forming a permeability barrier to downward moving ground water This serves as a floor to the perched groundwater aquifer within the overlying alluvium The fact that drill cutting samples recovered frown the Mancos Shale below its upper, weathered, clay contact surface were dry, evidences the effectiveness of the clay seal at its top The remaining section of the Mancos Shale is 1700 feet thick in the oil-test well drilled by Mountain Fuel Supply Company within the NW/4 SE/4 Sec 17, T15S, R 13E, to total depth of 9165 feet in the year 1971

In outcrop the Mancos Shale weathers to a silty clay at its contact with the atmosphere Upon digging beneath this clay, or from exposures studied in the lower part of the steep escarpment at the south edge of the subject area, it was observed that the shale contains much jointing, in part filled with thin coatings of gypsum Generally these joints are near vertical and strike northwest and northeast The chemical analysis of water from Big Spring evidences that some gypsum from the top of the Mancos Shale has been taken into solution

The groundwater potentiometric surface is shown on the geologic map by separate contour lines The difference between these contours and the ground surface elevation is the depth to the unconfined, perched aquifer The saturated thickness of the aquifer is generally thin (3 to 20 feet), although local areas not tested may be thicker due to ancient channeling into the top of the Mancos Shale The difference between the depth to ground water and the isopach (thickness) contours of the alluvium, shown on the geologic map, sections and test hole logs, illustrates the saturated thickness of alluvium

Thus, the recharge water for tne Big Spring and other near by springs originates from precipitation in the higher elevations of Whitmore Canyon of the Book Cliffs and moves almost in a straight line, within the subsurface alluvium, from Sunnyside at the mouth of Whitmore Canyon to Big Spring Supplemental recharge would be any infiltrating water applied to the bench above and east of the Big Springs

From examination of stereoscopic aerial photographs of the area, which provides three dimensional viewing, from field examination of rock outcrops and physiographic features on the bench surface of the subject area, and from research of geologic maps done by the U S Geological Survey of the area, no Holocene (within the last 10,000 years) faulting or like-lineations were found in or adjacent (within 3000 feet) to the subject area

Five prepared geologic sections along with logs of test drill holes and outcrops within ravines, road-cuts and escarpment faces illustrate and project the subsurface beneath the subject area

Besides the Big Spring which is used for potable water along with its other uses, there is an existing culinary-stockwatering well located immediately north of the intended use area at a point S 1320 feet and West 800 feet from the N14 Cor Sec 8, T ISS, R 13E It was drilled for George Porter in 1982 to a total depth of 60 feet and is producing from open-ended, 8-inch diameter casing, from the alluvial aquifer Mancos Shale was reported at a depth of 56 feet and the static water level was reported to be at a depth of 35 feet on october 29, 1982 A copy of the driller's log is attached to this report

Three sewage lagoons have been constructed for East Carbon City within the central part of Section 10, T15S, R13W, immediately northeast of the subject area Only the northeast lagoon is presently being used Upon talking to a local resident who was involved in the actual construction of the lagoons, I learned that no pre-compaction was done of the excavated bottoms and a liner of excavated Mancos Shale was placed within the bottom and side slopes to a thickness of about 14 inches However, the fractured shale liner was placed without an optimum moisture content and specific compaction work Thus, it is likely that some seepage from the operating lagoon is infiltrating into the alluvial aquifer as is seepage from Grassy Trail Creek immediately north of the intended use area I was informed by a retired engineer in Price, Utah, that some years ago there was a florescent dye placed in Grassy Trail Creek west of East Carbon City to determine if it was supply to the Big Springs The dye test proved positive and it is part of a court record relative to a lawsuit on the matter

CONCLUSIONS AND RECOMMENDATIONS

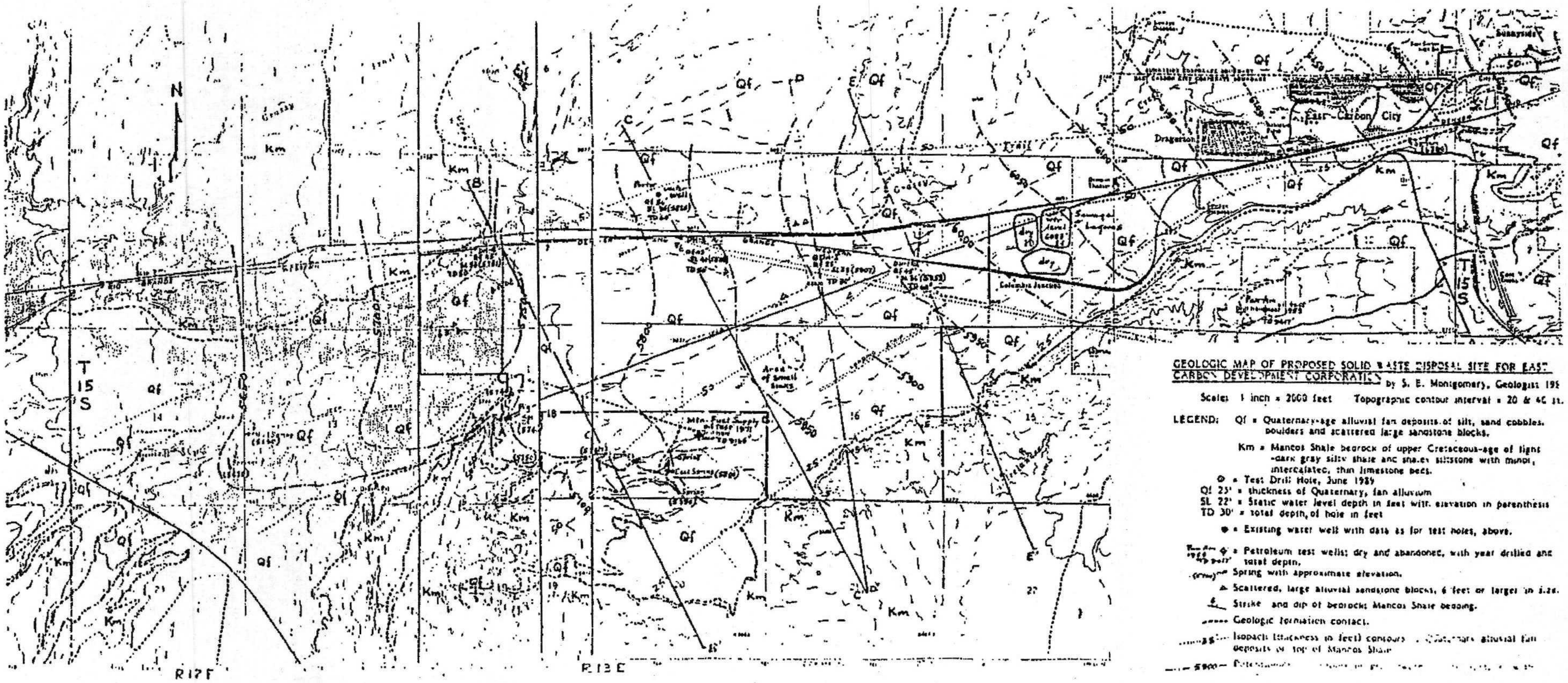
The subject area appears suitable for the intended solid-waste disposal site providing an adequate seal is provided to prevent any

leachate from entering the existing alluvial aquifer The depth (22 to 36 feet) to the top of the alluvial aquifer is a limiting factor to the depth and thickness of the proposed disposal cells, below ground level

As the project progresses, additional test holes extended to the Mancos Shale will provide added and needed control for design, construction and operation of the proposed solid waste disposal facility

I recommend that monitoring be initiated now and continued into the future on the water within existing springs, well and test holes as to yields, water quality and static water levels

Attachments Geologic map and sections, drill hole logs



GEOLOGIC MAP OF PROPOSED SOLID WASTE DISPOSAL SITE FOR EAST CARBON DEVELOPMENT CORPORATION by S. E. Montgomery, Geologist 198

Scale: 1 inch = 2000 feet   Topographic contour interval = 20 & 40 ft.

LEGEND: Qf = Quaternary-age alluvial fan deposits of silt, sand cobbles, boulders and scattered large sandstone blocks.

Km = Mancos Shale bedrock of upper Cretaceous-age of light -dark gray silty shale and shaley siltstone with minor, intercalated, thin limestone beds.

⊙ = Test Drill Hole, June 1989
Qf 25' = thickness of Quaternary, fan alluvium
SL 22' = Static water level depth in feet with elevation in parenthesis
TD 30' = total depth of hole in feet

● = Existing water well with data as for test holes, above.

◇ = Petroleum test wells; dry and abandoned, with year drilled and total depth.

Spring with approximate elevation.

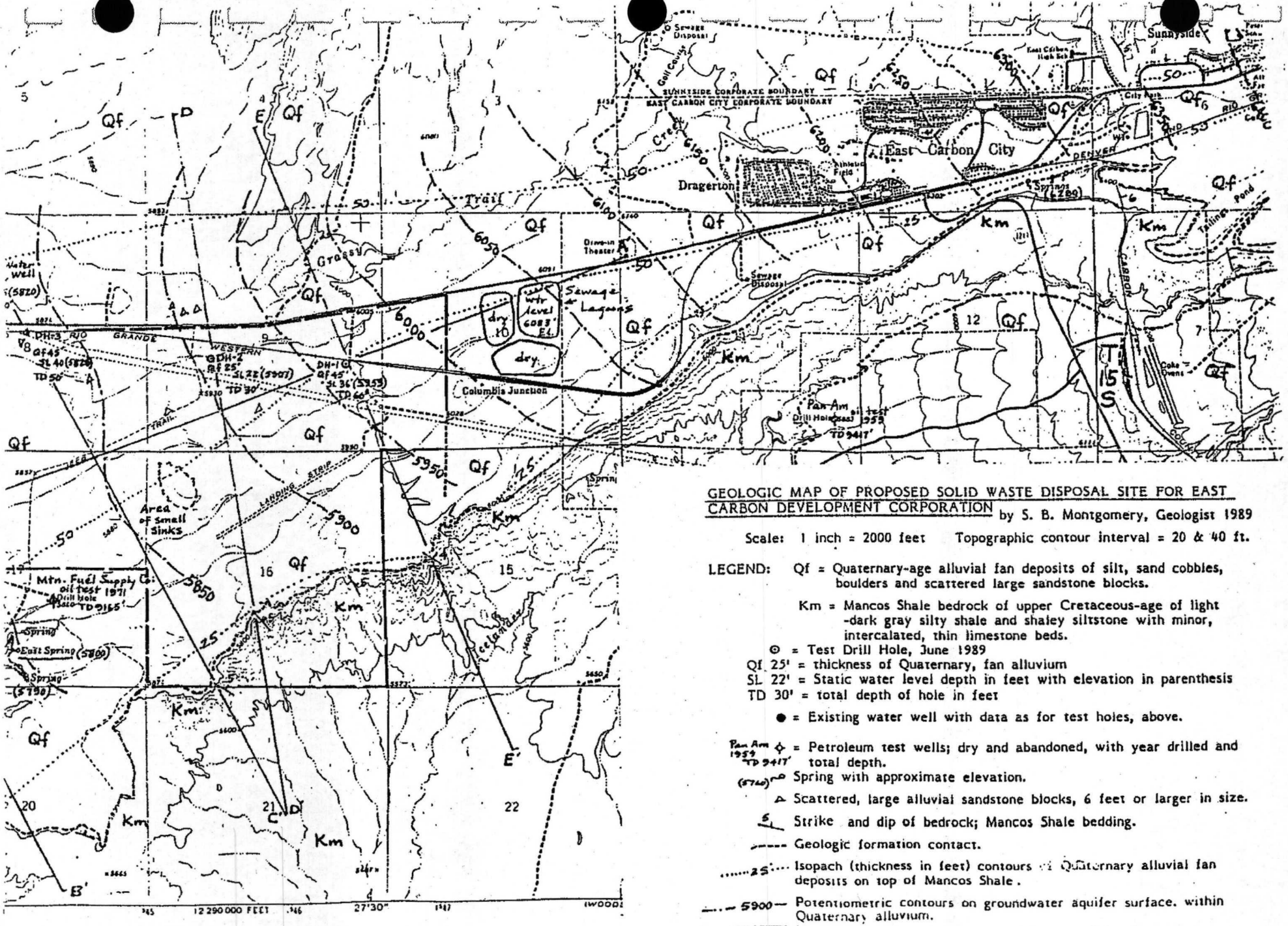
▲ Scattered, large alluvial sandstone blocks, 6 feet or larger in size.

Strike and dip of bedrock; Mancos Shale bedding.

Geologic formation contact.

Isopach (thickness in feet) contours ... alluvial fan deposits ... top of Mancos Shale

— 5900 —



GEOLOGIC MAP OF PROPOSED SOLID WASTE DISPOSAL SITE FOR EAST CARBON DEVELOPMENT CORPORATION by S. B. Montgomery, Geologist 1989

Scale: 1 inch = 2000 feet Topographic contour interval = 20 & 40 ft.

LEGEND:

Qf = Quaternary-age alluvial fan deposits of silt, sand cobbles, boulders and scattered large sandstone blocks.

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Qf 25' = thickness of Quaternary, fan alluvium

SL 22' = Static water level depth in feet with elevation in parenthesis

TD 30' = total depth of hole in feet

● = Existing water well with data as for test holes, above.

Pan Am 1959 TD 9417' ◇ = Petroleum test wells; dry and abandoned, with year drilled and total depth.

(5740) ○ Spring with approximate elevation.

△ Scattered, large alluvial sandstone blocks, 6 feet or larger in size.

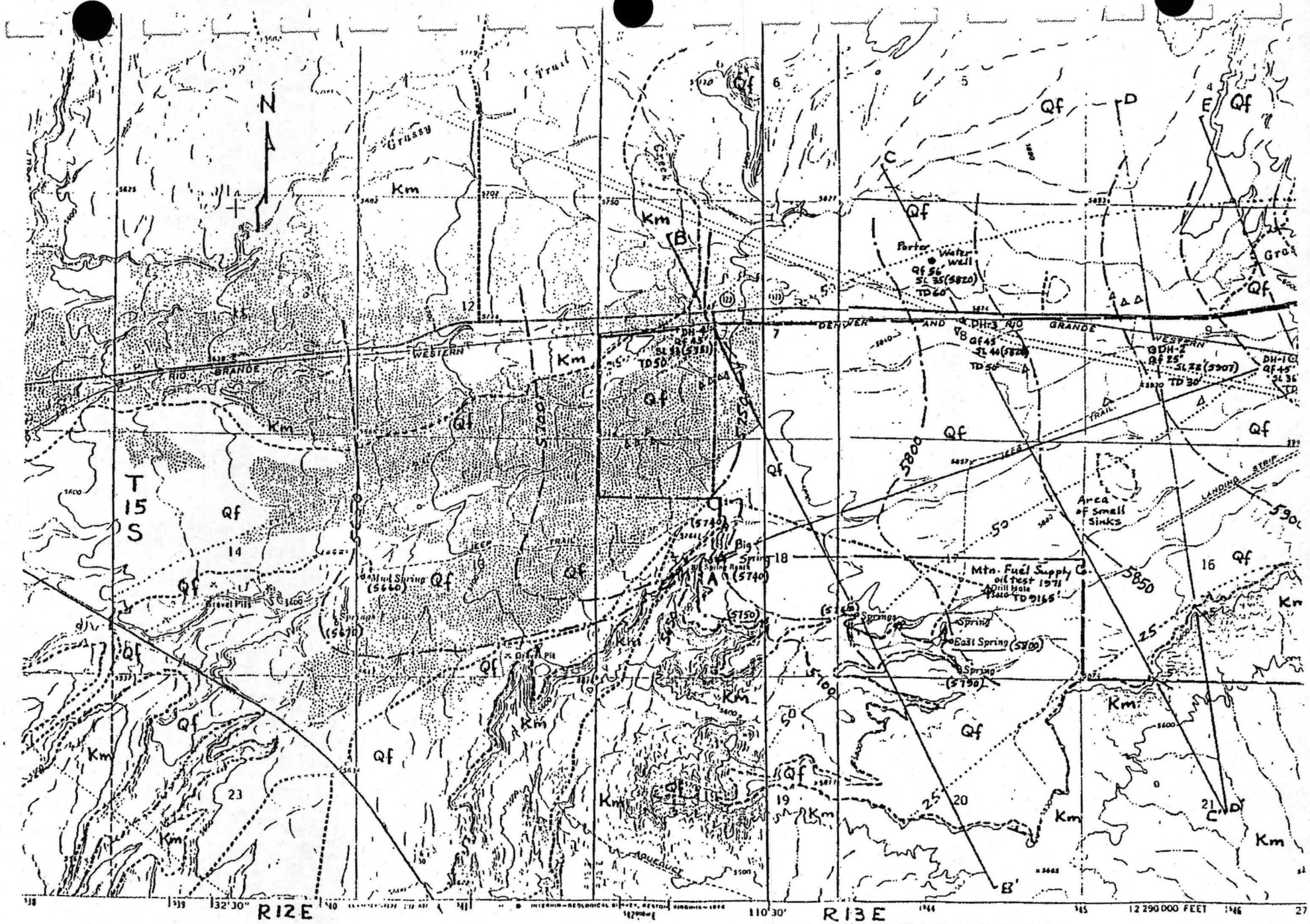
Strike and dip of bedrock; Mancos Shale bedding.

Geologic formation contact.

25 Isopach (thickness in feet) contours of Quaternary alluvial fan deposits on top of Mancos Shale.

5900 Potentiometric contours on groundwater aquifer surface, within Quaternary alluvium.

[ ] Proposed solid waste disposal.



ROAD CLASSIFICATION

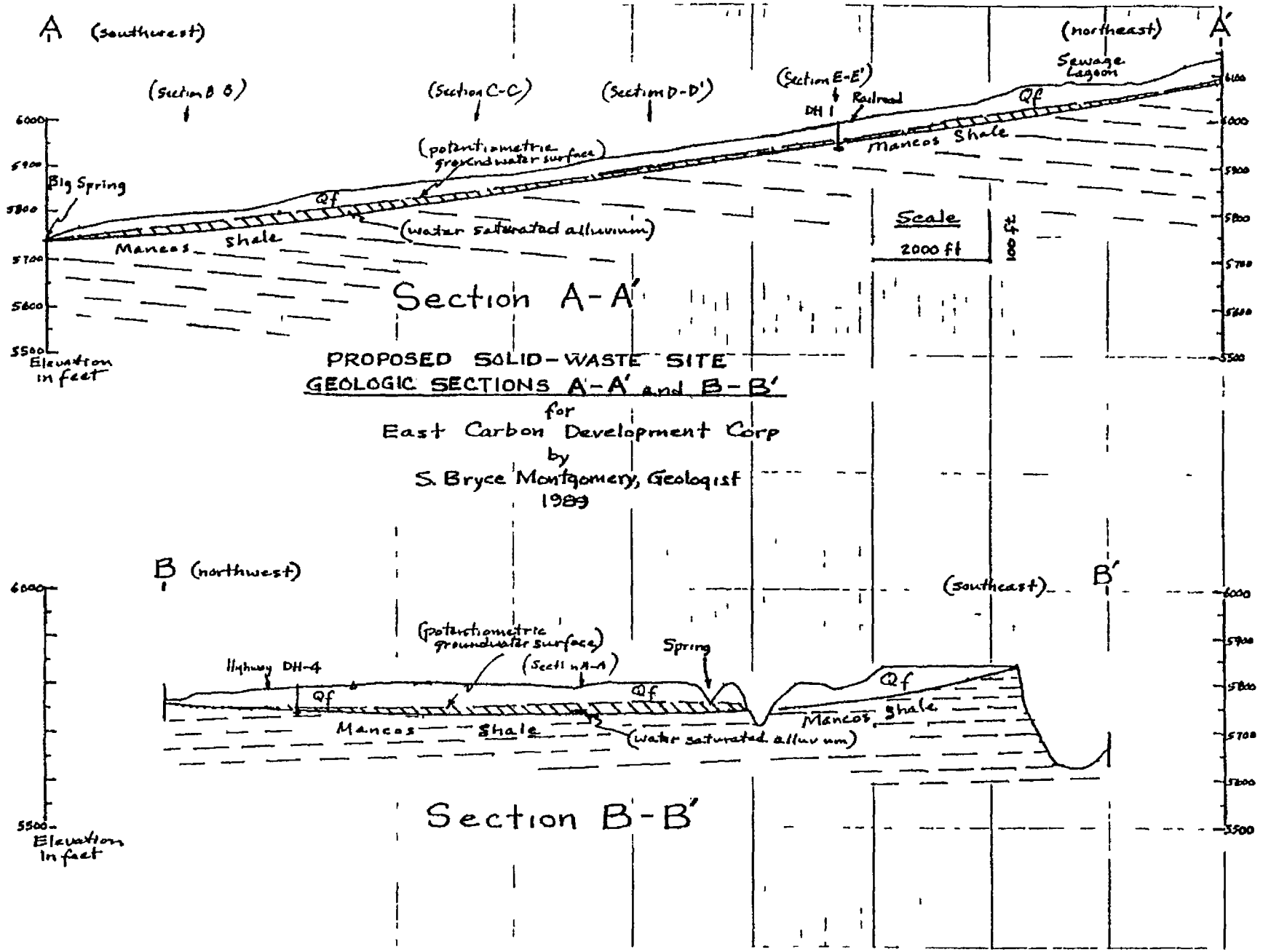
Primary highway.

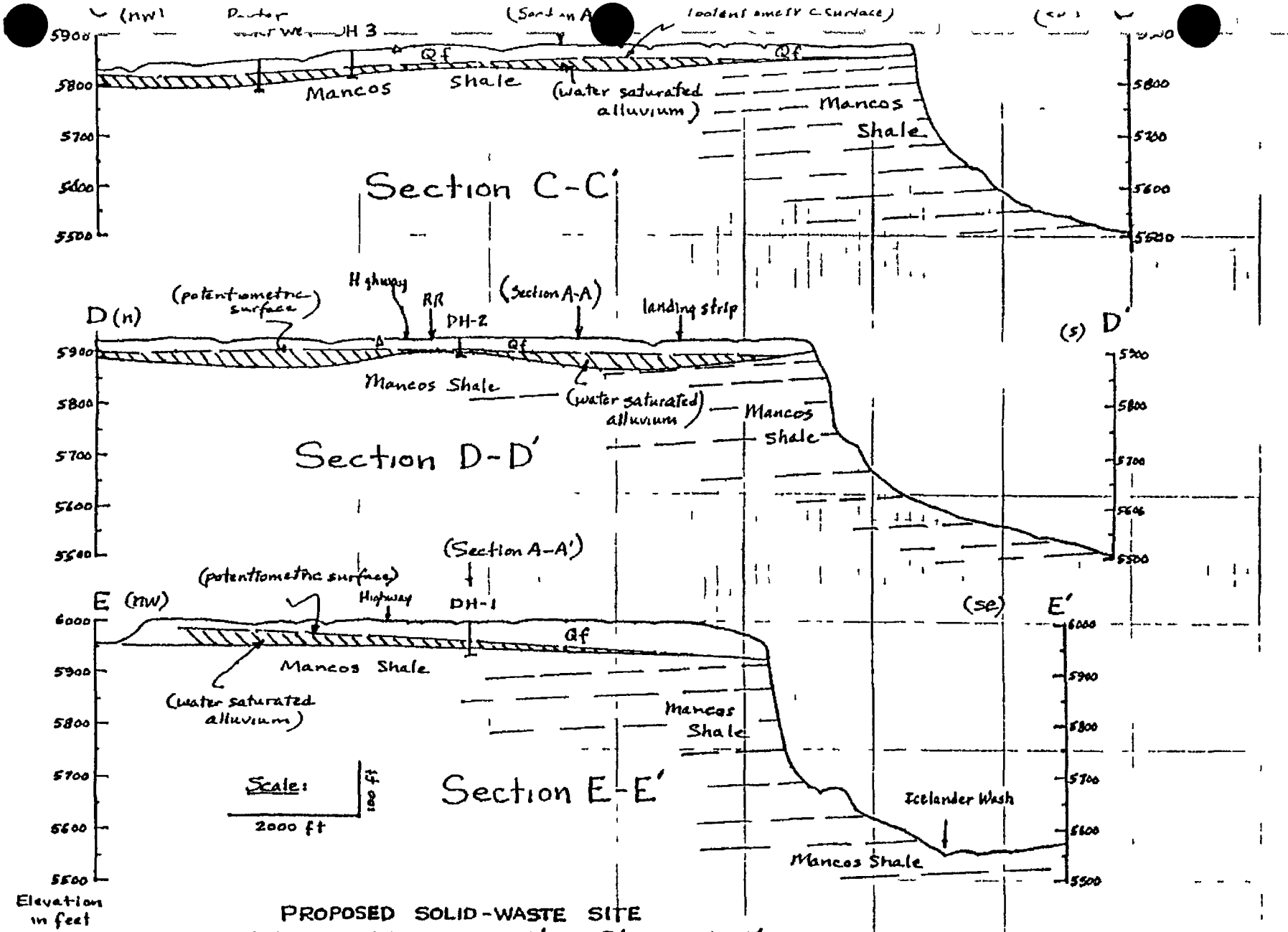
Light duty road, hard or

Mapped, edited, and published by the Geological Survey

Control by USGS and NOS/NOAA

Topography by photogrammetric methods from aerial


A (southwest)
A' (northeast)
(Section B-B)
(Section C-C)
(Section D-D')
(Section E-E')
DH 1
Railroad
Sewage Lagoon
Qf
Mancos Shale
(potentiometric groundwater surface)
Big Spring
(water saturated alluvium)
Scale
2000 ft
100 ft
Section A-A'
Elevation in feet
6000
5900
5800
5700
5600
5500
PROPOSED SOLID-WASTE SITE
GEOLOGIC SECTIONS A-A' and B-B'
for
East Carbon Development Corp
by
S. Bryce Montgomery, Geologist
1989
B (northwest)
B' (southeast)
Highway
DH-4
Section A-A
Spring
Section B-B'



PROPOSED SOLID-WASTE SITE
GEOLOGIC SECTIONS C-C', D-D', and E-E'
for
East Carbon Development Corp
by S. Bryce Montgomery, Geologist 1989

TEST DRILL HOLE NO 1, PROPOSED SOLID-WASTE SITE
East Carbon Development Corporation

LOCATION Approx W 775 ft & N 1925 ft from SE Cor Sec 9, T15S, R13E, SLB&M, at an interpolated elevation of 5995 feet

DATE DRILLED June 12, 1989 TOTAL DEPTH 60 feet

DRILLING CONTRACTOR Zimmerman Well Service, using air-rotary tools

CASING 53 feet of 6-inch diameter, steel casing left in hole

STATIC WATER LEVEL 36 feet(5959 ft elevation) measured 6/29/89, on 6/12/89 driller reported water at 38 feet

SAMPLE DESCRIPTION AND WATER MEASUREMENTS by S Bryce Montgomery, Geologist

Depth in feet Description

0- 10 Silt and sand with gravel Lt gray, buff-brown, in-part lime caliche, gravel clasts are soft-hard, gray and brown, calcareous siltstone and sandstone with some gray limestone, sand is fine-medium grained, (SM-GM)

10-35 Gravel-boulders Lt to dark brown with silt, clasts are of pisolitic dolomite and limestone with calcareous sandstone and siltstone, generally hard, damp at 20-35 feet, (GM-SM)

35-45 Gravel with sand, silt and clay wet, light tan-brown, est 70% gravel of angular, calcareous sandstone, siltstone and limestone, likely cobbles and boulders included, (GM)

45-50 Silty clay Lt gray-brown, wet, sticky, (ML-CL)

50-60 Shale Medium gray, weathered, silty, tight, damp and soft in top (CL), grading downward into light-dark gray, fissile-platy, silty, dry, compact and dense, Mancos Shale of Cretaceous age

TEST DRILL HOLE NO 2 PROPOSED SOLID WASTE SITE
East Carbon Development Corporation

LOCATION Approx N 2050 ft & E 1400 ft from SW Cor Sec 9, T15S, R13E, SLB&M, at an interpolated elevation of 5929 feet

DATE DRILLED June 12, 1989 TOTAL DEPTH 30 feet

DRILLING CONTRACTOR Zimmerman Well Service, using air-rotary tools

CASING 26 feet of 6-inch diameter, steel casing left in hole

STATIC WATER LEVEL 22 feet (5907 ft elevation) measured 6/30/89, on 6/12/89 driller reported water at 20 feet

SAMPLE DESCRIPTION AND WATER MEASDREMENTS S Bryce Montgomery, Geologist

Depth in feet Description

0-5 Silt and fine sand Lt rust-brown, angular, soft, dry, with trace of it brown gravel, (SM)

5-20 Gravel with silt and sand Lt rust-brown, dry, est 50% gravel with clasts of clayey limestone, sandstone and siltstone, at 15-20 feet material is damp, (GM)

20-25 Gravel with sand, silt and clay light-medium brown, est 70% gravel with clasts of calcareous sandstone, siltstone and limestone, wet with low permeability, (GM-GC)

25-30 Clay and weathered shale with some gravel estimated at 20-30%, wet with low porosity and permeability, light-medium gray, (CL), weathered Mancos Shale

TEST DRILL HOLE No 3 PROPOSED SOLID-WASTE SITE
East Carbon Development Corporation

LOCATION Approx N 2600 ft of E 2630 ft from SW Cor Sec 8, T15S, R13E, SL&M, at an interpolated elevation of 5865 feet

DATE DRILLED June 13, 1989 TOTAL DEPTH 51 feet

DRILLING CONTRACTOR Zimmerman Well Service, using air-rotary tools

CASING 6-inch diameter, steel to feet depth left in hole

STATIC WATER LEVEL 40 feet (5828 ft elevation) measured 6/29/89, on 6/13/89 driller reported water level at 39 feet

SAMPLE DESCRIPTION AND WATER MEASUREMENTS S Bryce Montgomery, Geologist

Depth in feet	Description
0-5	Silt and fine sand compact, in-part lime caliche, lt buff-brown with some buff-white, soft, dry, (SM)
5-20	Gravel light buff-rust brown, with silt and fine sand, est 80% gravel with clasts of calcareous sandstone, siltstone, and gray limestone, dry, (GM)
20-25	Gravel with silt and fine sand est 90% gravel of subrounded clasts of calcareous sandstone, siltstone and limestone, permeable, Lt, gray-brown, dry, (GM)
25-30	Sand and silt Lt gray-brown, subangular, dry, with trace of gravel with clasts of shaley sandstone, (SM)
30-35	Gravel with sand and silt Lt gray-brown, fine sand, est 70% gravel with clasts of limestone, calcareous and clayey siltstone and sandstone, dry, (GM)
35-45	Sand with some gravel light-medium brown, damp 35-40 ft and wet 40-45 ft , sand is fine-coarse, subangular grained, est 20% gravel with clasts of calcareous and clayey sandstone, siltstone, and limestone, (SP)
45-50	Shale weathered, light-dark brown-gray, damp, fissile-platy, partly clay (CL), Mancos Shale of Cretaceous age

TEST DRILL HOLE NO 4 PROPOSED SOLID WASTE SITE
East Carbon Development Corporation

LOCATION Approx N 2500 ft N&E 2500 ft from SW Cor Sec 7, T15S, R13E, SLB&M, at an interpolated elevation of 5784 feet

DATE DRILLED June 13, 1989 TOTAL DEPTH 50 feet

DRILLING CONTRACTOR Zimmerman Well Service, using air-rotary tools

CASING 6-inch diameter, steel to 41 feet depth left in hole

STATIC WATER LEVEL 33 feet (5751 ft elevation) measured 6129/89, on 6/13/89 driller reported "wet" at 38 feet

SAMPLE DESCRIPTION AND WATER MEASUREMENTS S Bryce Montgomery, Geologist

Depth in feet Description

0-5 Silt, sand and some gravel lt buff-brown, calcareous, dry, est 30% calcareous gravel with clasts of limestone, calcareous sandstone and siltstone, (SM)

5-15 Sand and silt with 20-30% gravel lt rust-brown, calcareous, dry, sand is fine-coarse, subangular grained, (SM)

15-20 Gravel, Lt brown-gray, with est 30% silt and fine sand, dry, gravel clasts of subangular-subrounded calcareous sandstone, siltstone, limestone, and clayey siltstone, (GM)

20-30 Sand with some silt and gravel, rust gray-brown, subangular, fine-coarse grained, est 15% gravel, damp in bottom 5 feet, (SM)

30-35 Sand with some rounded gravel dark gray-brown, slightly organic, fine-coarse, subangular grained, dirty-silty in part, damp, (SM)

35-45 Very Clayey and silty sand with trace of gravel Lt buff-brown, wet, sticky, low permeability, (SC-SM)

45-50 Clay and weathered shale Lt medium-brown-gray, silty, wet, sticky, partly (CL), tight, Mancos Shale of Cretaceous age

-11-68

¼ ¼ S. C. ______ T. R. ______	Application No. 57680
Sheet ______	Claim No. 91-4283
______	Coordinate No. ______

REPORT OF WELL DRILLER
STATE OF UTAH

GENERAL STATEMENT: Report of well driller is hereby made and filed with the State Engineer in accordance with the laws of Utah. (This report shall be filed with the State Engineer within 30 days after the completion or abandonment of the well. Failure to file such reports constitutes a misdemeanor.)

DEC 8 1982

(1) WELL OWNER
Name: George Porter
Address: Hotchkiss, Colo

(2) LOCATION OF WELL
County: Carbon — Ground Water Basin (leave blank)
South 1320 feet, West 800 feet from N¼ Corner of Section 8 T. 15 S R. 13 E SLBM

(3) NATURE OF WORK (check) New Well ☑ Replacement Well ☐ Deepening ☐ Repair ☐ Abandon ☐
If abandonment, describe material and procedure: ______

(4) NATURE OF USE (check) Domestic ☑ Industrial ☐ Municipal ☐ Stockwater ☐ Irrigation ☑ Mining ☐ Other ☐ Test Well ☐

(5) TYPE OF CONSTRUCTION (check) Rotary ☐ Dug ☐ Jetted ☐ Cable ☑ Driven ☐ Bored ☐

(6) CASING SCHEDULE Threaded ☐ Welded ☑
8" Diam. from — feet to 53 feet Gage ______
" Diam. from ______ feet to ______ feet Gage ______
" Diam. from ______ feet to ______ feet Gage ______
New ☑ Reconditioned ☐ Used ☐

(7) PERFORATIONS Perforated? Yes ☐ No ☑
Type of perforator used: ______
Size of perforations ______ inches by ______ inches
perforations from ______ feet to ______ feet (×5)

(8) SCREENS Well screen installed? Yes ☐ No ☑
Manufacturer's Name ______ Model No. ______
Slot size ______ Set from ______ ft. to ______
Slot size ______ Set from ______ ft. to ______

(9) CONSTRUCTION
Was well gravel packed? Yes ☐ No ☑ Size of gravel ______
Gravel placed from ______ feet to ______ feet
Was surface seal provided? Yes ☑ No ☐
To what depth? 26 feet
Material used in seal: Bentonite
Did any strata contain unusable water? Yes ☐ No ☑
Type of water ______ Depth of strata ______
Method of sealing strata off ______
Was surface casing used? Yes ☐ No ☑
Was it cemented in place? Yes ☐ No ☑

(10) WATER LEVELS
Static level 35 feet below land surface Date 10-29-82
Artesian pressure ______ feet above land surface Date ______

LOG RECEIVED
RECEIVED NOV 12 1982
WATER RIGHTS

(11) FLOWING WELL
Controlled by (check) Valve ☐ Cap ☐ Plug ☐ No Control ☐
Does well leak around casing? Yes ☐ No ☐

(12) WELL TESTS Drawdown is the distance in feet the water level is lowered below static level.
Was pump test made? Yes ☐ No ☑ If so, by whom? ______
Yield: ______ gal./min. with ______ feet drawdown after ______ hours
Bailer test 30 gal./min. with 5 feet drawdown after 1 hours
Artesian flow ______ g.p.m. Date ______
Temperature of water 66° Was chemical analysis made? No ☑ Yes ☐

(13) WELL LOG Diameter of well 8 inches
Depth drilled 60 feet. Depth of completed well 57 feet.

NOTE: Place an "X" in the space or combination of spaces needed to designate the material or combination of materials encountered in each depth interval. Under REMARKS make any desirable notes as to occurrence of water and the color, size, nature, etc., of material encountered in each depth interval. Use additional sheet if needed.

From	To	Clay	Silt	Sand	Gravel	Cobbles	Boulders	Hardpan	Conglomerate	Bedrock	Other	REMARKS
—	5											top Soil
5	30	✓	✓									Brown
30	47	✓			✓							Brown (Sandstone & Gravel
47	56				✓							Brown
56	60	✓										mancos Shale

Work started 10-28 19 82 Completed 10-30 19 82

(14) PUMP
Manufacturer's Name ______
Type ______ H. P. ______
Depth to pump or bowles ______ feet

Well Driller's Statement
This well was drilled under my supervision, and this report is true to the best of my knowledge and belief.
Name: Homestead Well Serv. (Person, firm, or corporation) (Type or print)
Address: 5710 Zimmerman Ln.
(Signed) Bill Roberts (Well Driller)
License No. 482 Date 11-7 1982

USE OTHER SIDE FOR ADDITIONAL REMARKS

11-163

Report No. 6359
Filed Aug 19 1948
Rec. by L G Monson
Ret d

— record
ugh 11-18-48
ed
11-22-48
(Q-15-13) 2 da d-2

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Report of Well and Tunnel Driller

STATE OF UTAH

(Separate report shall be filed for each well or tunnel)

GENERAL INFORMATION

Report of well or tunnel driller is hereby made and filed with the State Engineer in compliance with Sec. 100-3-22, Utah Code Annotated 1943 (This report shall be filed with the State Engineer within 30 days after the completion or abandonment of well or tunnel Failure to file such report constitutes a misdemeanor)

1 Name and address of person ~~company or corporation boring or~~ drilling well ~~or tunnel~~ (Strike words not needed)
Lyell Anderson Moab Utah

2. Name and address of owner of well ~~or tunnel~~ (Strike word not needed) B. W. McMahon
Dragerton Utah

3. Source of supply is in Carbon County
drainage area (Leave blank) artesian basin (Leave blank)

4 The number of approved application to appropriate water is 19563

5 Location of well ~~or tunnel or tunnel~~ is situated at a point S 1,123.9' and W 175
from the E ¼ Cor Sec 2, T15S, R13E, SLB&M
(Describe by rectangular co-ordinates or by reference to U.S. Government survey corner...)

6 Date on which work on well ~~or tunnel~~ was begun July 7-48 (Strike words not needed)

7 Date on which work on well ~~or tunnel~~ was completed ~~or abandoned~~ July 11-48 (Strike words not needed)

8 Maximum quantity of water measured ~~as flowing pumped~~ or Bailed on completion of well ~~or tunnel in sec. ft.~~ or in gals per minute 33 Date July 11-48 (Strike words not needed)

DETAIL OF COLLECTING WORKS

9 WELL It is drilled dug—~~flowing~~—~~or~~ pump well Temperature of water °F (Strike words not needed)

(a) Total depth of well is 64 ft. below ground surface

(b) If flowing well give water pressure (hydrostatic head) above ground surface ft

(c) If pump well, give depth from ground surface to water surface before pumping 26 ft during pumping 27 ft

(d) Size and kind of casing 6 5/8 OD 1" std used (If partially cased, give detail)

(e) Depth to water bearing stratum 53 to 57 (If more than one stratum give depth to each)

(f) If casing is perforated give depth from ground surface to perforations

(g) Log of well 0-6 Top Soil 42-53 Shale
6-17 Sand gravel 53-55 Blue...
17-32 Gravel
32-40 Sand gravel
40 42 Conglomerate

(h) Well was equipped with ~~cap valve~~ or pump ~~to control flow~~ (Strike words not needed)

(Over)

11 164

Report No. 6357
Filed Aug 19 1948
Rec. By LBM
Rec'd

well record
[illegible] 8-22-48
recorded 11-11-8-48
[illegible] 11-18-48

D(15-13) 11 [illegible]-2

PAGE (Leave Blank)

Report of Well and Tunnel Driller

STATE OF UTAH

(Separate report shall be filed for each well or tunnel)

GENERAL INFORMATION

Report of well or tunnel driller is hereby made and filed with the State Engineer in compliance with Sec. 100-3-22, Utah Code Annotated 1943 (This report shall be filed with the State Engineer within 30 days after the completion or abandonment of well or tunnel. Failure to file such report constitutes a misdemeanor)

1 Name and address of person ~~company or corporation boring or~~ drilling well or ~~tunnel~~ (Strike words not needed)
[illegible] Manti Utah

2. Name and address of owner of well ~~or tunnel~~ (Strike word not needed)
Nick Galanis Dragerton Utah

3 Source of supply is in Carbon County
(Leave blank) drainage area, (Leave blank) artesian basin

4 The number of approved application to appropriate water is 19648

5 Location of well ~~or mouth of tunnel~~ is situated at a point S. 30° 53' W. 2493.0 ft from N¼ Cor Sec 11, T 15 S, R 13 E, SLB&M
Describe by rectangular co-ordinates or by course and distance with reference to U. S. Government Survey Corner — Copy description from well or approved application)

6 Date on which work on well ~~or tunnel~~ was begun July 19-1948 (Strike words not needed)

7 Date on which work on well ~~or tunnel~~ was completed ~~or abandoned~~ July 21-48 (Strike words not needed)

8 Maximum quantity of water measured as ~~flowing~~ ~~pumped~~ or Bailed on completion of well or tunnel ~~in sec. ft.~~ or in gals. per minute 36 Date July 21-48 (Strike words not needed)

DETAIL OF COLLECTING WORKS

9 WELL It is drilled, ~~dug, flowing~~ or pump well Temperature of water F (Strike words not needed)

(a) Total depth of well is 102 ft. below ground surface

(b) If flowing well, give water pressure (hydrostatic head) above ground surface ft.

(c) If pump well give depth from ground surface to water surface before pumping 55' during pumping 68'

(d) Size and kind of casing 79' of 6" Std (If more than one size used, give details)

(e) Depth to water bearing stratum 76-78 (If more than one stratum, give depth to each)

(f) If casing is perforated give depth from ground surface to perforations
40 – 76

(g) Log of well 0-1 Topsoil — 79-83 Brown Clay
1-4 Boulders — 83-102 Black Shale
4-19 Sand gravel Boulders
19-72 Sand gravel Clay
72-79 Sand gravel Water

(h) Well was equipped with cap valve, or (Strike words not needed) to control flow

(Over)

91-137

(4)

card
1-8-49
ded 1-3-49
Report No. 6489
Filed Nov 10 1948
Rec By J.H.
Rec'd

PAGE (Leave Blank)

(D-15-13) 2da d-1

Report of Well and Tunnel Driller
STATE OF UTAH

(Separate report shall be filed for each well or tunnel)

GENERAL INFORMATION

Report of well or tunnel driller is hereby made and filed with the State Engineer in compliance with Sec 100-3 22 Utah Code Annotated 1943 (This report shall be filed with the State Engineer within 30 days after the completion or abandonment of well or tunnel Failure to file such report constitutes a misdemeanor)

1 Name and address of person ~~company or corporation~~ boring or drilling well ~~or tunnel~~ (Strike words not needed)

Willardson & Meade ...

2. Name and address of owner of well ~~or tunnel~~ (Strike Words not needed)

Edward L. Howard ...

3 Source of supply is in Carbon County

_____ drainage area (Leave blank) _____ artesian basin (Leave blank)

4 The number of approved application to appropriate water is 15052

3 Location of well ~~or mouth of tunnel~~ is situated at a point

339.7' W & 898.7 S from E 1/4 Cor Sec 2 T15S R12E SLM

(Describe by rectangular co-ordinates or by one course and distance with reference to U S Government Survey Corner — Copy description from well owner approved application)

6 Date on which work on well ~~or tunnel~~ was begun Dec 2 '47 (Strike words not needed)

7 Date on which work on well ~~or tunnel~~ was completed ~~or abandoned~~ Dec 22 '48 (Strike word not needed)

8. Maximum quantity of water measured as ~~flowing~~ pumped ~~or~~ ... on completion of well ~~or tunnel in sec. ft~~ _____ or in gals per minute 36 Date Dec ...

DETAIL OF COLLECTING WORKS

3 WELL It is drilled ~~dug flowing or~~ pump well. Temperature of water _____ °F (Strike words not needed)

(a) Total depth of well is 76 ft. below ground surface

(b) If flowing well give water pressure (hydrostatic head) above ground surface ft

(c) If pump well give depth from ground surface to water surface before pumping 21 ft

during pumping 30 ft.

(d) Size and kind of casing 6 ... (If only partially cased give details)

(e) Depth to water-bearing stratum 20 & 64 (If more than one stratum give depth to each)

(f) If casing is perforated give depth from ground surface to perforations

30 to 60

(g) Log of well 0-32 dug well

32-52 ...

52-64 Brown Sandy Clay

64-76 Blue Shale

(h) Well was equipped with cap ~~valve, or~~ _____ to control flow (Strike words not needed)

(Over)

A-3

Topographic and Floodplain Maps

A-4

Groundwater Sampling and Analysis Plan

GROUNDWATER SAMPLING AND ANALYSIS PLAN (GWSAP)

ECDC ENVIRONMENTAL FACILITY CARBON COUNTY, UTAH

Project No 06-06-04

Prepared for

ECDC Environmental Facility

June 2006

Prepared by

The Carel Corporation
136 Pecan Street
Keller, TX 76248

TABLE OF CONTENTS

1 INTRODUCTION

The following sampling and analysis plan covers the procedures for collecting representative samples from groundwater monitoring wells and the laboratory requirements for obtaining valid, defensible data The current groundwater monitoring system consists of six groundwater monitor wells, three upgradient wells (MW-A, MW-B, and MW-C) and three downgradient wells (MW-7S, MW 7SW, and MW SC1AS) Wells are completed into alluvial fan deposits overlying the Cretaceous age Mancos Shale, which forms a barrier to further downward groundwater migration below the up to 60 feet thick alluvium Groundwater flow is generally to the west-southwest The groundwater monitoring network complies with UAC R315-308-2(1)(a) and (b) based on review of the number and location of wells relative to unit boundaries and prior approved landfill design and permitting documentation Details of site geology and hydrogeology can be found in ECDC Environmental, LC Landfill Carbon County, Utah Hydrogelogic Report (RB&G Engineering, Inc March 1996)

The plan is a general requirement for groundwater monitoring sampling and analysis based primarily on the federal requirements in 40 CFR Part 258, current EPA guidance documents, and Utah Administrative Code (UAC) R315-308-2 Solid Waste Permitting and Management Rules

2 FIELD PROCEDURES

2 1 Field Sampling Health and Safety Plan

A health and safety plan is required for all groundwater sampling events at the ECDC Environmental Facility Prior to monitoring well purging and sampling, the sampling contractor's Groundwater Sampling Health and Safety Plan must be in place Designing the site Groundwater Sampling Health and Safety Plan will be the duty of the party performing the actual work

In addition, each laboratory facility should have their own standard laboratory health and safety plan as required by current OSHA regulations

2 2 Sample Event Preparation and QA/QC

2 2 1 General Event Preparation

The laboratory performing the groundwater analysis shall supply all necessary coolers, pre-cleaned containers, trip blanks, chemical preservatives, labels, custody seals, and chain of-custody and shipping forms All field data shall be entered on a Field Data Sheet (see example provided as Appendix A) or equivalent form Adequate instructions to the laboratory must be given in advance of each monitoring event Details concerning any changes to the monitoring plan and/or procedures need to be given to the laboratory prior to the field sampling personnel arriving on the site A specific contact person shall be established at both the facility and contract laboratory for communication between the two (2) parties

2 2 2 Sample Container Selection

Sample containers need to be constructed of a material compatible and non-reactive with the material it is to contain Consult Appendix B, *Recommended Containerization and Preservation of Samples*, to determine the number, type and volume of appropriate containers The contract laboratory performing the analysis shall supply all the required containers In special circumstances when the facility must obtain its own containers,

these containers will be purchased hom local container distributors with the exception of the septum vials and PTFE (e g Teflon®) lined caps required tor organic analyses which are available from laboratory supply companies Metal lids shall not be utilized for any sample containers

2 2 3 Container Preparation

Sample containers will be purchased as a pre-cleaned product or cleaned in the laboratory m a manner consistent with EPA protocol

2 2 4 Sample Equipment Preparation

This section outlines the equipment preparation pnor to site arrival for a specific monitoring event This equipment preparation includes minimum decontamination procedures for water level indicator(s), pH/temperature meter, specific conductivity meter, turbidity meter, and filtration device Operation and calibration of equipment will be as per the manufacturer's instructions All non-dedicated equipment will be thoroughly cleaned prior to arrival at the site and between sampling points as follows

- Water Level Indicator(s) - Water level indicator(s) will be decontaminated prior to initial site arrival by hand washing the sensor probe and entire length of tape m a non-phosphate detergent followed by rinsmg with deionized water While the tape is reeled back onto the carrying spool, the tape and probe will be wiped down with a clean dry paper towel

- Field Parameter (Temperature, pH, Specific Conductivity, Turbidity) Measuring Device(s) – Field parameter measuring device(s) will be decontammated by hand washing the sample cells in a non-phosphate detergent followed by nnsing with deionized water Meters will then be checked for proper calibration and operation as per the manufacturer's instructions Field calibration results will be recorded on a Calibration Data Sheet (Appendix C) Any malftinctioning meters will be replaced prior to packing Field parameter measuring device(s) will be rinsed with deionized water after each measurement

- Samplmg devices associated with groundwater sampling will be cleaned m non-phosphate detergent, followed by nnsing with deionized water

Multiple-use equipment (e g water level indicators and filter chambers) must be thoroughly decontaminated and cleaned as described in this section to prevent cross contamination from prior use at other facilities All field instruments must be properly checked and calibrated prior to arrival on-site at a sampling location

2 2 5 Field QA/QC Samples

Field QA/QC samples consist ot two (2) pnmary areas of quality control The first part is the quality control ofi sample contamination, which may occur in the field and/or shipping procedures This is monitored in the tnp blank(s), field blank(s), and the equipment (nnsate) blank(s) A basic descnption of each is as follows

- Tnp Blank - These samples will be prepared m the laboratory by filling the appropnate clean sample containers with organic-free water and adding the applicable chemical preservative, ifi any, as indicated in Appendix B for each type ofi sample These containers are to be labeled "Tnp Blank", the analyses to be performed on each container indicated, and then shipped in the typical transportation cooler to the field and back to the laboratory along with the other sample set containers for a given event This blank is tested for any contamination that may occur as a result ofi the containers, sample coolers, cleaning procedures, or chemical preservatives used Tnp blanks shall be taken and analyzed for each sampling event or a minimum of a one (1) in twenty (20) batch per monitonng event for volatile organic compounds (VOCs)

- Field Blank - Field blank containers will be prepared in the field at a routine sample collection point dunng a monitonng event by filling the appropnate sample containers from the field supply ofi deionized water This field supply water shall be the same water used for cleamng and decontamination of all field purge and sample equipment This blank is tested for any contamination that may occur as a result ofi site ambient air conditions and serves as an additional check for contamination in the containers, sample transport coolers, cleaning procedures, and any chemical preservatives Field blanks shall be taken and analyzed for each sampling event or a minimum ofi a one (1) per cooler per monitonng event for VOCs

- Equipment (Rinsate) Blank - These blanks will be prepared in the field immediately following decontamination cleaning procedures on any non-dedicated equipment used for purging, sampling or sample filtration Following decontamination, field supply organic-free water is passed through the non-dedicated equipment in the same procedure as a groundwater sample This blank confirms proper field decontamination procedures on non-dedicated equipment utilized in the field Equipment blanks shall be taken and analyzed for all applicable parameters anytime non dedicated equipment is used or new equipment is being dedicated to a well at a batch minimum ofi one (1) in twenty (20) per monitonng event

Other Field QA/QC Samples - A second area of standard field QA/QC samples are field duplicates

- Field duplicates are an extra set of samples taken at a particular monitoring point and labeled "Field Duplicate" These are independent samples that are collected as close as possible to the same point in space and time They are two (2) separate samples taken from the same source, stored in separate containers, and analyzed independently Field duplicates are useful in documenting the precision of the sampling and analytical process Samples shall be collected in proper alternating order for the sample point and field duplicate for each parameter (e g VOA - VOA, metals metals, etc) Field duplicates shall be taken and analyzed at a batch minimum of one (1) in twenty (20)

Appropriate field QA/QC documentation should be recorded in the field notes (e g locations where the field blank or duplicate were collected)

2 3 Well Purge

2 3 1 General Well Purge Information

Purging a monitoring well is just as important as the subsequent sampling of the well Water standing in a monitor well over a certain penod of time may become unrepresentative of formation water because of chemical and biochemical changes which may cause water quality alterations Prior to monitoring well purge, inspection of the monitoring well integrity will be performed utilizing the Field Data Sheet (Appendix A) or equivalent form

2 3 2 Water Level Measurement

Prior to any purge or sampling activity at each monitoring well, a water level measurement is required to be taken Measurement of the static water level is important in determining the hydrogeologic characteristics of the subsurface (e g upgradient and downgradient) The water level indicator will be an electronic sensor device, which signals by audio or light indicator when the probe contacts the water

Water level indicator equipment will be constructed of chemically inert materials and, during mobilization preparation and following each monitoring point, be decontaminated with a non-phosphate detergent followed with multiple deionized water rinses Water levels will be measured with a precision of +/ 0 01 foot Water level indicator devices will be periodically checked for proper calibration Calibration shall be performed at a frequency recommended by the manufacturer Each monitor well shall have a reference elevation point located and properly marked at the top of the riser casing established by a licensed surveyor This reference point elevation is measured m relation to Mean Sea Level (MSL)

Ground water elevations in wells that monitor the same waste management area must be measured within a forty eight (48) hour period to avoid temporary variations in groundwater flow, which could preclude accurate determination of groundwater flow rate and direction

2 3 3 Purge Equipment and Procedure

Well purging will take place from hydraulically upgradient wells to hydraulically downgradient wells If known impacts exist, purging will take place from the least impacted well to the most impacted well Prior to purge, the sample personnel will put on clean disposable nitrile gloves and an initial water level will be taken as described in Section 2 3 2

Groundwater wells will be purged with dedicated bladder pumps These pumps will remain dedicated to each respective well throughout monitoring unless replacement is necessary due to damage or wear, in which case repairs will be completed or a new pump will be dedicated Purge procedures for dedicated equipment are described in Section 2 3 3 1 Pump intakes will be located as close as possible to the middle of the screened interval

2 3 3 1 Dedicated Equipment

Low Flow Technique

Low-flow purging is the preferred purging and sampling technique and will be employed using dedicated bladder pumps if proper pump controller and field instruments are available to the sampling personnel Well purging will be conducted at a rate of approximately 100 milliliters per minute until a minimum of two pump and tubing volumes have been removed and stabilization of field parameters is achieved Field parameters include temperature, specific conductivity, pH, and turbidity

Parameter stabilization is defined as

- Temperature = ± 10% for three (3) consecutive measurements
- pH = ± 0 1 standard pH units for three (3) consecutive measurements
- Specific Conductivity = ± 3% for three (3) consecutive measurements
- Turbidity = ± 10% for three (3) consecutive measurements

Measurements will be recorded on the field data sheet every three to five minutes Water level measurement will also be taken every three to five minutes and recorded on the field data sheet An initial decrease in water level may be expected due to pump and tubing

evacuation, however, minimal subsequent continuous drawdown is to be expected Should a well repeatedly not meet one or more criteria, alternate criteria may be implemented with UDEQ approval

Fixed Volume Technique

If Low-Flow techniques are not used, wells will be purged a minimum of three (3) well casing volumes of water or until dryness if occurring prior to removal of three well casing volumes of water Measurements of temperature, pH, conductivity, and turbidity will be recorded at intervals of approximately three to five minutes on a Field Data Sheet (see Appendix A) during purging

A bladder pump will be used for both well purging and sample collection

Equipment

- Bladder pump
- Bladder pump controller
- Compressed air source
- New disposable gloves of appropriate material (nitrile)
- Graduated pail and/or cylinder
- Field parameter measurement device/s

Procedure

- Appropriate disposable gloves are to be worn during installation
- Connect the compressed air source to the pump fitting at the top of the well
- Start the air compressor
- Replace disposable gloves after handling the compressor
- Turn on the pump controller and adjust the discharge and refill cycles to the appropriate settings
- Press the start button on the controller, which begins the pumping action
- Adjust the controller to the desired flow rate (approximately 100 milliliters per minute)

Continue pumping until the necessary volume of water has been purged from the well and field parameters have stabilized

2 3 3 2 Non-Dedicated Equipment

In the event of a non-operative dedicated pump, the pump and tubing apparatus will be removed for repairs or replacement and the well will be purged by means of either a

disposable bailer or a portable pump until such time the bladder pump is repaired/replaced and rededicated to the well Purging will be performed by removing a minimum of three well-casing volumes of water from the well or until stabilization of field parameters (as defined m Section 2 3 3 1) occurs Purging will be deemed complete if the well goes dry before three well-casing volumes of water have been removed Field parameters will be measured after each well-casing volume of water removed

Equipment

- Non-dedicated pump/bailer
- Pump controller (if required)
- Generator or other power source/driving mechanism for pumps / appropriate disposable string or rope for bailer, downrigger (optional)
- New disposable tubing
- New disposable gloves of appropriate material (mtrile)
- Graduated pail or other appropriate container
- Field parameter measurement device(s)
- Container for laboratory grade, nonphosphate soap/reagent-grade deionized water solution
- Container for reagent-grade deionized water rinse

Procedure (Specific operating instructions vary depending on the type of portable pump used The steps listed below are generalized procedures)

- Don a new pair of gloves
- Cleanse portable pump/bailer with a non-phosphate, laboratory grade detergent solution followed by a reagent-grade deiomzed water rinse Sufficient water should be passed through a non-dedicated pump to ensure proper cleansing
- Remove gloves worn dunng cleaning and don a new pair of gloves
- Attach new disposable tubing to pump or new disposable string to bailer
- Insert pump and tubing/bailer into well
- Start the portable pump by the appropnate method and adjust flow to desired rate / initiate removal of water from well with bailer Ensure bailer and string does not touch ground during purging

When purging with a bailer, introduce bailer into water column slowly (i e do not "drop" into water column) to avoid agitation of water in the well and immediate formation area

Non-dedicated equipment will be constructed of chemically inert matenals and will be decontaminated at each well with a non-phosphate detergent followed with a reagent-grade deionized water rinse Additional cleamng procedures will be performed as deemed necessary

Rate ot discharge and volume purged will be checked penodically with a graduated bucket and/or timer Field parameter (temperature, pH, specific conductivity, and turbidity) measurements will be recorded after each well volume of water is removed dunng purging

2 3 4 Purge Water Management

If purge water is known to be histoncally contaminated or suspect due to pnor analytical data, the water shall be stored in appropnate containers until analytical results are available After review of these analyses, proper arrangements for disposal or treatment of the water shall be made Otherwise, purge water will be discarded on the ground away from the monitor well area

2 4 Monitormg Well Sample Collection

2 4 1 General Sample Collection Information

Sampling should take place as soon as purging is complete if the well has sufficient recharge If the well was purged dry or significant drawdown of the water level exists immediately after purge, the monitor well should be sampled as soon as sufficient water is present for all analytes to be collected The time interval between the completion of well purge and sample collection normally should not exceed forty-eight hours

2 4 2 Sample Collection Order

Monitor well sampling at each event shall proceed from the point with the highest water level elevation to those with successively lower elevations unless contamination is known to be present If contaminahon is known to be present, samples will be collected from the least to most contaminated wells, to minimize the potential for any cross-contamination Samples will be collected and containenzed according of the volatility of the requested analyses A specific collection order is as follows

- Field Parameters (Temperature, pH, Specific Conductivity, Turbidity)
- Volatile Organics
- Metals
- Inorganics

2 4 3 Sampling Equipment/Procedures

Groundwater wells will be sampled using dedicated bladder pumps These are the same pumps used for well purging

2 4 4 VOC Sample Collection

Filling VOC sample containers involves extra care The water should be gently added to each vial until a positive meniscus is formed over the top of the container This insures no headspace is present in the sample vial upon replacing the cap After the cap has been placed on the vial and tightened, the vial should be checked for air bubbles by turning upside down and tapping with finger If a bubble is seen rising to the top of the inverted vial, the process outlined above should be repeated If no air bubbles are seen in each vial, the process is complete

2 4 5 Sample Filtration

All efforts must be made to delete or minimize controllable factors to allow the collection of as representative and turbid-free sample as possible Utah DEQ, UAC, Solid Waste Permitting and Management Rules does not currently allow for field sample filtration of constituents listed in R315-308-4 prior to laboratory analysis (R315-308-2 (4)(d)) The facility may collect samples for laboratory filtration and analysis of dissolved metals when deemed necessary Otherwise, metal and inorganic indicator analyses will be for total concentrations

2 4 6 Sample Preservation

All samples will be containerized and preserved according to Appendix B, *Recommended Containerization and Preservation of Samples* In the goal to obtain the most representative sample possible, preserving the sample for transportation and storage to the laboratory is also important

Methods of preservation are intended to retard biological action, retard hydrolysis of chemical compounds and complexes, and reduce the volatility of constituents Samples requiring refrigeration to four degrees Centigrade will be accomplished by placing the sample containers immediately into coolers containing wet ice and delivering to the analytical laboratory as soon as possible

2 4 7 Field Measurements

Required field measurements include water levels, temperature, pH, specific conductivity, and turbidity Each of these measurements is important in the documentation of properly collected groundwater samples

All instruments shall be properly calibrated and checked with standards according to the manufacturer's instructions and/or the field crew's standard operating procedures Any improper operating instruments must be replaced prior to continuing sample collection operations

2 5 Record Keeping

2 5 1 Field Logs

All field notes must be completely and accurately documented to become part of the final report for a monitoring event All field information will be entered on a Field Data Sheet (see Appendix A) or equivalent form

All entries shall be legible and made in indelible ink Entry errors will be crossed out with a single line, dated, and initialed by the person making the corrections

2 5 2 Cham-of-Custody

Proper chain of custody records are required to insure the integrity of the samples and the conditions of the samples upon receipt at the laboratory, including the temperature of the samples at the time of log in The sample collector shall fill in all applicable sections and forward the original, with the respective sample(s), to the laboratory performing the analysis Upon receipt of the samples at the laboratory, the sample coordinator is to complete the chain of custody, make a copy for his/her files, and make the original documents part of the final analytical report (see example provided as Appendix D) All sample containers will be labeled to prevent misidentification The following will be indicated on an adhesive label with a waterproof pen

- Collector's name, date and time of sampling
- Sample source
- Sample identification number
- Sample preservatives
- Test(s) to be performed on the sample

Sample shuttle kits (coolers) will employ a tamper proof seal

2 6 Sample Transport

Samples shall be shipped from the field back to the analytical laboratory either by hand delivery or utilizing an overnight courier service Samples are to be shipped in sealed insulated shipping containers Standard shipping containers must be a sturdy waterproof design (ice chests are commonly used) equipped with bottle dividers and cushion material to prevent breakage during shipment Since wet ice is the most common means by which to refrigerate the samples, appropriate measures need to be taken to fully waterproof the contents from leakage The field crew shall contact the laboratory each time samples are sent to identify the samples being sent and the transportation carrier along with the shipping identification number

The laboratory shall provide a notification concerning the receipt of the groundwater samples as soon as practical after they have been received The notification will include the date temperature, and condition of sample bottles received

3 LABORATORY PROCEDURES/ PERFORMANCE STANDARDS

3 1 Analytical Methods

Chemical analyses will be performed by a laboratory that is certified by the State of Utah to analyze each Table 1 constituent Methods and reporting limits will conform to Table 1 and will be performed in accordance with test procedures presented in USEPA *Test Methods for Evaluating Solid Waste Physical/Chemical Methods*, SW-846, September 1986 and any subsequent revisions or additions

Alternative methods that provide equivalent or better performance than those listed in EPA publication SW-846 and analytical methods for constituents not listed in EPA publication SW-846 may be implemented with the approval of the Executive Secretary

3 2 Deliverables (General and Supplemental QA/QC)

3 2 1 General Requirements

For general reporting of quantitative results for Subtitle D groundwater monitoring projects, the following reporting requirements apply

- Methodology Summary - reporting of all the analytical test methods used in the analyses of the samples with a reference made for each to the method manual and the test method number to confirm compliance with Table 1
- Summary of the analytical results, indicating appropriate unit, and reporting RL and supervisor approval – concentration units must be consistently applied throughout report Data cannot be method blank corrected It must be appropriately flagged
- Chain-of-Custody Form – As per Section 2 5 2
- Field Data Sheets (see Appendix A) or equivalent form

3 2 2 Supplemental QA/QC Reporting Requirements

- Laboratory Chronicles – must include date of sampling, sample receipt, preservation, preparation, analysis, and supervisor approval signature

- Non-Conformance Summary for GC/MS Data Reports – must state if the following do not meet QA/QC requirements

  GC/MS Tune Specifications
  GC/MS Tune Frequency
  Calibration Frequency
  Calibration Requirements – System Performance Check
  Compounds, Calibration Check Compounds
  Blank Contamination
  Surrogate Recoveries
  Sample Holding Times
  Minimum Detection Limits

3 2 3 Requirements for Organics Volatiles

1 Quality Assurance (QA) Data Form – must include minimum detection limits method blanks, field/trip blanks if specified in Sampling Plan, lab replicate Quality Control (QC) samples may be other than project samples, but must be of same batch and similar matrix A single QA Data Form should be used for a number of samples, however, pertinent sample numbers must be listed on the form

2 Surrogate Compound Recovery Summary – for samples and blanks – as per most recent version of applicable SW-846 method 8260

3 Other requirements per Laboratory Quality Assurance Plan and regulatory requirements

3 2 4 Laboratory Requirements for Metals

At a minimum, method detection limits must be established and method blank results are mandatory

3 2 5 Requirements for Inorganic - General Chemistry

Quality Assurance (QA) Data Form - must include minimum detection limits, method blanks, field/trip blanks as specified in Sampling Plan, lab replicate Quality Control

(QC) samples may be other than project samples, but must be of same batch and similar matrix

A single QA Data Form should be used for a number of samples, however, pertinent sample numbers must be listed on the form In addition, spiked sample results must be included

3 3 Data Quality Objectives

3 3 1 Required Reporting Limits

Data reported must be such that the method used shall achieve the nominal reporting limits (RLs) listed in Table 1 - Background/Detection Monitoring Parameters

3 3 2 Precision

Precision refers to the reproducibility of method results when a second aliquot of the same sample undergoes duplicate analysis The degree of agreement is expressed as the Relative Percent Difference (RPD) Precision requirements shall be as per applicable method and laboratory standards

3 3 3 Accuracy

Accuracy refers to the agreement between the amount of a constituent measured by a test method and the amount actually known to be present Accuracy is usually expressed as a percent Recovery (R) Accuracy shall be as per applicable method and laboratory standards

4 SAMPLING FREQUENCY AND REPORTING REQUIREMENTS

4 1 Background

As per UAC R315-308-2 (4)(a), a minimum of eight (8) independent samples will be collected and analyzed to establish background for the constituents listed in Table 1 to establish background concentrations Each momtor well in the site groundwater monitoring program will be defined as background or detection

4 2 Detection Monitoring Events

After establishment of background values, sampling and analysis for both upgradient and downgradient detection monitoring wells will be conducted on a semi-annual basis (every six (6) months) for constituents listed in Table 1

4 3 Groundwater Analysis Result Submittals

Two (2) bound copies of a report of all groundwater sampling and analysis results will be submitted to the Executive Secretary The report will be submitted in standard laboratory format and on any applicable state agency reporting forms Within a reasonable period of time after completing sampling, the owner/operator must determine whether there has been a statistically significant change over background (SSC) at each monitoring well as per UAC R315-308-2 (4) (f) (v)

If there has been a statistically significant change over background of any tested constituent at any monitoring well, a notice in writing to the UDEQ will be submitted within fourteen (14) days after the finding

5 STATISTICAL METHODOLOGY - GROUND WATER DATA ANALYSIS

Statistical comparisons will be performed using Sanitas™, a commercial software program developed by Intelligent Decision Technologies, Inc or another comparable computer program Statistical analyses of groundwater data will be performed in accordance with UAC R315-308-2 (7) A statistical analysis plan has been prepared and included as Appendix E Appendix E Statistical Analysis Plan has been prepared using generally accepted statistical analysis principals and practices (IDT, 2002) However, it is not possible to predict all of the potential future circumstances Therefore, alternative methods may be used that are more appropriate for the data distribution of the constituents being evaluated

5 1 Statistically Significant Constituents and Verification Resampling

Statistical analysis of selected constituents in Table 1 will commence within six (6) months after completion of eight (8) quarterly background events for a particular well An initial Statistically Significant Change over background (SSC) will be based on any compound detected in any downgradient monitor well at a concentration above the specific constituent's statistical limit If an initial SSC of any constituent is indicated at any downgradient monitoring well, a notice will be made to the Department in the form of a statistical analysis report as referenced in Section 4 3 of this plan

Verification resampling is an integral part of the presented statistical methodology In the event of an initial SSC, verification resampling may be conducted and the results provided to the Executive Secretary in accordance with UAC R315-308-2 (10) (b)

As per UAC R315-308 2 (10) (c), the owner/operator may demonstrate, to the satisfaction of the Executive Secretary, within 90 days of the finding that the SSC is the result of a source other than the Municipal Solid Waste Landfill (MSWLF), such as error in sampling, analysis, statistical evaluation, or natural variation in groundwater quality Otherwise, the owner/operator must initiate an assessment monitoring program under UAC R315-308-2 (11)

6 REFERENCES

Amencan Society of Testing and Matenals (ASTM), 1986 *Standard Guide for Sampling Groundwater Monitoring Wells* D 4448 - 850

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U S Environmental Protection Agency, 1991b *Handbook - Groundwater Volume II. Methodology* EPA/625/6-90/0166

U S Environmental Protection Agency, November 1986 *Test Methods for Evaluating Solid Waste - Physical/Chemical Methods Third Edition (Revised)* SW-846 Office of Solid Waste and Emergency Response, Washington, D C

U S Environmental Protection Agency, November 1993 *Solid Waste Disposal Facility Criteria Technical Manual* EPA/530-R-93-017, NTIC #PB94-100-450, Office of Sohd Waste and Emergency Response, Washington, D C

U S Environmental Protection Agency, Federal Register, 40 CFR 258, October 9, 1991

TABLES

Table 1
List of Analytical Parameters
ECDC Environmental Facility

Inorganic Constituents	CAS	Method[1]	RL[2] (mg/L)
Ammonia as Nitrogen	7664 41 7	350 1	1
Carbonate/Bicarbonate		310 1	10
Calcium		6010 or 6020	0 6
Chemical Oxygen Demand (COD)		410 2	10
Chloride		300 0	10
Iron	7439 89 6	6010 or 6020	0 1
Magnesium		6010 or 6020	0 2
Manganese	7439 96 5	6010 or 6020	0 015
Nitrate as Nitrogen		300 0 or 353 2	5
pH		150 1	N/A
Potassium		6010 or 6020	5
Sodium		6010 or 6020	5
Sulfate		300 0 or 375 4	10
Total Dissolved Solids (TDS)		160 1	10
Total Organic Carbon (TOC)		415 1	2
Heavy Metals	**CAS**	**Method[1]**	**RL[2] (mg/L)**
Antimony	7440 36 0	6010 or 6020 or 200 8	0 005
Arsenic	7440 38 2	7041 or 6020	0 04
Barium	7440 39 3	6010 or 6020	0 02
Beryllium	7440 41 7	7091 or 6020	0 002
Cadmium	7440 43 9	6010 or 6020	0 001
Chromium		6010 or 6020	0 05
Cobalt	7440-48 4	6010 or 6020	0 07
Copper	7440 50 8	6010 or 6020	0 05
Lead		7421 or 6020 or 200 8	0 01
Mercury	7439 97 6	6020 or 7470	0 001
Nickel	7440 02 0	6010 or 6020	0 01
Selenium	7782-49 2	7740 or 6010 or 6020	0 02
Silver	7440 22 4	6010 or 6020	0 07
Thallium		7841 or 6020 or 200 8	0 002

Table 1 (Continued)

Heavy Metals	CAS	Method[1]	RL[2] (mg/L)
Vanadium	7440 62 2	6010 or 7911	0 02
Zinc	7440 66 6	6010 or 6020	0 01

Volatile Organic Compounds	CAS	Method[1]	RL[2] (µg/L)
Acetone	67 64 1	8260B	10
Acrylonitrile	107 13 1	8260B	50
Benzene	71-43 2	8260B	4
Bromochloromethane	74 97 5	8260B	4
Bromodichloromethane	75 27 4	8260B	4
Bromoform (tribromomethane)	75 25 2	8260B	4
Carbon disulfide	75 15 0	8260B	4
Carbon tetrachloride	56 23 5	8260B	4
Chlorobenzene	108 90 7	8260B	4
Chloroethane (ethyl chloride)	75-00 3	8260B	8
Chloroform (trichloromethane)	67 66 3	8260B	4
Dibromochloromethane (Chlorodibromomethane)	124-48 1	8260B	4
1 2 Dibromo 3 chloropropane (DBCP)	96 12 8	8260B	0 2
1 2 Dibromoethane (ediylene dibromide EDB)	106 93-4	8260B	0 05
o Dichlorobenzene (1 2 dichlorobenzene)	95 50 1	8260B	4
p Dichlorobenzene (1 4 dichlorobenzene)	106-46 7	8260B	4
trans 1 4 Dichloro 2 butene	110 57 6	8260B	4
1 1 Dichloroethane (ethylidene chloride)	75 34 3	8260B	4
1 2 Dichloroethane (ethylene dichloride)	107 06 2	8260B	4
1 1 Dichloroethylene (1 1 dichloroethene)	75 35 4	8260B	4
cis 1 2 Dichloroethylene (1 1 dichloroethene)	156 59 2	8260B	4
trans 1 2 Dichloroethylene (trans 1 2 dichloroediene)	156 60 5	8260B	4
1 2 Dichloropropane (propylene dichloride)	78 87 5	8260B	4
cis 1 3 dichloropropene	10061 01 5	8260B	2
trans 1 3 dichloropropene	10061 02 6	8260B	2

Table I (Continued)

Volatile Organic Compounds	CAS	Method[1]	RL[2](µg/L)
Ethylbenzene	100 41 4	8260B	4
2 Hexanone (methyl butyl ketone)	591 78 6	8260B	5
Methyl bromide (bromomethane)	74 83 9	8260B	5
Methyl chloride (chloromethane)	74 87 3	8260B	2
Methylene bromide (dibromomethane)	74 95 3	8260B	4
Methylene chloride (dichloromethane)	75 09 2	8260B	4
Methyl ethyl ketone (MEK 2 butanone)	78 93 3	8260B	5
Methyl iodide (iodomethane)	74 88-4	8260B	4
4 Methyl 2 pentanone (methyl isobutyl ketone)	108 10 1	8260B	5
Styrene	100 42 5	8260B	4
1 1 1 2 Tetrachloroethane	630 20 6	8260B	4
1 1 2 2 Tetrachloroethane	79 34 5	8260B	4
Tetrachloroethylene (tetrachloroethene)	127 18 4	8260B	4
Toluene	108 88 3	8260B	4
1 1 1 Trichloroethane (methylchloroform)	71 55 6	8260B	4
1 1 2 Trichloroethane	79 00 5	8260B	4
Trichloroethylene (trichloroethene)	79 01 6	8260B	4
Trichlorofluoromethane (CFC 11)	75 69-4	8260B	4
1 2 3 Trichloropropane	96 18-4	8260B	4
Vinyl acetate	108 05 4	8260B	5
Vinyl chloride	75 01-4	8260B	2
Xylenes (total)	1330 20 7	8260B	4

1 Equivalent or better methods may be submitted as appropriate
2 Reporting Limits
For the compounds DBCP and EDB any detectable amount between the RL and MCL will be estimated and flagged with an appropriate symbol

APPENDIX A

FIELD DATA SHEET

ECDC ENVIRONMENTAL FACILITY

GROUNDWATER SAMPLING
FIELD DATA SHEET

Well Number _____
Sample I D _____ (if different from well no)

Project _____
Personnel _____

Date _____
Weather _____ Air Temp _____

WELL DATA

Casing Diameter _____ (in) ☐ PVC ☐ Other
DEPTH TO Static Water Level (WL) _____ (ft) Total Depth (TD) _____ (ft)
DATUM ☐ Top of Well Casing ☐ Top of Protective Casing
CONDITION Is well clearly labeled? ☐ Yes ☐ No
Is prot casing in good cond ? (not bent or corroded) ☐ Yes ☐ No
Is concrete pad intact? (not cracked or frost heaved) ☐ Yes ☐ No
Is padlock functional? ☐ Yes ☐No Is inner casing intact? ☐ Yes ☐ No
Is inner casing properly capped and vented? ☐ Yes ☐ No
Comments _____

PURGE DATA One Casing Volume = (d/24)2 (23 5)(TD WL)
METHOD ☐ Bladder Pump ☐ Bailer ☐ Other _____ Low-Flow Purging Used? ☐Yes ☐ No
MATERIALS Type of Pump _
Tubing ☐Teflon® ☐ Polyethylene ☐ Polypropylene ☐ Other _____
PURGING EQUIPMENT ☐ Dedicated ☐ Prepared Off Site ☐ Field Cleaned
PROCEDURES Pump & Tubing Vol _____(ml) Pumping Rate _____ (ml/min)
CALIBRATION pH Meter Model _____ Meter S/N _____ Time _____
Cond Meter Model _____ Meter S/N _____ Time _____
Disposition of Purge Water _____

TIME SERIES DATA

Time							
Cum Volume(ml)							
Temperature (®C)							
pH (s u)							
Spec Cond (µmhos/cm)							
Turbidity (NTU)							
Other							

SAMPLING DATA

Sample Collection Time _____
Water Level at Time of Sample _____
METHOD ☐ Bladder Pump ☐ Bailer ☐ Other _____
SAMPLING EQUIPMENT ☐ Dedicated ☐ Prepared Off Site ☐Field-Cleaned
APPEARANCE ☐ Clear Turbid (NTU) _____Color _____ ☐ Contains Immiscible Liquid
FIELD DETERMINATIONS Temp (°C) _____pH (s u) _____Spec Cond (pmhos/cm) _____
General Remarks _____

I certify that this sample was collected and handled in accordance with applicable regulatory and project protocols

Signature _____ Date _____

APPENDIX B

RECOMMENDED CONTAINERIZATION AND PRESERVATION OF SAMPLES

RECOMMENDED CONTAINERIZATION AND PRESERVATION OF SAMPLES

Measurement	Volume (mL)	Container[a]	Preservative	Holdmg Times	Reference
Physical Properties					
Specific Cond (Field)	100	P G	None	Det on Site	1
Specific Cond (Lab)	100	P C	Cool 4 °C	28 Days	1
pH (Field)	50	P G	None	Det on Site	1 2
pH (Lab)	50	P G	None	24 Hrs	1 2
Temperature	1000	P G	None	Det On Site	1
Turbidity	100	P G	None	Det On Site	1

Measurement	Volume (mL)	Container[4]	Preservative	Holdmg Times	Reference
Inorganics, Non-Metallics					
Carbonate/Bicarbonate	200	P G	Cool 4 °C	14 days	1
Chloride	200	P G	None	28 Days	1 2
Nitrate plus Nitrite	200	P G	Cool 4 °C H_2SO_4 to pH <2	28 days	1 2
COD	50	P G	H_2SO_4 to pH <2	28 days	1
Sulfate	100	P G	Cool 4 °C	28 days	1,2
Ammoma as Nitrogen	1000	P G	Cool 4 °C H_2SO_4 to pH <2	28	1
Total Dissolved Solids (TDS)	500	P G	Cool 4 °C	7	1
Total Organic Carbon (TOC)	250	P G	Cool 4 °C HCL or H_2SO_4 to pH <2	28	1 2

RECOMMENDED CONTAINERIZATION AND PRESERVATION OF SAMPLES

Measurement	Volume (mL)	Container[a]	Preservative	Holding Times	Reference
Metals (except mercury)					
Total	500	P G	HNO_3 to pH <2	6 Mos	1 2
Dissolved	500	P G	Filt + HNO_3 to pH <2	6 Mos	1,2
Mercury – Total	500	P G	HNO_3 to pH <2	28 days	1 2
Mercury – Dissolved	300	P,G	Filt + HNO_3 to pH <2	28 days	1 2

Measurement	Volume (mL)	Container[a]	Preservative	Holding Times	Reference
Organics					
Volatile Organics by GC/MS	100 (2 vials @ 40ml)	G Teflon septum cap	Cool, 4 °C HCL to pH <2	14 days	2 3
Herbicides	1000	Glass Only	Cool, 4 °C	7 days [b] 40 days [c]	2 3
Pesticides and PCB s	1000	Glass Only	Cool 4 °C	7 days [b] 40 days [c]	2 3
Semi Volatiles Acid and Base/Neutral Compounds	2000	Glass Only	Cool 4 °C	7 days [b] 40 days [c]	2 3

NOTES

a Plastic (P) or Glass (G) For metals polyethylene with an all polypropylene cap is preferred

b Maximum holding time from sampling to extraction

c Maximum holding time from extraction to analysis

REFERENCES

1 Methods for Chemical Analysis of Water and Wastes March 1983 USEPA 600/4 79 020 and additions thereto

2 Test Methods for Evaluating Solid Waste, Physical/Chemical Method November 1986 Third Edition USEPA SW 846 and additions thereto

3 Guidelines Establishing Test Procedures for the Analysis of Pollutant Under the Clean Water Act Environmental Protection Agency Code of Federal Regulations (CFR) Title 40 Part 136

APPENDIX C

CALIBRATION DATA SHEET

Calibration Data Sheet

Project _____
Calibrated By _____
Date _____ **Time** _____

Calibration Solution **Temperature** _____ C

pH Meter
Model _____
Serial Number _____
Calibration Solution _____
Instrument Reading _____
Known pH _____

Conductivity Meter
Model _____
Serial Number _____
Calibration Solution _____
Instrument Reading _____
Known Conductance _____

Turbidity Meter
Model _____
Serial Number _____
Calibration Solution _____
Instrument Reading _____
Known Turbidity _____

Date _____ **Time** _____

Calibration Solution **Temperature** _____ C

pH Meter
Model _____
Serial Number _____
Calibration Solution _____
Instrument Reading _____
Known pH _____

Conductivity Meter
Model _____
Serial Number _____
Calibration Solution _____
Instrument Reading _____
Known Conductance _____

Turbidity Meter
Model _____
Serial Number _____
Calibration Solution _____
Instrument Reading _____
Known Turbidity _____

Comments _____

APPENDIX D

SAMPLE CHAIN-OF-CUSTODY

Chain of Custody Record

SEVERN TRENT STL

Severn Trent Laboratories, Inc

STL 4124 (0901)

Client	Project Manager	Date	Chain of Custody Number 168232
Address	Telephone Number (Area Code)/Fax Number	Lab Number	Page ____ of ____
City / State / Zip Code	Site Contact / Lab Contact	Analysis (Attach list if more space is needed)	Special Instructions/ Conditions of Receipt
Project Name and Location (State)	Carrier/Waybill Number		
Contract/Purchase Order/Quote No	Matrix / Containers & Preservatives		

Sample ID No. and Description (Containers for each sample may be combined on one line)	Date	Time	Air	Aqueous	Sed.	Solid	Unpres.	H2SO4	HNO3	HCl	NaOH	ZnA/NaOH

SAMPLE

Possible Hazard Identification

☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal

☐ Return To Client ☐ Disposal By Lab ☐ Archive For ____ Months (A fee may be assessed if samples are retained longer than 1 month)

Turn Around Time Required

☐ 24 Hours ☐ 48 Hours ☐ 7 Days ☐ 14 Days ☐ 21 Days ☐ Other ____

QC Requirements (Specify)

1. Relinquished By	Date	Time	1. Received By	Date	Time
2. Relinquished By	Date	Time	2. Received By	Date	Time
3. Relinquished By	Date	Time	3. Received By	Date	Time

Comments

APPENDIX E

STATISTICAL ANALYSIS PLAN

CONTENTS

FIGURES

1 INTRODUCTION

This document provides a statistical methodology for groundwater monitoring at the ECDC Landfill A tiered evaluation approach has been developed for detection monitoring wells Intrawell comparisons of metals and inorganic indicator parameters will be conducted using Shewhart-CUSUM control charts Non-parametric prediction limits combined with Sen's Slope/MannKendall trend analysis will be applied to those parameters with greater than 50 percent non-detections (25 percent under ASTM standards) in the background data set Statistical limits for volatile organic compounds in detection monitoring wells will be based on reporting limits (RLs) Assessment monitoring constituents will be statistically evaluated using detection monitoring statisticis and 95 percent confidence interval analysis Details of each method are provided in the following sections Statistical comparisons will be performed using Sanitas™, a commercial software program developed by Intelligent Decision Technologies, Inc or another comparable computer program

This document has been prepared using generally accepted statistical analysis principals and practices However, it is not possible to predict all of the potential future circumstances Therefore, alternative methods may be used that are more appropriate for the data distribution of the constituents being evaluated

2 DETECTION MONITORING STATISTICAL ANALYSES

2 1 Metals and Inorganic Indicator Constituents

2 1 1 Shewhart-CUSUM Control Charts

Metals and inorganic indicator constituents will be statistically evaluated using combined Shewhart-CUSUM Control Charts This procedure assumes that the data are independent and normally distributed with a fixed mean and constant variance The most important assumption is independence, therefore wells should be sampled no more frequently than quarterly (Gibbons, 1994) The assumption of normality is less of a concern and natural log or ladder of powers transformations are adequate for most applications The analysis is only applied to constituents that have greater than 50 percent detections (25 percent under ASTM standards) in the background data For those metals and inorganic indicator constituents with fewer than 50 percent detections in the background data set, a non parametric prediction limit/Sen s Slope/Mann Kendall trend analysis will be used

Shewhart CUSUM control charts allow detection of both major and gradual releases from the facility independent of spatial variation This procedure is specifically recommended in the USEPA document *Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities* (April 1989)

2 1 2 Procedure

Control charts are a form of time series graph, on which a parametric statistical representation of concentrations of a given constituent are plotted at intervals over time The statistics are computed and plotted together with an upper and/or lower control limit on a chart where the x-axis represents time

The Procedure for conducting the intrawell analysis using combined Shewhart-CUSUM Control Charts is provided below and a flow chart illustrating the decision making process is provided as Figure E-1

Tlııce pıarametcıs aıc selected pnor to plottıng

h The control lımıt to whıch the cumulatıve sum (CUSUM) values are compaıed The EPA recommended value for h ıs 5 unıts ot standaıd devıatıon

k - A reference value that establıshes the upper lımıt for the acceptable dısplacement of the standardızed mean The EPA recommended value for k ıs 1

SCL - The upper Shewhart control lımıt to whıch the standardızed mean wıll be compared The EPA recommended value for SCL ıs 4 5

For each tıme penod, T_i, take n_i ındependent samples (n_i may be one), and calculate the mean, $\bar{x}_i$ Compute the standardızed mean Z_i of the measured concentratıons where only a sıngle new measurement ıs obtaıned for each constıtuent at each event as

$$Z_i = \left(X_i - \bar{X}\right)\sqrt{n_i} / S$$

Where

x_i = value obtaıned for a constıtuent dunng monıtonng event ı

s = The standard devıatıon obtaıned from pnor monıtonng data from the same well

When applıcable for each tıme penod, T_i, compute the cumulatıve sum, S_i, as

$$S_i = \max\{0, (Z_i - k) + S_{i-1}\}$$

Where max {A,B} ıs the maxımum of A and B, and $S_0 = 0$

Plot Z_i and S_i agaınst Tı on the control chart The results may be plotted ın standardızed unıts or converted to the concentratıon unıts of the constıtuents beıng evaluated An ' out-of-control" sıtuatıon (potentıal contamınatıon) occurs whenever $Z_i \geq$ SCL or $S_i \geq$ h Two dıfferent types of sıtuatıon are controlled by the lımıts Too large a standardızed mean wıll occur ıf there ıs a rapıd ıncrease ın concentratıon ın the well Too large a cumulatıve sum may also occur for a more gradual trend A venfied statıstıcally sıgnıficant change (SSC) wıll occur ıf both the ınıtıal result *and* a venficatıon sample result consecutıvely exceed one of the above mentıoned statıstıcal lımıts Upgradıent wells wıll be monıtored for ınformatıonal purposes only and wıll not be part of the venficatıon resamplıng program

2 1 2 1 Verıfıcatıon **R**esamples

The Shewhart and CUSUM portıons ot the control chart are affected dıfferently by ınıtıal statıstıcally sıgmtıcant changes from background (SSCs) The Shewhart portıon of the

control chart compares each individual new measurement to the control limit therefore the next monitoring event constitutes an independent verification of the original result However, the CUSUM procedure incorporates all historical values in the computation, therefore, the effect of the apparent SSC will be present in both the initial and verification sample Hence, the statistical test will be invalid unless the verification sample value replaces the initial SSC value Therefore, initial SSC values will be replaced by verification resample results in order to confirm a SSC (Gibbons, 1994)

2 1 2 2 Updating Control Charts

As monitoring continues, the background mean and variance will be updated periodically to incorporate new data At a minimum of every two years all new data that are in control will be pooled with the initial eight background samples and the mean and variance will be recomputed and used in constructing future control charts UDEQ (Utah Department of Environmental Quality) approval will be obtained prior to updating the background data pool

2 1 2 3 Censored Data

If less than 15 percent of the background observations are nondetects, these will be replaced with one half of the laboratory reporting limit prior to running the analysis (U S EPA, April 1989)

If more than 15 percent but less than 50 percent of the background data are less than the detection limit, the data s sample mean and sample standard deviation are adjusted according to the method of Cohen or Aitchison

If more than 50 percent of the background data are less than the detection limit, a nonparametric prediction limit will be computed

2 1 3 Non-Parametric Prediction Limits and Sen's Slope/Mann Kendall Trend Analysis

For those metals and inorganic indicator constituents with fewer than 50-percent detections within the background pool, a combined non-parametric upper prediction limit/Sen s Slope/MannKendall trend ananlysis will be applied Parameters will be initially tested using the non-parametric prediction limit analysis Constituents exceeding the non-parametric prediction limit will then be tested using the Sen's Slope/Mann Kendall trend analysis An initial statistical exceedence will be indicated if the measured concentration exceeds both the non-parametric prediction limit and exhibitis a significant upward trend The combined methods provide a non-parametric control chart equivalent to allow detection of both major and gradual releases from the facility independent of spatial variation

2 1 3 1 Non-Parametric Prediction Limit Analysis

An upper prediction limit is a statistical limit calculated to include one or more observations from the same population with a specified confidence In groundwater monitoring, an upper prediction limit approach may be used to make comparisons between background and compliance well data The limit is constructed to contain all **k** observations with stated confidence Any observation exceeding the upper prediction limit provides statistically significant evidence that the observation is not representative of the background group The number of observations, **k**, to be compared to the limit must be specified in advance A flow chart illustrating the decision making process during the analysis is provided as Figure E-2

The highest value from the background data is used to set the upper prediction limit In the case of a two-tailed test, the lowest value from the background data is used to set the lower prediction limit Under EPA Standards, the false positive rate is based upon the formula

$$1-(n/(n+k))$$

Where

n = The background sample size, and

k = The number of future values being compared to the limit

2 1 3 2 Sen's Slope/Mann Kendall Trend Analysis

The Sen s Slope/Mann Kendall trend analysis procedure determines the significance of an apparent trend and evaluates the magnitude (slope) of that trend (IDT, 2002) The Mann Kendall test for temporal trend is a non-parametric procedure designed to test the null hypothesis, H_0

H_0 No significant trend of a constituent exists over time

And the alternative hypothesis, H_A

H_A A significant upward trend of a constituent concentration exists over time

Wells for which less than 41 data points are available, the exact test is applied For 41 or more data points, the Normal Approximation test is used

The Sen s Slope estimator portion of the combined method provides an estimate of the true slope The method is a non-parametric procedure not greatly affected by gross data errors or outliers and can be computed when data are missing

2 2 Statistical Evaluation of Volatile Organic Compounds

Volatile organic compounds (VOCs) will be routinely monitored during the detection monitoring program The statistical limit for VOCs detected in wells under detection monitoring will be set equal to the laboratory reporting limit (RL) RLs are provided in Table 1 of the facility's Groundwater Sampling and Analysis Plan (GWSAP) As with the prediction limit statistical method VOC detections will not be considered statistically significant unless confirmed by verification resampling Verification resampling procedures are provided in Section 2 3 and in the GWSAP

2 3 Verification Resampling

Results for constituents that exceed statistical limits will not be considered statistically significant unless they are confirmed through verification resampling

If a statistically significant change (SSC) from background of any tested constituent at any monitor well has occurred (i e is confirmed) and there is reasonable cause that a source other than the landfill exists, then a report will be submitted documenting the source as per Section 5 1 of the GWSAP and UAC R315-308-2 (10)(c) Otherwise, assessment monitoring will be implemented in accordance with Section 5 1 of the GWSAP and UDEQ regulations

3 ASSESSMENT MONITORING STATISTICAL ANALYSIS

For assessment wells, constituents exceeding detection monitonng statistical limits and that have a groundwater protection standard (GWPS) established by the USEPA or the UDEQ, and/or any VOC detections will be statistically compared to GWPS using one sided 95-percent lower confidence limits (LCL) Evaluations are conducted per Gibbons and Coleman (2001) The method constructs a normal confidence interval on the mean concentration of a constituent incorporating at a minimum, the four most recent semi-annual measurements A separate interval is constructed for each constituent of interest in each well of interest A confidence interval is generally used when downgradient samples are being compared to a GWPS A flow chart depicting the decision making process dunng the analysis is provided as Figure E-3

The lower 95-percent confidence limit on the mean will be compared to a GWPS to decide initially whether the mean concentration of a constituent of interest has exceeded a GWPS If the lower 95-percent confidence limit on the mean exceeds the GWPS then there is statistically significant evidence that the mean concentration of that constituent exceeds the GWPS Upper 95-percent confidence limit analyses may be applied to constituents in which it's 95 percent LCL has exceeded a GWPS If the upper 95-percent confidence limit on the mean occurs lower that the GWPS then there is statistically significant evidence that the mean concentration of that constituent has returned to less than the GWPS

3 1 Assumptions

The sample data used to construct the limits must be normally or transformed-nomially distnbuted In the case of a transformed-normal distnbution, the confidence limit must be constructed on the transformed sample concentration values In addition to the limit construction, the comparison must be made to the transformed GWPS value When none of the transformed models can be justified, a nonparametnc version of each limit may be utilized

3 2 Distribution

The distribution of the data is evaluated by applying the Shapiro-Wilk or Shapiro-Francia test for normality to the raw data or when applicable to the Ladder of Powers (Helsel & Hirsch 1992) transformed data The null hypothesis, $\mathbf{H_O}$ to be tested is

$\mathbf{H_O}$ The population has a normal (or transformed-normal) distribution

The alternative hypothesis, $\mathbf{H_A}$, is

$\mathbf{H_A}$ The population does not have a normal (or transformed-normal) distribution

3 3 Censored Data

If less than 15 percent of the observations are non-dectects, these will be replaced with one half the method detection limit prior to running the normality test and constructing the confidence limit

If more than 15 percent but less than 50 percent of the data are less than the detection limit, the data's sample mean and standard deviation are adjusted according to the method of Cohen or Aitchison (U S EPA, April 1989) This adjustment is made prior to construction of the confidence limit

If more than 50 percent of the data are less than the detection limit, these values are replaced with one half the method detection limit and a nonparametric confidence limit is constructed

3 4 Parametric Confidence Limit Procedures

A minimum of four sample values is required for the construction of the parametric confidence limit The mean, **X**, and standard deviation, S, of the sample concentration values are calculated separately for each compliance well For each well, the confidence limit is calculated as

$$\overline{\mathbf{X}} \pm t_{(1-\alpha,\, n-1)} \frac{S}{\sqrt{n}}$$

Where

S = The compliance point's standard deviation,

n = The number of observations for the compliance point and

$t_{(1-\alpha,\ n-1)}$ is obtained from the Student s t Distribution (appendix B U S EPA, Apnl 1989) with (n-1) degrees ot freedom

The use of the 95[th] percentile of the t-Distnbution is consistent with the 5 percent α - level of individual well compansons If the lower limit is above the compliance limit, there is statistically significant evidence that the constituent exceeds a GWPS

3 5 Nonparametric Confidence Limit Procedure

The nonparametnc confidence limit procedure requires at least seven observations in order to obtain a one-sided significance level of 1 percent The observations are ordered from smallest to largest and ranks are assigned separately within each well Average ranks are assigned to tied values The cntical values of the order statistics are determined as follows

If the minimum seven observations are used, the cntical values are the first and seventh values Otherwise, the smallest integer, **M**, is found such that the cumulative binomial distnbution with parameters n (sample size) and probability of success, p=0 5, is at least 0 99

The exact confidence coefficient for sample sizes from 4 to 11 are given by the EPA (Table 6-3 U S EPA, Apnl 1989) For larger samples, take as an approximation the nearest integer value to

$$\mathbf{M} = \frac{n}{2} + \mathbf{1} + \mathbf{Z}_{(1-\alpha)}\sqrt{\frac{n}{4}}$$

Where

$\mathbf{Z}_{(1-\alpha)}$ = The 1-α percentile from the normal distnbution found in Table 4 (appendix B, U S EPA, Apnl 1989), and

n = The number of observations in the sample

Once **M** has been determined, **(n+1-M)** is computed and the confidence limits are taken as the order statistics, **X(M)** and **X(n+1-M)** These confidence limits are compared to the GWPS as discussed m Section 3

4 REFERENCES

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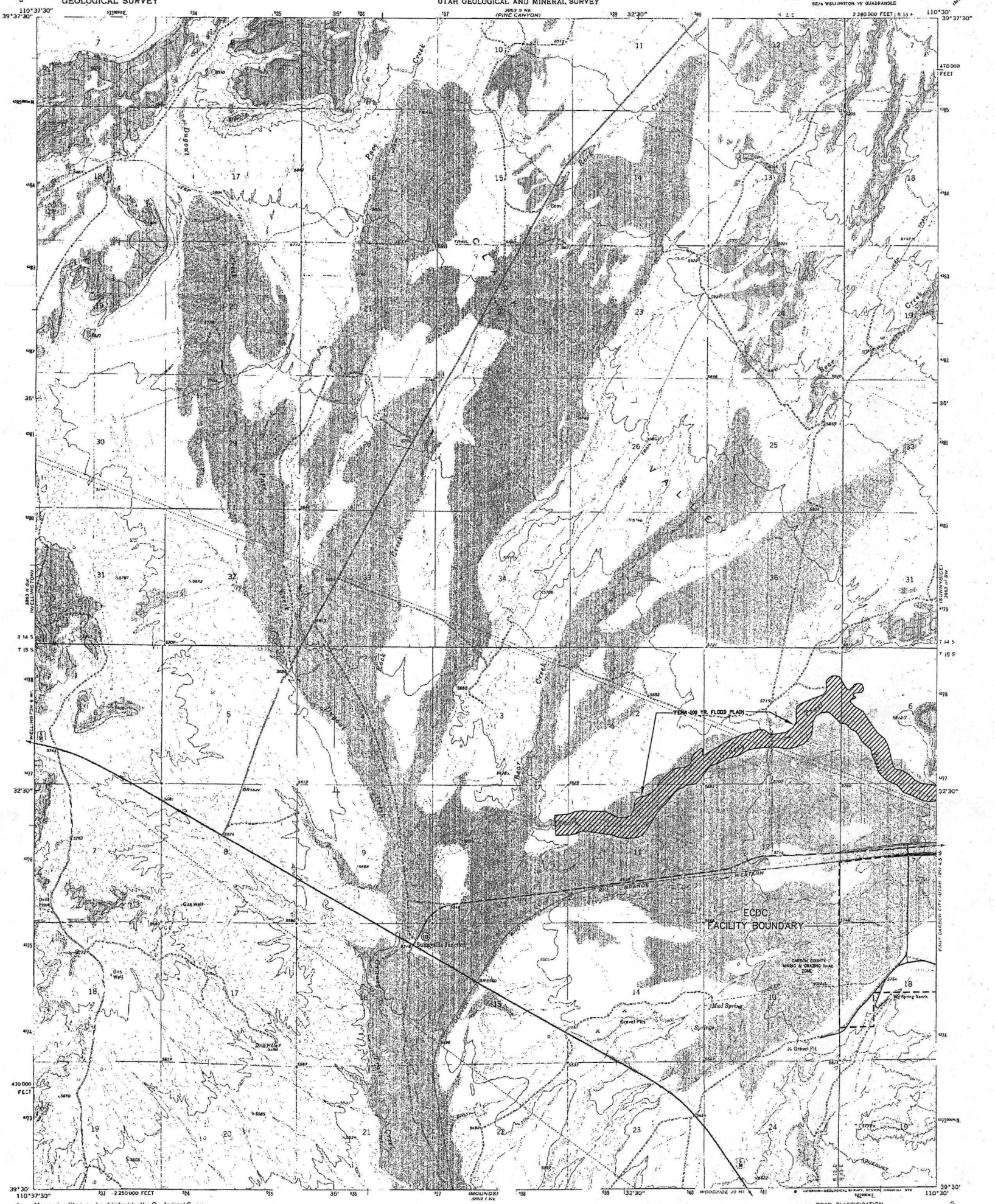
FIGURES

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

STATE OF UTAH
UTAH GEOLOGICAL AND MINERAL SURVEY

SUNNYSIDE JUNCTION QUADRANGLE
UTAH—CARBON CO.
7.5 MINUTE SERIES (TOPOGRAPHIC)
SE/4 WELLINGTON 15' QUADRANGLE



Mapped, edited, and published by the Geological Survey

Control by USGS and NOS/NOAA

Topography by photogrammetric methods from aerial photographs taken 1972. Field checked 1972

Projection and 10,000-foot grid ticks: Utah coordinate system, central zone (Lambert conformal conic)
1000-meter Universal Transverse Mercator grid ticks, zone 12, shown in blue. 1927 North American datum

Fine red dashed lines indicate selected fence lines

UTM GRID AND 1972 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET

SCALE 1:24 000

CONTOUR INTERVAL 20 FEET
NATIONAL GEODETIC VERTICAL DATUM OF 1929

THIS MAP COMPLIES WITH NATIONAL MAP ACCURACY STANDARDS
FOR SALE BY U.S. GEOLOGICAL SURVEY, DENVER, COLORADO 80225, OR RESTON, VIRGINIA 22092
A FOLDER DESCRIBING TOPOGRAPHIC MAPS AND SYMBOLS IS AVAILABLE ON REQUEST

UTAH
QUADRANGLE LOCATION

ROAD CLASSIFICATION

Primary highway, hard surface — Light-duty road, hard or improved surface
Secondary highway, hard surface — Unimproved road
Interstate Route · U.S. Route · State Route

SUNNYSIDE JUNCTION, UTAH
SE/4 WELLINGTON 15' QUADRANGLE
N3930—W11030/7.5
1972
AMS 3863 II SE SERIES V897

LEGEND

	OIL ROAD
	GRAVEL ROAD
	DIRT ROAD
	RAIL ROAD
	PROPERTY LINE

REGISTERED PROFESSIONAL ENGINEER
No. 186210
GENE H. PLAYER
Feb 2001
STATE OF UTAH

0' 2000'

Wind Rose Report
Elmo Reporting Station
Data From Utah Climate Center

REVISION	
DATE	BY

EarthFax Engineering, Inc.
Engineers/Scientists

LANDFILL FACILITY SITE LOCATION MAP

SHEET 2 OF 2

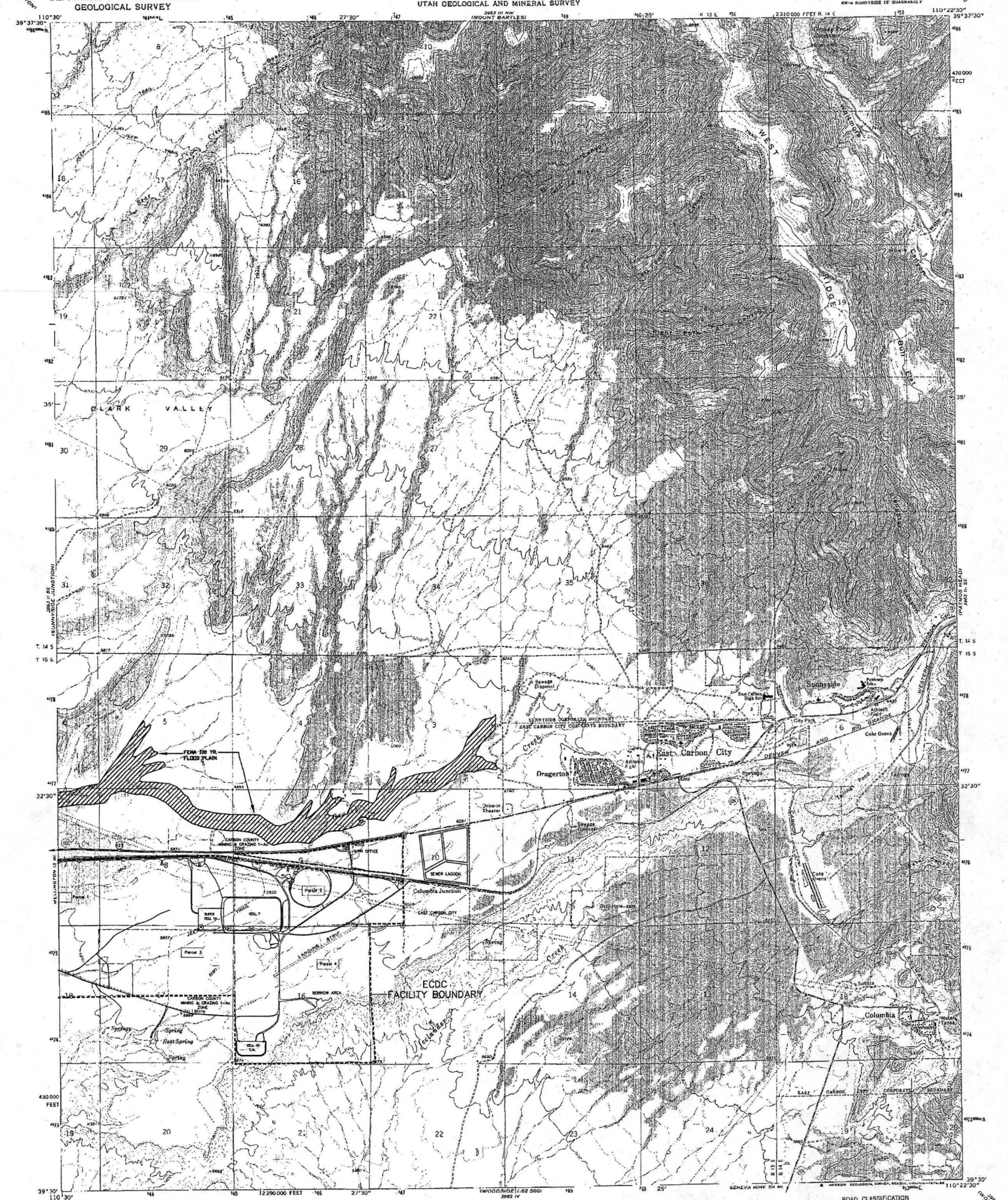
ECDC ENVIRONMENTAL L.C.

DRAWN BY: KHB	CHECKED BY: GHP	DATE: FEB 2001
APPROVED BY: GHP	DWG DATA: UC726-04 USGS SHEET 2.DWG	

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

STATE OF UTAH
UTAH GEOLOGICAL AND MINERAL SURVEY

SUNNYSIDE QUADRANGLE
UTAH–CARBON CO.
7.5 MINUTE SERIES (TOPOGRAPHIC)
SW/4 SUNNYSIDE 15' QUADRANGLE



Mapped, edited, and published by the Geological Survey

Control by USGS and NOS/NOAA

Topography by photogrammetric methods from aerial photographs taken 1972. Field checked 1972

Projection and 10,000-foot grid ticks: Utah coordinate system, central zone (Lambert conformal conic)
1000 metre Universal Transverse Mercator grid ticks, zone 12, shown in blue. 1927 North American datum

Fine red dashed lines indicate selected fence lines

U.S. GRID AND 1972 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET

SCALE 1:24 000

CONTOUR INTERVAL 40 FEET
NATIONAL GEODETIC VERTICAL DATUM OF 1929

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FOR SALE BY U.S. GEOLOGICAL SURVEY, DENVER, COLORADO 80225, OR RESTON, VIRGINIA 22092
A FOLDER DESCRIBING TOPOGRAPHIC MAPS AND SYMBOLS IS AVAILABLE ON REQUEST

QUADRANGLE LOCATION

ROAD CLASSIFICATION

Primary highway, hard surface
Secondary highway, hard surface
Light duty road, hard or improved surface
Unimproved road
Interstate Route
U. S. Route
State Route

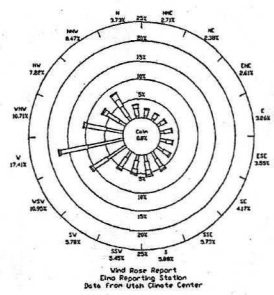
SUNNYSIDE, UTAH
SW/4 SUNNYSIDE 15' QUADRANGLE
N3930—W11022.5/7.5
1972
AMS 3963 III SW—SERIES V897

REGISTERED PROFESSIONAL ENGINEER
No. 186210
GENE H. PLAYER
Feb 2001
STATE OF UTAH

LEGEND

	OIL ROAD
	GRAVEL ROAD
- - -	DIRT ROAD
	RAIL ROAD
-----	PROPERTY LINE

0' 2000'
SCALE: 1"=2000'



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DATE	BY

EarthFax Engineering, Inc.
Engineers/Scientists

EarthFax

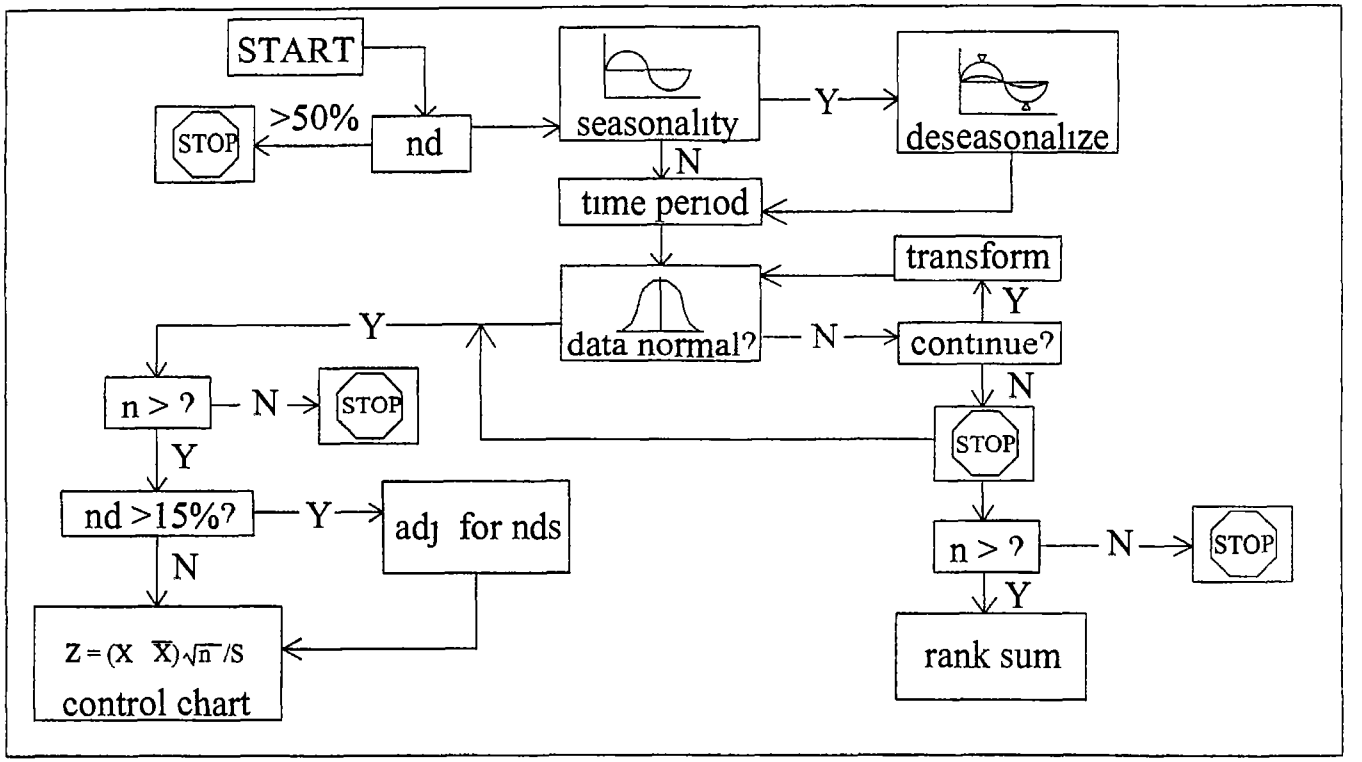
ECDC
LANDFILL FACILITY
SITE LOCATION MAP

SHEET 1 OF 2

ECDC ENVIRONMENTAL L.C.

DRAWN BY:	KHB	CHECKED BY: GHP	DATE: FEB 2001
APPROVED BY:	GHP	DWG DATA: UC726-04 USGS SHEET 1.DWG	

FIGURE E-1
CONTROL CHART FLOWCHART



Source Sanitas™ version 7 5

FIGURE E-2
PREDICTION LIMIT FLOWCHART

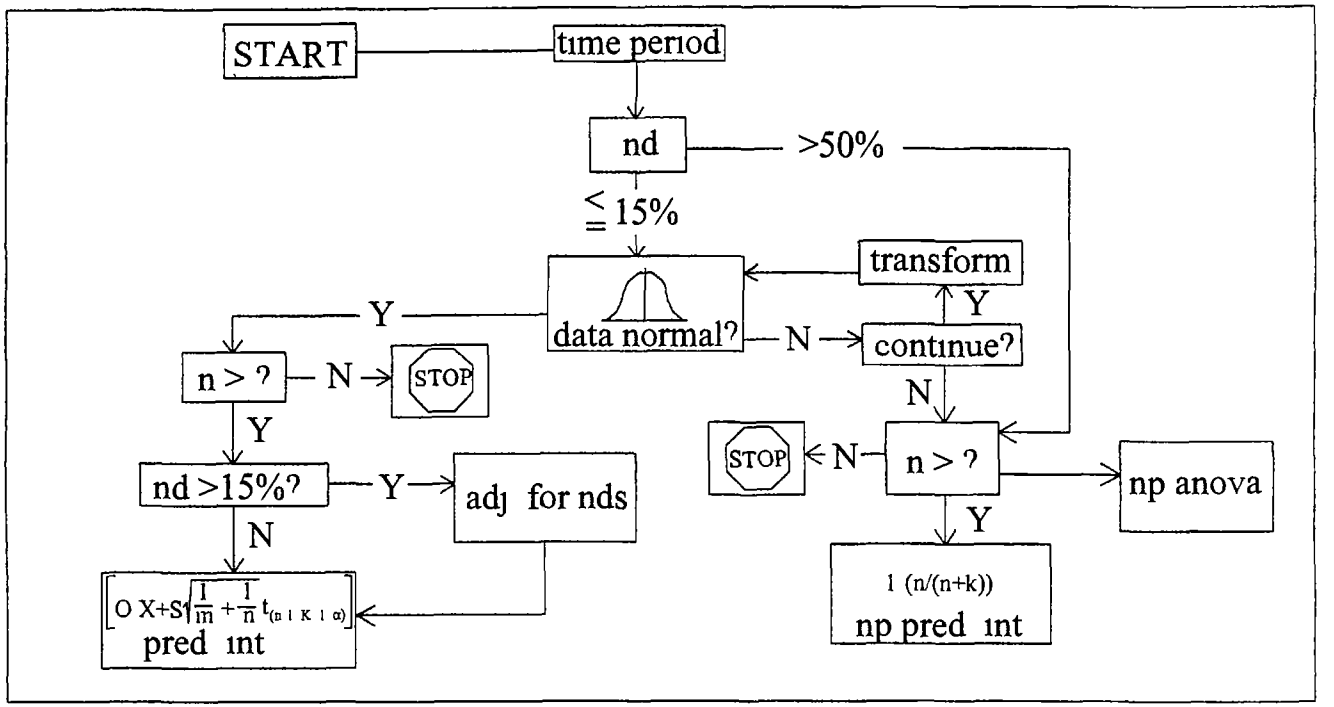


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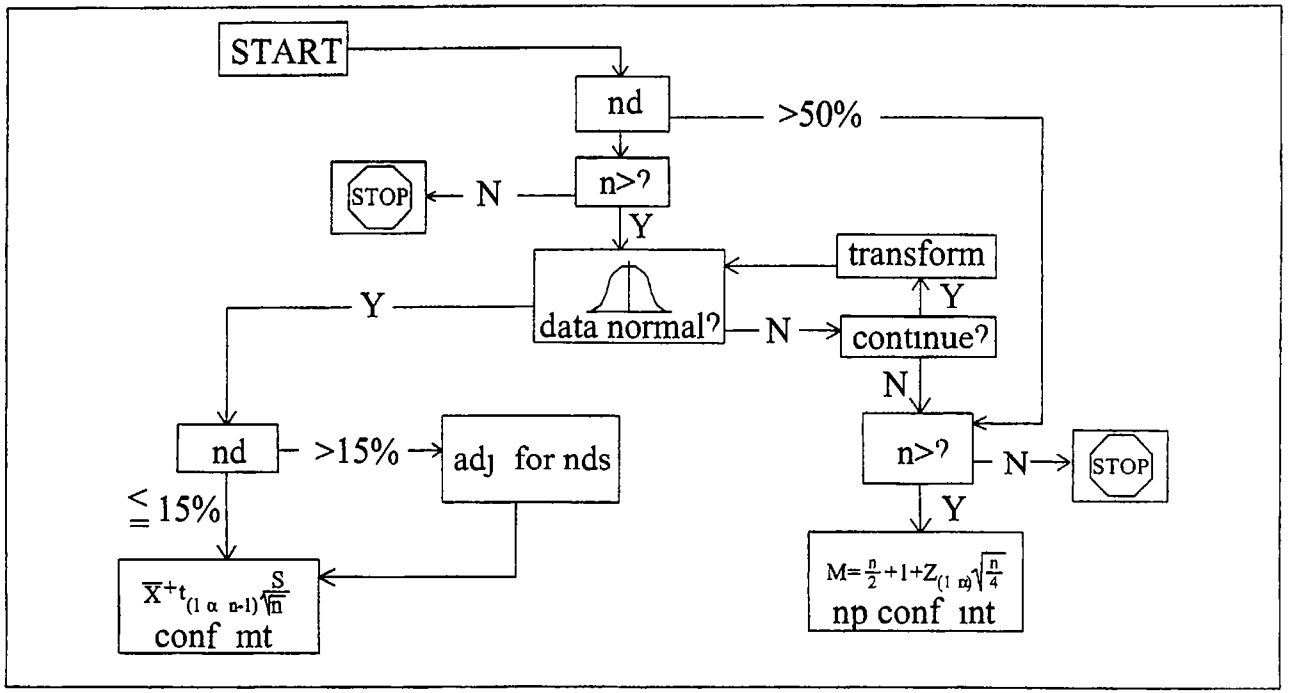
FIGURE E-3

95% CONFIDENCE INTERVAL FLOWCHART



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A-5

Landfill Operations Plan

Mi Dennis R Downs, Executive Director
Department of Environmental Quality
Division of Solid and Hazardous
288 North 1460 West
Salt Lake City, UT 84114

June 20, 2007

RE ECDC Environmental Operations Plan

Dear Mr Downs

Enclosed you will find an updated Operations Plan for ECDC Environmental ECDC respectively requests the Division review the plan and provided written comment or approval

If you have questions regarding this information please call me at 801-888-4418 x 22

Sincerely,

Darin Olson
Environmental Manager

1111 West Highway 123 PO Box 69 East Carbon UT 84520 Toll Free (800) 444 4451 Tel (435) 888 4451 Fax (435) 888 5557

ECDC MANAGEMENT PHONE LIST

Division Name	Address	Individual	Title	Office #	Cell #	Fax#
Allied Waste Corp Office	15880 N Greenway Hayden Loop Scottsdale AZ 85260			480 627 2700		480 627 2701
ECDC Environmental	P O Box 69 East Carbon UT 84520	Kirk Treece	General / Site Manager	801 924 8495	801 573 7583	801 972 3827
ECDC Environmental	P O Box 69 East Carbon UT 84520	Jeff Green	Operations Manager	435 888-4418 Ext #26	801 573 7533	435 888-0577
ECDC Environmental	P O Box 69 East Carbon UT 84520	Roger Nelson	Maintenance Manager	435 888 4418 Ext #29	801 573 7504	435 888-0577
ECDC Environmental	1111 west Hwy 23 East Carbon UT 84520	Darin Olson	Environmental Manager	435 888-4418 Ext #22	801 537 7514	435 888 0577
ECDC Environmental	1111 west Hwy 23 East Carbon UT 84520	John Holbrook	Controller	801 924 8467	801 301 3867	801 972 3827

ECDC ENVIRONMENTAL, L C
PLAN of OPERATIONS

LIST OF DOCUMENTS

1 STORM WATER POLLUTION PREVENTION PLAN

2 SPILL PREVENTION CONTROL AND COUNTERMEASURE PLAN

3 EXPOSURE CONTROL PLAN

4 EMERGENCY ACTION PLAN

5 DAILY COVER REQUIREMENT PLAN

6 LITTER CONTROL PLAN

7 FIRE CONTROL PLAN

8 RADIATION MONTORING PROCEDURES

9 DUST CONTROL PLAN

10 SCAVENGING POLICY

11 TRAINING SCHEDULE

12 WASTE ARRIVAL AND UNLOADING PROCEDURE

STORM WATER POLLUTION PREVENTION PLAN

ECDC LANDFILL FACILITY
EAST CARBON, UTAH

FEBRUARY 2003

Prepared By

Player Consulting, L.C.
3071 West 8900 South
West Jordan, Utah 84088
801-554-2660

ECDC ENVIRONMENTAL LANDFILL FACILITY STORM WATER POLLUTION PREVENTION PLAN

FEBRUARY 2003 REVISION

PREPARATION

The following Storm Water Pollution Prevention Plan (SWP) was prepared by *Player Consulting, L.C.* for the ECDC Landfill Facility located within the boundaries of East Carbon City, Carbon County, Utah adjacent to State Highway 123 The site encompasses approximately 2,400 acres excluding the Denver and Rio Grande Railroad right-of-way The facility is an existing municipal and non-hazardous solid waste disposal facility The facility consists of office building, support buildings, and active landfill cells The initial cell was fully approved and operational in September 1992 and currently operates under permit number 9422 issued by the Utah Division of Solid and Hazardous Waste

The SWP3 was prepared in essential accordance with the requirements contained in the ECDC *General Multi-Sector Permit for Storm Water Discharges Associated with Industrial Activity*, the requirements of the *Utah Department of Environmental Quality*, and the requirements of the Division *of Water Quality*

AMENDMENTS

This SW3P will be amended whenever there is a change in design, construction, or maintenance, which has a significant effect on the potential for the discharge of contaminated storm water to the waters of the State of Utah or if the SW3P proves to be ineffective in eliminating or significantly minimizing pollutants from sources identified in this permit, or in otherwise achieving the general objectives of controlling pollutants in storm water discharges associated with industrial activity at the site The site will be inspected at annually by members of the Pollution Prevention Team, and this plan will be reviewed within two weeks of that inspection for effectiveness and validity All changes to the SW3P will occur at the time of the annual review

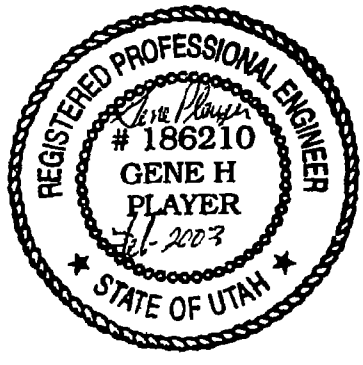

Table of Contents

Table of Contents (Contmued)

1.0 Introduction

Landfills that discharge storm water runoff from any active or inactive areas without a stabilized final cover and that have received any industrial wastes are considered to meet the definition of "storm water discharge associated with industrial activity" in 40 CFR 122-26(b)(14) and are required to obtain an NPDES permit Landfills seeking coverage under a Utah Pollutant Discharge Elimination System (UPDES) Multi Sector permit are required to submit a Notice of Intent and prepare a Storm Water Pollution Prevention Plan (SW3P)

ECDC Landfill Facility has submitted a Notice Of Intent for coverage under the Multi Sector General Permit for Industrial Activities In accordance with the permit, this SW3P has been prepared and will be maintained on-site

ECDC is a private entity formed for the purpose of overseeing operation of a Subtitle D solid waste landfill The landfill operates under a permit (#9422) from the Utah Department of Environmental Quality, Division of Solid and Hazardous Waste

The general direction of surface flow at the facility is to the west The Site Map in *Attachment #1* shows the pre-construction contours of the facility The pre-construction contours and elevations are still applicable except for the developed cell portions of the facility The majority of developed cell areas are shown on the Site Map All other areas of the facility are not utilized at this time with the exception of the rail unloading areas, the intermodal area, the bottom dump, and the facility administrative buildings

The ECDC facility is located in a region of very low annual precipitation less than 12 inches per year Ditches seldom have water flow, and standing water is rare There is no storm water run-on to the facility Leachate waters are collected and separated from storm water Perimeter and intra cell berms are used

to route local run-off and prevent run-on from entering the active landfill areas Storm water which contacts the waste is contained within the landfill and is handled as leachate

2.0 Storm Water Pollution Prevention Plan

This Storm Water Pollution Prevention Plan (SW3P) was developed and prepared in accordance with good engineering practices and in accordance with the factors outlined in *40CFR 125 3(3)(2)* or *(3)* as appropriate This plan identifies potential sources of pollution that may reasonably be expected to affect the quality of storm water discharges associated with industrial activity from the ECDC Landfill Facility In addition, the plan describes and ensures the implementation of practices that are to be used to reduce the pollutants in storm water discharges associated with industrial activity at the facility and to assure compliance with the terms and conditions of the Storm Water Permit #UTR000194 issued by Utah Division of Water Quality The ECDC Landfill Facility shall implement the provisions of the SW3P required under this part as a condition of the Storm Water Permit

2 1 Signature and Plan Review

2 1 1 Signature/Location

The SW3P shall be signed in accordance with the Signatory Requirements section of the Storm Water Permit and be retained on-site at the ECDC Landfill Facility

2 1 2 Plan Availability

This SW3P shall be available upon request to the *Executive Secretary,* other local agencies approving storm water management plans, interested members of the public, local government officials, or to the operators of a municipal separate storm sewer receiving discharges from the site Viewing

by the public shall be at reasonable times during regular business hours (advance notice by the public of the desire to view the plan may be required, not to exceed two working days)

2 1 3 Required Modifications

Upon notification from the *Executive Secretary*, or authorized representative, that the plan does not meet one or more of the minimum requirements of the Storm Water Permit and identify which provisions of the plan that requires modifications, the permittee shall make the required changes to the plan and shall submit to the *Executive Secretary* a written certification that the requested changes have been made

2 2 Keeping Plans Current

The ECDC Landfill Facility shall amend the plan whenever there is a change in design, construction, operation, or maintenance that has a significant effect on the potential for the discharge of pollutants to the waters of the State or if the SW3P proves to be ineffective in eliminating or significantly minimizing pollutants from sources identified in this SW3P, or in otherwise achieving the general objectives of controlling pollutants in storm water discharges associated with industrial activity Amendments to the SW3P shall be made available to be reviewed by the *Executive Secretary*, or an authorized representative upon request

2 3 Contents of the SW3P

The contents of this SW3P complies with the requirements of the Storm Water Permit including the requirements listed in Appendix II L 3

2 4 Consistency With Other Plans

This SW3P is consistent with other plans developed for the ECDC Landfill Facility including the Class V Landfill Permit, Spill Prevention, Control, and Countermeasure Plan, and the Fugitive Dust Emissions Control Plan

2 5 Other Laws and Requirements

2 5 1 Local Storm Water Control Requirements

The ECDC Landfill Facility shall comply with other local laws affecting storm water discharges

2 5 2 Threatened or Endangered Species & Historic Properties

The ECDC Landfill Facility shall comply with Federal or State laws pertaining to threatened or endangered species or historic properties

3.0 Pollution Prevention Team

Members of a Storm Water Pollution Prevention Team are responsible for developing the SW3P and assisting the facility or plant manager in its implementation, maintenance, and revision Following is a list of team members and their responsibilities Activities and responsibilities of each team member address all aspects of the facility's storm water pollution prevention plan

Team Member Information

Team Leader	Kirk Treece	Title	General Manager
		Office Phone	(435) 888-4418 ext 25

Responsibilities: Signatory approval, SW3P review and oversight

Team Member Darin Olson **Title:** Facility Engineer
Office Phone (435) 888-4418 ext 22

Responsibilities: Conducting storm water sampling and coordinating and implementing all facets of developing and administering the SW3P, monitoring and analysis reporting, record keeping, and employee training

Overseeing spill response, clean up activities, and housekeeping

Team Member: Jeff Green **Title** Facility Operations Manager
Office Phone (435) 888-4418 ext 26

Responsibilities: Recommending and designing control measures to reduce or prevent significant pollution sources affecting the storm water runoff. Analyzing, designing, and implementing erosion prevention measures as needed and are possible. Reviewing and commenting on the effect of proposed construction or process modifications on storm water discharges

Conducting visual inspections. Designing, coordinating, implementing, and completing employee training. Implementing preventive maintenance program

4.0 Description of Potential Pollutant Sources

Following is a description of potential sources which may reasonably be expected to add significant amounts of pollutants to storm water discharges or which may result in the discharge of pollutants during dry weather from separate storm sewers draining the facility. Also, following are all activities and significant materials which may potentially be significant pollutant sources

4 1 Drainage

4 1 1 Site Map

A Site Map indicating an outline of the portions of the drainage area of each storm water outfall that are within the facility boundaries, each existing structural control measure to reduce pollutants in storm water runoff, surface water bodies, locations of active and closed landfill cells or trenches, locations of active and closed land application areas, locations where open dumping is occurring or has occurred, locations of any known leachate springs or other areas where uncontrolled leachate may commingle with runoff, locations of any leachate collection and handling systems, locations of major spills or leaks, and locations of the following activities where such activities are exposed to precipitation fueling station, vehicle and equipment maintenance and/or cleaning areas, and waste and other significant material loading/unloading and storage areas are located in ***Attachment #1*** of this SW3P The site map also indicates the outfall locations and the types of discharges contained in the drainage areas of the outfalls

4 1 2 Direction of Flow

Contained on the Site Map in ***Attachment #1*** is a prediction of the direction of flow, and an identification of the types of pollutants which are likely to be present in storm water discharges associated with industrial activity The factors that were considered include the toxicity of chemicals, quantities of chemicals used, produced or discharged, the likelihood of contact with storm water, and the history of significant leaks or spills of toxic or hazardous pollutants Flows with a significant potential for causing erosion are also identified on the Site Map

The general direction of surface flow at the facility is to the west and southwest The Site Map shows the pre-construction contours of the facility The pre-construction contours and elevations are still applicable except for the developed cell portions of the facility The developed cell areas are shown on the Site Map All other areas of the facility are not utilized at this time with the exception of the rail unloading areas, the intermodal area, and the facility administrative buildings

4 2 Exposed Inventory of Materials

Following is an inventory of the types of materials handled at the site that potentially may be exposed to precipitation Such inventory includes a narrative description of significant materials that have been handled, treated, or disposed of at the facility, method and location of on-site storage or disposal, materials management practices employed to minimize contact of materials with storm water runoff, the location and a description of existing structural and nonstructural control measures to reduce pollutants in storm water runoff, and a description of any treatment the storm water receives

The types of materials handled at the site that potentially may be exposed to precipitation include solid waste in the following categories municipal, certain exempt industrial waste, municipal incinerator ash, mining waste, and other non-hazardous waste This solid waste landfill accepts approximately 800,000 cubic yards of waste annually A wide variety of materials and substances are accepted at the facility, however, the facility does not accept radioactive, hazardous, or wastes requiring to be managed as PCBs under the Toxic Substances and Control Act

The majority of wastes accepted at the facility are brought to the site via rail equipment The waste containers are then off-loaded from the railcars, loaded onto haul trucks, weighed, and taken to the active landfill face The waste containers are covered until the loads are weighed which is done just prior to

unloading at the active landfill face This precludes wastes from contacting run-off because wastes are placed into the contained, lined portion of the landfill

Other wastes are brought to the facility by over-the-road haul trucks that haul wastes from local municipalities These trucks are weighed and then off-loaded at the active landfill face within the lined portion of the landfill No chemicals are stored outside without proper packaging to reduce contamination of water or soil from spills, accidental releases, or exposure to storm water

Liquid wastes that are accepted at the facility are taken to the Solidification Facility and off-loaded This facility is self-contained and the liquids are never allowed to contact storm water run-off The liquid wastes are then solidified, loaded on haul trucks, and taken to the active landfill face

The coal incinerator ash that is accepted at the facility is used to solidify liquid wastes The coal incinerator ash is stored within the lined portions of the landfill facility Storing the material in this way will not allow contact with run-off They are taken to the Solidification Facility when required

Machine-graded slopes prevent storm water from entering structures at the facility The facility also uses gravel paving on haul roads as well as the parking areas to minimize dust and run-off The rotary dump unloading area and the bottom dump area are designed to preclude storm water contamination through proper grading

The storm water run-off from the areas of possible contamination is through a ditch along the south edge of the intermodal area This drainage structure contains storm water that falls either on the rail line grade or on the intermodal haul road These areas may contain stored containers, rail equipment, off-loading and on-loading equipment, and loaded waste containers Any run-off water that enters this drainage structure drains to the west along the haul road Water then enters a retention pond area constructed to preclude storm water run-off water from leaving

the ECDC Facility Property The stored water is then allowed to evaporate or infiltrate into the ground

Diesel and gasoline tanks are stored within diked areas in the northeast corner of the field office parking lot Used oil is stored in a tank inside maintenance building Equipment maintenance takes place inside the maintenance building, and all drums are stored indoors

There is no treatment of storm water at the ECDC facility due to materials management practices employed by the ECDC facility personnel These practices minimize contact of potentially contaminating materials with storm water run-off All storm water that falls within the active portion of the landfill is treated as leachate therefore, never leaves the lined landfill

4 3 Spills and Leaks

There have been no significant spills or significant leaks of toxic or hazardous pollutants that have occurred at areas that are exposed to precipitation or that otherwise drain to a storm water conveyance at the facility All significant spills and leaks will be recorded by the Spill Prevention and Response Team as noted in this document The annual revisions of this document will include all records of significant spills and leaks that have occurred at the facility since the last revision

A few small spills have occurred at the facility in the last five years These spills occurred on asphalt areas and were cleaned up by facility personnel using industry standard procedures

4 4 Sampling Data

A summary of existing discharge sampling data is contained in the appropriate files at the ECDC Facility Landfill Sampling shall take place as soon as possible and when weather permits Samples shall be taken at the Outfall #1 location and the Outfall #2 location as indicated on the Site Map contained in

Attachment #1 These sampling activities shall include quarterly samples as well as all other required sampling events

4 5 Risk Identification and Summary of Potential Pollutant Sources

Following is a narrative description of potential pollutant sources associated with earth/soil moving, waste hauling and loading/unloading, outdoor storage of significant materials including daily, interim and final cover material stockpiles as well as temporary waste storage areas, exposure of active and inactive landfills, haul roads, and vehicle tracking of sediments The narrative description specifically lists significant potential sources of pollutants at the site and for each potential source, any pollutant or pollutant parameter (e g , biochemical oxygen demand, etc) of concern is identified

4 5 1 Construction Periods

The landfill facility experiences construction periods during each year of operation as well as daily earth moving activities During these construction periods and activities, moving of soil materials occurs The construction of landfill cells requires that soil material be excavated, loaded, hauled, placed, and compacted The potential pollutant source associated with earth/soil moving is soil particles suspended in run-off

4 5 2 Waste Hauling and Loading/Unloading

The ECDC Landfill Facility receives waste by many methods which includes railcar containers, railcar, waste hauling vehicles, and liquid tankers Waste that arrives in containers on railcars are loaded onto facility haul trucks, weighed, detarped, and taken to the active landfill face for unloading Loaded railcars are taken to the Railcar Rollover Facility to be unloaded They are dumped within the building by being rolled over The waste is then loaded into facility haul trucks and taken to the active landfill face Waste hauling vehicles enter the ECDC facility, are weighed, and are taken to the active landfill face to be unloaded All solid waste is

unloaded within the lined portion of active landfill Liquid tankers are received at the Solidification Facility and off loaded Municipal incinerator ash is off-loaded at the Solidification Facility and used for solidifying the liquid wastes brought to the facility The liquid is contained within a concrete basin The potential pollutant source associated with waste hauling and loading/unloading is solid waste entering the run-off

4 5 3 Outdoor Storage of Significant Materials

The ECDC Landfill Facility excavates and stores significant materials including daily, interim, and final cover material stockpiles There are no temporary waste storage areas at the facility The potential pollutant source associated with outdoor storage of significant materials including daily, interim and final cover material stockpiles ARE soil particles suspended in run-off

4 5 4 Exposure of Active and Inactive Landfills

There are active and inactive landfill cells at the ECDC Landfill Facility The potential pollutant sources associated with active and inactive landfill cells are sod particles and solid waste entering the run-off

4 5 5 Vehicle Tracking of Sediments

Haul roads are utilized at the facility to facilitate placement of the solid waste at the active landfill face Haul roads are covered with gravel/granular material to minimize vehicle tracking of sediments The potential pollutant source associated with haul roads and vehicle tracking of sediments is soil particles suspended in run-off

Dust control at the facility takes place in essential accordance with the Fugitive Dust Emissions Control Plan produced by ECDC

4 5 6 Container Wash Bay Area

The Container Wash Bay area is an area where waste containers are washed and cleaned The containers are washed with heigh pressure heated water The water then drains into a siunp where the water is collected The water is not allowed to enter any ditches or uncontrolled dramage areas The Container Wash Bay Sump is dramed by pumpmg the water into a water truck The waste water is then placed into the lined areas of the active landfill

5.0 Measures and Controls

The followmg is a descnption of storm water management controls appropnate for the facihty These controls are or shall be implemented at the ECDC Landfill Facility The controls reflect identified potential sources of pollutants at the facihty The descnption of storm water management controls address the followmg mimmum components, mcludmg a schedule for implementmg such controls

5 1 Good Housekeepmg

Good housekeepmg requires the maintenance of areas which may contribute pollutants to storm water discharges in a clean, orderly manner Followmg is a narrative of the good housekeepmg controls at the facility

Good housekeepmg practices are developed to maintain a clean, efficient, and safe work environment A clean workplace not only benefits the employees who have a safe work environment, it will also reduce pollutant sources which could pose both environmental and employee hazards The ECDC Landfill Facility is a safety and good housekeepmg conscious facility All employees will be trained to regularly inspect for leaks or conditions that could lead to discharges to storm water

Good housekeepmg in areas of material storage (active cells, inactive cells, roads, and bmldmg areas) will include immmizmg erosional opportunities for storm water, adhering to daily cover provisions of the Solid Waste Permit, and maintaining

grass/ground cover in areas of run-off or potential surface erosion location Good housekeeping procedures to reduce tracking of sediment and waste are also used

The facility is operated and maintained to the highest quality standards with each employee trained to observe and report to the landfill operations manager any maintenance that may be required Maintenance personnel provide checks of machines and tanks on an ongoing basis All maintenance on equipment is completed inside the maintenance building This prevents the potential contact of vehicle fluids to the environment

5 2 Preventive Maintenance

A preventive maintenance program involves timely inspection and maintenance of storm water management devices as well as inspecting and testing facility equipment and systems to uncover conditions that could cause breakdowns or failures resulting in discharges of pollutants to surface waters, and ensuring appropriate maintenance of such equipment and systems

A preventive maintenance program is established by maintenance personnel who methodically inspect and correct any problems throughout the facility before storm water pollution occurs A copy of the inspection log is in ***Attachment 2***

Equipment or areas to be regularly inspected include the following

- Sediment collection ditches
- Facility conveyance ditches
- Facility haul roads
- Intermodal area
- Solidification Facility
- Railcar Rollover Facility
- Diversion berms and storm water routing channels
- Permanent and temporary cover on active and inactive landfill cells
- Equipment maintenance areas
- Fuel and waste oil storage areas
- Active waste disposal areas

ECDC personnel shall also maintain all elements of leachate collection and treatment systems to prevent commingling of leachate with storm water run-off. Personnel shall maintain the integrity and effectiveness of any intermediate or final cover, including making repairs to the cover as necessary to minimize the effects of settlement, setting, and erosion

5 3 Spill Prevention and Response Procedures

Areas where potential spills which can contribute pollutants to storm water discharges can occur, and their accompanying drainage points have been identified clearly in the storm water pollution prevention plan Following is a narrative description of these areas

An 18,000 gallon off-road diesel fuel storage tank is stored in the field office parking lot A potential spill could occur during the filling of the tank or dispensing the fuel into facility vehicles

A 1,000 gallon highway diesel fuel storage tank is stored in the field office parking lot A potential spill could occur during the filling of the tank or dispensing the fuel into facility vehicles

A 1,000 gallon unleaded fuel storage tank is stored in the field office parking lot A potential spill could occur during the filling of the tank or dispensing the fuel into facility vehicles

A 300 gallon Chemloc storage tank and a 3,000 gallon Chemloc storage tank are stored on the facility haul roads The tanks store material used in waste container maintenance A potential spill could occur during the filling of the tanks or dispensing the fuel into facility vehicles

All storage tanks are stored within concrete diked area except the Chemloc tanks which are contained in sod material dikes Rain water is removed with the

assistance of a vacuum truck Proper gradmg m the area of the Chemloc tanks prevents any spilled material contactmg storm water run-off

Herbicides and pesticides are not used outdoors at the ECDC Landfill Facihty

No chemicals are stored outside at this facility without proper packagmg to reduce contammation of water or soil from spills, accidental releases, or exposure to storm water run-off

Spill prevention and response (SPR) is coordmated by the landfill operations manager A general pohcy of contaimng and unmediately cleamng up all spills is enforced at the facility The dramage areas will be inspected as descnbed m Section 5 2 to determme if remedial action is necessary to minimize the potential for spills

The landfill operations manager is responsible for identifymg the facihty spill response team to respond to spills and ensurmg spill response eqmpment is readily available The landfill operations manager is also responsible for notifymg the appropnate authonties for assistance

5 4 Inspections

The qualified facility personnel that shall mspect designated eqmpment and areas of the facihty are the members of the Pollution Prevention Team Other facihty personnel are also encouraged to report any issues or problems that would prevent storm water pollution

5 4 1 Weekly Inspections

The average annual precipitation for the ECDC Facihty 11 98 mches Due to this precipitation amount, qualified facihty personnel shall mspect areas of landfills that have not yet received final stabihzation, active land application areas, areas used for storage of

materials/wastes that are exposed to precipitation, stabilization and structural control measures, leachate collection and treatment systems, and locations where equipment and waste trucks enter and exit the site at least once every month There are no closed landfill cells at the ECDC facility A copy of the inspection log is in ***Attachment 2***

5 4 2 Quarterly Inspections

Qualified facility personnel shall inspect inactive landfills, open dumps, and land application sites on a quarterly basis The personnel shall include in the inspections landfill or open dump stabilization, structural erosion control measures, leachate collection and treatment systems, and all closed land application areas A copy of the inspection log is in ***Attachment 2***

5 4 3 Follow-up Procedures

A set of tracking or follow-up procedures shall be used to ensure that appropriate actions are taken in response to the inspections The SW3P shall be revised to address any problems found during inspections Records of inspections shall be maintained at the ECDC Landfill Facility

5 5 Employee Training

Employees shall be trained on the implementation and goals of the SW3P Training will address the following components of the SW3P

- Good housekeeping
- Preventive maintenance
- Spill prevention and response
- Purpose and maintenance of storm water management control equipment

Points to be covered in the facility personnel training include

- Locations of housekeeping and spill response equipment

- Instruction for housekeeping and preventive maintenance inspections
- Appropriate spill response procedures
- Recording of all inspections, maintenance, and spill response activities

Training shall be conducted at least annually, or whenever a change in facility operation requires an update or change in training

5 6 Record Keeping and Internal Reporting Procedures

All significant spills and leaks will be dealt with as per required in the facility SPCC Plan and in accordance to with the existing Class V Landfill Permit The annual revisions of this document will include all records of significant spills and leaks that have occurred at the facility since the last revision

ECDC personnel inspections and maintenance activities shall be documented and records of such activities shall be maintained As provided by the Solid Waste Permit, a tracking system for the types of wastes disposed of in each cell shall be maintained

5 7 Non-Storm Water Discharges

5 7 1 Certification

At this time ECDC does not discharge any non-storm water to the environment The only non-storm water discharge that takes place at ECDC is from the Container Wash Bay The wash water drains into a sump and then removed and taken to the lined areas of the landfill Storm water run-off that may leave the property drains from undisturbed areas Therefore, a visual inspection of storm water leaving the facility is not possible ECDC will annually evaluate whether non-storm water could enter storm water run-off and amend this section as necessary Certification of this SW3P certifies the continuation of this non-storm water discharge condition

5 7 2 Exceptions

The following are potential sources of non-storm water run-off at the ECDC Landfill Facility However, these are not significant sources of water Measures discussed in the section shall be implemented to ensure pollution prevention of the storm water run-off

- Fire fighting activities
- Fire hydrant flushing
- Potable water sources including waterline flushing
- Irrigation drainage
- Lawn watering
- Air conditioning condensate
- Uncontaminated compressor condensate
- Uncontaminated springs on the property
- Uncontaminated ground water
- Pavement wash waters where spills or leaks of toxic or hazardous materials have not occurred and where detergents are not used

5 7 3 Certification of Non-Storm Water Discharges

The facility was evaluated for the presence of non-storm water discharges when the general baseline permit was first issued to the facility A visual assessment during the dry season of the channels indicated no additional water streams at the facility Certifying the SW3P also certifies this evaluation

5 8 Sediment and Erosion Control

Areas at the ECDC Landfill Facility that have a high potential for sod erosion include the active working area, closed areas with intermediate cover, soil material stockpile areas, and soil borrow areas

Permanent vegetation will be established in final cover areas and in soil borrow areas that are at final grade In active areas of the landfill, ECDC uses grading and design to maintain any leachate waters separate from storm water Very little precipitation falls at the facility, and the storm water in the active areas drains to the center of the active area from which it evaporates or percolates into the ground

Isolation and diversion berms shall be used to prevent run-on to or run-off from the active disposal area Dust control measures control dispersal of sediment from roads and areas that do not have vegetative cover Leachate waters are handled according to the current Class V Landfill Permit

Erosion is controlled at the facility by grading, drainage ditches, piping, and vegetative growth During the site inspections, any erosion which can be remedied shall be noted and addressed appropriately as the landfill operations manager directs

5 9 Management of Run-off

The ECDC Landfill Facility shall implement traditional storm water management practices used to divert, infiltrate, reuse, or otherwise manage storm water run-off in a manner that reduces pollutants in storm water discharges from the site These practices shall include silt fences, earth dikes, gradient terraces, drainage swales, sediment traps, check dams, pipe slope drains, level spreaders, storm drain inlet protection, rock outlet protection, reinforced soil retaining systems, gabions and temporary or permanent sediment basins, or other equivalent measures Structural practices shall be placed on upland soils as practicable

6.0 Comprehensive Site Compliance Evaluation

Qualified personnel shall conduct site compliance evaluations once per year Such evaluations shall provide

6 1 Areas Contributing to Storm Water

Areas contributing to a storm water discharge associated with industrial activity at the landfill, open dump and land application sites shall be visually inspected for evidence of, or the potential for, pollutants entering the drainage system Measures to reduce pollutant loadings shall be evaluated to determine whether they are adequate or whether additional control measures are needed Structural storm water management measures, sediment and erosion control measures, and other structural pollution prevention measures identified in the plan shall be observed to ensure that they are operating correctly A visual inspection of equipment needed to implement the plan such as spill response equipment, shall be made

6 2 Results of the Evaluation

Based on the results of the evaluation, the SW3P shall be revised as appropriate within two weeks of such evaluation and shall provide for implementation of any changes to the plan in timely manner, but in no case more than 12 weeks after the evaluation

6 3 Report Summarizing the Scope of the Evaluation

A report summarizing the scope of the evaluation, personnel making the evaluation, the date(s) of the evaluation, major observations relating to the implementation of the SW3P for at least three years from the date of the evaluation shall be produced The report shall identify any incidents of noncompliance Where a report does not identify any incidents of noncompliance, the report shall contain a certification that the facility is in compliance with the storm water pollution prevention plan and this permit The report shall be signed in accordance with *Part VI G* (Signatory Requirements) of the Storm Water Permit #UTR000194 issued by Utah Division of Water Quality

All pollution prevention plans, reports, certifications, or other information submitted to the permitting authority or required to be maintained on-site must be signed by a "principal executive officer or ranking elected official " Any person signing documents as part of this SW3P shall make the following certification

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

_____ _____

Site Manager Date

ATTACHMENT #1

ATTACHMENT #2

QUARTERLY INSPECTION LOG
ECDC Environmental, L.C.

Area of Inspection	OK	Needs Repair	Comments
Wash Water Sump			
Solidification Facility			
Run-On/Run-Off Drainage for Cell #7			
Run-On/Run-Off Dramage for Cell #10			
Run-On/Run-Off Dramage for Super Cell 1-A			
Leachate Collection System for Cell #7			
Leachate Collection System for Cell #10			
Leachate Collection System for Super Cell 1-A			
Perimeter Fencing and Access Gates			
Landfill Cell #7			
Landfill Cell #10			
Landfill Super Cell 1-A			
Structural Erosion Control Measures			
Date:	**Inspector:**		

MONTHLY INSPECTION LOG
ECDC Environmental, L.C.

Area of Inspection	OK	Needs Repair	Comments
Sediment collection ditches			
Facility conveyance ditches			
Facility haul roads			
Intermodal area			
Solidification Facility			
Railcar Rollover Facility			
Diversion berms and storm water routing channels			
Permanent and temporary cover on active and inactive landfill cells			
Equipment maintenance areas			
Fuel and waste oil storage areas			
Active waste disposal areas			
Landfills that have not yet received final stabilization			
active land application areas			
Areas used for storage of materials/wastes that are exposed to precipitation			
Leachate collection and treatment systems			
Stabilization and structural control measures			
Locations where equipment and waste trucks eater and exit the site			
Date.	**Inspector:**		

SPILL PREVENTION, CONTROL AND COUNTERMEASURE PLAN

ECDC Environmental, L.L.C
ECDC Landfill
East Carbon, Utah

Prepared for

1111 W Highway 123
East Carbon, Utah 84520
July 2006

Prepared by

Shaw Environmental, Inc
305 S Euchd Ave Suite 101
Tucson, Arizona 85719

520 792 2800

Project 118501

If a spill has occurred, go to Appendix A

The ECDC landfill is subject to the federal Spill Prevention, Control and Countermeasure (SPCC) Plan requirements because it stores more than 1,320 gallons of new and used oil products in aboveground storage tanks (greater than or equal to 55 gallons) on its site The SPCC Plan does not need to be submitted to the EPA unless requested, however, a copy of the up-to-date SPCC Plan must be available on site during normal business hours

This SPCC Plan was prepared for the ECDC Landfill to satisfy the applicable federal requirements under 40 CFR Part 112 This written plan is to prevent the spill and discharge of oil products into navigable waters (e g , streams, creeks, rivers and lakes) of the United States The SPCC Plan also addresses the spill response procedures and actions that must be implemented if a spill occurs at this facility

The ECDC landfill must annually train appropriate staff as described in this plan Training must include spill prevention, potential spill situations including tanks, piping, material transfer, vehicle collisions, and spill/emergency response regulations and activities applicable to the facility Training records should be kept with this plan

The SPCC regulations require periodic equipment and facility inspections and documentation of those inspections Tanks, pumps, piping, and containment structures must be regularly inspected and inspection records should be kept with this plan

This document includes the emergency procedures that the ECDC landfill should follow from the discovery of the release to its containment and cleanup Post-cleanup activities, including internal and external reporting procedures, are also described for The ECDC landfill to use as a guide

This SPCC Plan requires a review and evaluation at least every five years Technical amendments to the Plan must be reviewed and certified by a professional engineer Amendments to the Plan will be implemented as soon as possible, but no later than six months after preparing the amendment

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MANAGEMENT CERTIFICATION AND SPCC PLAN REVIEW

Name of Facility ECDC Environmental, LLC
ECDC Landfill

Type of Facility Landfill

Year of Initial Facility Operation 1990

Location of Facility 1111 W Highway 123
East Carbon, Utah 84520

Name and Address of Owner Same as Above

Management Certification

This SPCC Plan has been reviewed and approved by management with the authority to commit necessary resources for its implementation The programs and procedures outlined in the Plan will be implemented and periodically reviewed and updated in accordance with 40 CFR Part 112, and with applicable state and local requirements

Signature _____ Date 7-1-06

Name of Management Representative Jeff Green
(printed)

Title Site Manager

SPCC Plan Review

This SPCC Plan requires review and evaluation at least every five years Changes in equipment, design, construction, operation, or maintenance that materially affect the facility's potential to discharge oil into waters of the United States require amending the SPCC Plan Technical amendments to the Plan must be reviewed and certified by a professional engineer Amendments to the Plan will be implemented as soon as possible, but no later than six months after preparing the amendment

Review	Date	Update or Amendment Required?	Name (Print)	Signature
1				
2				
3				

Notes

ENGINEER CERTIFICATION

In accordance with 40 CFR 112 3(d), I hereby certify that

- ✓ I am familiar with the provisions of 40 CFR Part 112 – Oil Pollution Prevention
- ✓ I, or my agent, have visited and examined the facility described herein
- ✓ This SPCC Plan has been prepared in accordance with good engineering practices, including consideration of applicable industry standards, and with the applicable requirements of 40 CFR Part 112
- ✓ Procedures for required inspections and testing have been established
- ✓ This SPCC Plan is adequate for the facility

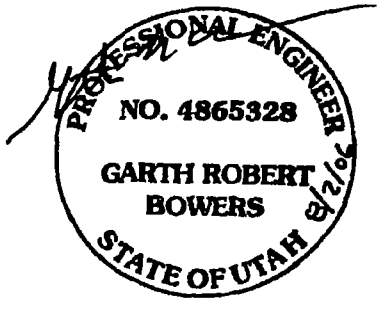
Facility Name and Address ECDC Environmental, LLC
1111 West Highway 123, East Carbon, Utah 84520

Signature, Registered Professional Engineer

Garth R Bowers
Printed Name, Registered Professional Engineer

Date 8/2/06 Registration No 4865328 State Utah

PE Engmeering Seal



40 CFR 112 Cross-Reference Matrix

40 CFR Part 112 Section	Description of Section	Plan Section
112 t	General Applicability of 40CFR Part 112	Throughout Plan
112 2	Definitions of Terms	Throughout Plan
112 3	Preparation Requirements Engineer Certification	page iv
112 4	SPCC plan amendment by Regional Administrator	N A
112 5	Plan Amendments required by changes or 5 year period	page iii
112 6	Reserved	N A
112 7a(1)	Conformance with Requirements	Throughout Plan
112 7a(2)	Deviations from requirements – Equivalent environmental protection	Section 2 5
112 7a(3)	Facility Description and Site Layout	Section 2 Figure 2 1
112 7(a)(3)(i)	Type of Oil and Storage Capacity	Tables 1-4
112 7(a)(3)(ii)	Discharge Prevention Measures	Section 2 3 Section 5
112 7(a)(3)(iii)	Discharge Drainage Controls	Tables 1-4
112 7(a)(3)(iv)	Countermeasures for Discharge Discovery Response and Cleanup	Section 5
112 7(a)(3)(v)	Methods of Disposal of Recovered Materials	Section 6 3
112 7(a)(3)(vi)	Contact List and Phone Numbers	Spill Response Procedures Appendix A
112 7(a)(4)	Discharge Reporting Information	Appendix F – Incident Report Form
112 7(a)(5)	Organization of Response Procedures	Section 5 Section 6
112 7(b)	Potential Spill Prediction Information	Table 5
112 7(c)	Containment and Diversion Structures or Equipment	Tables 1-4
112 7(d)	Oil Spill Contingency Plan	N A see 112 7(c)
112 7(e)	Inspections Integrity Testing and Recordkeeping Practices	Section 7
112 7(f)	Personnel Training and Discharge Prevention Procedures	Sections 4 5
112 7(g)(1)	Security – Site Access	Section 2 4
112 7(g)(2)	Security – Secured master flow and drain valves	Section 2 4
112 7(g)(3)	Security – Locking and location of pump starter controls	Section 2 4
112 7(g)(4)	Security – Capped and blank flanged pipelines	Section 2 4
112 7(g)(5)	Security – Adequate facility lighting	Section 2 4
112 7(h)	Facility Tank Car and Truck Loading/Unloading Rack	Section 2 5
112 7(i)	Field-constructed Aboveground Container Repair	N A
112 7(j)	Applicable State Rules and Regulations	Throughout plan
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112 8 (c)(1)	Bulk Storage Container Material of Construction	N A
112 8 (c)(2)	Bulk Storage Container Secondary Containment	Tables 1-4
112 8 (c)(3)	Bulk Storage Container Area Drainage – Check discharge before release	Section 3 2
112 8 (c)(4)	Completely Buried Metallic Tank Cathodic Protection	N A
112 8 (c)(5)	Partially Buried Metallic Tank Cathodic Protection	N A

40 CFR Part 112 Section	Description of Section	Plan Section
112 8 (c)(6)	Integnty Test Aboveground Containers	Section 2 5 & 7 3
112 8 (c)(7)	Leak Control of Heating Coils	N A
112 8 (c)(8)	Discharge Prevention Devices – overfill protection	Tables 1 3
112 8 (c)(9)	Inspection of Effluent Treatment Systems	N A
112 8 (c)(10)	Visible Discharges/Accumulation of Oil – Clean up	Section 7 4
112 8 (c)(11)	Mobile or Portable Storage Containers	Table 3
112 8(d)(1)	Piping and Valve Requirements Buned Piping	N A
112 8(d)(2)	Piping and Valve Requirements – Terminal Connection	Section 2 4 See 112 7g(4)
112 8(d)(3)	Piping and Valve Requirements Pipe Supports	Section 2 6
112 8(d)(4)	Piping and Valve Requirements Inspection of Aboveground Piping	Section 7
112 8(d)(5)	Piping and Valve Requirements – Secunty from vehicle damage	Section 4 1
112 9	Oil production facility requirements	N A
112 10	Onshore oil drilling or workover facilities requirements	N A
112 11	Offshore oil drilling production or workover facilities requirements	N A
112 12	Animal fats and oils and greases fish and manne mammal oils and vegetable oils – General Requirements	N A
112 13	Onshore oil production facilities requirements	N A
112 14	Onshore oil drilling and workover facilities requirements	N A
112 15	Offshore oil drilling production or workover facilities requirements	N A
112 20	Substantial harm cntena and the need for a facility response plan	Does not meet cntena Appendix H
112 21	Facility response training and drills/exercises	N A – See 112 20

1 0 Introduction

The ECDC landfill is subject to the federal Spill Prevention, Control and Countermeasure (SPCC) Plan requirements because it stores more than 1,320 gallons of new and used oil products in aboveground storage tanks (greater than or equal to 55 gallons) on its site

Oil is defined in 40 CFR, Part 112 2, as " oil of any kind or in any form, including, but not limited to fats, oils, or greases of animal, fish, or manne mammal origin, vegetable oils, including oils from seeds, nuts, fruits, or kernels, and, other oils and greases, including petroleum, fuel oil, sludge, synthetic oils, mineral oils, oil refuse, or oil mixed with wastes other than dredged spoil " This SPCC Plan lists the procedures and equipment required to prevent discharge of oil and hazardous substances in quantities that

- violate applicable water quality standards
- cause a sheen upon or discoloration of the surface of navigable waters or adjoining shorelines
- cause a sludge or emulsion to be deposited beneath the surface of the water or upon adjoining shorelines

The Plan also addresses the spill response procedures and actions that must be implemented if a spill does occur at this facility

This Plan has been prepared for ECDC Environmental, LLC for the ECDC landfill facility pursuant to 40 CFR Part 112 (see Appendix B) The Plan does not need to be submitted to the EPA unless requested, a complete copy of the Plan shall be maintained at The ECDC landfill and be made available to the EPA Regional Administrator and his agents, upon request, for on-site review during normal working hours

Appropnate employees at the facility shall become familiar with the contents of the Plan The SPCC Coordinator shall be responsible for implementation of emergency spill response activities In addition, a second full-time employee shall be trained to assume the SPCC Coordinator's responsibilities in the Coordinator's absence

This plan shall be amended whenever there is a change in facility design construction, operation, or maintenance that affects the facility's potential for the discharge of oil to navigable waters Non-technical changes to the plan, such as updating employee information, do not require its recertification

2 0 Facility Information

2 1 Site History

ECDC Environmental, LLC purchased this facility in 1997 from Laidlaw Environmental The site was originally developed by the East Carbon Development Corporation (ECDC) in 1990 Reportedly, there have been no significant releases of petroleum products within the last three years at the site

2 2 Oil Products Storage and Spill Containment Systems

The following is a list of oil products stored (tanks and drums) and used at The ECDC landfill that are regulated under provisions of 40 CFR Part 112

- Diesel Fuel used to fuel facility vehicles and heavy equipment
- Gasoline used to fuel facility vehicles and heavy equipment
- Lubricating Fluids (motor oil, gear oil, etc) are used in facility vehicles and heavy equipment and machinery
- Hydraulic Fluids (hydraulic oil, transmission fluid, brake fluid, etc) are used m facihty vehicles and heavy equipment and machinery
- Used motor and hydraulic oils are stored on site prior to collection for disposal or recycling
- Solvents/Mineral Spirits are used for mechanical parts degreasmg

Tanks and containment systems are summarized as follows

- Tank and secondary containment inventory — Table 2-1
- Potential tank failure modes, flow rates, direction of flows — Table 2-2
- Facility Site Plan — Figure 2-1

2 3 Fueling Operations

Fueling operations occur at this facility The followmg vehicle fueling items are ECDC landfill's Best Management Practices (BMPs) to contain leaks and spills

- Facihty and Supphes
  - A drip bucket/pan
  - A spill kit that includes absorbent matenal, salvage drum, plastic sheeting, and spill containment socks
  - A shovel
  - A yard brush
  - Dispensing hoses for the diesel fuel tank should be fitted with a breakaway coupling

- Operating Procedures
  - Fueling must be conducted on a paved surface
  - The vehicle's ignition must be turned off during fueling
  - The fueler must remain with the vehicle while fueling
  - The fueler must not overfill the tank
  - The fueler must not keep the nozzle open using a device or method other than his hand
  - If a spill of less than 25 gallons occurs, no matter how small, the fueler must immediately place absorbent on the spilled fuel, pick up the absorbed material with a sweeping brush and shovel, and place the material in the 'Used Absorbent' receptacle
  - The fuel pad must be dry cleaned (sweep and shovel - absolutely no water)
  - The 'Clean Absorbent' and 'Used Absorbent' storage containers must be covered or otherwise protected from rain at all times
  - Used absorbent must be disposed of properly
  - The 'Clean Absorbent' container must be refilled when it has been depleted to less than half of its capacity
  - The shovel and drip pan/bucket must always be replaced at the fueling area following use
  - The drip pan/bucket must be stored up-side down when not in use
  - If a spill of 25 gallons or more occurs, refer to Sections 5 0 and 6 0

2 4 Security Systems

Site access is restricted by fencing and building access Site buildings and gates are locked when the site is unoccupied

All tanks, with master flow and drain valves, are located inside buildings that are locked or are located in the fenced yard and their valves are locked

The starter control for all oil pumps is located at a site only accessible to authorized personnel The starter controls are locked

SPCC regulations require the facility to have and maintain adequate lighting— commensurate with the type and location of the facility—that will assist in discovering discharges occurring during hours of darkness and will discourage acts of vandalism that may cause discharges The ECDC landfill has lighting that meets the regulations Lighting for the storage tanks inside the buildings consists of overhead florescent lighting

2 5 *Equivalent Environmental Protection*

In accordance with 40 CFR Part 112 7(a)(2), a facility may deviate from certain aspects of the SPCC plan requirements provided that equivalent environmental protection is achieved through other means of spill prevention, control, or countermeasure For this facihty, the equivalent environmental protection mcludes

- Equivalent environmental protection in lieu of integrity testing requirements of 40 CFR 112 8(c)(6) based on good engmeering practices considenng the various tanks size, installation, and alternative measures implemented by the facility Facility personnel perform monthly and annual inspections of all of the ASTs present at the site In addition, daily observations dunng normal work days of the tanks are made by facility personnel using the tanks allowing for signs of tank deterioration to be observed prior to the monthly or annual inspections Inspection records are maintained in Appendix F of this document The personnel performing these inspections are knowledgeable of storage facihty operations, characteristics of the hquids stored, the type of aboveground storage tank and its associated components All of the ASTs except for the 25,000-gallon diesel fuel tanks have a storage capacity of 10,000-gallons or less and are located on concrete or asphalt pads which function as a release prevention barrier The 25,000-gallon diesel tank is located on a concrete pad, but the bottom of the tank is not visible for mspection In addition, some of the tanks are double-walled or have a secondary containment system to contain releases from the tanks The 1,000-gallon gasoline tank, 1,000-gallon diesel tank, 500-gallon motor oil tanks, and 500-gallon used oil tanks are elevated allowing all sides of the tanks to be observed for tank mtegrity If signs of leakage or deterioration of a tank are observed by facility personnel, the tank is to be inspected by a tank inspector certified by the American Petroleum Institute or the Steel Tank Institute or an equivalent industry institute This may include integrity testing as per 40 CFR 112 8(c)(6) The various tanks physical sizes and configurations, combined with daily observations, monthly and annual inspections ensures that any small leak that could develop in the tank shell will be detected before it can become significant, escape secondary containment, and reach the environment This approach provides equivalent environmental protect to the non-destructive shell testing requirements of 40 CFR 112 8(c)(6)

- Equivalent environmental protection m lieu of overfill protection requirements of 40 CFR 112 8(c)(8) for the 500-gallon waste oil tanks (Tanks A-7 & A 8 in Table 1) based on good engineering practices considering the various tanks size, installation, and alternative measures implemented by the facility The liquid level in the tank is visually observed to determine available capacity Waste oil will be added by hand in quantities which are less than the available capacity by site personnel This approach provides equivalent environmental protection to the overfill protection requirements of 40 CFR 112 8(c)(8)

2 6 Facility Piping and Valves

Based on the volume of product used and the level of risk, the pipes and pipe supports are designed to minimize abrasion and corrosion, and allow for expansion and contraction

If tanks or piping are not in service for an extended penod, the loading/unloading connections must be securely capped or blank-flanged to secure them

Table 1
Tank Inventory Table - AST

AST	AST Capacity (gal)	Is AST in use? (Yes/No)	AST Contents	AST Construction Type/Material	Secondary Containment Type (Steel Dirt Lined Dirt None)	Secondary Containment Capacity (gal)	Type of High Level Indicator (Depth Volume Sight Glass None)? Operational?	Is AST protected from moving vehicles?	Is AST anchored? (Y/N)	Is AST electrically grounded? (Y/N)	Is there adequate lighting near the tank or dispenser? (Y/N)	Comments
A 1	25 000	Yes	Diesel	Shop/Steel	Concrete	≈33 000	Volume Gauge	Yes	No	No		
A 2	1 000	Yes	Unleaded	Shop/Steel	Concrete	≈33 000	None	Yes	No	No		
A 3	1 000	No	Diesel	Shop/Steel	Concrete	≈33 000	None	Yes	No	No		
A-4	500	Yes	Motor Oil	Shop/Steel	Concrete	≈1 400	None	Yes	No	No	Yes	
A 5	500	Yes	Motor Oil	Shop/Steel	Concrete	≈1 400	None	Yes	No	No	Yes	
A-6	500	Yes	Motor Oil	Shop/Steel	Concrete	≈1 400	None	Yes	No	No	Yes	
A 7	500	Yes	Used Oil	Shop/Steel	Concrete	≈1 400	None	Yes	No	No	Yes	
A-8	500	Yes	Used Oil	Shop/Steel	Concrete	≈1 400	None	Yes	No	No	Yes	
A 9	55	Yes	Vanes	Shop/Steel	Concrete	≈1 400	None	Yes	No	No	Yes	3 Motor Oil 3 Antifreeze 1 Grease 1 Empty Grease

Table 2
Tank Inventory Table - UST

UNDERGROUND STORAGE TANKS (List all USTs)												
	UST Capacity (gal)	Is UST in use? (Yes/No)	UST Contents	State ID No	Date UST Installed	Date of Last Leak Test	Did the UST leak? (Y/N)	Tank Construction Material	Type of Corrosion Protection	Spill/Overfill Prevention	Is there adequate lighting near the tank or dispenser? (Y/N)	Comments
U I	No Underground Storage Tanks											

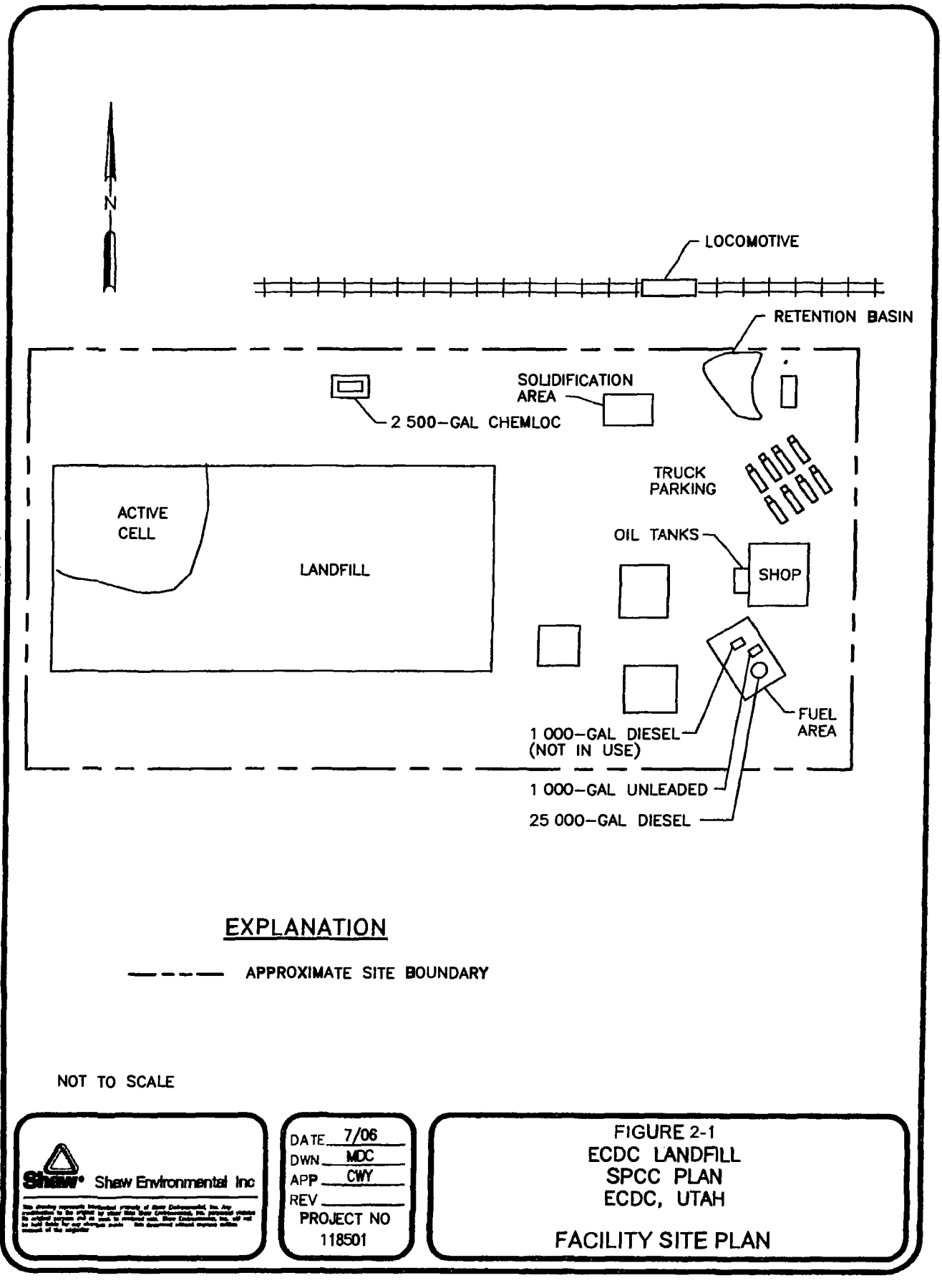
Table 3
Tank Inventory Table - Mobile AST

MOBILE ABOVECROUND STORAGE TANKS (List all mobile ASTs >= 55 gal other than on boanl vehicle fuel tanks)										
	AST Capacity (gal)	Is AST in use? (Yes/No)	AST Contents	AST Construction Type/Material	Secondary Containment Type (Steel Dirt Lined Dirt, Nona)	Secondary Containment Capacity (gal)	Type of High Level Indicator (Depth Volume Sight Glass None)? Operational?	Is AST protected from moving vehicles?	Is AST electncally grounded?	Comments
M 1	1 000	Yes	Diesel	Steel	Steel	Double Walled	None	No	No	Mobile Service Truck
M-2	100	Yes	Motor Oil	Steel	Steel	Double Walled	None	No	No	Mobile Service Truck
M 3	100	Yes	Used Oil	Steel	Steel	Double Walled	None	No	No	Mobile Service Truck
M-4	55	Yes	Chain Oil	Steel	Steel	Double Walled	None	No	No	Mobile Service Truck

Table 4
Reasonable Potential for Tank Failure Modes

	Loading/Unloading equipment failure			Tank overflow			Tank rupture			Leakage		
Tank #	Flow rate (gpm)	Total Quantity (gal)	Direction	Flow rate (gpm)	Total Quantity (gal)	Direction	Flow rate (gpm)	Total Quantity (gal)	Direction	Flow rate (gpm)	Total Quantity (gal)	Direction
A 1	50	3 000	Nonh	50	500	North	Varies[1]	25 000	North	< 1	25 000	North
A 2	20	1 000	North	20	100	North	Varies[1]	1 000	North	< 1	1 000	North
A 3	20	1 000	North	20	100	North	Varies[1]	1 000	North	< 1	1 000	North
A-4	20	500	North	20	100	North	Varies[1]	500	North	< 1	500	North
A 5	20	500	North	20	100	North	Varies[1]	500	North	< 1	500	North
A-6	20	500	North	20	100	North	Varies[1]	500	North	< 1	500	North
A 7	20	500	North	5	5	North	Varies[1]	500	North	< 1	800	North
A-6	20	500	North	5	5	North	Varies[1]	500	North	< 1	500	North
A 9	5	55	North	5	25	North	Varies[1]	55	North	< 1	55	North
M 1	20	1 000	Varies[2]	20	100	Varies[2]	Varies[1]	1 000	Varies[2]	< 1	1 000	Varies[2]
M 2	10	100	Varies[2]	10	50	Varies[2]	Varies[1]	100	Varies[2]	< 1	100	Varies[2]
M-3	10	100	Varies[2]	5	5	Varies[2]	Varies[1]	100	Varies[2]	< 1	100	Varies[2]
M-4	5	55	Varies[2]	5	25	Varies[2]	Varies[1]	55	Varies[2]	< 1	55	Varies[2]

Notes Varies[1] - The flowrate of a tank rupture depends on the size and location of the rupture
Varies[2] - The flow direction would vary based upon where the vehicle is parked each night



Shaw Environmental Inc

DATE 7/06
DWN MDC
APP CWY
REV
PROJECT NO
118501

FIGURE 2-1
ECDC LANDFILL
SPCC PLAN
ECDC, UTAH

FACILITY SITE PLAN

XREF Files IMAGE Files
File N:\Project Files\118501 - Allied Utah SPCC 2005\ECDC\ECDC Fig 2-1.dwg Layout Layout1 User craig.young Jul 26 2006 - 11:25am

3 0 Facility Drainage and Storm Water Management

3 1 Surface Drainage

Surface dramage for the areas around the storage tanks is to the northwest into a stormwater retention basm Drainage for equipment parked on the landfill varies depending on which portion of the landfill the equipment is parked on

3 2 Storm Water Management

The 25,000 gallon diesel, 1,000 gallon unleaded, 1,000 gallon diesel, and all of the mobile and equipment tanks are exposed to storm water Storage of oil products in outside tanks is permissible under the UPDES Multi-Sector General Permit provided that the storm water BMPs in the SWPPP are implemented SWPPP BMPs generally include following the requirements of this SPCC plan

Storm water discharge from the site is covered under the UPDES Multi-Sector General Permit

Storm water ponding in the secondary containers will be removed as necessary Storm water will not be discharged to waters of the U S if an oil sheen is present A log of storm water dramage activities from secondary containers is included in Appendix F

4 0 Personnel Training

4 1 Spill Prevention Training

4 1 1 Permanent Personnel

Appropriate facility personnel will be trained annually in how to

- perform their duties in a way to prevent the discharge of harmful quantities of oil or hazardous substances
- perform their duties for compliance with the spill and emergency response regulations applicable to the facility
- respond to potential spill situations including tanks, aboveground and underground piping, and transfer of oil products
- avoid vehicle collisions with tanks, aboveground and underground piping

Appropriate new personnel will be trained after entering the facility

4 1 2 Transient Personnel

When necessary, transient personnel will be advised of applicable spill prevention measures upon entering the facility Transient personnel and drivers of vehicles not regularly employed at the facility will be advised, when necessary, of the presence of aboveground and below ground pipes, tanks, and other potential spill sources

4 1 3 Tank Truck Drivers

Tank truck drivers loading or unloading oil products at the facility shall adhere to the following guidelines

- Remain with the vehicle while loading/unloading
- Drain the loadmg/unloadmg lines to the storage tank and close the drain valves before disconnecting lines and make sure a dram pan or other appropriate containment device is located under all connections
- Inspect the vehicle before departure to be sure loadmg/unloadmg lines have been disconnected and drain and vent valves are closed
- Immediately report any leaks or spills, including quantity, to the SPCC Coordinator

The instructions listed above are to be documented using the notice to tank truck drivers found in Appendix D

4 2 Spill Response Training

Appropriate facihty personnel will be tramed annually in spill and emergency response procedures This training includes reportmg, stopping, containing, cleaning up, and disposing of spill materials, emergency communications, etc

4 3 Record Keeping

Accurate records will be maintained of personnel emergency response training Personnel training will be recorded on forms and will be kept in safety training files Copies of training forms should be kept with this SPCC plan

4 4 Appointed Trainers

Initial training will be conducted by, or under the supervision of the SPCC Coordinator or his designated representative chosen by the General Manager Supervisors may then conduct training for appropriate facility workers

IF THERE IS AN IMMEDIATE THREAT TO HUMAN LIFE (E G., A FIRE IN PROGRESS OR FUMES OVERCOMING WORKERS), MAKE AN ANNOUNCEMENT TO EVACUATE THE BUILDING AND CALL 911.

5 1 General

If a spill has occurred, open Appendix A and refer to the Spill Response Flowchart outlining specific steps to be followed Site personnel should be familiar with this flowchart and utilize it m the event of a spill

EPA regulations state that a discharge includes, but is not limited to, any spilling, leaking, pumping, pouring, emitting, emptying, or dumping of oil excluding discharges in compliance with a permit under section 402 of the Clean Water Act or authorized by a permit issued under Section 13 of the River and Harbor Act of 1899 For purposes of this plan, storm sewers, ditches, and swales are considered to fall under the definition of a "navigable waterway" since they usually discharge mto a navigable waterway Contaminated groundwater may also have the potential to seep, leach, or flow into navigable water, which would be included in this defimtion

An important facet of an effective response procedure during an oil or substance release incident is to keep the material separated from water to minimize migration and the resulting potential increase in human and environmental exposure Every effort should be made to prevent spills and emphasize substance containment at the source rather than resort to separation of the material from expanded portions ofithe environment or downstream waters

5 2 Discovery of a Release

The person discovering a release of material from a container, tank, or operating equipment should immediately report the incident to the Supervisor and the SPCC Coordinator If there is an immediate threat to human life (e g a fire in progress or fumes overcoming workers), make an announcement to evacuate the building, and call the fire department

- Extinguish any nearby sources of ignition Assure that no danger to human health exists Unless the spilled material is identified as nonflammable and noncombustible, all potential sources of ignition in the area should be turned off, extinguished, or removed Vehicle's engines should be turned off If the ignition source is stationary,

attempt to move spilled material away from ignition source Avoid sparks and movement creating static electricity

- Attempt to stop the release at its source Assure that no danger to human health exists Simple procedures (e g , turning valves, plugging leaks) may be attempted by the discoverer if there is a reasonable certainty of the leak's origin All other efforts to control leaks should be supervised by the SPCC Coordinator or Assistant SPCC Coordinator
- Initiate spill notification and reporting procedures Request the assistance of the fire department's hazardous materials response team if an uncontrollable spill has occurred and/or if the spill has migrated beyond the facility boundary (see Section 6 0) The SPCC Coordinator will perform necessary corporate and external regulatory notifications

5 3 Containment of a Release

If material is released outside the containment areas, the material must be accurately identified and appropriate control measures taken in the safest possible manner Consult the MSDS notebook in the facility office To contain a release, follow these procedures

- Attempt to stop the release at the source If the source of the release has not been found, if special protective equipment is necessary to approach the release area, or if assistance is required to stop the release, call the fire department to halt the discharge at its source Site personnel should remain available to guide the fire department's efforts
- Contain the material released into the environment Following proper safety procedures, contain the spill by placing absorbent materials and dikes using shovels and brooms A spill kit that includes adsorbent material, containment socks, rags, plastic, and a salvage drum is located in the facility Consult applicable MSDSs for material compatibility, safety, and environmental precautions
- Continue the notification procedure Inform the SPCC Coordinator of the release (the Coordinator shall perform subsequent notification as appropriate) Obtain outside contractors to clean up the spill, if necessary

5 4 Communications

In case of a fire, spill, or other emergency, use facility telephones, paging systems and/or two-way radios to contact appropriate personnel

5 5 Spill, Fire, and Safety Equipment

Portable fire extinguishers are located throughout the facility, are well marked, and are easily accessible Records are kept on fire equipment in service and regular testing is performed in accordance with established good practices A recommended list of fire extinguishers, spill, and safety equipment is included in Appendix G

5 6 Spill Cleanup

Appropnate personal protective equipment and clean-up procedures can be found in the MSDSs Care must be taken when cleaning up spills to minimize waste generation The Environmental Manager can provide assistance for the issues discussed below The Environmental Manager must be made aware of all cleanups of spills over 25 gallons

- Recover or clean up the spilled material - As much material as possible should be recovered and reused where appropriate Material that cannot be reused must be declared waste Solid materials used to absorb liquids shall be shoveled into 55-gallon drums or, if the size of the spill warrants, into a roll-off container When drums are filled after a cleanup, the drum lids shall be secured and the drums appropriately labeled to identify the substance, the date of the spill/cleanup, and the facility name and location Combining non-compatible materials can potentially cause dangerous chemical and/or physical reactions or may severely limit disposal options Compatibility information can be found on MSDSs
- Cleanup of the spill area - Surfaces that are contaminated by the release shall be cleaned by the use of an appropriate substance or water Cleanup water must be minimized, contained and properly disposed Occasionally, porous materials (such as wood, soil, or oil-dry) may be contaminated, such materials will require special handling for disposal
- Decontaminate tools and equipment used m cleanup - Even if dedicated to cleanup efforts, tools and equipment that have been used must be decontaminated before replacing them in the spill control kit

5 7 Post-Cleanup Procedures

Post-cleanup procedures are discussed in Section 6

5 8 Liaison with Local Authorities

Copies of this plan will be submitted to the local fire department, police department, and hospital as requested In addition, familiarization sessions may be held with personnel from these organizations as necessary It is important that personnel responding to an emergency be familiar with chemicals used, the possibilities for releases of hazardous materials, and the location of the fire equipment such as hydrants and extinguishers

6 0 Emergency Contacts and Reporting Procedures

In the event of an accident or chemical spill at the facility, the manager with direct responsibility for the day-to-day facility operation will make internal and external contacts, as appropriate, as soon as practical after the incident has occurred (see Tables 6 and 7) If spill discharge to surface waters is imminent, the regulatory emergency agencies (see Section 6 2 1) should be immediately notified of the potential discharge

Hazardous chemical spills are not covered under this plan and need to be handled according to the facility's Emergency Response Plan

Table 5
SPCC Team Members

Team Position	Name	Title
SPCC Coordinator	Dann Olson	ECDC Environmental Manager
Assistant SPCC Coordinator	Jeff Green	Site Manager

Designated Individual Responsible for Spill Prevention

Internal Contacts

Team Position	Name	Work Telephone	Mobile Telephone
Site Manager	Jeff Green	435 888 4418x25	81 573 7533
Environmental Manager	Dann Olson	435 888 4418 x22	801 573 7514
General Manager	Kirk Treece	801 924 8454	801 573 7583
Division Manager	Kory Coleman	801 972 4234 x253	801 573 5110
Regional Engineer	Lee Kuhn	281 673 0393	832 671 0393

6 1 Internal Reporting

In the event of a spill it is the SPCC Coordinator's responsibility to make the necessary internal contacts (see Table 6) and any required regulatory contacts (see Table 7) Table 7 contains a listing of the reportmg requirement thresholds

6 2 Reporting to Outside Agencies

The SPCC Coordinator is responsible for determining if notifying regulatory agencies is necessary (see Table 7) If regulatory agencies are contacted, the contact information must be recorded in the Incident Report form (Appendix F) In addition, the Regional Engineer must be notified that a regulatory agency has been contacted

Table 6
Spill Reporting Thresholds

Hazardous substances as defined in 40 CFR 117 may have smaller reportable quantities than those listed above are not covered

Reporting Level	Regulatory Driver	On site Contained Spill with No Surface or Storm Water Impact	Off site Contained Spill with No Surface or Storm Water Impact
Tier 1 – Internal Only	SPCC Plan	If spill results in a surface stain of 1 foot diameter or more – Report to the SPCC Coordinator If the spill takes more than one day to clean up contact the Environmental Manager and Regional Engineer	Report to the SPCC Coordinator Environmental Manager and Regional Engineer
Tier 2 – Internal State	State of Utah Regulations	State of Utah requires that spills of 25 gallons or more be reported (see Appendix C) Notify SPCC Coordinator Environmental Manager and Regional Engineer	State of Utah requires that spills of 25 gallons or more be reported (see Appendix C) Notify SPCC Coordinator Environmental Manager and Regional Engineer
Tier 3 – Internal State EPA	EPA Regulations	1 000 gallons or more for a single event or 42 gallons from two or more spills in a 12 month period A spill that impacts surface or storm water to violate applicable water quality standards or causes a film or sheen upon or discoloration of the surface of the water or adjoining shorelines or cause a sludge or emulsion to be deposited beneath the surface of the water or upon adjoining shorelines Report to the EPA Regional Administrator Notify SPCC Coordinator, Environmental Manager and Regional Engineer	

under this plan and will be handled per a separate Emergency Response Plan

6 2 1 Releases/spills to Land, Air, Navigable or Other Waters

If a spill threatens to reach an off-site waterway, and the spill cannot be contained and recovered by facility personnel, then the following contacts shall be made in addition to the above contacts

East Carbon Fire Department

435 888 2100 or **911**

Utah Environmental Response and Remediation
801 538 6146 (Utah Division of Water Quality)
801 536 4123 (24 hours)

National Response Center (U S Coast Guard)
800 424 8802

Utah Department of Environmental Quality
801 536 4127
801 536 4123 (24 hour incident reporting number)

Environmental Protection Agency, 8
1 866 EPASPILL (1 866 372 7745)

Carbon County Emergency Services
435 636 3290 x290

6 2 2 Reporting Procedures

The following information shall be communicated in reporting to outside agencies

- Name, title, telephone number, and address of reporter
- Name, telephone number, and address of facility/spill
- Time, type and amount of materials involved
- Extent of injuries/illness, if known
- Possible hazards to human health and environment
- Any body of water involved
- The cause of accident/spill
- The action taken or proposed by the facility/personnel

6 3 Post-Cleanup Procedures

Post-cleanup procedures are discussed in Section 6

- Notify outside agencies - The SPCC Coordinator shall determine if a reportable spill has occurred (See Section 6) Verbal notifications to government agencies and emergency planning committees shall be made, if necessary Where verbal notification is given, a confirming written report shall be sent to the same entity
- Arrange for proper disposal - Waste material from the cleanup must be properly characterized If going to a Company-owned or -operated landfill, the Company Special Waste Approval Group must approve the disposal Representative sampling and analysis may be necessary to make this determination In any case, the SPCC Coordinator shall assure that the waste is transported and disposed in compliance with applicable laws and regulations When manifests are needed, the SPCC Coordinator shall see that they are prepared and, when appropriate, returned in the allotted time by the disposal site
- Review contingency and spill plans - Management and operating personnel shall review spill response efforts, notification procedures, and cleanup equipment usage to evaluate their adequacy during the episode Where deficiencies are found, the SPCC Plan shall be revised and amended

6 4 Internal Report

Spills that are regulated per this plan must be documented using the Incident Report Form or equivalent (see Appendix F) The report shall be prepared by the SPCC Coordinator At a minimum, the report will document the following items

- Date, time, and duration of release
- Source and total volume of the release
- Spill cleanup procedures
- Personnel who discovered and/or participated in the spill remediation
- Equipment used during the cleanup
- Waste disposal method
- Unusual events, injuries, or agency inspections

7 0 Facility Inspections/Observations

The SPCC Coordinator or his designee shall inspect the facility for malfunctions, deterioration, operator errors, and discharge that may be causing, or may lead to, spills of oil and hazardous substances Inspections shall be conducted often enough to identify problems in time to correct them before a spill occurs The following schedule should provide adequate protection against a spill due to equipment failure

- Aboveground Tanks, Containers, and Containment
  - Exterior inspection – monthly
  - Structural supports – monthly
  - Secondary containment – monthly
  - Integrity testing – See section 2 5
  - Overfill Protection Devices – monthly
- Aboveground Piping
  - Exterior inspection – monthly
- Underground Fuel Tanks and Piping
  - Not applicable There are no underground fuel tanks or pipes at this facility

7 1 Daily Observations

If a problem is detected in observations during daily operations, the SPCC Coordinator must be notified and the appropriate action initiated The following daily observations may be performed during the normal operations at the site

- AST connections may be observed for leakage, damage, tightness, and appropriate capping
- Pumps may be observed for evidence of leakage, proper operation, and damage
- Aboveground piping may be observed for dripping, loose joints, damage to supports, and pipe deflection
- Paved and unpaved ground may be observed for evidence of spills or leaks
- After the facility has closed for the day, the security of the tanks should be checked, i e , pumps are turned off, buildings and gates are locked

7 2 Periodic Inspections

ASTs (including drums) containing oil or hazardous substances will be visually examined on a periodic basis to note their condition and potential maintenance needs ASTs' foundations and structural supports should be examined Tank exteriors will be observed for signs of

Aboveground Piping Aboveground valves and piping will be examined for general condition of supports, flange joints, expansion joints, valve glands and bodies, and drip pans Periodic pressure or other non-destructive integrity testing may be warranted for piping where facility drainage is such that a failure might lead to a spill event Out-of-service pipes that are connected to in-use tanks will be observed for leaks or potential leaks

Containment Structures Secondary containment structures, walls, and berms will be visually inspected at frequent intervals to find accumulations of oil or hazardous substances and determine their sources An oil stain can create a sheen on the surface of rainwater standing in containment areas It is a violation of the SPCC regulations to release rainwater with that has an oil sheen

7 3 Certified Inspections/Integrity Testing

ASTs will be inspected and mtegrity tested as a baseline during the 5 year period of this SPCC plan Based upon this inspection and mtegrity test, a schedule for future inspections and integrity testing will be developed for each tank based upon its baseline inspection

7 4 Repairs

ECDC landfill personnel will promptly correct visible discharges that result m a loss of oil from containers including, but not limited to, seams, gaskets, piping, pumps, valves, rivets, and bolts Accumulations of oil in containment areas must be promptly removed Residues shall be removed to the greatest extent possible by wiping the area with sorbent pads (or comparable material)

7 5 Inspection Records

Inspections and repairs will be documented (see Appendix F), signed by the SPCC Coordinator, and kept on file at the facility with the SPCC plan (per 40 CFR 112 7 e) for a period of three years

Appendix A
Spill Response Procedures

If there is an immediate threat to human life (e g a fire in progress or fumes overcoming workers), make an announcement to evacuate the building and call 911

EMERGENCY RESPONSE GOAL An effective response procedure during an oil or substance release incident is to keep the material separated from water to minimize migration and the resulting potential increase in human and environmental exposure

EMERGENCY CONTACTS

A SPCC COORDINATOR
Darin Olson
435 888 4418x22
801 573 7514 (Cell)

B ASSISTANT SPCC COORDINATOR
Jeff Green
435 888 4418x25
801 573 7533 (Cell)

C EAST CARBON FIRE DEPARTMENT
435 888 2100 or 911

D CASTLEVIEW HOSPITAL
300 N Hospital Drive
Price, Utah 84501
435 637 4800 or **911**

E UTAH ENVIRONMENTAL RESPONSE AND REMEDIATION
801 538 6146 (Utah Division of Water Quahty)
801 536 4123 (24 hours EMERGENCY MANAGEMENT PROGRAM

F NATIONAL RESPONSE CENTER (U S COAST GUARD)
800 424 8802

G UTAH DEPARTMENT OF ENVIRONMENTAL QUALITY
801 536 4127
801 536 4123 (24 hour incident reporting number)

H ENVIRONMENTAL PROTECTION AGENCY, 8
1 866 EPASPILL (I 866 372 7745)

I CARBON COUNTY EMERGENCY SERVICES
435 636 3290 x290

Discovery of a Release

The person discovering a release of material from a container, tank, or operating equipment should immediately report the incident to the Supervisor and the SPCC Coordinator

- Extinguish any nearby sources of ignition Assure that no danger to human health exists Unless the spilled material is identified as nonflammable and noncombustible, all potential sources of ignition in the area should be turned off, extinguished, or removed Vehicles engines should be turned off If the ignition source is stationary, attempt to move spilled material away from ignition source Avoid sparks and movement creating static electricity
- Attempt to stop the release at its source Assure that no danger to human health exists Simple procedures (e g , turning valves, plugging leaks) may be attempted by the discoverer if there is a reasonable certainty of the leak s origin All other efforts to control leaks should be supervised by the SPCC Coordinator or Assistant SPCC Coordinator
- Initiate spill notification and reporting procedures Request the assistance of the fire department's hazardous materials response team if an uncontrollable spill has occurred and/or if the spill has migrated beyond the facility boundary The SPCC Coordinator will perform necessary corporate and external regulatory notifications

Containment of a Release

If material is released outside the containment areas, the material must be accurately identified and appropriate control measures taken in the safest possible manner Consult the MSDS notebook in the facility office To contain a release, follow these procedures

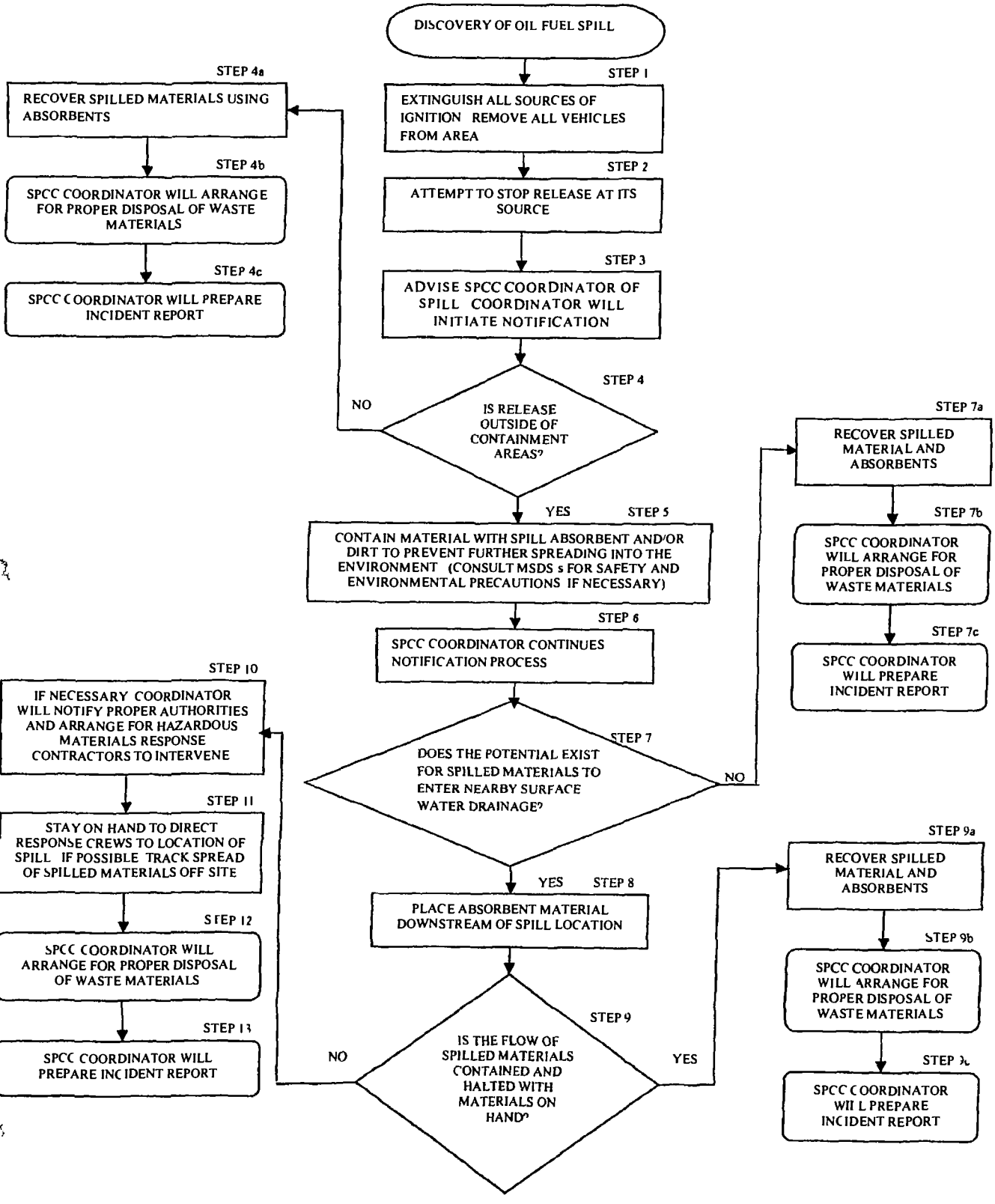
- Attempt to stop the release at the source If the source of the release has not been found, if special protective equipment is necessary to approach the release area, or if assistance is required to stop the release, call the fire department to halt the discharge at its source Site personnel should remain available to guide the fire department's efforts
- Contain the material released into the environment Following proper safety procedure, contain the spill by placing absorbent materials and dikes using shovels and brooms A spill kit that includes adsorbent material, containment socks, rags, plastic, and a salvage drum is located in the facility Consult applicable MSDSs for material compatibility, safety, and environmental precautions
- Continue the notification procedure Inform the SPCC Coordinator of the release (the Coordinator shall perform subsequent notification as appropriate)

Spill Cleanup and Reporting

Once the spill situation is under control and the release has been contained, facility personnel should commence the cleanup and reporting procedure described in Section 6 Obtain outside contractors to clean up the spill, if necessary

ECDC LANDFILL

SPILL RESPONSE FLOWCHART



Appendix B
SPCC Regulations
40 CFR 112

40 CFR

Protection of Environment

CHAPTER I

ENVIRONMENTAL PROTECTION AGENCY (CONTINUED)

Subchapter D -- Water Programs

PART 112 -- OIL POLLUTION PREVENTION

Sec

Subpart A Applicability Definitions and General Requirements For All Facilities and All Types of Oils

Subpart B Requirements for Petroleum Oils and Non Petroleum Oils Except Animal Fats and Oils and Greases and Fish and Manne Mammal Oils and Vegetable Oils (Including Oils from Seeds Nuts Fruits and Kernels)

Subpart C Requirements for Animal Fats and Oils and Greases and Fish and Manne Mammal Oils and for Vegetable Oils Including Oils from Seeds Nuts Fruits and Kernels

Authority 33 U S C 1251 *et seq* 33 U S C 2720 E O 12777 (October 18 1991) 3 CFR 1991 Comp p 351
Source 38 FR 34165 Dec 11 1973 unless otherwise noted
Editorial Note Nomenclature changes to part 112 appear at 65 FR 40798 June 30 2000

Subpart A Applicability Definitions and General Requirements for All Facilities and All Types of Oils

Source 67 FR 47140 July 17 2002 unless otherwise noted

§112 1 General applicability

(a) (1) This part establishes procedures methods equipment and other requirements to prevent the discharge of oil from non transportation related onshore and offshore facilities into or upon the navigable waters of the United States or adjoining shorelines or into or upon the waters of the contiguous zone or in connection with activities under the Outer Continental Shelf Lands Act or the Deepwater Port Act of 1974 or that may affect natural resources belonging to appertaining to or under the exclusive management authority of the United States (including resources under the Magnuson Fishery Conservation and Management Act)

(2) As used in this part words in the singular also include the plural and words in the masculine gender also include the feminine and vice versa as the case may require

(b) Except as provided in paragraph (d) of this section this part applies to any owner or operator of a non transportation related onshore or offshore facility engaged in drilling producing gathering storing processing refining transferring distributing using or consuming oil and oil products which due to its location could reasonably be expected to discharge oil in quantities that may be harmful as described in part 110 of this chapter into or upon the navigable waters of the United States or adjoining shorelines or into or upon the waters of the contiguous zone or in connection with activities under the Outer Continental Shelf Lands Act or the Deepwater Port Act of 1974 or that may affect natural resources belonging to appertaining to or under the exclusive management authority of the United States (including resources under the Magnuson Fishery Conservation and Management Act) that has oil in

(1) Any aboveground container

(2) Any completely buried tank as defined in §112 2

(3) Any container that is used for standby storage for seasonal storage or for temporary storage or not otherwise 'permanently closed as defined in §112 2

(4) Any bunkered tank or 'partially buried tank as defined in §112 2 or any container in a vault each of which is considered an aboveground storage container for purposes of this part

(c) As provided in section 313 of the Clean Water Act (CWA) departments agencies and instrumentalities of the Federal government are subject to this part to the same extent as any person

(d) Except as provided in paragraph (f) of this section this part does not apply to

(1) The owner or operator of any facility equipment or operation that is not subject to the jurisdiction of the Environmental Protection Agency (EPA) under section 311(j)(1)(C) of the CWA as follows

(i) Any onshore or offshore facility that due to its location could not reasonably be expected to have a discharge as described in paragraph (b) of this section This determination must be based solely upon consideration of the geographical and location aspects of the facility (such as proximity to navigable waters or adjoining shorelines land contour drainage etc) and must exclude consideration of manmade features such as dikes equipment or other structures, which may serve to restrain hinder contain, or otherwise prevent a discharge as described in paragraph (b) of this section

(ii) Any equipment or operation of a vessel or transportation related onshore or offshore facility which is subject to the authority and control of the U S Department of Transportation as defined in the Memorandum of Understanding between the Secretary of Transportation and the Administrator of EPA dated November 24 1971 (Appendix A of this part)

(iii) Any equipment or operation of a vessel or onshore or offshore facility which is subject to the authority and control of the U S Department of Transportation or the U S Department of the Interior as defined in the Memorandum of Understanding between the Secretary of Transportation the Secretary of the Interior and the Administrator of EPA dated November 8 1993 (Appendix B of this part)

(2) Any facility which although otherwise subject to the jurisdiction of EPA meets both of the following requirements

(i) The completely buried storage capacity of the facility is 42 000 gallons or less of oil For purposes of this exemption the completely buried storage capacity of a facility excludes the capacity of a completely buried tank as defined in §112 2 and connected underground piping underground ancillary equipment and containment systems that is currently subject to all of the technical requirements of part 280 of this chapter or all of the technical requirements of a State program approved under part 281 of this chapter The completely buried storage capacity of a facility also excludes the capacity of a container that is permanently closed as defined in §112 2

(ii) The aggregate aboveground storage capacity of the facility is 1 320 gallons or less of oil For purposes of this exemption only containers of oil with a capacity of 55 gallons or greater are counted The aggregate aboveground storage capacity of a facility excludes the capacity of a container that is "permanently closed as defined in §112 2

(3) Any offshore oil drilling production or workover facility that is subject to the notices and regulations of the Minerals Management Service as specified in the Memorandum of Understanding between the Secretary of Transportation the Secretary of the Interior and the Administrator of EPA dated November 8 1993 (Appendix B of this part)

(4) Any completely buried storage tank as defined in §112 2 and connected underground piping underground ancillary equipment and containment systems at any facility that is subject to all of the technical requirements of part

280 of this chapter or a State program approved under part 281 of this chapter except that such a tank must be marked on the facility diagram as provided in §112 7(a)(3) if the facility is otherwise subject to this part
(5) Any container with a storage capacity of less than 55 gallons of oil
(6) Any facility or part thereof used exclusively for wastewater treatment and not used to satisfy any requirement of this part The production recovery or recycling of oil is not wastewater treatment for purposes of this paragraph

(e) This part establishes requirements for the preparation and implementation of Spill Prevention Control and Countermeasure (SPCC) Plans SPCC Plans are designed to complement existing laws regulations rules standards policies and procedures pertaining to safety standards fire prevention and pollution prevention rules The purpose of an SPCC Plan is to form a comprehensive Federal/State spill prevention program that minimizes the potential for discharges The SPCC Plan must address all relevant spill prevention control and countermeasures necessary at the specific facility Compliance with this part does not in any way relieve the owner or operator of an onshore or an offshore facility from compliance with other Federal State or local laws

(f) Notwithstanding paragraph (d) of this section the Regional Administrator may require that the owner or operator of any facility subject to the jurisdiction of EPA under section 311(j) of the CWA prepare and implement an SPCC Plan or any applicable part to carry out the purposes of the CWA
(1) Following a preliminary determination the Regional Administrator must provide a written notice to the owner or operator stating the reasons why he must prepare an SPCC Plan or applicable part The Regional Administrator must send such notice to the owner or operator by certified mail or by personal delivery If the owner or operator is a corporation the Regional Administrator must also mail a copy of such notice to the registered agent if any and if known of the corporation in the State where the facility is located
(2) Within 30 days of receipt of such written notice the owner or operator may provide information and data and may consult with the Agency about the need to prepare an SPCC Plan or applicable part
(3) Within 30 days following the time under paragraph (b)(2) of this section within which the owner or operator may provide information and data and consult with the Agency about the need to prepare an SPCC Plan or applicable part, the Regional Administrator must make a final determination regarding whether the owner or operator is required to prepare and implement an SPCC Plan or applicable part The Regional Administrator must send the final determination to the owner or operator by certified mail or by personal delivery If the owner or operator is a corporation the Regional Administrator must also mail a copy of the final determination to the registered agent if any and if known of the corporation in the State where the facility is located
(4) If the Regional Administrator makes a final determination that an SPCC Plan or applicable part is necessary the owner or operator must prepare the Plan or applicable part within six months of that final determination and implement the Plan or applicable part as soon as possible but not later than one year after the Regional Administrator has made a final determination
(5) The owner or operator may appeal a final determination made by the Regional Administrator requiring preparation and implementation of an SPCC Plan or applicable part under this paragraph The owner or operator must make the appeal to the Administrator of EPA within 30 days of receipt of the final determination under paragraph (b)(3) of this section from the Regional Administrator requiring preparation and/or implementation of an SPCC Plan or applicable part The owner or operator must send a complete copy of the appeal to the Regional Administrator at the time he makes the appeal to the Administrator The appeal must contain a clear and concise statement of the issues and points of fact in the case In the appeal the owner or operator may also provide additional information The additional information may be from any person The Administrator may request additional information from the owner or operator The Administrator must render a decision within 60 days of receiving the appeal or additional information submitted by the owner or operator and must serve the owner or operator with the decision made in the appeal in the manner described in paragraph (f)(1) of this section

§112 2 Definitions

For the purposes of this part

Adverse weather means weather conditions that make it difficult for response equipment and personnel to clean up or remove spilled oil and that must be considered when identifying response systems and equipment in a response plan for the applicable operating environment Factors to consider include significant wave height as specified in Appendix E to this part (as appropriate) ice conditions temperatures weather related visibility and currents within the area in which the systems or equipment is intended to function

Alteration means any work on a container involving cutting burning welding or heating operations that changes the physical dimensions or configuration of the container

Animal fat means a non petroleum oil fat or grease of animal fish or marine mammal origin

Breakout tank means a container used to relieve surges in an oil pipeline system or to receive and store oil transported by a pipeline for reinjection and continued transportation by pipeline

Bulk storage container means any container used to store oil These containers are used for purposes including but not limited to the storage of oil prior to use while being used or prior to further distribution in commerce Oil filled electrical operating or manufacturing equipment is not a bulk storage container

Bunkered tank means a container constructed or placed in the ground by cutting the earth and re covering the container in a manner that breaks the surrounding natural grade or that lies above grade and is covered with earth sand gravel asphalt or other material A bunkered tank is considered an aboveground storage container for purposes of this part

Completely buried tank means any container completely below grade and covered with earth sand gravel asphalt or other material Containers in vaults bunkered tanks or partially buried tanks are considered aboveground storage containers for purposes of this part

Complex means a facility possessing a combination of transportation related and non transportation related components that is subject to the jurisdiction of more than one Federal agency under section 311(j) of the CWA

Contiguous zone means the zone established by the United States under Article 24 of the Convention of the Territorial Sea and Contiguous Zone that is contiguous to the territorial sea and that extends nine miles seaward from the outer limit of the territorial area

Contract or other approved means means
(1) A written contractual agreement with an oil spill removal organization that identifies and ensures the availability of the necessary personnel and equipment within appropriate response times and/or
(2) A written certification by the owner or operator that the necessary personnel and equipment resources owned or operated by the facility owner or operator are available to respond to a discharge within appropriate response times and/or
(3) Active membership in a local or regional oil spill removal organization that has identified and ensures adequate access through such membership to necessary personnel and equipment to respond to a discharge within appropriate response times in the specified geographic area and/or
(4) Any other specific arrangement approved by the Regional Administrator upon request of the owner or operator

Discharge includes but is not limited to any spilling leaking pumping pouring emitting emptying or dumping of oil but excludes discharges in compliance with a permit under section 402 of the CWA discharges resulting from circumstances identified reviewed and made a part of the public record with respect to a permit issued or modified under section 402 of the CWA and subject to a condition in such permit or continuous or anticipated intermittent discharges from a point source identified in a permit or permit application under section 402 of the CWA that are caused by events occurring within the scope of relevant operating or treatment systems For purposes of this part the term discharge shall not include any discharge of oil that is authorized by a permit issued under section 13 of the River and Harbor Act of 1899 (33 U S C 407)

Facility means any mobile or fixed onshore or offshore building structure installation equipment pipe or pipeline (other than a vessel or a public vessel) used in oil well drilling operations oil production oil refining oil storage oil gathering oil processing oil transfer oil distribution and waste treatment or in which oil is used as described in Appendix A to this part The boundaries of a facility depend on several site-specific factors including but not limited to the ownership or operation of buildings structures and equipment on the same site and the types of activity at the site

Fish and wildlife and sensitive environments means areas that may be identified by their legal designation or by evaluations of Area Committees (for planning) or members of the Federal On Scene Coordinators spill response structure (during responses) These areas may include wetlands National and State parks critical habitats for endangered or threatened species wilderness and natural resource areas marine sanctuaries and estuarine reserves conservation areas preserves wildlife areas wildlife refuges wild and scenic rivers recreational areas national forests Federal and State lands that are research national areas heritage program areas land trust areas and historical and archaeological sites and parks These areas may also include unique habitats such as aquaculture sites and agricultural surface water intakes bird nesting areas critical biological resource areas designated migratory routes and designated seasonal habitats

Injury means a measurable adverse change either long or short term in the chemical or physical quality or the viability of a natural resource resulting either directly or indirectly from exposure to a discharge or exposure to a product of reactions resulting from a discharge

Maximum extent practicable means within the limitations used to determine oil spill planning resources and response times for on water recovery shoreline protection and cleanup for worst case discharges from onshore non-transportation related facilities

in adverse weather It includes the planned capability to respond to a worst case discharge in adverse weather as contained in a response plan that meets the requirements in §112 20 or in a specific plan approved by the Regional Administrator

Navigable waters means the waters of the United States including the territorial seas
(1) The term includes
(i) All waters that are currently used were used in the past or may be susceptible to use in interstate or foreign commerce including all waters subject to the ebb and flow of the tide
(ii) All interstate waters including interstate wetlands
(iii) All other waters such as intrastate lakes rivers streams (including intermittent streams) mudflats sandflats wetlands sloughs prairie potholes wet meadows playa lakes or natural ponds the use degradation or destruction of which could affect interstate or foreign commerce including any such waters
(A) That are or could be used by interstate or foreign travelers for recreational or other purposes or
(B) From which fish or shellfish are or could be taken and sold in interstate or foreign commerce or
(C) That are or could be used for industrial purposes by industries in interstate commerce
(iv) All impoundments of waters otherwise defined as waters of the United States under this section
(v) Tributaries of waters identified in paragraphs (1)(i) through (iv) of this definition
(vi) The territorial sea and
(vii) Wetlands adjacent to waters (other than waters that are themselves wetlands) identified in paragraph (1) of this definition
(2) Waste treatment systems including treatment ponds or lagoons designed to meet the requirements of the CWA (other than cooling ponds which also meet the criteria of this definition) are not waters of the United States Navigable waters do not include prior converted cropland Notwithstanding the determination of an area's status as prior converted cropland by any other Federal agency for the purposes of the CWA the final authority regarding CWA jurisdiction remains with EPA

Non petroleum oil means oil of any kind that is not petroleum based including but not limited to Fats oils and greases of animal fish or marine mammal origin and vegetable oils including oils from seeds nuts fruits and kernels

Offshore facility means any facility of any kind (other than a vessel or public vessel) located in on or under any of the navigable waters of the United States and any facility of any kind that is subject to the jurisdiction of the United States and is located in on or under any other waters

Oil means oil of any kind or in any form including but not limited to fats oils or greases of animal fish or marine mammal origin vegetable oils including oils from seeds nuts fruits or kernels and other oils and greases including petroleum fuel oil sludge synthetic oils mineral oils oil refuse or oil mixed with wastes other than dredged spoil

Oil Spill Removal Organization means an entity that provides oil spill response resources and includes any for profit or not for profit contractor cooperative or in house response resources that have been established in a geographic area to provide required response resources

Onshore facility means any facility of any kind located in on or under any land within the United States other than submerged lands

Owner or operator means any person owning or operating an onshore facility or an offshore facility and in the case of any abandoned offshore facility the person who owned or operated or maintained the facility immediately prior to such abandonment

Partially buried tank means a storage container that is partially inserted or constructed in the ground but not entirely below grade and not completely covered with earth sand gravel asphalt or other material A partially buried tank is considered an aboveground storage container for purposes of this part

Permanently closed means any container or facility for which
(1) All liquid and sludge has been removed from each container and connecting line and
(2) All connecting lines and piping have been disconnected from the container and blanked off all valves (except for ventilation valves) have been closed and locked and conspicuous signs have been posted on each container stating that it is a permanently closed container and noting the date of closure

Person includes an individual firm corporation association or partnership

Petroleum oil means petroleum in any form including but not limited to crude oil fuel oil mineral oil sludge oil refuse and refined products

Production facility means all structures (including but not limited to wells platforms or storage facilities) piping (including but not limited to flowlines or gathering lines) or equipment (including but not limited to workover equipment separation equipment or auxiliary non transportation-related equipment) used in the production extraction recovery lifting stabilization separation or treating of oil or associated storage or measurement and located in a single geographical oil or gas field operated by a single operator

Regional Administrator means the Regional Administrator of the Environmental Protection Agency in and for the Region in which the facility is located

Repair means any work necessary to maintain or restore a container to a condition suitable for safe operation other than that necessary for ordinary day to day maintenance to maintain the functional integrity of the container and that does not weaken the container

Spill Prevention Control and Countermeasure Plan SPCC Plan or *Plan* means the document required by §112 3 that details the equipment workforce procedures and steps to prevent control and provide adequate countermeasures to a discharge

Storage capacity of a container means the shell capacity of the container

Transportation related and non-transportation related as applied to an onshore or offshore facility are defined in the Memorandum of Understanding between the Secretary of Transportation and the Administrator of the Environmental Protection Agency dated November 24 1971 (Appendix A of this part)

United States means the States the District of Columbia the Commonwealth of Puerto Rico the Commonwealth of the Northern Mariana Islands Guam American Samoa the U S Virgin Islands and the Pacific Island Governments

Vegetable oil means a non petroleum oil or fat of vegetable origin including but not limited to oils and fats derived from plant seeds nuts fruits and kernels

Vessel means every description of watercraft or other artificial contrivance used or capable of being used as a means of transportation on water other than a public vessel

Wetlands means those areas that are inundated or saturated by surface or groundwater at a frequency or duration sufficient to support and that under normal circumstances do support a prevalence of vegetation typically adapted for life in saturated soil conditions Wetlands generally include playa lakes swamps marshes bogs and similar areas such as sloughs prairie potholes wet meadows prairie river overflows mudflats and natural ponds

Worst case discharge for an onshore non transportation related facility means the largest foreseeable discharge in adverse weather conditions as determined using the worksheets in Appendix D to this part

§112 3 Requirement to prepare and implement a Spill Prevention, Control, and Countermeasure Plan

The owner or operator of an onshore or offshore facility subject to this section must prepare a Spill Prevention Control and Countermeasure Plan (hereafter SPCC Plan or Plan) in writing and in accordance with §112 7 and any other applicable section of this part

(a) If your onshore or offshore facility was in operation on or before August 16 2002 you must maintain your Plan but must amend it if necessary to ensure compliance with this part on or before February 17 2006 and must implement the amended Plan as soon as possible but not later than August 18 2006 If your onshore or offshore facility becomes operational after August 16 2002 through August 18 2006 and could reasonably be expected to have a discharge as described in §112 1(b) you must prepare a Plan on or before August 18 2006 and fully implement it as soon as possible but not later than August 18 2006

(b) If you are the owner or operator of an onshore or offshore facility that becomes operational after August 18 2006 and could reasonably be expected to have a discharge as described in §112 1(b) you must prepare and implement a Plan before you begin operations

(c) If you are the owner or operator of an onshore or offshore mobile facility such as an onshore drilling or workover rig barge mounted offshore drilling or workover rig or portable fueling facility you must prepare implement and maintain a facility Plan as required by this section You must maintain your Plan but must amend and implement it it necessary to ensure compliance with this part on or before August 18 2006 If your onshore or offshore mobile facility becomes operational after August 18 2006 and could reasonably be expected to have a discharge as described in §112 1(b) you must prepare and implement a Plan before you begin operations This provision does not require that you prepare a new Plan each time you move the facility to a new site The Plan may be a general Plan When you move the mobile or portable facility you must locate and install it using the

discharge prevention practices outlined in the Plan for the facility The Plan is applicable only while the facility is in a fixed (non transportation) operating mode

(d) A licensed Professional Engineer must review and certify a Plan for it to be effective to satisfy the requirements of this part
(1) By means of this certification the Professional Engineer attests
(i) That he is familiar with the requirements of this part
(ii) That he or his agent has visited and examined the facility
(iii) That the Plan has been prepared in accordance with good engineering practice including consideration of applicable industry standards and with the requirements of this part
(iv) That procedures for required inspections and testing have been established and
(v) That the Plan is adequate for the facility
(2) Such certification shall in no way relieve the owner or operator of a facility of his duty to prepare and fully implement such Plan in accordance with the requirements of this part

(e) If you are the owner or operator of a facility for which a Plan is required under this section you must
(1) Maintain a complete copy of the Plan at the facility if the facility is normally attended at least four hours per day or at the nearest field office if the facility is not so attended and
(2) Have the Plan available to the Regional Administrator for on site review during normal working hours

(f) *Extension of time*
(1) The Regional Administrator may authorize an extension of time for the preparation and full implementation of a Plan or any amendment thereto beyond the time permitted for the preparation implementation or amendment of a Plan under this part when he finds that the owner or operator of a facility subject to this section cannot fully comply with the requirements as a result of either nonavailability of qualified personnel or delays in construction or equipment delivery beyond the control and without the fault of such owner or operator or his agents or employees
(2) If you are an owner or operator seeking an extension of time under paragraph (f)(1) of this section you may submit a written extension request to the Regional Administrator Your request must include
(i) A full explanation of the cause for any such delay and the specific aspects of the Plan affected by the delay
(ii) A full discussion of actions being taken or contemplated to minimize or mitigate such delay and
(iii) A proposed time schedule for the implementation of any corrective actions being taken or contemplated including interim dates for completion of tests or studies installation and operation of any necessary equipment or other preventive measures In addition you may present additional oral or written statements in support of your extension request
(3) The submission of a written extension request under paragraph (f)(2) of this section does not relieve you of your obligation to comply with the requirements of this part The Regional Administrator may request a copy of your Plan to evaluate the extension request When the Regional Administrator authorizes an extension of time for particular equipment or other specific aspects of the Plan such extension does not affect your obligation to comply with the requirements related to other equipment or other specific aspects of the Plan for which the Regional Administrator has not expressly authorized an extension

[67 FR 47140 July 17 2002 as amended at 68 FR 1351 Jan 9 2003 68 FR 18894 Apr 17 2003 69 FR 48798 Aug 11 2004]

§112 4 Amendment of Spill Prevention, Control, and Countermeasure Plan by Regional Administrator

If you are the owner or operator of a facility subject to this part you must

(a) Notwithstanding compliance with §112 3 whenever your facility has discharged more than 1 000 U S gallons of oil in a single discharge as described in §112 1(b) or discharged more than 42 U S gallons of oil in each of two discharges as described in §112 1(b) occurring within any twelve month period submit the following information to the Regional Administrator within 60 days from the time the facility becomes subject to this section
(1) Name of the facility
(2) Your name
(3) Location of the facility
(4) Maximum storage or handling capacity of the facility and normal daily throughput
(5) Corrective action and countermeasures you have taken including a description of equipment repairs and replacements
(6) An adequate description of the facility including maps flow diagrams and topographical maps as necessary
(7) The cause of such discharge as described in §112 1(b) including a failure analysis of the system or subsystem in which the failure occurred
(8) Additional preventive measures you have taken or contemplated to minimize the possibility of recurrence and
(9) Such other information as the Regional Administrator may reasonably require pertinent to the Plan or discharge

(b) Take no action under this section until it applies to your facility This section does not apply until the expiration of the time permitted for the initial preparation and implementation of the Plan under §112 3 but not including any amendments to the Plan

(c) Send to the appropriate agency or agencies in charge of oil pollution control activities in the State in which the facility is located a complete copy of all information you provided to the Regional Administrator under paragraph (a) of this section Upon receipt of the information such State agency or agencies may conduct a review and make recommendations to the Regional Administrator as to further procedures methods equipment and other requirements necessary to prevent and to contain discharges from your facility

(d) Amend your Plan if after review by the Regional Administrator of the information you submit under paragraph (a) of this section or submission of information to EPA by the State agency under paragraph (c) of this section or after on site review of your Plan the Regional Administrator requires that you do so The Regional Administrator may require you to amend your Plan if he finds that it does not meet the requirements of this part or that amendment is necessary to prevent and contain discharges from your facility

(e) Act in accordance with this paragraph when the Regional Administrator proposes by certified mail or by personal delivery that you amend your SPCC Plan If the owner or operator is a corporation he must also notify by mail the registered agent of such corporation if any and it known in the State in which the facility is located The Regional Administrator must specify the terms of such proposed amendment Within 30 days from receipt of such notice you may submit written information views and arguments on the proposed amendment After considering all relevant material presented the Regional Administrator must either notify you of any amendment required or rescind the notice You must amend your Plan as required within 30 days after such notice unless the Regional Administrator for good cause specifies another effective date You must implement the amended Plan as soon as possible but not later than six months after you amend your Plan unless the Regional Administrator specifies another date

(f) If you appeal a decision made by the Regional Administrator requiring an amendment to an SPCC Plan send the appeal to the EPA Administrator in writing within 30 days of receipt of the notice from the Regional Administrator requiring the amendment under paragraph (e) of this section You must send a complete copy of the appeal to the Regional Administrator at the time you make the appeal The appeal must contain a clear and concise statement of the issues and points of fact in the case It may also contain additional information from you or from any other person The EPA Administrator may request additional information from you or from any other person The EPA Administrator must render a decision within 60 days of receiving the appeal and must notify you of his decision

§112 5 Amendment of Spill Prevention, Control, and Countermeasure Plan by owners or operators

If you are the owner or operator of a facility subject to this part you must

(a) Amend the SPCC Plan for your facility in accordance with the general requirements in §112 7 and with any specific section of this part applicable to your facility, when there is a change in the facility design construction operation or maintenance that materially affects its potential for a discharge as described in §112 1(b) Examples of changes that may require amendment of the Plan include but are not limited to commissioning or decommissioning containers replacement reconstruction or movement of containers reconstruction replacement or installation of piping systems construction or demolition that might alter secondary containment structures changes of product or service or revision of standard operation or maintenance procedures at a facility An amendment made under this section must be prepared within six months and implemented as soon as possible but not later than six months following preparation of the amendment

(b) Notwithstanding compliance with paragraph (a) of this section complete a review and evaluation of the SPCC Plan at least once every five years from the date your facility becomes subject to this part or if your facility was in operation on or before August 16 2002 five years from the date your last review was required under this part As a result of this review and evaluation you must amend your SPCC Plan within six months of the review to include more effective prevention and control technology if the technology has been field proven at the time of the review and will significantly reduce the likelihood of a discharge as described in §112 1(b) from the facility You must implement any amendment as soon as possible but not later than six months following preparation of any amendment You must document your completion of the review and evaluation and must sign a statement as to whether you will amend the Plan either at the beginning or end of the Plan or in a log or an appendix to the Plan The following words will suffice I have completed review and evaluation of the SPCC Plan for (name of facility) on (date) and will (will not) amend the Plan as a result

(c) Have a Professional Engineer certify any technical amendment to your Plan in accordance with §112 3(d)

§112 6 [Reserved]

§112 7 General requirements for Spill Prevention, Control, and Countermeasure Plans

It you are the owner or operator ot a facility subject to this part you must prepare a Plan m accordance with good engineering practices The Plan must have the full approval of management at a level ot authority to commit the necessary resources to fully implement the Plan You must prepare the Plan in writing If you do not follow the sequence specified in this section tor the Plan you must prepare an equivalent Plan acceptable to the Regional Administrator that meets all ot the applicable requirements listed in this part and you must supplement it with a section cross referencing the location of requirements listed in this part and the equivalent requirements m the other prevention plan It the Plan calls for additional facilities or procedures methods or equipment not yet fully operational you must discuss these items in separate paragraphs and must explain separately the details of installation and operational start up As detailed elsewhere in this section you must also

(a) (1) Include a discussion of your facility s conformance with the requirements listed in this part
(2) Comply with all applicable requirements listed in this part Your Plan may deviate from the requirements m paragraphs (g) (h)(2) and (3) and (i) of this section and the requirements in subparts B and C ot this part except the secondary containment requirements m paragraphs (c) and (h)(1) of this section and §§112 8(c)(2) 112 8(c)(11) 112 9(c)(2) 112 10(c) 112 12(c)(2) 112 12(c)(11) 112 13(c)(2) and 112 14(c) where applicable to a specific facility if you provide equivalent environmental protection by some other means of spill prevention control or countermeasure Where your Plan does not conform to the applicable requirements in paragraphs (g) (h)(2) and (3) and (i) of this section or the requirements of subparts B and C of this part except the secondary containment requirements in paragraphs (c) and (h)(1) of this section and §§112 8(c)(2) 112 8(c)(11) 112 9(c)(2) 112 10(c) 112 12(c)(2) 112 12(c)(11) 112 13(c)(2) and 112 14(c) you must state the reasons for nonconformance in your Plan and describe in detail alternate methods and how you will achieve equivalent environmental protection If the Regional Administrator determines that the measures described in your Plan do not provide equivalent environmental protection he may require that you amend your Plan following the procedures in §112 4(d) and (e)
(3) Describe in your Plan the physical layout ot the facility and mclude a facility diagram which must mark the location and contents of each container The facility diagram must include completely buried tanks that are otherwise exempted from the requirements of this part under §112 1(d)(4) The facility diagram must also include all transfer stations and connecting pipes You must also address in your Plan
(i) The type of oil in each container and its storage capacity
(ii) Discharge prevention measures including procedures for routine handling of products (loading unloading and facility transfers etc)
(iii) Discharge or drainage controls such as secondary containment around containers and other structures equipment and procedures for the control of a discharge
(iv) Countermeasures for discharge discovery response and cleanup (both the facility s capability and those that might be required of a contractor)
(v) Methods of disposal of recovered materials in accordance with applicable legal requirements and
(vi) Contact list and phone numbers for the facility response coordinator National Response Center cleanup contractors with whom you have an agreement tor response and all appropriate Federal State and local agencies who must be contacted in case of a discharge as described in §112 1(b)
(4) Unless you have submitted a response plan under §112 20 provide information and procedures m your Plan to enable a person reporting a discharge as described in §112 1(b) to relate information on the exact address or location and phone number of the facility the date and time ot the discharge the type ot material discharged estimates ot the total quantity discharged estimates ot the quantity discharged as described in §112 1(b) the source ot the discharge a description of all affected media the cause ot the discharge any damages or injuries caused by the discharge actions being used to stop remove and mitigate the effects of the discharge whether an evacuation may be needed and the names of individuals and/or organizations who have also been contacted
(5) Unless you have submitted a response plan under §112 20 organize portions ot the Plan describing procedures you will use when a discharge occurs m a way that will make them readily usable m an emergency and include appropriate supporting material as appendices

(b) Where experience mdicates a reasonable potential tor equipment failure (such as loading or unloading equipment tank overflow rupture or leakage or any other equipment known to be a source ot a discharge) include in your Plan a prediction ot the direction rate ot flow and total quantity ot oil which could be discharged from the facility as a result ot each type ot major equipment failure

(c) Provide appropriate containment and/or diversionary structures or equipment to prevent a discharge as described in §112 1(b) The enure containment system including walls and floor must be capable ot containing oil and must be constructed so that any discharge from a primary containment system such as a tank or pipe will not escape the containment system before cleanup occurs At a minimum you must use one of the following prevention systems or its equivalent
(1) For onshore facilities
(i) Dikes berms or retaining walls sufficiently impervious to contain oil

(ii) Curbing
(iii) Culverting gutters or other drainage systems
(iv) Weirs booms or other barriers
(v) Spill diversion ponds
(vi) Retention ponds or
(vii) Sorbent materials

(2) For offshore facilities
(i) Curbing or drip pans or
(ii) Sumps and collection systems

(d) If you determine that the installation of any of the structures or pieces of equipment listed in paragraphs (c) and (h)(1) of this section and §§112.8(c)(2) 112.8(c)(11) 112.9(c)(2) 112.10(c) 112.12(c)(2) 112.12(c)(11) 112.13(c)(2) and 112.14(c) to prevent a discharge as described in §112.1(b) from any onshore or offshore facility is not practicable you must clearly explain in your Plan why such measures are not practicable for bulk storage containers conduct both periodic integrity testing of the containers and periodic integrity and leak testing of the valves and piping and unless you have submitted a response plan under §112.20 provide in your Plan the following

(1) An oil spill contingency plan following the provisions of part 109 of this chapter
(2) A written commitment of manpower equipment and materials required to expeditiously control and remove any quantity of oil discharged that may be harmful

(e) *Inspections tests and records* Conduct inspections and tests required by this part in accordance with written procedures that you or the certifying engineer develop for the facility You must keep these written procedures and a record of the inspections and tests signed by the appropriate supervisor or inspector with the SPCC Plan for a period of three years Records of inspections and tests kept under usual and customary business practices will suffice for purposes of this paragraph

(f) *Personnel training and discharge prevention procedures*
(1) At a minimum train your oil handling personnel in the operation and maintenance of equipment to prevent discharges discharge procedure protocols applicable pollution control laws rules and regulations general facility operations and the contents of the facility SPCC Plan
(2) Designate a person at each applicable facility who is accountable for discharge prevention and who reports to facility management
(3) Schedule and conduct discharge prevention briefings for your oil handling personnel at least once a year to assure adequate understanding of the SPCC Plan for that facility Such briefings must highlight and describe known discharges as described in §112.1(b) or failures malfunctioning components and any recently developed precautionary measures

(g) *Security (excluding oil production facilities)*
(1) Fully fence each facility handling processing or storing oil and lock and/or guard entrance gates when the facility is not in production or is unattended
(2) Ensure that the master flow and dram valves and any other valves permitting direct outward flow of the container's contents to the surface have adequate security measures so that they remain in the closed position when in non operating or non standby status
(3) Lock the starter control on each oil pump in the off position and locate it at a site accessible only to authorized personnel when the pump is in a non operating or non standby status
(4) Securely cap or blank flange the loading/unloading connections of oil pipelines or facility piping when not in service or when in standby service for an extended time This security practice also applies to piping that is emptied of liquid content either by draining or by inert gas pressure
(5) Provide facility lighting commensurate with the type and location of the facility that will assist in the
(i) Discovery of discharges occurring during hours of darkness both by operating personnel if present and by non operating personnel (the general public local police etc) and
(ii) Prevention of discharges occurring through acts of vandalism

(h) *Facility tank car and tank truck loading/unloading rack (excluding offshore facilities)*
(1) Where loading/unloading area drainage does not flow into a catchment basin or treatment facility designed to handle discharges use a quick drainage system for tank car or tank truck loading and unloading areas You must design any containment system to hold at least the maximum capacity of any single compartment of a tank car or tank truck loaded or unloaded at the facility
(2) Provide an interlocked warning light or physical barrier system warning signs wheel chocks or vehicle break interlock system in loading/unloading areas to prevent vehicles from departing before complete disconnection of flexible or fixed oil transfer lines
(3) Prior to filling and departure of any tank car or tank truck closely inspect for *discharges* the lowermost drain and all outlets of such vehicles and if necessary ensure that they are tightened adjusted or replaced to prevent liquid discharge while in transit

(i) If a field constructed aboveground container undergoes a repair alteration reconstruction or a change in service that might affect the risk of a discharge or failure due to brittle fracture or other catastrophe or has discharged oil or failed due to brittle fracture failure or other catastrophe evaluate the container for risk of discharge or failure due to brittle fracture or other catastrophe and as necessary take appropriate action

(j) In addition to the minimal prevention standards listed under this section include in your Plan a complete discussion of conformance with the applicable requirements and other effective discharge prevention and containment procedures listed in this part or any applicable more stringent State rules regulations and guidelines

Subpart B Requirements for Petroleum Oils and Non Petroleum Oils Except Animal Fats and Oils and Greases and Fish and Marine Mammal Oils and Vegetable Oils (Including Oils from Seeds Nuts Fruits and Kernels)

Source 67 FR 47146 July 17 2002 unless otherwise noted

§112 8 Spill Prevention, Control, and Countermeasure Plan requirements for onshore facilities (excluding production facilities)

If you are the owner or operator of an onshore facility (excluding a production facility) you must

(a) Meet the general requirements for the Plan listed under §112 7 and the specific discharge prevention and containment procedures listed in this section

(b) *Facility drainage*

(1) Restrain drainage from diked storage areas by valves to prevent a discharge into the drainage system or facility effluent treatment system except where facility systems are designed to control such discharge You may empty diked areas by pumps or ejectors however you must manually activate these pumps or ejectors and must inspect the condition of the accumulation before starting to ensure no oil will be discharged

(2) Use valves of manual open and closed design for the drainage of diked areas You may not use flapper type drain valves to drain diked areas If your facility drainage drains directly into a watercourse and not into an on site wastewater treatment plant you must inspect and may drain uncontaminated retained stormwater as provided in paragraphs (c)(3)(ii) (iii) and (iv) of this section

(3) Design facility drainage systems from undiked areas with a potential for a discharge (such as where piping is located outside containment walls or where tank truck discharges may occur outside the loading area) to flow into ponds lagoons or catchment basins designed to retain oil or return it to the facility You must not locate catchment basins in areas subject to periodic flooding

(4) If facility drainage is not engineered as in paragraph (b)(3) of this section equip the final discharge of all ditches inside the facility with a diversion system that would in the event of an uncontrolled discharge retain oil in the facility

(5) Where drainage waters are treated in more than one treatment unit and such treatment is continuous and pump transfer is needed provide two litt pumps and permanently install at least one of the pumps Whatever techniques you use you must engineer facility drainage systems to prevent a discharge as described in §112 1(b) in case there is an equipment failure or human error at the facility

(c) *Bulk storage containers*

(1) Not use a container for the storage of oil unless its material and construction are compatible with the material stored and conditions of storage such as pressure and temperature

(2) Construct all bulk storage container installations so that you provide a secondary means of containment for the entire capacity of the largest single container and sufficient freeboard to contain precipitation You must ensure that diked areas are sufficiently impervious to contain discharged oil Dikes containment curbs and pits are commonly employed for this purpose You may also use an alternative system consisting of a drainage trench enclosure that must be arranged so that any discharge will terminate and be safely confined in a facility catchment basin or holding pond

(3) Not allow drainage of uncontaminated rainwater from the diked area into a storm drain or discharge of an effluent into an open watercourse lake or pond bypassing the facility treatment system unless you

(i) Normally keep the bypass valve sealed closed

(ii) Inspect the retained rainwater to ensure that its presence will not cause a discharge as described in §112 1(b)

(iii) Open the bypass valve and reseal it following drainage under responsible supervision and

(iv) Keep adequate records of such events for example any records required under permits issued in accordance with §§122 41(j)(2) and 122 41(m)(3) of this chapter

(4) Protect any completely buried metallic storage tank installed on or after January 10 1974 from corrosion by coatings or cathodic protection compatible with local soil conditions You must regularly leak test such completely buried metallic storage tanks

(5) Not use partially buried or bunkered metallic tanks for the storage of oil unless you protect the buried section of the tank from corrosion You must protect partially buried and bunkered tanks from corrosion by coatings or cathodic protection compatible with local soil conditions

(6) Test each aboveground container for integrity on a regular schedule and whenever you make material repairs The frequency of and type of testing must take into account container size and design (such as floating roof skid mounted elevated or partially buried) You must combine visual inspection with another testing technique such as hydrostatic testing radiographic testing ultrasonic testing acoustic emissions testing or another system of non destructive shell testing You must keep comparison records and you must also inspect the container s supports and foundations In addition you must frequently inspect the outside of the container for signs of deterioration discharges or accumulation of oil inside diked areas Records of inspections and tests kept under usual and customary business practices will suffice for purposes of this paragraph

(7) Control leakage through defective internal heating coils by monitoring the steam return and exhaust lines for contamination from internal heating coils that discharge into an open watercourse or pass the steam return or exhaust lines through a settling tank skimmer or other separation or retention system

(8) Engineer or update each container installation in accordance with good engineering practice to avoid discharges You must provide at least one of the following devices

(i) High liquid level alarms with an audible or visual signal at a constantly attended operation or surveillance station In smaller facilities an audible air vent may suffice

(ii) High liquid level pump cutoff devices set to stop flow at a predetermined container content level

(iii) Direct audible or code signal communication between the container gauger and the pumping station

(iv) A fast response system for determining the liquid level of each bulk storage container such as digital computers telepulse or direct vision gauges If you use this alternative a person must be present to monitor gauges and the overall filling of bulk storage containers

(v) You must regularly test liquid level sensing devices to ensure proper operation

(9) Observe effluent treatment facilities frequently enough to detect possible system upsets that could cause a discharge as described in §112 1(b)

(10) Promptly correct visible discharges which result in a loss of oil from the container including but not limited to seams gaskets piping pumps valves rivets and bolts You must promptly remove any accumulations of oil in diked areas

(11) Position or locate mobile or portable oil storage containers to prevent a discharge as described in §112 1(b) You must furnish a secondary means of containment such as a dike or catchment basin sufficient to contain the capacity of the largest single compartment or container with sufficient freeboard to contain precipitation

(d) *Facility transfer operations pumping and facility process*

(1) Provide buried piping that is installed or replaced on or after August 16 2002 with a protective wrapping and coating You must also cathodically protect such buried piping installations or otherwise satisfy the corrosion protection standards for piping in part 280 of this chapter or a State program approved under part 281 of this chapter If a section of buried line is exposed for any reason you must carefully inspect it for deterioration If you find corrosion damage you must undertake additional examination and corrective action as indicated by the magnitude of the damage

(2) Cap or blank flange the terminal connection at the transfer point and mark it as to origin when piping is not in service or is in standby service for an extended time

(3) Properly design pipe supports to minimize abrasion and corrosion and allow for expansion and contraction

(4) Regularly inspect all aboveground valves piping and appurtenances During the inspection you must assess the general condition of items such as flange joints expansion joints valve glands and bodies catch pans pipeline supports locking of valves and metal surfaces You must also conduct integrity and leak testing of buried piping at the time of installation modification construction relocation or replacement

(5) Warn all vehicles entering the facility to be sure that no vehicle will endanger aboveground piping or other oil transfer operations

§112 9 Spill Prevention, Control, and Countermeasure Plan requirements for onshore oil production facilities

If you are the owner or operator of an onshore production facility you must

(a) Meet the general requirements for the Plan listed under §112 7 and the specific discharge prevention and containment procedures listed under this section

(b) *Oil production facility drainage*

(1) At tank batteries and separation and treating areas where there is a reasonable possibility of a discharge as described in §112 1(b) close and seal at all times drains of dikes or drains of equivalent measures required under §112 7(c)(1) except when draining uncontammated rainwater Prior to drainage you must inspect the diked area and take action as provided in §112 8(c)(3)(ii) (iii) and (iv) You must remove accumulated oil on the rainwater and return it to storage or dispose of it in accordance with legally approved methods

(2) Inspect at regularly scheduled intervals field drainage systems (such as drainage ditches or road ditches) and oil traps sumps or skimmers for an accumulation of oil that may have resulted from any small discharge You must promptly remove any accumulations of oil

(c) *Oil production facility bulk storage containers*

(1) Not use a container for the storage of oil unless its material and construction are compatible with the material stored and the conditions of storage

(2) Provide all tank battery separation and treating facility installations with a secondary means of containment for the entire capacity of the largest single container and sufficient freeboard to contain precipitation You must safely confine drainage from undiked areas in a catchment basin or holding pond

(3) Periodically and upon a regular schedule visually inspect each container of oil for deterioration and maintenance needs including the foundation and support of each container that is on or above the surface of the ground

(4) Engineer or update new and old tank battery installations in accordance with good engineering practice to prevent discharges You must provide at least one of the following

(i) Container capacity adequate to assure that a container will not overfill if a pumper/gauger is delayed in making regularly scheduled rounds

(ii) Overflow equalizing lines between containers so that a full container can overflow to an adjacent container

(iii) Vacuum protection adequate to prevent container collapse during a pipeline run or other transfer of oil from the container

(iv) High level sensors to generate and transmit an alarm signal to the computer where the facility is subject to a computer production control system

(d) *Facility transfer operations oil production facility*

(1) Periodically and upon a regular schedule inspect all aboveground valves and piping associated with transfer operations for the general condition of flange joints valve glands and bodies drip pans pipe supports pumping well polish rod stuffing boxes bleeder and gauge valves and other such items

(2) Inspect saltwater (oil field brine) disposal facilities often particularly following a sudden change in atmospheric temperature to detect possible system upsets capable of causing a discharge

(3) Have a program of flowline maintenance to prevent discharges from each flowline

§112 10 Spill Prevention, Control, and Countermeasure Plan requirements for onshore oil drilling and workover facilities

It you are the owner or operator of an onshore oil drilling and workover facility you must

(a) Meet the general requirements listed under §112 7 and also meet the specific discharge prevention and containment procedures listed under this section

(b) Position or locate mobile drilling or workover equipment so as to prevent a discharge as described in §112 1(b)

(c) Provide catchment basins or diversion structures to intercept and contain discharges of fuel, crude oil or oily drilling fluids

(d) Install a blowout prevention (BOP) assembly and well control system before drilling below any casing string or during workover operations The BOP assembly and well control system must be capable of controlling any well head pressure that may be encountered while that BOP assembly and well control system are on the well

§112 11 Spill Prevention, Control, and Countermeasure Plan requirements for offshore oil drilling, production, or workover facilities

It you are the owner or operator of an offshore oil drilling production or workover facility you must

(a) Meet the general requirements listed under §112 7 and also meet the specific discharge prevention and containment procedures listed under this section

(b) Use oil drainage collection equipment to prevent and control small oil discharges around pumps glands valves flanges expansion joints hoses drain lines separators treaters tanks and associated equipment You must control and direct facility drains toward a central collection sump to prevent the facility from having a discharge as described in §112 1(b) Where drains and sumps are not practicable you must remove oil contained in collection equipment as often as necessary to prevent overflow

(c) For facilities employing a sump system provide adequately sized sump and drains and make available a spare pump to remove liquid from the sump and assure that oil does not escape You must employ a regularly scheduled preventive maintenance

inspection and testing program to assure reliable operation of the liquid removal system and pump start up device Redundant automatic sump pumps and control devices may be required on some installations

(d) At facilities with areas where separators and treaters are equipped with dump valves which predominantly fail in the closed position and where pollution risk is high specially equip the facility to prevent the discharge of oil You must prevent the discharge of oil by

(1) Extending the flare line to a diked area if the separator is near shore
(2) Equipping the separator with a high liquid level sensor that will automatically shut in wells producing to the separator or
(3) Installing parallel redundant dump valves

(e) Equip atmospheric storage or surge containers with high liquid level sensing devices that activate an alarm or control the flow or otherwise prevent discharges

(f) Equip pressure containers with high and low pressure sensing devices that activate an alarm or control the flow

(g) Equip containers with suitable corrosion protection

(h) Prepare and maintain at the facility a written procedure within the Plan for inspecting and testing pollution prevention equipment and systems

(i) Conduct testing and inspection of the pollution prevention equipment and systems at the facility on a scheduled periodic basis commensurate with the complexity conditions and circumstances of the facility and any other appropriate regulations You must use simulated discharges for testing and inspecting human and equipment pollution control and countermeasure systems

(j) Describe in detailed records surface and subsurface well shut in valves and devices in use at the facility for each well sufficiently to determine their method of activation or control such as pressure differential change in fluid or flow conditions combination of pressure and flow manual or remote control mechanisms

(k) Install a BOP assembly and well control system during workover operations and before drilling below any casing string The BOP assembly and well control system must be capable of controlling any well head pressure that may be encountered while the BOP assembly and well control system are on the well

(l) Equip all manifolds (headers) with check valves on individual flowlines

(m) Equip the flowline with a high pressure sensing device and shut in valve at the wellhead if the shut in well pressure is greater than the working pressure of the flowline and manifold valves up to and including the header valves Alternatively you may provide a pressure relief system for flowlines

(n) Protect all piping appurtenant to the facility from corrosion such as with protective coatings or cathodic protection

(o) Adequately protect sub marine piping appurtenant to the facility against environmental stresses and other activities such as fishing operations

(p) Maintain sub marine piping appurtenant to the facility in good operating condition at all times You must periodically and according to a schedule inspect or test such piping for failures You must document and keep a record of such inspections or tests at the facility

Subpart C -- Requirements for Animal Fats and Oils and Greases and Fish and Marine Mammal Oils, and for Vegetable Oils including Oils from Seeds, Nuts, Fruits, and Kernels

Source 67 FR 57149 July 17 2002 unless otherwise noted

§112 12 Spill Prevention, Control, and Countermeasure Plan requirements for onshore facilities (excluding production facilities)

If you are the owner or operator of an onshore facility (excluding a production facility) you must

(a) Meet the general requirements for the Plan listed under §112 7 and the specific discharge prevention and containment procedures listed in this section

(b) *Facility drainage*

(1) Restrain drainage from diked storage areas by valves to prevent a discharge into the drainage system or facility effluent treatment system except where facility systems are designed to control such discharge You may empty diked areas by pumps or ejectors however you must manually activate these pumps or ejectors and must inspect the condition of the accumulation before starting to ensure no oil will be discharged
(2) Use valves of manual open and closed design for the drainage of diked areas You may not use flapper type drain valves to drain diked areas If your facility drainage drains directly into a watercourse and not into an on site wastewater treatment plant you must inspect and may drain uncontaminated retained stormwater subject to the requirements of paragraphs (c)(3)(ii) (iii) and (iv) of this section
(3) Design facility drainage systems from undiked areas with a potential for a discharge (such as where piping is located outside containment walls or where tank truck discharges may occur outside the loading area) to flow into ponds lagoons or catchment basins designed to retain oil or return it to the facility You must not locate catchment basins in areas subject to periodic flooding
(4) If facility drainage is not engineered as in paragraph (b)(3) of this section equip the final discharge of all ditches inside the facility with a diversion system that would in the event of an uncontrolled discharge retain oil in the facility
(5) Where drainage waters are treated in more than one treatment unit and such treatment is continuous and pump transfer is needed provide two lift pumps and permanently install at least one of the pumps Whatever techniques you use you must engineer facility drainage systems to prevent a discharge as described in §112 1(b) in case there is an equipment failure or human error at the facility

(c) *Bulk storage* containers

(1) Not use a container for the storage of oil unless its material and construction are compatible with the material stored and conditions of storage such as pressure and temperature
(2) Construct all bulk storage container installations so that you provide a secondary means of containment for the entire capacity of the largest single container and sufficient freeboard to contain precipitation You must ensure that diked areas are sufficiently impervious to contain discharged oil Dikes containment curbs and pits are commonly employed for this purpose You may also use an alternative system consisting of a drainage trench enclosure that must be arranged so that any discharge will terminate and be safely confined in a facility catchment basin or holding pond
(3) Not allow drainage of uncontaminated rainwater from the diked area into a storm drain or discharge of an effluent into an open watercourse lake or pond bypassing the facility treatment system unless you

(i) Normally keep the bypass valve sealed closed
(ii) Inspect the retained rainwater to ensure that its presence will not cause a discharge as described in §112 1(b)
(iii) Open the bypass valve and reseal it following drainage under responsible supervision and
(iv) Keep adequate records of such events for example any records required under permits issued in accordance with §§122 41(j)(2) and 122 41(m)(3) of this chapter

(4) Protect any completely buried metallic storage tank installed on or after January 10 1974 from corrosion by coatings or cathodic protection compatible with local soil conditions You must regularly leak test such completely buried metallic storage tanks
(5) Not use partially buried or bunkered metallic tanks for the storage of oil unless you protect the buried section of the tank from corrosion You must protect partially buried and bunkered tanks from corrosion by coatings or cathodic protection compatible with local soil conditions
(6) Test each aboveground container for integrity on a regular schedule and whenever you make material repairs The frequency of and type of testing must take into account container size and design (such as floating roof skid mounted elevated or partially buried) You must combine visual inspection with another testing technique such as hydrostatic testing radiographic testing ultrasonic testing acoustic emissions testing or another system of non destructive shell testing You must keep comparison records and you must also inspect the container's supports and foundations In addition you must frequently inspect the outside of the container for signs of deterioration discharges or accumulation of oil inside diked areas Records of inspections and tests kept under usual and customary business practices will suffice for purposes of this paragraph
(7) Control leakage through defective internal heating coils by monitoring the steam return and exhaust lines for contamination from internal heating coils that discharge into an open watercourse or pass the steam return or exhaust lines through a settling tank skimmer or other separation or retention system
(8) Engineer or update each container installation in accordance with good engineering practice to avoid discharges You must provide at least one of the following devices

(i) High liquid level alarms with an audible or visual signal at a constantly attended operation or surveillance station In smaller facilities an audible air vent may suffice
(ii) High liquid level pump cutoff devices set to stop flow at a predetermined container content level
(iii) Direct audible or code signal communication between the container gauger and the pumping station
(iv) A fast response system for determining the liquid level of each bulk storage container such as digital computers telepulse or direct vision gauges If you use this alternative a person must be present to monitor gauges and the overall filling of bulk storage containers
(v) You must regularly test liquid level sensing devices to ensure proper operation

(9) Observe effluent treatment facilities frequently enough to detect possible system upsets that could cause a discharge as described in §112 1(b)
(10) Promptly correct visible discharges which result in a loss of oil from the container including but not limited to seams gaskets piping pumps valves rivets and bolts You must promptly remove any accumulations of oil in diked areas
(11) Position or locate mobile or portable oil storage containers to prevent a discharge as described in §112 1(b) You must furnish a secondary means of containment such as a dike or catchment basin sufficient to contain the capacity of the largest single compartment or container with sufficient freeboard to contain precipitation

(d) *Facility transfer operations pumping and facility process*
(1) Provide buried piping that is installed or replaced on or after August 16 2002 with a protective wrapping and coating You must also cathodically protect such buried piping installations or otherwise satisfy the corrosion protection standards for piping in part 280 of this chapter or a State program approved under part 281 of this chapter If a section of buried line is exposed for any reason you must carefully inspect it for deterioration If you find corrosion damage you must undertake additional examination and corrective action as indicated by the magnitude of the damage
(2) Cap or blank flange the terminal connection at the transfer point and mark it as to origin when piping is not in service or is in standby service for an extended time
(3) Properly design pipe supports to minimize abrasion and corrosion and allow for expansion and contraction
(4) Regularly inspect all aboveground valves piping and appurtenances During the inspection you must assess the general condition of items such as flange joints expansion joints valve glands and bodies catch pans pipeline supports locking of valves and metal surfaces You must also conduct integrity and leak testing of buried piping at the time of installation modification construction relocation or replacement
(5) Warn all vehicles entering the facility to be sure that no vehicle will endanger aboveground piping or other oil transfer operations

§112 13 Spill Prevention, Control, and Countermeasure Plan requirements for onshore oil production facilities

If you are the owner or operator of an onshore production facility you must

(a) Meet the general requirements for the Plan listed under §112 7 and the specific discharge prevention and containment procedures listed under this section

(b) *Oil production facility drainage*
(1) At tank batteries and separation and treating areas where there is a reasonable possibility of a discharge as described in §112 1(b) close and seal at all times drains of dikes or drains of equivalent measures required under §112 7(c)(1) except when draining uncontaminated rainwater Prior to drainage you must inspect the diked area and take action as provided in §112 12(c)(3)(ii) (iii) and (iv) You must remove accumulated oil on the rainwater and return it to storage or dispose of it in accordance with legally approved methods
(2) Inspect at regularly scheduled intervals field drainage systems (such as drainage ditches or road ditches) and oil traps sumps or skimmers for an accumulation of oil that may have resulted from any small discharge You must promptly remove any accumulations of oil

(c) *Oil production facility bulk storage containers*
(1) Not use a container for the storage of oil unless its material and construction are compatible with the material stored and the conditions of storage
(2) Provide all tank battery separation and treating facility installations with a secondary means of containment for the entire capacity of the largest single container and sufficient freeboard to contain precipitation You must safely confine drainage from undiked areas in a catchment basin or holding pond
(3) Periodically and upon a regular schedule visually inspect each container of oil for deterioration and maintenance needs including the foundation and support of each container that is on or above the surface of the ground
(4) Engineer or update new and old tank battery installations in accordance with good engineering practice to prevent discharges You must provide at least one of the following
(i) Container capacity adequate to assure that a container will not overfill if a pumper/gauger is delayed in making regularly scheduled rounds
(ii) Overflow equalizing lines between containers so that a full container can overflow to an adjacent container
(iii) Vacuum protection adequate to prevent container collapse during a pipeline run or other transfer of oil from the container
(iv) High level sensors to generate and transmit an alarm signal to the computer where the facility is subject to a computer production control system

(d) *Facility transfer operations oil production facility*

(1) Periodically and upon a regular schedule inspect all aboveground valves and piping associated with transfer operations for the general condition of flange joints valve glands and bodies drip pans pipe supports pumping well polish rod stuffing boxes bleeder and gauge valves and other such items
(2) Inspect saltwater (oil field brine) disposal facilities often particularly following a sudden change in atmospheric temperature to detect possible system upsets capable of causing a discharge
(3) Have a program of flowline maintenance to prevent discharges from each flowline

§112 14 Spill Prevention, Control, and Countermeasure Plan requirements for onshore oil drilling and workover facilities

If you are the owner or operator of an onshore oil drilling and workover facility you must

(a) Meet the general requirements listed under §112 7 and also meet the specific discharge prevention and containment procedures listed under this section

(b) Position or locate mobile drilling or workover equipment so as to prevent a discharge as described in §112 1(b)

(c) Provide catchment basins or diversion structures to intercept and contain discharges of fuel crude oil or oily drilling fluids

(d) Install a blowout prevention (BOP) assembly and well control system before drilling below any casing string or during workover operations The BOP assembly and well control system must be capable of controlling any well head pressure that may be encountered while that BOP assembly and well control system are on the well

§112 15 Spill Prevention, Control, and Countermeasure Plan requirements for offshore oil drilling, production, or workover facilities

If you are the owner or operator of an offshore oil drilling production or workover facility you must

(a) Meet the general requirements listed under §112 7 and also meet the specific discharge prevention and containment procedures listed under this section

(b) Use oil drainage collection equipment to prevent and control small oil discharges around pumps glands valves flanges expansion joints hoses drain lines separators treaters tanks and associated equipment You must control and direct facility drains toward a central collection sump to prevent the facility from having a discharge as described in §112 1(b) Where drains and sumps are not practicable you must remove oil contained in collection equipment as often as necessary to prevent overflow

(c) For facilities employing a sump system provide adequately sized sump and drains and make available a spare pump to remove liquid from the sump and assure that oil does not escape You must employ a regularly scheduled preventive maintenance inspection and testing program to assure reliable operation of the liquid removal system and pump start up device Redundant automatic sump pumps and control devices may be required on some installations

(d) At facilities with areas where separators and treaters are equipped with dump valves which predominantly fail in the closed position and where pollution risk is high specially equip the facility to prevent the discharge of oil You must prevent the discharge of oil by
(1) Extending the flare line to a diked area if the separator is near shore
(2) Equipping the separator with a high liquid level sensor that will automatically shut in wells producing to the separator or
(3) Installing parallel redundant dump valves

(e) Equip atmospheric storage or surge containers with high liquid level sensing devices that activate an alarm or control the flow or otherwise prevent discharges

(f) Equip pressure containers with high and low pressure sensing devices that activate an alarm or control the flow

(g) Equip containers with suitable corrosion protection

(h) Prepare and maintain at the facility a written procedure within the Plan for inspecting and testing pollution prevention equipment and systems

(i) Conduct testing and inspection of the pollution prevention equipment and systems at the facility on a scheduled periodic basis commensurate with the complexity conditions and circumstances of the facility and any other appropriate regulations You must use simulated discharges for testing and inspecting human and equipment pollution control and countermeasure systems

(j) Describe in detailed records surface and subsurface well shut in valves and devices in use at the facility for each well sufficiently to determine their method of activation or control such as pressure differential change in fluid or flow conditions combination of pressure and flow manual or remote control mechanisms

(k) Install a BOP assembly and well control system during workover operations and before drilling below any casing string The BOP assembly and well control system must be capable of controlling any well head pressure that may be encountered while that BOP assembly and well control system are on the well

(l) Equip all manifolds (headers) with check valves on individual flowlines

(m) Equip the flowline with a high pressure sensing device and shut in valve at the wellhead if the shut in well pressure is greater than the working pressure of the flowline and manifold valves up to and including the header valves Alternatively you may provide a pressure relief system for flowlines

(n) Protect all piping appurtenant to the facility from corrosion such as with protective coatings or cathodic protection

(o) Adequately protect sub marine piping appurtenant to the facility against environmental stresses and other activities such as fishing operations

(p) Maintain sub-marine piping appurtenant to the facility in good operating condition at all times You must periodically and according to a schedule inspect or test such piping for failures You must document and keep a record of such inspections or tests at the facility

Subpart D – Response Requirements

Source 67 FR 47151 July 17 2002 unless otherwise noted

§112 20 Facility response plans

(a) The owner or operator of any non transportation related onshore facility that because of its location could reasonably be expected to cause substantial harm to the environment by discharging oil into or on the navigable waters or adjoining shorelines shall prepare and submit a facility response plan to the Regional Administrator according to the following provisions

(1) For the owner or operator of a facility in operation on or before February 18 1993 who is required to prepare and submit a response plan under 33 U S C 1321(j)(5) the Oil Pollution Act of 1990 (Pub L 101 380 33 U S C 2701 *et seq*) requires the submission of a response plan that satisfies the requirements of 33 U S C 1321(j)(5) no later than February 18 1993

(i) The owner or operator of an existing facility that was in operation on or before February 18 1993 who submitted a response plan by February 18 1993 shall revise the response plan to satisfy the requirements of this section and resubmit the response plan or updated portions of the response plan to the Regional Administrator by February 18 1995

(ii) The owner or operator of an existing facility in operation on or before February 18 1993 who failed to submit a response plan by February 18 1993 shall prepare and submit a response plan that satisfies the requirements of this section to the Regional Administrator before August 30 1994

(2) The owner or operator of a facility in operation on or after August 30 1994 that satisfies the criteria in paragraph (f)(1) of this section or that is notified by the Regional Administrator pursuant to paragraph (b) of this section shall prepare and submit a facility response plan that satisfies the requirements of this section to the Regional Administrator

(i) For a facility that commenced operations after February 18 1993 but prior to August 30 1994 and is required to prepare and submit a response plan based on the criteria in paragraph (f)(1) of this section the owner or operator shall submit the response plan or updated portions of the response plan along with a completed version of the response plan cover sheet contained in Appendix F to this part to the Regional Administrator prior to August 30 1994

(ii) For a newly constructed facility that commences operation after August 30 1994 and is required to prepare and submit a response plan based on the criteria in paragraph (f)(1) of this section the owner or operator shall submit the response plan along with a completed version of the response plan cover sheet contained in Appendix F to this part to the Regional Administrator prior to the start of operations (adjustments to the response plan to reflect changes that occur at the facility during the start up phase of operations must be submitted to the Regional Administrator after an operational trial period of 60 days)

(iii) For a facility required to prepare and submit a response plan after August 30 1994 as a result of a planned change in design construction operation or maintenance that renders the facility subject to the criteria in paragraph (f)(1) of this section the owner or operator shall submit the response plan along with a completed version of the response plan cover sheet contained in Appendix F to this part to the Regional

Administrator before the portion of the facility undergoing change commences operations (adjustments to the response plan to reflect changes that occur at the facility during the start up phase of operations must be submitted to the Regional Administrator after an operational trial period of 60 days)

(iv) For a facility required to prepare and submit a response plan after August 30 1994 as a result of an unplanned event or change in facility characteristics that renders the facility subject to the criteria in paragraph (f)(1) of this section the owner or operator shall submit the response plan along with a completed version of the response plan cover sheet contained in Appendix F to this part to the Regional Administrator within six months of the unplanned event or change

(3) In the event the owner or operator of a facility that is required to prepare and submit a response plan uses an alternative formula that is comparable to one contained in Appendix C to this part to evaluate the criterion in paragraph (f)(1)(ii)(B) or (f)(1)(ii)(C) of this section the owner or operator shall attach documentation to the response plan cover sheet contained in Appendix F to this part that demonstrates the reliability and analytical soundness of the alternative formula

(4) *Preparation and submission of response plans Animal fat and vegetable oil facilities* The owner or operator of any non transportation related facility that handles stores or transports animal fats and vegetable oils must prepare and submit a facility response plan as follows

(i) *Facilities with approved plans* The owner or operator of a facility with a facility response plan that has been approved under paragraph (c) of this section by July 31 2000 need not prepare or submit a revised plan except as otherwise required by paragraphs (b) (c) or (d) of this section

(ii) *Facilities with plans that have been submitted to the Regional Administrator* Except for facilities with approved plans as provided in paragraph (a)(4)(i) of this section the owner or operator of a facility that has submitted a response plan to the Regional Administrator prior to July 31 2000 must review the plan to determine if it meets or exceeds the applicable provisions of this part An owner or operator need not prepare or submit a new plan if the existing plan meets or exceeds the applicable provisions of this part If the plan does not meet or exceed the applicable provisions of this part the owner or operator must prepare and submit a new plan by September 28 2000

(iii) *Newly regulated facilities* The owner or operator of a newly constructed facility that commences operation after July 31 2000 must prepare and submit a plan to the Regional Administrator in accordance with paragraph (a)(2)(ii) of this section The plan must meet or exceed the applicable provisions of this part The owner or operator of an existing facility that must prepare and submit a plan after July 31 2000 as a result of a planned or unplanned change in facility characteristics that causes the facility to become regulated under paragraph (f)(1) of this section must prepare and submit a plan to the Regional Administrator in accordance with paragraph (a)(2)(iii) or (iv) of this section as appropriate The plan must meet or exceed the applicable provisions of this part

(iv) *Facilities amending existing plans* The owner or operator of a facility submitting an amended plan in accordance with paragraph (d) of this section after July 31 2000 including plans that had been previously approved must also review the plan to determine if it meets or exceeds the applicable provisions of this part If the plan does not meet or exceed the applicable provisions of this part the owner or operator must revise and resubmit revised portions of an amended plan to the Regional Administrator in accordance with paragraph (d) of this section as appropriate The plan must meet or exceed the applicable provisions of this part

(b) (1) The Regional Administrator may at any time require the owner or operator of any non transportation related onshore facility to prepare and submit a facility response plan under this section after considering the factors in paragraph (f)(2) of this section If such a determination is made the Regional Administrator shall notify the facility owner or operator in writing and shall provide a basis for the determination If the Regional Administrator notifies the owner or operator in writing of the requirement to prepare and submit a response plan under this section the owner or operator of the facility shall submit the response plan to the Regional Administrator within six months of receipt of such written notification

(2) The Regional Administrator shall review plans submitted by such facilities to determine whether the facility could because of its location, reasonably be expected to cause significant and substantial harm to the environment by discharging oil into or on the navigable waters or adjoining shorelines

(c) The Regional Administrator shall determine whether a facility could because of its location reasonably be expected to cause significant and substantial harm to the environment by discharging oil into or on the navigable waters or adjoining shorelines based on the factors in paragraph (f)(3) of this section If such a determination is made the Regional Administrator shall notify the owner or operator of the facility in writing and

(1) Promptly review the facility response plan

(2) Require amendments to any response plan that does not meet the requirements of this section

(3) Approve any response plan that meets the requirements of this section and

(4) Review each response plan periodically thereafter on a schedule established by the Regional Administrator provided that the period between plan reviews does not exceed five years

(d) (1) The owner or operator of a facility for which a response plan is required under this part shall revise and resubmit revised portions of the response plan within 60 days of each facility change that materially may affect the response to a worst case discharge including

(i) A change in the facility's configuration that materially alters the information included in the response plan

(ii) A change in the type of oil handled stored or transferred that materially alters the required response resources

(iii) A material change in capabilities of the oil spill removal organization(s) that provide equipment and personnel to respond to discharges of oil described in paragraph (h)(5) of this section

(iv) A material change in the facility's spill prevention and response equipment or emergency response procedures and

(v) Any other changes that materially affect the implementation of the response plan

(2) Except as provided in paragraph (d)(1) of this section amendments to personnel and telephone number lists included in the response plan and a change in the oil spill removal organization(s) that does not result in a material change in support capabilities do not require approval by the Regional Administrator Facility owners or operators shall provide a copy of such changes to the Regional Administrator as the revisions occur

(3) The owner or operator of a facility that submits changes to a response plan as provided in paragraph (d)(1) or (d)(2) of this section shall provide the EPA issued facility identification number (where one has been assigned) with the changes

(4) The Regional Administrator shall review for approval changes to a response plan submitted pursuant to paragraph (d)(1) of this section for a facility determined pursuant to paragraph (f)(3) of this section to have the potential to cause significant and substantial harm to the environment

(e) If the owner or operator of a facility determines pursuant to paragraph (a)(2) of this section that the facility could not because of its location reasonably be expected to cause substantial harm to the environment by discharging oil into or on the navigable waters or adjoining shorelines the owner or operator shall complete and maintain at the facility the certification form contained in Appendix C to this part and in the event an alternative formula that is comparable to one contained in Appendix C to this part is used to evaluate the criterion in paragraph (f)(1)(ii)(B) or (f)(1)(ii)(C) of this section the owner or operator shall attach documentation to the certification form that demonstrates the reliability and analytical soundness of the comparable formula and shall notify the Regional Administrator in writing that an alternative formula was used

(f) (1) A facility could because of its location reasonably be expected to cause substantial harm to the environment by discharging oil into or on the navigable waters or adjoining shorelines pursuant to paragraph (a)(2) of this section if it meets any of the following criteria applied in accordance with the flowchart contained in Attachment C 1 to Appendix C to this part

(i) The facility transfers oil over water to or from vessels and has a total oil storage capacity greater than or equal to 42 000 gallons or

(ii) The facility's total oil storage capacity is greater than or equal to 1 million gallons and one of the following is true

(A) The facility does not have secondary containment for each aboveground storage area sufficiently large to contain the capacity of the largest aboveground oil storage tank within each storage area plus sufficient freeboard to allow for precipitation

(B) The facility is located at a distance (as calculated using the appropriate formula in Appendix C to this part or a comparable formula) such that a discharge from the facility could cause injury to fish and wildlife and sensitive environments For further description of fish and wildlife and sensitive environments see Appendices I II and III of the Guidance for Facility and Vessel Response Plans Fish and Wildlife and Sensitive Environments (see Appendix E to this part section 13 for availability) and the applicable Area Contingency Plan prepared pursuant to section 311(j)(4) of the Clean Water Act

(C) The facility is located at a distance (as calculated using the appropriate formula in Appendix C to this part or a comparable formula) such that a discharge from the facility would shut down a public drinking water intake or

(D) The facility has had a reportable oil discharge in an amount greater than or equal to 10 000 gallons within the last 5 years

(2) (i) To determine whether a facility could because of its location reasonably be expected to cause substantial harm to the environment by discharging oil into or on the navigable waters or adjoining shorelines pursuant to paragraph (b) of this section the Regional Administrator shall consider the following

(A) Type of transfer operation

(B) Oil storage capacity

(C) Lack of secondary containment

(D) Proximity to fish and wildlife and sensitive environments and other areas determined by the Regional Administrator to possess ecological value

(E) Proximity to drinking water intakes
(F) Spill history and
(G) Other site specific characteristics and environmental factors that the Regional Administrator determines to be relevant to protecting the environment from harm by discharges of oil into or on navigable waters or adjoining shorelines

(u) Any person including a member of the public or any representative from a Federal State or local agency who believes that a facility subject to this section could because of its location reasonably be expected to cause substantial harm to the environment by discharging oil into or on the navigable waters or adjoining shorelines may petition the Regional Administrator to determine whether the facility meets the criteria in paragraph (f)(2)(i) of this section Such petition shall include a discussion of how the factors in paragraph (f)(2)(i) of this section apply to the facility in question The RA shall consider such petitions and respond in an appropriate amount of time

(3) To determine whether a facility could because of its location reasonably be expected to cause significant and substantial harm to the environment by discharging oil into or on the navigable waters or adjoining shorelines the Regional Administrator may consider the factors in paragraph (f)(2) of this section as well as the following

(i) Frequency of past discharges
(u) Proximity to navigable waters
(iii) Age of oil storage tanks and
(iv) Other facility specific and Region specific information including local impacts on public health

(g) (1) All facility response plans shall be consistent with the requirements of the National Oil and Hazardous Substance Pollution Contingency Plan (40 CFR part 300) and applicable Area Contingency Plans prepared pursuant to section 311(j)(4) of the Clean Water Act The facility response plan should be coordinated with the local emergency response plan developed by the local emergency planning committee under section 303 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (42 U S C 11001 et seq) Upon request the owner or operator should provide a copy of the facility response plan to the local emergency planning committee or State emergency response commission

(2) The owner or operator shall review relevant portions of the National Oil and Hazardous Substances Pollution Contingency Plan and applicable Area Contingency Plan annually and if necessary revise the facility response plan to ensure consistency with these plans

(3) The owner or operator shall review and update the facility response plan periodically to reflect changes at the facility

(h) A response plan shall follow the format of the model facility specific response plan included in Appendix F to this part unless you have prepared an equivalent response plan acceptable to the Regional Administrator to meet State or other Federal requirements A response plan that does not follow the specified format in Appendix F to this part shall have an emergency response action plan as specified in paragraphs (h)(1) of this section and be supplemented with a cross reference section to identify the location of the elements listed in paragraphs (h)(2) through (h)(10) of this section To meet the requirements of this part a response plan shall address the following elements as further described in Appendix F to this part

(1) *Emergency response action plan* The response plan shall include an emergency response action plan in the format specified in paragraphs (h)(1)(i) through (viii) of this section that is maintained in the front of the response plan or as a separate document accompanying the response plan and that includes the following information

(i) The identity and telephone number of a qualified individual having full authority including contracting authority to implement removal actions,
(ii) The identity of individuals or organizations to be contacted in the event of a discharge so that immediate communications between the qualified individual identified in paragraph (h)(1) of this section and the appropriate Federal officials and the persons providing response personnel and equipment can be ensured
(iii) A description of information to pass to response personnel in the event of a reportable discharge
(iv) A description of the facility's response equipment and its location
(v) A description of response personnel capabilities including the duties of persons at the facility during a response action and their response times and qualifications
(vi) Plans for evacuation of the facility and a reference to community evacuation plans as appropriate
(vii) A description of immediate measures to secure the source of the discharge and to provide adequate containment and drainage of discharged oil and
(viii) A diagram of the facility

(2) *Facility information* The response plan shall identify and discuss the location and type of the facility the identity and tenure of the present owner and operator and the identity of the qualified individual identified in paragraph (h)(1) of this section

(3) *Information about emergency response* The response plan shall include

(i) The identity of private personnel and equipment necessary to remove to the maximum extent practicable a worst case discharge and other discharges of oil described in paragraph (h)(5) of this section and to mitigate or prevent a substantial threat of a worst case discharge (To identify response resources to meet the facility

response plan requirements of this section owners or operators shall follow Appendix E to this part or where not appropriate shall clearly demonstrate in the response plan why use of Appendix E of this part is not appropriate at the facility and make comparable arrangements for response resources)

(ii) Evidence of contracts or other approved means for ensuring the availability of such personnel and equipment

(iii) The identity and the telephone number of individuals or organizations to be contacted in the event of a discharge so that immediate communications between the qualified individual identified in paragraph (h)(1) of this section and the appropriate Federal official and the persons providing response personnel and equipment can be ensured

(iv) A description of information to pass to response personnel in the event of a reportable discharge

(v) A description of response personnel capabilities including the duties of persons at the facility during a response action and their response times and qualifications

(vi) A description of the facility's response equipment the location of the equipment and equipment testing

(vii) Plans for evacuation of the facility and a reference to community evacuation plans as appropriate

(viii) A diagram of evacuation routes and

(ix) A description of the duties of the qualified individual identified in paragraph (h)(1) of this section that include

(A) Activate internal alarms and hazard communication systems to notify all facility personnel

(B) Notify all response personnel as needed

(C) Identify the character exact source amount and extent of the release as well as the other items needed for notification

(D) Notify and provide necessary information to the appropriate Federal State and local authorities with designated response roles including the National Response Center State Emergency Response Commission and Local Emergency Planning Committee

(E) Assess the interaction of the discharged substance with water and/or other substances stored at the facility and notify response personnel at the scene of that assessment

(F) Assess the possible hazards to human health and the environment due to the release This assessment must consider both the direct and indirect effects of the release (i e the effects of any toxic irritating or asphyxiating gases that may be generated or the effects of any hazardous surface water runoffs from water or chemical agents used to control fire and heat induced explosion)

(G) Assess and implement prompt removal actions to contain and remove the substance released

(H) Coordinate rescue and response actions as previously arranged with all response personnel

(I) Use authority to immediately access company funding to initiate cleanup activities and

(J) Direct cleanup activities until properly relieved of this responsibility

(4) *Hazard evaluation* The response plan shall discuss the facility's known or reasonably identifiable history of discharges reportable under 40 CFR part 110 for the entire life of the facility and shall identify areas within the facility where discharges could occur and what the potential effects of the discharges would be on the affected environment To assess the range of areas potentially affected owners or operators shall where appropriate consider the distance calculated in paragraph (f)(1)(ii) of this section to determine whether a facility could because of its location reasonably be expected to cause substantial harm to the environment by discharging oil into or on the navigable waters or adjoining shorelines

(5) *Response planning levels* The response plan shall include discussion of specific planning scenarios for

(i) A worst case discharge as calculated using the appropriate worksheet in Appendix D to this part In cases where the Regional Administrator determines that the worst case discharge volume calculated by the facility is not appropriate the Regional Administrator may specify the worst case discharge amount to be used for response planning at the facility For complexes the worst case planning quantity shall be the larger of the amounts calculated for each component of the facility

(ii) A discharge of 2 100 gallons or less provided that this amount is less than the worst case discharge amount For complexes this planning quantity shall be the larger of the amounts calculated for each component of the facility and

(iii) A discharge greater than 2 100 gallons and less than or equal to 36 000 gallons or 10 percent of the capacity of the largest tank at the facility whichever is less provided that this amount is less than the worst case discharge amount For complexes this planning quantity shall be the larger of the amounts calculated for each component of the facility

(6) *Discharge detection systems* The response plan shall describe the procedures and equipment used to detect discharges

(7) *Plan implementation* The response plan shall describe

(i) Response actions to be carried out by facility personnel or contracted personnel under the response plan to ensure the safety of the facility and to mitigate or prevent discharges described in paragraph (h)(5) of this section or the substantial threat of such discharges

(ii) A description of the equipment to be used for each scenario

(iii) Plans to dispose of contaminated cleanup materials and

(iv) Measures to provide adequate containment and drainage of discharged oil

(8) *Self* inspection *drills/exercises and response* training The response plan shall include

(i) A checklist and record of inspections for tanks secondary containment and response equipment

(ii) A description of the drill/exercise program to be carried out under the response plan as described in §112 21

(iii) A description of the training program to be carried out under the response plan as described in §112 21 and

(iv) Logs of discharge prevention meetings training sessions and drills/exercises These logs may be maintained as an annex to the response plan

(9) *Diagrams* The response plan shall include site plan and drainage plan diagrams

(10) *Security systems* The response plan shall include a description of facility security systems

(11) *Response plan cover sheet* The response plan shall include a completed response plan cover sheet provided in Section 2 0 of Appendix F to this part

(i) (1) In the event the owner or operator of a facility does not agree with the Regional Administrator's determination that the facility could because of its location reasonably be expected to cause substantial harm or significant and substantial harm to the environment by discharging oil into or on the navigable waters or adjoining shorelines or that amendments to the facility response plan are necessary prior to approval such as changes to the worst case discharge planning volume the owner or operator may submit a request for reconsideration to the Regional Administrator and provide additional information and data in writing to support the request The request and accompanying information must be submitted to the Regional Administrator within 60 days of receipt of notice of the Regional Administrator s original decision The Regional Administrator shall consider the request and render a decision as rapidly as practicable

(2) In the event the owner or operator of a facility believes a change in the facility s classification status is warranted because of an unplanned event or change in the facility s characteristics (i e substantial harm or significant and substantial harm) the owner or operator may submit a request for reconsideration to the Regional Administrator and provide additional information and data in writing to support the request The Regional Administrator shall consider the request and render a decision as rapidly as practicable

(3) After a request for reconsideration under paragraph (i)(1) or (i)(2) of this section has been denied by the Regional Administrator an owner or operator may appeal a determination made by the Regional Administrator The appeal shall be made to the EPA Administrator and shall be made in writing within 60 days of receipt of the decision from the Regional Administrator that the request for reconsideration was denied A complete copy of the appeal must be sent to the Regional Administrator at the time the appeal is made The appeal shall contain a clear and concise statement of the issues and points of fact in the case It also may contain additional information from the owner or operator or from any other person The EPA Administrator may request additional information from the owner or operator or from any other person The EPA Administrator shall render a decision as rapidly as practicable and shall notify the owner or operator of the decision

[59 FR 34098 July 1 1994 as amended at 65 FR 40798 June 30 2000 66 FR 34560 June 29 2001]

§112 21 Facility response training and drills/exercises

(a) The owner or operator of any facility required to prepare a facility response plan under §112 20 shall develop and implement a facility response training program and a drill/exercise program that satisfy the requirements of this section The owner or operator shall describe the programs in the response plan as provided in §112 20(h)(8)

(b) The facility owner or operator shall develop a facility response training program to train those personnel involved in oil spill response activities It is recommended that the training program be based on the USCG s Training Elements for Oil Spill Response as applicable to facility operations An alternative program can also be acceptable subject to approval by the Regional Administrator

(1) The owner or operator shall be responsible for the proper instruction of facility personnel in the procedures to respond to discharges of oil and in applicable oil spill response laws rules and regulations

(2) Training shall be functional in nature according to job tasks for both supervisory and non supervisory operational personnel

(3) Trainers shall develop specific lesson plans on subject areas relevant to facility personnel involved in oil spill response and cleanup

(c) The facility owner or operator shall develop a program of facility response drills/exercises including evaluation procedures A program that follows the National Preparedness for Response Exercise Program (PREP) (see Appendix E to this part section 13 for availability) will be deemed satisfactory for purposes of this section An alternative program can also be acceptable subject to approval by the Regional Administrator

[59 FR 34101 July 1 1994 as amended at 65 FR 40798 June 30 2000]

Appendix A to Part 112 - Memorandum of Understanding Between the Secretary of Transportation and the Administrator of the Environmental Protection Agency

SECTION II – DEFINITIONS

The Environmental Protection Agency and the Department of Transportation agree that for the purposes of Executive Order 11548 the term

(1) *Non transportation related onshore and offshore facilities* means

(A) Fixed onshore and offshore oil well drilling facilities including all equipment and appurtenances related thereto used in drilling operations for exploratory or development wells but excluding any terminal facility unit or process integrally associated with the handling or transferring of oil in bulk to or from a vessel

(B) Mobile onshore and offshore oil well drilling platforms barges trucks or other mobile facilities including all equipment and appurtenances related thereto when such mobile facilities are fixed in position for the purpose of drilling operations for exploratory or development wells, but excluding any terminal facility unit or process integrally associated with the handling or transferring of oil in bulk to or from a vessel

(C) Fixed onshore and offshore oil production structures platforms derricks and rigs including all equipment and appurtenances related thereto as well as completed wells and the wellhead separators oil separators and storage facilities used in the production of oil but excluding any terminal facility unit or process integrally associated with the handling or transferring of oil in bulk to or from a vessel

(D) Mobile onshore and offshore oil production facilities including all equipment and appurtenances related thereto as well as completed wells and wellhead equipment piping from wellheads to oil separators oil separators and storage facilities used in the production of oil when such mobile facilities are fixed in position for the purpose of oil production operations but excluding any terminal facility unit or process integrally associated with the handling or transferring of oil in bulk to or from a vessel

(E) Oil refining facilities including all equipment and appurtenances related thereto as well as in plant processing units storage units piping drainage systems and waste treatment units used in the refining of oil but excluding any terminal facility unit or process integrally associated with the handling or transferring of oil in bulk to or from a vessel

(F) Oil storage facilities including all equipment and appurtenances related thereto as well as fixed bulk plant storage terminal oil storage facilities consumer storage pumps and drainage systems used in the storage of oil but excluding inline or breakout storage tanks needed for the continuous operation of a pipeline system and any terminal facility unit or process integrally associated with the handling or transferring of oil in bulk to or from a vessel

(G) Industrial commercial agricultural or public facilities which use and store oil but excluding any terminal facility unit or process integrally associated with the handling or transferring of oil in bulk to or from a vessel

(H) Waste treatment facilities including in plant pipelines, effluent discharge lines and storage tanks but excluding waste treatment facilities located on vessels and terminal storage tanks and appurtenances for the reception of oily ballast water or tank washings from vessels and associated systems used for off loading vessels

(I) Loading racks transfer hoses loading arms and other equipment which are appurtenant to a nontransportation related facility or terminal facility and which are used to transfer oil in bulk to or from highway vehicles or railroad cars

(J) Highway vehicles and railroad cars which are used for the transport of oil exclusively within the confines of a nontransportation related facility and which are not intended to transport oil in interstate or intrastate commerce

(K) Pipeline systems which are used for the transport of oil exclusively within the confines of a nontransportation related facility or terminal facility and which are not intended to transport oil in interstate or intrastate commerce but excluding pipeline systems used to transfer oil in bulk to or from a vessel

(2) *Transportation related onshore and offshore facilities* means

(A) Onshore and offshore terminal facilities including transfer hoses loading arms and other equipment and appurtenances used for the purpose of handling or transferring oil in bulk to or from a vessel as well as storage tanks and appurtenances for the reception of oily ballast water or tank washings from vessels but excluding terminal waste treatment facilities and terminal oil storage facilities

(B) Transfer hoses loading arms and other equipment appurtenant to a non transportation related facility which is used to transfer oil in bulk to or from a vessel

(C) Interstate and intrastate onshore and offshore pipeline systems including pumps and appurtenances related thereto as well as in line or breakout storage tanks needed for the continuous operation of a pipeline system and pipelines from onshore and offshore oil production facilities but excluding onshore and offshore piping from wellheads to oil separators and pipelines which are used for the transport of oil exclusively within the confines of a nontransportation related facility or terminal facility and which are not intended to transport oil in interstate or intrastate commerce or to transfer oil in bulk to or from a vessel

(D) Highway vehicles and railroad cars which are used for the transport of oil in interstate or intrastate commerce and the equipment and appurtenances related thereto and equipment used for the fueling of locomotive units as well as the

rights of way on which they operate Excluded are highway vehicles and railroad cars and motive power used exclusively within the confines of a nontransportation related facility or terminal facility and which are not intended for use in interstate or intrastate commerce

Appendix B to Part 112 -- Memorandum of Understanding Among the Secretary of the Interior, Secretary of Transportation and Administrator of the Environmental Protection Agency

PURPOSE

This Memorandum of Understanding (MOU) establishes the jurisdictional responsibilities for offshore facilities including pipelines pursuant to section 311 (j)(1)(c) (j)(5) and (j)(6)(A) of the Clean Water Act (CWA) as amended by the Oil Pollution Act of 1990 (Public Law 101 380) The Secretary of the Department of the Interior (DOI) Secretary of the Department of Transportation (DOT) and Administrator of the Environmental Protection Agency (EPA) agree to the division of responsibilities set forth below for spill prevention and control response planning and equipment inspection activities pursuant to those provisions

BACKGROUND

Executive Order (E O) 12777 (56 FR 54757) delegates to DOI DOT and EPA various responsibilities identified in section 311(j) of the CWA Sections 2(b)(3) 2(d)(3) and 2(e)(3) of E O 12777 assigned to DOI spill prevention and control contingency planning and equipment inspection activities associated with offshore facilities Section 311(a)(11) defines the term offshore facility to include facilities of any kind located in on or under navigable waters of the United States By using this definition the traditional DOI role of regulating facilities on the Outer Continental Shelf is expanded by E O 12777 to include inland lakes rivers streams and any other inland waters

RESPONSIBILITIES

Pursuant to section 2(i) of E O 12777 DOI redelegates and EPA and DOT agree to assume the functions vested in DOI by sections 2(b)(3) 2(d)(3) and 2(e)(3) of E O 12777 as set forth below For purposes of this MOU the term coast line shall be defined as in the Submerged Lands Act (43 U S C 1301(c)) to mean the line of ordinary low water along that portion of the coast which is in direct contact with the open sea and the line marking the seaward limit of inland waters

1 To EPA DOI redelegates responsibility for non transportation related offshore facilities located landward of the coast line

2 To DOT DOI redelegates responsibility for transportation related facilities including pipelines located landward of the coast line The DOT retains jurisdiction for deepwater ports and their associated seaward pipelines as delegated by E O 12777

3 The DOI retains jurisdiction over facilities including pipelines located seaward of the coast line except for deepwater ports and associated seaward pipelines delegated by E O 12777 to DOT

EFFECTIVE DATE

This MOU is effective on the date of the final execution by the indicated signatories

LIMITATIONS

1 The DOI DOT and EPA may agree in writing to exceptions to this MOU on a facility specific basis Affected parties will receive notification of the exceptions
2 Nothing in this MOU is intended to replace supersede or modify any existing agreements between or among DOI DOT or EPA

MODIFICATION AND TERMINATION

Any party to this agreement may propose modifications by submitting them in writing to the heads of the other agency/department No modification may be adopted except with the consent of all parties All parties shall indicate their consent to or disagreement with any proposed modification within 60 days of receipt Upon the request of any party representatives of all parties shall meet for the purpose of considering exceptions or modifications to this agreement This MOU may be terminated only with the mutual consent of all parties
Dated November 8 1993
Bruce Babbitt
Secretary of the Interior
Dated December 14 1993

Federico Pena
Secretary of Transportation
Dated February 3 1994
Carol M Browner
Administrator Environmental Protection Agency
[59 FR 34102 July 1 1994]

Appendix C to Part 112 -- Substantial Harm Criteria

1 0 Introduction

The flowchart provided in Attachment C 1 to this appendix shows the decision tree with the criteria to identify whether a facility could reasonably be expected to cause substantial harm to the environment by discharging into or on the navigable waters or adjoining shorelines In addition the Regional Administrator has the discretion to identify facilities that must prepare and submit facility specific response plans to EPA

1 1 Definitions

1 1 1 *Great Lakes* means Lakes Superior Michigan Huron Erie and Ontario their connecting and tributary waters the Saint Lawrence River as far as Saint Regis and adjacent port areas

1 1 2 Higher Volume Port Areas INCLUDE
(1) Boston MA
(2) New York NY
(3) Delaware Bay and River to Philadelphia PA
(4) St Croix VI
(5) Pascagoula MS
(6) Mississippi River from Southwest Pass LA to Baton Rouge LA
(7) Louisiana Offshore Oil Port (LOOP) LA
(8) Lake Charles LA
(9) Sabine Neches River TX
(10) Galveston Bay and Houston Ship Channel TX
(11) Corpus Christi TX
(12) Los Angeles/Long Beach Harbor CA
(13) San Francisco Bay San Pablo Bay Carquinez Strait and Suisun Bay to Antioch CA
(14) Straits of Juan de Fuca from Port Angeles WA to and including Puget Sound WA
(15) Prince William Sound AK and
(16) Others as specified by the Regional Administrator for any EPA Region

1 1 3 *Inland Area* means the area shoreward of the boundary lines defined in 46 CFR part 7 except in the Gulf of Mexico In the Gulf of Mexico it means the area shoreward of the lines of demarcation (COLREG lines as defined in 33 CFR 80 740 80 850) The inland area does not include the Great Lakes

1 1 4 *Rivers and Canals* means a body of water confined within the inland area including the Intracoastal Waterways and other waterways artificially created for navigating that have project depths of 12 feet or less

2 0 Description of Screening Criteria for the Substantial Harm Flowchart

A facility that has the potential to cause substantial harm to the environment in the event of a discharge must prepare and submit a facility specific response plan to EPA in accordance with Appendix F to this part A description of the screening criteria for the substantial harm flowchart is provided below

2 1 *Non Transportation Related Facilities With a Total Oil Storage Capacity Greater Than or Equal to 42 000 Gallons Where Operations Include Over Water Transfers of Oil* A non transportation related facility with a total oil storage capacity greater than or equal to 42 000 gallons that transfers oil over water to or from vessels must submit a response plan to EPA Daily oil transfer operations at these types of facilities occur between barges and vessels and onshore bulk storage tanks over open water These facilities are located adjacent to navigable water

2 2 *Lack of Adequate Secondary Containment at Facilities With a Total Oil Storage Capacity Greater Than or Equal to 1 Million Gallons* Any facility with a total oil storage capacity greater than or equal to 1 million gallons without secondary containment sufficiently large to contain the capacity of the largest aboveground oil storage tank within each area plus sufficient freeboard to allow for precipitation must submit a response plan to EPA Secondary containment structures that meet the standard

ot good engineering practice for the purposes of this part include berms dikes retaining walls curbing culverts gutters or other drainage systems

2 3 *Proximity to Fish and Wildlife and Sensitive Environments at Facilities With a Total Oil Storage Capacity Greater Than or Equal to 1 Million Gallons* A facility with a total oil storage capacity greater than or equal to 1 million gallons must submit its response plan if it is located at a distance such that a discharge from the facility could cause injury (as defined at 40 CFR 112 2) to fish and wildlife and sensitive environments For further description of fish and wildlife and sensitive environments see Appendices I II and III to *DOC/NOAA s Guidance* for Facility and Vessel Response Plans Fish and Wildlife and Sensitive Environments' (see Appendix E to this part section 13 for availability) and the applicable Area Contingency Plan Facility owners or operators must determine the distance at which an oil discharge could cause injury to fish and wildlife and sensitive environments using the appropriate formula presented in Attachment C III to this appendix or a comparable formula

2 4 *Proximity to Public Drinking Water Intakes at Facilities with a Total Oil Storage Capacity Greater than or Equal to 1 Million Gallons* A facility with a total oil storage capacity greater than or equal to 1 million gallons must submit its response plan if it is located at a distance such that a discharge from the facility would shut down a public drinking water intake which is analogous to a public water system as described at 40 CFR 143 2(c) The distance at which an oil discharge from an SPCC regulated facility would shut down a public drinking water intake shall be calculated using the appropriate formula presented in Attachment C III to this appendix or a comparable formula

2 5 *Facilities That Have Experienced Reportable Oil Discharges in an Amount Greater Than or Equal to 10 000 Gallons Within the Past 5 Years and That Have a Total Oil Storage Capacity Greater Than or Equal to 1 Million Gallons* A facility s oil spill history within the past 5 years shall be considered in the evaluation for substantial harm Any facility with a total oil storage capacity greater than or equal to 1 million gallons that has experienced a reportable oil discharge in an amount greater than or equal to 10 000 gallons within the past 5 years must submit a response plan to EPA

3 0 Certification for Facilities That *Do* Not Pose *Substantial* Harm

If the facility does not meet the substantial harm criteria listed in Attachment C I to this appendix the owner or operator shall complete and maintain at the facility the certification form contained in Attachment C II to this appendix In the event an alternative formula that is comparable to the one in this appendix is used to evaluate the substantial harm criteria the owner or operator shall attach documentation to the certification form that demonstrates the reliability and analytical soundness of the comparable formula and shall notify the Regional Administrator in writing that an alternative formula was used

4 0 References

Chow V T 1959 Open Channel Hydraulics McGraw Hill
USCG IFR (58 FR 7353 February 5 1993) This document is available through EPA s rulemaking docket as noted in Appendix E to this part section 13

ATTACHMENTS TO 40 CFR 112 APPENDIX C – SUBSTANTIAL HARM CRITERIA

ATTACHMENT C II CERTIFICATION OF THE APPLICABILITY OF THE SUBSTANTIAL HARM CRITERIA

Facility Name _____ Facility Address _____

1 Does the facility transfer oil over water to or from vessels and does the facility have a total oil storage capacity greater than or equal to 42 000 gallons?

Yes ___ No ___

2 Does the facility have a total oil storage capacity greater than or equal to 1 million gallons and does the facility lack secondary containment that is sufficiently large to contain the capacity of the largest aboveground oil storage tank plus sufficient freeboard to allow for precipitation within any aboveground oil storage tank area?

Yes ___ No ___

3 Does the facility have a total oil storage capacity greater than or equal to 1 million gallons and is the facility located at a distance (as calculated using the appropriate formula in Attachment C III to this appendix or a comparable formula [1]) such that a discharge from the facility could cause injury to fish and wildlife and sensitive environments? For further description of fish and wildlife and sensitive environments see Appendices I II and III to DOC/NOAA s Guidance for Facility and Vessel Response Plans Fish and Wildlife and Sensitive Environments (see Appendix E to this part section 13 for availability) and the applicable Area Contingency Plan

Yes ___ No ___

4 Does the facility have a total oil storage capacity greater than or equal to 1 million gallons and is the facility located at a distance (as calculated using the appropriate formula in Attachment C III to this appendix or a comparable formula [1]) such that a discharge from the facility would shut down a public drinking water intake ?

[1] If a comparable formula is used documentation of the reliability and analytical soundness of the comparable formula must be attached to this form

For the purposes of 40 CFR part 112 public drinking water intakes are analogous to public water systems as described at 40 CFR 143 2(c)

Yes ___ No ___

5 Does the facility have a total oil storage capacity greater than or equal to 1 million gallons and has the facility experienced a reportable oil discharge in an amount greater than or equal to 10 000 gallons within the last 5 years?

Yes ___ No ___

Certification

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and that based on my inquiry of those individuals responsible for obtaining this information I believe that the submitted information is true accurate and complete

Signature _____

Name (please type or print) _____

Title _____

Date _____

Appendix C
State of Utah Regulations

A Summary of Utah State and Federal Hazardous Substance/Waste/Material Environmental Regulations Requiring Immediate to Witlun 24 Hour Notification of Utah DEQ or EPA

Air Quality						
Regulation	**When Required**	**Information Required**	**Notify Whom**	**Oral Notice Time**	**Phone Numbers**	**Written Notice Time**
R307 107 2	Air pollution control equipment breakdown ? hrs	Not specified	Div of Air Quality	3 18 hrs	336-4000 536-4123 (off hours)	7 days
40 CFR 58	Air pollution control malfunction	Not specified	State	24 hours	336-4000 336-4123 (off hours)	14 days
40 CFR 39	Monitonng system malfunctions	Not specified	State Air Program Director	24 hours	336 4000 536-4123 (off houts)	14 day
40 CFR 52	When m violation of National Ambient Air Quality Standards	Not specified	State Arr Piogiam Director	24 tiours	536-4000 536-4123 1off hours)	
Hazardous Waste/Material/Substance						
R315 9 1(b)	Spill of one kilogram of acutely hazardous waste which includes 1 "P wastes 2 F999 wastes (chemical warfare agents) and 3 F wastes wath a hazard code of H (identified m 40 CFR 261 31 and includes wastes ftom tbe pioduction or use of chlotphenols and chlorobenzenes) Spill of 100 kilograms of other hazardous waste Notify for a spill of a lesser quantity if there is a potential threat to human health or the environment	Name phone number and address of responsible party Name title and phone of person reporting Time and date of the spill Spill location Nearest town city highway or waterway Waste description and amount Cause Extent of myunes Potential hazards to human health or the environment Estimated quantity and disposition of recovered matenal	Div of Solid & Hazanlou Waste	Immediately	538 6170 536-4123 (off hours)	15 days
40 CFR ?63 30	When a ttansporter spills a hazardous waste immediate action must be taken lo protect the environment including notification of local authontie	Not specified	Div of Solid & Hazanlous Waste	Immediately	338 6170 536-4123 (off hours)	
CERCLA 103	Any CERCLA hsted sub tance spilled ov cr the reportable quantity into the environment	Name phone number and address of responsible party name title and phone of person repotting time and date of the spill spill location nearest tourn city highway or waterway waste descnption and amount cause action taken	NRC	Immediately	1 800-424 8802	
40 CFR 30? 6	Discharge of a hazardous substance in quantities greater than the reportable quanhty over ?4 hours	Not spec fied	NRC	Immediately	1 800-424-8802	

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Revi cd July ?000

Hazardous Waste/Material/Substance Continued

Regulation	When Required	Information Required	Notify Whom	Oral Notice Time	Phone Numbers	Written Notice Time
49 CFR 171 15 49 CFR 195 52	Hazardous materials release (as defined by DOT in 49 CFR 171 8) causes death serious injury major property damage evacuation closure of a major highway aircraft flight path altered pollution of a water body release of infectious substance or continuing danger to life	Reporter name and phone number name and address of carrier incident date, time and location extent of injuries classification name and quantity of hazardous materials involved type of incident and nature of hazardous materials involvement whether a continuing danger to life exists	NRC	earliest practicable moment	1 800-4248802	30 day (see 49 CFR 171 16 for details)
EPCRA 304 40 CFR 355 40	Release of Extremely Hazardous Substance or CERCLA substance over the RQ exposing persons outside the facility boundaries	Chemical name quantity release time and duration health risks medical advice precautions contact names and phone numbers	LEPC SERC	Immediately	Various 536-4123 (24 hours)	As soon as practicable
R315 8-4 7(a) R315 7 11 7(a)	Any imminent or actual emergency at a hazardous waste Treatment Storage or Disposal (TSD) permitted facility	Facility name address EPA ID number Incident date time and type Quantity of waste Injuries	DEQ federal OSC State and local response agencies	Immediately		15 days
40 CFR 264 56/ 263 56 40 CFR 279 52	Imminent or actual emergency situation at a TSD or used oil processor or used oil refiner facility	Facility name address EPA ID number Incident date time and type Quantity of waste injuries Possible hazards to human health or the environment outside the facility	State and local response agencies NRC	Immediately	1-800-424 8802	15 days
40 CFR 262 34 40 CFR 264 56	When a fire explosion or other release at a hazardous waste generator or TSD facility could threaten human health outside the facility or when the spill has reached surface water	Facility name address EPA ID number Incident date time and type Quantity of waste Injuries Quantity of recovered materials Possible hazards to human health or the environment outside the facility	NRC	Immediately	1 800-424 8802	15 days
R315 8-4 7(d) R315 7 11 7(d)	When a fire explosion or other release at a hazardous waste TSD facility could threaten human health or the environment outside the facility	Name and phone number of reporter Facility name address Incident date time and type Name and quantity of waste Injuries Human health or environmental hazards	DEQ Federal OSC NRC	Immediately	538-4170 1 303 293 1788 1 800-424 8802	5 days
R315 3 10(1)16) 40 CFR 70 30	Any TSD permittee noncompliance which may endanger health or the environment	Releases of hazardous waste that may cause endangerment to public drinking water systems. Information on releases of hazardous waste or fire or explosions which could threaten the environment or human health outside the facility Name and phone number of reporter Facility name address Incident date time and type Name and quantity of waste Injuries Description of occurrence Human health or environmental hazards Estimated quantity and disposition of recovered material	Div of Solid & Hazardous Waste	24 hours	536-6170	5 days

This brief summary is meant to be used for general information only may not include all regulatory reporting requirements and does not contain the detail in the actual text
Revised July 2000

Hazardous Waste/Material/Substaace Continued						
Regulation	When Required	Information Required	Notify Whom	Oral Notice Time	Phone Numbers	Written Notice Time
40 CFR 264 196(d) 265 196(d) R315 8 10 R315 7 12	When a hazardous waste di posal facility discovers a tank or secondary containment system leak	Not specified	EPA admmisttator Div of Solid & Hazardous Waste	24 hours	1 303 293 1788 538 6170	
40 CFR 761 125	When PCB contaminated matenal contaminates surface water sewers drinking water grazing lauds or vegetable garden	Not specified	EPA Region	24 hours	1 303 293 1788	
40 CFR 302 6	Release of PCB s into the environment in amounts greater than 1 pound	Not specified	NRC	Immediately	1 800-424 8802	
R315 303 5(7)(c)	When a landfill opeiztor discovers receipt of a hazardous waste or PCB contaminated waste	Not specified	Div of Solid & Hazardous Waste, Hauler Generator	24 hours	538 6170 536-4123 (off hours)	
R315 303-4-15)	When methane level at a landfill exceed state limits in R315 303(2)(a)	Not specified	Div of Sohd & Hazardous Waste	hnmediately	538 6170 536-4123 (off hours)	
40 CFR ?58 73	When methane levels at a landfill exceed specified federal limits	Not specified	State Director	Immediately	538 6170 536-4123 (off hours)	
Hadioactive Materials						
R313 3S 77(2)(b)	If a sealed radiation source or device contammg radioacnve matenal is damaged or if contaminanon Is detected at the surface afier the source is used in a subsurface tiacer study	Ctrcumstan es of the loss and request app o al of abandonment pnxedures	Div of Rad Control	Immedtately	536-4250 536-4123 foff hours)	
R313 38 77(5)(b)	If radioactive matenal has been lost m or to an underground potable water source	Well location Magnitude and extent of radioactive material loss Consequences of such loss Effons being taken to mitigate these consequences	Div of Rad Control	Immediately	5 6-4250 536-4123 toft hours)	
R313 3? 33(1)	Misadministration of a radioactive matenal in a therapy procedure	Not specified	Div of Rad Control	24 hours	536-4250 536-4123 (off hours)	
R313 15 1?02(1)	Event involving a radioactive matenal which caused or threatens to cause a specified exposure or pecified amount of property damage	Not specified	Div of Rad Control	Immediately	536-4250 536-4123 (off hours)	

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Revised luly ?000

Radioactive Materials Continued						
Regulation	When Required	Information Required	Notify When	Oral Notice Time	Phone Numbers	Written Notice Time
R313 15 1202(2)	Loss of licensed or registered source of radiation that may have caused or threatens to cau e a pec fied exposure or pecified amount of property damage	Not specified	Div of Rad Contml	24 hours	536-4250 536-4123 (off hours)	
Releases From Underground Storage Tanks						
Utah Code 19 6-420 (3)	Releases from an underground storage tank presenting the possibility of an imminent and substantial danger to public health o the environment	Abatement action taken	Div of Env Response & Remediation	?4 hours	536-4123 (24 hours)	
R311 201 7	Discovery of a release from an underground storage tank	Not specified	Div of Env Response & Remediation	24 houts	536-4123 (24 bours)	
40 CFR 280 50	Release of a regulated substance unusual operation conditions or momtonng results that indicate a release	Not specified	State	24 hours	536-4123 (24 hours)	
40 CFR ?80 53	A spill or overfill that is 1 > 25 gallons or 2 causes a sheen on urface water or 3 > reponable quantity of a CERCLA hazardou substance into the environment or 4 In violation of Clean Water Act 311(b)(3)	Not specified	Div of Env Response and Remediation (see also ref 8 31 32)	24 houts	536-4123 (24 hours)	
Used Oil						
R315 15 9	Used oil pills > 25 gallons or potcnual threat to human health or environment	Name phone number and addre s of person responsible for spill Name title and phone number of individual reporting Time and date of spill Spill locanon including nearest city highway or waterway Amount and descnption of matenal spilled Cause of the spill Action taken to minimize threats to human health and the environment	DEQ	Inunediately	336-4123	15 D ys

Water Quality

Regulation	When Required	Information Required	Notify Whom	Oral Notice Time	Phone Numbers	Written Notice Time
Utah Code 19 5 114	Spill of substance which could pollute the waters of the state	Material actions taken cleanup and disposal plan	Div of Water Quality	Immediately	538-6146 536-4123 (off hours)	
40 CFR 110	If oil or hazardous substance release (1)causes a been or ( )violates water quality standards or (3) causes sludge or emulsion to be deposited below water level	Not specified	NRC	Immediately	1 800-424 8802	
R317 8-4 (b)(12)(f)	Any UPDES permittee noncomphance which may endanger health or the environment including but not limited to (1) unanticipated bypasses which exceed effluent permit limitations (?) any upset which exceeds effluent limitation (3) violation of maximum daily discharge limitation for permit listed pollutants	Name and telephone number of reporting party Time and type of incident Name and quantity of materials released Injuries Health hazards	Div of Water Quality	24 hours	538 6146 536-4123 (off hours)	5 days
R318-S 10 (7)(b) R318 8 13 (c) and 8 14 (3)(b)	1 Sampling indicates a violation of water pollution control pretreatment standards ? A pretreatment system upset that exceeds pretreatment standards 3 An unanticipated pretreatment bypass	Not specified	Control Authority' which is DEQ or the POTW depending on the permit	24 hours		
40 CFR 403 1? 40 CFR 403 16/17	1 Sampling indicates a violation of water pollution control pretre tment standard ? A pretreatment system upset that exceeds pretreatment standard 3 An unanticipated pretreatment bypass	Not specified	Control Authority' which is DEQ or the POTW depending on the permit	24 hours		
R317 6 6 13	Mechanical or discharge system failures affecting the chemical characteristics or volume of a ground water discharge	Not specified	Div of Water Quality	Immediately	538-6146 536-4123 (off hours)	30 days
R317 6 6 11	Commencement of groundwater discharge	Not specified	Div of Water Quality	Immediately	538 6146 536-4123 (off hours)	
R317 6 6 11	Discontinuance of groundwater discharge due to spill leak or accidental release	Not specified	Div of Water Quality	Immediately	538 6146 536-4123 (off hours)	5 days
R317 6 6 18	Out of compliance with ground water discharge permit	Not specified	Div of Water Quality	Immediately	538-6146 536-4123 (off hours)	5 days

Appendix D
Notice to Tank Truck Drivers

NOTICE TO TANK TRUCK DRIVERS

Tank Truck Drivers

To prevent the release of substances hazardous to the environment, tank truck drivers entering this facility are to comply with the following rules

- Exercise caution when maneuvering to avoid damage to tanks or containment walls
- Block truck wheels before starting to load/unload
- Inspect tank, fitting, and liquid level indicator prior to filling Note available capacity in tank prior to filling
- Place drip pans under all pump hose fittings prior to loading/unloading
- Remain with the vehicle while loading/unloading
- Monitor tank liquid levels during loading/unloading to prevent overfilling
- Drain loading/unloading line to storage tank
- Verify that dram valves are closed before disconnecting loading/unloading lines
- Inspect vehicle before departure to be sure loading/unloading lines have been disconnected and vent valves are closed
- Immediately report leakage or spillage to the Facility Emergency and Spill Coordinator or other management personnel

SPCC Coordinator
ECDC Environmental, LLC
ECDC Landfill

Appendix E
Emergency Personnel and Duties

Emergency Personnel and Duties

Responsibilities are assigned to individuals by name Keep in mind, however, that responsibilities are designated primarily by position/title/descriptions If individuals are not available due to vacations, trips, transfers, terminations, etc , the person filling the position automatically assumes responsibility Also, keep in mind that this plan is flexible, and personnel must work together to minimize the effects of an emergency

Management and supervisory persons must review this plan annually to ensure that they are familiar with it There is no time to do so after the emergency occurs Direct coordination between persons is encouraged to help eliminate problems

Suggestions for improvement or modifications should be directed to the SPCC Coordinator for review and inclusion in the next revision Managers and supervisors will assist the SPCC Coordinator in training his personnel as necessary, and training will be held at least annually

Individuals are responsible for notifying the SPCC Coordinator of any changes in home or office telephone numbers and position so the call list can be updated regularly and accurately

The SPCC Coordinator will direct and coordinate emergency plan activities, and will advise management and company officers as to the extent of the emergency and possible consequences The SPCC Coordinator will be familiar with environmental control devices and hazard response firms/teams This person also is responsible for coordination of first aid to injured persons and will probably be one of the first responders to the emergency If the SPCC Coordinator is not based on site, the Assistant SPCC Coordinator shall be based on-site to serve as the first responder The on site SPCC Coordinator (or Assistant if the SPCC Coordinator is off-site) is responsible for training of on site personnel The SPCC Coordinator will be responsible for monthly site inspections of the overall site housekeeping If these duties overlap with the Storm Water Pollution Prevention Plan, (SWPPP) these inspections may be recorded in the SWPPP documentation

After the emergency is under control, this person will direct the salvage and restart operations and approve any information release to the news media as applicable The SPCC Coordinator assures the establishment of liaison and communications as necessary with appropriate agencies, and allocates resources necessary to carry out the duties of this plan, etc They also direct emergency maintenance, utility, and electrical work to prevent injury and minimize damage to property, product, and the environment Maintenance personnel are responsible for the safe shutdown of the facility

PERSONNEL TRAINING RECORD
SPILL PREVENTION, CONTROL, AND COUNTERMEASURE PLAN
ECDC ENVIRONMENTAL, LLC
ECDC LANDFILL

Description of Training _____

Instructor _____ Date _____

EMPLOYEES' NAMES

Printed Name	Signature

Appendix F
Inspection Record and Incident Report Forms

Aboveground Storage Tank
Monthly Inspecnon Record

Inspection Date/ Inspector	Tank Name and/or No	Location	Contents	Signs of leakage from valves, seals, and gaskets? (YES/NO)	Signs of Oil Fael or Chemicals in Fueling Area or Containment? (YES/NO)	Condition of container supports and foundations	Comments

Descnbe leaks and/or spills _____
Corrective action taken _____
General housekeeping with respect to petroleum staining (Aspects of this may overlap with requirements of the Storm Water Pollution Prevention Plan (SWPPP) and may be recorded in the SWPPP _____

Storm Water Dramage from
Secondary Containment Areas

ECDC Environmental, LLC
ECDC Landfill

Tank Number	Date	Approximate Volume of Water Removed	Was Oil Present in the Discharged Water?	How was Oil Removed before Discharge?	Where was the Water Discharged?

INCIDENT REPORT FORM
ECDC ENVIRONMENTAL, LLC
ECDC LANDFILL

1 TIME PROBLEM DISCOVERED _____ DATE _____

2 TIME PROBLEM STOPPED _____ DATE _____

3 APPROXIMATE LOCATION AND TYPE OF ACCIDENT (E G FIRE EXPLOSION SPILL)

_____

_____

4 MATERIAL SPILLED _____

5 APPROXIMATE AMOUNT _____

6 SOURCE OF THE DISCHARGE _____

7 AFFECTED MEDIA _____

8 CAUSE OF THE DISCHARGE _____

9 EXTENT OF INJURIES (IF ANY) _____

_____

10 WHAT ARE POSSIBLE HAZARDS TO HUMAN HEALTH AND THE ENVIRONMENT?__

_____

11 ESTIMATED AMOUNT OF MATERIAL RECOVERED _____

12 WHAT WAS DONE WITH RECOVERED MATERIAL? _____

_____

13 ACTIONS TAKEN TO STOP REMOVE AND MITIGATE THE EFFECTS OF THE DISCHARGE

_____

_____

_____

14 WAS EVACUATION OF THE SITE NECESSARY? _____

15 NAME ORGANIZATION DATE AND TIME CONTACTED CONCERNING THE INCIDENT

_____

INCIDENT REPORT FORM
ECDC ENVIRONMENTAL, LLC
ECDC LANDFILL
(CONTINUED)

16 ACTIONS TAKEN TO CORRECT THE CAUSE AND PREVENT FURTHER PROBLEMS

_____

_____

_____

_____

_____

17 UNUSUAL EVENTS AND AGENCY INSPECTIONS RELATING TO THIS EVENT

_____

_____

18 NAME OF INCIDENT REPORTER _____

TITLE _____

TELEPHONE NUMBER (____) _____

FACILITY NAME AND ADDRESS OF INCIDENT REPORTER _____

_____

19 NAME OF FACILITY WHERE SPILL OCCURRED _____

FACILITY TELEPHONE NUMBER _____

ADDRESS OF FACILITY _____

_____

SIGNATURE (MANAGER) _____

DATE _____

Appendix G
Spdl, Fire, and Safety Equipment

SPILL, FIRE, AND SAFETY EQUIPMENT

The followmg safety equipment ıs avaılable ın order to protect employees and provide containment of contaminants ın the event of a spill

- Spill control/containment matenals
  - Drum/Toter m mamtenance buildıng
  - Oıl Dry (or equıvalent)
  - Sorbent Socks
  - Shovels
  - Brooms
  - Drain Pans
  - All trucks are equipped wıth spill booms
- Fire extınguishers
  - ABC unıversal fire extınguishers are located throughout facılity buildings
  - All trucks are equipped wıth fire extınguishers

Appendix H
Substantial Harm Criteria

CERTIFICATION OF THE APPLICABILITY OF THE SUBSTANTIAL HARM CRITERIA

Facility Name ECDC Landfill
Facility Address 1111 West Highway 123, East Carbon, Utah 84780

1 Does the facility transfer oil over water to or from vessels and does the facility have a total oil storage capacity greater than or equal to 42,000 gallons?

Yes ___ No _X_

2 Does the facility have a total oil storage capacity greater than or equal to 1 million gallons and does the facility lack secondary containment that is sufficiently large to contain the capacity of the largest aboveground oil storage tank plus sufficient freeboard to allow for precipitation within any aboveground oil storage tank area?

Yes ___ No _X_

3 Does the facility have a total oil storage capacity greater than or equal to 1 million gallons and is the facility located at a distance such that a discharge from the facility could cause injury to fish and wildlife and sensitive environments?

Yes ___ No _X_

4 Does the facility have a total oil storage capacity greater than or equal to 1 million gallons and is the facility located at a distance such that a discharge from the facility would shut down a public drinking water intake?

Yes ___ No _X_

5 Does the facility have a total oil storage capacity greater than or equal to 1 million gallons and has the facility experienced a reportable oil discharge in an amount greater than or equal to 10,000 gallons within the last 5 years?

Yes ___ No _X_

Certification

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document, and that based on my inquiry of those individuals responsible for obtaining this information, I believe that the submitted information is true, accurate, and complete

Signature _____
Name (please type or print) _____
Title _____
Date _____

Safety Manual

Bloodborne Pathogens Program

(Exposure Control Plan)

ECDC Environmental

I PURPOSE

Minimize exposure of personnel to blood or other potentially infectious material and provide proper handling methods, personal protective equipment, and disposal procedures in the event that an incident occurs The program also assures the location's compliance with OSHA 29 CFR 1910 1030

II DEFINITIONS

Bloodborne Pathogens - Pathogenic microorganisms that are present in human blood and can cause disease in humans These pathogens include, but are not limited to, Hepatitis B virus (HBV) and human immunodeficiency virus (HIV)

Body Fluids - Fluid contained within the body, this includes urine, saliva (containing blood), cerebral spinal fluid, joint fluid, tears, blood, serum, semen, vaginal fluid, etc

Contaminated - The presence or the reasonably anticipated presence of blood or other potentially infectious materials on an item or surface

Contaminated Sharps - Any contaminated object that can penetrate the skin including, but not limited to, needles, scalpels, broken glass, broken capillary tubes, and exposed ends of dental wires

Decontamination - The use of physical or chemical means to remove, inactivate, or destroy bloodborne pathogens on a surface or item to the point where they are no longer capable of transmitting infectious particles and the surface or item is rendered safe for handling, use, or disposal

Exposure Incident - A specific eye, mouth, other mucous membrane, non-intact skin, or other contact with blood or other potentially infectious materials that result from the performance of an employee's duties This may occur through piercing mucous membranes or the skin through such events as needle-sticks, human bites, cuts, abrasions, or splashes, etc

First Aid Provider – Personnel designated to administer emergency first aid and are reasonably anticipated to have exposure to human blood or other infectious materials

HBV - Hepatitis B Virus

HIV - Human Immunodeficiency Virus

Infectious Waste - Any substance or category of substances that has the potential to transmit disease and that meet the specific definition of the Center for Disease Control and Prevention, the U S E P A or any other state regulations

Medical Waste Spill Investigator – Personnel who conduct the initial investigation of any incident involving employee exposure to blood or other potentially infectious material The person initiates follow-up actions without performing any cleanup or removal unless trained as a medical waste spill responder

Occupational Exposure - Reasonably anticipated skin, eye, mucous membrane, or non-intact skin or other contact with blood or other potentially infectious materials that may result from the performance of an employee's duties

Other Potentially Infectious Material - The following human body fluids semen, vaginal secretions, cerebrospinal fluid, synovial fluid, amniotic fluid, saliva m dental procedures, any body fluid that is visibly contaminated with blood, and all body fluids in situations where it is difficult or impossible to differentiate between body fluids,

Any unfixed tissue or organ (other than intact skin) from a human (living or dead), and

HIV – containing cell or tissue cultures, organ cultures, and HIV or HBV – containing culture medium or other solutions, and blood, organs, or other tissues from experimental animals infected with HIV or HBV

Regulated Waste - Liquid or semi-liquid blood or other potentially infectious materials, contaminated items that would release blood or other potentially infectious materials in a liquid or semi-liquid state if compressed, items that are caked with dried blood or other potentially infectious materials and are capable of releasing these materials during handling, contaminated sharps, and pathological and microbiological wastes containing blood or other potentially infectious materials

Sharp Containers - Container used to store contaminated needles, scalpels and other devices capable of puncturing or cutting the skin

Spill Responder - Employees that remove, clean and decontaminate area after an incident involving human blood or potentially infectious materials

Universal Precautions - An approach to infection control According to the concept of Universal Precautions, all human blood and certain human body fluids are treated as if known to be infectious for HIV, HBV, and other bloodborne pathogens Healthcare workers are expected to use appropriate barrier methods to avoid any contact with human blood and/or body fluids

III RESPONSIBILITY

The Facility Manager, or his/her designee, is responsible for administering the Bloodborne Pathogens program These duties include

a Communicating the hazards associated with BBP to all personnel
b Performing an exposure determination to determine who and which tasks are at risk at the facility
c Conducting BBP training
d Developing and ensuring personnel follow safe work practices, engineering, and administrative controls to prevent exposure to BBP
e Making certain any spills of material, which may be contaminated with BBP, are promptly cleaned up and disinfected That proper housekeeping and decontamination procedures are followed
f Ensuring all BBP exposure incidents are investigated
g Guaranteeing pre and post exposure procedures are followed
h Ensuring that vaccination procedures are followed for appropriate personnel
i Ensuring that the proper PPE is provided and used by personnel responding to BBP incidents
j Ensuring that personnel training is conducted

IV COMMUNICATION OF HAZARDS TO EMPLOYEES

A Exposure Determination

Job classifications that may have reasonably anticipated contact with human blood or other potentially infectious materials include

Job Classifications	Task and Procedures	Potential Routes of Exposure
Designated first aid provider	Administering emergency first aid	Skin, mouth and eye contact and puncture from sharps
Medical waste spill responders	Cleaning and packaging spills of sharps, blood or other potentially infectious materials	Skin, mouth and eye contact and puncture from sharps

B First Aid Provider and Medical Waste Spill Responder Training

Employees who are designated as first aid providers and medical waste spill responders (typically supervisor or operations managers) will participate in a BBP training program Medical Waste spill responders will receive spill cleanup and personal protective equipment training in addition to the Bloodborne Pathogens training First aid providers will also receive first aid and CPR training from a recognized training provider (e g , American Red Cross) First aid and CPR will be repeated as necessary to ensure that designated first aid providers maintain training certification

C Medical Waste Spill Investigators

The role of employees trained as medical waste spill investigators (normally route supervisors) is to

1 Conduct an initial investigation of any incident involving employee exposure to blood or other potentially infectious material through contact with medical waste or while providing first aid, and
2 Initiate the appropriate follow-up actions from such incidents, including requesting assistance from a qualified medical waste spill responder

Medical waste spill investigators will not perform any cleanup or removal of the potentially infectious materials, unless they are also trained as a medical waste spill responder

D General Employee Awareness Training

All other operations and maintenance personnel will be trained to recognize sources of occupational exposure to human blood and other potentially infectious materials

V WORK PRACTICES

A Work Practice/Engineering Controls

In the municipal solid waste industry the following work practices and engineering controls may be utilized to reduce occupational exposure to bloodborne pathogens

Task(s)	Control Method
Collection	• Drivers and helpers should be instructed to visually inspect the containers for protruding sharp objects before lifting Plastic bags and other "soft" containers should be lifted from the top whenever practical and carried away from the body to avoid contact with protruding sharps • Residential customers should be required to properly dispose of household medical waste as directed by the USEPA, American Diabetes Association, local health department or the local municipal/county waste authority • Regulated medical waste should not be accepted as Municipal Solid Waste (MSW) or recyclable waste
Processing, Transfer and Disposal	• Employees who work on tipping floors at transfer stations, dirty (mixed refuse/recyclable) Material Recovery Facilities (MRFs) and at tipping areas of landfills should be instructed to be alert for medical waste when walking on or through refuse • Employees should be instructed to visually inspect any materials for protruding sharp objects before lifting or moving them Plastic bags and other "soft" containers should be lifted from the top whenever practical and carried away from the body to avoid contact with protruding sharps • Refuse and recyclables should be moved by mechanical equipment, such as front loaders, compactors, conveyors, tongs, shovels, and other tools when possible
Truck and Container Repair	• Mechanics should be instructed not to place their hands into parts of the equipment that may contain medical waste Mirrors, tools, and PPE should be used when such work is necessary

Bloodborne Pathogens Program

(Exposure Control Plan)

Task(s)	Control Method
Management of Medical Waste Incidents	• Only trained employees are allowed to respond to employee medical or potentially infectious waste incidents Whenever possible, the customer or appropriate local authority should be contacted to arrange for proper disposal of these materials • If it is necessary, the designated responder should wear the assigned PPE, apply a disinfectant before handling potentially infectious materials, allowing sufficient time for the disinfectant to act, then properly dispose of the waste, using the assigned PPE and tools • Employees who respond to needle-stick incidents will use the assigned PPE and tools to cleanup sharps whenever the recovery does not represent a danger of an additional puncture wound or significant exposure to potentially infectious materials
First-Aid Providers	• Trained emergency response professionals should be used wherever possible Only qualified and BBP trained personnel designated as first aid providers may provide CPR and first aid while awaiting the arrival of professional emergency response personnel

Periodic inspections are conducted to ensure that hazards are identified and appropriate corrective actions are followed

B Procedure Upon Discovering Blood Or Other Infectious Material

Task(s)	Control Method
Unauthorized medical waste found in a residential container on the route	• Do not to touch the load • Notify the dispatcher and supervisor • Do not service the container Instead, tag the container with the reason for no pick up • State the reason the container was tagged (e g , not serviced due to unacceptable medical waste)
Unauthorized medical waste first noted after it has been dumped into the hopper	• Notify the dispatcher and supervisor • The dispatcher or supervisor will contact a medical waste spill investigator • If the medical waste spill investigator determines that an incident has occurred that requires removal, cleanup and decontamination, personnel trained as a medical waste spill responder will be contacted • The medical waste spill responder will use the appropriate PPE, follow spill clean-up and decontamination procedures and make arrangements for proper transport to an approved medical waste treatment facility (check state permit for transporting medical waste)

C. Universal Precautions

The following control methods (universal precautions) are intended to minimize or eliminate exposures associated with bloodborne pathogens

Potential Routes of Exposure	Control Method
Contact with infectious agents	• All human blood and certain body fluids, medical wastes, and implements are treated as infectious materials
Contact through the mouth and eyes	• Eating, drinking, storage of food or drink, smoking, applying cosmetics or hp balm to the eyes or mouth, and handling contact lenses is prohibited in work areas where blood or other potentially infectious materials are present
Skin Contact	• Hand, eye, and other appropriate protective equipment will be provided and worn when working in conditions that may result in exposure to blood or other potentially infectious materials
Puncture	• Medical waste, sharps, and other BBP contaminated items are not to be picked up directly with the hands

VI EXPOSURE / INCIDENT PROGRAM

A Exposure Treatment

If any employee is exposed to human blood or other potentially infectious materials as a result of the performance of employee's duties, first aid will be provided Immediately upon notification of the incident, Allied Waste will also offer, and at no expense to the employee, medical treatment for the exposure

B Incident Investigation

A medical waste investigator, or a designated member of management, will investigate the exposure incident and its cause in an effort to prevent the occurrence from happening again

Under no circumstances should identification of the source involve employees opening containers or manually (by hand) handling medical waste

If possible by visual inspection, the source of improperly disposed blood or other potentially infectious material will be identified and the source of origin noted The medical waste investigator will contact the source of medical waste and attempt to ensure that the waste is properly disposed of m the future

The medical waste investigator will complete the top portion of the BBP Exposure Incident Follow-up Report (Form 1065) and will provide a copy of the completed form to the Allied Waste Contract Physician

Note When a needle-stick or other injury occurs from a contaminated medical device (needle, scalpel, etc), it is an OSHA recordable injury Other BBP exposures may be considered an OSHA recordable case depending on the situation

C Post-Exposure Treatment and Evaluation

After each exposure incident, the examining physician will be provided with the complete results of the investigation and a copy of the BBP Exposure Incident Follow-up Report (Form 1065) The physician will also be provided a copy of the Bloodborne Pathogens Standard from OSHA (29 CFR 1910 1030) and a copy of this Bloodborne Pathogens Program

The physician is responsible for providing to Allied the completed medical evaluation (Form 1065), which includes their written opinion and

1 Whether Hepatitis B vaccination is indicated for the affected employee, and if the employee has received such vaccination,
2 Information that the employee has been informed of the results of the evaluation, and
3 That the employee has been told about any medical conditions resulting from exposure to blood or other potentially infectious materials which require further evaluation or treatment

A copy of the completed BBP Exposure Incident Follow-up Report (Form 1065) will be provided to the employee within 15 days The employee will sign a second copy of the physician's opinion and it will be kept in a confidential file

Medical records are retained by the physician and are not to be disposed of until directed in writing by Allied Waste

VII VACCINATION PROCEDURES FOR FIRST AID PROVIDERS AND MEDICAL WASTE SPILL RESPONDERS

Vaccination is a preventative measure for the employees who, in the course of tasks associated with spill response or first aid, are determined to have a reasonable anticipation of encountering human blood or other potentially infectious materials

The Hepatitis B vaccination shot series (3 shots) will be initiated within 10 working days of initial assignment to a job determined to have reasonably anticipated exposure to blood or other potentially infectious materials This vaccination shot series will be provided at no cost to employees The employee will go to a clinic providing medical services to Allied Waste during work hours to allow for reasonable access to the vaccination

Hepatitis B vaccinations are given according the following guidelines from the U S Centers for Disease Control

- First Dose-within ten (10) working days of initial assignment into a position with reasonably anticipated exposure
- Second Dose-one (1) month following the first injection
- Third Dose-six (6) months following the first injection
- Booster Dose-none (no routinely accepted schedule for boosters or the need to boost Hepatitis B Vaccine has been estabhshed)

- Blood test to check immunity and test for antibodies to Hepatitis B two-three months after the third shot
- Injections are to be given into the upper arm muscle (deltoid) usmg a Hepatitis B recombinant vaccine

If a person declines the vaccine, the nsks of Hepatitis B infection must be explained to the employee and the Hepatitis B Vaccine Declination Form (Form 1031 or an equivalent) must be signed

VIII EMPLOYEE ACCESS TO MEDICAL EXPOSURE RECORDS

Employees, or their designated representative, have the nght to access personal medical information and exposure data related to an exposure incident or vaccination Personnel will be informed initially upon employment, and annually thereafter, of the existence, locations and availability of any work related medical or exposure records In accordance with State laws, the Allied Waste's Contract Physician will maintain the complete medical file produced dunng all medical exams related to work related incidents or exposures Facility management receives only the completed BBP Exposure Incident Follow-up Report (Form 1065)

The Contract Physician is responsible for conveying the findings of medical examination to the employee

IX PROTECTIVE EQUIPMENT

Based on evaluation of potential routes, the following levels of personal protection and specific protective equipment for each level of protection have been designated for the applicable work areas or tasks

Task(s)	Procedures	Level of Protection	Equipment
1	Administer Emergency First-Aid	D	Work clothes, work shoes, latex or nitrile gloves, CPR mouthpiece, eye protection where a splash hazard exists, other PPE as required
2	Medical Waste Spill Response	C or D	Work clothes, puncture resistant work shoes, latex or nitrile gloves, puncture resistant gloves, N-100 dust/mist/fume respirator, disposable coveralls, goggles, tongs other PPE as required

Protective equipment is provided at no cost and maintained in adequate supplies to protect all employees Hypoallergenic (nitrile) gloves are available for employees who exhibit allergic reactions with the use of regular equipment

Garments, which are penetrated by blood or other potentially infectious materials, are removed immediately or as soon as feasible All personal protective equipment is to be removed prior to leaving the work area and placed in a designated area or container for storage, washing, decontamination, or disposal

X SPILL / CLEAN UP PROCEDURES

A General

No materials will be handled directly with hands Barriers must be maintained between the medical waste and hands, skin, nose, mouth and any areas of the body with cuts or open sores Barriers can be created by using puncture resistant gloves, goggles/face shield

and/or uniform overalls The use of these barriers depends upon the nature of the improperly disposed blood or other potentially infectious material

The medical waste spill responder must assess the spill to determine the order and necessity of the following steps

1 Prepare necessary medical waste bags and containers (including sharps containers) that will hold the spill,
2 Wear appropriate PPE before attempting to remove the spill,
3 Using a shovel, tongs or the appropriate mechanical means, place sharps into a sharps container
4 Using a shovel, tongs, or the appropriate mechanical means, place solid portion of the spilled material into a medical waste container
5 Apply disinfectant solution over any surfaces and tools that may have come into contact with the spilled material Once disinfected, cleaned, and dried the tools can be returned to their storage container
6 Remove PPE in a manner that allows for contaminated surfaces to turn inside and uncontammated surfaces to be outside
7 Place disposable PPE into a medical waste container
8 Wash hands thoroughly

Depending on the situation, certain protective equipment may not be necessary For example, if the waste is a syringe, then only tongs and puncture resistant gloves may be necessary

Cleaning, laundering, repair, replacement, and disposal of all protective equipment under this standard are provided by Allied Waste at no cost to the employee

B Housekeeping

After known contamination with blood or other potentially infectious material, equipment and working surfaces are cleaned and decontaminated using the disinfection techniques contained in this Program

Contaminated laundry that has been soiled with blood or other potentially infectious materials or may contain sharps is to be

1 Placed and transported in labeled bags/containers,

2 Decontaminated then handled as non-regulated laundry,
3 Not taken home by any employee until they have been decontaminated

Contaminated laundry is handled as little as possible and is not to be sorted or rinsed in the location where it was used Contaminated laundry is transported in labeled or color-coded moisture proof bags or containers Employees who have contact with contaminated laundry wear protective gloves and other appropriate personal protective equipment

Broken glassware and debris that may be contaminated with blood or potentially infectious materials is to be cleaned up usmg mechanical means such as a brush and dust pan, tongs, or forceps

Contaminated sharps are discarded immediately using containers that are closable, puncture resistant, leak proof on sides and bottom, and labeled or color-coded Containers that are being used for contaminated sharps are kept m areas that are easily accessible to personnel, maintained upright, and not allowed to be overfilled

When moving or transporting containers of contaminated sharps, the containers are closed before moving them to prevent spillage or protrusion of contents and placed in a secondary container if leakage is possible All secondary containers are closable, puncture and leak proof, and labeled or color-coded

Reusable containers will not be opened, emptied, or cleaned m any manner that would pose an exposure risk to employees

Regulated waste other than sharps shall be disposed of in containers that are closable, leak proof, and labeled or color-coded Such containers will be closed prior to moving them to prevent spillage or protrusion of contents If the outside of the container becomes contaminated it shall be placed in a second container meeting the above requirements

All regulated waste will be disposed in accordance with all federal, state, and local regulations

C Decontamination

Equipment and working surfaces that have been contaminated with potentially infectious materials will be properly decontaminated according to the following procedure

1 Personnel will wear the appropriate protective clothing (e g , latex gloves) before beginning any decontamination activities
2 Debris will be first misted with disinfectant and then removed with tongs, scoops, and/or shovels
3 Contaminated areas will be washed with a soap/detergent and water solution, followed by a wash with a disinfectant
4 Equipment, gloves, or clothing that comes in contact with the bloody materials or other potentially infectious material are considered to be contaminated with pathogenic microorganisms

According to the nature of the contamination, use of one or a combination of the solutions as listed below renders the equipment, gloves, or clothing decontaminated

- Use of disinfecting solution will include EPA registered "hospital disinfectants",
- Use of hypochlorite solution with 500 ppm of available chlorine This solution is made with a 1 10 dilution of common household bleach and water (approximately 1/4 cup bleach per one-gallon water), and
- Use of quaternary ammonium salt solution (400 ppm active agent)

All waste from the cleanup activity must be treated as potentially infectious until it has been disinfected (decontaminated)

Employees must wash their hands with soap and water after removal of gloves and other personal protective equipment Where handwashing facilities are not immediately available, employees must wash with appropriate antiseptic towelettes, and then wash with soap and running water as soon as feasible

Emergency decontamination will include isolation of equipment and property until full decontamination can be performed and cleaning contacted skin areas with appropriate disinfecting towelettes

XI TRAINING

All operations and maintenance personnel are trained to recognize sources of occupational exposure to human blood and other potentially infectious materials Training will include the

a Recognition of medical waste, such as syringes, red bags, and red sharps containers, and methods of handling waste so as to avoid contact with potential hazards,
b Procedures to follow for immediate notification of a supervisor or the dispatcher when any medical waste is encountered,
c Application of universal precautions when encountering medical waste,
d Procedures to follow for immediate notification of a supervisor or the dispatcher when an employee has an exposure incident,
e A Bloodborne Pathogens (BBP) training program, and
f Fact sheets in Appendices A through D that may be used to supplement training

Employees who are designated as first aid providers, medical waste spill responders, and medical waste spill investigators (typically supervisor or operations managers), and other personnel who may have occupational exposure to BBP will participate in a more detailed training program The OSHA Bloodborne Pathogen Standard requires the training for these people on the following subjects

a General explanation of the epidemiology and symptoms of bloodborne diseases
b Explanation of the modes of transmission of bloodborne pathogens
c Explanation of Allied Waste's Bloodborne Pathogens Program and means by which personnel may obtain a written copy
d Explanation of appropriate methods for recognizing tasks and other activities that may involve exposure to blood and other potentially infectious materials
e Explanation of the use and limitations of methods that will prevent or reduce exposure including appropriate engineering controls, work practices, and personal protective equipment
f Information on types, proper use, location, removal, handling, decontamination and disposal of personal protective equipment
g Explanation of the basis for selection of personal protective equipment
h Information on Hepatitis B vaccine, including information on its effectiveness, safety, method of administration, benefits of being vaccinated, and that Allied Waste pays for the vaccination
i Information on actions to take and persons to contact in an emergency involving blood or other potentially infectious materials
j Explanation of procedure to follow if an exposure incident occurs, including the method of reporting the incident and the medical follow-up that will be made available

k Information on the post exposure evaluation and follow-up that Allied Waste is required to provide personnel following an exposure incident
l Explanation of signs, labels, and color coding
m Opportunity for interactive questions and answers with the person conducting the training
n All First Aid Providers, Medical Waste Investigators, and Medical Waste Spill Responders should receive BBP training
o A copy of 1910 1030 must be available for employee review during the training session

Training will occur at the time of initial assignment to tasks where occupational exposure may take place and annually thereafter

Additional training will be provided upon occurrence of changes that affect the employee's occupational exposure, such as modification of tasks or procedures, or the beginning of new tasks or procedures The additional training may be limited to addressing the new exposures created

A person knowledgeable m the subject matter will conduct the traimng as it relates to Allied Waste facilities and be available to answer employee questions

XII CONTRACTORS

The following provisions have been made for Contractors or temporary labor assigned to job classifications identified above

1 Training is provided prior to assignment and documented on the Temporary Labor Service Agreement Contract (see Contracts section or an equivalent form)

2 Contractors are required to complete the Contractor's Safety Declaration Contract (see Contracts section or an equivalent form)

XIII RECORDKEEPING

Note When a needle-stick or other injury occurs from a contaminated sharp, i e needle, scalpel, etc it is considered an OSHA recordable injury

All work-related needle-stick injunes and cuts from sharp objects that are contaminated with another person's blood or other potentially infectious matenal must be receded on the OSHA 300 Log as an injury The name of the individual must be left off the OSHA 300 log for confidentiality reasons

In addition, a Sharps Injury Log (Form 1060) must be completed The Sharps Log is to be maintained in a secure location to protect the confidentiality of the injured employee

Personnel who are splashed or exposed to blood or other potentially infectious matenal without being cut or scratched do not need to be recorded on the OSHA log unless

a It meets one or more of the recording cntena in § 1904 7 For instance, if the person receives the Hepatitis B vaccine as follow-up to the BBP exposure, it is recordable because this is considered medical treatment, or,
b The exposure results in the diagnosis of a bloodborne illness, such as HIV, hepatitis B, or hepatitis C

XIV PROGRAM ENFORCEMENT

The Facility Manager is responsible for enforcement of the Bloodborne Pathogen Program Anyone who directs someone to violate, or has knowledge of a violation, and takes no corrective action will receive appropnate disciplinary action

All personnel are responsible for following the procedures in this program Personnel found in violation of this program wdl be subject to disciplinary action explained in the Allied Waste Employee Handbook

APPENDIX A

Hepatitis Fact Sheet

Definition	"Hepatitis" means inflammation of the liver It may be caused by medicines, alcohol, chemicals, and/or a variety of infectious agents
Types of Hepatitis	There are a number of types of viral hepatitis A type of germ called a virus causes these diseases and all are infectious but are spread in different ways Those of most concern are • Hepatitis A (Infectious Hepatitis) • Hepatitis B (Serum Hepatitis) • Hepatitis C (Non A/Non B) • Other Hepatitis'
Hepatitis A	The virus that causes Hepatitis A is present in the bowel movements (feces) of infected persons The fecal/oral route, through close person-to-person contact or ingestion of contaminated food or water, transmits the virus In most cases, the virus must be ingested to cause infection It may be found in food contaminated by direct contact by a person's soiled hands who harbors the virus The virus can be ingested by eating uncooked foods contaminated with the virus, such as raw shellfish harvested from waters polluted with sewage or fruits and vegetables grown in contaminated soil Linen and clothing in contact with feces or an infected person can spread the disease Only those persons who live in the same house or apartment with an infected person or have very intimate physical contact are considered to have a significant risk of contracting the disease Travelers to certain overseas areas are at high risk Occupational risk of exposure would be very rare The Hepatitis A virus does not lead to chronic disease
Hepatitis B	A virus, totally different from the virus that causes Hepatitis A, causes Hepatitis B The Hepatitis B virus circulates in the bloodstream and is excreted in the infected person's body fluids The disease may be spread by contact with blood or blood products that contain the virus, or by contact with objects contaminated with infectious blood or blood products The virus is also present in other body fluids like saliva semen, and vaginal secretions Hepatitis B is most commonly passed from person-to-person through sexual contact Thus, very close personal or sexual contact may cause infection of Hepatitis B The virus can survive outside the body for at least 7 days on a dry surface

APPENDIX A

Hepatitis Fact Sheet

Hepatitis B (continued)	and is 100 times more contagious than HIV (the virus that causes AIDS) IV drug users who share needles are at risk The virus can cause liver cell damage, lead to cirrhosis, and cancer
Hepatitis C	Hepatitis C is a virus much like the Hepatitis B Virus The virus circulates in the bloodstream and is excreted in the infected person's body fluids People at risk include anyone who has had a blood transfusion prior to July 1992 (today's blood supply is now tested for Hepatitis C), injection drug users, those with tattoos, hemodialysis patients, and those with multiple sexual partners Body piercing and cocaine snorting are also risk factors
Other Hepatitis'	Hepatitis D, E, F, and G are also known to exist Hepatitis D only infects those persons with Hepatitis B Hepatitis E is rare in the United States and is transmitted through the fecal/oral route or contaminated water supplies in other countries There is no chronic state from this form of hepatitis
Signs and symptoms of Hepatitis	Early recovery and the opportunity to take preventive steps to protect others from viral hepatitis are possible with recognition of the signs and symptoms and testing the blood for the virus Persons with viral hepatitis may have some or all of these symptoms • Aches in the back, joints, or head, • Fever, nausea, and vomiting, • Tenderness over the liver or a heavy feeling in the abdomen, • A washed-out feeling, like flu, • Yellow (jaundiced) appearance of the skin and eyes The above symptoms can vary widely from person-to-person Some infected persons will have no symptoms while others will experience mild to moderate illness Still others will experience very serious illness Unfortunately, some will die from the disease and 6-10% of all hepatitis-infected persons will become a carrier of the disease
Treatment	There are no drugs that cure hepatitis No antibiotics are known to kill the virus causing disease Rest, proper nutrition, avoiding alcohol, and time is important in a person's recovery Interferon is effective for Hepatitis C with varying success of those treated

Hepatitis B Vaccine	• Based on current knowledge, Hepatitis B vaccine provides protection against illness and development of the carrier state Immune memory remains intact for ≥ 13 years following immunization When antibody levels decline below 10 ml U/ml AND there is a bloodborne pathogen exposure, a booster dose should be provided • Immunization schedule for Hepatitis B requires three (3) doses of vaccine Initial injection, then the second injection one (1) month later, and the third injection five (5) months after the second injection • Once immunized, antibodies will reduce below detectable levels in many people If these individuals are exposed to HBV, they develop a rapid recall of the antibody response and the person does not become ill or develop HBV carrier state • Some people experience soreness at the injection site Some people experience mild symptoms (fever, headache, tiredness or nausea) • Serious systemic adverse events and allergic reactions are rarely reported following hepatitis vaccine • For children of adults with normal immune status, booster doses of vaccine are not recommended nor is routine serologic testing to assess immune status indicated
Hepatitis A Vaccine	• An immunization of Hepatitis A requires two doses of vaccine The initial injection and then one (1) injection 6-12 months later
Hepatitis C Vaccine	• No vaccines are currently available for Hepatitis C

Bloodborne Pathogens Program

(Exposure Control Plan)

APPENDIX B

The ABC's of Viral Hepatitis

	HEPATITIS A (HAV)	HEPATITIS B (HBV)	HEPATITIS C (HCV)
What is it?	HAV is a virus that causes inflammation of the liver It does not lead to chronic disease	HBV is a virus that causes inflammation of the liver The virus can cause liver cell damage leading to cirrhosis and cancer	HCV is a virus that causes inflammation of the liver This infection can lead to cirrhosis and cancer
Incubation period (time from exposure to illness)	15 50 days Average 30 days	4 25 weeks Average 8 12 weeks	2 – 25 weeks Average 7 – 9 weeks
How is it spread?	Transmitted by fecal/oral route through close person to person contact changing diapers without good hand washing anal/oral sex or ingestion of contaminated food or water	Contact with infected blood seminal fluid, or vaginal secretions Sexual contact contaminated needles tattoo or body piercing tools and other sharp instruments Infected mother to newborn Human bite	Contact with infected blood contaminated IV needles razors and tattoo/body piercing tools and other sharp instruments Infected mother to newborn Not easily spread through sex
Symptoms	May have none especially young children Symptoms may include light stools dark urine fatigue lever and jaundice (yellow skin or eyes) Jaundice by age group < 6 yrs < 10 % 6 14 yrs 40 50% > 14 yrs 70 80%	May have none especially young children Some persons have mild flu like symptoms dark urine light stools jaundice fatigue and fever Jaundice by age group < 5 yrs < 10 % ≥ 5 yrs 30 50%	If have symptoms similar as with HBV Between 30-40% with acute HCV develop symptoms and 20 30 % develop jaundice Most people infected with HCV do not have symptoms and are leading normal lives
Percent who develop chronic disease Percent who develop chronic disease (continued)	None	Varies by age of onset of infection < 5 yrs 30 90 % ≥ 5 yrs 2 10%	75% 85 %
Treatment of Chronic Disease	Not applicable	Anti virals with varying success Treated success with Interferon up to 35 45% Therapy is expensive	Interferon alone or in combination with ribavirin with varying success Therapy is expensive

APPENDIX B

The ABC's of Viral Hepatitis

	HEPATITIS A (HAV)	HEPATITIS B (HBV)	HEPATITIS C (HCV)
Vaccine	Two doses of vaccine to anyone over the age of two Recommended for children living in high risk HBA areas of foreign travelers	Three doses of vaccine to all children and high risk adults	No vaccine available
Who is at risk?	Household or sexual contact with an infected person or living in an area with HAV outbreak Easily spread in day cares with diapered children Travelers to developing countries men who have sex with men and IV drug users	Infant born with infected mother having sex with infected person or multiple partners IV drug users health care workers men who have sex with men and hemodialysis patients	Anyone who had a blood transfusion prior to 1992 Contact with infected blood or contaminated needles IV drug users Infants born to infected HVC mother hemodialysis patients having multiple sex partners
Prevention	Immune Globulin (IG) within 2 weeks of exposure Vaccination Washing hands with soap and water after using the toilet Use of household bleach to clean surfaces contaminated with feces such as changing tables Safe sex	Hepatitis B Immune Globulin (HBIG) after known exposure Vaccination Safe sex Clean up blood with gloves Do not share razors toothbrushes and needles	Clean up spilled blood with bleach and wear gloves when touching blood Do not share toothbrushes razors or needles Safe sex

Bloodborne Pathogens Program

(Exposure Control Plan)

APPENDIX C

Tuberculosis Fact Sheet

Definition	Active disease of Tuberculosis (TB) is caused by an infection with the germ (microorganism) called Mycobacterium Tuberculosis It most often affects the lungs, but it may attack almost any system or organ m the body TB disease means a person who has active untreated TB germs in their lungs or body TB infection means a person who at some time in the past was exposed to the TB germ and the germs are in the body but the body's defenses has built a wall around them and the germs are now inactive This is much like a scab forming over a cut Millions of Americans have TB infection For most of them, the germ will always be inactive
History	Years ago tuberculosis was considered a dreaded disease Its cause and spread were not known and there was no effective treatment or cure Today TB is a preventable and curable disease The cause and spread of TB is well defined and there are a variety of effective drugs to prevent, cure, and interrupt the transfer of TB from one person to another In spite of all this, tuberculosis still occurs
How do you get the disease?	TB is spread when people who have active untreated TB germs in their lungs or throat cough, sneeze, or speak, and send their germs into the air The droplets carrying the TB germs are invisible to see People who breathe these germs into their lungs can become infected Indoors they can float on the air for approximately one or two hours after being expelled from the infected person's mouth The transfer of TB germs is possible indoors when there are people sharing the same air in close quarters for a long period of time – such as 6-8 hours a day, day after day – with someone who has active TB disease In outdoor air, TB germs rapidly disperse and the ultra violet light coming from the sun kills them You're not likely to get TB from someone coughing in the subway or at a restaurant Dishes, drinking glasses, sheets, or clothing do not spread the disease

APPENDIX C

Tuberculosis Fact Sheet

Signs and Symptoms	TB can attack any part of the body, but the lungs are the most common targets People with TB disease may have some or all of the following symptoms • A cough that hangs on for more than 3 weeks • Fevers • Weight loss • Night sweats • Constant tiredness • Loss of appetite
Screening	If you are concerned that you have been infected with the tuberculosis germs, have a Tuberculin Mantoux PPD skin test If a person reacts to the TB skin test, it means that the individual has been exposed to and infected with tuberculosis at some time m the past When the skin test is positive, a chest x-ray will be done The chest x-ray can show whether the infection has caused any damage to the lung tissue If the chest x-ray is abnormal, the person has live tuberculosis germs in the mouth, throat or lungs Once it is known that a person is infected with mycobacterium tuberculosis, she/he is treated with medicines to kill the TB germs Some people have had prior vaccination with BCG (Bacilli Calmette Guerin), this vaccine complicates interpretation of the tuberculin skin test If you had a BCG in the past and you suspect a possible exposure to TB, go to your local health department for help
Fact	Tuberculosis is a disease that can damage a person's lungs or other part of the body and cause serious illness Tuberculosis is not a highly infections disease To get TB requires close, frequent or prolonged exposure to someone with the disease The people who are at risk of TB infection are those persons who spend a great deal of time m close contact, i e , such as family members and close friends, to a person with *active infectious tuberculosis disease* A person *infected* with TB, who does not have the disease, cannot transfer TB to others Therefore, contacts at work are not necessarily at risk
Contributing factors to an increased risk	• Crowding of people and insufficient ventilation • Presence of other conditions in a person such as

APPENDIX C

Tuberculosis Fact Sheet

Contributing factors to an increased risk (continued)	– Human immunodeficiency virus (HIV) infection, poor nutrition, alcoholism, intravenous drug use, and other medical conditions • People with active TB disease that do not complete TB drug therapy remain infectious to others and become resistant to TB drugs • Foreign-born persons from countries with high rate of TB (i e , Asia, Africa, Latin America) • Medically under-served minority populations (i e , African Americans, Hispanics, Native Americans)
Treatment	The duration of treatment with TB medicines varies from person-to-person, it depends upon whether preventative therapy for infection or drug therapy for active disease is needed Generally, treatment can last from 6 to 12 months Modem medical treatment for TB is very effective when taken as prescribed for as long as required Stopping the medicine too soon may allow some TB germs to survive, which could put the person at risk of becoming ill and infectious again Those persons with TB disease who do not complete the standard course of anti-tuberculosis therapy may develop a drug-resistant strain of Mycobacterium tuberculosis and further spread the TB to others The recovery rate for those who receive the complete drug treatment is so successful that the great majority of persons with TB are able to return to work and continue their former activity after control of the disease is established
Drug Resistant TB	Drug resistant TB develops when a person with active TB stops taking their medication too soon, or if they have not been given the right TB medicine A person with untreated drug resistant TB of the lungs or throat can transmit these resistant germs Sometimes, TB germs are "resistant" to one or more of the TB medicines most often prescribed by doctors When this happens, combinations of other TB medicines are given to the patient Drug resistant TB can take longer to cure than regular TB, but most patients can be cured
Prevention in the workplace	There are no special precautions needed in the workplace other than providing good ventilation inside buildings The usual good house cleaning practices done according to routine policy are adequate A

Bloodborne Pathogens Program

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Tuberculosis Fact Sheet

	personal hygiene practice done by all employees is always smart busmess Hand washing, covering the mouth and nose when coughing or sneezing, and proper disposal of soiled tissues can reduce the spread of many communicable diseases Maintain a healthy lifestyle, good nutrition, proper rests, exercise, drink in moderation, don't smoke, and don't do drugs – it will help you resist disease

APPENDIX D

HIV/AIDS Fact Sheet

Facts	• It is estimated that one in every 250 people in the United States is infected with HIV, Human Immunodeficiency Virus" Most HIV infections develop into AIDS ("Acquired Immunodeficiency Syndrome") within 10 years HIV/Aids ranks as the third-leading cause of death among those 25 to 44 years old and sixth among people 15 to 24 years old • HIV lives only in blood and certain other body fluids, it cannot live or grow outside these environments • HIV infection may be identified through testing the blood for the presence of HIV antibodies • Antibodies against HIV in an infected individual's blood can be detected by a series of tests Tests that show the presence of antibodies between 6 to 12 weeks after exposure • Some HIV infected persons suffer less severe symptoms than those with diagnosed cases of AIDS These lesser symptoms may include loss of appetite, weight loss, fever, night sweats, skin rashes, diarrhea, fatigue, lack of resistance to infection, and swollen lymph nodes • AIDS is the result of the progressive destruction of a person's immune system, which is the body's defense against the disease This destruction allows diseases that the body can normally fight, to threaten the person's health and life • Pneumonia, cancer, tuberculosis and certain other infections often invade a body weakened by HIV • HIV can also attack the nervous system and cause damage to the brain This may take years to develop The symptoms may include memory loss, indifference, and loss of coordination, partial paralysis, or mental disorder
Risk factor for HIV Infection	The risk factor for HIV infection is behavior There are certain lifestyle behaviors associated with the transmission of the virus, such as intravenous drug use and unprotected, indiscriminate sexual activities that place a person at risk for IV infection Situations that cause a worker to encounter HIV contaminated blood or other fluids by needle-stick or contact with an open wound or broken, non-intact skin, or mucous membranes of the eyes, nose or mouth, have the potential for infection There is no risk or transmission of the virus from an HIV-infected person to

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APPENDIX D

HIV/AIDS Fact Sheet

Risk factor for HIV Infection (continued)	coworkers through ordmary workplace contact The Centers for Disease Control studied healthcare workers who were exposed to blood known to be HIV positive Most of the workers were stuck by needles that had been used on AIDS patients Of the workers exposed, 0 3% (less than one percent) became infected with the AIDS virus
Signs and Symptoms	If infected with the Human Immunodeficiency Virus, a mononucleosis or flu-like syndrome may occur within two months after exposure • Diarrhea • Fatigue • Fever • Joint pain • Muscle pain • Night sweats • Rash • Swollen lymph nodes Some persons infected with the human immunodeficiency virus will develop a persistent, generalized disorder of the lymph system (lymphadenopathy) that lasts more than three (3) months There are specific diseases considered indicators of AIDS The most common infections and causes of death in AIDS patients are • A parasitic disease – Pneumocystis Carinii Pneumonia – "PCP" • A malignant skin cancer – Kaposi's Sarcoma – "KS" • Fungal diseases such as Candidiasis • Viral diseases such as Cytomegalovirus There is no cure for AIDS Currently in use are experimental drugs and a number of treatment procedures on patients at various stages of infection

Bloodborne Pathogens Program

(Exposure Control Plan)

APPENDIX D

HIV/AIDS Fact Sheet

If a potential exposure to Bloodborne **Pathogens** occurs	• Wash and clean wound with soap and water • Report incident to your supervisor and safety manager • Go to the clinic for proper medical care which will include – Blood tests for antibodies to Hepatitis B surface antigen and HIV counseling as needed – Repeat HIV testing at ♦ 6 weeks after exposure ♦ 12 weeks after exposure ♦ 6 months after exposure • HBIG (Hepatitis B Immune Globulin) provides temporary protection against Hepatitis B (Passive protection from HBIG lasts up to 6 weeks) • Hepatitis B Vaccine will provide protection for at least 13 years and probably longer Antibodies will reduce below detectable levels for these individuals, however they develop a rapid recall of the antibody response and the person does not become ill or develop HBV earner state Schedule 1st injection - ASAP or within 7 days 2nd injection - 1 month later 3rd injection - 6 months from 1st injection • Tetanus/Diphthena Booster if not given in the last ten years **YOUR MEDICAL RECORD AND TESTING WILL BE KEPT CONFIDENTIAL**

SHARPS INJURY LOG

(Per the requirements of 29 CFR 1910 1030(h)(5)(I-III))

Case No	Date of Injury	Type and brand of device involved in the incident	Department or work area where the incident occurred	Explanation of how the Incident occurred

Hepatitis B Vaccine Declination

I understand that due to my occupational exposure to blood or other potentially infectious materials I may be at risk of acquiring hepatitis B virus (HBV) infection I have been given the opportunity to be vaccinated with hepatitis B vaccine, at no charge to myself However, I decline hepatitis B vaccination at this time I understand that by declining this vaccine I continue to be at risk of acquiring hepatitis B, a serious disease If in the future I continue to have occupational exposure to blood or other potentially infectious materials and I want to be vaccinated with hepatitis B vaccine, I can receive the vaccination series at no charge to me

Print Name _____ S S Number _____

Signature _____ Date _____

(NOTE The wording on this document may not be changed in any manner)

BBP Exposure Incident Follow-up Report

To be completed at the Allied Waste Facility and provided to the Contract Physician

Employee Name	Social Security Number	Job Title
Company Name	Street Address	City

State	Zip Code	Name and Title of Allied Waste Contact	Phone Number

Date of exposure incident/time _____ / _____ AM/PM

Route of exposure
____ Needlestick puncture laceration
____ Bodily contact to skin with beaks, cuts sores rashes etc
____ Bodily contact with eyes nose or mouth

Source of exposure
____ Untreated medical waste
____ Treated authorized medical waste (after autoclave or incinerator)
____ Blood from known contact while providing first aid

Source individual
____ Unknown
____ Known Name _____
Phone # _____

To be completed at the Contract Physician's Facility and returned to Allied Waste

Clinic or Medical Facility Name	Street Address	City

State	Zip Code	Name and Title of CP's Contact	Phone Number

I certify that I have been provided with copy of the Allied Waste s written Bloodborne Pathogens Program and a copy of the OSHA Standard on Bloodbome Pathogens 29 CFR 1910 1030 and I further certify that (circle choice)

Hepatitis B vaccination is indicated for this employee vaccination has been received.	Yes	No
Hepatitis B vaccination is indicated for this employee vaccination has <u>not been</u> received	Yes	No
Hepatitis B vaccmation is <u>not indicated</u> for this employee vaccination has <u>not been</u> received	Yes	No
Employee has been informed of the results of his/her evaluation	Yes	No
Employee has been advised of any medical conditions resulting from exposure to blood or other potentially infectious material that requires further evaluation or treatment	Yes	No

ALL OTHER MEDICAL FINDINGS OR DIAGNOSES REMAIN CONFIDENTIAL

Printed Name of PHLCP _____

Signature of PHLCP _____ Date of Evaluation _____

ECDC Environmental

Emergency Action Plan

ECDC Environmental

I PURPOSE

This Emergency Action Plan is designed to provide guidance to personnel in the event of an emergency and outlines the required procedures for responding to emergencies Emergencies both man-made and natural may require this facility to be evacuated or shelter-in-place These may include, but are not limited to, fires, explosions, floods, earthquakes, hurricanes, tornados, toxic material release, radiological and biological accidents, civil disturbances, and workplace violence

This plan has been developed to provide direction in responding to these and other types of emergencies and ensure the facility's compliance with OSHA 29 CFR 1910 38, Emergency Action Plans

II DEFINITIONS

None

III RESPONSIBILITY

The Facility Manager is in charge of any emergency at this facility All communication, questions, etc , are to be directed to the Facility Manager, who has full authority, including the management decisions listed within this plan

The Facility Manager is responsible for

a Assigning alternates to serve in his/her absence, they are listed on the Emergency Contact List in Appendix C

b Designating the appropriate emergency response personnel for the various types of emergencies outlined in this plan, and who will assist the Facility Manager in the evaluation and response to emergencies

c Ensuring that all personnel are trained on the procedures outlined in this plan

d Making the decision to shut down operation and whether to shelter-m-place or evacuate during an emergency

e Directing the shelter-m-place, evacuation and search of the facility, and recall of personnel during an emergency

f Communicating with local law enforcement and local emergency response personnel to review this plan, the facility, and communicate with them during an emergency

g Conducting mock emergency drills to train personnel and test this plan at least annually

h Ensuring that this plan and the contact persomel are kept up to date with current work practices and contacts

IV EMERGENCY ACTION PLAN OVERVIEW

Depending on the circumstances and the type of emergency, the first important decision is whether to stay at the facility (shelter-in-place) or evacuate Facility management will use all available information to determme if there is an immediate danger In any emergency, local authorities may or may not immediately be able to provide information on what is happening and what the facility should do

Facihty management will make the decision to either shelter-in-place or evacuate m the absence of direction from outside agencies This plan is designed to account for both possibilities Facility management will use available information to assess the situation If there is a large amount of debris m the air, or if local authorities say the air is badly contaminated, the decision may be to "shelter-in-place " Information will be gathered from watching TV, listening to the radio, or checking the Internet often for information or official instructions as it becomes available There are numerous emergencies that may prompt personnel to shelter-in-place Examples of these types of emergencies include, terrorist attacks, toxic material releases, radiological and biological accidents, civil disturbances, workplace violence, and tornados

If told to evacuate or seek medical treatment from the authorities, the facility will do so immediately

In preparation for these events the facilities has designed the followmg plans to help instruct personnel on who to contact, where to go, and the basic emergency supplies information

1 Emergency Information List (Appendix A)

The emergency information list contains emergency responders, contact phone numbers, emergency assembly locations, and shelter-in-place locations It outlines the basic actions that must be taken m the event of an emergency

2 Emergency Contact List (Appendix B)

The emergency contact list is posted at various locations around the facility and at phones that may be used to initiate this emergency action plan This list contains the home and work phone numbers of key staff and support personnel (e g , corporate staff, police, fire, emergency medical support, and relevant government agencies) It also contains the names and/or titles of those individuals who are assigned to serve as the facility's Emergency Coordinator, spokesperson, and their designated alternates

3 Spill Response Information (Appendix C)

The spill response information contains mformation on chemicals stored on site, storage amounts, spill cleanup supplies, personal protective equipment, and the names of personnel trained in spill response procedures

4 Site Evacuation Map

The site evacuation map(s) contain the emergency escape routes for the buildings and/or area In addition fire extinguishers, first aid kits, spill response kits, and other emergency response equipment are indicated Upon notification of an evacuation, all personnel who are not directly involved in responding to the emergency must go directly to the emergency assembly location(s) mdicated on this map Once at the emergency assembly location point, a headcount will be conducted to account for all personnel at the facility

The emergency assembly areas were selected because there is sufficient area to accommodate all personnel They are located away from busy streets and out of the way where they will not interfere with rescue and emergency response operations The location is also up-wind from the most common or prevailing wind direction from the potentially hazardous areas on site

5 Employee Personal Information

Personal emergency response information is kept with the human resources department This information, which may be needed in the event of an emergency mcludes

a Home telephone numbers

b Names and telephone number of next of kin, and

c Medical information

This information is maintained in such a way that it can be readily retrieved in the event of an emergency

6 Rescue

Rescue operations at this facility will only be performed by outside agencies that have professionally trained, equipped, and certified personnel to perform rescue operations

7 Detailed Procedures

Below are detailed procedures for each of the following events

a Fire Response Procedures
b Shelter-in-Place Procedure
c Evacuation Procedure
d Medical
e Weather
f Spill Response Plan
g Bomb Threat

V FIRE RESPONSE PROCEDURES

This outlines when it is safe, and not safe, to fight a fire with a fire extinguisher Promptly reporting a fire is always the first response This is to alert everyone and make sure they are evacuated to the emergency assembly location if necessary

1 Report Fires Immediately

Activate the emergency alarm system and report all fires immediately to the facility manager or the nearest member of management and notify the fire department

2 Small Fires

Personnel who have completed annual fire extinguisher training may attempt to extinguish small fires A small fire is defined as a fire that can be controlled or extinguished by the use of portable fire extinguishers without the need for personal protective equipment Individuals must use their judgment based on their training and experience to determine whether or not it is safe to fight a fire with portable fire extinguishers

The following is provided as general guidance in helping personnel in making this decision

3 When it may be safe to extinguish a fire using a fire extinguisher

a Size of the Fire – if the fire is limited to the original material ignited, it is contained (such as in a waste basket) and has not spread to other materials The flames are no higher than the firefighter's head
b Condition of the Air in the Area – if the fire has not depleted the oxygen in the room and is producing only small quantities of toxic gases and no respiratory protection equipment is required
c Amount of Smoke and Heat – if heat is being generated, but the room temperature is only slightly increased Smoke may be accumulating on the ceiling, but visibility is good and no special personal protective equipment is required
d Evacuation Path - there is a clear evacuation path that is behind you as you fight the fire

4 When it is not safe to use a fire extinguisher to fight a fire

a Type, size, and location of the fire - If the fire involves flammable solvents, has spread over more than 60 square feet, or is partially hidden behind a wall or ceiling, or can not be reached from a standing position
b Condition of the air - if the smoke and products of combustion from the fire require respiratory protection in the area
c Amount of Heat – If the radiated heat is easily felt on exposed skin making it difficult to approach within 10-15 feet of the fire (or the effective range of the extinguisher)
d Visibility - If the person must crawl on the floor due to heat or smoke Smoke is quickly filling the room, decreasing visibility
e Evacuation Path - If the fire is not contained, and fire, heat, or smoke may block the evacuation path

VI SHELTER-IN-PLACE PROCEDURE

1 Shelter-in-Place Rooms

To "shelter-in-place," an interior room(s) is selected that is above the ground floor, with the fewest windows or vents The room(s) should have adequate space for everyone to be able to sit Overcrowding is avoided by selecting additional rooms if necessary Large storage closets, utility rooms, pantries, copy and conference rooms without exterior windows work well Avoid selecting a room with mechanical equipment like ventilation blowers or pipes, because this equipment may not be able to be sealed from the outdoors It is ideal to have a hard-wired telephone in the room(s) you select Cellular telephone equipment may be overwhelmed or damaged during an emergency

2 Emergency Supplies

Shelter-in-place disaster supplies may include items such as nonperishable food, bottled water, battery-powered radios, first-aid supplies, flashlights, batteries, duct tape, plastic sheeting, and plastic garbage bags

3 Shelter-in-Place Emergency Action Plan

The following is a basic outline of the typical procedures used for sheltering-in-place When authorities provide directions to shelter-in-place, they want everyone to take these steps immediately

a Close the facility

b If there are customers, clients, or visitors at the facility, provide for their safety by asking them to stay Instruct these people that it is best for their safety not to leave their current location Do not drive or walk outdoors

c Unless there is an imminent threat, ask employees, customers, clients, and visitors to call their emergency contact (i e family member, etc) and let them know where they are sheltering (staying) and that they are safe

d Turn on call-forwarding or alternative telephone answering systems or services If the business has voice mail or an automated attendant, change the recording to indicate that the business is closed, and that staff and visitors are remaining in the building until authorities advise it is safe to leave

e Quickly lock exterior doors and close windows, and air vents Have employees familiar with your building's mechanical systems turn off all fans, heating and air conditioning

systems Some systems automatically provide for exchange of inside air with outside air These systems, in particular, need to be turned off, sealed, or disabled Close or tape-off all vents in the "shelter-in-place" room(s)

f If you are told there is danger of an explosion, close the window shades, blinds, or curtains

g Take your emergency supplies and go into the designated shelter-in-place room(s) Seal all windows, doors, and vents with plastic sheeting and duct tape or anything else you have on hand

h Consider precutting plastic sheeting (heavier than food wrap) to seal windows, doors, and air vents Each piece should be several inches larger than the space you want to cover so that it lies flat against the wall Label each piece with the location of where it fits

i Call emergency contacts and have the phone available if you need to report a life-threatening condition

j Write down the names of everyone m the room, and call the designated emergency response coordinator to report who is in the room(s) with you, and their affiliation with your business (employee, visitor, client, or customer)

k Listen to the radio, watch television, or use the Internet for further instructions until you are told all is safe or to evacuate Local officials may call for evacuation in specific areas at greatest risk m your community

VII EVACUATION PROCEDURE

1 Activate Emergency Alarm System

Employees are notified of the need for an emergency notification by the sounding of an alarm, announcement over the building communication system, or by notification imtiated by their supervisor

2 Shut Off Equipment

Equipment or operations will only be shut off if time permits and only if your personal safety is not at risk Critical operations that need to be shut down are included in the Facility Emergency Information List

3 Use Designated Exit Routes

Emergency Action Plan

Plans/maps that identify designated emergency exits, routes and the locations of fire extinguishers and fire hoses are posted in key locations within the Facility Employees must always evacuate through an exit closest to your location in the event of an emergency or fire requiring evacuation Each supervisor, or in his/her absence an individual designated by the supervisor, is responsible to ensure that all assigned evacuation routes and exits are clear from obstructions that could hinder evacuation during an emergency

4 Clear the Building / Area

Supervisors are responsible in the event of an evacuation to ensure that all employees and visitors safely evacuate from the supervisor's assigned work area Supervisors are also responsible for ensuring that any disabled person located in the supervisor's work area is either evacuated with other employees or is relocated to a designated (on the evacuation map) location for evacuation by emergency response personnel Those supervisors whose assigned work areas include restrooms and other inside rooms are responsible to ensure that those areas have been evacuated

5 Evacuation Precautions

When evacuating during a fire, do not open doors if the doors or knobs are hot If they are cool, open doors slowly If smoke is encountered when exiting, kneel down on the floor and crawl to escape Never use an elevator during a fire Smoke and heat rises so the elevator may be filled with smoke

6 Proceed Immediately to Assembly Locations

Employees are instructed to quickly exit the building and to assemble at the primary or secondary assembly locations See Facility Specific Emergency Information List for the primary and secondary locations

7 Conduct Headcount

Supervisors, with the assistance of employees, are to take headcounts at the assembly area Emergency personnel are to be notified of names and last known location of any missing personnel who might require rescue

Emergency personnel or the facility manager will make the decision once a headcount is taken if the situation warrants a further evacuation This may require sending personnel home by normal means or providing them with transportation to an offsite location

8 Do Not Re-Enter Buildmg / Area Untd Authorized

Once emergency response personnel or a member of management has given the "all clear" to employees and their supervisors, they may reenter the facility and proceed to their designated work areas

9 Review Plan

Senior management will conduct a formal critique of the incident and associated actions, to identify necessary recommendations for improvement

VIII MEDICAL EMERGENCIES

1 Reporting a Medical Emergency

During normal working hours, evemngs, or weekends

a Report minor mjuries to your supervisor or designated first aid provider

b Drivers are to call dispatch

c Serious or life threatemng injuries, call 911/Fire Department, and facility management

2 Emergency First Aid Assistance

First aid is only to be provided by designated first aid providers who have received first aid and/or CPR training, and whose job description duties include providing first aid First aid supplies are limited to those materials approved by the Allied Waste's medical provider Additionally, the Allied Waste's contract medical provider has established a procedure to provide post-exposure treatment in the event that an employee is exposed to blood or other potentially infectious substances when voluntarily providing emergency assistance or first-aid Refer to the Safe Work Procedures – First Aid for additional details

Note Employees who have received Allied Waste provided first aid or CPR training, and are not designated as first aid providers are instructed that their job does not require that they perform first aid services

Emergency Action Plan

IX WEATHER – TORNADOS, HURRICANES, FLASH FLOODS

The Facility Manager will make the determination to shut down operations if threatening weather is in the area The Facility Manager will decide whether it will be better to leave the facility if time permits or "shelter-in-place'

1 Monitor Weather Conditions

When threatening weather suggests that a tornado, or other dangerous weather condition, could occur in the vicinity, the Emergency Response Coordinator (ERC) will monitor local news/weather radio broadcasts for warnings issued for areas in or around the Facility

2 Proceed to Designated Shelters

When a weather-related warning is issued for the area the ERC will notify all supervisors to be prepared to move their employees to their assigned shelter areas At the first sign of an approaching tornado or threatening weather, supervisors must direct their employees to shelter If time permits, turn off your equipment, prior to proceeding to the designated shelter area

3 If Designated Shelter is Not Available

Personnel who are unable to reach designated shelters are instructed to use the following guidance to seek alternative shelter Shelters should ideally be below grade, or if not feasible, above grade in an area without windows and of substantial construction Typically, fire stairwells and washrooms are examples of appropriate shelter areas Interior corridors are less desirable as past incidents have indicated that they can become filled with flying shrapnel If the above shelters are not readily available, cover should be sought under heavy furniture, on the lowest floor, and away from windows, glass doors, etc All office trailers should be evacuated, and those personnel should move to a more permanent shelter or lie flat in the nearest depression or ditch Personnel who are outdoors and cannot get to shelter should seek a low-lying area, ditch, depression or low area

4 Headcount and Recovery

After the threat of threatening weather has passed supervisors, with the assistance of employees, are to take headcount to determine that all employees are safe and uninjured Remain in the shelter area until instructed to return to your work area by the ERC

5 Call For Emergency Assistance

Call 911 or the Fire Department if any employee requires medical assistance or rescue Give the Fire Department the appropnate address and the exact location where assistance is required

X SPILL RESPONSE

1 Pre - Planning

Chemicals used or stored at the facility are stored and labeled in approved containers according to the requirements of the Facility's Hazard Communication (Right-To-Know) Program Matenal Safety Data Sheets (MSDS) are available for each of these chemicals Each supervisor is responsible for ensunng that his/her employees are aware of the hazardous chemicals that are used in their work area

Employees are advised, depending on their work assignment, to either leave from the area of a spill and notify the appropnate personnel of the spill/release, or to respond to the spill/release by stopping, contaimng, or cleaning up the spill Appendix C contains a list of chemicals and the amounts if spilled that would require personnel to leave the area

2 Reportmg a Spdl

a Minor Spill

If the spill/release is small (i e , not large enough to require employees to leave the area) report it immediately to your supervisor

b Moderate Spill

Leave the area of the spill/release, then immediately notify your supervisor or a designated spill responder They will initiate the actions that are required to stop, cleanup, or otherwise respond to the spill/release

c Major Spill

Leave the area of the spill, then immediately notify your supervisor or the Facility Manager, and contact the Fire Department

3 Limits of Response

Appendix C contains a list of spill supplies, personal protective equipment to be used for spill responses, and list of personnel who are the designated spill responders for small and moderate sized spills

a Minor Spill

Most employees have received routine Hazard Communication training and have been provided with supplemental training on how to use spill cleanup supplies and additional personal protective equipment which will allows them to cleanup minor spills/releases as a part of their routine work assignments Moderate and larger spills/releases are either handled by moderate spill responders or by Hazardous Materials (HAZMAT) responders

b Moderate Spill

Responders for moderate sized spills are used at this facility for leak prevention and cleanup, where conditions do not exceed the thresholds established in this plan for HAZMAT response Employees who have been assigned to respond to moderate sized spills have received routine Hazard Communication training and have been provided with supplemental training to use spill cleanup supplies and additional personal protective equipment In the event of a moderate spill/release employees are either

- Required to leave the area until the situation is corrected, or
- Trained and qualified, as a member of the spill response team, to stop the leak and/or cleanup the spill/release

c Major Spill

HAZMAT responders are required whenever release of the hazardous chemical creates conditions in the spill/release area that

- Are life or injury threatening,
- Pose a fire or explosion hazard,
- Present an oxygen deficient atmosphere, or
- Cause high levels of a toxic substance

Professional fire and emergency assistance are requested (see emergency contact list) where either the facility does not have a HAZMAT response team or when backup assistance is required for the facility's HAZMAT response team

XI BOMB THREAT

1 Bomb Threat Analysis

Proper response to the threat involves at least three continuous and related but distinct steps

a Analysis of the threat and estimate of the need for response

b Decision on what is the proper response

c Implementing the response decision within the allowable time frame

2 Procedure To Be Followed After A Bomb Threat Has Been Received

The person who receives the threat should immediately contact the Facility Manager or the designated alternate

The person receiving the threat should then immediately fill out a Bomb Threat Checklist (Form 1019, or an equivalent form) This Checklist should be completed for each threat received, noting the time and, if possible, the exact words used in the threat

In the case of a phone threat, record the conversation if possible and consider taping subsequent calls

Once he/she is notified the Facility Manager will

a Notify the local law enforcement agency, or where the facility has a security officer, contact security to notify local law enforcement (where a security service or security office is used it is recommended that the shift commander be requested, to insure confidentiality),

b Notify all supervisors and instruct them whether to evacuate the facility and/or conduct a search The Bomb Threat Search Procedure is contained in Bomb Threat Checklist (Form 1019)

If any employee is so concerned that he/she wants to leave the facihty because of the bomb threat, he/she shall be allowed to do so Such employee will be instructed to punch out upon leavmg the facility and will not be paid for the remainder of the shift Employees will further be instructed not to report for work until the beginning of his/her next shift

If a decision is made to evacuate the facility, supervisors will be responsible for shutting down m the normal manner Employees will be instructed to proceed to the emergency assembly locations and to remain there for further instructions

When a decision has been made to return to work, employees will be advised to return to work Procedures should be in place to contact employees Supervisors should turn in the names of any missing personnel to their managers or the facility manager

XII TRAINING

Training employees is a critical component of this plan m preparing personnel in how to respond to an emergency All employees are trained, on their first day of employment, on the actions that they are required to follow during an emergency Additional training, as appropriate, is provided

- For employees who are assigned to assume additional responsibilities during an emergency,
- Whenever employee's responsibilities or designated actions under the plan change
- Whenever the plan is changed, and
- As necessary to maintain the required skills of personnel

The training program provided to personnel covers this emergency action plan and includes the following topics

- Individual roles and responsibilities,
- Potential threats, hazards, and protective actions,
- Notification, warning, and communications procedures,
- Means for locating family members in an emergency,
- Emergency response procedures,
- Evacuation locations, shelter-in-place locations, and accountability procedures,
- Location and use of common emergency equipment, and
- Emergency shutdown procedures

XIII ANNUAL DRILLS AND PERIODIC UPDATES

This facility conducts a test of this emergency action plan at least annually so personnel become familiar with the emergency procedures, the evacuation routes, emergency assembly locations, and shelter locations The facility reviews this plan with other companies in the area to ensure emergency response efforts are coordinated between neighboring facilities

Additionally, the plan is reviewed with local emergency response officials to help facilitate the coordination of emergency response efforts A relationship has been promoted with the local fire department and ambulance provider so they know the layout of the facility, potential hazards, and are familiar with site emergency response personnel

The plan is stored in a location and manner that can be readily reviewed by employees or their designated representatives This plan is routinely updated as changes occur

XIV PROGRAM ENFORCEMENT

The Facility Manager is responsible for enforcement of this Emergency Action Plan Anyone who directs someone to violate, or has knowledge of a violation, and takes no corrective action will receive appropriate disciplinary action

All personnel are responsible for following the procedures in this program Personnel found in violation of this program will be subject to disciplinary action explained in the Allied Waste Employee Handbook

ALLIED WASTE

ECDC Environmental

Emergency Action Plan

Appendix A - Emergency Information List

Emergency Responders, Phone Numbers, & Assembly Locations

Facility Name ECDC Environmental

Emergency Response Coordmator (ERC) Jeff Green

Address 1111 West Highway 123, East Carbon, UT 84520

Office Phone Number (435) 888-4418

Fire Department Phone Number ( ) _____ - _____ or Emergency dial 911

1 Fire and Evacuation

Equipment needed to be shut down in an emergency

1 Rotary Main Power, Main Gas Shutoff
2 Shop Main Power, Main Gas Shutoff
3 Operations Main Power, Mam Gas Shutoff
4 Main Office Main Power, Main Gas Shutoff

Responsible persons to shutdown equipment

1 Gilbert Palacios – Rotary
2 Grant Laws – Shop
3 Jeff Green – Operations Building
4 Knsty Candelana Main Office

Emergency assembly locations

Primary Parking Lot in front of operations building

Secondary Bottom west gate of facility

2 Medical

Medical assistance personnel (if other than fire department) Carbon Medical Clinic, Sunnyside Ambulance – EMT's

Number of minutes it takes for professional medical assistance to reach this facility is 8 minutes

The facility X has or __ does not have designated and trained employees to serve as first aid responders

Location of first aid supplies Shop, Operations Building

3 Shelter-m-place Emergencies, Weather, etc -

Location of the shelter-in-place and emergency shelters

1 _____

2 _____

4 Spill Response

Emergency Action Plan

The facility __ has or X does not have designated and trained employees as HAZMAT responders If yes, list names _____ _____

Appendix B - Emergency Contact List

Facility Name ECDC Environmental Address 1111 W Highway 123
Cross Streets

Title/Agency	Contact	Business Hours Phone	After-Hours Phone
Emergency Response Coordinator (ERC)	Jeff Green	(435) 888-4418	(801) 573-7533 (435) 472-5102
First Alternate ERC	Gilbert Palacios	(435) 888-4418	(435) 820-0769
Second Alternate ERC	Darin Olsen	(435) 888-4418	(801) 573-7514 (435) 472-8332
Police Department	East Carbon City	911	911
Fire Department	East Carbon City	911	911
Emergency Medical Services	Ambulance Carbon Medical Clinic	911 (435) 888-4411	911 (435) 636-2526 Pager

Emergency Management Program

Appendix C - Spill Response Information

Spills/releases of the following chemicals, at the following locations, in excess of the hsted amounts, will require an employee to leave the area

Location No Chemicals at facility

Chemical (Product) Name	Size of spill (lbs , gallons, etc)

In the event of this type of a spill, go to _____

until advised to retum

Location _____

Chemical (Product) Name	Size of spill (lbs , gallons, etc)

In the event of this type of a spill, go to _____
until advised to retum

Location _____

Chemical (Product) Name	Size of spill (lbs , gallons, etc)

In the event of this type of a spill, go to _____
until advised to retum

Responders for Minor Spills

The following supphes are maintained for minor spill response

Location	Type of Supply	Minimum On-Hand Quantity
Shop	Floor Dry	4 Bags
Sobdifier	Floor Dry	55 Gallon Barrel
Fuel Station	Floor Dry	55 Gallon Barrel
Fuel Station	Absorbent Socks	4 Absorbent Socks

The following personal protective equipment is maintained for minor spill response

Chemical (Product) Name	Assigned Personal Protective Equipment
_____	_____
_____	_____
_____	_____

Responders for Moderate-Sized Spills

The following supphes are maintained for moderate spill response

Location	Type of Supply	Minimum On-Hand Quantity
Shop	Floor Dry	4 Bags
Sobdifier	Floor Dry	55 Gallon Barrel
Fuel Station	Floor Dry	55 Gallon Barrel
Fuel Station	Absorbent Socks	4 Absorbent Socks

The following personal protective equipment is maintained for moderate spill response

Chemical (Product) Name	Assigned Personal Protective Equipment
_____	_____
_____	_____
_____	_____

The following personnel are assigned as moderate spill responders

Job Title/Description

Maintenance Manager / Grant Laws

Environmental Engineer / Darm Olson

Emergency Management Program

Appendix D - Site Evacuation Map

The site evacuation map(s) contains the emergency escape routes for this buildmg and/or area In addition, fire extinguishers, first aid kit, and spill response kit and equipment are indicated All personnel who are not directly involved in responding to the emergency upon notification ofan evacuation are to go directly to the emergency assembly location(s) indicated on this map

Once at the emergency assembly location point, a headcount will be conducted to account for all personnel at the facility

Bomb Threat Checklist

1 When the Threat is Called In

a) Keep the caller on the line as long as possible If possible, record the conversation

Use pages 2 and 3 of this form to note all relevant information from the call

b) If not indicated, ask the caller for the location of the bomb and the time of possible detonation

c) Inform the caller that the building is occupied, and the detonation of a bomb could result in death or serious injury to many innocent people

d) Pay particular attention to peculiar background noises such as motors running, music, and any other noise, which may give a clue as to the location of the caller

e) Listen closely to the voice (male or female), voice quality (calm, excited), accents, unique phrasing, and speech impediments Does this voice immediately remind you of a certain individual? If so, list that

f) Report the call and gathered information immediately to the _____ (Facility Manager or designee)

g) The _____ (Facility Manager or designee) will notify local police and fire department

h) Follow the directions given by the local police or fire department

2 Written Threats

a) Save all materials, including any envelope or container

b) Once the message is recognized as a threat, further unnecessary handling should be avoided Every possible effort must be made to retain evidence such as fingerprints, handwriting or typing, paper, and postal marks that are essential to tracing the threat and identifying the writer

c) Report the call and gathered information immediately to the _____ (Facility Manager or designee)

d) The _____ (Facility Manager or designee) will notify local police and fire department

e) Follow the directions given by the local police or fire department

Bomb Threat Checkhst

IF A TELEPHONE BOMB THREAT IS RECEIVED, THE PERSON TAKING THE CALL SHOULD REMAIN CALM AND TRY TO GET AS MUCH INFORMATION AS POSSIBLE

Key Points
1 Keep the caller talking – Do not interrupt!
2 Ask the caller to speak loader
3 Ask the caller to repeat
4 Write out the caller's message entirely, if possible

Date _____

Time _____ AM/PM

Received By _____

Exact Words of Caller _____

_____

_____

_____

_____

_____

_____

Questions to ask

1 When is bomb going to explode? _____
2 Where is it located? _____
3 What does it look like? _____
4 What kind of bomb is it? _____
5 Why did you place the bomb? _____
6 What do you hope to accomplish? _____
7 What is your name? _____
8 Where are you calling from? _____

Information Regarding the Call and Caller

Voice Characteristics

Familiar	_____	Male	_____	Female	_____
Child	_____	Nasal	_____	Loud	_____
Soft	_____	High	_____	Raspy	_____
Deep	_____	Pleasant	_____		

Other _____

Bomb Threat Checkhst

Speech Characteristics

Fast	_____	Slow	_____	Intoxicated	_____
Stutter	_____	Slurred	_____		

Other _____

Accent Characteristics

Local	_____	Region	_____	Foreign	_____

Other _____

Manner of Caller

Calm	_____	Angry	_____	Deliberate	_____
Emotional	_____	Laughing	_____	Incoherent	_____
Righteous	_____	Rational	_____	Coherent	_____

Other _____

Origin of Call

Internal	_____	External	_____	Cell Phone	_____
Local	_____	Long Distance	_____		

Did the caller appear to be familiar with the facility? Yes _____ No _____

Number/extension at which the call was received _____

Other _____

Background Noises

Office Machines	_____	Street Traffic	_____	Voices	_____
Factory Machines	_____	Airplanes	_____	Trains	_____
Animals	_____	Trucks	_____	Music	_____
Quiet	_____	Party	_____	Static	_____

Other _____

People Contacted	Yes	No	Time
Facility Manager	_____	_____	_____
Police Department	_____	_____	_____
Fire Department	_____	_____	_____
Other _____	_____	_____	_____
Other _____	_____	_____	_____
Other _____	_____	_____	_____

Bomb Threat Search Procedure

a **Authorization and Report**

1 Your supervisor will instruct you when to search and the specific area to be covered Your supervisor should also give you a time limit when to stop searching

2 Report back to your supervisor when the search is complete or at a prearranged time

b **Search Team**

1 A mimmum of two persons and a maximum of three should be used (Should normally include supervisor and one other person familiar with the area)

DO NOT TOUCH ANY SUSPICIOUS ITEMS OR UNIDENTIFIABLE PACKAGES

c **Search Technique**

1 Take your time and use caution

2 Be systematic use upward coverage method first floors, then machines then windows shelves then ceiling then desks

3 Always be as quiet as possible hstemng for timing devices

4 Search high potential areas first

i Toilets (check all closed and locked stalls)

ii Lunchrooms

iii Stairwells

iv Elevators (top of car) and elevator shafts (pits)

v Utility rooms closets janitors' supply areas

vi Areas open or near to exterior doors lobbies etc

vii Indoor trash receptacles

viii Utilities

d **Unidentifiable Package**

1 A bomb device may be in any shape lunch boxes briefcases cigar boxes lead pipes shoe boxes and paper bags are the most common

i The rule of thumb to follow during a search is to attempt to answer the question Does this item look like it belongs here? '

Bomb Threat Checkhst

ii An expensive looking briefcase for example in an executive s office might not be cause for alarm Found in a locked toilet stall however it could mdicate the presence of a device

iii By the same token a cigar box placed under a stairwell would likewise be indicative of a device

2 If a suspected device is located one member of the search team is required to report by phone or in person to the Facility Manager, or designated alternate who will then investigate to determine how likely the suspected device is to be a bomb

i Keep your cool when suspicious objects are found

ii No attempt should be made by the employee to remove or mspect the item!

iii No radio or walkie talkie transmissions should be made as the keying of a microphone could detonate a device

3 The Facility Manager, or designated alternate will direct that appropriate personnel from the area in question and be questioned regarding concerning the suspected device

The Facility Manager or designated alternate will make the necessary arrangements for the police bomb disposal squad to investigate

Daily Cover Requirements

Daily Cover

An owner or operator of a landfill shall, at the close of each day of operation completely cover the waste with at least 6 in of soil or other suitable material approved by the executive secretary that will control vectors, fires, odor, blowing litter, and scavenging without presenting a threat to human health or the environment

Solid waste shall be covered at the end of each working day with a minimum of six inches material In the event that ECDC remains in operation 24 hours per day, the waste shall be covered intermittently during the day Other material may be used for daily cover such that those materials control vectors, fires, odors, and scavenging animals (ECDC Environmental, L C - Permit and Permit Renewal Application - Permit Section pg 5)

State and federal regulations on daily cover require placement of a minimum of six inches of cover material on all exposed refuse at the end of each operating day Daily cover may be of any soil type and should only be applied after the refuse has been placed, compacted, and trimmed to the proper grade Before soil cover is placed track-walking must be completed on all working faces Daily cover is most easily and efficiently placed on refuse that is well compacted and trimmed to a smooth finish Daily cover is a very important part of a landfill It helps to stop blowing litter and curb the propagation of vectors A continuous layer of daily cover will also greatly decrease the chances of a fire occurring in the landfill (Handbook of Landfill Operations - Sec 5 7 1)

The application of suitable soil cover to solid waste can

- reduce litter, odors vermin and other "nuisances"
- reduce infiltration of water and potential leachate generation
- provide better access to work face
- enhance final use potential of site
- increase safety of site patrons and personnel
- control landfill gas migration
- support vegetation growth
- minimize fire danger

Alternative Daily Cover (ADC)

Altemative Daily Cover systems may provide an improved overnight seal, may be less expensive than placing cover soil, and may greatly increase the landfill's life Most states

require that any proposed alternative daily cover system be approved before they are used Sometimes a pilot program may be required in order to demonstrate that the proposed altemative daily cover material will work at a specific site Because of the cost to place daily cover and the value of airspace which it consumes, many site operators use ADC The savings in soil handling costs and airspace can be significant It is a mistake to assume that using ADC saves only the equivalent of 6 in of daily cover over the face In fact, the savings in soil depth is much greater Several factors affect the amount of cover soil required These include

- Type of Waste
- Density of Waste
- Type of equipment used to finish the cell
- Method used to place cover soil
- Type of soil
- Moisture content of soil

(The Handbook of Landfill Operations - Ch 7 - Pg 7)

Reviewed January 1, 2007

ECDC
ENVIRONMENTAL

Daily Cover Training
Sign In Sheet

DATE _____

TIME_____

Training given by_____

I the undersigned understand the regulations concerning the placement of daily cover I also understand that these rule Are State and Federal regulations I myself can be reprimanded with disciplme up to and including termination if the rules governed by the State and Federal regulations are not followed ECDC Environmental has trained me in all method and manner of the placement of daily cover

NAME	SOCIAL SECURITY NUMER
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

Standards

LITTER AND BLOWN PAPER CONTROL

Standard

1 Windblown waste will be **contained** to as small an area as possible near the working face
2 All blown paper leaving the site will be **collected** by the close of business that day
3 All on site blown paper will be continuously **collected**

Requirements

The use of movable paper fences and perimeter fences will serve to minimize the spread of blown paper There will be three layers of fence protection at a site to meet this standard

a **Portable panels** at the working face

h Chicken wire or some other **temporary** T **post** type fence constructed 300-500 from the working face

c The site boundary **perimeter** fence

Push Points

Use three layers of protection

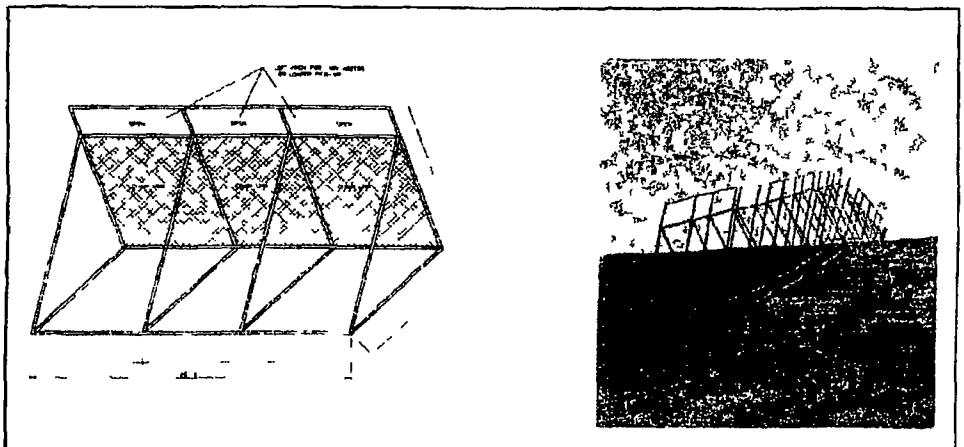
- Portable panel placement
- No off site paper at days end

The key to keeping a site free of blown paper is to contain the paper to as small an area as possible by the use of the 3 layers of containment Primary protection is provided by the use of portable fence panels The portable fences at the working face will be a minimum of 10 tall and in 15 20 wide sections The number of panels needed depends on the size of the working face but in all cases a minimum of 10 panels will be available Fences will be placed within 50 of the working face on the down wind side and will be capable of being moved quickly if the wind shifts Containment close to the working face within the portable panel containment area will reduce the time necessary for blown paper collection Without portable panel containment many acres of the site can be left unprotected which will result in additional manpower hours needed to pick blown paper from the larger area

Secondary line of protection fencing referred to as T-post fences will be used in conjunction with portable panels They are not a replacement for

continues on next page

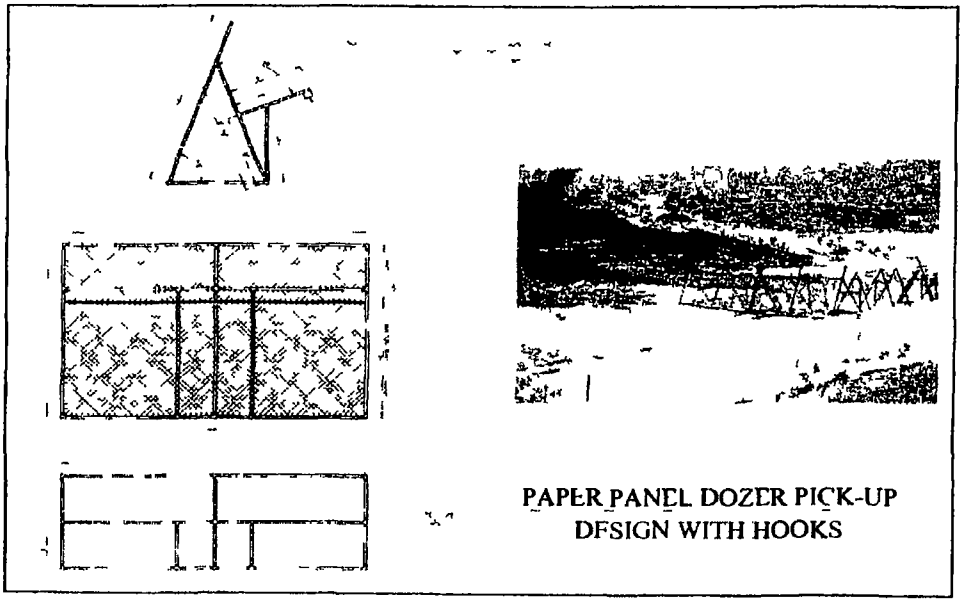
the panels By their nature portable panels have to be moved periodically they may also have gaps between the panels due to irregular terrain soil rutting etc Some paper in small amounts may blow between or over the panels Secondary fences are placed 300-500 ft down wind of the portable panels and are intended to catch any blow by paper from those panels The emphasis is containment of the paper to as small an area as possible T-post fencing will be liberally placed around the site and added to as the face panels move Moving T-post fencing can become impractical because of its flimsy material Replace ment as well as adding to the lines of T post fencing is more efficient Paper stopped by the row of fencing is easier and quicker to collect than combing acres of land for blown paper not contained by fence rows



PAPER PANEL LOADER BUCKET PICK UP DESIGN

The third layer of protection is the site perimeter or site boundary fence This is considered the final layer of the paper containment system but can not be the only containment on site The perimeter fences at a site are typically what is viewed by the public The paper it traps will be only that which escapes the previous two layers of protection Site perimeter fencing can vary from chain link for security purposes to golf

continues on next page



PAPER PANEL DOZER PICK-UP
DESIGN WITH HOOKS

course type netting depending on the site terrain normal wind conditions for the site and proximity to a neighborhood

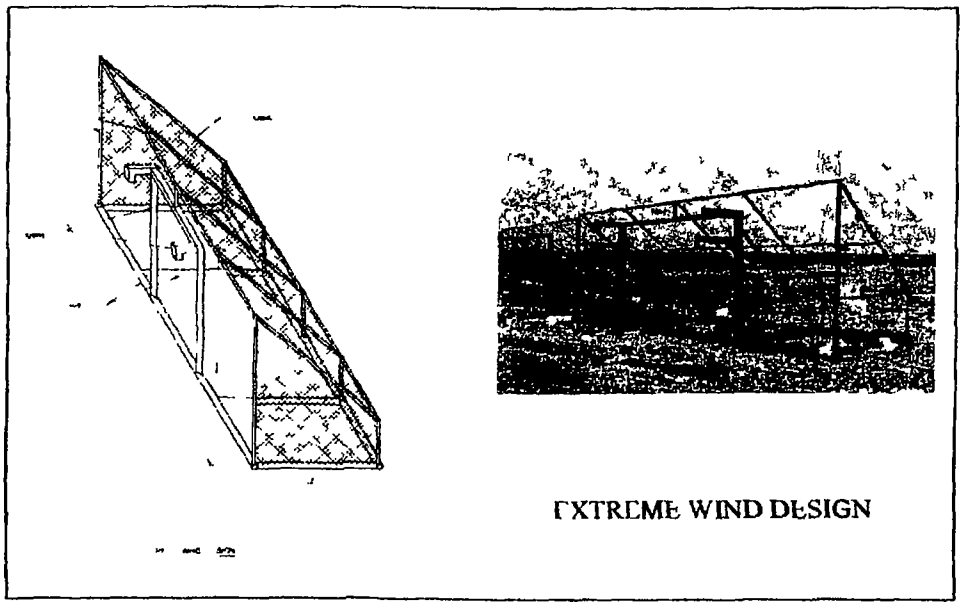
It is imperative that the multi-layer litter control system is in place to ensure compliance with the second part of the standard **(all blown paper leaving the site will be collected by the close of business that day)** No neighbor or passer by to the facility will be impacted by blown litter that has left the site Paper blown on site and trapped by the three layers of protection will be continuously collected bagged and transported back to the working face Site personnel will patrol roads surrounding the site and leading to the site for paper that may have blown off trucks on route to the landfill

Before closing for the day the weather forecast will be checked and panels placed where the forecast predicts the wind will be blowing when you open the next day Waiting until the next day to place the panels can result in early loads being blown before the panels are in the proper location Any bagged trash collected by the paper picking crews will be collected the same day Illegal dumping on site perimeter roads will be cleaned immediately and not allowed to accumulate or impact neighbo rs Daily cover will be placed immediately in excessively high

continues on next page

winds to help reduce the amount of blowing paper The cover can significantly reduce the size of the face reducing the amount of blown paper exposure In extreme cases the site will have to close the face completely until the wind subsides

Picking up paper immediately after a wind storm and on a daily basis is necessary for compliance If additional labor is needed to clean after a high wind event it will be done promptly



FIRE CONTROL

Standard

To train personnel in fire prevention and methods to safely react to a fire should it occur

Requirement

Prevention is the key to fire safety at any facility No smoking signs must be posted at the working face at all times All fire extinguishers must be kept fully charged and will be inspected per the Allied Waste Safety Policy

Push Points
- Prevention first
- Hot Load fires
- Fires in the waste
- Machine fires
- Safety priorities (man then machine)

HOT LOAD PROCEDURES - If a hot load is discovered in a truck away from the landfill the driver would be instructed by the dispatcher to eject the load in a safe area before reaching the landfill However a load may arrive hot or be discovered hot on the way to the landfill

If the truck is located close enough to the landfill at the time of discovery it will be instructed to compact the load in the truck as tightly as possible and proceed to the landfill to avoid putting the general public at risk It is crucial that a landfill plan ahead and have an area prepared at all times for hot loads **The hot load** area will be away from the active working face and there will be a sufficient supply of cover dirt stockpiled to smother a truck load fire A truck entering the landfill in the case of a hot load would not be required to stop at the scale

The hot load area is intended to be an isolated spot so the load can be allowed to cool or be extinguished with water

The stockpiled soil at the hot load area can be used to crowd and contain the fire in periods of high wind Once the hot load is unloaded on the ground flare up is likely due to the addition of oxygen

continues on next page

When the fire is contained and under control the soil will be placed over the hot load to insure the fire is completely smothered To protect the people and machine in the covering of the waste with stockpiled dirt there will be someone standing by with a fire extinguisher Allow the covered pile to sit for at least 24 hours The load will be broken open and checked for hot spots use water or foam if necessary to make sure the fire is completely out Do not incorporate the load back into the active face until you are certain the load is cold and will not re ignite

FIRES IN THE WORKING FACE REFUSE - Types of landfill fires can vary They normally consist of

a **chemical** those caused by an oxidizer or reactive agent

b ignited - those caused by hot sparks matches cigarettes and

c **spontaneous combustion** caused by compacted wet grass trash etc

All sites will maintain a minimum 3-day stockpile of daily soil cover in close proximity to the working face The primary purpose of the stockpile is to make sure daily cover is readily available during periods of extreme wet weather conditions when hauling soil from the borrow area is not possible This stockpile can also be used for fighting fires at the working face If not needed for fire control the stockpile would be consumed by normal daily cover operations but will be replenished as the working face moves

In any fire the protection of the customer employee and equipment is a priority When a fire is discovered immediately notify the supervisor or management on site If it is deemed necessary or required by the site s permit the local fire department will be notified For those fires that are too large to extinguish by landfill personnel the primary responsibility would be to contain and control the fire until the fire department can extinguish it

Waste hauling trucks should be diverted to another section of the landfill Personnel should be used to watch for additional outbreaks and to spot fires around the landfill equipment being used to contain the fire

Small face fires will be cut off the working face with heavy equipment and placed near the turnaround area where it can be covered and smothered with stockpiled daily cover Soil When cutting a fire off at the working face the machine should never drive directly into open flames Use the blade to roll up on burned material in front of the machine as a protective barrier between the machine and the flames

continues on next page

Crowd the burning waste off the working face and away from additional waste that may ignite and continue to feed the flames While the material is being crowded or pushed from the face site personnel or fire departmer t personnel should be present to continuously hose down the waste and machine If the fire is too large to cut from the face it should be watered or foamed in place and covered with soil unbl it is cold enough to cut off from the face

Even after a fire has been hosed down when it Is disturbed by the dozing it can flair up again Continual inspection for flair ups and hot spots is necessary Site personnel should take direction from the fire department and site management during this operation to insure protect ion of persons first and equipment second The waste that is cut from the face should be thoroughly soaked and covered with clean soils and left for at least 24 hours before final disposition Never place the burned waste back into the lift until all hot spots are eliminated and site management has cleared the material for re burial

MACHIN E FIRES When a machine fire starts reaction is very important As soon as a fire is detected do the following five things

WHAT TO DO

1 Quickly move the machine off the working face

2 Turn the machine OFF!

3 Quickly activate the fire suppression system by pulling the safety ring pin and pushing down the actuator plunger

4 Get away from the machine Take a hand portable fire extinguisher with you if possible

5 Stand by with the portable exfinguisher

WHY DO IT

1 Moving the machine off the face will prevent the fire from spreading to the waste If the fire grows too rapidly to move the machine activate the fire suppression system and abandon the machine

2 If the machine is left running it may add fuel or flammable oils to the fire or re start the fire

3 React quickly in activating the suppression system to reduce the threat of spreading fire

4 By leaving the immediate area you are protected from flames explosion s or other dangers created by the fire

continues on next page

5 Heat from the fire will cause re ignition after the Fire suppression System has discharged Therefore it is important that someone standby at a safe distance with a portable extinguisher

WHAT TO EXPECT WHEN YOU DISCHARGE A FIRE EXTINGUISHER
When the system discharges there is considerable noise accompanied by clouds of dry chemical The extinguishing agent is non toxic but exposure should be limited

AFTER THE FIRE IS OUT WHAT DO YOU DO
Machinery should not be re-started until it has been serviced cleaned and repaired

IMMEDIATELY recharge the fire suppression system!

ECDC ENVIRONMENTAL

Radiation Check & Alarm Procedure

Written by Darin Olson

PURPOSE To assure radioactive material, which may inadvertently arrive at the landfill, is identified and managed appropriately.

Radiation monitors will be calibrated at least yearly by the manufacture

Radiation monitors will be inspected by site personnel monthly to assure they are working properly

- All waste material arriving at the landfill facility will be screened for radiation If radiation is detected the load is immediately be rejected

  During regular business hours when waste arrives at the facility site personnel will observe the radiation monitors For rail delivered loads which may arrive on holidays or weekends the radiation monitor printout will be checked If an alarm has occurred a manager will be immediately notified

- Management will contact the sales person and or generator and inform them of the situation and assist in proper management of the waste Transportation and disposal regulations will be addressed

  Management may chose to contact appropriate regulatory authorities to assist in proper management of radioactive waste

Any deviation or alteration from this policy could result in discipline up to and including discharge

July 30 2002

ECDC RADIATION MONITOR CHECK

(Please Sign Detector Location)

ROTARY _____

INTERMODAL _____

MAIN OFFICE _____

Date _____

Time _____

Comments / Follow up

_____

_____

_____

_____

_____

Attach Prmtout

_____

_____

_____

_____

FUGITIVE DUST EMISSIONS CONTROL PLAN
ECDC ENVIRONMENTAL, L C

1 Introduction

This Fugitive Dust Emissions Control Plan has been developed by ECDC Environmental, L C (ECDC) to address methods of controllmg on-site fugitive dust resulting from normal operations at the East Carbon landfill It is the intent of ECDC to implement control strategies for the minimization of fugitive dust as required by Utah Code Rule R307-205 and prior negotiations between ECDC and the Utah Division of Air Quality

2 Source Information

ECDC operates a solid waste landfill one mile west of East Carbon City, in Carbon County, Utah (UTM 4,377,500 meters North, 548,000 meters East) This facility accepts non-hazardous solid waste as permitted by the Utah Department of Environmental Quality, Division of Solid and Hazardous Waste In addition to normal waste processing operations, this facility will proceed under expansion construction approximately four months per year during the expected 250-year life The process at the facility includes acceptance and final placement of non-hazardous solid waste During normal facility operation, many sources of fugitive dust are possible Each of these sources are described in Section 3 of this plan The types of materials that could emit fugitive dust at ECDC are non-hazardous waste material, imported soil material, and on-site soil materials ECDC accepts approximately 1,000,000 tons of non-hazardous and soil waste materials per year The waste that is accepted at ECDC is hauled to either of the two operatmg landfill cells for final placement The on-site soils which are produced are used for road and landfill construction The individuals who are responsible for the implementation and maintenance of fugitive dust control measures at the site are as follows

Mr Kirk Treece	Mr Jeff Green
Site Manager	Operations Supervisor
435-888-4418	435-888-4418

3 Description of Fugitive Dust Emission Activities

ECDC will implement this Fugitive Dust Control Plan to monitor and control fugitive dust emissions from the following sources

3 1 Railcar Rollover Facility

The Railcar Rollover Facility operates to dump the contents of railcars The waste material is then loaded into waste haulmg vehicles with front-end loaders for transport to the designated landfill cell The operation mcludes the use of a railcar rollover mechanism, railcar washout water sprayers, front-end loaders, waste hauling vehicles, and dust suppression water sprayers The facihty is covered and enclosed on three sides with

one side open for access The wastes that could be encountered at this source and could emit fugitive dust include all types of sands and soils, demolition and construction debris, ash material, and exempt household wastes The emission of dust is possible during the dumpmg of the imported waste material and loading the waste material into the waste haulmg vehicles The building that houses this activity is 110' X 126' This fugitive dust source is identified in Attachment B

3 2 Railcar Bottom Dump Facility

The Railcar Bottom Dump Facility operates to dump the contents of railcars The waste material is then loaded into waste hauling vehicles with front-end loaders for transport to the designated landfill cell This facility is rarely used The operation includes the use of a railcar bottom dump mechanism, front-end loaders, waste hauling vehicles, and dust suppression water sprayers The wastes that could be encountered at this source and could emit fugitive dust include all types of select (soils) waste The emission of dust is possible during the dumping of the imported waste material and loading the waste material into the waste hauling vehicles The activity site is 200 feet by 200 feet and has a maximum emission area of 0 0014 square mile (0 92 acre) This fugitive dust source is identified in Attachment A

3 3 Paved Haul Roads

The Paved Haul Roads source consist of roadways for waste haulmg vehicles, transportation vehicles, personal vehicles, and support vehicles The operation includes the use of waste hauling vehicles, transportation vehicles, support vehicles, and a road cleaning vehicle The average speed on the paved haul roads is 30 miles per hour The wastes that could be encountered at this source and could emit fugitive dust include all types of sands and soils, demolition and construction debris, ash material and exempt household wastes Such materials exist on the paved haul roads due to spillage from the waste hauling vehicles Also, waste exist on the paved haul roads because of waste material sticking to the waste haulmg vehicles tires and then falling off on the roads The emission of fugitive dust is possible during the travel of all vehicles on the paved roads and in high wind events The total release area of paved haul roads during this activity is 0 0361 square mile (23 08 acres) This fugitive dust source is identified in Attachment A

3 4 Landfill Cell Haul Roads

The Landfill Cell Haul Roads source consists ot roadways in the two landfill cells The operation includes the use of waste hauling vehicles, a water truck, transportation vehicles, waste placement equipment, construction material hauling vehicles, and support vehicles The average speed on the landfill cell haul roads is 10 miles per hour The wastes that could be encountered at this source and could emit fugitive dust include all types of sands and soils, demolition and construction debris, ash material, and exempt household wastes Such materials exist on the cell haul roads due to spillage from the

waste hauling vehicles and wind blown waste materials from within the landfill cells The emission of fugitive dust is possible during the travel of all vehicles on the unpaved landfill cell haul roads and in high wind events The total length of landfill cell haul roads in use durmg this activity varies from day to day but is approximately three miles with a release area of 0 0121 square mile (7 76 acres) This fugitive dust source is identified in Attachment A

3 5 Gravel/Dirt Haul Roads

The Gravel/Dirt Haul Roads source consists of roadways on the property for construction material hauling vehicles, waste hauling vehicles, transportation vehicles, and support vehicles The average speed on the gravel/dirt haul roads is 30 miles per hour The operation includes the use of construction material hauling vehicles, waste hauling vehicles, a water truck, transportation vehicles, and support vehicles The source of fugitive dust for this activity mclude the materials that the unpaved haul roads are constructed of, the spillage of construction and waste materials from the material hauling vehicles, and waste tracked fiom loadmg aieas by the waste hauling vehicles The emission of fugitive dust is possible during the travel of all types of vehicles on the gravel/dirt haul roads and in high wind events The total release area length of gravel/dirt haul roads is approximately 0 0374 square mile (23 94 acres) This fugitive dust source is identified m Attachment A

3 6 Haul Vehicle and Container Unloading

The Haul Vehicle and Container Unloading activity operates to dump the contents of waste hauling end dump vehicles and various waste containers mto the landfill cells The waste material is end-dumped from the waste hauling vehicles and the waste containers The operation includes the use of waste and container hauling vehicles, and dust suppression water sprayers This activity takes place at several different areas m the two landfill cells during normal operation at the facility The wastes that could be encountered at this source and could emit fugitive dust include all types of sands and soils, demolition and construction debris, ash material, and exempt household wastes The emission of dust is possible during the dumping of the waste material from the waste hauling vehicles and the various waste contamers The size of each dumping area varies day to day but is approximately 0016 square mile (1 acre) This fugitive dust source is identified in Attachment C

3 7 Rollover Waste Container Dumping

The Rollover Waste Container Dumping activity operates to dump the contents of large waste containers The waste material is dumped into the landfill cell by using a large rollover mechanism The material is then moved by dozing, placed in lifts, and compacted The operation includes the use of waste contamer haulmg vehicles, rollover mechanism, track-type tractors, sheepsfoot landfill compactors, and dust suppression

water sprayers This activity takes place within the boundaries of the landfill cells The wastes that could be encountered at this source and could emit fugitive dust include all types of sands and soils, demolition and construction debris, ash material, and exempt household wastes The emission of dust is possible during the dumping of the containers, moving, placing, and compacting the waste matenal The size of each dumping area varies day to day but is approximately 0 0031 square mile (2 acres) This fugitive dust source is identified in Attachment D

3 8 Waste Compaction

The Waste Compaction activity operates to compact the waste material withm the landfill cells The waste material is compacted by usmg a sheepsfoot landfill compactor The operation includes the use of sheepsfoot landfill compactors and dust suppression water sprayers This activity takes place within the boundaries of the landfill cell The wastes that could be encountered at this source and could emit fugitive dust include all types of sands and soils, demolition and construction debris, ash material, and exempt household wastes The emission of dust is possible during the compacting of the various waste materials The size of the compaction area varies day to day but is approximately 0 0031 square mile (2 acres) This fugitive dust source is identified in Attachment E

3 9 Soil Excavation

The Soil Excavation activity operates primarily for excavation and moisture treatment of on-site construction materials The construction material is excavated and moisture conditioned to allow use as embankment building materials and bedding materials The operation includes the use of construction material hauling vehicles, track-type tractors, track-type excavators, a motor grader, a water truck, transportation vehicles, and support vehicles This activity takes place on the ECDC property The materials that could be encountered at this source and could emit fugitive dust mclude all types of silts, clays, and sands The emission of dust is possible during the excavation and loadmg activities The size of each excavation area is approximately 0 0313 square mile (20 acres) This fugitive dust source is identified m Attachment A

3 10 Solidification Facility

The Solidification Facility operates to solidify liquid waste The liquid waste material is mixed with coal ash The mixed waste material is then loaded into waste hauling vehicles with front-end loaders for transport to the designated landfill cell The operation includes the use of a front-end loaders, waste hauling vehicles, and dust suppression water sprayers The wastes that could be encountered at this source and could emit fugitive dust include coal ash material from local power plants The emission of dust is possible during the dumping of the imported coal ash material, mixing of liquid waste and coal ash material, and loading the mixed waste material into the waste hauling vehicles The activity is 70' X 100' with an area of 0 0003 square mile (0 16 acre) This

fugitive dust source is identified in Attachment F

3 11 Soil Screening and Stockpiling

The Soil Screening and Stockpiling activity operates to provide a soil cover for imported waste materials and cover for the geomembrane liner The operation includes the use of cover material hauling vehicles, track-type tractors, tiack-type excavators, dust suppression water sprayers, a screen mechanism, and support vehicles These activities take place withm the landfill cell boundaries The materials that could be encountered at this source and could emit fiigitive dust include all types of silts, clays, and sands The emission of dust is possible during screening, stockpiling, and loading activities The size of operation area varies but is approximately 0 0078 square mile (5 acre) This fugitive dust source is identified in Attachment A

3 12 Landfill Cell #7

Landfill Cell #7 operates as an area for final placement of imported waste materials The waste material is placed, compacted, and covered within the boundaries of the landfill cell The operation includes the use of sheepsfoot landfill compactors, waste hauling vehicles, a large rollover mechanism, construction material hauling vehicles, track-type tractors, track-type excavators, a motor grader, a water truck, transportation vehicles, dust suppression water sprayers, and support vehicles The wastes that could be encountered at this source and could emit fugitive dust include all types of sands and soils, demolition and construction debris, ash material, and exempt household wastes The size of the landfill area is appioximately 0 0750 square mile (48 acres) This fugitive dust source is identified in Attachment A

3 13 Landfill Cell #10

Landfill Cell #10 operates as an area for final placement of imported waste materials The waste material is placed, compacted, and covered within the boundaries of the landfill cell The operation includes the use of sheepsfoot landfill compactors, waste hauling vehicles, a large rollover mechanism, construction material hauling vehicles, tiack-type tractors, track-type excavators, a motor grader, a water truck, transportation vehicles, dust suppression water sprayers, and support vehicles The wastes that could be encountered at this source and could emit fugitive dust include all types of sands and soils, demolition and construction debris, ash material, and exempt household wastes The size of the landfill area is approximately 0 0211 square mile (13 5 acres) This fugitive dust source is identified in Attachment A

3 14 Landfill Super Cell 1-A

Landfill Super Cell 1-A operates as an area for final placement of imported waste materials The waste material is placed, compacted, and covered withm the boundaries of the landfill cell The operation includes the use of sheepsfoot landfill compactors, waste

hauling vehicles, a large rollover mechanism, construction material hauling vehicles, track-type tractors, track-type excavators, a motor grader, a water truck, transportation vehicles, dust suppression water sprayers and support vehicles The wastes that could be encountered at this source and could emit fugitive dust include all types of sands and soils, demolition and construction debris, ash material, and exempt household wastes The size of the landfill area is approximately 0 0188 square mile (12 acres) This fugitive dust source is identified m Attachment A

4 Description of Fugitive Dust Emission Controls

Opacity readings will be taken randomly to ensure compliance with this plan The results of the readings will be recorded on a log and will be available for review by representatives of the Utah Division of Air Quality Refer to Attachment G for an example of the log sheet

Three different levels of control are proposed for each source Level 1 will be implemented at an estimated opacity reading of 0 - 5% Level 2 will be implemented at an estimated opacity reading of 5 - 15% Level 3 will be implemented at an estimated opacity reading of 15% ECDC will apply the levels of control for each of the following identified on-site fugitive dust sources

4 1 Railcar Rollover Facility

Level 1 — No action will be required due to the moisture condition of the imported waste material or operating weather conditions

Level 2 — Waste material will be partially wetted with the dust suppression water sprayers during dumping operations Wet and dry waste materials will be mixed while waste hauling vehicles are loaded with front-end loaders

Level 3 — Matenal will be wetted with the dust suppression water sprayers prior to and during dumping operations Additional water spray will be applied to the waste material after dumping as determined by the facihty operator Wet and dry materials will be mixed prior to and during loading of the waste material into the waste hauling vehicles

This source of fugitive dust is not in operation during off hours Therefore, no action will be required at those times

4 2 Railcar Bottom Dump Facility

Level 1 — No action will be required due to the moisture condition of the imported waste material or operating weather conditions

Level 2 — Waste material will be partially wetted with the dust suppression water sprayers during dumping operations Wet and dry waste materials will be mixed while waste hauling vehicles are loaded with front-end loaders

Level 3 — Material will be wetted with the dust suppression water sprayers prior to and during dumping operations Additional water spray will be applied to the waste material after dumping as determined by the facility operator Wet and dry materials will be mixed prior to and during loading of the waste material into the waste hauling vehicles

This source of fugitive dust is not m operation during off hours Therefore, no action will be required at those times

4 3 Paved Haul Roads

Level 1 — No action will be required due to the conditions of the haul roads or operating weather conditions All paved haul roads are washed and swept routinely as permitted by weather conditions

Level 2 — All haul roads will be sprayed with water or washed and swept as directed by the Operations Supervisor, Site Manager or his representative The water application rate will be determined on a daily basis to minimize fugitive dust emissions The operation of the water truck and sweeper vehicle will be directed by the Operations Supervisor

Level 3 — The application rate will be increased as determined by the Site manager or his representative to a level that will minimize fugitive dust emissions without compromising road safety If the opacity readings exceed 20% as determined by the Operations Supervisor, Site Manager, his representative, or a representative of the Utah Department of Air Quality, the traffic pattern may be altered or halted until operating conditions improve

This source of fugitive dust is not m operation during off hours Therefore, no action will be required at those times

4 4 Landfill Cell Haul Roads

Level 1 — No action will be required due to the condition of the haul roads or

operating weather conditions All roads within the landfill cells are routinely sprayed with water for fugitive dust control during normal operations as permitted by weather conditions The operation of the water truck will be directed by the Operations Supervisor

Level 2 — All haul roads will be sprayed with water as directed by the Operations Supervisor, Site Manager or his representative The water application rate will be determined on a daily basis to minimize fugitive dust emissions by the Operations Supervisor

Level 3 — The application rate of water will be increased as determined by the Operations Supervisor, Site Manager or his representative to a level that will minimize fugitive dust emission without compromising road safety If the opacity readings exceed 20% as determined by the Operations Supervisor, Site Manager, his representative, or a representative of the Utah Department of Air Quality, the traffic pattern may be altered or halted until operating conditions improve

This source of fugitive dust is not m operation during off hours Therefore, no action will be required at those times

4 5 Construction Haul Roads

Level 1 — No action will be required due to the condition of the haul roads or operating weather conditions All haul roads are routinely sprayed with water for fugitive dust control during normal operations as permitted by weather conditions The operation of the water truck will be directed by the Operations Supervisor

Level 2 — All haul roads will be sprayed with water as directed by the Operations Supervisor, Site Manager or his representative The water application rate will be determined on a daily basis to minimize fugitive dust emissions by the Operations Supervisor

Level 3 — The application rate of water will be increased as determined by the Operations Supervisor, Site Manager or his representative to a level that will minimize fugitive dust emission without compromising road safety If the opacity readings exceed 20% as determined by the Operations Supervisor, Site Manager, his representative, or a representative of the Utah Department of Air Quality, the traffic pattern may be altered or halted until operating conditions improve

This source of fugitive dust is not in operation during off hours Therefore, no action will be required at those times

4 6 Haul Vehicle and Container Unloading

Level 1 No action will be required due to the condition of the imported waste material or operating weather conditions

Level 2 Imported waste materials will be treated with dust suppression water sprayers during unloading operations to minimize dust emissions The water application rate will be determined by the Operations Supervisor

Level 3 The application rate of the water will be increased as determined by the Operations Supervisor, Site Manager or his representative to a level that will minimize fugitive dust emissions If the opacity readings exceed 20% as determined by the Operations Supervisor, Site Manager, his representative, or a representative of the Utah Department of Air Quality, the unloading activity may be altered or halted until operating conditions improve

This source of fugitive dust is not in operation during off hours Therefore, no action will be required at those times

4 7 Rollover Waste Container Dumping

Level 1 No action will be required due to the condition of the imported waste material or operating weather conditions

Level 2 Imported waste materials will be treated with dust suppression water sprayers during dumping operations to minimize dust emissions The water application rate will be determined by the Operations Supervisor

Level 3 The application rate of the water will be increased as determined by the Operations Supervisor, Site Manager or his representative to a level that will minimize fugitive dust emissions If the opacity readings exceed 20% as determined by the Operations Supervisor, Site Manager, his representative, or a representative of the Utah Department of Air Quality, the dumping activity may be altered or halted until operating conditions improve

This source of fugitive dust is not m operation during off hours Therefore, no action will be required at those times

4 8 Waste Compaction

Level 1 No action will be required due to the condition of the imported waste material or operating weather conditions

Level 2 Imported waste materials will be treated with dust suppression water sprayers during compaction operations to minimize dust emissions The water application rate will be determined by the Operations Supervisor Also, waste placement and compaction methods may be altered by the operators to minimize fugitive dust emissions

Level 3 The application rate of the water will be increased as determined by the Operations Supervisor, Site Manager or his representative to a level that will minimize fugitive dust emissions Waste placement and compaction methods may be altered by the operators as directed by the Operations Supervisor, Site Manager or his representative to minimize fugitive dust emissions without compromising operator safety If the opacity readings exceed 20% as determined by the Operations Supervisor, Site Manager, his representative, or a representative of the Utah Department of Air Quality, the waste compaction activity may be altered or halted until operating conditions improve

This source of fugitive dust is not in operation during off hours Therefore, no action will be required at those times

4 9 Soil Excavation

Level 1 No action will be required due to the condition of the excavated material or operating weather conditions

Level 2 Excavated materials will be treated with dust suppression water sprayers during excavating and loading operations to minimize dust emissions The water application rate will be determined by the Operations Supervisor

Level 3 The application rate of the water will be increased as determined by the Operations Supervisor, Site Manager or his representative to a level that will minimize fugitive dust emissions If the opacity readings exceed 20% as determined by the Operations Supervisor, Site Manager, his representative, or a representative of the Utah Department of Air Quality,

the excavating and loading activity may be altered or halted until operating conditions improve

This source of fugitive dust is not in operation during off hours Therefore, no action will be required at those times

4 10 Solidification Facility

Level 1 No action will be required due to the moisture condition of the imported waste material or operating weather conditions

Level 2 Ash material will be partially wetted with the dust suppression water sprayers during dumping and mixing operations Wet and dry waste materials will be mixed while waste hauling vehicles are loaded with front-end loaders The water application rate will be determined by the Operations Supervisor

Level 3 Ash material will be wetted with the dust suppression water sprayers prior to and during dumping and mixing operations The application rate of the water will be determined by the Operations Supervisor, Site Manager or his representative to a level that will minimize fugitive dust emissions Additional water spray will be applied to the waste material after dumping and mixing as determined by the facility operator, Operations Supervisor, Site Manager or his representative Wet and dry materials will be mixed prior to and during loading of the waste material into the waste hauling vehicles If the opacity readings exceed 20% as determined by the Operations Supervisor, Site Manager, his representative, or a representative of the Utah Department of Air Quality, the solidification activity may be altered or halted until operating conditions improve

This source of fugitive dust is not in operation during off hours The area and facility is cleaned after it has be used Therefore, no action will be required at those times

4 11 Soil Screening and Stockpiling

Level 1 No action will be required due to the condition of the screened material or operating weather conditions

Level 2 Screened materials will be treated with dust suppression water sprayers during screening and stockpiling operations to minimize dust emissions

The water application rate will be determined by the Operations Supervisor

Level 3 — The apphcation rate of the water will be increased as determined by the Operations Supervisor, Site Manager or his representative to a level that will minimize fugitive dust emissions If the opacity readings exceed 20% as determined by the Operations Supervisor, Site Manager, his representative, oi a representative of the Utah Department of Air Quality, the screening and stockpiling activity may be altered or halted until operating conditions improve

This source of fugitive dust is not in operation during off hours Therefore, no action will be required at those times

4 12 Landfill Cell #7

Level I — No action will be required due to the condition of the landfill materials, cover materials, or operating weather conditions

Level 2 — Landfill materials will be treated with dust suppression water sprayers to minimize dust emissions The water application rate will be determined by the Operations Supervisor

Level 3 — The application rate of the water will be increased as determined by the Operations Supervisor, Site Manager or his representative to a level that will minimize fugitive dust emissions The application of a hydromulch may be implemented under the direction of the Operations Supervisor, Site Manager or his representative The hydromulch will be a cellulose fiber product manufactured using fiber stock

This source of fugitive dust will be monitored during off hours and levels of control will be implemented as required

4 13 Landfill Cell #10

Level 1 — No action will be required due to the condition of the landfill materials, cover materials, or operating weather conditions

Level 2 — Landfill materials will be treated with dust suppression water sprayers to minimize dust emissions The watei application rate will be determined by the Operations Supervisor

Level 3 The application rate of the water will be increased as determined by the Operations Supervisor, Site Manager or his representative to a level that will minimize fugitive dust emissions The application of a hydromulch may be implemented under the direction of the Operations Supervisor, Site Manager or his representative The hydromulch will be a cellulose fiber product manufactured using fiber stock

This source of fugitive dust will be monitored during off hours and levels of control will be implemented as required

4 14 Landfill Super Cell 1-A

Level 1 No action will be required due to the condition of the landfill materials, cover materials, or operatmg weather conditions

Level 2 Landfill materials will be treated with dust suppression water sprayers to minimize dust emissions The water application rate will be determined by the Operations Supervisor

Level 3 The application rate of the water will be increased as determined by the Operations Supervisor, Site Manager or his representative to a level that will mirimize fugitive dust emissions The application of a hydromulch may be implemented under the direction of the Operations Supervisor, Site Manager or his representative The hydromulch will be a cellulose fiber product manufactured using fiber stock

This source of fugitive dust will be monitored during off hours and levels of control will be implemented as required

ECDC
ENVIRONMENTAL L C
AN ALLIED WASTE COMPANY

SCAVENGING

It is Company policy that any material or waste stream arriving at any of the Company's MRF's, transfer stations or landfills is the property of the Company Therefore, the removal of any material from these facilities without the written approval from the Director of Compliance (with three weeks notice) is considered theft Facility management should instruct their personnel and make known to their customers that scavenging absolutely is not permitted without facility management permission Facility managers must check with their District Manager, in writing, and get an approval in writing from the Director of Compliance and Landfill Development prior to any scavenging at any of the Company's facilities

9/5/00

Kirk Treece
General Manager

1111 West Highway 123 PO Box 69 East Carbon UT 84520 Toll Free (800) 444 4451 Tel (435) 888 4451 Fax (435) 888 5557

ALLIED WAST

ECDC SAFETY AND COMPLIANCE CALENDAR 2007

Month	Monthly Safety Meeting Topics		Monthly Activities/ Specialized Training		Compliance Tasks/ Program Updates	
Repeating Items covered every Month	YTO Division Accident/Injury Trends New Safety Alerts Mo thlyAccident and I jury Review		GM Monthly Facil ty Inspection Cab Inspections/ Fleet Inspection Safety Comm ttee Meeting Employee Ob crvatio s		Pa nt Logs Waste Generation Log Respond to Concorde emails re DQF files SPCC & SWPP Inspections	
One item Annual [illegible] Divisio S AwArdas/			Corporate Safety Training S f ty Awards Banquet			
J auary	Employee Ob erv tnns Purpose and Process Safe Container ha d g Review Safe Act ons Fo E cell g Corporat St d rd Eye d f omt ti s fety gla s		Powered I dustn l H vy Equipment Training(Fork l ft/ Loader Oper tions) Corporate Standard- Container Standard L ad checking requirements Review Dedicated to Safety Program(if appl cabl) Id tifyi g Hazardous Materials		Post Listing l Certified Powered Industn l He vy Eq pmen Operators Annual Fire Extinguisher Inspections LOTO Period c observation Update/ F nalize OSHA 300 301 300a Summary F re Detect Standard- I stallation or specti o	
February	Safety Top c Back I jury Prevention Corporate Sta a d H gh V s bil ty Cl thing Safety topic Operating Equ pm t on Slopes Safety Topi Towing Safety		CPR/F rst A d Training A Post Listing Hand & Power Tool U age(Mechanics) Basic Tool Safety (Mechanics) Housekeeping trai ng		Post OSHA Log S mmary Until April 30 Update Tier II Reports Ann l H avy Equ p Fire Suppress on speci on/certifi t C po te St d rd Ho sekeep ng	
March	Operations f Excavators and Dozers Operations of Compactors and Loaders Corporate Standa d- Cell phones, ad os and ther dist act ons Emergency Preparedness employee training		Machi Guarding (Mechanics) Review S cu ty Camera Corporate Standa d		Continue OSHA Log Posting Submit Tier II Reports (NLT March 1) Facility Permits Quarterly Review f Contracts/ Certs of Ins. Update mergency preparedness plan A nual F re D ll	
April	Corporat Standa d- Fac lity a d Vehicle S c ty Safety T pic:Emergency & Veh Spill Response Proceedures		C rpo ate S pervisor Safety Training Spill Prev Control & Counter Measures Storm Water Pollution Prevent Plan Grade adjustments and Ring Testing		LOTO Period observat on Annual SWPP C mm ttee Meeting Complete Annual Storm Water Report Storm/Process Water Analytical Data Facil ty Perm ts(Include Sanitar U perm t) Remove OSHA 300 Log on April 30	
May	Safety Topi Heat Stroke/Exhaustion Safety Topic VCRA/IR Reports PreTrip/P t T p-Pracucal demonstration		H g Conservati (Conta er Shop) VCR Trai ing_Mechanics Excavating and trenching requirements training		Dump the H mp review	
J ne	Safety Topic Heat Stroke/Exhaustion Safety T pic P rsonal Protective Equipment		El ct c l S fety (Mecha cs) Prohibited Waste/ Waste Exclusion Training Pre Operatio s I spections Semi Annual Policy Review		Q arterly R ew f Contracts/ Certs f Ins Tank Tightness Test(Annual) Dump the Hump review	

ALL ED WAS

ECDC SAFETY AND COMPLIANCE CALENDAR 2007

Month	Monthly Safety Meeting Topics	Monthly Activities/ Specialized Training	Compliance Tasks/ Program Updates
	Monthly Safety Meetmg Topics	Monthly Activities/ Specialized Training	Compliance Tasks/Program Update
July	Safety Topic Heat Stroke/Extraction Dump the Hump status report Rewew Safe Act ng Fo Excelle ce	Brak Certificabo (Mecha ics) Out ot Service Training(Mechanics)- Completed Co f d Spac Tra g	D mp t e Hump re iew Ann al Sprinkler System Inspectn Updalg Co f ed Space P op/E al Conft e So ces LOTO Ponod c observation
Aug st	LOTO/Confined Space Training Dump the H mp status raport Dispo I F c ty Safety Training	Single/Mulb Piece R ms Training- Incl ding Torque wtench use and calibration LOTO (Muim nance)	Dump the Hump review Update Lock out Tag Out Prporam
September	Dump the Hump talus eport Saf ty Top P per Backing Prisceduras Sub tance Abuar (Nasd to Know) Training	S pervisor S b tanca Atkae Trai ng Asbsto H uling training it indicated Housekeeping Landfill Gas Safety	Dump th Hump review Secbon II Phyucal Update MSDS & Ctem cal Inventory Quarterly Review of Co tracts/ Ceds of Ins
October	Sdety T pic Hazard Commun catio Seatbelt Policy evew Accident end Injury Report ng proceedures	Resp to Fit Test & Training Welding Safety Ac ide t In estig to Procadurasf Supervispr)	LOTO Penodic observation Rep t ry Protectio Program H mm Program Upd te Calibrate Torque wrench(ennual)
November	Slips Trips & Fall R view Company Fblcy re Alcohol I Truck nsst Facilbes Safety Top c Bloodborne P thog s	BBP Final Respondent(Safety manual BBP tV B) Cold stress and associated PPE	Blood Bo Pathog ns Program Hot Works Plan Update Update E posure Control Plan & Final Reap Posting C mp ate Ste dard V de St d rd
December	Topic:Openning I I clement Weather Safety T pw Fire Prevenbon / Fbe Extinoushar Training	C s, Hoists & Slings(Ma nt e ce)	Update/ Finalize OSHA 300 301 300a Summary O arterly Revisw t C ntracts/ Certs of Ins Vehicl list for insurance cards PPE Program evew d Hazard Assessm t Form 1010 Annual Scale Cerafication if mdicated

ECDC ENVIRONMENTAL

Waste Arrival & Unloading Procedure

Written by Darin Olson

Purpose To assure proper and safe unloading of waste material approved for disposal at ECDC Environmental's East Carbon Landfill

- All generators wishing to dispose of waste material at ECDC Environmental's landfill are required to fill out a waste profile sheet ECDC landfill personnel will review the profile sheet and all supporting documents If it is determined the waste is acceptable for disposal and ECDC chooses to manage the waste, a signed Waste Acceptance Sheet will be issued to the generator The acceptance sheet lists an ECDC Approval # for each waste stream This number is used for tracking the waste material throughout the transportation and disposal process A detailed description of the waste is included on the Waste Acceptance Sheet

- A detailed description of the waste is also included on a Project Listing The Project Listing is updated periodically and distributed to each operation area The list provides additional information such as color and special handling for each waste stream

- If waste material is accepted which requires special handling, ECDC will identify the wastes on the Arrival sheet with an SW following the ECDC Approval #, i e 97-1800SW ECDC will write a procedure to assure the health and safety of all employees and proper management of any such waste Procedural training will be provided for all appropriate operation areas

- ECDC employees designated by management will create a list of each container, railcar or truck that arrives at the facility The list will include railcar, container or truck number Markings, stickers and radiation activity will also be documented

- During regular business hours, a lead man, supervisor or employee will observe radiation monitors at the three-arrival locations If waste arrives, on weekends or holiday's, the radiation monitors will be checked prior to accepting or unloading any waste material If a radiation alarm has been activated, a supervisor or manager will be immediately contacted to resolve any issues

- A Railcar and Container Arrival Report is produced each day for all waste received by rail and distributed to the appropriate operation area The Arrival Report includes railcar and container numbers, Bill of lading numbers, ECDC Approval Number or Job Number, and a comment and signature box Any markings, stickers, placards and radiation activity identified on the railcar or container will also be listed on the arrival report

- Appropriate shipping documents are required for all industrial wastes, i e manifest Appropriate shipping documents are defined as a manifest or similar paperwork that

    1 Identifies a generator on the ECDC Active Project Listing
    2 Designates ECDC as the disposal facility
    3 The waste description correlates to the Project Listing
    4 Lists an active ECDC Approval number
    5 Lists appropriate railcars and or container numbers
    6 The signature date correlates to the arrival date
    7 Is an original, not a photocopy?

- Asbestos loads shall be managed according to the attached ASBESTOS PROCEDURES and Allied Waste Asbestos Policy and Training Manual

- Prior to unloading and disposal of any industrial waste material all shipping documents will be reviewed If shipping documents are appropriate, the Railcar and Container Arrival Reports will be signed by the manifest coordinator or by an employee, designated by management This signature only indicates the shipping documents are appropriate and sufficient for unloading

- No railcar or container will be unloaded without a signature indicating all issues and shipping documents are appropriate

- Shipping documents are not required for municipal solid waste (MSW)

- If shipping documents are not appropriate, or if markings, stickers, placards, radiation activity are present, the material is considered unacceptable for disposal As a result, the waste arrival report will indicate DO NOT UNLOAD (DNU) For railcars and containers listed as DNU, an ECDC Manager will review the issues and determine if the material is acceptable

- Prior to ECDC officially accepting any waste material for disposal, field personnel will visually inspect all sides of each railcar, container or truck for stickers, placards or markings If a sticker, placard or marking is present, a lead man, supervisor or manager will immediately be contacted to resolve any issues The material will not be unloaded until the issue is resolved

- Additionally, field personnel will inspect each load to assure the waste resembles the description provided on the Project Listing For Asbestos loads Cubic Yards will be verified If there is a discrepancy the waste pile will be segregated and or flagged off A lead man, supervisor or manager will immediately be contacted to resolve any issue Manifests will reflect any discrepancies

- All stickers, marking, placards and paperwork will be removed prior to containers or railcars leaving ECDC property

Any deviation of alteration from this policy may result in discipline up to and including discharge

Revised March 15, 2001
February 3, 2004

A-6

Class V Landfill Permit Application

CLASS V LANDFILL PERMIT APPLICATION
CARBON COUNTY, UTAH

ECDC Environmental, L C
Landfill Facility

February 2001

Prepared by

EARTHFAX ENGINEERING, INC
Engineers/Scientists
Midvale, Utah

EarthFax

UTAH DEPARTMENT OF ENVIRONMENTAL QUALITY

DIVISION OF SOLID AND HAZARDOUS WASTE

APPLICATION FOR A PERMIT TO OPERATE A CLASS I OR CLASS V LANDFILL
The applicant shall submit, in duplicate an original permit application, a general report, and a technical report to

Dennis R Downs, Director
Division of Solid and Hazardous Waste
Utah Department of Environmental Quality
PO Box 144880
Salt Lake City, Utah 84114 - 4880

PART I - GENERAL INFORMATION

1 Name of Facility ECDC Environmental, L C
2 Site Location East Carbon, Utah
3 Facility Owner Allied Waste Services
4 Facihty Operator ECDC Environmental, L C
5 Contact Person Kirk Treece
Address 1111 West Highway 123
P O Box 69
East Carbon, Utah 84520
Telephone 435-888-4418 Ext 25

6 Type of Facility

☐ Class I Landfill

☒ Class V Landfill

7 Type of Apphcation

☐ Initial Application

☒ Permit Renewal (Original Permit #9422)

8 Property Ownership

[X] Presently owned by applicant

[ ] To be purchased by applicant

[ ] To be leased by applicant

Property owner (if different from applicant)

Name _____

_____

Address _____

_____

_____

_____

Telephone _____

9 Certification of submitted information

Kirk Treece, Facility Manager
(Name of Official) (Title)

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

Signature _____ Date 2/20/01

SUBSCRIBED AND SWORN to before This 20th day of February, ~~19~~ 2001

My commission expires on the 14th day of April, ~~19~~ 2003

_____
Notary Public in and for

(SEAL) Carbon County, Utah

TINA I VOGRINEC
NOTARY PUBLIC • STATE of UTAH
833 WEST 1400 NORTH
PRICE, UTAH 84501
COMM EXP 4-14 2003

Item #1 General description of the facility (R315-310-3(1)(b))

The ECDC Environmental, L C (ECDC) landfill is located within the boundaries of East Carbon City, Carbon County, Utah adjacent to State Highway 123 The site encompasses approximately 2,400 acres excluding the Denver and Rio Grande (D&RG) Railroad right-of-way The ECDC facility is an existing municipal and non-hazardous solid waste disposal facility The facility consists of office buildings, support buildings, and active landfill cells The initial cell was fully approved and operational in September 1992 and currently operates under permit number 9422 issued by the Utah Division of Solid and Hazardous Waste in 1996

Whenever the facility is open and operational, ECDC will provide personnel trained in landfill operations to ensure safe and proper handling of waste The facility accepts a wide range of wastes for disposal, including all wastes as defined in UAC R315-2-2 The facility does not except hazardous waste as defined m UAC R313-2-3, PCBs as defined in UAC R315-301-2, or radioactive materials as defined in UAC R315-12-3 Since the beginning of landfill operations at the site, the landfill waste stream has consisted of municipal solid waste and other non-hazardous municipal and industrial wastes, including green wastes and construction and demolition materials This general waste stream will continue through the upcoming permit period As a Class V Landfill facility, ECDC is not limited by quantities of acceptable waste and may accept non-hazardous solid waste from any origin

This permit will regulate the operation of the existing and future landfill cells ECDC will continue to submit detailed construction plans for each construction phase to the Executive Secretary for approval prior to construction The work which has been completed at ECDC indicates that the present landfill property can be designed and operated so as to meet all Subtitle "D " criteria as administered by the State of Utah Facility components which are not regulated by this permit include but are not limited to

1 Management office, bathhouse,
2 Maintenance building,
3 Railroad car rotary dump,
4 Heat/thawing building,
5 Wash facility,
6 Railroad car bottom dump and washout facility,
7 Intermodal yard,
8 Container heat shed,
9 Solidification facility and drum dock, and
10 Truck and rail scales

In the future, additional unloading and material handling facilities may be constructed at ECDC Facility plans and drawings are in Appendix #1 of this permit renewal application

Item #2 ***Legal description, proof of ownership, lease agreement, or other mechamsm, latitude and longitude of the site, and land use and zoning of surrounding area (R315-310-3(1)(c))***

Proof of ownership is included in Appendix #2 of this permit renewal application Land use and zoning are shown on drawings in Appendix #7 of this permit renewal application The latitude of the facility is 39°31'40" with the longitude being 110°28'33" Following is a legal description of the ECDC site

PARCEL I

Township 15 South, Range 13 East, Salt Lake Base and Mendian

Section 7 South one-half,
Section 8 South one-half,
Section 18 North one-half, Northwest Quarter Southwest Quarter,
Section 17 Southwest Quarter Northwest Quarter,
Section 32 Southwest Quarter Southwest Quarter,

EXCEPTING THEREFROM, A strip of land 100 feet wide, being 50 feet each side of the center line of track of the Denver & Rio Grande Western Railroad Sunnyside Branch within the South one-half of Section 7 and 8, Township 15 South, Range 13 East, Sah Lake Base and Merdian, conveyed by Warranty Deed from Joseph R Sharp, filed for recording o January 26, 1907 in the office of the Carbon County Recorder, recorded m Book 2 of Deeds at Page 395

Township 15 South, Range 12 East, Salt Lake Base and Mendian

Section 24 Southwest Quarter Northeast Quarter, West one-half Southeast Quarter, Southeast Quarter Southwest Quarter
Section 25 Lots 1, 2 and 3, Northeast Quarter Northwest Quarter,Northwest Quarter Northeast Quarter

EXCEPTING, therefrom all coal, oil, gas and other minerals in said lands, and the right to prospect for, mine, and remove the same

PARCEL II

That portion of Section 9, Township 15 South, Range 13 East, Salt Lake Base and Meridian, lying South of State Highway No 123

ALSO, the West one-half of the Southwest Quarter, and that portion of the Southwest Quarter of the Northwest Quarter of Section 10, Township 15 South, Range 13 East, Salt Lake Base and Meridian, lying South of State Highway No 123

EXCEPTING from the above land, the 200 foot wide tract of land owned by the Denver & Rio Grande Western Railroad Company through and across the North one-half of South one-half of Section 9, and the Northwest Quarter of Southwest Quarter of Section 10

EXCEPTING therfrom all oil, gas and other mineral rights, together with the right to prospect for, mine and remove the same

PARCEL III

The Northeast Quarter, East one-half Northwest Quarter, Northwest Quarter Northwest Quarter, Section 17, Township 15 South, Range 13 East, Salt Lake Base and Meridian

EXCEPTING therefrom all oil, gas and other mineral rights, together with the right to enter upon, prospect for, and remove the same

PARCEL TV

All of Section 16, Township 15 South, Range 13 East, Salt Lake Base and Meridian

EXCEPTING therefrom all coal, oil gas and other minerals within said land, with the right to prospect for, mine and remove the same

Item #3 The types of waste and area served by the facility (R315-310-3(1)(d))

The facility accepts a wide range of wastes for disposal The facility accepts all wastes as defined in UAC R315-2-2, except hazardous waste as defined in UAC R315-2-3, PCBs as defined in UAC R315-301-2, and radioactive materials which equal or exceed classification as low level radioactive waste as defined m UAC R315-12-3 Since the beginning of landfill operations at the site, the landfill waste stream has consisted of municipal solid waste and other non-hazardous municipal and industrial wastes, including green wastes and construction and

demolition materials This general waste stream will continue through the upcoming permit period As a Class V Landfill facility, ECDC is not limited by quantities of acceptable waste and may accept non-hazardous solid waste from any origin

PLAN OF OPERATION (R315-310-3(1)(e))

Item #4 *An intended schedule of construction (R315-302-2(2)(a))*

ECDC intends to construct additional landfill cells as air space is needed It is anticipated that construction will take place every other year Each of these constructed portions will have the air space capacity to contain approximately 2,500,000 cubic yards (approximately 2,000,000 tons) ECDC reserves the right to modify this schedule upon changes of waste stream quantities Appendix #1 of this permit renewal application provides layout plans and typical sections of the proposed development of the ECDC landfill site

Item #5 *A description of on-site waste handling procedures and an example of the form that will be used to record the weights or volumes of waste received (R315-302-2(2)(b) and R315-310-3(1)(f))*

ECDC accepts waste from a variety of waste-transfer mechanisms They include, but are not limited to, commercial haulers, waste containers, and rail cars All waste that enters the ECDC facility is weighed with state-certified scales All weights are recorded electronically, therefore, there are no weight tickets Volumes are tracked by surveying the active landfill cells yearly or as needed to ensure proper compaction, correct grades, and to track landfill cell life

All commercial haulers hauling solid wastes are required to stop at the main office and be accounted for Commercial haulers will cross a truck scale located adjacent to the main office Once the vehicles are weighed, the commercial haulers are directed into the active landfill cell to deposit the hauled waste The commercial haulers cross the scale once again when exiting the facility to get a tare weight The difference between these two weights becomes the tonage placed into the landfill by the commercial hauler

Twenty and forty foot waste containers are transported onto the ECDC property by rail The railed waste containers are off loaded and placed onto container haul vehicles The container haul vehicles stop at the one of two landfill scales to be weighed A set of scales are located southeast of Cell #7 and a set of scales is located west of the existing Super Cell #1 The container haul vehicles then enter the active landfill cell to unload the containers After unloading is complete, the haul vehicles return the containers to the rail cars

Bulk waste streams are also brought onto the property by rail cars These rail cars are taken mto the rotary dump building, weighed, and then dumped A front end loader then places the waste material into waste haul trucks The waste haul trucks then enter the active landfill cell to place the load on the working face

ECDC also accepts liquid waste material The wastes are brought onto the facility by tank containers, either by rail or commercial hauler for solidification Any solidification method may be employed depending on available absorbent materials These solidified wastes are then placed at the working face and used as cover material

Once waste is inside the cell, earth moving and compaction equipment is utilized for the placement and compaction of waste and placement of daily cover All waste material placed in the active landfill is compacted to minimize air space usage and maximize unit weight The waste materials are spread in lifts and compacted At the end of each production day, MSW (Municipal Solid Waste) is covered with six inches of soil cover or an approved Alternative Daily Cover (ADC) The ADC used by ECDC is hydromulch The hydromulch is a cellulose fiber product manufactured using fiber stock It is provided in easy-to-handle bags Pre-measured, water soluble dye packets are inserted into each bag, which provide a consistent dying of the material The material mixes rapidly with water to form a homogeneous slurry The specifications are as follows

Moisture Content	7 1%
Organic Matter	94 6%
Moisture Holding Capacity	1,107%
pH	6 1

ECDC reserves the right to change the ADC used upon approval from the Executive Secretary

If an area of the working landfill will not receive waste for a period longer that 30 days, ECDC will cover the area with a minimum of 12 inches of soil as an intermediate cover or an alterative intermediate cover as approved by the Executive Secretary

If it becomes necessary to control dust emissions from the landfill activities, it will be performed in essential accordance with the ECDC Fugitive Dust Emissions Control Plan which is included in Appendix #3 of this permit renewal application

Item #6 ***A schedule for conducting inspections and monitoring, and examples of the forms that will be used to record the results of the inspections and monitoring (R315-302-2(2)(c) and R315-310-3(1)(g))***

Inspections of the facility will be conducted quarterly by ECDC personnel or a representative of ECDC Training of the landfill personnel for these inspections will be performed by ECDC The purpose of these inspections is to prevent any problems with the facility and to identify any deterioration of the facility and operator errors or malfunctions which may cause a release of wastes to the environment or threaten human health The inspection logs will be kept at the facility in the field office In Appendix #4 of this permit renewal application is an example of the quarterly mspection log All inspections will conform to subsection R315-302-2(5)(a) of the Sohd Waste Permitting and Management Rules The ECDC inspection plan will consist of a summary of the following information

1 Wash Water Sump - Inspection of the integrity of the concrete sump walls will take place If a problem is detected, remedial action will take place in a timely manner under the direction ECDC personnel The depth of sediment and fluid will also be inspected and dealt with as needed

2 Solidification Facility - Inspection of concrete dividing walls, back walls, and floor of the mixing and storage sump sections cracks and broken sections Any deficiencies detected will be corrected in a timely manner under the direction ECDC personnel

3 Run-on/Run-off Drainage for Cell #7 - Run-on/run-off protection will be mspected to ensure that no pooling occurs at the outside toe of the perimeter embankments If a ponded area is detected, grading or pumpmg will take place to correct the problem The run-off drainage collection areas will be inspected for erosion, overfilling, and blockage Any deficiencies detected will be corrected in a timely manner under the direction ECDC personnel

4 Run-on/Run-off Drainage for Cell #10 - Inspection of this area will occur as outlined above for Cell #7

5 Run-on/Run-off Drainage for Super Cell #1 - Run-on/run-off protection will be inspected to ensure that no pooling occurs at the outside toe of the perimeter embankments or at the outside toe of the Run-on Diversion Safety Berms If a ponded area is detected, grading or pumping will take place to correct the problem The Run-on Diversion Safety Berms will also be inspected for erosion

or disturbance If a problem is detected with the Run-on Diversion Safety Berms, the appropriate remedy will be implemented in a timely manner The run-off drainage collection areas, including the sump, will be inspected for erosion, overfilling, and blockage Any deficiencies detected will be corrected in a timely manner under the direction ECDC personnel

6 Leachate Collection System for Cell #7 - The landfill leachate system, including primary and secondary piping, will be inspected for broken pipe, covers, and correctly working pumps Leachate will be pumped out and placed on the landfill surface for evaporation and dust control Leachate placed on a landfill surface to be evaporated will be placed into evaporation ponds located within the lined portions of landfill cells Leachate may be placed onto lined portions of landfill cells other than the cell that it was extracted from Any deficiencies that are discovered will be corrected in a timely manner

7 Leachate Collection System for Cell #10 - Inspection of this leachate collection system, and handling of the collected leachate, will occur as outlined above for Cell #7

8 Leachate Collection System for Super Cell #1 - Inspection of this leachate collection system, and handling of the collected leachate, will occur as outlined above for Cell #7

9 Perimeter Fencing and Access Gates - Inspection of fencing for breach of security or litter accumulation, as per the ECDC litter control plan, will take place Also, inspection of gates and other points of access for security and restriction of unauthorized access will occur The perimeter fencing will ensure that no unauthorized access or scavenging on the landfill cells takes place Scattered and accumulated litter will be removed in essential accordance with the ECDC Environmental Liter Control Plan which is included in Appendix #5 of this permit renewal application If a problem with the fencing or access points, it will be corrected in a timely manner under the direction of ECDC personnel

10 Landfill Cell #7 - The active landfill face will be inspected for proper placement and compaction of the imported waste stream The daily cover will be inspected to ensure that all waste is being covered in essential accordance with State regulations The access haul roads will be checked for excessive settlement, erosion, and stability Inspection of covered (intermediate, final) portions of the landfill cell will take place This inspection will focus on

erosion and excessive settlement The perimeter embankments will be inspected for excessive erosion and stability of perimeter access roads The fencing on the landfill cell will be inspected for control of blowing litter, collected litter, broken fence, and placement Scattered and accumulated btter will be removed in essential accordance with the ECDC Environmental Liter Control Plan which is included m Appendix #5 of this permit renewal application Any other deficiencies that are discovered will be corrected m a timely manner

11 Landfill Cell #10 - The active landfill face will be mspected for proper placement and compaction of the imported waste stream The access haul roads will be checked for excessive settlement, erosion, and stability The perimeter embankments will be inspected for excessive erosion and stability of perimeter access roads The fencing on the landfill cell will be inspected for control of blowing litter, collected litter, broken fence, and placement Scattered and accumulated litter will be removed in essential accordance with the ECDC Environmental Liter Control Plan which is included in Appendix #5 of this permit renewal application Any other deficiencies that are discovered will be corrected m a timely manner

12 Super Cell #1 - Inspection of this cell will occur as outlined above for Cell #7

Item #7 ***Contingency plans in the event of a fire or explosion (R315-302-2(2)(d))***

ECDC will implement the Fire Prevention and Control Plan (February 2000) that has previously been submitted to the Executive Secretary If necessary, the ECDC Environmental Emergency Evacuation Plan will be implemented (August 2000) A copy of both plans are contained in Appendix #5 of this permit renewal application.

Item #8 ***Corrective action programs to be initiated if ground water is contaminated (R315-302-2(2)(e))***

In the event ground water contamination is detected, an appropriate remediation plan will be developed and submitted to the Utah Division of Solid and Hazardous Waste for approval

Item #9 ***Contingency plans for other releases, e.g explosive gases or failure of run-off collection system (R315-302-2(2)(f))***

ECDC will implement various procedures, including the ECDC Environmental Emergency Evacuation Plan (August 2000), to minimize the release of explosive gases or the failure of the run-off collection system A copy of the ECDC Environmental Emergency Evacuation Plan is contained in Appendix #5 of this permit renewal application. ECDC will provide a Emergency Coordinator (EC) for any emergency This person will be Jeff Green In the case of Jeff Green being unavailable, Grant Laws will become the EC Training for facility operations personnel and the local fire department will be provided In the event of a explosive gas release, the procedures for taking corrective action will include

1 ECDC will provide necessary training to facility employees regarding landfill emergency procedures

2 All supervisory personnel will maintain radio communication with personnel in the main office, field office and the field vehicles If required, ECDC will contact the Wellington City Fire Department and Carbon County personnel for emergency assistance

3 Landfill earth moving equipment will be available to move earth material as necessary to contain an emergency

4 Notify facility personnel using facility radio system and account for all personnel

5 The EC will immediately take all necessary steps to ensure protection of human health and safety If evacuation of the local area is advised, the EC will immediately notify local authorities and assist them in determining if evacuation of the local area is necessary

6 Within 24 hours or the next business day, the EC will notify the Executive Secretary and local authorities The EC will also contact other agencies if their help is needed Telephone numbers for these agencies are listed in Table 1

7 Within 7 days of detection, ECDC will place in the operating record the explosive gas levels detected and a description of the steps taken to protect human health and safety

8 Within 60 days of detection, ECDC will implement a remediation plan that has

been approved by the Executive Secretary for the explosive gas release ECDC will place a copy of the plan in the operating record and notify the Executive Secretary that the plan has been implemented

9 If the incident involves a release of a reportable quantity of any hazardous substance (including a CERCLA hazardous substance), the community emergency coordinator or the local emergency planning committee of any area likely to be affected by the release will be notified (40 CFR 355) This notice will include

a The chemical name or identity of any substance involved in the release,

b An indication of whether the substance is an extremely hazardous substance,

c An estimate of the quantity of any such substance that was released into the environment,

d The time and duration of the release,

e The medium or media into which the release occurred,

f Any known or anticipated acute or chronic health risks associated with the emergency and, where appropriate, advice regarding medical attention necessary for exposed individuals,

g Proper precautions to take as a result of the release, including evacuation, and

h The names and telephone numbers of the person or persons to be contacted for further information

10 As soon as practicable after the release, ECDC will provide a written follow-up emergency notice setting forth and updating the above listed information and including action taken to respond to and contain the release

TABLE 1

Telephone List for Emergency Notification

Identification	Phone Number	
	Carbon County	Wellington City
Fire and Police Departments, Ambulance	911	911
Clinic/Hospital	(435) 888-4411	(435) 637-4800
Carbon County Sheriff's Department		911
Utah Dept Of Env Quality Div Of Env Response and Remediation		(801) 536-4100
Utah Dept Of Env Quality, Div of Solid and Haz Waste		(801) 538-6170
Utah Dept Of Env Quality, Southeastern Utah District Engineer		(801) 637-3671
National Response Center		(800) 424-8802
ECDC Environmental L C (office)		(435) 888-4418
Facility Manager (home) Kirk Treece		(435) 613-9196
Operations Supervisor (home) Jeff Green		(435) 472-5102
Facility Engineer (home) Dann Olson		(435) 472-8332
Shop Supervisor (home) Grant Laws		(435) 637-1529

If a failure of the run-off collection system occurs in any of the active or closed landfill cells, appropriate operations will take place in a timely manner to correct these failures While the corrections are taking place, equipment (trash pumps, water trucks, etc) that is available at the facility will be utilized to limit the effect of release of surface landfill water

Following is a list of current emergency equipment that ECDC has at the facility that may be used in the event of a failure of a run-off collection system

- Two-way Radios
- Pressurized water sources
- Assorted vacuum, Trash and Sludge Pumps
- Safety Shower and Eye Wash Stations
- First Aid Stations
- First-Aid Kits
- Respirators and Safety Equipment
- Fire Extinguishers
- Tank Truck
- Site vehicles
- Front End Loaders
- Pressure Washer
- Track Dozers
- Dump Trucks
- Excavator

Item #10 ***A plan to control fugitive dust generated from roads, construction, general operations, and covering the waste (R315-302-2(2)(g))***

A plan to control fugitive dust emissions at the ECDC facility is included in Appendix #3 of this permit renewal application

Item #11 ***Description of maintenance of installed equipment (R315-302-2(2)(h))***

Maintenance of all equipment will be performed in essential accordance with the manufacturers recommended procedures Following is the list of landfill equipment that will be maintained regularly or as required by the manufacturers

1 Gas Collection System - The facility does not presently operate a gas collection system The facility will install an active gas collection system upon closure of a landfill cell unless examination of the gas production of the waste indicates that a gas collection system is not necessary Upon installation and operation of a gas collection system, the system will be inspected and monitored quarterly Maintenance activities will be initiated as necessary per the manufacturer's recommended procedures.

2 Groundwater Momtoring Systems - Groundwater monitoring wells used at the facility are equipped with dedicated sampling systems These mclude Teflon bladder sampling pumps, Teflon pump tubing, inlet screens and well caps The equipment installed in each groundwater monitoring well was designed based on the specific dimensions of the well

3 Leachate Collection System - The secondary and primary leachate collection systems consist of collection and withdrawal pipes, dedicated pumps, and a leachate tank truck Leachate is removed, recirculated within the lined portion of the cell, utilized for dust suppression within the lined portion of the cell, or transported to a POTW

4 Methane Gas Monitor - Methane gas monitoring will be performed quarterly using a hand-held probe The hand-held probe will be calibrated prior to each use by the gas sample collector This will be done m conformance with the manufacturer's recommendations The calibration of the probe will then be documented on the landfill gas quarterly momtoring results form Any required maintenance or repair, other than calibration, will be performed by the manufacturer of the probe or a licensed representative of the manufacturer

Operation and maintenance of all installed equipment is performed m essential accordance with the manufacturer's recommended operation and maintenance procedures

Prior to closure of the entire facility, the existing facility and facility structures will be mamtamed as part of daily operations After closure of the entire facility, it is anticipated that the facility office will remain The facility and facility structures will be inspected semi-annually and maintained as necessary

Item #12 ***Procedures for excluding the receipt of regulated hazardous or PCB contaimng waste (R315-302-2(2)(i))***

ECDC has estabhshed stnct acceptance standards for non-hazardous solid waste streams Facility employees will supervise the unloading of waste into cells or unloading areas Industnal solid waste classified as non-hazardous solid waste will be accepted only if the following conditions are fiilfilled

1 The generator shall be notified as to which waste streams are acceptable for disposal at the facility No wastes listed as hazardous in 40 CFR 261 31 - 261 33 will be accepted for disposal

2 The generator shall collect a representative sample from the waste stream and arrange for testing by a laboratory prior to shipment of the waste The sample shall be appropriately tested for corrosivity, ignitability, reactivity, and/or the TCLP compounds as necessary Table 2 identifies the analytical test methods and acceptance criteria for each analysis

3 If the generator's knowledge of the waste is determined to be adequate, the generator may submit a chemical and/or physical description of the waste and a signed certification that the waste stream is not hazardous waste prior to shipment of the waste instead of the testing as discussed in Item 2

4 ECDC personnel will examine the Generator's waste profile to determine if the waste stream is acceptable for management and disposal at the facility The test results of Item 2 above must satisfy the acceptance criteria identified in Table 2 ECDC personnel will notify the generator of acceptance or rejection of the waste

5 ECDC personnel will visually inspect all incoming loads for physical conformance with the waste profile

6 Any load that does not comply with these conditions will be rejected and returned to the generator or stored on-site while the nonconformance is resolved

TABLE 2

Test Methods and Acceptance Criteria for Waste Samples

Parameter	Acceptance Criteria
Corrosivity	non-corrosive as defined by 40 CFR 261 22
Ignitability	non-ignitable as defined by 40 CFR 261 21
Reactivity	non-reactive as defined by 40 CFR 261 23
TCLP	does not fail the criteria listed in 40 CFR 261 24 Table 1

Notes

1 Acceptable test methods shall be as defined by the Utah Hazardous Waste Management Regulations, R315

2 Sulfide reactivity testing will not be conducted on refinery wastes since these wastes routinely contain more than 500 ppm sulfide and are not reactive

Various waste streams are excluded as hazardous wastes by the Utah Hazardous Waste Management Regulations, R315-2-4 Such waste streams are acceptable for disposal at the facility Excluded waste streams will be accepted only if the following conditions are fulfilled

1 The generator shall be notified as to which wastestreams are acceptable for disposal at the facility

2 The generator shall submit a signed certification that the waste stream is an excluded waste

3 ECDC personnel will examine the generator's waste profile to determine if the waste stream is acceptable for disposal at the facility ECDC will notify the generator of acceptance or rejection of the waste

4 ECDC personnel will visually inspect all incoming loads for physical conformance with the waste profile Any load which does not comply with these conditions shall be rejected and returned to the generator or stored on-site while the nonconformance is resolved

If the receipt of prohibited hazardous waste or waste containing PCBs is discovered, ECDC will notify the Executive Secretary, the hauler, and the generator within 24 hours The area containing prohibited waste will be controlled to restrict access by the public and facility personnel ECDC will then ensure that proper cleanup, transport, and disposal of the waste takes place

Item #13 Procedures for controlling disease vectors (R315-302-2(2)(j))

Various procedures are incorporated into the operation of the landfill to prevent the transmittal of disease through vector control ECDC landfill operating procedures are intended to control disease vectors such as rodents, insects and air borne particulates

It is ECDC policy to keep the working face exposure to a minimum In so doing, compaction efforts are maximized which also conserves the use of daily cover material Proper compacting procedures help ensure not only the most effective use of available landfill space but also reduces the likelihood of a rodent infestation

To prevent an infestation of insects at the landfill, it is the policy of ECDC to cover all odoriferous wastes with a soil cover or an ADC

Any air borne contaminants, including disease vectors, will be minimized by the ECDC Fugitive Dust Emissions Control Plan which is included in Appendix #3 of this permit renewal application Vectors have not been observed to be a problem at the ECDC facility

Item #14 A plan for alternative waste handling (R315-302-2(2)(k))

In the event that normal landfilling operations are impeded or all together terminated through equipment breakdown or any other unforeseen event, an alternative location within the landfill boundaries will be designated as a temporary handling and stockpiling facility This alternative location will be as nearly adjacent to the existing working face as possible but maintaining sufficient distance for safety of the landfill personnel It is intended to use the ground which is currently approved for disposal of solid waste as a temporary stockpiling area first However, should it become necessary to move off the approved site for the safety and general welfare of the public, a temporary stockpiling facility would then be located on ground that is proposed for future landfill contruction As there are approximately 2,400 acres, excluding the Denver and Rio Grande (D&RG) Railroad right-of-way, within the sanitary landfill boundaries, it is unlikely that an occasion would arise that would require the complete closure

of the landfill facility In the event that the entire landfill facility were closed to access due to a major catastrophe, then an alternate site would need to be located for the temporary solid waste handling and stockpile facility as an emergency measure

A temporary solid waste handhng and stockpile facility would of necessity have to be versatile and mobile yet be conducive to securing the temporarily stockpiled solid waste from wind, salvagers, and animal scavengers To construct such a facility, temporary fencing would be placed along the perimeter of the proposed temporary stockpiling area These fenced m areas could easily be enlarged or reduced in size as necessary to accommodate the expanding or reducing stockpile size Sizing each individual stockpile area would be important in combating the effects of wind In addition to securing the stockpihng area with fencing, it would also be necessary to channel and berm completely around the sohd waste stockpihng area to protect the facility and surroundmg area from run-on/run-off water and leachate

After the working face of the existing landfill unit is re-established and it is deemed safe to resume standard landfill operating practices, the solid waste which had previously been stockpiled at the temporary solid waste handling and stockpiling facihty will then be transported to the landfill unit and deposited at the working face for compaction and burial Upon completing the removal of all the solid waste from the temporary stockpihng facility, the fencing will then also be removed Any impacted native soil will be removed and used as daily cover at the active landfill face All run-on/run-off waters and leachate collected in the stockpihng area perimeter channel will then be pumped out and used as dust control at the landfill facility All channels will then be backfilled, all berms will be leveled, and the entire temporary stockpiling area will be scarified, contoured to its original condition, and re-seeded

In the event that the rail system were to break down or be stopped through equipment breakdown or any other unforeseen event, necessary actions will take place to ensure that the waste is hauled to the active landfill cell This would happen by using facility waste hauling vehicles, contractmg with other waste haulers, and alternate landfills

Item #15 A general training and safety plan for site operations (R315-302-2(2)(n))

The facility manager of ECDC will ensure that the required safety and training programs are conducted for the employees The topics to be taught will be taken from the Allied Waste Services Safety and Training Manual, a copy of which will be on file at the field office of the ECDC facility The order of training may change to suit the needs of the facility All safety meetings and training will be documented by indicating the topic covered and main points discussed Employees will be required to sign and date the appropriate forms Following is a list of the required safety and training topics

MONTH	TRAINING TOPIC
January	Employee Right to Know
February	Respirator Training
March	Emergency Response and Spill Procedures, Company Work/Safety Rules
April	Identification of Unacceptable/Hazardous Waste, Load Inspection
May	Lock-out - Tag Out
June	Forklift Training
July	Confined Spaces
August	Asbestos Management
September	Blood Borne Pathogens
October	Electrical Safety
November	Drug and Alcohol Awareness
December	Personal Protective Equipment

Item #16 Any recycling programs planned at the facility (R315-303-4(6))

Currently, there are no recycling programs planned at the ECDC facility ECDC does not accept waste from the general public, therefore, ECDC does not provide containers in which the general public may place recyclable materials

Item #17 Any other site specific information pertaining to the plan of operation required by the Executive Secretary (R315-302-2(2)(o))

At the time of this permit application, no other site specific information pertaining to the plan of operation has been requested by the Executive Secretary If any additional information is requested or required, ECDC will respond in a timely manner

SPECIAL REQUIREMENTS FOR A CLASS V LANDFILL (R315-310-3(2))

Item #18 Submit information required by the Utah Solid and Hazardous Waste Act Subsections 19-6-108(9) and 19-6-108(10) (R315-310-3(2)(a))

The majority of the elements required by this item have been met by information contained in this permit renewal application Other required information will be discussed in the following paragraphs

There are many sources that supply the ECDC facility Some of them include Utah County, Salt Lake County, Weber County, General Motors, and many private industries ECDC markets the landfill in all areas of the country and in all markets The waste handling procedures and quantities received have been addressed previously ECDC charges $18 to $40 per ton of waste accepted and placed at the facility, depending on the type of waste ant the negotiated cost with each client

ECDC has existed for the past 10 years The facility has been profitable and has shown that there is a market and a need in the area for a commercial non-hazardous solid waste facility ECDC has been beneficial to the local area by accepting household waste from various counties and cities This removes the need for local municipalities to construct and operate their own landfill, there by limiting impact on the environment at various locations throughout the State ECDC expects to continue to be beneficial to the local economy, various counties, municipalities, private industries, and the environment for at least the next two centuries

Note After the receipt of a solid waste permit, a Class V Landfill must receive approval from the local government, the Legislature, and the governor prior to the start of construction and operation (R315-310-3(2)(b))

PART III TECHNICAL REPORT

MAPS

Item #19 ***Topographic map drawn to the required scale with contours showing the boundaries of the landfill unit, ground water monitoring well locations, gas monitoring points, and the borrow and fill areas (R315-310-4(2)(a)(i))***

A topographic map drawn to the required scale with contours showing the boundaries of the landfill unit, ground water monitoring well locations, gas monitoring points, and the borrow and fill areas is included in Appendix #6 of this permit renewal application

Item #20 ***Most recent U S Geological Survey topographic map, 7-1/2 minute series, showing the waste facihty boundary, the property boundary, surface drainage channels, any existing utilities and structures within one-fourth mile of the site, and the direction of the prevailing winds (R315-310-4(2)(a)(ii))***

The most recent U S Geological Survey topographic map, 7-1/2 minute series, showing the waste facility boundary, the property boundary, surface drainage channels, any existing utilities and structures within one-fourth mile of the site, and the direction of the prevailing winds is included m Appendix #7 of this permit renewal application

GEOHYDROLOGICAL ASSESSMENT (R315-310-4(2)(b))

Item #21 ***Local and regional geology and hydrology including faults, unstable slopes and subsidence areas on site (R315-310-4(2)(b)(i))***

A detailed descnption of the local and regional geology and hydrology of the facihty was presented with the original facility permit application in a report entitled Preliminary Geologic Report of Proposed Solid Waste Disposal Site for East Carbon Development Corporation, July 11, 1989 (Appendix #8 of this permit renewal apphcation) The following assessment summarizes and supplements the original report based on additional geologic well logs, groundwater elevation data, and groundwater chemistry data

As descnbed in the preliminary geologic report, the facility is located on Quaternary alluvial fan deposits consisting pnmanly of silt, sand, cobbles, and some boulders These deposits

vary in thickness from approximately 0 to 50 feet while the saturated thickness of the alluvium varies from approximately 0 to 20 feet These saturated alluvial deposits are of sufficient extent to be defined as the "uppermost aquifer "

Geologic logs from monitoring wells drilled subsequent to the preliminary geologic report are consistent with descriptions in the earlier geologic investigation Geologic logs from monitoring wells drilled for Cell #7 indicate approximately 30 to 40 feet of alluvium (clayey gravel) Based upon a review of these geologic logs, no significant reinterpretations of the geology or hydrogeology are warranted

According to the preliminary geologic report, no evidence of Holocene (within the last 10,000 years) faulting occurs within 3,000 feet of the site This satisfies the requirement that a minimum 200-foot separation be maintained between Holocene faults and the facility In addition, no faulting within 200 feet of the facility has occurred since the facility began accepting waste

Based upon the initial geologic investigation, subsequent monitor well drilling and waste cell construction, there is no evidence of geologically unstable areas that could present a threat to the integrity of the structural components of the facility Furthermore, there has been no earth movement events such as landslides, mudslides, sinkholes, subsidence areas, etc within the facility boundary

Item #22 ***Evaluation of bedrock and soil types and properties including permeability rates (R315-310-4(2)(b)(ii))***

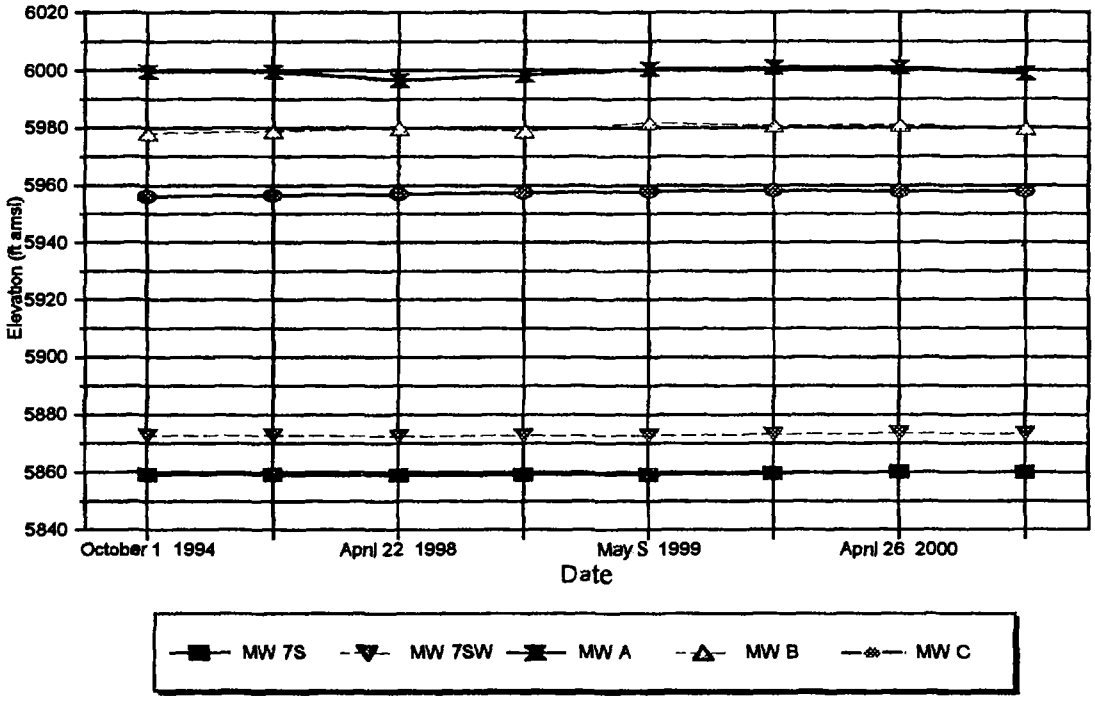
Underlying the alluvial fan materials is the Mancos Shale The Mancos Shale is characterized as a gray clayey siltstone and silty shale which weathers at its contact with the overlying alluvial material to a tight clay, forming a permeability barrier to downward moving groundwater from the alluvial material (Lines, 1985)

Item #23 ***Depth to ground water (R315-310-4(2)(b)(iii))***

In accordance with permit requirements, groundwater elevation data have been collected from on-site monitoring wells in conjunction with groundwater sampling since 1992 In addition, groundwater elevation data has also been periodically collected from over 40 piezometers since December, 1990 Over time, many of the piezometers have been broken or damaged Approximately 18 piezometers remain from the original 40 These remaining piezometers were used to prepare the most recent (1Q2000) potentiometric surface map The most complete and current site-wide potentiometric surface map is included in Appendix #18 of this permit renewal application

Groundwater elevation data from the upgradient monitoring wells and newer Cell #7 monitoring wells were reviewed and compared to the historic groundwater elevations, gradients and flow directions This review indicated no significant changes in the potentiometric surface

Figure 1
Monitoring Well Hydrograph



have occurred since landfill operations began

A groundwater hydrograph for each of the up- and downgradient monitoring wells is presented in Figure 1 These hydrographs indicate very little change has occurred in the potentiometric surface across the site since 1994

Item #24 Direction and flow rate of ground water (R315-310-4(2)(b)(iv))

Groundwater generally flows east-northeast to west-southwest across the site Calculated groundwater gradients range from approximately 0 020 to 0 06 foot/foot

Item #25 ***Quantity, location, and construction of any private or public wells on-site or within 2,000 feet of the facility boundary (R315-310-4(2)(b)(v))***

Table 3 presents a tabulation of private wells on-site and within a 2,000-foot radius of the facility as provided by the Utah Division of Water Rights Three private wells were found in Sections 8 and 9 of Township 15 South, Range 13 East No other private or public wells were found in the remaining sections (7, 10, 12, 13, 15, 21, and 22) surrounding the facility

TABLE 3

Groundwater Rights

Location	Owner	Construction	Quantity of Right	Well Use
S 1360' W 350' N4 of Sec 8 T15S R13E	George Porter PO Box 461 East Carbon, UT 84520	8 in Diameter pipe to 53 ft Bentonite grout to 26 ft	0 015 cfs	Irrigation Domestic Stockwatering
S 1440' W 820' NE of Sec 8 T15S R13E	George Biggs Dragerton, UT	10 m Diameter to 50 ft	0 0300 cfs	Irrigation Domestic Stockwatering
S 700' E 3000' NW of Sec 9 T15S, R13E	Martinez Cattle Co	4 in Diameter to 130 ft	4 73 acre feet	Irrigation Domestic Stockwatering

Item #26 ***Tabulation of all water rights for ground water and surface water on-site and within 2,000 feet of the facility boundary (R315-310-4(2)(b)(vi))***

Table 4 lists all surface water rights identified within one mile of the facility boundary This information was collected from the Division of Water Rights Appendix #9 of this permit renewal application contains a listing of all ground water and surface water rights located on the site and with 2,000 feet of the facility boundary

TABLE 4

Surface Water Rights

Location	Owner	Owner s Address	Source Description	Point of Diversion (distance from corner)
T15S R12E Sec 13	USA Bureau of Land Management	P O Box 970 Moab UT 84532	Tnb to Grassy Trail	(NE 1/4 of NE 1/4)
T15S R12E Sec 13	USA Bureau of Land Management	P O Box 970 Moab UT 84532	Tnb To Mud Spring	(NE 1/4 of SW 1/4)
T15S R12E Sec 13	USA Bureau of Land Management	P O Box 970 Moab UT 84532	Mud Spring	(NW 1/4 of SW 1/4)
T15S R12E Sec 13	USA Bureau of Land Management	P O Box 45155 Salt Lake City UT 84145	Stream	(SE 1/4 of SW 1/4)
T15S R13E Sec 8	Paul B Martinez	95 South 100 East Price UT 84501	Grassy Trail Creek	(NE 1/4 of NE 1/4)
T15S R13E Sec 9	East Carbon City	East Carbon UT 84520	Grassy Trail Creek	S 566 E 4323 of NW
T15S R13E Sec 9	Sunnyside Cogeneration Associates	P O Box 58087 Salt Lake City UT 84158 0087	Grassy Trail Creek	S 566 E 4323 of NW
T15S R13E Sec 9	Paul B Martinez	95 South 100 East Price UT 84501	Grassy Trail Creek	(NE 1/4 of NE 1/4)
T15S R13E Sec 9	East Carbon City	East Carbon UT 84520	Grassy Trail Creek	8 1149,E 1320 of NW
T15S R13E Sec 9	Sunnyside Cogeneration Associates	P O Box 58087 Salt Lake City UT 84158 0087	Grassy Trail Creek	S 1149 E 1320 of NW
T15S R13E, Sec 10	Magnificant Seven LLC Penta Creek LLC	136 So Main Salt Lake City UT 84101	Grassy Trail Creek	NE 1/4 of NW 1/4
T15S R13 E, Sec 10	East Carbon City	East Carbon City UT	Unnamed Spring	N 525 W 208 SE Cor Sec 10
T15S R13E Sec 15	Bonnie Lynn Gleave	150 Grassy Trail East Carbon City UT 84520	Unnamed Spring	S 840 W 860 of NE

T15S R13E Sec 15	USA Bureau of Land Management	P O Box 45155 Salt Lake City UT 84145	Icelander Creek and Tnb to creek	(SE 1/4 of NE 1/4)
T15S R13E Sec 15	USA Bureau of Land Management	P O Box 45155 Salt Lake City UT 84145	Spnng Area	(NW 1/4 of SE 1/4)
T15S R13E Sec 15	USA Bureau of Land Management	P O Box 45155 Salt Lake City UT 84145	Icelander Creek	(SW 1/4 of SE 1/4)
T15S R13E Sec 15	Jensen Brothers	190 North Carbon Ave Pnce UT 84501	Icelander Creek	(SE 1/4 of SW 1/4)
T15S R13E Sec 17	USA Bureau of Land Management	P O Box 45155 Salt Lake City UT 84145	Sprmg Area	(NW 1/4 of SW 1/4)
T15S R13E Sec 17	ECDC L C	124 South 500 East Ste 675 Salt Lake City UT 84102	East Spnng	N 875 W 640 of SW
T15S R13E Sec 17	George Orfanakis	446 East 2nd South Pnce UT 84501	Georges Spnng Area and Stream	(SW 1/4 of SW 1/4)
T15S R13E Sec 17	Pilling Woodrow & Ema	East Carbon City UT	East Sprmg Area	(SE 1/4 of SW 1/4)
T15S R13E Sec 18	Sunnyside Cogeneration Associates	P O Box 58087 Salt Lake City UT 84158-0087	Big Sprmgs Spnng Area	S 2450 E 2770 and S 2651 E 2316 of NW
T15S R13E Sec 20	USA Bureau of Land Management	P O Box 45155 Salt Lake City UT 84145	Unnamed Spnng	(SW 1/4 of SW 1/4)
T15S R13E Sec 22	USA Bureau of Land Management	P O Box 45155 Salt Lake City UT 84145	Icelander Creek	(NW 1/4 of NW 1/4)
T15S R13E Sec 22	USA Bureau of Land Management	P O Box 45155 Salt Lake City UT 84145	Icelander Creek	(SW 1/4 of SW 1/4)
T15S R13E Sec 22	Bomue Jensen	Utah	Icelander Creek	(NE 1/4 of NW 1/4)

Note Point of Diversions listed in parentheses are approximate locations

Item #27 ***Identification and description of all surface waters on-site and within one mile of the facility boundary (R315-310-4(2)(b)(vii))***

The East Carbon sewage treatment and evaporation lagoons are located east of the site The intermittent Grassy Trail Creek is located north of the site Icelander Creek (also an intermediate stream) is located east of the site There are several springs located southwest and southeast of the site Appendix #6 of this permit renewal application identifies the FEMA flood plain associated with the Grassy Trail Creek This plateau contains no naturally occurring streams, rivers, ponds, lakes, marshes, bogs, or other wetlands withm the facility boundary

Item #28 ***Background ground water and surface water quality assessment and, for an existing facility, identification of impacts upon the ground water and surface water from leachate discharges (R315-310-4(2)(b)(viii))***

Background groundwater quality has been determined through momtoring well sampling prior to cell construction and waste placement Subsequent quarterly and semi-annual detection groundwater sampling has also contributed to a thorough description of the groundwater chemistry beneath the facility

Groundwater data analysis consists of comparing current downgradient groundwater concentrations with the groundwater quality standards and the calculated historic means and variances from the background upgradient wells These historic means and variances were developed from background data collected prior to waste placement (fall of 1992) The most recent quarterly sampling results and statistical analyses cover the 1st quarter of 2001 and have been submitted to the Utah Division of Solid and Hazardous Waste m essential accordance with permit requirements This report summarizes water quality in the area based on the momtoring results

Item #29 ***Calculation of site water balance (R315-310-4(2)(b)(ix))***

The ECDC facility is located in a generally warm and environment with a significant negative annual water balance The average annual precipitation for the nearby town of Sunnyside over the period 1951 to 1980 was 11 98 inches The average annual pan evaporation for the same period and location was 46 63 inches

As a further evaluation of this and environment, ECDC has performed water balance calculations using the Hydrologic Evaluation of Landfill Performance (HELP) model developed for the U S EPA The model was developed to estimate water movement across, into, through, and out of landfills and to simulate the effects of hydrologic processes including precipitation, surface storage, runoff, infiltration, percolation, evapotranspiration, soil moisture storage, and

lateral drainage Specifically, the model may be used to estimate the magnitudes of various components of the water budget, including the volume of leachate produced and the thickness of water saturated soil (head) above the barrier layers

Detailed model results have previously been submitted to the Division for review A summary of results are presented in Table 5 and 6 below An explanation of model assumptions and parameters is included in Appendix #10 of this permit renewal application Model simulations included both open and closed landfill conditions As expected, leachate production was predicted to be highest under open conditions and less under closed conditions In each case, leachate production was predicted to be low relative to evaporation due to the low annual precipitation and high evapotranspiration rate (i e , note the consistent negative "change in water storage") Importantly, regardless of the climatological or physical conditions simulated, the model never predicted more than four inches of water accumulation on either the cap, secondary or primary liners (peak daily accumulation)

TABLE 5

HELP Model Water Balance
Open Cell Matrix

Run	Cell Parameters			Peak Daily Values		Average Annual Totals for 5 Years			
	Waste Depth (ft)	Floor Slope (%)	Drainage Length (ft)	Head on Primary Liner (in)	Head on Secondary Liner (in)	Pptn (in)	Leachate from Primary Collection (gal)	Leachate from Secondary Collection (gal)	Change in Water Storage (gal)
1	10	2 5	407	0	0	9 76	578 453	0	(287 687)
2	10	2 5	690	0	0	9 76	911 610	0	(773 340)
3	50	2 5	407	0	0	9 76	1 417 245	0	(1 126 493)
4	50	2 5	690	0	0	9 76	1 614 300	0	(1 476 045)
5	102	2 5	407	0	0	9 76	1 703 557	0	(1 412 805)
6	102	2 5	690	0	0	9 76	1 829 040	0	(1 690 793)
7	10	2 0	550	0	0	11 79	670 538	0	(360 608)
8	10	2 0	550	0	0	15 79	3 928 500	0	(110 865)

Notes Run 8 was simulated for only one year, 1974 All values are for 1974 only

TABLE 6

HELP Model Water Balance
Closed Cell Matrix

Run	Cell Parameters			Peak Daily Values		Average Annual Totals for 5 Years			
	Waste Depth (ft)	Floor Slope (%)	Drainage Length (ft)	Head on Primary Liner (in)	Head on Secondary Liner (in)	Pptn (in)	Leachate from Primary Collection (gal)	Leachate from Secondary Collection (gal)	Change in Water Storage (gal)
1	407	4	0	0	9 76	135	1 771 815	0	(1 645 193)
2	690	4	0	0	9 76	135	1 771 815	0	(1 645 193)

ENGINEERING REPORT - PLANS, SPECIFICATIONS, AND CALCULATIONS

Item #30 ***How the facihty meets the location standards of R315-302-1 including documentation of any demonstration made with respect to any location standard (R315-310-4(2)(c)(i))***

The existing ECDC facility structures and waste cells presently meet all location standards under R315-302-1 In addition, all future cells and facilities will be designed and constructed to meet these criteria

Airports - The ECDC facility is located approximately 15 miles from the nearest airport This satisfies the airport location criteria per R315-302-1(2)(a)(v) requiring a separation distance of as much as 10,000 feet to the nearest airport runway

Flood Plains - According to the East Carbon City and Carbon County FEMA Floodplain map as shown in Appendix #6 of this permit renewal application, none of the facility lies within the 100-year flood plain In addition, the facihty landfill units and other structures will not restrict the flow of a 100-year flood No washout of waste material will be transported into any streams, rivers, or off-site This satisfies the floodplain location criteria defined by R315-302-1(2)(c)

Wetlands - The ECDC facility is located on a elevated plateau or bench that gently slopes to the west This plateau contains no naturally occurring streams, rivers, ponds, lakes, marshes, bogs, or other wetlands within the facility boundary In addition, no vegetation that is "adapted for life in saturated soil conditions" is known to exist within any areas of the site The low annual

precipitation (less than 12 inches) and high evapotranspiration rate (over 46 inches per year) contribute to a negative water balance, thereby creating an environment that is not conducive to the development of wetlands This satisfies the wetlands location criteria define by R315-302-1(2)(d)

Seismic Impact Zone - The facility is located in an area rated as Seismic Zone 2 The existing landfill cells have been designed to meet this seismic criteria Future landfill cells will also be designed to meet this criteria

Fault Areas - Based upon a thorough geologic investigation and review, no evidence of Holocene faulting was found within 3,000 feet of the site This satisfies the requirement that a minimum 200 foot separation be maintained between Holocene faults and the facility In addition, no faulting within 200 feet of the facility has occurred since the facility began accepting waste

Unstable Areas - Based upon the initial geologic investigation, subsequent monitor well drilling, and waste cell construction, there is no evidence of geologically unstable areas that could present a threat to the integrity of the structural components of the facility Furthermore, there have been no earth movement events (landslides mudslides, sinkholes, subsidence areas, etc) within the facility boundary

Item #31 The basis for calculating the facility's life (R315-310-4(2)(c)(ii))

The existing active landfill cells have recently been surveyed The landfill cells are surveyed on an as-needed basis The data from the surveying activities are needed to track the remaining air space and grade of each landfill cell The data are used to establish a computer-generated existing surface topography map For the purpose of volume calculations, this surface is then compared to the designed final surface The difference of these two surfaces is the remaining air space The site has approximately 374,400,000 cubic yards of air space remaining Knowing the density range of the placed waste/cover material and the average tonnage of waste received each year, the life of the facility can be estimated With an estimated in-place density range of 1,500 to 2,500 pounds per cubic yard, the remaining tonnage would range from 280,800,000 to 468,000,000 tons The ECDC facility receives an average 1,000,000 tons per year The estimated life of the facility therefore ranges from 281 to 468 years

Item #32 ***Cell design to include liner design, cover design, fill methods, elevation of final cover including plans and drawings signed and sealed by a professional engineer registered in the State of Utah (R315-310-3(1)(b) and R315-310-4(2)(c)(iii))***

A detailed description of the ECDC facility is contained in Item #1 of this permit renewal application The facility has three active landfill cells at the time of this application Each landfill cell is designed to meet the requirements of the State of Utah and to protect human health and safety The landfill cell design drawings are attached as Appendix #1 to this document

In the future ECDC will place waste on the embankment between Cell #7 and Super Cell 1-A Drawings showing this waste placement area are contained in Appendix #11 of this permit renewal application.

Item #33 ***Equipment requirements and availability (R315-310-4(2)(c)(iii))***

ECDC will ensure that operational equipment will be available to meet the standards for maintenance and operation of the facility Following is a list of the equipment currently at the ECDC facility

- Leachate Tank Truck
- Fuel Truck
- Mechanic Truck
- Two Ton Flatbed Truck
- Sweeper Truck
- Ford Service Truck
- Cat 988B Front End Loader
- Cat 988F Front End Loader
- Cat 836 Compactors (2)
- Cat 146 Motor Grader
- Cat D7H Bulldozer
- Cat D8N Bulldozer
- Kobelco 120 Track Excavator
- Columbia Tipper
- Cat 769 Water Truck
- Cat 773D End Dump Trucks (3)
- Container Lift Hist
- Cat Container Lift
- Scat Track
- Daewoo Fork Lift

- ADC Distributor
- Cat 768D Power Unit
- Cat 768B Power Unit
- Commander Scissor Lift
- Cat D8R Bulldozer
- Sunon Man Lift
- International Snow Plow

Item #34 ***Identification of borrow sources for daily and final cover and for soil liners (R315-310-4(2)(c)(iv))***

All municipal solid waste will be covered intermittently , after compaction, with a minimum of six inches of soil, ash, or other non-municipal solid waste to control vectors, fires, odors, blowing litter, and scavenging animals When waste soil materials are available from an imported waste stream, they will be utilized as daily cover, otherwise, daily cover will be excavated from an on-site borrow source The borrow areas for daily cover, intermediate cover, final cover, and soil liners are identified on the drawing contained m Appendix #6 of this permit renewal application

Item #35 ***Run-off or leachate collection, treatment, and disposal and documentation to show that any treatment system is being or has been reviewed by the Division of Water Quality (R315-310-4(2)(c)(x) and R315-310-3(1)(i))***

The secondary and primary leachate collection systems in each landfill cell consist of collection and withdrawal pipes, a dedicated pump installed in each withdrawal pipe, and a leachate tank truck The leachate collection systems are designed using accepted engineering practices and to prevent no more than one foot depth of leachate developing at any point in the bottom of each landfill cell Leachate is removed and recirculated within the composite lined portion of the landfill cells It is utilized for dust suppression, stored in a pond, or spread out to facilitate evaporation ECDC does not operate any waste water treatment facility

Item #36 ***Ground water monitoring plan that meets the requirements of Rule R315-308 including well locations, design, and construction (.R315-310-4(2)(b)(x) and R315-310-4(2)(c)(vi))***

A groundwater monitoring plan is included in Appendix #12 of this permit renewal application A drawing showing the location of monitoring wells is included in Appendix #6 of this permit renewal application

Item #37 ***Landfill gas monitoring and control plan that meets the requirements of Subsection R315- 303-3(5) (R315-310-4(2)(c)(vii))***

Methane Gas Monitoring - Methane gas monitoring is performed quarterly at the facility structures and at the property boundaries closest to existing cell(s) The monitoring will be performed by ECDC personnel or an ECDC representative A copy of the form for reporting gas momtoring results is in Appendix #13 of this permit renewal application Maintenance of the momtoring equipment will take place in essential accordance with the manufactures recommendations Quarterly monitoring is performed with a hand-held probe at the following locations

1 Crawl space beneath the admimstrative building,

2 Southwest corner of the rotary dump area at ground level,

3 Southeast corner of the Super Cell #1 scale shack at ground level,

4 Southwest corner of the intermodal area at ground level,

7 Northwest corner of the Cell #7 scale shack at ground level,

8 North property boundary, and

9 South property boundary

The Utah Solid Waste Rules require that facilities implement a methane momtoring program to ensure that methane concentrations do not exceed 25% of the Lower Explosive Limit (LEL) in facility stmctures and 100% of the LEL at the property boundary The facility monitoring consists of a two-step process an internal action level and the regulatory action level The internal action level has been set at half of the regulatory limit, which is 12% of the LEL in stmctures and 50% of the LEL at property boundaries If a momtoring event exceeds the internal action limit, the facility manager is notified This first step is for internal awareness and planmng only The second level of the monitoring plan details the procedure if methane concentrations exceed the regulatory limit of 25% of the LEL at the facility stmctures or 100% of the LEL at the property boundary If an exceedance is noted in a momtoring event, steps will immediately be taken to protect human health and the Executive Secretary will be notified within 24 hours or the next business day Within 7 days of detection, ECDC will place in the operating record the explosive gas levels detected and a description of the steps taken to protect human health After

an investigation into the exceedence, a remediation plan will be developed within 60 days The ECDC facility shall not cause a violation of any ambient air quality standard at the property boundary or emission standard from any emission of landfill gases, combustion or any other emission associated with the facility

Methane Gas Control - The facility does not presently operate a gas collection system The facility will install a gas collection system upon closure of a landfill cell unless examination of the gas production of the compacted waste indicates that a gas collection system is not necessary Plans will be provided to the Utah Division of Solid and Hazardous Waste for review prior to construction Upon installation and operation of a gas collection system, the system will be inspected and monitored in essential accordance with the manufactures recommendations Maintenance activities will be initiated as necessary

Item #38 Design *and location of run-on and run-off control systems (R315-310-4(2)(c)(viii))*

All landfill cells at the facility are designed to preclude run-on storm water from entering the cells Dikes and embankments exist to prevent non-contaminated storm water from running onto active portions of the active landfill cells Drainage channels, embankments and dikes are inspected regularly Erosion detected during the visual inspection will be repaired Objects hindering flow will be removed

Storm water run-off from active areas is treated as leachate and is collected, recirculated within the lined portion of the cell, placed in a storage pond, utilized for dust suppression within the lined portion of the cell, or taken to a waste water facility

A drawing showing the location of the run-on/run-off control systems is included in Appendix #6 of this permit renewal application

CLOSURE PLAN (R315-310-3(1)(h))

Item #39 *Closure schedule (R315-310-4(2)(d)(i))*

The closure of Cell #7 is expected to begin within the next 5 years Once the cell reaches capacity , design drawings will provided for review and approval prior to construction The layer will be placed using standard construction equipment The closed cell will require approximately 1 to 2 years for settlement of the underlying waste After the settlement period, the final closure of the cell will occur by placing the final cover material and constructing a gas control system The time for complete closure of Cell #7 is anticipated to be approximately 3 - 5 years from the time closure begins

The closure of Cell #10 is expected to begin within the next 5 years Procedures and scheduling for the closure will be as outlined above for Cell #7

The closure of Super Cell #1 is expected to occur withm the next 100 years At the time of closure, the final cover will be designed using current technology If closure is required in the near future, it will be closed in a similar manner as previously closed cells

ECDC will notify the Executive Secretary at least 60 days prior to receipt of the last waste into a cell that closure activities on that cell will be imtiated Implementation of closure activities in any landfill cell will begin within 30 days of last receipt of waste to that cell Upon completion of closure activities in any of the landfill cells, ECDC will submit to the Executive Secretary certification that the landfill cell was closed in essential accordance with the closure plan As part of the submittal to the Executive Secretary, ECDC will also submit as-built drawings of the landfill cell and certification that all final cover components were installed accordmg to the closure plan and the QA/QC plan All certifications and drawings will be sealed by a P E registered m the state of Utah This submittal, including as-built drawings, will be submitted to the Executive Secretary within 90 days of completion of closure activities Within 60 days of certification of closure, ECDC will file a notarized plat with the county recorder of deeds A statement concermng the location and amount of waste will be recorded on the site title Until a landfill cell closure is approved by the Executive Secretary, it will be regarded and be maintained as active

The estimated life of the total facility ranges from 281 to 468 years The current projection for closure of the entire landfill is estimated to be between the year 2281 and the year 2468

Item #40 Design ***of final cover (R315-310-4(2)(c)(iii))***

ECDC is currently researching alternate final cover designs If after the research it is determined that an alternate final cover design is more beneficial, ECDC will submit the alternate final cover design to the Executive Secretary for approval This design will be submitted for review and approval prior to closure of any landfill unit

In heu of an alternate final cover design, a 2-foot thick layer of protective cover wdl be placed over the waste and compacted The partially closed cell wdl require approximately 1 to 2 years for settlement to take place Upon completion of settlement, vegetation will be removed, eroded protective cover will be replaced, and the area will be re-compacted A 40-mil V L D P E liner will be installed over the protective cover A composite drainage net system will be placed on top of the hner Two feet of compacted (90% of a Standard Proctor) soil will be placed above the composite drainage net system Six inches of topsoil placed over the compacted soil will support either a vegetation or a rock cover Prior to closure of the landfill units the decision to

use vegetation or rock will take place Vegetation requirements will be determined based upon recommended standards of the Utah Department of Natural Resources or the U S Natural Resources Conservation Service Construction of a gas control system will then take place Six months prior construction of the gas control system, ECDC will submit construction plans to the Executive Secretary for approval

The closure cap will slope on a grade of 4 1 (run rise) or flatter for approximately 20% of the width of the cap from the cell edge to an intermediate ridge line The cap will then slope on a 3% to 15% grade from the ridge line to the crown of the cell The most recently approved Quality Assurance and Quality Control Plan at the time of closure construction activities will be implemented A third party will be involved in the closure activities to ensure that the design requirements are met Local materials will be utilized for closure activities Standard construction equipment and practices will be employed for the construction operations

Item #41 *Capacity of site in volume and tonnage (R315-310-4(2)(d)(ii))*

The site has an approximate total capacity of 382,000,000 cubic yards of air space, with approximately 374,400,000 cubic yards of air space remaining With an estimated in-place density range of 1,500 to 2,500 pounds per cubic yard, the remaining tonnage would range from 280,800,000 tons to 468,000,000 tons

Item #42 *Final inspection by regulatory agencies (R315-310-4(2)(d)(iii))*

The Executive Secretary will be notified of the intent to implement the closure plan, m part or whole Final closure of any cell may require 1 to 5 years to reach completion due to the amount of time allowed for settlement before placing the final cover The Executive Secretary will be notified within 90 days after completion of closure activities to allow the regulatory agency to conduct a final review and closure inspection

POST-CLOSURE CARE PLAN (R315-310-3(1)(h))

Item #43 *Site monitoring of landfill gases, ground water, and surface water, if required (R315-310- 4(2)(e)(i))*

Upon approval of closure activities by the Executive Secretary, the post-closure care plan will be implemented Following are the monitoring activities that will take place during post-closure

Landfill Gas Monitoring - During post-closure care, landfill gas monitoring will continue on a quarterly basis as described in Item #37 of this permit renewal application

Ground Water Momtoring - During post-closure care, ground water monitoring will continue on a semi-annual basis as described in Item #36 of this permit renewal apphcation

Leachate Collection Monitoring - During post-closure care, leachate collection and treatment monitoring will continue on a quarterly basis as described in Item #45 of this permit renewal apphcation

Cover and Run-on/Run-off Momtoring - During post-closure care, cover and run-on/run-off monitoring will continue on a quarterly basis as described in Item #45 of this permit renewal application

Records kept for all monitoring activities will be stored in the field office At the end of the life of the ECDC facility, a new site will be chosen for storage of monitoring documents ECDC will provide an annual report as required by UAC R315-302-2(4) Upon completion of the post-closure activities of any landfill unit at the facility, a P E registered in the state of Utah will certify that all post-closure activities were conducted in essential accordance with the post-closure plan ECDC will place the post-closure completion documentation in the operating record and submit it to the Executive Secretary Any modifications to the post-closure plan will be submitted to the Executive Secretary for approval at least 6 months prior to the implementation of the post-closure plan

Withdrawals from the selected financial assurance mechanism for the costs incurred by ECDC for the regularly scheduled quarterly inspections and monitoring will be requested at the end of each post-closure quarter Withdrawals for any added inspection trips, momtoring, and maintenance work performed will also be made at the end of the quarter in which the work was performed In the event that the funds in the post-closure care account are depleted prior to the completion of post-closure care obligations, ECDC will continue their post-closure care responsibilities at their own expense to the end of the post-closure period Upon completion of ECDC's post-closure care responsibilities, any remaining funds in the post-closure care account will be withdrawn by ECDC

Item #44 *Changes to record of title, land use, and zoning restrictions (R315-310-4(2)(e)(ii))*

Change of ownership of the property occurred on December 1997 There have been no additional changes to the zoning and land use restrictions A copy of the name change is included in Appendix #2 of this permit renewal application

Item #45 *Maintenance activities to maintain cover and run-on/run-off control systems (R315-310-4(2)(e)(iii))*

There are no surface water sources on the landfill property As a result, ECDC will not conduct surface water monitoring as part of the post-closure care activities

Quarterly inspections will be made to ensure the integrity of the cover system and the run-on/run-off systems It is understood that erosion can have an adverse effect on the landfill facility, and if left unchecked or not maintained, could become a stability problem or a public hazard ECDC will ensure the integrity of the landfill facility and remaining structures during the post-closure period, thus protecting the public and the environment ECDC will maintain and repair the cover system by replacing eroded areas with additional material and controlling deep rooted vegetation that could damage the landfill cell cover Surface water drainage will also be controlled to preclude erosion of the cover material or the perimeter embankments De-watering systems will remain in place to drain any leachate water within the landfill units Post-closure maintenance of this system will consist of maintaining the integrity of the pumps, piping systems, and pipe covers

Upon closure of each unit, run-on/run-off diversion channels will be constructed as needed The rock-lined channels will be designed and constructed to control surface drainage as each closure section is completed The channels will be designed for the 25-year rainfall event

Item #46 *List the name, address, and telephone number of the person or office to contact about the facility during the post-closure care period (R315-310-4(2)(e)(v))*

Following is the name, address, and telephone number of the person to contact about the ECDC facility during the post-closure period

Name	Kirk Treece Facility Manager
Address	1111 West Highway 123 P O Box 69 East Carbon, Utah 84520
Telephone Number	435-888-4418 Ext 25

FINANCIAL ASSURANCE (R315-310-3(1)(j))

Item #47 *Identification of closure costs including cost calculations (R315-310-4(2)(d)(iv))*

The closure costs, including cost calculations for Cell #7, are contained in Appendix #14 of this permit renewal application The quantities for closure were determined using recent survey information to establish an existing surface and comparing it to the final designed surface *AutoCad Land Development* was used to establish and compare the surfaces Other quantities were determined using the final design drawings Costs for closure were determined using similar projects in the area and projects at ECDC Following is an explanation of each line item in the Appendix

1 Engineering - This item includes, but is not limited to, inspection to identify waste disposal areas, analyze drainage and erosion protection needs, determine other site operational features that may not be m compliance with the permit, and analyze ground water samples and operational records

2 Technical Specifications and Drawings - This item includes, but is not limited to, final cover system design and specifications, grading and drainage plans, specifications for revegetation, design of any other site improvements required, preparation of a closure schedule, contractor bidding process, and coordination of the closure plan with the Utah Division of Solid and Hazardous Waste

3 Grading of Existing Waste - The existing waste in Cell #7 must be graded to an acceptable slope The slope will be calculated at the time of closure The waste material will be graded to form a base upon which the capping materials will be placed

4 Preparation of Selected Waste - Selected waste will be screened to produce 2 feet of bedding material in Cell #7 for the geosynthetic liner Once the material is produced, the material will be placed, moisture-conditioned, and compacted If it is necessary to use an alternate bedding material, it will be produced from an on-site source

5 Installation of Geosynthetic Liner - A geosynthetic liner will be installed on the selected screened waste in Cell #7 to prevent moisture from entering the landfill waste material

6 Installation of Geonet - A geonet will be placed on top of the geosynthetic liner in Cell #7 to produce an avenue for liquids to flow from the landfill cell cap

7 Installation of Geotextile - A geotextile will be placed on top of the geonet in Cell #7 to preclude fine material from plugging the geonet

8 Protective Soil Cover - Cover soil material will be produced on-site and hauled to landfill Cell #7 The cover soil will be placed on top of the geotextile to a depth of 2 feet The material will be moisture-conditioned and compacted during placement

9 Cover Cell with Vegetation or Rock - Upon completion of the cap m Cell #7, 6 inches of top soil or rock will be placed on top of the protective soil cover If top soil is used, the cell will be seeded for the production of a vegetation cover

10 Drainage Control for Landfill Cell - Drainage control for Cell #7 will be designed and installed to allow precipitation to exit the landfill surface without eroding the landfill cell

11 Surveying - During all activities of closure of Cell #7, surveying will take place to control constmction of the project Included in this item is the boundary survey

12 Materials Testing and Reporting - During all activities of closure of Cell #7, materials testing and reporting will take place to ensure constmction meets the requirements of the technical specifications of the project

13 Oversight, Inspection and Supervision - During all activities of closure of Cell #7, management of the project will take place to oversee all phases of construction and closure

14 Total - This line item is the total cost to close Cell #7

The closure costs including cost calculations for Cell #10 are contained in Appendix #14 of this permit renewal application The quantities for closure were determined using recent survey information to establish an existing surface and comparing it to the final designed surface *AutoCad Land* Development was used to establish and compare the surfaces Other quantities were determined using the final design drawings Costs for closure were determined using similar projects in the area and projects at ECDC Following is an explanation of each line item in the Appendix

1 Engineering - As outlined above

2 Technical Specifications and Drawings - As outlined above

3 Grading of Existing Waste - As outlined above

4 Removal and Excavation of Existing Dikes - The existing embankments of Cell #10 will be cut down to an elevation of 5895 feet The excess material will then be hauled to the north end of the existing landfill cell for construction of the north dike The removal of the top portion of the existing dikes will allow for a closure of Cell #10 without hauling soil material into the cell to complete the designed grades

5 Construction of North Dike - An embankment will be constructed on the north end of Cell #10 to enclose the existing waste and allow for closure of the landfill cell The dike will be constructed of material taken from existing dikes The material will be moisture-conditioned and compacted during placement After the dike is constructed, a liner will be constructed using clay material, geosynthetic liner, and select cover material An anchor trench will be installed around the perimeter of the landfill cell

6 Preparation of Selected Waste - As outlined above

7 Installation of Geosynthetic Liner - As outlined above

8 Installation of Geonet - As outlined above

9 Installation of Geotextile - As outlined above

10 Protective Soil Cover - As outlined above

11 Cover Cell with Vegetation or Rock - As outlined above

12 Drainage Control for Landfill Cell - As outlined above

13 Surveying - As outlined above

14 Materials Testing and Reporting - As outlined above

15 Oversight, Inspection and Supervision - As outlined above

16 Total - This line item is the total cost to close Cell #10

The closure costs including cost calculations for Super Cell #1 are contained in Appendix #14 of this permit renewal application The quantities for closure were determined using recent survey information to establish an existing surface and comparing it to the final designed surface *AutoCad Land Development* was used to establish and compare the surfaces Other quantities were determined using the final design drawings Costs for closure were determined using similar projects in the area and projects at ECDC Following is an explanation of each line item in the Appendix Descriptions of each line item are similar to those presented in the discussion of Cell #7 closure

Item #48 ***Identification of post-closure care costs including cost calculations (R315-310-4(2)(e)(iv))***

The post-closure care costs including cost calculations for Cell #7 are contained in Appendix #15 of this permit renewal application The post-closure care plan will be part of the permit, therefore, there is not a cost to produce it in the post-closure care costs Following is an explanation of each line item in the Appendix

1 Collect, Treat and Dispose of Leachate - During the post-closure care period, leachate collection and monitoring will take place as described in Item #35 of this permit renewal application

2 Gas Collection and Monitoring - During the post-closure care period, gas collection and monitoring will take place as described in the Gas Collection and Monitoring Plan

3 Repair and Maintain Surface Drainage Structures, Final Cover, On-Site Permanent Improvements and Equipment - During the post-closure care period, maintenance, inspection, and repair of the final cover, run-on/run-off systems, on-site permanent improvements, and equipment will take place

4 Rework or Replace Defective Groundwater Monitoring Wells and Equipment, Install New Wells and Equipment - During the post-closure care period, maintenance, inspection, and repair of the monitoring wells will take place If any new wells are required, they will be installed

5 Collect Semi-Annual Groundwater Samples - During the post-closure care period, collection of the groundwater samples will take place semi-annually

6 Analyze Semi-Annual Groundwater Samples - During the post-closure care period, analysis of the groundwater samples will take place semi-annually

7 Maintain Site Security and Access Control - During the post-closure care period, security of the site and access to the site will be maintained and controlled

8 Provide Administrative Overhead for Oversight and Record Keeping - During the post-closure care period, administrative oversight and record keeping of all activities of post-closure will take place

9 Prepare Post-Closure Certificate - During the post-closure care period, preparation of post-closure certificates will take place

10 Total - This line item is the total cost for post-closure care of Cell #7

Appendix #16 of this permit renewal application demonstrates the investment that should be made for post-closure care for Cell #7 The starting cost is the estimated yearly cost for post-closure care The interest rate is estimated by ECDC to be 12% per year and the estimated inflation rate is 3 735% per year The estimated inflation rate is the average inflation rate for the last twenty years in the state of Utah The table illustrates the estimated cost, beginning amount and ending amount of the investment for each of the thirty years required for post-closure care

The post-closure care costs including cost calculations for Cell #10 are contained in Appendix #15 of this permit renewal application The post-closure care plan will be part of the permit, therefore, there is not a cost to produce it in the post-closure care costs Line items

contamed in the cost estimate are similar to those described above Interest and inflation rates are equivalent to those described above

The post-closure care costs including cost calculations for Super Cell #1 are contamed in Appendix #15 of this permit renewal application The post-closure care plan will be part of the permit, therefore, there is not a cost to produce it in the post-closure care costs Line items contained in the cost estimate, together with the indicated inflation and interest rates, are similar to those described above

Item #49 ***Identification of the financial assurance mechanism that meets the requirements of Rule R315-309 and the date that the mechamsm will become effective (R315-309-1(1))***

A copy of the statement of financial assurance mechanism is included in Appendix #17 of this permit renewal application

APPENDIX B

Excerpts from §761 75

under special circumstances across the regions

(d) *Excluded spills* (1) Although the spill situations in paragraphs (d)(2) (i) through (vi) of this section are excluded from the automatic application of final decontamination standards under § 761 125 (b) and (c) the general requirements under § 761 125(a) do apply to these spills In addition all of these excluded situations require practicable immediate actions to contain the area of contamination While these situations may not always require more stringent cleanup measures the Agency is excluding these scenarios because they will always involve significant factors that may not be adequately addressed by cleanup standards based upon typical spill characteristics

(2) For the spill situations in paragraphs (d)(2)(i) through (vi) of this section the responsible party shall decontaminate the spill in accordance with site-specific requirements established by the EPA regional offices

(i) Spills that result in the direct contamination of surface waters (surface waters include but are not limited to waters of the United States as defined in part 122 of this chapter ponds lagoons wetlands and storage reservoirs)

(ii) Spills that result in the direct contamination of sewers or sewage treatment systems

(iii) Spills that result in the direct contamination of any private or public drinking water sources or distribution systems

(iv) Spills which migrate to and contaminate surface waters sewers or drinking water supplies before cleanup has been completed in accordance with this policy

(v) Spills that contaminate animal grazing lands

(vi) Spills that contaminate vegetable gradens

(e) *Relationship of policy to other statutes* (1) This policy does not affect cleanup standards or requirements for the reporting of spills imposed or to be imposed under other Federal statutory authorities including but not limited to the Clean Water Act (CWA) the Resource Conservation and Recovery Act (RCRA) and the Comprehensive Environmental Response Compensation and Liability Act of 1980 (CERCLA) as amended by the Superfund Amendments and Reauthorization Act (SARA) Where more than one requirement applies the stricter standard must be met

(2) The Agency recognizes that the existence of this policy will inevitably result in attempts to apply the standards to situations within the scope of other statutory authorities However other statutes require the Agency to consider different or alternative factors in determining appropriate corrective actions In addition the types and magnitudes of exposures associated with sites requiring corrective action under other statutes often involve important differences from those expected of the typical electrical equipment type spills considered in developing this policy Thus cleanups under other statutes such as RCRA corrective actions or remedial and response actions under SARA may result in different outcomes

[52 FR 10705 Apr 2 1987 as amended at 72 FR 57241 Oct 9 2007 74 FR 30234 June 25 2009]

§ 761 123 Definitions

For purposes of this policy certain words and phrases are used to denote specific materials procedures or circumstances The following definitions are provided for purposes of clarity and are not to be taken as exhaustive lists of situations and materials covered by the policy

Double wash/rinse means a minimum requirement to cleanse solid surfaces (both impervious and nonimpervious) two times with an appropriate solvent or other material in which PCBs are at least 5 percent soluble (by weight) A volume of PCB free fluid sufficient to cover the contaminated surface completely must be used in each wash/rinse The wash/rinse requirement does not mean the mere spreading of solvent or other fluid over the surface nor does the requirement mean a once over wipe with a soaked cloth Precautions must be taken to contain any runoff resulting from the cleansing and to dispose properly of wastes generated during the cleansing

risk of injury to health or the environment because it is operating in compliance with the parameters and conditions listed in paragraph (a) or (b) of this section even though the oven or smelter does not have a RCRA or State air permit as required by paragraph (c)(1) of this section The written request shall include a site specific risk assessment

(d) PCB liquids other liquid waste qualifying as waste oils which may be used as provided for at §761 20(e) or PCB remediation waste other than PCB Contaminated articles may not be disposed of in a scrap metal recovery oven or smelter unless approved or otherwise allowed under subpart D of this part

[63 FR 35455 June 29 1998 as amended at 64 FR 33761 June 24 1999]

§761 75 Chemical waste landfills

This section applies to facilities used to dispose of PCBs in accordance with the part

(a) *General* A chemical waste landfill used for the disposal of PCBs and PCB Items shall be approved by the Agency Regional Administrator pursuant to paragraph (c) of this section The landfill shall meet all of the requirements specified in paragraph (b) of this section unless a waiver from these requirements is obtained pursuant to paragraph (c)(4) of this section In addition the landfill shall meet any other requirements that may be prescribed pursuant to paragraph (c)(3) of this section

(b) *Technical requirements* Requirements for chemical waste landfills used for the disposal of PCBs and PCB Items are as follows

(I) *Soils* The landfill site shall be located in thick relatively impermeable formations such as large area clay pans Where this is not possible the soil shall have a high clay and silt content with the following parameters

(i) In place soil thickness 4 feet or compacted soil liner thickness 3 feet

(ii) Permeability (cm/sec) equal to or less than 1×10^{-7}

(iii) Percent soil passing No 200 Sieve >30

(iv) Liquid Limit >30 and

(v) Plasticity Index >15

(2) *Synthetic membrane liners* Synthetic membrane liners shall be used when in the judgment of the Regional Administrator the hydrologic or geologic conditions at the landfill require such a liner in order to provide at least a permeability equivalent to the soils in paragraph (b)(1) of this section Whenever a synthetic liner is used at a landfill site special precautions shall be taken to insure that its integrity is maintained and that It is chemically compatible with PCBs Adequate soil underlining and soil cover shall be provided to prevent excessive stress on the liner and to prevent rupture of the liner The liner must have a minimum thickness of 30 mils

(3) *Hydrologic conditions* The bottom of the landfill shall be above the historical high groundwater table as provided below Floodplains shorelands and groundwater recharge areas shall be avoided There shall be no hydraulic connection between the site and standing or flowing surface water The site shall have monitoring wells and leachate collection The bottom of the landfill liner system or natural in place soil barrier shall be at least fifty feet from the historical high water table

(4) *Flood protection* (i) If the landfill site is below the 100 year floodwater elevation the operator shall provide surface water diversion dikes around the perimeter of the landfill site with a minimum height equal to two feet above the 100 year floodwater elevation

(ii) If the landfill site is above the 100 year floodwater elevation the operators shall provide diversion structures capable of diverting all of the surface water runoff from a 24 hour 25 year storm

(5) *Topography* The landfill site shall be located in an area of low to moderate relief to minimize erosion and to help prevent landslides or slumping

(6) *Monitoring systems*—(i) *Water sampling* (A) For all sites receiving PCBs the ground and surface water from the disposal site area shall be sampled prior to commencing operations under an approval provided m paragraph (c) of this section for use as baseline data

(B) Any surface watercourse designated by the Regional Administrator

using the authority provided in paragraph (c)(3)(ii) of this section shall be sampled at least monthly when the landfill is being used for disposal operations

(C) Any surface watercourse designated by the Regional Administrator using the authority provided in paragraph (c)(3)(ii) of this section shall be sampled for a time period specified by the Regional Administrator on a frequency of no less than once every six months after final closure of the disposal area

(ii) *Groundwater monitor wells* (A) If underlying earth materials are homogenous impermeable and uniformly sloping in one direction only three sampling points shall be necessary These three points shall be equally spaced on a line through the center of the disposal area and extending from the area of highest water table elevation to the area of the lowest water table elevation on the property

(B) All monitor wells shall be cased and the annular space between the monitor zone (zone of saturation) and the surface shall be completely backfilled with Portland cement or an equivalent material and plugged with Portland cement to effectively prevent percolation of surface water into the well bore The well opening at the surface shall have a removable cap to provide access and to prevent entrance of rainfall or stormwater runoff The well shall be pumped to remove the volume of liquid initially contained in the well before obtaining a sample for analysis The discharge shall be treated to meet applicable State or Federal discharge standards or recycled to the chemical waste landfill

(iii) *Water analysis* As a minimum all samples shall be analyzed for the following parameters and all data and records of the sampling and analysis shall be maintained as required in § 761 180(d)(1) Sampling methods and analytical procedures for these parameters shall comply with those specified in 40 CFR part 136 as amended in 41 FR 52779 on December 1 1976

(A) PCBs

(B) pH

(C) Specific conductance

(D) Chlorinated organics

(7) *Leachate collection* A leachate collection monitoring system shall be installed above the chemical waste landfill Leachate collection systems shall be monitored monthly for quantity and physicochemical characteristics of leachate produced The leachate should be either treated to acceptable limits for discharge in accordance with a State or Federal permit or disposed of by another State or Federally approved method Water analysis shall be conducted as provided in paragraph (b)(6)(iii) of this section Acceptable leachate monitoring/collection systems shall be any of the following designs unless a waiver is obtained pursuant to paragraph (o)(4) of this section

(i) *Simple leachate collection* This system consists of a gravity flow drainfield installed above the waste disposal unit liner This design is recommended for use when semi-solid or leachable solid wastes are placed in a lined pit excavated into a relatively thick unsaturated homogenous layer of low permeability soil

(ii) *Compound leachate collection* This system consists of a gravity flow drainfield installed above the waste disposal unit lmer and above a secondary installed liner This design is recommended for use when semi liquid or leachable solid wastes are placed in a lined pit excavated into relatively permeable soil

(iii) *Suction lysimeters* This system consists of a network of porous ceramic cups connected by hoses/tubing to a vacuum pump The porous ceramic cups or suction lysimeters are installed along the sides and under the bottom of the waste disposal unit liner This type of system works best when installed in a relatively permeable unsaturated soil immediately adjacent to the bottom and/or sides of the disposal facility

(8) *Chemical waste landfill operations* (i) PCBs and PCB Items shall be placed in a landfill in a manner that will prevent damage to containers or articles Other wastes placed m the landfill that are not chemically compatible with PCBs and PCB Items including organic solvents shall be segregated from the PCBs throughout the waste handling and disposal process

(ii) An operation plan shall be developed and submitted to the Regional Administrator for approval as required in paragraph (c) of this section This plan shall include detailed explanations of the procedures to be used for recordkeeping surface water handling procedures excavation and backfilling waste segregation burial coordinates vehicle and equipment movement use of roadways leachate collection systems sampling and monitoring procedures monitoring wells environmental emergency contingency plans and security measures to protect against vandalism and unauthorized waste placements EPA guidelines entitled Thermal Processing and Land Disposal of Solid Waste (39 FR 29337 Aug 14 1974) are a useful reference in preparation of this plan If the facility is to be used to dispose of liquid wastes containing between 50 ppm and 500 ppm PCB the operations plan must include procedures to determine that liquid PCBs to be disposed of at the landfill do not exceed 500 ppm PCB and measures to prevent the migration of PCBs from the landfill Bulk liquids not exceedmg 500 ppm PCBs may be disposed of provided such waste is pretreated and/or stabilized (e g chemically fixed evaporated mixed with dry inert absorbant) to reduce its liquid content or increase its solid content so that a non flowing consistency is achieved to eliminate the presence of free liquids prior to final disposal in a landfill PCB Container of liquid PCBs with a concentration between 50 and 500 ppm PCB may be disposed of if each container is surrounded by an amount of inert sorbant material capable of absorbing all of the liquid contents of the container

(iii) Ignitable wastes shall not be disposed of in chemical waste landfills Liquid ignitable wastes are wastes that have a flash point less than 60 degrees C (140 degrees F) as determined by the following method or an equivalent method Flash point of liquids shall be determined by a Pensky Martens Closed Cup Tester using the protocol specified in ASTM D 93-90 or the Setaflash Closed Tester using the protocol specified m ASTM Standard D-3278-89

(iv) Records shall be maintained for all PCB disposal operations and shall include information on the PCB concentration in liquid wastes and the three dimensional burial coordinates for PCBs and PCB Items Additional records shall be developed and maintained as required in § 761 180

(9) *Supporting facilities* (i) A six foot woven mesh fence wall or similar device shall be placed around the site to prevent unauthorized persons and animals from entering

(ii) Roads shall be maintained to and within the site which are adequate to support the operation and maintenance of the site without causing safety or nuisance problems or hazardous conditions

(iii) The site shall be operated and maintained in a manner to prevent safety problems or hazardous conditions resulting from spilled liquids and windblown materials

(c) *Approval of chemical waste landfills* Prior to the disposal of any PCBs and PCB Items in a chemical waste landfill the owner or operator of the landfill shall receive written approval of the Agency Regional Administrator for the Region in which the landfill is located The approval shall be obtained in the following manner

(I) *Initial report* The owner or operator shall submit to the Regional Administrator an initial report which contains

(i) The location of the landfill

(ii) A detailed description of the landfill including general site plans and design drawings

(iii) An engineering report describing the manner is which the landfill complies with the requirements for chemical waste landfills specified in paragraph (b) of this section

(iv) Sampling and monitoring equipment and facilities available

(v) Expected waste volumes of PCBs

(vi) General description of waste materials other than PCBs that are expected to be disposed of in the landfill

(vii) Landfill operations plan as required in paragraph (b) of this section

(viii) Any local State or Federal permits or approvals and

(ix) Any schedules or plans for complymg with the approval requirements of these regulations

(2) *Other information* In addition to the information contained in the report described in paragraph (c)(1) of this section the Regional Administrator may require the owner or operator to submit any other information that the Regional Administrator finds to be reasonably necessary to determine whether a chemical waste landfill should be approved Such other information shall be restricted to the types of information required in paragraphs (c)(1) (i) through (ix) of this section

(3) *Contents of approval* (i) Except as provided in paragraph (c)(4) of this section the Regional Administrator may not approve a chemical waste landfill for the disposal of PCBs and PCB Items unless he finds that the landfill meets all of the requirements of paragraph (b) of this section

(ii) In addition to the requirements of paragraph (b) of this section the Regional Administrator may include in an approval any other requirements or provisions that the Regional Administrator finds are necessary to ensure that operation of the chemical waste landfill does not present an unreasonable risk of injury to health or the environment from PCBs Such provisions may include a fixed period of time for which the approval is valid

The approval may also include a stipulation that the operator of the chemical waste landfill report to the Regional Administrator any instance when PCBs are detectable during monitoring activities conducted pursuant to paragraph (b)(6) of this section

(4) *Waivers* An owner or operator of a chemical waste landfill may submit evidence to the Regional Administrator that operation of the landfill will not present an unreasonable risk of injury to health or the environment from PCBs when one or more of the requirements of paragraph (b) of this section are not met On the basis of such evidence and any other available information the Regional Administrator may in his discretion find that one or more of the requirements of paragraph (b) of this section is not necessary to protect against such a risk and may waive the requirements in any approval for that landfill Any finding and waiver under this paragraph will be stated in writing and included as part of the approval

(5) *Persons approved* Any approval will designate the persons who own and who are authorized to operate the chemical waste landfill and will apply only to such persons except as provided by paragraph (c)(7) of this section

(6) *Final approval* Approval of a chemical waste landfill will be in writing and will be signed by the Regional Administrator The approval will state all requirements applicable to the approved landfill

(7) *Transfer of property* Any person who owns or operates an approved chemical waste landfill must notify EPA at least 30 days before transferring ownership in the property or transferring the right to conduct the chemical waste landfill operation The transferor must also submit to EPA at least 30 days before such transfer a notarized affidavit signed by the transferee which states that the transferee will abide by the transferor s EPA chemical waste landfill approval Within 30 days of receiving such notification and affidavit EPA will issue an amended approval substituting the transferee s name for the transferor s name or EPA may require the transferee to apply for a new chemical waste landfill approval In the latter case the transferee must abide by the transferor s EPA approval until EPA issues the new approval to the transferee

(Sec 6 Pub L 94-469 90 Stat 2020 (15 U S C 2605)

[44 FR 31542 May 31 1979 Redesignated at 47 FR 19527 May 6 1982 and amended at 48 FR 5730 Feb 8 1983 49 FR 28191 July 10 1984 53 FR 12524 Apr 15 1988 53 FR 21641 June 9 1988 57 FR 13323 Apr 16 1992 63 FR 35456 June 29 1998]

§ 761 77 Coordinated approval

(a) *General requirements* Notwithstanding any other provision of this part the EPA Regional Administrator for the Region in which a PCB disposal or PCB commercial storage facility described in paragraphs (b) and (c) of this section is located may issue a TSCA PCB Coordinated Approval to the persons described in those paragraphs if the conditions listed in this section are

the non TSCA waste management document which serves as the basis for a TSCA PCB Coordinated Approval Changes in the ownership of a commercial storage facility which holds a TSCA PCB Coordinated Approval shall be handled pursuant to § 761 65(j)

(b) Any person who owns or operates a facility that he or she intends to use to landfill PCB wastes incinerate PCB wastes dispose of PCB wastes using an alternative disposal method that is equivalent to disposal in an incinerator approved under § 761 70 or a high efficiency boiler operating in compliance with § 761 71 or stores PCB wastes may apply for a TSCA PCB Coordinated Approval The EPA Regional Administrator may approve the request if the EPA Regional Administrator determines that the activity will not pose an unreasonable risk of injury to health or the environment and the person

(1)(i) Has a waste management permit or other decision or enforcement document which exercises control over PCB wastes issued by EPA or an authorized State Director for a State program that has been approved by EPA and is no less stringent in protection of health or the environment than the applicable TSCA requirements found in this part or

(ii) Has a PCB waste management permit or other decision or enforcement document issued by a State Director pursuant to a State PCB waste management program no less stringent in protection of health or the environment than the applicable TSCA requirements found in this part or

(iii) Is subject to a waste management permit or other decision or enforcement document which is applicable to the disposal of PCBs and which was issued through the promulgation of a regulation published in Title 40 of the Code of Federal Regulations

(2) Complies with the terms and conditions of the permit or other decision or enforcement document described in paragraph (b)(1) of this section

(3) Unless otherwise waived or modified in writing by the EPA Regional Administrator complies with § 761 75(b) § 761 70(a)(1) through (a)(9) (b)(1) and (b)(2) and (c) or the PCB storage requirements at §§ 761 65(a) (c) and (d)(2) as appropriate

(4) Complies with the reporting and recordkeeping requirements in subparts J and K of this part

(c) A person conducting research and development (R&D) into PCB disposal methods (regardless of PCB concentration) or conducting PCB remediation activities may apply for a TSCA PCB Coordinated Approval The EPA Regional Administrator may approve the request if the EPA Regional Administrator determines that the activity will not pose an unreasonable risk of injury to health or the environment and the person

(1)(i) Has a permit or other decision and enforcement document issued or otherwise agreed to by EPA or permit or other decision and enforcement document issued by an authorized State Director for a State program that has been approved by EPA which exercises control over the management of PCB wastes and that person is in compliance with all terms and conditions of that document or

(ii) Has a permit which exercises control over the management of PCB wastes issued by a State Director pursuant to a State PCB disposal program no less stringent than the requirements in this part

(2) Complies with the terms and conditions of that permit or other decision and enforcement document

(3) Complies with the reporting and recordkeeping requirements in subparts J and K of this part

[63 FR 35456 June 29 1998]

§ 761 79 Decontamination standards and procedures

(a) *Applicability* This section establishes decontamination standards and procedures for removing PCBs which are regulated for disposal from water organic liquids non porous surfaces (including scrap metal from disassembled electrical equipment) concrete and non porous surfaces covered with a porous surface such as paint or coating on metal

(1) Decontamination in accordance with this section does not require a disposal approval under subpart D of this part

(2) Materials from which PCBs have been removed by decontamination in accordance with this section may be distributed in commerce in accordance with § 761 20(c)(5)

(3) Materials from which PCBs have been removed by decontamination in accordance with this section may be used or reused in accordance with § 761 30(u)

(4) Materials from which PCBs have been removed by decontamination in accordance with this section not including decontamination waste and residuals under paragraph (g) of this section are unregulated for disposal under subpart D of this part

(5) Any person decontaminating porous surfaces other than concrete under paragraph (b)(4) of this section and non porous surfaces covered with a porous surface such as paint or coating on metal under paragraph (b)(3) or (c)(6) of this section must obtain an alternative decontamination approval in accordance with paragraph (h) of this section

(6) Any person engaging in decontamination under this section is responsible for determining and complying with all other applicable Federal State and local laws and regulations

(b) *Decontamination standards* Chopping (including wire chopping) distilling filtering oil/water separation spraying soaking wiping stripping of insulation scraping scarification or the use of abrasives or solvents may be used to remove or separate PCBs to the following standards from liquids concrete or non porous surfaces

(1) The decontamination standard for water containing PCBs is

(i) Less than 200 µg/L (i e <200 ppb PCBs) for non contact use in a closed system where there are no releases

(ii) For water discharged to a treatment works (as defined in § 503 9(aa) of this chapter) or to navigable waters <3 µg/L (approximately <3 ppb) or a PCB discharge limit included in a permit issued under section 307(b) or 402 of the Clean Water Act or

(iii) Less than or equal to 0 5 µg/L (i e approximately ≤0 5 ppb PCBs) for unrestricted use

(2) The decontamination standard for organic liquids and non aqueous inorgame liquids containing PCBs is <2 milligrams per kilogram (i e <2 ppm PCBs)

(3) The decontamination standard for non porous surfaces in contact with liquid and non liquid PCBs is

(i) For unrestricted use

(A) For non porous surfaces previously in contact with liquid PCBs at any concentration where no free-flowing liquids are currently present ≤10 micrograms PCBs per 100 square centi meters (≤10 µg/100 cm^2) as measured by a standard wipe test (§ 761 123) at locations selected in accordance with subpart P of this part

(B) For non porous surfaces in contact with non liquid PCBs (including non porous surfaces covered with a porous surface such as pamt or coating on metal) cleaning to Visual Standard No 2 Near White Blast Cleaned Surface Finish of the National Association of Corrosion Engineers (NACE) A person shall verify compliance with standard No 2 by visually inspecting all cleaned areas

(ii) For disposal in a smelter operating in accordance with § 761 72(b)

(A) For non porous surfaces previously in contact with liquid PCBs at any concentration where no free flowing liquids are currently present <100 µg/100 cm^2 as measured by a standard wipe test (§ 761 123) at locations selected in accordance with subpart P of this part

(B) For non porous surfaces in contact with non liquid PCBs (including non porous surfaces covered with a porous surface such as pamt or coating on metal) cleaning to Visual Standard No 3 Commercial Blast Cleaned Surface Finish of the National Association of Corrosion Engineers (NACE) A person shall verify compliance with standard No 3 by visually inspecting all cleaned areas

(4) The decontamination standard for concrete is ≤10 µg/100 cm^2 as measured by a standard wipe test (§ 761 123) if the decontamination procedure is commenced within 72 hours of the initial spill of PCBs to the concrete or portion thereof being decontaminated

(c) *Self implementing decontamination procedures* The following self implementing decontamination procedures are available as an alternative to the

measurement-based decontamination methods specified in paragraph (b) of this section Any person performing self implementing decontamination must comply with one of the following procedures

(1) Any person decontaminating a PCB Container must do so by flushing the internal surfaces of the container three times with a solvent containing <50 ppm PCBs Each rinse shall use a volume of the flushing solvent equal to approximately 10 percent of the PCB Container capacity

(2) Any person decontaminating movable equipment contaminated by PCBs tools and sampling equipment may do so by

(i) Swabbing surfaces that have contacted PCBs with a solvent

(ii) A double wash/rinse as defined in subpart S of this part or

(iii) Another applicable decontamination procedure in this section

(3) Any person decontaminating a non porous surface in contact with free-flowing mineral oil dielectric fluid (MODEF) at levels ≤10 000 ppm PCBs must do so as follows

(i) Drain the free flowing MODEF and allow the residual surfaces to drain for an additional 15 hours

(ii) Dispose of drained MODEF according to paragraph (g) of this section

(iii) Soak the surfaces to be decontaminated in a sufficient amount of clean (containing <2 ppm PCBs) performance based organic decontamination fluid (PODF) such that there is a minimum of 800 ml of PODF for each 100 cm^2 of contaminated or potentially contaminated surface for at least 15 hours at ≥20 C

(iv) Approved PODPs include

(A) Kerosene

(B) Diesel fuel

(C) Terpene hydrocarbons

(D) Mixtures of terpene hydrocarbons and terpene alcohols

(v) Drain the PODF from the surfaces

(vi) Dispose of the drained PODF in accordance with paragraph (g) of this section

(4) Any person decontaminating a non porous surface in contact with free-flowing MODEF containing >10 000 ppm PCB in MODEF or askarel PCB (up to 70 percent PCB in a mixture of trichlorobenzenes and tetrachlorobenzenes) must do so as follows

(i) Drain the free-flowing MODEF or askarel and allow the residual surfaces to drain for an additional 15 hours

(ii) Dispose of drained MODEF or askarel according to paragraph (g) of this section

(iii) Soak the surfaces to be decontaminated in a sufficient amount of clean PODF (containing <2 ppm PCBs) such that there is a minimum of 800 ml of PODF for each 100 cm^2 of contaminated or potentially contaminated surface for at least 15 hours at ≥20 C

(iv) Approved PODFs include

(A) Kerosene

(B) Diesel fuel

(C) Terpene hydrocarbons

(D) Mixtures of terpene hydrocarbons and terpene alcohols

(v) Drain the PODF from the surfaces

(vi) Dispose of the drained PODF in accordance with paragraph (g) of this section

(vii) Resoak the surfaces to be decontaminated pursuant to paragraph (c)(3)(iii) of this section in a sufficient amount of clean PODF (containing <2 ppm PCBs) such that there is a minimum of 800 ml of PODF for each 100 cm^2 of surface for at least 15 hours at ≥20 C

(viii) Drain the PODF from the surfaces

(ix) Dispose of the drained PODF in accordance with paragraph (g) of this section

(5) Any person decontaminating piping and air lines in an air compressor system must do so as follows

(i) Before decontamination proceeds disconnect or bypass the air compressors and air dryers from the piping and air lines and decontaminate the air compressors and air dryers separately in accordance with paragraphs (b) (c)(1) through (c)(4) or (c)(6) of this section Dispose of filter media and desiccant in the air dyers based on their existing PCB concentration

(ii) Test the connecting line and appurtenances of the system to assure that there is no leakage Test by introducing air into the closed system at from 90 to 100 pounds per square inch

(psi) Only if there is a pressure drop of <5 psi in 30 minutes may decontamination take place

(iii) When there is no leakage fill the piping and air lines with clean (containing <2 ppm PCBs) solvent Solvents include PODF aqueous potassium hydroxide at a pH between 9 and 12 or water containing 5 percent sodium hydroxide by weight

(iv) Circulate the solvent to achieve turbulent flow through the piping and air lines in the air compressor system until the total volume of solvent circulated equals 10 times the total volume of the particular article being decontaminated then drain the solvent Calculate the total volume of solvent circulated by multiplying the pump rate by the time of pumping Turbulent flow means a Reynolds number range from 20 000 to 43 000 Refill the system with clean solvent and repeat the circulation and dram process

(6) Any person using thermal processes to decontaminate metal surfaces in contact with PCBs as required by § 761 62(a)(6) must use one of the following options

(i) Surfaces in contact with liquid and non-liquid PCBs at concentrations <500 ppm may be decontaminated in a scrap metal recovery oven or smelter for purposes of disposal in accordance with § 761 72

(ii) Surfaces in contact with liquid or non liquid PCBs at concentrations ≥500 ppm may be smelted in a smelter operating in accordance with § 761 72(b) but must first be decontaminated in accordance with § 761 72(a) or to a surface concentration of <100 μg/100 cm^2

(d) *Decontamination solvents* (1) Unless otherwise provided in paragraphs (c)(3) through (c)(5) of this section the solubility of PCBs in any solvent used for purposes of decontamination under this section must be 5 percent or more by weight

(2) The solvent may be reused for decontammation so long as its PCB concentration is <50 ppm

(3) Solvent shall be disposed of under paragraph (g) of this section

(4) Other than as allowed m paragraphs (c)(3) and (c)(4) of this section solvents may be tested and validated for performance based decontammation of non porous surfaces contaminated with MODEF or other PCB liquids in accordance with the self implementmg procedures found in subpart T of this part Specific conditions for the performance based testing from this validation are determined in the validation study

(e) *Limitation of exposure and control of releases* (1) Any person conducting decontamination activities under this section shall take necessary measures to protect against direct release of PCBs to the environment from the decontamination area

(2) Persons participating in decontamination activities shall wear or use protective clothing or equipment to protect against dermal contact or inhalation of PCBs or materials containing PCBs

(f) *Sampling and recordkeeping* (1) Confirmatory sampling is required under paragraph (b) of this section For liquids described in paragraphs (b)(1) and (b)(2) of this section sample in accordance with §§ 761 269 and 761 272 For non porous surfaces and concrete described in paragraphs (b)(3) and (b)(4) of this section sample in accordance with subpart P of this part A written record of such sampling must be established and maintained for 3 years from the date of any decontamination under this section The record must show sampling locations and analytical results and must be retained at the site of the decontamination or a copy of the record must be made available to EPA in a timely manner if requested In addition recordkeeping is required in accordance with § 761 180(a) for all wastes generated by a decontamination process and regulated for disposal under this subpart

(2) Confirmatory sampling is not required for self implementing decontamination procedures under paragraph (c) of this section Any person using these procedures must retain a written record documenting compliance with the procedures for 3 years after completion of the decontamination procedures (e g video recordings photographs)

(g) *Decontamination waste and residues* Decontamination waste and residues shall be disposed of at their existing PCB concentration unless otherwise specified

(1) Distillation bottoms or residues and filter media are regulated for disposal as PCB remediation waste

(2) PCBs physically separated from regulated waste during decontamination (such as by chopping shredding scraping abrading or oil/water separation as opposed to solvent rinsing and soaking) other than wastes described in paragraph (g)(1) of this section are regulated for disposal at their original concentration

(3) Hydrocarbon solvent used or reused for decontamination under this section that contains <50 ppm PCB must be burned and marketed in accordance with the requirements for used oil in § 761 20(e) disposed of in accordance with § 761 60(a) or (e) or decontaminated pursuant to this section

(4) Chlorinated solvent at any PCB concentration used for decontamination under this section shall be disposed of in an incinerator operating in compliance with § 761 70 or decontaminated pursuant to this section

(5) Solvents ≥50 ppm other than those described in paragraphs (g)(3) and (g)(4) of this section shall be disposed of in accordance with § 761 60(a) or decontaminated pursuant to this section

(6) Non-liquid cleaning materials and personal protective equipment waste at any concentration including non porous surfaces and other non liquid materials such as rags gloves booties other disposable personal protective equipment and similar materials resulting from decontamination shall be disposed of in accordance with § 761 61(a)(5)(v)

(h) *Alternative decontamination or sampling approval* (1) Any person wishing to decontaminate material described in paragraph (a) of this section in a manner other than prescribed in paragraph (b) of this section must apply in writing to the Regional Administrator in the Region where the activity would take place for decontamination activity occurring in a single EPA Region or to the Director Office of Resource Conservation and Recovery for decontamination activity occurring in more than one EPA Region Each application must describe the material to be decontaminated and the proposed decontamination method and must demonstrate that the proposed method is capable of decontaminating the material to the applicable level set out in paragraphs (b)(1) through (b)(4) of this section

(2) Any person wishing to decontaminate material described in paragraph (a) of this section using a self implementing procedure other than prescribed in paragraph (c) of this section must apply in writing to the Regional Administrator in the Region where the activity would take place for decontamination activity occurring in a single EPA Region or to the Director Office of Resource Conservation and Recovery for decontamination activity occurring in more than one EPA Region Each application must describe the material to be decontaminated and the proposed self implementing decontamination method and must include a proposed validation study to confirm performance of the method

(3) Any person wishing to sample decontaminated material in a manner other than prescribed in paragraph (f) of this section must apply in writing to the Regional Administrator in the Region where the activity would take place for decontamination activity occurring in a single EPA Region or to the Director Office of Resource Conservation and Recovery for decontamination activity occurring in more than one EPA Region Each application must contain a description of the material to be decontaminated the nature and PCB concentration of the contaminating material (if known) the decontamination method the proposed sampling procedure and a justification for how the proposed sampling is equivalent to or more comprehensive than the sampling procedure required under paragraph (f) of this section

(4) EPA may request additional information that it believes necessary to evaluate the application

(5) EPA will issue a written decision on each application for risk based decontamination or sampling No person may conduct decontamination or sampling under this paragraph prior to obtaining written approval from EPA EPA will approve an application if it finds that the proposed decontamination or sampling method will not pose

an unreasonable risk of injury to health or the environment

[63 FR 35457 June 29 1998 as amended at 64 FR 33761 June 24 1999 72 FR 57240 Oct 9 2007 74 FR 30233 June 25 2009]

Subpart E—Exemptions

§ 761 80 Manufacturing, processing and distribution in commerce exemptions

(a) The Administrator grants the following petitioner(s) an exemption for 1 year to process and distribute in commerce PCBs for use as a mounting medium in microscopy

(1) McCrone Accessories Components Division of Walter C McCrone Associates Inc 2820 South Michigan Avenue Chicago IL 60616

(2) [Reserved]

(b) The Administrator grants the following petitioner(s) an exemption for 1 year to process and distribute in commerce PCBs for use as a mounting medium in microscopy an immersion oil in low fluorescence microscopy and an optical liquid

(1) R P Cargille Laboratories Inc 55 Commerce Road Cedar Grove N J 07009

(2) [Reserved]

(c) The Administrator grants the following petitioner(s) an exemption for 1 year to export PCBs for use in small quantities for research and development

(1) Accu Standard New Haven CT 06503

(2) ManTech Research Triangle Park NC 27709

(d) The Administrator grants the following petitioner(s) an exemption for 1 year to import (manufacture) into the United States small quantities of existing PCB fluids from electrical equipment for analysis

(I) Unison Transformer Services Inc Tarrytown N Y 10591 provided each of the following conditions are met

(i) The samples must be shipped in 5 0 ml or less hermetically sealed vials

(ii) The exemption is limited to no more than 250 total samples per year

(iii) Unison makes quarterly inspections of its laboratories to ensure that proper safety procedures are being followed

(iv) Unison annually notifies and describes to BPA its attempts to have samples analyzed abroad

(2) [Reserved]

(e) The Administrator grants a class exemption to all research and development (R&D) facilities for a period of 1 year to manufacture or import PCBs for use solely in the manufacturer or importer s own research for the development of PCB disposal technologies Bach person that wishes to be part of the exemption must meet the following conditions

(1) A petition for an exemption from the PCB prohibition on manufacturing PCBs must be received by BPA 60 days prior to engaging in these activities

(2) Requests for renewal must be filed pursuant to § 750 11 of this chapter EPA will deem any properly filed request for the renewal of the exemption by any member of the class as a renewal request for the entire class

(3) The quantity of the PCBs manufactured annually must not exceed 500 grams by total weight of pure PCBs Any person who wishes to manufacture or import more than 500 grams of PCBs in 1 year must receive written approval from the Director National Program Chemicals Division to exceed the limitations established by this provision The Director National Program Chemicals Division may grant approval without further rulemaking Any increase granted will be in writing and will extend only for a maximum of the time remaming in a specific exemption year

(4) The owner or operator of the facility must notify the EPA Regional Administrator in writing 30 days prior to the commencement of R&D activities that include the manufacture or import of PCBs under the exemption unless the facility has obtained a PCB R&D approval from EPA pursuant to § 761 60(e) § 761 60(1)(2) § 761 70(a) or § 761 70(b) and the approval contains a provision allowing the manufacture of PCBs

(5) Records are maintained of their PCB activities for a period of 3 years after ceasing operations The records must include the sources and the annual amounts of PCBs received if imported and the type and annual amount of PCBs that were manufactured

under special circumstances across the regions

(d) *Excluded spills* (1) Although the spill situations in paragraphs (d)(2) (i) through (vi) of this section are excluded from the automatic application of final decontamination standards under § 761 125 (b) and (c) the general requirements under § 761 125(a) do apply to these spills In addition all of these excluded situations require practicable immediate actions to contain the area of contamination While these situations may not always require more stringent cleanup measures the Agency is excluding these scenarios because they will always involve significant factors that may not be adequately addressed by cleanup standards based upon typical spill characteristics

(2) For the spill situations in paragraphs (d)(2)(i) through (vi) of this section the responsible party shall decontaminate the spill in accordance with site specific requirements established by the EPA regional offices

(i) Spills that result in the direct contamination of surface waters (surface waters include but are not limited to waters of the United States as defined in part 122 of this chapter ponds lagoons wetlands and storage reservoirs)

(ii) Spills that result in the direct contamination of sewers or sewage treatment systems

(iii) Spills that result in the direct contamination of any private or public drinking water sources or distribution systems

(iv) Spills which migrate to and contaminate surface waters sewers or drinking water supplies before cleanup has been completed in accordance with this policy

(v) Spills that contaminate animal grazing lands

(vi) Spills that contaminate vegetable gradens

(e) *Relationship of policy to other statutes* (1) This policy does not affect cleanup standards or requirements for the reporting of spills imposed or to be imposed under other Federal statutory authorities including but not limited to the Clean Water Act (CWA) the Resource Conservation and Recovery Act (RCRA) and the Comprehensive Environmental Response Compensation and Liability Act of 1980 (CERCLA) as amended by the Superfund Amendments and Reauthorization Act (SARA) Where more than one requirement applies the stricter standard must be met

(2) The Agency recognizes that the existence of this policy will inevitably result in attempts to apply the standards to situations within the scope of other statutory authorities However other statutes require the Agency to consider different or alternative factors in determining appropriate corrective actions In addition the types and magnitudes of exposures associated with sites requiring corrective action under other statutes often involve important differences from those expected of the typical electrical equipment type spills considered in developing this policy Thus cleanups under other statutes such as RCRA corrective actions or remedial and response actions under SARA may result in different outcomes

[52 FR 10705 Apr 2 1987 as amended at 72 FR 57241 Oct 9 2007 74 FR 30234 June 25 2009]

§ 761 123 Definitions

For purposes of this policy certain words and phrases are used to denote specific materials procedures or circumstances The following definitions are provided for purposes of clarity and are not to be taken as exhaustive lists of situations and materials covered by the policy

Double wash/rinse means a minimum requirement to cleanse solid surfaces (both impervious and nonimpervious) two times with an appropriate solvent or other material in which PCBs are at least 5 percent soluble (by weight) A volume of PCB free fluid sufficient to cover the contaminated surface completely must be used in each wash/rinse The wash/rinse requirement does not mean the mere spreading of solvent or other fluid over the surface nor does the requirement mean a once over wipe with a soaked cloth Precautions must be taken to contain any runoff resulting from the cleansing and to dispose properly of wastes generated during the cleansing

APPENDIX C

FORMS AND CHECKLISTS

C-1

PCB Waste Receiving Checklist

PCB WASTE RECEIVING CHECKLIST

1. Has a completed waste profile been provided for the waste shipment?

   - YES: Continue to #2.
   - NO: Require the generator/transporter to complete the waste profile, then continue to #2.

2. Does the waste contain polychlorinated biphenyls (PCBs) regulated under USEPA rules at TSCA 40 CFR Part 761?

   - YES: Continue to #3.
   - NO: PCB rules do not apply to determination of waste acceptance. Use of this checklist is complete.

3. Is the waste a prohibited waste (Form Code X#) listed in Table C-1.1?

   - YES: DO NOT ACCEPT WASTE. Waste cannot be accepted at the landfill.
   - NO: Continue to #4.

TABLE C-1.1
PCB WASTES NOT ACCEPTED

☑	Form Code	Prohibited Wastes	Description
	861	• Demolition or structural debris from PCB spill sites that have not been cleaned up	• Debris from the demolition of buildings or other man-made structures that is contaminated by spills from regulated PCBs which have not been disposed of, decontaminated, or otherwise cleaned up
	862	• PCB liquids except for PCB liquids at <500 ppm PCBs from incidental sources	• Incidental sources includes precipitation, condensation, leachate, or load separation associated with PCB articles or non-liquid PCB wastes
	863	• PCB Large Capacitors	• Capacitor that contains 3 lbs or more of dielectric fluid

4. Is the waste an accepted PCB waste (Form Code A#) listed in Table C-1.2?

   - YES: Continue to #5.
   - NO: Continue to #6.

TABLE C-1.2
ACCEPTED PCB WASTES

☑	Form Code	PCB Waste Type	Description
Remediation waste			
	A1	Environmental media containing PCBs	• Soil and gravel • Dredged materials (sediments, settled sediment fines, and aqueous decantate from sediment)
	A2	Sludge	• Sewage sludge containing <50 ppm PCBs • PCB sewage sludge • Commercial or industrial sludge contaminated as from spill of PCBs including sludges from any pollution control device • Aqueous decantate from an industrial sludge
	A3	Buildings and other man-made structures	• Concrete floors, wood floors • Materials contaminated from leaking PCB or PCB-contaminated transformer • Porous surfaces and non-porous surfaces
Bulk product waste			
	A4	Non-liquid bulk wastes or debris from the demolition of buildings and other man-made structures manufactured, coated, or serviced with PCBs	
	A5	PCB-containing wastes from shredding of the list of items to the right	• Automobiles • Household appliances • Industrial appliances
	A6	Plastics	• Plastic insulation from wire or cable • Radio, television and computer casings • Vehicle parts • Furniture laminates
	A7	Preformed or molded rubber parts and components	
	A8	Applied dried paints, varnishes, waxes, or other similar coatings or sealants	
	A9	Caulking, adhesives, paper, Galbestos, sound deadening or other types of insulation, felt or fabric products such as gaskets	
	A10	Fluorescent light ballasts containing PCBs in the potting material	
Other waste			
	A11	Decontamination waste	• Waste generated from the decontamination of equipment, including personal protection equipment, rags, wipes, etc.
	A12	Small PCB capacitors	• Contains <3 lbs. dielectric fluid, or • If weight of fluid unknown, <100 cubic inches, or • If capacity >100 cubic inches, <200 cubic inches, and capacitor weighs <9 lbs.
	A13	PCB liquids at <500 ppm that come from incidental sources	• Incidental sources includes precipitation, condensation, leachate, or load separation associated with PCB articles or non-liquid PCB wastes

5. For PCB accepted wastes (listed in Table C-1.2), verify that the following information is recorded. Continue to #6.

☑	Required Information for Accepted PCB Wastes (listed in Table C-1.2)
	Unique number assigned by generator identifying waste (if applicable)
	Date waste was placed in the truck or was removed from service for disposal
	Total weight of PCB waste (in kilograms)
	Date waste was received at landfill
	Date waste was disposed of in landfill cell

	Unique profile number (if applicable)
	Name and address of landfill that generated the profile (if applicable)

6. Is the waste a conditionally accepted PCB waste (Form Code C#) listed in Table C-1.3?

- YES: Continue to #7.
- NO: Restart PCB Waste Receiving Checklist to properly identify PCB waste type.

TABLE C-1.3
CONDITIONALLY ACCEPTED PCB WASTES

☑	Form Code	PCB Waste Type	Description
	C1	PCB transformers	
	C2	PCB hydraulic machine	
	C3	PCB-contaminated electrical equipment	
	C4	Natural gas pipeline systems containing PCBs	
	C5	Other PCB articles	• Formed to specific shape or design during manufacture • Has end use function(s) dependent in whole or in part upon its shape or design during end use • Has no change of chemical composition during end use or only changes in composition in a way that has no commercial purpose
	C6	PCB containers	• Package, can, bottle, bag, barrel, drum, tank, or other device that contains PCBs
	C7	PCB article containers	• Package, can, bottle, bag, barrel, drum, tank, or other device that contains PCB articles or PCB equipment • Surface has not been in direct contact with PCBs

7. Has an inspection been conducted of PCB items at the site of PCB waste generation or transport prior to shipment for disposal at ECDC landfill and has inspector completed a Conditionally Accepted PCB Wastes Site Inspection Checklist or similar (Appendix C-2)?

- YES: Continue to #8.
- NO: DO NOT ACCEPT WASTE until Conditionally Accepted PCB Wastes Site Inspection Checklist has been completed. Inspection of Conditionally Accepted PCB Items is required to be conducted at the site of PCB waste generation or transport prior to shipment for disposal at ECDC landfill.

8. Are free liquids (Form Code A13) present in the waste shipment?

- YES: Tag for PCB Liquids. Notify ECDC operator at railcar rotary dump landfill.
- NO: Tag truck for PCB Non-Liquid Waste. Direct vehicle to PCB disposal area. Notify ECDC spotter for incoming PCB waste disposal.

C-2

Conditionally Accepted PCB Wastes Site Inspection Checklist

CONDITIONALLY ACCEPTED PCB WASTES SITE INSPECTION CHECKLIST

In order to receive conditionally accepted PCB wastes, an inspection shall be conducted at the site of PCB waste generation or transport prior to shipment for disposal at the ECDC landfill. Generator or transporter shall complete the following checklist to document the inspection.

Landfill Name:_____

Landfill Address:_____

Date of Inspection:_____

Inspector:_____

Describe each PCB Item. Refer to table on reverse side for proper waste code. For Waste Code F or G, provide a description of the contents of the container.

Waste Code	Description (include unique ID number or other identifying markings, as applicable)	Free-Flowing Liquids Present (P) Absent (A)	Date waste placed in truck or removed from service for disposal	Weight of PCB Waste (kg) 1 lb = 0.4536 kg

Describe inspector's method of verifying the presence/absence of free-flowing liquids (Document that free-flowing liquids verification requirements on C-2-2 have been adhered to):

_____

_____

_____

_____

CONDITIONALLY ACCEPTED PCB WASTE TYPES

Waste Code	Waste Type	Description
A	PCB transformers	
B	PCB hydraulic machine	
C	PCB-contaminated electrical equipment	
D	Natural gas pipeline systems containing PCBs	
E	Other PCB articles	• Formed to specific shape or design during manufacture • Has end use function(s) dependent in whole or in part upon its shape or design during end use • Has no change of chemical composition during end use or only changes in composition in a way that has no commercial purpose
F	PCB containers	• Package, can, bottle, bag, barrel, drum, tank, or other device that contains PCBs
G	PCB article containers	• Package, can, bottle, bag, barrel, drum, tank, or other device that contains PCB articles or PCB equipment • Surface has not been in direct contact with PCBs

REQUIREMENTS FOR REMOVAL OF FREE-FLOWING LIQUIDS

PCB Item	Verification Requirements
PCB Transformers	• The item must be filled with an approved solvent and allowed to stand for at least 18 continuous hours before the solvent is thoroughly removed
PCB Hydraulic Machine	• The item must be filled with an approved solvent and allowed to stand for at least 18 continuous hours before the solvent is thoroughly removed • Verify that the liquid removed from each machine is disposed of properly • If the liquid contains ≥1,000 ppm PCBs, the machine must be contaminated or flushed prior to disposal with a solvent
Natural Gas Pipeline System	• Verify that the natural pipeline system was characterized for PCB contamination by analyzing organic liquids collected at existing condensate points in the natural gas pipeline system • If no organic liquids are present, verify that the free-flowing liquids were drained and standard wipe samples were collected for analysis • Verify that condensate was collected within 72 hours of the final transmission of natural gas through the part of the system to be removed • Verify that the wipe samples were collected after the last transmission of gas through the pipe or during removal • Verify PCB concentration of organic phase of multi-phasic liquids was determined
PCB container, PCB article container, or other PCB article disposal	• Verify that all free-flowing liquid has been removed. Item must have been filled with an approved solvent and allowed to stand for at least 18 continuous hours before the solvent was thoroughly removed • Verify that drained liquids from PCB articles with concentrations >500 ppm are disposed of in an incinerator • Verify that all PCB containers disposed of as municipal solid wastes are at a concentration <500 ppm PCBs

Additional Documentation upon Shipment and Disposal of Conditionally Accepted PCB Waste:

- Date waste was received at landfill
- Date waste was disposed of in landfill cell
- Unique profile number (if applicable)
- Name of landfill that generated profile (if applicable)
- Address of landfill that generated profile (if applicable)

C-3

PCB Non-Hazardous Waste Profile

REPUBLIC SERVICES, INC

Republic Waste Services of Texas, LTD
Non-Hazardous Waste Profile

(MUST BE FILLED OUT COMPLETELY)

REPUBLIC SERVICES INC

For more information, please call Republic CSC at (800) 256-9278

A GENERATOR INFORMATION

1 Generator Name _____

2 Site Location _____

3 City _____

State _____ Zip _____

4 Phone (____) _____

5 Fax (___) _____

6 State Facility I D # _____

7 State Waste Code _____

B CUSTOMER INFORMATION

1 Customer Name _____

2 Address _____

3 City _____

State _____ Zip _____

4 Phone (____) _____

5 Fax (___) _____

6 Contact _____

7 Title _____

C WASTE STREAM INFORMATION

1 Common Name of Waste _____

2 Detailed Description of Process Generating Waste and Material Description _____

_____

_____

3 Industrial Generator [ ]Yes [ ]No 4 Municipal Generator [ ]Yes [ ]No

5 Does the waste contain polychlorinated biphenyls (PCBs) regulated under EPA rules at TSCA 40 CFR Part 761? [ ] Yes [ ] No

6 Were analytical tests to determine PCB concentrations performed using [ ] EPA 8082 [ ] Other Procedure _____

7 Has all required analytical testing data for this shipment been provided? [ ] Yes [ ] No

8 Does the waste contain radioactive or U S D O T hazardous materials? [ ] Yes [ ] No

9 Form Codes Which of the following best describes the PCB Containing Waste *(See Form Code descriptions on the back of this form)*

X1	X2	X3				
A1	A1	A3	A4	A5	A6	A7
A8	A9	A10	A11	A12	A13	
C1	C2	C3	C4	C5	C6	C7

10 Odor [ ] None [ ] Mild [ ] Strong (describe)_____

11 Color _____ 12 Flash Point _____ 13 Viscosity_____

14 Reactive [ ] Yes [ ] No If Yes Reactive With _____ 15 pH Range _____

16 Free Liquid [ ] Yes [ ] No 14 Water Content (% by Water) _____

D SUPPLEMENTAL INFORMATION PROVIDED

[ ] None [ ] MSDS [ ] Analytical Data [ ] Memo/Letter [ ] Process Knowledge No of Pages_____

E SHIPPING INFORMATION

Estimated Volume _____ [ ] Gallons [ ] Yards [ ] Other_____

F GENERATOR / CUSTOMER CERTIFICATION

I hereby certify that all information submitted and all attached documents contain true and accurate descriptions of this waste No deliberate or willful omissions of composition or properties exist, and all known or suspected hazards have been disclosed I further certify that the waste is not designated a Hazardous Waste defined by the USEPA in 40 CFR 261

I _____ am employed by _____ and am authorized to sign this request for
(Name Please Print) (Company Name)

_____ _____ _____
(Company Name) (Signature) (Date)

G LANDFILL USE ONLY (DO NOT WRITE WITHIN THIS SPACE)

Compliance Officer_____

Date_____ [ ]Approved [ ]Rejected

Additional Information _____

_____

_____

_____

State Fee Applicable Class I [ ] Yes [ ] No

State Fee Applicable MSW [ ] Yes [ ] No

Waste Disposal Agreement On File [ ] Yes [ ] No

Surety Agreement on File [ ] Yes [ ] No [ ] N/A

JOB #_____

PCB Waste Form Code Descriptions

Form Code	Description	
XI	Debris from the demolition of buildings or other man made structures that is contaminated by spills from regulated PCBs which have not been disposed of decontaminated or otherwise cleaned up	
X2	PCB liquids ≥500 ppm PCBs or from other than incidental sources	Incidental sources are precipitation, condensation, leachate or load separation associated with PCB articles or non liquid PCB wastes
X3	PCB Large Capacitors	Capacitor that contains 3 lbs or more of dielectric fluid
A1	Environmental media containing PCBs	• Soil and gravel • Dredged materials (sediments settled sediment fines and aqueous runoff from sediment)
A2	Sludge	• Sewage sludge containing <50 ppm PCBs • PCB sewage sludge • Commercial or industrial sludge contaminated as from spill of PCBs including sludges from any pollution control device • Aqueous runoff from an industrial sludge
A3	Buildings and other man made structures	• Concrete floors wood floors • Materials contaminated from leaking PCB or PCB contaminated transformer • Porous surfaces and non porous surfaces
A4	Non liquid bulk wastes or debris from the demolition of buildings and other man made structures manufactured coated or serviced with PCBs	
A5	PCB containing wastes from shredding of the list of items to the right	• Automobiles • Household appliances • Industnal appliances
A6	Plastics	• Plastic insulation form wire or cable • Radio television and computer casings • Vehicle parts • Furniture laminates
A7	Preformed or molded rubber parts and components	
A8	Applied dried paints varnishes waxes or other similar coatings or sealants	
A9	Caulking adhesives, paper Galbestos sound deadening or other types of insulation felt or fabric products such as gaskets	
A10	Fluorescent light ballasts containing PCBs in the potting material	
A11	Decontamination waste	Waste generated from the decontamination of equipment including personal protection equipment rags wipes etc
A12	PCB small capacitors	• Contains <3 lbs dielectric fluid or • If weight of fluid unknown <100 cubic inches, or • If capacity >100 cubic inches <200 cubic inches and capacitor weighs <9 lbs
A13	PCB liquids at <500 ppm that come from incidental sources	Incidental sources includes precipitation, condensation, leachate, or load separation associated with PCB articles or non liquid PCB wastes
C1	PCB transformers	
C2	PCB hydraulic machine	
C3	PCB contaminated electrical equipment	
C4	Natural gas pipeline systems containing PCBs	
C5	Other PCB articles	• Formed to specific shape or design during manufacture • Has end use function(s) dependent in whole or in part upon its shape or design dunng end use • Has no change of chemical composition dunng end use or only changes in composition in a way that has no commercial purpose
C6	PCB containers	Package can bottle bag, barrel drum tank or other device that contains PCBs
C7	PCB article containers	• Package, can, bottle bag, barrel, drum tank, or other device that contains PCB articles or PCB equipment • Surface has not been in direct contact with PCBs

C-4

Transportation Equipment Decontamination Waiver

TRANSPORTATION EQUIPMENT DECONTAMINATION WAIVER

PCBs are federally regulated toxic chemicals that are persistent in the environment Transportation equipment that has come into contact with PCBs or PCB-containing items should be properly decontaminated before being used in other operations in accordance with 40 CFR §761 79 The following list summarizes proper decontamination procedures

- Equipment should be swabbed with a solvent or undergo a double wash/rinse with a high pressure sprayer or other similar equipment,
- Decontamination should take place in a bermed and lined or paved area that will contain wash down water,
- All wash down water should be disposed of at a landfill that is authorized to accept PCB-contaminated liquid waste,
- Equipment previously in contact with liquid PCBs should undergo a standard wipe test to verify that ≤10 µg/100 cm2 are present on the equipment surfaces,
- Equipment previously in contact with non-liquid PCBs should be visually inspected to verify that the surfaces have been cleaned to Visual Standard No 2, Near-White Blast Cleaned Surface Finish, of the National Association of Corrosion Engineers (NACE) (NACE, 1994)

DECONTAMINATION WAIVER STATEMENT *I have read the information provided to me above regarding proper decontamination of equipment that has been in contact with PCBs and PCB containing items I choose to waive the opportunity for decontamination procedures at the ECDC Landfill and I will be fully responsible for conducting decontamination elsewhere*	
Driver s Name	
Vehicle Identification Number	
Transportation Company	
Transportation Company Address	
Transportation Company Phone	
Driver s Signature	Date