UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 4
345 COURTLAND STREET, NE
ATLANTA, GEORGIA 30365

MAR 28 1996

4WD-RCRA

SUBJ: Evaluation of the Status of Koppers Industries, Inc. under the RCRIS Corrective Action Environmental Indicator Event Codes (CA725 and CA750)
EPA I.D. Number: MSD 007 027 543

FROM: Diane Scott, Environmental Scientist
AL/MS Unit Diane M Scott
RCRA Permitting Section

THRU: Kent Williams, Acting Chief
RCRA Permitting Section

TO: G. Alan Farmer
Chief, RCRA Branch

I. PURPOSE OF MEMO

This memo is written to formalize an evaluation of the status of Koppers Industries, Inc. in Grenada, Mississippi in relation to the following RCRIS corrective action codes:

1) Human Exposures Controlled Determination (CA725),

2) Groundwater Releases Controlled Determination (CA750).

The applicability of these event codes adheres to the definitions and guidance provided by the Office of Solid Waste (OSW) in the July 29, 1994, memorandum to the Regional Waste Management Division Directors.

Concurrence by the RCRA Branch Chief is required prior to entering these event codes into RCRIS. Your concurrence with the interpretations provided in the following paragraphs and the subsequent recommendations is satisfied by dating and signing above.

FACILITY BACKGROUND

The Koppers facility is located one mile south of Grenada, Mississippi. Wood treating operations have taken place at this location since 1904. Koppers Company, Inc. purchased the facility in 1944. In 1988, the facility and Koppers name was sold and became Koppers Industries, Inc. In 1989, BNS Acquisitions, Inc. merged with Koppers and in 1990, changed its name to Beazer East, Inc. The facility currently treats railroad ties, poles, and lumber with the preservatives creosote and PCP. No. 2 diesel fuel is used as an additive to both the creosote and PCP.

Koppers Industries used a surface impoundment for the disposal of wastewater, thus generating K001 sludge. Closure of the impoundment was completed in December 1989 in accordance with a RCRA post-closure permit issued by the Mississippi Department of Environmental Quality (MDEQ) in June 1988. The facility also operated a landfarm for the disposal of hazardous waste ash (K001, U051, F027) produced from a boiler. The unit was certified closed in June 1990 and was incorporated into the existing permit.

EPA issued a HSWA permit simultaneously with the MDEQ post-closure permit. The facility has 13 SWMUs, including the process area, drip track area, and former wastewater treatment area (see Figure 1-2). Soil and ground water in these areas have been contaminated with PAHs, phenols, and purgeable organics. Contaminated ground water and free product is seeping into the Central Ditch, a creek adjacent to the former wastewater treatment area. Ground water flow at the facility is generally eastward except near the Central Ditch, where flow is toward the ditch. EPA approved an Interim Measures Work Plan on January 25, 1996, which proposes measures to reduce or eliminate exposure to contamination from these SWMUs. It includes sheet piling and an interceptor trench to prevent contaminated ground water from seeping into the Central Ditch. It also includes erosion control and for the former wastewater treatment area and Central Ditch sediments, as well as a low permeability cover for the wastewater treatment area.

II. HUMAN EXPOSURES CONTROLLED DETERMINATION (CA725)

There are three (3) national status codes under CA725. These status codes are:

1) YE Yes, applicable as of this date.

2) NA Previous determination no longer applicable as of this data.

3) NC No control measures necessary.

Region 4 has also added a regional status code to CA725 which tracks initial evaluations in which a determination is made that plausible human exposures to current contamination risks are not controlled. This regional status code is listed as "NO, not applicable as of this date." Use of the regional status code is only applicable during the first CA725 evaluation. Evaluations subsequent to the first evaluation will use the national status codes (i.e., YE, NA and NC) to explain the current status of exposure controls.

Note that the three national status codes for CA725 are based on the entire facility (i.e., the codes are not SWMU specific). Therefore, every area at the facility must meet the definition before a YE, NA or NC status code can be entered for CA725. Similarly, the regional status code, NO, is applicable if plausible human exposures are not controlled in any areas of the facility.

This particular CA725 evaluation is the first evaluation performed by EPA for Koppers Industries, Inc. Because assumptions have to be made as to whether or not human exposures to current media contamination are plausible and, if plausible, whether or not controls are in place to address these plausible exposures, this memo first examines each environmental media (i.e., soil, groundwater, surface water, air) at the entire facility including any offsite contamination emanating from the facility rather than from individual areas or releases. After this independent media by media examination is presented, a final recommendation is offered as to the proper CA725 status code for

Koppers Industries, Inc.

The following discussions, interpretations and conclusions on contamination and exposures at the facility are based on the following reference documents: Draft Phase II RFI Report, Interim Measures Work Plan, and 1995 Annual Groundwater Monitoring Report.

III. MEDIA BY MEDIA DISCUSSION OF CONTAMINATION AND THE STATUS OF PLAUSIBLE HUMAN EXPOSURES

GROUND WATER

OPTION 4: Groundwater is contaminated onsite and offsite and some plausible offsite human exposures are not controlled.

Releases from SWMUs and/or AOCs have contaminated groundwater in the upper aquifer at concentrations above relevant action levels. The ground water onsite is contaminated with PAHs, phenols, and some purgeable aromatic compounds with concentrations above action levels. Free product was found in six onsite wells. The maximum onsite concentration of total PAHs is 127,511 ug/l in the drip track area. The maximum onsite concentration of total phenols is 27,400 ug/l in the former wastewater treatment area. The maximum onsite concentration of total purgeable aromatics is 3,330 ug/l in the former wastewater treatment area. Offsite wells have concentrations of these constituents below action levels. However, wells at the downgradient facility boundary near the former wastewater treatment area contain levels of naphthalene of 6.8 mg/l (action level 1.4 mg/l); levels of 2,4-dimethylphenol of 9.3 mg/l (action level 0.7 mg/l); and levels of benzene of 0.51 mg/l (action level 0.005 mg/l). Furthermore, free product onsite is seeping into the Central Ditch which leads offsite.

In addition to the observed groundwater contamination, there may be plausible human exposures to this contamination. There are no drinking water wells screened in the upper aquifer within two miles downgradient of the site. Residents downgradient of the site obtain their water from a nearby well that is developed in the Wilcox Formation, which is approximately 450 feet below surface. However, the presence of the Basic City Shale, a

confining layer between the upper aquifer and the Wilcox Formation, was not verified during the RFI, leaving potential risks due to the groundwater pathway unquantifiable. Currently, these plausible human exposures to contaminated groundwater are not controlled. No controls have been installed to keep the contamination from migrating further offsite. However, an interim measures work plan was approved which includes sheet piling and an interceptor drain to prevent contaminated ground water from entering the Central Ditch (see Figure 3-1).

Based on the above Option 4 discussion, plausible human exposures to groundwater contamination are not controlled and control measures for groundwater are necessary.

SURFACE WATER

OPTION 4: Surface water and sediments are contaminated onsite, and some plausible onsite and offsite human exposures are not controlled.

Releases from SWMUs and/or AOCs have contaminated surface water at concentrations above relevant action levels. Ground water containing dissolved constituents and free product is seeping into the Central Ditch, which is onsite adjacent to the Former Wastewater Treatment Area. The ditch flows offsite and eventually into Batupan Bogue (see Figure 1-2). All PAHs and phenols are below the action level. Benzene was detected onsite at 41 ug/l (action level for ingestion is 5 ug/l). Sediments from the Central Ditch were also found to be contaminated. Several onsite and offsite sediment samples contained PAH concentrations which exceeded their respective action levels. For instance, benzo(a)anthracene was detected onsite at 310 mg/kg (action level 0.9 mg/kg). One onsite sediment sample had PCP at 4.4 mg/kg, exceeding the action level of 3 mg/kg for ingestion, and in one onsite sample, was above the action level of 1600 mg/kg. Two onsite sediment samples had purgeable organics which exceeded action levels.

In addition to the presence of surface water contamination, there are plausible human exposures to this contamination. For example, nearby residents could play, wade, or swim in the

Central Ditch. These plausible human exposures are not currently controlled. However, an interim measures work plan has been approved which includes erosion control measures to minimize offsite transport of sediments and human exposure to them (see Figure 3-1).

Based on the above Option 4 discussion, plausible human exposures to surface water contamination are not controlled and control measures are necessary at this time.

SOIL

OPTION 4: Soil is contaminated onsite and some plausible onsite human exposures are not controlled.

Soil at the facility is contaminated at concentrations above relevant action levels. The main contaminants are PAHs, phenols, and purgeable aromatics. The maximum onsite concentration of total PAHs is 77,301 mg/kg; the maximum onsite concentration of total phenols is 4,667 mg/kg; the maximum onsite concentration of total purgeable aromatics is 56,900 mg/kg. Soils are visually contaminated over most of the drip tracks, process area, and former wastewater treatment area.

In addition to the soil contamination at the facility, there are plausible human exposures to this contamination. For example, workers at the facility could contact and incidentally ingest contaminated surface soils while working in the process area, drip tracks or former wastewater treatment area. These plausible human exposures are not controlled. This determination is based on the fact that the site is not paved except for portions of the process and drip track areas. An interim measures work plan has been approved which includes a low permeability cap for the former wastewater treatment area (see Figure 3-1). This will eliminate worker exposure to the contaminated soil in that area.

Based on the above Option 4 discussion, plausible human exposures to contaminated soil are not controlled and control measures are necessary at this time.

AIR

OPTION 4: Air may be contaminated onsite and some plausible onsite and offsite are not controlled.

Releases to air from soil and surface water contaminated by SWMUs and/or AOCs at the facility may be occurring above relevant action levels. No air samples were collected, but in the facility's risk assessment, an air pathway was calculated based upon vaporization and suspension of contaminated soils. Exposure point concentrations were calculated for PAHs, phenols, and volatile organic compounds. Some carcinogenic risks exceeded 10^{-6} for the air pathway at the process area and former wastewater treatment area.

Plausible human exposures to this contamination include onsite workers and offsite downwind residences.

Based on the above Option 4 discussion, plausible human exposures to air contamination are not controlled, and controls are necessary at this time. Controls planned through interim measures for soil and sediment contamination will reduce the exposure to contamination via the air pathway.

IV. STATUS CODE RECOMMENDATION FOR CA725:

RECOMMENDATION OPTION 4: CA725 NO Plausible human exposures are present but not controlled

As explained in Section III, because human exposures to contamination are not currently controlled for groundwater, soil, and surface water, it is recommended that CA725 NO be entered into RCRIS.

V. GROUNDWATER RELEASES CONTROLLED DETERMINATION (CA750)

There are three (3) status codes listed under CA725:

1) YE Yes, applicable as of this date.

2) NA Previous determination no longer applicable as of this date.

3) NR No releases to groundwater.

Region 4 has also added an additional status code which tracks the initial evaluations in which a determination is made that groundwater releases are not controlled. This regional status code is listed as "NO, not applicable as of this date." Use of the regional status code is only applicable in the first CA750 evaluation. Evaluations subsequent to the first evaluation will use the national status codes (i.e., YE, NA and NR) to explain the current status of groundwater control.

Note that the three national status codes for CA750 are designed to measure the adequacy of actively or passively controlling the physical movement of groundwater contaminated with hazardous constituents above relevant action levels. The point where the success or failure of controlling the migration of hazardous constituents is measured is termed the designated boundary (e.g., the facility boundary, a line upgradient of receptors, the leading edge of the plume as defined by levels above action levels or cleanup standards, etc.). Therefore, every contaminated area at the facility must meet the definition before these event/status codes can be entered. Similarly, the regional status code is applicable if contaminated groundwater is not controlled in any area(s) of the facility.

This evaluation for CA750 is the first formal evaluation performed for Koppers Industries, Inc. in Grenada, Mississippi. Please note that CA750 is based on the adequate control of **all** contaminated groundwater at the facility.

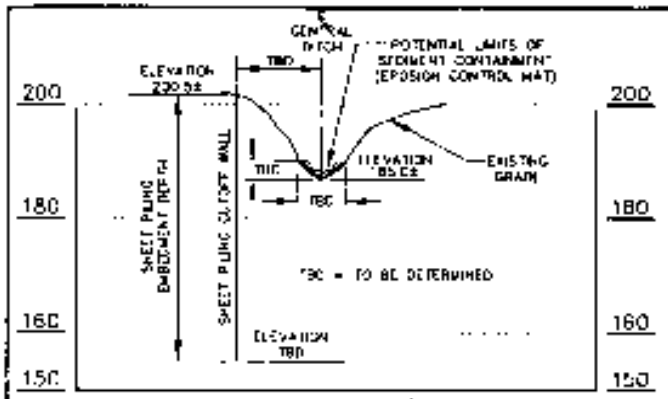
The following discussions, interpretations and conclusions on contaminated groundwater at the facility are based on the following reference documents: Phase II RFI Report.

VI. STATUS CODE RECOMMENDATION FOR CA750:

RECOMMENDATION OPTION 4: CA750 NO; Releases to groundwater have occurred, but all groundwater releases at the facility are not controlled

Based on data contained in the documents referenced in Section V and summarized in the groundwater portion of Section III, releases from SWMUs and/or AOCs have contaminated groundwater at concentrations above relevant action levels.

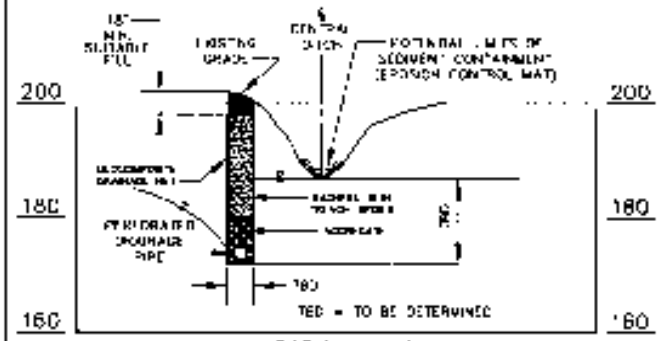
Although the groundwater is contaminated above relevant action levels, control measures have not been implemented. Because all groundwater contamination at or emanating from the facility is not controlled and this is the first evaluation at this facility, it is recommended that CA750 NO be entered into RCRIS.



SECTION A-A'

SHEET PILING CUTOFF WALL WITH SEDIMENT CONTAINMENT

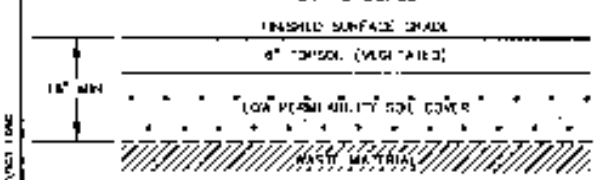
NOT TO SCALE



SECTION B-B'

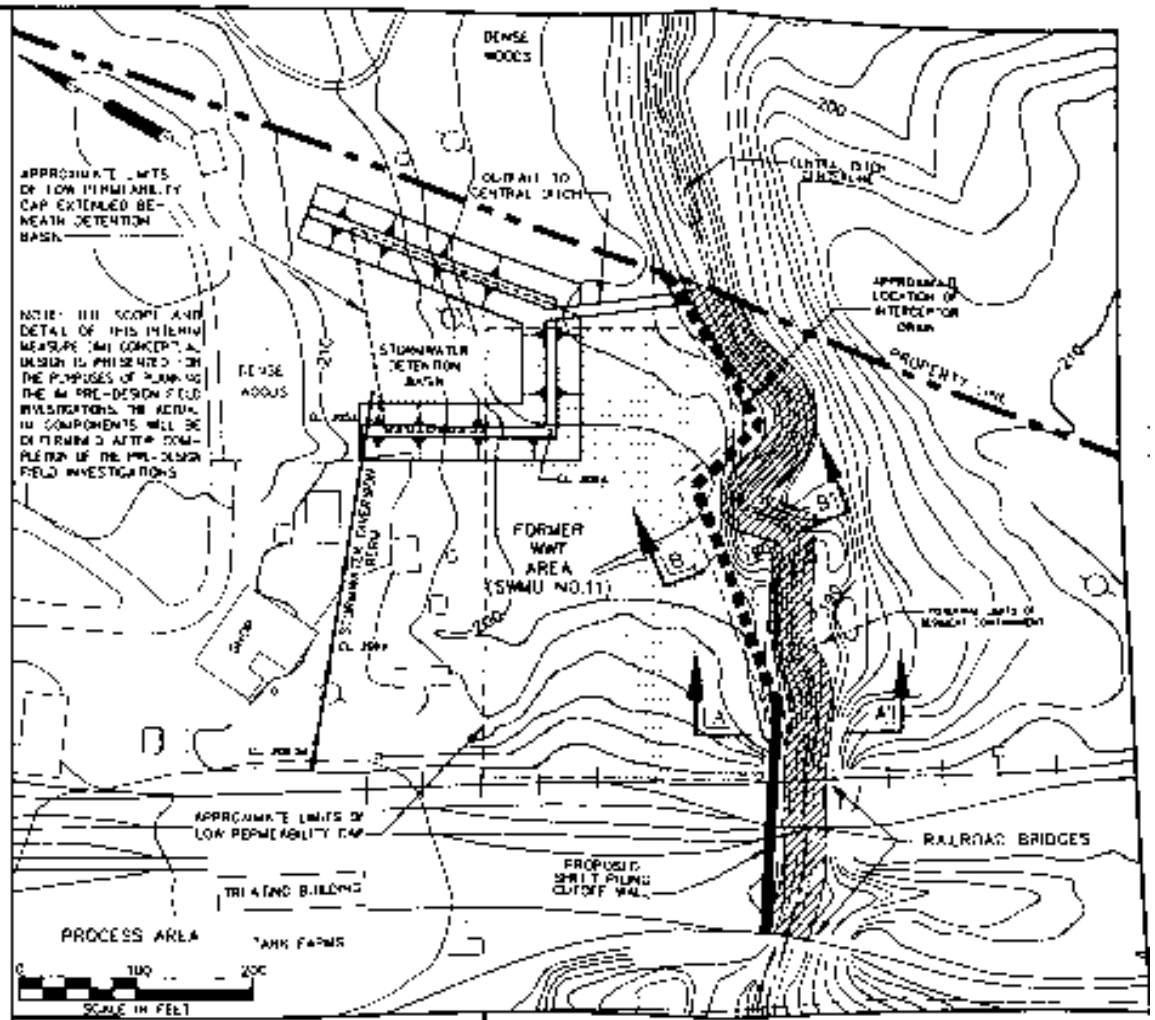
INTERCEPTOR DRAIN WITH SEDIMENT CONTAINMENT

NOT TO SCALE



LOW PERMEABILITY CAP

NOT TO SCALE



AWD TECHNOLOGIES, INC.

AWD TECHNOLOGIES

PRELIMINARY INTERIM MEASURE CONCEPTUAL DESIGN

HOPPERS INDUSTRIES, INC. GRENADA, MS

CLIENT: REAZEN FAST, INC. JOB NUMBER: 2458-003

SCALE: AS SHOWN FIGURE NUMBER: 3-1 REV: 1

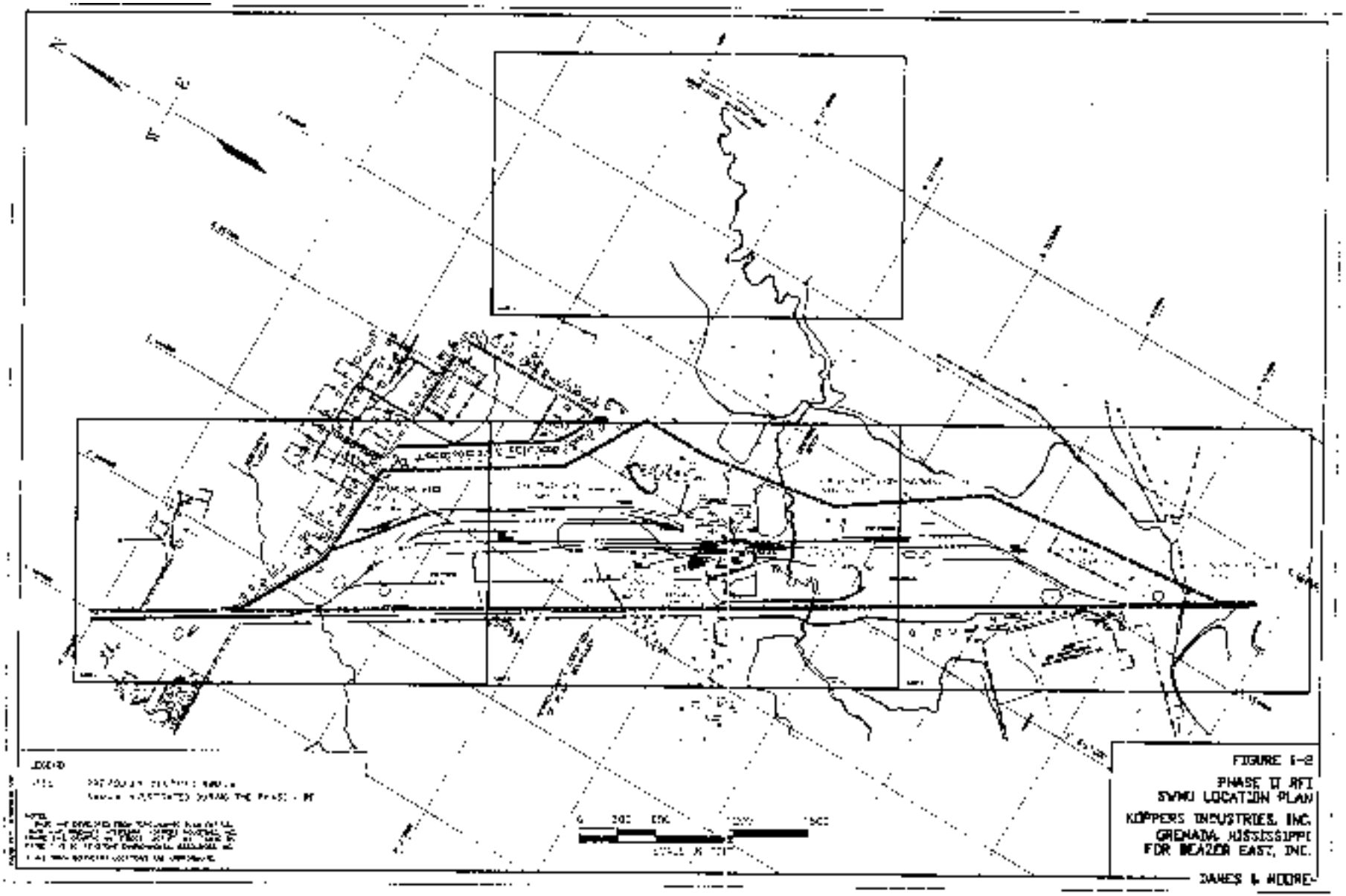


FIGURE 1-2
PHASE II RFI
SWMU LOCATION PLAN
KOPPERS INDUSTRIES, INC.
GRENADA, MISSISSIPPI
FOR BEAZER EAST, INC.
JAMES & MOORE