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July 30, 2004

Mr. Barney Chan
Alameda County Health Care Services Agency (ACHCSA)
Department of Environmental Health
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577

Re: **Investigation/Well Destruction Workplan**
Chevron Service Station 9-6607
2340 Otis Drive
Alameda, California

Dear Mr. Chan:

On behalf of Chevron Environmental Management Company (ChevronTexaco), Cambria Environmental Technology, Inc. (Cambria), is submitting this *Investigation/Well Destruction Workplan* for the site referenced above. Cambria proposes advancing four soil borings to complete delineation of the lateral and vertical extent of hydrocarbons. We also propose destroying wells that will be in conflict with redevelopment plans. The site description, site background and Cambria's proposed scope of work are presented below. Cambria needs to perform this work on September 1-2, 2004 to accommodate the station abandonment and redevelopment schedules. We would appreciate receiving ACHCSA review and approval as soon as possible so we may proceed.

SITE DESCRIPTION

The site is currently an operating Chevron Service Station located at the southwest corner of Otis Drive and Park Street in Alameda, California. Surrounding site use is mixed commercial and residential. The site is located in the Alameda Bay Plain Basin. The litho logy of the region surrounding the site consists of miscellaneous Bay Mud or Merritt Sand. Prior to the early 1960s, this portion of Alameda was beneath the San Francisco Bay. The area was artificially filled using locally derived dredge material at that time. Current site facilities include three underground storage tanks (USTs), three dispenser islands and a station building. The station is scheduled to be shut down and completely demolished beginning September 1, 2004.

Groundwater Depth and Flow: Depth to water beneath the site varies from approximately 2.5 to 5.5 fbg. Groundwater generally flows towards the south to southwest at an approximate gradient of 0.003 ft/ft.

Cambria Environmental Technology, Inc.

5900 Hollis Street
Suite A
Emeryville, CA 94608
Tel (510) 420-0700
Fax (510) 420-9170

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PREVIOUS INVESTIGATIONS

February 1991, UST and Product Lines Removal, Over excavation and Replacement: In February 1991, three fiberglass gasoline USTs and one fiberglass used-oil UST were removed from the site. Depth to water was noted during this investigation at 6 to 7 fbg. Soil samples #1-8 and two water samples, one from each UST excavation, were collected. The only hydrocarbons detected in any of the soil samples was 3,200 mg/kg Total Oil and Grease (TOG) in sample #7 from the used-oil UST excavation. TPHg was detected in the water samples at 48,000 and 3,000 µg/l in the gasoline UST and used-oil UST pits, respectively. Additional soil was removed from the gasoline UST pit. Elective soil samples #1-6 were collected after the removal of additional soil to confirm that the impacted soil had been removed. No significant concentrations of hydrocarbons were detected in these elective samples. Additional soil was also removed from the used-oil UST pit. The excavation was widened by 2-3 ft. to remove all impacted soil. Elective soil sample #1 was collected and TOG was detected one order of magnitude less than in sample #7. No other hydrocarbons were detected. Product lines were then removed and soil samples #2-15 were collected from the product line trenches and beneath former dispensers. A maximum of 36 mg/kg benzene was detected beneath the dispenser islands. TPHg was detected at a maximum of 5,700 mg/kg in sample #13. In March 1991, further over excavation was conducted in the product line trenches and the used-oil UST pit. Over excavation near the former used-oil UST was limited due to the concern for the structural integrity of the building. After all over excavation activities were completed, the highest concentration of TPHg remaining in the soil was 150 mg/kg in product trenches, 2.6 mg/kg in the gasoline UST pit, and 150 mg/kg in the used-oil UST pit. A concentration of 16,000 mg/kg total oil and grease remained in the used-oil UST pit, detected in confirmation sample #10 at 6 fbg.

August 1991, Well Installation: In August 1991, Geraghty & Miller, Inc. installed monitoring wells MW-1 through MW-4. All site monitoring wells have been monitored and sampled on a quarterly basis.

PROPOSED SCOPE OF WORK

To complete delineation of the vertical and lateral extent of hydrocarbons and MTBE in groundwater, we propose advancing soil borings at the locations illustrated in Figure 2. These borings will be advanced to approximately 12 fbg, and discrete depth groundwater samples will be collected at 5 fbg and 11 fbg. Cambria also proposes to destroy wells MW-1 through MW-4 due to the impending station demolition. We will discuss potential replacement well locations with ACHCSA once the new site facilities are constructed. Our detailed scope of work is

presented below.

Underground Utility Location: Cambria will contact Underground Service Alert to clear the boring locations with utility companies. All four locations will be cleared to 8 fbg prior to drilling.

Site Health and Safety Plan: Cambria will prepare a site safety plan to be reviewed and signed by all site workers and to be kept on-site at all times.

Permits: Cambria will obtain soil boring and well destruction permits from the Alameda County Public Works Agency prior to beginning field operations. A minimum of 48 hours of notice will be given to Alameda County prior to beginning field activities.

Soil Borings: Cambria proposes advancing four soil borings. After clearing to 8 fbg, the borings will be advanced to approximately 12 fbg. Soil will be logged continuously and sampled at 5 ft intervals beginning at 10 fbg. Discrete-depth groundwater samples will be collected at 5 and 11 fbg from the four soil borings. Dual-rod technology will be used in order to ensure that the groundwater samples are collected at discrete depths. Attachment A contains Cambria's Standard Field Procedures for Envirocore® Sampling.

Soil Sample Selection: Soil samples will be selected for chemical analyses based on field screening for hydrocarbon vapors using a photo-ionization detector (PID), visual observation of soil characteristics such as discoloration, sample depth relative to the capillary fringe, known hydrocarbon impacts and lithology.

Chemical Analysis: Selected soil samples and all groundwater samples will be analyzed for:

- TPHg by EPA Method 8015,
- Benzene, toluene, ethylbenzene and xylenes (BTEX), fuel oxygenates MTBE, DIPE, TBA, TAME, ETBE, lead scavengers 1,2-dichloroethane (1,2-DCA) and ethylene dibromide (EDB) by EPA method 8260B.

Monitoring Well Destruction: Cambria will drill out the total depth 2-inch monitoring wells MW-1 through MW-4 using 8-inch diameter hollow-stem augers. The borings will be backfilled with neat cement by tremie method and the surface patched to match existing grade. Cambria's Standard Field Procedures for Well Destruction are presented as Attachment B.

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Reporting: After analytic results are received, a subsurface investigation report will be prepared containing:

- A summary of the site background and history,
- Descriptions of the drilling and soil/groundwater sampling methods,
- Descriptions of well destructions,
- Boring logs,
- Tabulated soil and groundwater analytic results,
- A figure illustrating boring locations,
- Analytic reports and chain-of-custody forms,
- A discussion of lateral and vertical extent of hydrocarbons in soil and groundwater, and
- Conclusions and recommendations.

SCHEDULE AND CLOSING

Cambria needs to conduct this scope of work on September 1-2 to accommodate the station abandonment and redevelopment schedule. We would appreciate receiving written approval from the ACHCSA as soon as possible to accommodate those schedule requirements. We will submit our investigation report approximately four to six weeks after receiving analytical results.

Please contact Robert Foss at (510) 420-3348 with any questions or comments regarding the site or this workplan.

Sincerely,
Cambria Environmental Technology, Inc.

Robert Foss

REGISTERED GEOLOGIST
ROBERT C. FOSS
exp 08/06
No. 7445
STATE OF CALIFORNIA

Robert Foss, R.G.
Associate Geologist

Figures: 1 – Vicinity Map
2 – Proposed Boring Locations

Attachments: A – Standard Field Procedures for Envirocore® Sampling
B – Standard Field Procedures for Well Destruction

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cc: Ms. Karen Streich, Chevron Environmental Management Company, P.O. Box 6012, San Ramon, CA 94583-0804
Mr. Dana Thurman, Chevron Environmental Management Company, P.O. Box 6012, San Ramon, CA 94583-0804
Mr. Charles Almestad, Kleinfelder, 1970 Broadway, Suite 710, Oakland, CA 94612
Mr. Michael P. Corbitt, Harsch Investment Properties, 523 South Shore Center West, Alameda, CA 94501
Mr. Bruce Eppler, Cambria, Rocklin, CA

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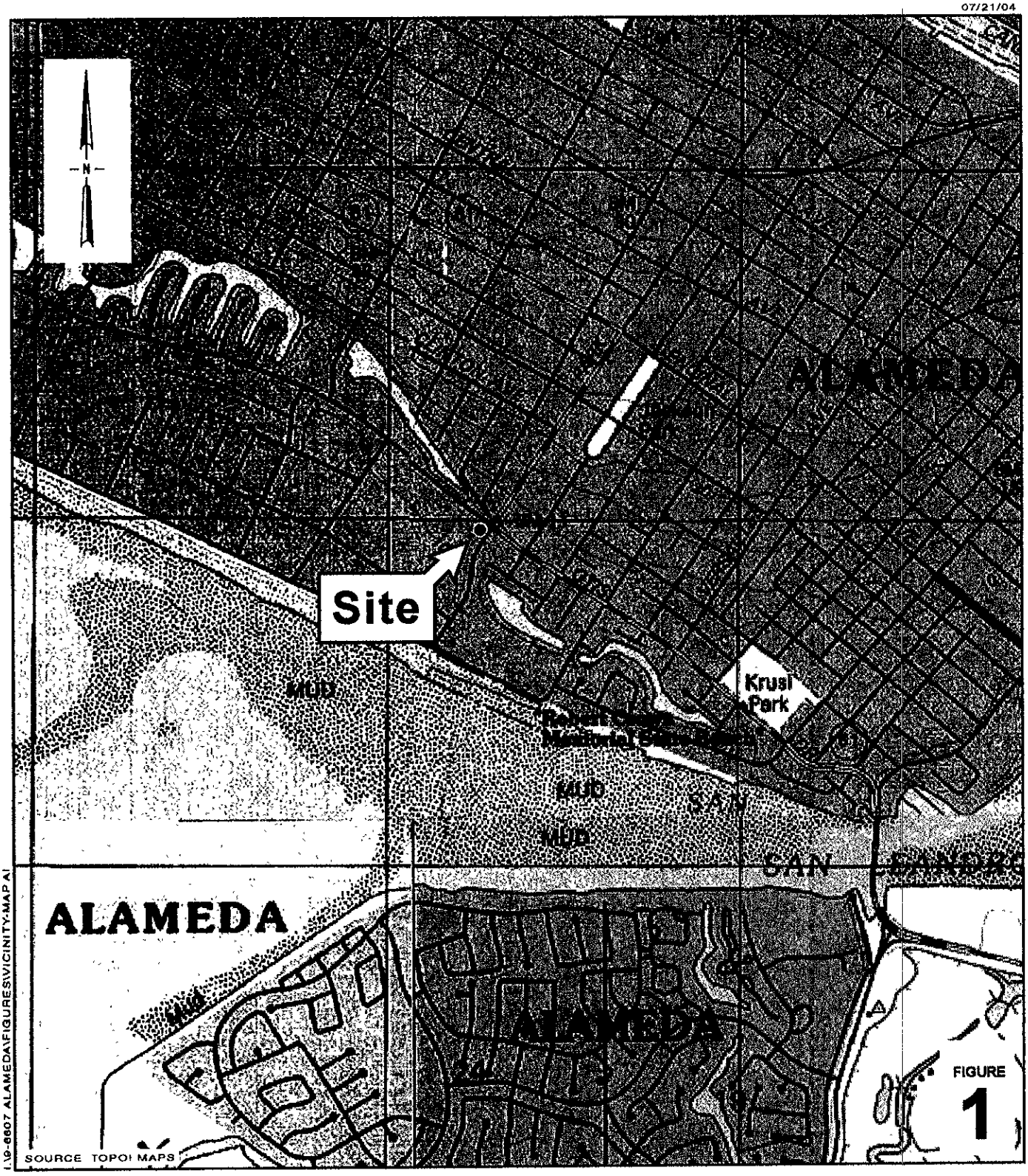

I:\9-6607 ALAMEDA\FIGURES\VICINITY-MAP.AI

0 1/8 1/4 1/2 1

SCALE : 1" = 1/4 MILE

FIGURE 1

Chevron Service Station 9-6607

2340 Otis Drive

Alameda, California

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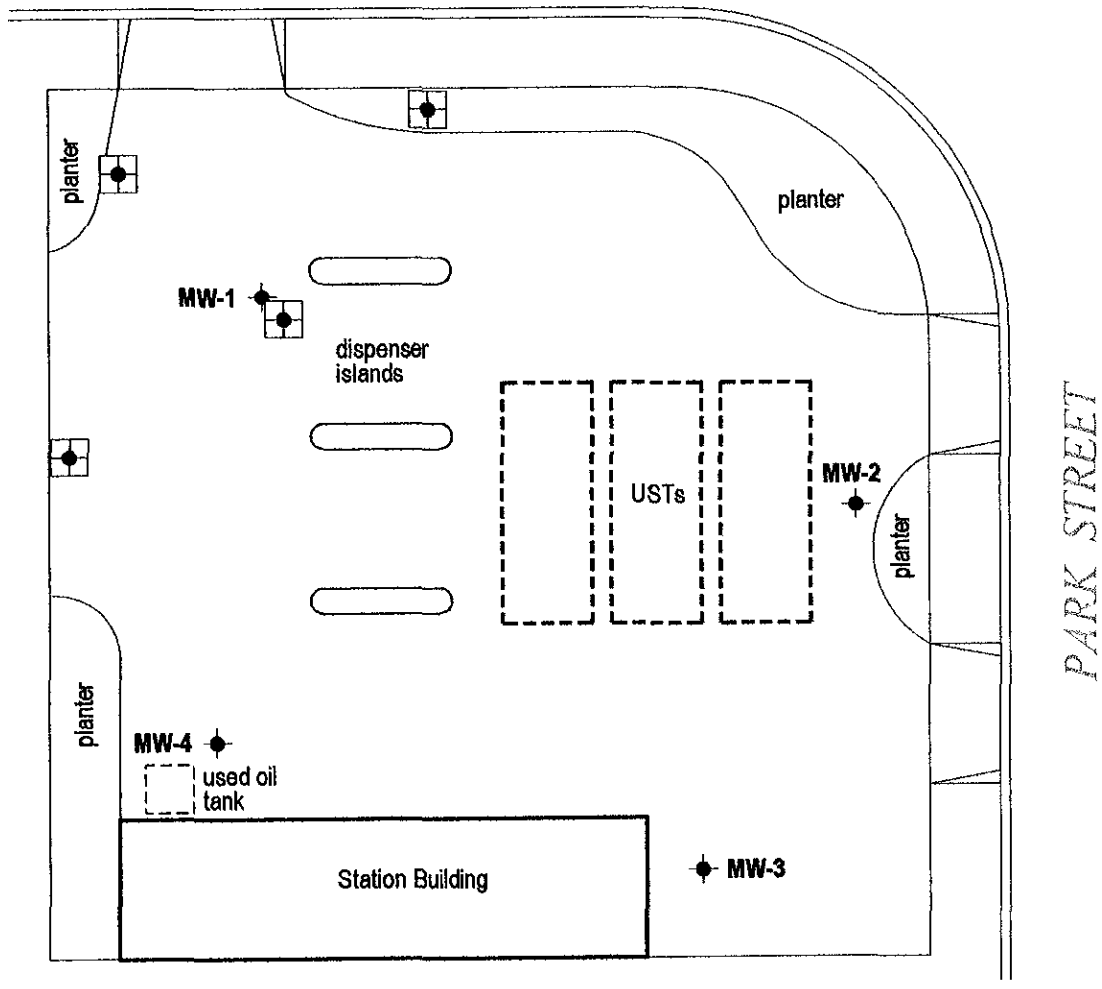
Vicinity Map



EXPLANATION

Proposed monitoring well location

MW-1 Monitoring well location

N

0 15 30

Scale (ft)

FIGURE

2

I:\9-6607\FIGURES\SITEPLAN.DWG

Chevron Service Station 9-6607

2340 Otis Drive

Alameda, California

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Proposed Soil Boring Locations

ATTACHMENT A

Standard Field Procedures for Envirocore® Sampling

STANDARD FIELD PROCEDURES FOR ENVIROCORE® SAMPLING

This document describes Cambria Environmental Technology's standard field methods for Envirocore® soil and groundwater sampling. These procedures are designed to comply with Federal, State and local regulatory guidelines. Specific field procedures are summarized below.

Objectives

Soil samples are collected to characterize subsurface lithology, assess whether the soils exhibit obvious hydrocarbon or other compound vapor odor or staining, estimate groundwater depth and quality and to submit samples for chemical analysis.

Soil Classification/Logging

All soil samples are classified according to the Unified Soil Classification System by a trained geologist or engineer working under the supervision of a California Registered Geologist (RG). The following soil properties are noted for each soil sample:

- X Principal and secondary grain size category (i.e., sand, silt, clay or gravel)
- X Approximate percentage of each grain size category,
- X Color,
- X Approximate moisture content,
- X Observed odor and/or discoloration,
- X Other significant observations (i.e., cementation, presence of marker horizons, mineralogy), and
- X Estimated permeability.

Soil Sampling

The Envirocore® (dual-tube) system consists of a segmented casing with an internal sampler which is driven hydraulically into the subsurface. The casing and the sampler are driven simultaneously in three-foot increments. Continuous sample cores are collected by the sampler in 1.5-inch diameter sample tubes which are either 6-inch long stainless steel or 3-foot long butyrate. The ground surface immediately adjacent to the boring is used as a datum to measure sample depth. The horizontal location of each boring is measured in the field relative to a permanent on-site reference using a measuring wheel or tape measure.

Drilling and sampling equipment is steam-cleaned or washed prior to drilling and between borings to prevent cross-contamination. Sampling equipment is washed between samples with trisodium phosphate, Alconox® or an equivalent EPA-approved detergent, and double rinsed with de-ionized water.

Hydrocarbon Field Screening

When hydrocarbons are a chemical of concern, soil samples are field screened for the presence of hydrocarbon vapors. After a soil sample has been collected, soil from the remaining tubing is placed inside a sealed plastic bag and set aside to allow hydrocarbons to volatilize from the soil. After ten to fifteen minutes, a portable GasTech® or photoionization detector measures volatile hydrocarbon vapor concentrations in the bag's headspace, extracting the vapor through a slit in

the plastic bag. The measurements are used along with the field observations, odors, stratigraphy and groundwater depth to select soil samples for analysis.

Soil Sample Storage, Handling and Transport

Sampling tubes chosen for analysis are trimmed of excess soil and capped with Teflon® tape and plastic end caps. Soil samples are labeled and stored at or below 4°C on either crushed or dry ice, depending upon local regulations. Samples are transported under chain-of-custody to a State-certified analytic laboratory.

Grab Groundwater Sampling

Groundwater samples are collected from the open borehole using bailers, advancing disposable Tygon® tubing into the borehole and extracting groundwater using a diaphragm pump, or using a hydro-punch style sampler with a bailer or tubing. The groundwater samples are decanted into the appropriate containers supplied by the analytic laboratory. Samples are labeled, placed in protective foam sleeves, stored on crushed ice at or below 4° C, and transported under chain-of-custody to the laboratory.

Duplicates and Blanks

Blind duplicate water samples are usually collected only for monitoring well sampling programs, at a rate of one blind sample for every 10 wells sampled. Laboratory-supplied trip blanks accompany samples collected for all hydrocarbon sampling programs to check for cross-contamination caused by sample handling and transport. These trip blanks are analyzed if the internal laboratory quality assurance/quality control (QA/QC) blanks contain the suspected field contaminants. An equipment blank may also be analyzed if non-dedicated sampling equipment is used.

Grouting

If the borings are not completed as wells, the borings are filled to the ground surface with cement/bentonite grout poured or pumped through a tremie pipe.

ATTACHMENT B

Standard Field Procedures for Well Destruction

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STANDARD WELL DESTRUCTION FIELD PROCEDURES

This document presents standard field methods for destroying groundwater monitoring wells. The objective of well destruction is to destroy wells in a manner that is protective of potential water resources. The two procedures most commonly used are pressure grouting and drilling out the well. These procedures are designed to comply with Federal, State and local regulatory guidelines. Specific field procedures are summarized below.

Pressure Grouting

Pressure grouting consists of injecting neat Portland cement through a tremie pipe under pressure to the bottom of the well. The cement is composed of about five gallons of water to a 94 lb. sack of Portland I/II Cement. Once the well casing is full of grout, it remains pressurized by applying pressure with a grout pump. The well casing can also be pressurized by extending the well casing to the appropriate height and filling it with grout. In either case, the additional pressure allows the grout to be forced into the sand pack. After grouting the sand pack and casing, the well vault is removed and the area resurfaced or backfilled as required.

Well Drill Out

When well drill out is required, the well location is cleared for subsurface utilities and a hollow-stem auger drilling rig is used to drill out the well casing and filter pack materials. First, drill rods are dropped down the well and used to guide the augers as they drill out the well. Once the well is drilled out, the boring is filled with Portland cement injected through the augers or a tremie pipe under pressure to the bottom of the boring. The well vault is removed and the area resurfaced or backfilled as required.