FILE COPY

GROUNDWATER ASSESSMENT PLAN

Kuhlman Electric Corporation
Crystal Springs, Mississippi

Prepared for

BorgWarner Inc.

September 2002

GeoEnvironmental Associates, LLC | MARTIN & SLAGLE

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Prepared by

MARTIN&SLAGLE GeoEnvironmental Associates, LLC
PO Box 1023
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Senior Scientist

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1.0 INTRODUCTION

Kuhlman Electric Corporation (KEC) owns and operates a transformer manufacturing plant in Crystal Springs, Mississippi (Figure 1). Previous environmental assessments conducted at this site indicate that soil contaminated with PCB (Aroclor 1260) and various chlorinated benzenes are present on-site. Martin & Slagle GeoEnvironmental Associates, L.L.C. prepared this groundwater assessment work plan for review and approval by Mississippi Department of Environmental Quality (MDEQ) and the United States Environmental Protection Agency (USEPA). This groundwater assessment work plan was prepared in response to Mississippi Commission on Environmental Quality Order No. 4449-02, issued to Kuhlman Electric Corporation on July 23, 2002.

This work plan describes the processes and procedures to be implemented to determine if regulated substances have impacted groundwater beneath the KEC plant site, and, if present, to determine the nature and extent of impacted groundwater. The initial work described in this work plan involves the sampling and analysis of groundwater within the uppermost aquifer. The constituents of concern are Aroclor 1260 and four chlorinated benzenes associated with the historical manufacturing of transformers at this site. The four chlorinated benzenes are 1,2,3,4-tetrachlorobenzene, 1,2,4,5-tetrachlorobenzene, pentachlorobenzene, and hexachlorobenzene. If any constituents of concern are detected, additional groundwater assessment may be necessary to verify the horizontal and vertical extent of impact.

Remediation of impacted soil is currently being conducted at this site in accordance with Toxic Substance Control Act (TSCA) 40CFR 761.61(a) "Self-Implementing" PCB site clean-up criteria. The groundwater assessment will begin upon the completion of the soil remediation.

1.1 Site Description

The Kuhlman plant is located at 101 Kuhlman Drive, Crystal Springs, Copiah County, MS 39059, at latitude N 31° 15' 20" and longitude W 90° 21' 20". The site is located within the town limits of Crystal Springs. The town center is located south of the plant approximately 0.25 miles (Figure 1). The Kuhlman property is bordered to the south by commercial businesses and residences located across Lee Street, to the west by a railroad line and residences. Across Fulgham Avenue to the northwest is a vacant lot formerly occupied by an icehouse and to the northeast, residences. East of the plant and abutted to the property are residences and one funeral home. The residences are all single-family dwellings with individual yards. The single-family dwellings extend for several blocks in all directions except north. At least one church and a public swimming pool are located within two blocks of the site to the east. The predominant land-uses in the surrounding area are commercial, former industrial, institutional, and residential.

The KEC property consists of a manufacturing plant building situated on about 15 acres of land. Once remediation is completed, the ground surface will be restored with grass, and concrete and asphalt pavement.

1.2 Background

The KEC facility was constructed and has been operated as a transformer manufacturing plant since the 1950s by KEC or its predecessors ("KEC"). KEC continued to own and operate the plant in March 1999 when BorgWarner Inc. purchased Kuhlman Corporation, the parent of KEC, and thereafter as well. Seven months later, on October 1, 1999, BorgWarner and Kuhlman Corporation sold KEC's stock to KEC Acquisition Corporation. BorgWarner and Kuhlman Corporation indemnified KEC, KEC Acquisition Corporation and their affiliates for historic contamination at the site and may, under the purchase agreement, control any remediation of such contamination. None of

BorgWarner, Kuhlman Corporation or KEC Acquisition Corporation has ever owned or operated the plant.

On April 19, 2000, BorgWarner received notification from KEC, in accordance with the purchase agreement, that areas of contaminated soil had been found in Crystal Springs, Mississippi. BorgWarner responded by sending a representative to meet with KEC plant representatives and a representative from MDEQ, Eric Dear, on April 25, 2000. During this meeting all parties were briefed on the existing situation at the plant and MDEQ's expectations regarding assessment of the site.

Soil assessments conducted on the KEC property and surrounding residential properties confirmed that the PCB Aroclor 1260 and chlorinated benzenes were present in site soils and that offsite areas have been impacted by PCBs through the transport of contaminated soils by stormwater runoff from the KEC property.

1.3 Summary of Previous Work Performed at the KEC Plant

Results of the plant site assessments are included in the *Preliminary Site Characterization Report* (July 2000) and the *Addendum to the Site Characterization Report* (February 2001) submitted to MDEQ and USEPA.

The first assessment was conducted in May, June, and September 2000 on the KEC property. The purpose of the assessments was to determine the source of PCB contamination, and the horizontal and vertical extent of soil contamination.

Results from previous site assessments indicate that the KEC plant is the primary source of PCB contamination on site, on adjacent properties, and on properties along an adjacent drainageway. Immediate actions were taken to control future stormwater runoff from the site and wind erosion of site soils. Ultraviolet-resistant plastic sheeting was placed over

the 4.6 acres of the KEC site that were disturbed during construction activities, and silt fences were placed around the periphery of the plastic cover. The plastic sheeting will be removed as remediation proceeds.

1.3.1 Assessment Summary

Direct push soil sampling was conducted over approximately 12 acres of open and paved land on the Kuhlman property. Soil, sediment, and surface water samples were collected over two one-month periods and analyzed by a field laboratory. At least 10% of the total number of soil samples were split and sent to a fixed-base laboratory for confirmation of field laboratory results.

The field laboratory determined, after comparing the analytical results against all Aroclor standards, that the particular Aroclor present on site is 1260. A total of 296 deep soil samples were collected from depths of 4 feet bgs to 18 feet bgs with most being collected from 4 feet bgs. Of the total number of deep samples analyzed, 99 samples had detectable levels of Aroclor 1260. A total of 33 samples had concentrations above the unrestricted TRG.

Soil sampling results also indicate that chlorinated benzenes are present and are associated with areas of high PCB concentration. Polycyclic aromatic hydrocarbons (PAHs) are present in some soil samples although the coverage is sporadic.

Shallow soils have been impacted by PCBs to a depth of less than 3 feet bgs across the site. The depth of contamination extends to a depth of 8 feet in some areas of the site, however no PCBs were detected in soils at depths greater than 18 feet.

Perched ground water was sampled near the north property line and was determined to have been impacted by PCBs at a depth of approximately 12 feet. Groundwater samples from the uppermost aquifer were not obtained during the preliminary investigations.

Figures 2, and 3 show the concentrations of PCBs at various depths across the KEC property.

Thirteen shallow soil samples had detectable concentrations of chlorinated benzenes with the highest concentrations reported for 1,2,3,4-tetrachlorobenzene at 1,100 mg/kg. The other highest detections of other chlorinated compounds are 1,2,4,5-tetrachlorobenzene at 110 mg/kg, pentachlorobenzene at 250 mg/kg, and hexachlorobenzene at 250 mg/kg.

1.4 Groundwater Assessment Objectives

This site has been used for industrial manufacturing purposes since the mid-1950s. The future use of the property is anticipated to remain industrial since KEC has recently purchased the property from the City of Crystal Springs.

The general groundwater assessment objectives for this site are to:

1. Determine if constituents of concern have impacted groundwater in the uppermost, surficial aquifer beneath the site;
2. Determine if constituents of concern have impacted perched groundwater beneath the site;
3. If groundwater impact is confirmed, then expand the assessment to determine the vertical and horizontal extent of impact; and
4. Propose a program to monitor movement of the plume, if one exists.

The following sections of this groundwater assessment work plan include the conceptual plan, well construction details, well development and sampling protocols, field test for aquifer characteristics, and quality assurance and quality control.

2.0 FIELD SAMPLING PLAN

This groundwater assessment plan was prepared in accordance with guidance published in the US Environmental Protection Agency (USEPA), *Environmental Investigations Standard Operating Procedure and Quality Assurance Manual* (EISOPQAM). The groundwater assessment will be conducted in phases in order to focus resources on areas where potential releases are most likely to have impacted groundwater. The investigation will expand as necessary to fully delineate the extent of contamination, if impacted groundwater is detected. Initially, the uppermost aquifer will be sampled to verify any impact to groundwater. At the same time any perched groundwater encountered during drilling will be sampled and analyzed. If contamination is detected in the uppermost aquifer, deeper sampling of the aquifer will be conducted until the depth of contamination is determined by laboratory analysis of groundwater samples. The assessment of the upper aquifer will proceed laterally and vertically until the limits of the plume, if present, are defined.

2.1 Regional Geology

Sediments consisting of fine-grained sands with local lenses of clay and gravel underlie Crystal Springs and the surrounding area. These red and orange sediments comprise the Citronelle Formation. The Citronelle Formation covers approximately 30 percent of Copiah County and is present at ground surface at Crystal Springs. Gravel, mainly consisting of chert and quartz is present throughout the formation near Crystal Springs and is heavily mined in the surrounding area. The thickness of this formation ranges from a few feet to a maximum of 100 feet with average depths ranging from 20 to 80 feet. Thickness of the unit is controlled by erosion of surface soils. The thinner segments are located in washes and drainage channels, while the thicker portions are located on topographically high areas. The Citronelle formation lies unconformably over the

Catahoula Formation in the vicinity of Crystal Springs with the base elevations of the Citronelle ranging from 375 feet mean sea level (msl) to about 430 msl.

Since the surficial aquifer is under phreatic conditions, no extensive clay confining units are anticipated above this first aquifer.

2.2 Regional Hydrogeology

According to published literature, the uppermost aquifer in the area of Crystal Springs exists under phreatic conditions (unconfined) and rises into the Citronelle Formation. Groundwater generally exists near the base of the Citronelle. Depth to groundwater ranges from 20 to greater than 100 feet with more than half of the water levels measured in wells deeper than 50 feet.

Average rainfall totals 57.2 inches per year in the Copiah County area. Precipitation that does not evaporate (approximately 44 inches evaporation per year) or run off into streams and drainages, recharges the surficial aquifer. Precipitation infiltrates vertically through the upper sediments to a saturated zone near the bottom of the Citronelle Formation. The groundwater then occupies the voids or pore spaces between sand grains. Groundwater moves either vertically into the lower aquifer or moves horizontally, discharging from springs and into streams, or is stored in the aquifer.

Nine municipal water supply wells and at least one industrial production well are currently in operation in within 1.7 miles of the KEC plant site. Eight wells are used for drinking water and one is used as a water supply for the municipal pool. These wells are screened in the lower aquifer (Catahoula). The municipal wells supply water to the City of Crystal Springs. The industrial production well supplies process water for the KEC plant operations. Three of the municipal wells closest to the KEC plant site were tested for PCBs in June of 2000. No PCBs were detected. Pumping rates for the two closest

municipal wells at Railroad Avenue, and North Gym Plant are 250 gallons per minute and 178 gallons per minute, respectively.

2.3 Phase 1 – Sampling

Phase 1 of this assessment will consist of locating eight (8) sampling points in areas of the site with the highest detections of PCBs and/or chlorinated benzenes in soil samples collected and analyzed during the initial soil contamination assessment. These locations are generally located in the northeastern and eastern parts of the property based on the concentration contours shown on Figures 2 and 3. Figure 4 shows the proposed locations for temporary monitoring wells.

2.3.1 Well Installation

In each of the eight locations, a temporary monitoring well will be installed by a qualified, and State of Mississippi licensed drilling contractor. Each well will be drilled using either rotary augers or mud rotary techniques into the top of the water table. Soil samples will be collected on intervals of 5 feet using a split-spoon sampler. A log of the borehole will be developed from soil samples described and classified by a qualified geologist registered in the State of Mississippi.

The remediation goal for Aroclor 1260 for the KEC is 100 parts-per-million. Therefore, a surface casing will be advanced through the upper soil zone and seated at an approximate depth of 20 feet below ground surface (bgs) to seal off surficial soils, and allow drilling to advance without carrying surface soils to deeper level.

Once the surface casing is set, drilling will proceed to the water table. A 2-inch diameter pvc well screen five feet long will be set 5 feet into the water table. A 2-inch pvc casing will extend from the top of the screen to the ground surface. Formation sands will be

allowed to collapse around the screen, and a bentonite seal will be installed in the interstitial space between the casing and the sides of the borehole. The bentonite seal will extend from one foot above the top of the well screen to a level three feet above the top of the well screen. A collar composed of a bentonite/grout mixture will be installed around the casing at the ground surface to prevent surface water from entering the borehole. The top of the casing will be capped, locked, and protected from tampering.

All drilling and sampling equipment will be decontaminated prior to proceeding with drilling operations at each well location. The decontamination procedure will include scrubbing all equipment surfaces that come in contact with soil with Alconox® and scrub brush then steam leaning. The equipment will be allowed to air dry before use.

Upon completion of each temporary well, a horizontal and vertical well survey will be conducted for all wells installed on the KEC plant site. All wells will be surveyed to within $1/100^{th}$ of a foot.

2.3.2 Well Sampling

Prior to sample collection, all wells will be developed by surging the screen interval to remove fines. Water and fines will be removed by either pumping with a submersible pump or bailing with disposable bailers. Well development will continue until a minimum of three well volumes of water are removed and until temperature and specific conductance have stabilized.

Each well will be sampled as soon as it is capable of yielding a sufficient volume of water. Samples will be collected in certified clean containers supplied by the laboratory. Each sample container will be marked with well number, date, time, presence of preservatives, analytical parameters to be analyzed, and initials of the sampler. Samples will be collected using a bottom loading, disposable Teflon bailer or submersible pump.

Once sealed, all sample containers will be placed in a cooler with ice or cold packs, and cooled to 4° C for transport to the laboratory.

After collection of the groundwater samples, the water levels will be allowed to stabilize and water levels will be measured using the surveyed top of casing as the measuring point. All water levels will be converted to mean sea level elevations.

All information collected during drilling, well development, well purging, sampling, and water level measurement will be recorded in a bound field book.

If no constituents of concern are detected, all wells will be properly closed. The casing and screens will be pulled and the borehole will be grouted from the bottom to ground level using a tremie.

2.3.3 Sampling Perched Groundwater

Perched groundwater, or water that is trapped by impervious clay or silt layers at levels above the saturated zone, is classified by the state of Mississippi as groundwater and is, therefore subject to the same rules as any aquifer system within the state.

Recovery of saturated soils within the apparent vadose zone (unsaturated zone) above the water table will indicate a perched water condition. If a perched water condition is identified, drilling will immediately stop and a clean well screen will be lower into the borehole to allow water to collect in the screen and casing. A sample will be immediately collected and analyzed by the laboratory.

In order to continue drilling without creating a vertical conduit for the perched water, a surface casing will be seated to a level immediately below the depth of the water sample.

The borehole will be purged of drill cuttings and water, and drilling will proceed inside the surface casing.

2.3.4 Field Measurements

During well development, physical properties of the groundwater, including pH, specific conductance, and temperature will be measured until these measurements have stabilized. Measurements will be made using a Horiba U-10 Water Quality Checker or a meter of equal make and quality.

Following sampling, water levels will be measured in each well when water levels within the wells have equilibrated. The measurements will be made from the top of each casing. Water level measurements will be converted to elevations based on mean sea level. Measurements will be made with a Keck water level indicator, or another instrument of equal quality attached to a clean fiberglass measuring tape with $1/100^{th}$ foot graduations.

2.3.5 Investigative Derived Waste

Management of investigative derived waste (IDW) will be the responsibility of the Field Manager. IDW includes but is not limited to, soil cuttings, well development water, purge water, decontamination solutions and water, personal protective clothing, gloves, and any other material to be discarded that has come in contact with constituents of concern.

All IDW will be placed in open-top drums and stored in a secured location on the KEC plant site until removal to an appropriate disposal facility. The IDW will be profiled for disposal by either, direct sampling and analysis of the material, or by using current, existing analytical data from the assessment activities. Drums will be placed at the temporary storage area, catalogued, and labeled with date and contents. Drums will be

removed to a disposal facility within 90 days of final accumulation of the IDW in each drum. Drums will be manifested and disposed under KEC's EPA I.D. number.

2.4 Phase 2 - Sampling

If constituents of concern are detected in samples from the temporary monitoring wells, permanent monitoring wells will be installed at each location where constituents of concern were detected. The vertical extent of impacted groundwater will be determined by installing and sampling deep, permanent monitoring wells. Deep wells will be installed with increasing depth until clean groundwater is detected and the bottom of contamination is reached. The horizontal extent of impacted groundwater will be determined by installing permanent monitoring wells in up and downgradient directions, as well as laterally from the source area until clean groundwater is detected and the edge of the impacted groundwater is defined. These wells will be located based on the horizontal gradient and flow direction that will be determined from water level measurements taken in the temporary monitoring wells.

Well locations and screen depths will be determined by evaluating the vertical and horizontal hydraulic gradients.

3.0 ANALYTICAL PROGRAM

The groundwater TRGs established by the State of Mississippi MDEQ for Aroclor 1260 and the various chlorinated benzenes of concern are:

Aroclor 1260	0.0335 µg/l
1,2,3-Trichlorobenzene	N/A
1,2,4-Trichlorobenzene	70.0 µg/l
1,2,3,4-tetrachlorobenzene	N/A
1,2,4,5-tetrachlorobenzene	1.83 µg/l
Pentachlorobenzene	4.87 µg/l
Hexachlorobenzene	1.00 µg/l

Groundwater samples will be screened by the on-site laboratory to determine if gross groundwater contamination exists. The method detection limits (MDL) established for water analysis by the on-site laboratory are 0.20 µg/l for Aroclor 1260 and 10 µg/l for the chlorinated benzenes, well above the established TRGs. If constituents of concern are detected at levels above the on-site laboratory MDL, then the fixed-base laboratory will analyze at least 10% of the samples for quality control purposes. Groundwater contamination delineation will continue as needed based on the on-site lab screening results. When results fall below the MDLs for the on-site laboratory all samples with results below the on-site MDLs will be sent to the fixed-base laboratory to quantify concentrations and determine if concentrations are below the TRGs.

For analysis of samples by the on-site laboratory, EPA method 8082 will be used. The fixed-base laboratory will also use EPA 8082 for quantitation of PCBs. Analysis conducted by the on-site laboratory, for semi-volatile compounds, will be by EPA method 8270. The fixed-base laboratory will also use EPA Method 8270.

When collected, groundwater samples will be stored in a cooler, on ice and transported to the on-site laboratory as soon as collected. Quality control samples will be stored in a refrigerator until shipped to the fixed-base laboratory.

The Quality Assurance/Quality Control Project Plan is included in Section 4.

4.0 QUALITY ASSURANCE /QUALITY CONTROL PLAN

As established by the Mississippi Department of Environmental Quality (MDEQ) guidelines, all work related to the groundwater assessment on the KEC plant site will be performed in accordance with the *Environmental Protection Agency (EPA), Region IV "Environmental Investigations, Standard Operating Procedures and Quality Assurance Manual", November 2001 (EISOPQAM).* Copies of relevant and applicable portions of the EISOPQAM will be maintained on site during all field activities and all field personnel will be trained in its implementation.

4.1 Sampling Objectives

The groundwater sampling objective for the assessment work is to determine if PCB and chlorinated benzenes have impacted groundwater beneath the site, and to delineate the horizontal and vertical extent of impacted groundwater. Groundwater samples will be collected from properly installed 8 temporary monitoring wells by the field geologist at the locations and frequencies prescribed in Section 3 of this work plan.

4.2 Analytical Methods

Samples will be analyzed for PCBs and chlorinated benzenes by the on-site laboratory, Environmental Chemistry Consulting Services (ECCS) of Madison, Wisconsin. Groundwater samples will be screened by the on-site laboratory to determine if gross groundwater contamination exists. The on-site laboratory will analyze the groundwater samples using EPA Method 8082 for PCBs. The procedure incorporates all the quality control rigors of the full 8082 method including quantification based on 6-point calibration with continuing calibration verification, surrogate method performance monitoring, method blanks, laboratory control samples (LCS), and matrix spike/matrix spike duplicate samples. Chlorinated benzenes will be analyzed by EPA method 8270.

The method detection limits (MDL) established for water analysis by the on-site laboratory are 0.20 µg/l for Aroclor 1260 and 10 µg/l for the chlorinated benzenes, well above the established TRGs. If constituents of concern are detected at levels above the on-site laboratory MDL, then the fixed-base laboratory, Paradigm Analytical Laboratories, Inc. (PAL) in Wilmington, North Carolina will analyze 10% of the samples for quality control purposes. When results fall below the MDLs for the on-site laboratory all samples with results below the on-site MDLs will be sent to the fixed-base laboratory to quantify concentrations and determine if concentrations are below the TRGs.

At least 10% of all samples sent to the fixed-base laboratory will be blind duplicate samples and the fixed-base laboratory will analyze the same parameters as the on-site laboratory to verify the fixed-base lab results.

The fixed-base laboratory will analyze all groundwater samples using EPA method 8082 for PCBs and EPA method 8270 for chlorinated benzenes.

4.3 Key Personnel

The following is the list of key personnel dedicated to this project:

Project Manager:	Robert Martin, Martin & Slagle GeoEnvironmental Associates, LLC
Duties:	Responsible for overall management of project including all field coordination efforts.
Field Manager:	Charles Peel, Peel Consulting, PLLC
Duties:	Field oversight of remedial activities. Collection of samples. Maintenance of all field logs and records.

Field Laboratory

Manager: Richard Johnson, ECCS

Duties: Responsible for accepting custody of samples from the field personnel. Maintenance of laboratory records. Analyze samples.

QA/QC Coordinator: Christine Slagle, Martin & Slagle GeoEnvironmental Associates, LLC

Duties: Review daily sample logs. Confirm that QC samples are collected and sampling protocols are met. Assure that data quality objectives are met.

4.4 Quality Assurance Objectives for Data

The data quality objectives are pre-defined for the ECCS data in that Mississippi considers all mobile lab data screening level data. ECCS uses the same equipment and methodology as the fixed-base lab with the exception of the mini extraction modification. A total of 10% of the samples collected will be split and submitted to Paradigm Analytical for confirmation analysis. Following this procedure, the data will qualify as screening data with definitive confirmation under EPA region IV EISOPQAM guidelines.

Samples designated for further analysis by Paradigm will be delivered to the on-site lab where ECCS personnel will take their aliquot for analysis following thorough mixing of the sample in the sample container. Due to the limited sample volume required by the ECCS mini extraction and the low volatility of the contaminants of concern, the jar will be resealed, refrigerated, and the same container will then be sent to the fixed-base, (Paradigm) laboratory for analysis. Paradigm will be thus analyzing the exact same sample as the on-site (ECCS) laboratory.

Equipment rinsates will be collected for evaluation of cross-contamination potential. These will be prepared by pouring distilled water over the sampling equipment after decontamination of equipment, and collecting and preserving the rinsate generated.

Field blanks will be collected. The field blanks will be prepared by filling sampling containers, which have been kept in the transition zone with distilled water.

Blind duplicate samples will be collected for analysis and sent to both the on-site and fixed-base labs. Blind duplicates will be collected by splitting the homogenized sample into 2 containers. After the on-site lab (ECCS) retains its aliquot of these samples, the remainder of the sample will be sent to the fixed-base (Paradigm) lab for analysis.

4.5 Sample Control and Field Records

4.5.1 Sample Identification

Each sample will be assigned a unique alpha-numeric identifier that will be clearly recognizable by both laboratories. Sample labels will conform to the labeling requirements under section 3.2.1 of the EISOPQAM.

4.5.2 Chain of Custody Procedures

The field geologist will record the sample ID, date, and time sampled in the field logbook at the time of collection. Samples will be placed in a cooler and transferred by the field geologist to the on-site laboratory. Upon arrival at the on-site lab, the samples will be transferred to the ECCS laboratory manager who will log each sample on ECCS chain of custody forms. Each sample will be assigned a unique ECCS internal ID for tracking purposes. After analysis, the samples will be transferred to a sample refrigerator in the

on-site lab until they are either sent to Paradigm for confirmation analysis or disposed of. For samples sent to Paradigm, a new chain of custody form will be filled out by the field geologist for the sample transfer.

4.5.3 Field Records

Field records will be kept in accordance with procedures specified in section 3.5 of EISOPQAM.

4.6 Laboratory QA/QC

QA/QC for both labs is identical. Summaries of each lab's procedures follow.

On-site, ECCS:

- Continuing calibration standards analyzed every ten samples or less and at the end of a run.
- Blank and LCS samples analyzed every twenty samples or less with a minimum of one per day.
- MS/MSD samples analyzed every twenty samples or less with a minimum of one per day.

Fixed-base, Paradigm:

- Continuing calibration standards analyzed at least once every 12 hour shift plus a minimum of every 20 samples (GC/MS criteria follows method specific tuning requirements per EPA 8270).
- Blank and LCS samples analyzed every twenty sample or less with a minimum of one per day.

- MS/MSD samples analyzed every twenty samples or less with a minimum of one per day.

4.7 Data Review and Validation

All laboratory reports will be reviewed for reporting accuracy and consistency with laboratory QA/QC protocols. The primary validation of the on-site lab data will be accomplished through comparison with the data from the fixed-base lab. The relative percent difference (RPD) between the laboratory's results for split samples will be calculated and compared to a 50 % RPD acceptability threshold.

5.0 REPORT

Within 60 days of completion of the groundwater assessment, a report will be prepared for submittal to MDEQ. The report will describe findings of the study, including details of work preformed, analytical results of all groundwater samples collected, maps showing direction of groundwater flow and velocity, and geometry of the plume, if any exists. The report will also include laboratory data sheets, chain of custody forms, well completion records and boring logs.

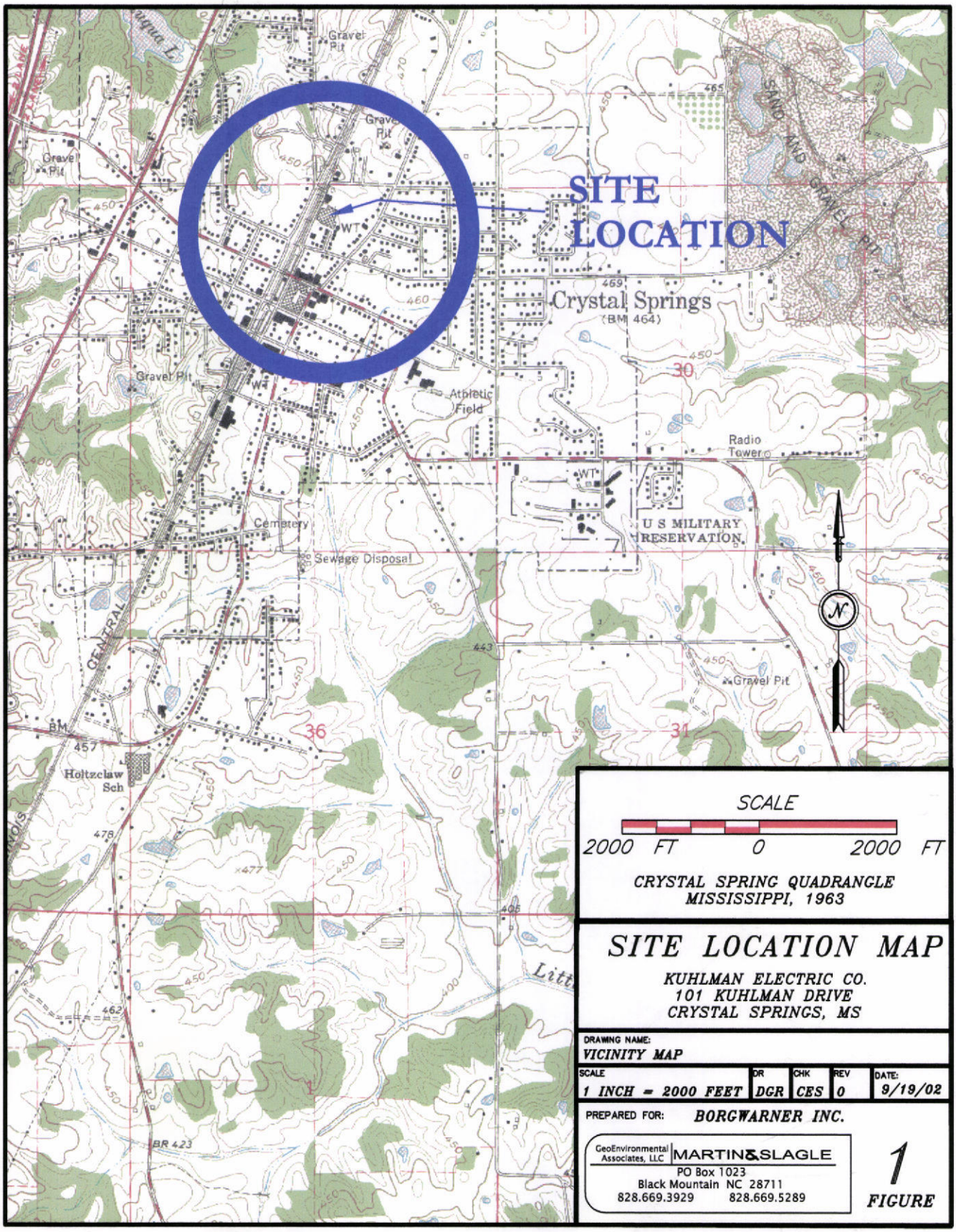
6.0 REFERENCES

Bicker, Alvin R, *et.al., Copiah County Geology and Mineral Resources, Bulletin 10,* 1969. Mississippi Geological Economic and Topographical Survey.

Mississippi Department of Environmental Quality (MDEQ). 1999. Risk *Evaluation Procedures for Voluntary Cleanup and Redevelopment of Brownfield Sites, Subpart II.* May 27.

Newcome, Jr., Roy, *et.al., Water for Industrial Development in Copiah and Simpson Counties, Mississippi.* 1972. Water Resources Division, U. S. Geological Survey.

U.S. Environmental Protection Agency, Region IV (US EPA Region IV). 2001. *Environmental Investigations Standard Operating Procedures and Quality Assurance Manual* (EISOPQAM).



SCALE

2000 FT 0 2000 FT

CRYSTAL SPRING QUADRANGLE
MISSISSIPPI, 1963

SITE LOCATION MAP

KUHLMAN ELECTRIC CO.
101 KUHLMAN DRIVE
CRYSTAL SPRINGS, MS

DRAWING NAME: *VICINITY MAP*

SCALE	DR	CHK	REV	DATE:
1 INCH = 2000 FEET	*DGR*	*CES*	*0*	*9/19/02*

PREPARED FOR: *BORGWARNER INC.*

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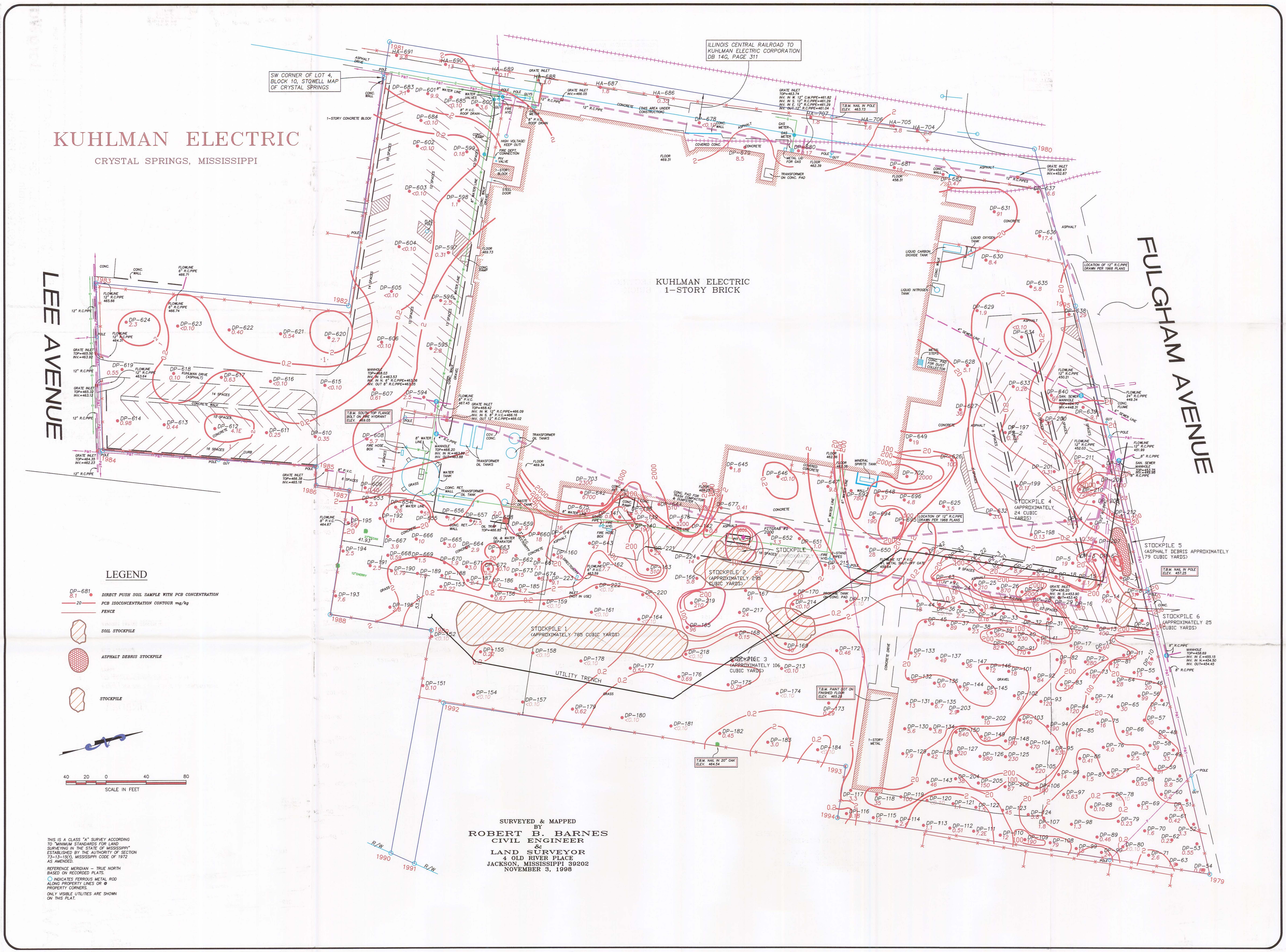
1
FIGURE



KUHLMAN ELECTRIC
CRYSTAL SPRINGS, MISSISSIPPI
LEE AVENUE
FULGHAM AVENUE
KUHLMAN ELECTRIC
1-STORY BRICK
ILLINOIS CENTRAL RAILROAD TO KUHLMAN ELECTRIC CORPORATION DB 14G, PAGE 311
SW CORNER OF LOT 4, BLOCK 10, STOWELL MAP OF CRYSTAL SPRINGS
STOCKPILE 1 (APPROXIMATELY 785 CUBIC YARDS)
STOCKPILE 2 (APPROXIMATELY 295 CUBIC YARDS)
STOCKPILE 3 (APPROXIMATELY 106 CUBIC YARDS)
STOCKPILE 4 (APPROXIMATELY 24 CUBIC YARDS)
STOCKPILE 5 (ASPHALT DEBRIS APPROXIMATELY 79 CUBIC YARDS)
STOCKPILE 6 (APPROXIMATELY 25 CUBIC YARDS)
UTILITY TRENCH
LEGEND
DP-681 8.1 DIRECT PUSH SOIL SAMPLE WITH PCB CONCENTRATION
20 PCB ISOCONCENTRATION CONTOUR mg/kg
FENCE
SOIL STOCKPILE
ASPHALT DEBRIS STOCKPILE
STOCKPILE
40 20 0 40 80
SCALE IN FEET
SURVEYED & MAPPED BY
ROBERT B. BARNES
CIVIL ENGINEER
&
LAND SURVEYOR
4 OLD RIVER PLACE
JACKSON, MISSISSIPPI 39202
NOVEMBER 3, 1998
THIS IS A CLASS "A" SURVEY ACCORDING TO "MINIMUM STANDARDS FOR LAND SURVEYING IN THE STATE OF MISSISSIPPI" ESTABLISHED BY THE AUTHORITY OF SECTION 73-13-15(I), MISSISSIPPI CODE OF 1972 AS AMENDED.
REFERENCE MERIDIAN — TRUE NORTH BASED ON RECORDED PLATS.
INDICATES FERROUS METAL ROD ALONG PROPERTY LINES OR PROPERTY CORNERS.
ONLY VISIBLE UTILITIES ARE SHOWN ON THIS PLAT.

FIGURE 2

TOTAL PCB'S mg/kg

SHALLOW DEPTH PROFILE (0.5'-2.0')

KUHLMAN ELECTRIC CORPORATION
101 KUHLMAN DRIVE
CRYSTAL SPRINGS, MS

SCALE 1"=40'	DR: DGR	CHK: RLM	REV: 0	DATE: 9/19/02

DRAWING NAME: Reports\Ground Water Assesment Plan 9 19 2\KEC F2

REV							
1	2	3	4	5	6	7	

PREPARED FOR:

BorgWarner Inc.

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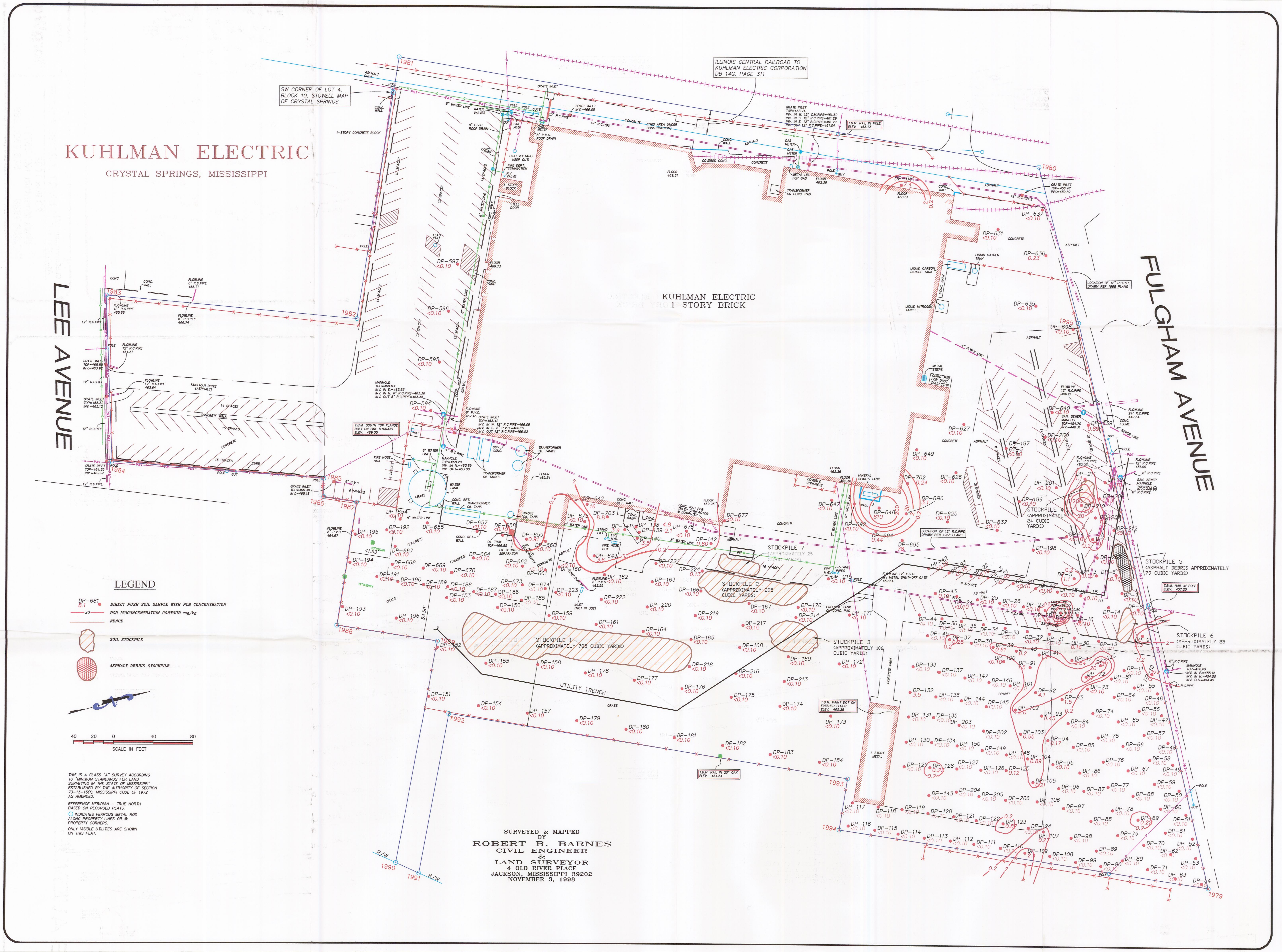
KUHLMAN ELECTRIC
CRYSTAL SPRINGS, MISSISSIPPI
LEE AVENUE
FULGHAM AVENUE
KUHLMAN ELECTRIC
1-STORY BRICK
ILLINOIS CENTRAL RAILROAD TO KUHLMAN ELECTRIC CORPORATION DB 14G, PAGE 311
SW CORNER OF LOT 4, BLOCK 10, STOWELL MAP OF CRYSTAL SPRINGS
STOCKPILE 1 (APPROXIMATELY 785 CUBIC YARDS)
STOCKPILE 2 (APPROXIMATELY 295 CUBIC YARDS)
STOCKPILE 3 (APPROXIMATELY 106 CUBIC YARDS)
STOCKPILE 4 (APPROXIMATELY 24 CUBIC YARDS)
STOCKPILE 5 (ASPHALT DEBRIS APPROXIMATELY 79 CUBIC YARDS)
STOCKPILE 6 (APPROXIMATELY 25 CUBIC YARDS)
STOCKPILE 7 (APPROXIMATELY 25 CUBIC YARDS)
UTILITY TRENCH
LEGEND
DP-681 8.1 DIRECT PUSH SOIL SAMPLE WITH PCB CONCENTRATION
20 PCB ISOCONCENTRATION CONTOUR mg/kg
FENCE
SOIL STOCKPILE
ASPHALT DEBRIS STOCKPILE
SCALE IN FEET
THIS IS A CLASS "A" SURVEY ACCORDING TO "MINIMUM STANDARDS FOR LAND SURVEYING IN THE STATE OF MISSISSIPPI" ESTABLISHED BY THE AUTHORITY OF SECTION 73-13-15(1), MISSISSIPPI CODE OF 1972 AS AMENDED.
REFERENCE MERIDIAN - TRUE NORTH BASED ON RECORDED PLATS.
INDICATES FERROUS METAL ROD ALONG PROPERTY LINES OR PROPERTY CORNERS.
ONLY VISIBLE UTILITIES ARE SHOWN ON THIS PLAT.
SURVEYED & MAPPED BY
ROBERT B. BARNES
CIVIL ENGINEER & LAND SURVEYOR
4 OLD RIVER PLACE
JACKSON, MISSISSIPPI 39202
NOVEMBER 3, 1998

FIGURE 3

TOTAL PCB'S mg/kg
MEDIUM DEPTH PROFILE (4.0'-6.0')

KUHLMAN ELECTRIC CORPORATION
101 KUHLMAN DRIVE
CRYSTAL SPRINGS, MS

SCALE 1"=40'	DR: DGR
CHK: RLM	REV: 0
DATE: 9/19/02	

DRAWING NAME: Reports\Ground Water Assessment Plan 9 19 2\KEC F2

PREPARED FOR: **BorgWarner Inc.**

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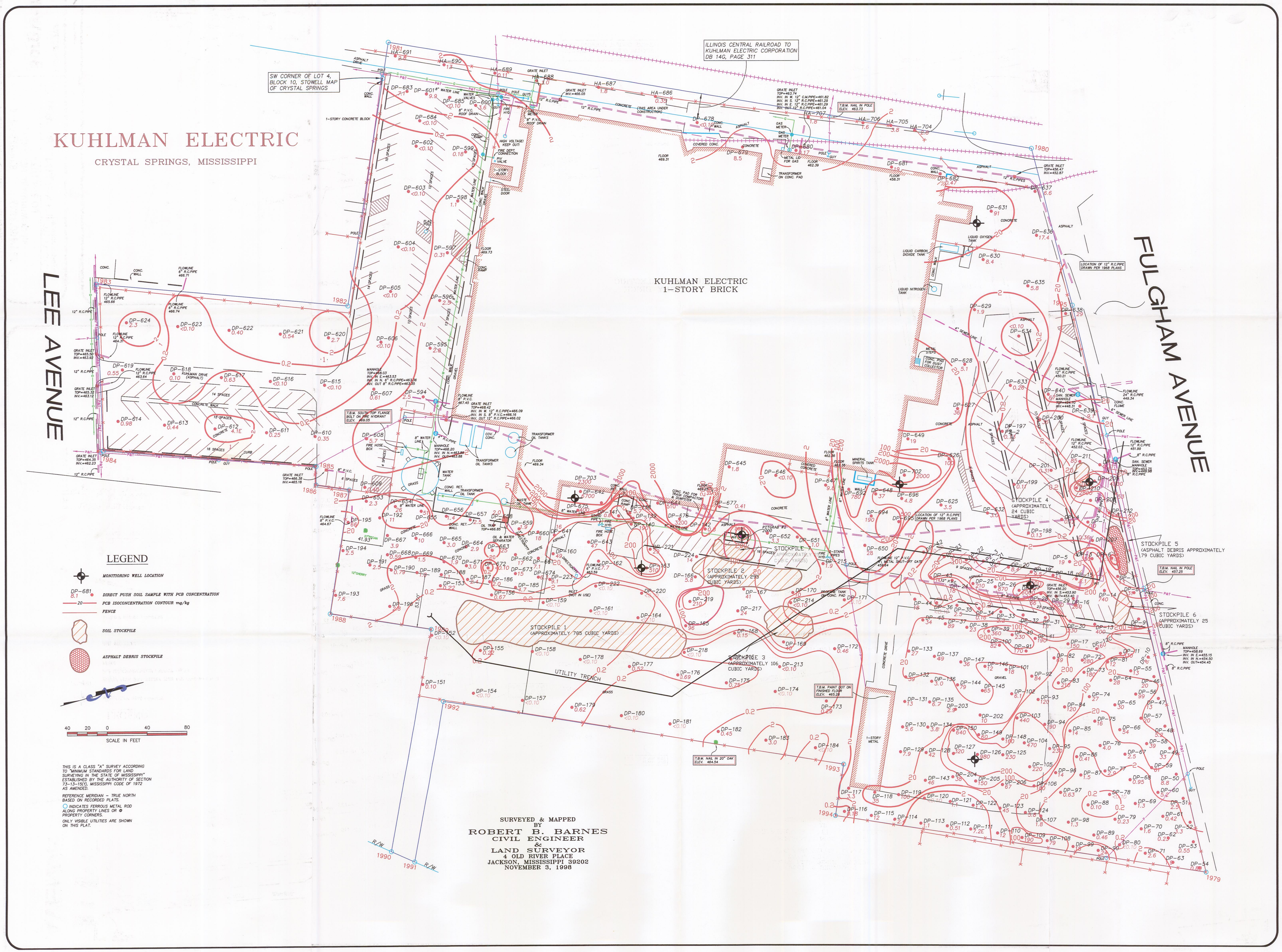

KUHLMAN ELECTRIC
CRYSTAL SPRINGS, MISSISSIPPI
LEE AVENUE
FULGHAM AVENUE
KUHLMAN ELECTRIC 1-STORY BRICK
ILLINOIS CENTRAL RAILROAD TO KUHLMAN ELECTRIC CORPORATION DB 14G, PAGE 311
SW CORNER OF LOT 4, BLOCK 10, STOWELL MAP OF CRYSTAL SPRINGS
STOCKPILE 1 (APPROXIMATELY 765 CUBIC YARDS)
STOCKPILE 2 (APPROXIMATELY 295 CUBIC YARDS)
STOCKPILE 3 (APPROXIMATELY 106 CUBIC YARDS)
STOCKPILE 4 (APPROXIMATELY 24 CUBIC YARDS)
STOCKPILE 5 (ASPHALT DEBRIS APPROXIMATELY 79 CUBIC YARDS)
STOCKPILE 6 (APPROXIMATELY 25 CUBIC YARDS)
UTILITY TRENCH
LEGEND
MONITORING WELL LOCATION
DIRECT PUSH SOIL SAMPLE WITH PCB CONCENTRATION
PCB ISOCONCENTRATION CONTOUR mg/kg
FENCE
SOIL STOCKPILE
ASPHALT DEBRIS STOCKPILE
40 20 0 40 80
SCALE IN FEET
THIS IS A CLASS "A" SURVEY ACCORDING TO "MINIMUM STANDARDS FOR LAND SURVEYING IN THE STATE OF MISSISSIPPI" ESTABLISHED BY THE AUTHORITY OF SECTION 73-13-15(f), MISSISSIPPI CODE OF 1972 AS AMENDED.
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&
LAND SURVEYOR
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NOVEMBER 3, 1998

FIGURE 4

MONITORING WELL LOCATION MAP

KUHLMAN ELECTRIC CORPORATION
101 KUHLMAN DRIVE
CRYSTAL SPRINGS, MS

SCALE 1"=40'
DR: DGR
CHK: RLM
REV: 0
DATE: 9/19/02

DRAWING NAME: Reports\Ground Water Assesment Plan 9 19 2\KEC F4

REV	
1	4
2	5
3	6
	7

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