

James River Corporation

Richmond, Virginia

**Initial Environmental
Assessment of James River -
Pepperell
Pepperell, Massachusetts**

RECEIVED

JAN 6 1993

**DEP
Central - Reg.**

ENSR Consulting and Engineering

February 1991

Document Number 3840-046

TABLE OF CONTENTS

	Page
1.0 PURPOSE AND SCOPE	1
2.0 SITE DESCRIPTION AND LAYOUT	2
3.0 SITE HISTORY	5
4.0 SUMMARY OF FINDINGS	16
4.1 Documented or Observed Releases	16
4.1.1 Transformer Substations - James River-Pepperell	16
4.1.2 Transformer Substations - Pepperell Power	19
4.1.3 #6 Fuel Oil Overflow	20
4.1.4 Caustic Solution Spill	22
4.1.5 Caustic, Chromic, Ink Waste Spill	22
4.1.6 Unpermitted Discharge to Nashua River	23
4.1.7 GZA Environmental Reports (1986;1988)	24
4.2 Locations with Potential for a Release	28
4.2.1 Offsite Drum Disposal	28
4.2.2 Former Hazardous Waste Storage Areas	29
4.2.3 Kerosene and Gasoline Underground Storage Tanks	30
4.2.4 Crawl Space Beneath Buildings 12, 13 & 37	31
4.2.5 Former Transformer Locations	32

4.2.6	Former Septic System for Mills 1 & 2	32
4.2.7	Former Coal Bunker Area	32
4.2.8	Stressed Vegetation Along River Bank	33
4.2.9	Construction Debris Widely Noted Along River Bank	33
4.2.10	Miscellaneous Containers	34
5.0	STUDY LIMITATIONS	35
6.0	REFERENCES	37
	ATTACHMENTS	

1.0 PURPOSE AND SCOPE

James River-Pepperell, Inc. has requested an initial assessment of its mill located at 128 Main Street in Pepperell, Massachusetts. The purpose of the initial assessment is to determine whether there are any known environmental conditions on the property which would create a liability relative to the Massachusetts General Laws Chapter 21E, "The Massachusetts Oil and Hazardous Materials Release Response and Prevention Act." A second objective of the assessment was to determine whether there were disposal areas or chemical management activities at the site that are indicators of potential hazardous materials releases. The assessment did not focus on other environmental liabilities or environmental compliance issues.

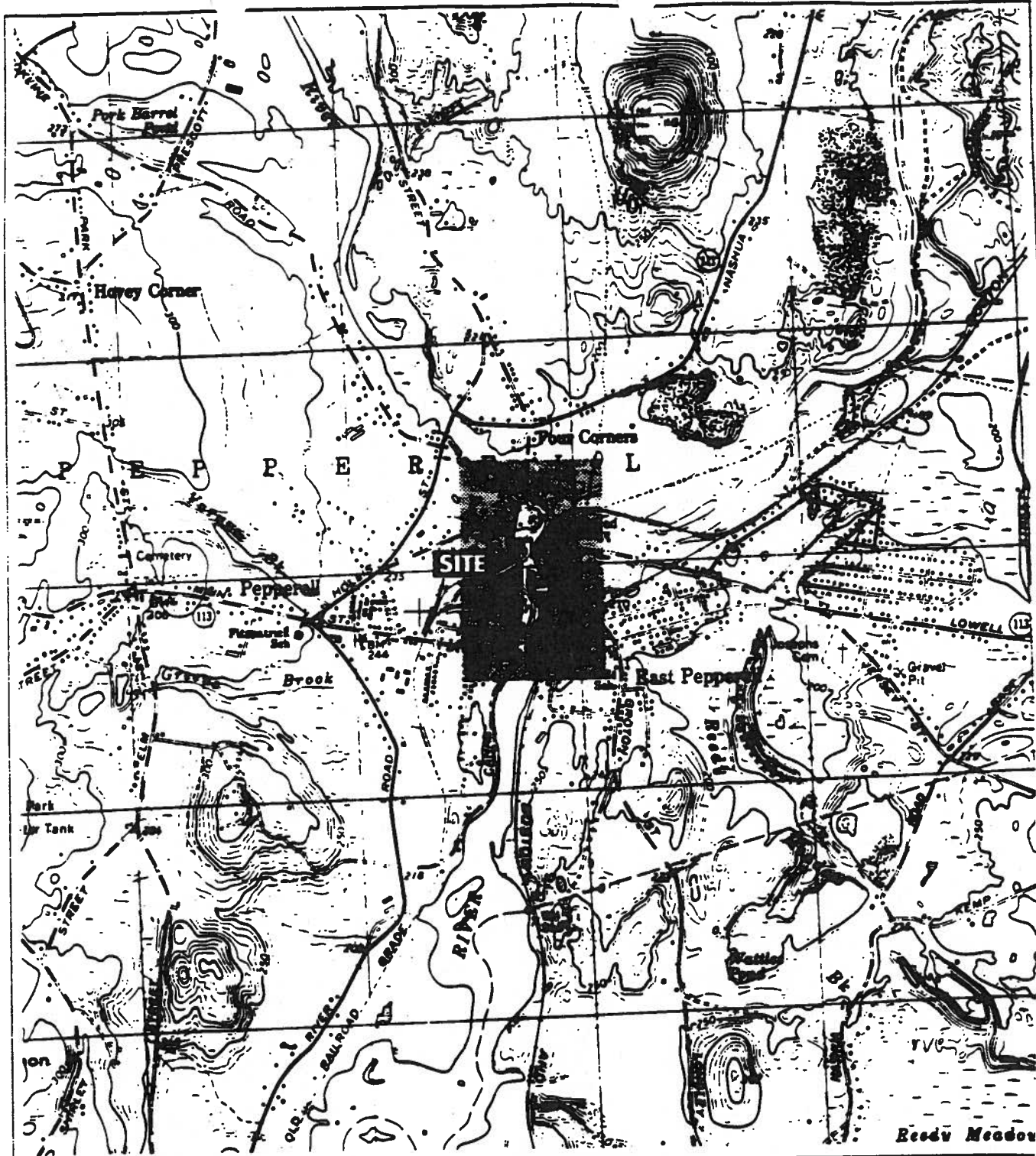
To achieve these objectives ENSR conducted a site inspection of the property surrounding the manufacturing facilities, an inspection of the manufacturing facility in sufficient detail to understand the manufacturing process and the operation and maintenance of the facility; interviewed knowledgeable plant personnel; reviewed available facility engineering and site plans; reviewed selected municipal records relating to the site history and environmental issues, such as underground storage tanks; reviewed state environmental agency files relating to the subject facility; and reviewed available environmental reports relating to abutting properties.

2.0 SITE DESCRIPTION AND LAYOUT

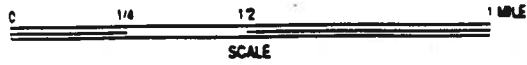
The James River-Pepperell facility is situated on approximately 10.4 acres within East Pepperell, Massachusetts. According to Pepperell Assessor's Office records, an additional 26.4 acres of property are owned by James River-Pepperell and James River Paper Company within the town of Pepperell. The subject 10.4 acre tract is bounded to the north by Tucker and Groton Streets, to the south by Main Street, to the east by the Nashua River, and to the west by Mill Street. The site location is identified on Figure 1, which is taken from a portion of the USGS topographic map of the Pepperell quadrangle.

The subject property contains the mill which manufactures bulk latex based and flame resistant kraft paper, a cogeneration facility maintained by Pepperell Power, and a primary wastewater treatment plant operated by James River-Pepperell. Figure 2 (see map pocket) represents the layout of the onsite facilities. Approximately 95% of the property is covered by buildings, pavement, and raw material storage areas.

Onsite investigations were conducted on February 6, 1991. The groundcover was predominantly wet due to rain, snow and ice and somewhat restricted exterior ground observations. Local and state



REFERENCE USGS 7.5 MINUTE SERIES
 PEPPERELL MA-MA QUADRANGLE - 1985
 PHOTOREVISED 1979



ENSR

FIGURE 1
SITE LOCATION MAP
JAMES RIVER INC. - PEPPERELL, MA

DRAWN BY	DATE	PROJECT NO
CHECKED BY	REVISED	DWG NO

regulatory and general information searches and interviews were conducted on January 24, January 28, February 5 and February 6, 1991.

3.0 SITE HISTORY

The Sanborn Fire Insurance Company atlas from July 1892 shows two discrete mills belonging to Fairchild's Paper Company occupying the subject site south from Main Street northwest to a point just beyond what is now Building 20 and just south of the cogeneration facility on Mill Street. The mill along Main Street was known as Mill #1 or the upper mill, while the Mill Street mill was known as Mill #2 or the lower mill. Atlas notations indicate that power and steam were generated by water and oil.

The area to the west to Mill Street was also owned by Fairchild's Paper Company and served as a residential area. Many of these residences still remain. The two mills were connected by a series of elevated passages across canals and inlets of the Nashua River and were centrally tied to a main finishing room located in what is now Building 10. The canals encompassed an area currently defined from Building 10, west to the property and fence line, and had two inlets below and east of Building 10 that connected to the river. The exact northerly extent of the canal system and the mill property is not known as the Sanborn atlas information ends at this location. A third inlet from the Nashua River extended westerly and joined with this northern canal system. A pond was also noted in the area now occupied by Building 18. The exact function of the

canal system or the pond has not been determined, but it probably provided process water and motive power to the mills.

In 1892 the Pepperell Card and Paper Company was also noted to the north of the two mills and east of Mill Street. This portion of the property now contains the cogeneration plant. Utility descriptions for this property were not legible on the maps obtained. No canal system was noted.

By May 1897 the Nashua River Paper Company had acquired the Fairchild property, according to the Sanborn Fire Insurance atlas. The canal areas were then noted as ponds, and one of the inlets from the Nashua River had been eliminated. Additional storage buildings, water tanks and coal storage areas had been constructed, and the Brookline and Pepperell Railroad had extended a siding from north of Mill #2 to the south along the Nashua River to Mill #1 at Main Street. A trestle was also constructed from the siding and served as the delivery route for coal. The Pepperell Card and Paper Company continued to operate on the northern portion of the property and was by this time accessible by rail.

The Sanborn Fire Insurance atlas of June 1903 shows increased construction activities along the pond and canal system by the Nashua River Paper Company. Ponds, canals, and remaining inlets were either encroached upon or in some instances completely filled to provide room for expansion. Ownership of the rail system had

been transferred to the Boston and Maine Railroad and additional atlas notations indicate that coal was used for fuel.

The Pepperell Card and Paper Company was still operating to the north, and the atlas indicated no significant changes to the property with the exception of the addition of a stock house and glue room.

By March 1912, the Nashua River Paper Company had again expanded a section of Building 10 into the central pond between Mill #1 and #2. To the west across the pond a 50,000 or 60,000 gallon above ground tank had also been constructed. This tank is believed to have contained water for fire protection, although the map notations are not clear on this point. At this time power was generated by water and steam produced by the burning of coal.

The Pepperell Card and Paper Company was also operational in 1912. According to atlas notations, the facility used the basement of its main building for storage, the first floor contained a machine room and was used for finishing, packing, and calendaring operations. In addition to having facilities for an engine room and a stock house, the maps identified an oil house adjacent to the railspur and siding to the east. The facility was noted as having electricity and steam boilers fueled by coal.

The January 1922 Sanborn Fire Insurance-Atlases indicate increased construction at Building 10 into the central pond to accommodate a larger stock house and finishing room. Three transformers were also noted as being on the northwestern side of the central pond area near Building 12, the carpenter shop. Northeast of the railroad tracks behind Mill #2 and just south of the Pepperell Card and Paper Co, two additional transformers were noted. Abutting the subject property, the Nashua River Paper Co. had constructed an auto shop on Main Street as well as a hydroelectric generating station on the eastern shore of the river.

The 1922 Sanborn edition as updated in 1943, reveals that the former canal and pond system connecting the two mills had been completely removed and filled. The water tank was removed, the transformers adjacent to the carpenter shop were removed, Building 15 was expanded, and a tank room (contents unknown) was added to Mill #2. Prior to the construction of their own building on an adjacent parcel in the 1940's, The Bemis Brothers Bag Company was reported to have leased mill space on the top two floors of Building 3, part of Mill #1. The duration of this lease was not known. Bemis Brothers Bag Co. currently is considered a large quantity generator of hazardous waste.

By 1943 the Nashua River Paper Co. had acquired the Pepperell Card and Paper Co. and used the existing buildings for finished and raw

paper storage. The oil house had been removed and an additional store house added by this time.

After 1943 less is known concerning development of the mills owned by Nashua River Paper Co. According to employee recollections, Saint Regis Paper Co. purchased the subject property sometime in the 1940's or early 1950's from the Nashua River Paper Company. In 1971 The Pepperell Paper Company in turn purchased the subject property, and in 1979 the facility was subsequently purchased by James River-Pepperell, Inc.

In 1972 the railroad tracks and trestle leading to the old coal bunkers were removed. Fly ash and bottom ash from the coal burning operations were reportedly temporarily stockpiled within the open areas near the boiler rooms or bunkers.

In 1975 the paper machines, beater rooms and coating lines were closed within Mill #1, Building 3. In 1984-85 Building 3 along with Building 5 were reported by facility employees to have been razed. The area formerly occupied by building 3 is now capped by a concrete slab area, while Building 5 is now an open recycled paper storage area. The contents of this storage area were in large part destroyed by a fire less than a year ago.

Figure 2, a reproduction of a Factory Mutual Engineering Association site layout in 1988, notes additional construction

information indicating that construction, building additions and demolition activities have continued on the James River-Pepperell property since 1943.

A transformer bank, initially installed just south of the Pepperell Card and Paper Co. circa 1922, was removed sometime between 1943 and the compilation of the 1988 Factory Mutual drawing. No information concerning the removal was available.

The 1988 drawing identifies two transformer banks within the James River mill. One bank consists of three 667 KVA transformers situated in the courtyard area between Building 15, 29 and 23. A second transformer location, consisting of three 750 KVA transformers, was shown as being located due west across the passageway in Building 18. At the time of the plant tour this area was not observed as James River personnel believed no additional transformers were believed to be present.

James River employees recall an automotive or mechanical service area on the eastern side of the James River old Pepperell Card and Paper Co. property. Underground gasoline and diesel tanks, a septic system and miscellaneous equipment rooms were believed to have been on site. Details of the operations or removal efforts were not known.

According to employee recollections, a process wastewater treatment plant was constructed just north of the old Pepperell Card and Paper Company circa 1968. Other sources, such as a GZA site investigation report on the old Pepperell Card and Paper Company in 1986, place this construction at 1971 and 1973. The plant consisted of a main wastewater treatment plant building and a 500,000 gallon capacity primary clarifier. The wastewater treatment plant reportedly receives and processes all the process wastewater generated at the plant. Wastewater is reportedly captured and channelled throughout the mill area via a trough and floor drain system to the onsite pumphouse. Even catch basins were reported to have been tied into the process wastewater system. The pumphouse then pumps the wastewater to the wastewater treatment plant.

After initially removing extractable paper fibers from the wastewater, the wastewater is neutralized with sodium hydroxide before discharging via a NPDES permit to the river. The residual paper sludge is treated with lime and has historically been hauled offsite by truck to a landfill or most recently to a natural fertilizer plant. According to facility personnel, analysis of the sludge has determined it to be non-hazardous.

*Corrected
How do
they know
this?*

Prior to the construction of the wastewater treatment plant, facility wastes were pumped through a gate directly from the pumphouse to the river. The pumphouse is currently equipped with

a locked gate to discharge to the Nashua River only on an emergency basis (i.e. flooding events). According to facility personnel, prior to any discharge to the river, all operations must cease and the Massachusetts Department of Environmental Protection must be notified. This procedure is reportedly stipulated in their NPDES permit.

Process and cooling water for the mill is initially drawn from the Nashua River and filtered through a series of sand filters in the sand filter house (Building 36). This filtering process has been operational since approximately 1900. Potable water is received from the Town Of Pepperell and from bottled water in onsite Poland Springs bubblers.

Sanitary wastes were historically discharged in the Mill #1 and #2 areas to an onsite septic system which employees indicate was located in the open area now surrounded by Buildings 11, 12, and 34. According to the Pepperell Sewer Department, James River-Pepperell connected to the town sanitary sewer line in October 1985. Employee recollections place this date at somewhere between 1979 and 1981. Sanitary wastes were also discharged to an onsite septic system at the former Pepperell Card and Paper Co. location. A GZA environmental site assessment completed for Energy Management Inc. for the cogeneration facility in November 1986 indicates the location of two former septic systems on that property. Results of the GZA subsurface investigation are outlined in Section 4.1.7.

The Pepperell Power cogeneration facility was connected to the municipal sewer upon its completion in 1988.

In 1971 the two coal fired boilers were decommissioned at the main mill complex located in Buildings 6 and 7. According to a facility employee, kerosene was used for lighting the guns for the coal fired boilers. The kerosene was stored in a 500 gallon underground storage tank located just west of Building 36. One coal fired boiler was replaced with a oil fired burner that same year. The company installed an above-ground diked area just west of Building 35 containing two 30,000 gallon above ground tanks just west of Building 35 to hold the #6 fuel oil. In 1981 a second oil fired boiler was installed. With the cogeneration plant online and producing steam for the James River-Pepperell facility, the boilers have been inactive since June 1990. On or about September of 1990, a major section boiler stack had been taken down and capped.

The diked area containing the two 30,000 gallon above ground tanks is also used as a hazardous waste storage area for the James River mill. According to Mr. Bob Mullan of James River, no hazardous wastes other than waste oil are generated at the subject facility. At the time of the site investigation, some evidence of historic spillage was noted within and on the diked area. It is difficult to estimate the extent of the stains because of the snow and ice cover. Three 55-gallon drums were observed within this containment area. According to Massachusetts Department of Environmental

Protection records the subject facility is listed as a small quantity generator.

A hazardous material storage area consisting of virgin lubricating oils is situated northeast of Building 2 and adjacent to Building 6. The concrete floor contains a catch basin which reportedly discharges to the process wastewater treatment plant. This area has reportedly been used exclusively for petroleum based products. It is not known how long this building has been used for its present purpose.

Cogeneration.
The Pepperell Power cogeneration plant now occupies the location of the former Pepperell Card and Paper Co. on the northern portion of the property. The cogeneration plant generates steam for James River and electricity for public use. Fuel sources are natural gas and #2 fuel oil. The main facilities building is heated by electricity.

The plant consists of a general facilities building housing the turbines and condenser system, a main fenced off transformer area, a pumphouse for the #2 fuel oil pumps, a second smaller transformer area, a gas compressor room, a cooling tower and pumphouse for the non-contact cooling water, a 150,000 gallon above ground fuel oil storage tank, and a 30,000 gallon treated boiler water aboveground storage tank. An oil/water separator, a 500 gallon above ground diesel oil tank, and a 1000 gallon above ground turbine oil tank

also exist within the main facilities building. According to Mr. Jim Connelly, Chief Engineer of the power plant, all interior floor drains and catch basins located near the material storage and delivery areas are connected to the oil water separator. The facility's waste oil is handled by Beedy Waste Oil of Plaistow, New Hampshire.

4.0 SUMMARY OF FINDINGS

The review of the Massachusetts Department of Environmental Protection (DEP), formerly the Massachusetts Department of Environmental Quality Engineering (DEQE), records, Pepperell Assessor's Office records, available James River-Pepperell files, coupled with discussions with James River-Pepperell employees, Pepperell Power employees, the Pepperell Fire Department, Pepperell Health Department, the Pepperell Sewer Department and an examination of exterior conditions at the site by ENSR personnel, has identified several issues relating to the onsite waste disposal and chemical handling procedures. In addition, evidence of hazardous material releases regulated by Massachusetts General Law, Chapter 21E have been identified.

4.1 Documented or Observed Releases

4.1.1 Transformer Substations - James River-Pepperell

Bank #1:

The transformer substation located within the courtyard area between Buildings 15A, 29 and 23 consisted of four fenced and pad

mounted 667 KVA transformers. Visual inspection of this area was limited due to restricted access to the fenced southern and western areas, the presence of an unlabelled 55 gallon drum within the fenced transformer area, three or four cable spools between the fence and the transformer pad on the eastern side, wet ground cover and limited light. The transformer pad was stained with what appeared to be oil. Estimates of the affected area were not possible due to the presence of material within the fenced area. Also noted within the courtyard area were a series of catch basins which were reported to have discharged to the onsite wastewater treatment plant.

According to the service records generated by Transformer Service, Inc. from Concord, New Hampshire, these transformers are identified in Attachment A as TSI 7, 8, 9 and 10. TSI 10 is noted as a spare. Each transformer is equipped with an expansion tank above the transformer itself. The expansion tanks are noted as TSI 11, 12, 13 and 14 respectively. Field inspection data for these transformers were first listed in December 1977, while some liquid test data is from May 1976. The transformers were last inspected in August of 1990.

Liquid test data for the three active transformers and their expansion tanks in April and May 1989, indicated that transformer fluids from TSI 8, 9, 12 and 13 contained PCB concentrations in excess of 50 ppm. Those transformers were refilled and reduced

the PCB concentrations in 1989 from the initial range of 66 to 89 ppm to levels ranging from below the detection limit to 7 ppm.

The maintenance history of this transformer bank has noted occasional leakage or the presence of staining since 1976. With the exception of TSI 10, the spare transformer, all transformers including the previously PCB containing (>50 ppm) have had releases to a greater or lesser degree. Notations for TSI 7 indicated service required the addition of 40 gallons of oil. Problems have range from bottom valve leaks to staining about the valves for the transformer and no recorded leaks about the expansion tanks. No qualitative or quantitative information concerning the historic extent of releases was available.

Oil resulting from the James River April 1989 oil changes were shipped by TSI to PPM, Inc. in Philadelphia, Pennsylvania for PCB destruction. The certificate of decontamination is dated April 20, 1989 and is also included within Attachment A.

Bank #2:

The transformer substation shown on Figure 2 within Building 18 consisted of three pad mounted 750 KVA transformers. According to the service records for these transformers they are identified in Attachment A as TSI 1, 2, and 3. Each transformer is equipped with

an expansion tank above the transformer itself. The expansion tanks are noted as TSI 4, 5, and 6 respectively. Field inspection data for these transformers were first listed in December 1977, while some liquid test data is from May 1976. No visual inspection of this area was conducted.

Liquid test data for the three transformers August 1987, indicated that transformer fluids from TSI 1, 2 and 3 contained PCB concentrations of less than 50 ppm. The actual ranges were 17 to 26 ppm. No PCB analysis is available for the expansion tanks, TSI 4, 5 and 6.

The maintenance history of this transformer bank has noted occasional leakage or the presence of staining since 1978. Problems have included top cover leaks and stains and bottom valve leaks and stains for the transformer to bottom valve leaks on the expansion tanks. No qualitative or quantitative information concerning the historic extent of releases was available.

4.1.2 Transformer Substations - Pepperell Power

According Mr. Jim Connelly, Chief Engineer at the cogeneration facility, both on-site transformer stations are filled with mineral oil and do not contain PCB's. The transformers were first placed in service in 1988 when the plant went on line.

During ENSR's site inspection of the facility, a stained gravel area was noted below the main transformer to the east of the cogeneration facility. Mr. Connelly noted that the spill area was most likely the result of initially filling the transformer. He estimated the quantity to have been between 5 to 10 gallons. The visible stained area was approximately 4' x 5' or approximately 20 square feet. The transformer area was bermed and fenced. According to the facility engineer, the area beneath the bermed perimeter consisted of the visible gravel layer followed by native soil.

The second transformer area was not fenced and also contained a gravel area within the confines of the berm. No notable staining was observed in this area.

4.1.3 #6 Fuel Oil Overflow - James River-Pepperell

The Massachusetts Department of Environmental Protection emergency response files, case C-85-021, indicated that a #6 fuel oil overflow of 250 to 400 gallons had occurred within the diked area surrounding the two 30,000 gallon above ground storage tanks on January 29, 1985 at approximately 6:00 A.M. while the tanks were being filled. The product escaped from the diked area through an open valve, used to drain rainwater from the dike, and entered a nearby storm drain. The storm drain reportedly feeds to the

facility's wastewater treatment plant which in turn discharges to the Nashua River. The valve cover had been removed for repair allowing the product to exit the diked area.

Zecco, Inc., a hazardous waste cleanup contractor, was hired by Earl R. Drew & Sons, Inc. of Athol, Massachusetts, the identified potentially responsible party, to conduct the cleanup operations.



An undated notation to the file indicates that the case was subsequently closed. Copies of the inspection reports and memorandum are included within Attachment B.

According to the Goldberg-Zoino & Associates Environmental Site Assessment of the Cogeneration Facility in November 1986, Mr. Paul Roussel, Vice-President of James River-Pepperell, indicated that a second #6 fuel oil spill occurred in the early 1980's. The spill involved a broken fuel line in the boiler room (it is assumed that the boiler room is the one located in Buildings 6 and 7) allowing a release of approximately 100 gallons. It was reported that a small amount subsequently reached the river. No record of this incident was noted by Mr. Mullan or in the available DEP files. GZA cited that Mr. Roussel had indicated that the event had been reported to the Massachusetts Department of Environmental Quality Engineering and the United States Environmental Protection Agency and that the spill had been cleaned up to their satisfaction.

4.1.4 Caustic Solution Spill - Pepperell Power

The Pepperell "Miscellaneous Spills Files" from the Massachusetts DEP office contained a notification and inspection report for a 2,000 gallon caustic solution spilled from an above ground tank within a pre-formed diked area at the Pepperell Power cogeneration plant on October 31, 1989 at approximately 7:20 A.M. According to the DEP report, Pepperell Power Associates, 29 Mill Street, Pepperell, MA notified the DEP and assumed responsibility for the spill. Clean Harbors conducted the cleanup effort and the DEP did not recommend further field response actions. A copy of the inspection report is contained within Attachment C.

4.1.5 Caustic, Chronic, Ink Waste Spill - Bemis Company

 The Massachusetts DEP spill file C-86-152 concerns a June 3, 1986 spill from an underground tank at the Bemis Company, Chapel Place, Pepperell, MA. According to the DEP inspection report and file memorandum, a compressed air line opened in a chromium rich, caustic waste ink underground tank, overflowing the tank with 200 to 500 gallons of foam. The foam flowed down the edge of Bemis' parking lot, to the driveway, into the parking lot of the James River Company and finally to Green Brook approximately 500 feet upgradient of the Nissittisett River. 

Zecco was hired by Bemis, the potentially responsible party, to conduct the cleanup. Approximately 70 55 gallon drums of contaminated soil were generated by the cleanup efforts. An additional 2700 gallons of water were collected as a result of the steam cleaning by Zecco. On July 21, 1986, Alan Weiss in a DEP File Memorandum, stipulated that the DEP considers the incident a closed case, as appropriate response actions have been taken. A copy of the N.O.V. and spill information is provided in Attachment D.

4.1.6 Unpermitted Discharge to the Nashua River

During ENSR's exterior site inspection on February 6, 1990, an area of stressed vegetation and discoloration was observed along the Nashua River bank opposite the main facilities building. At the beginning of the stressed area (closest to the cogeneration plant) an amorphous black type of liquid percolates up from an unknown subsurface source and coats the rocks and vegetation and finally discharges to the river. The area was not actively discharging at the time of inspections; however, the source did appear to release a vapor or steam. The area is marked by erosion of the surface material of up to 1 foot in depth, five to six feet in width, and covers the hillside to the river over a distance of twenty to thirty feet. The pathway to the river is well defined by the residual material and appears almost to be rip rapped.

Mr. Bob Mullan of James River-Pepperell was not previously aware of this source and could not offer any explanations as to its origin. Mr. Jim Connelly of Pepperell Power Associates, knew of the area and referred to it as a blow hole. According to Mr. Connelly, the hole has been in existence for an undetermined length of time and customarily bubbles up a blackish liquid which flows to the river. He has reported that on multiple occasions he has waited for the hole to bubble up and then left to double check his facility sumps. On each occasion Mr. Connelly reported that the sumps had not been activated. No concrete explanation exists at this time as to the source of the discharge.

4.1.7 Goldberg-Zoino & Associates Environmental Reports
for the Cogeneration Facility - 1986 & 1988
(see Attachment E for excerpts)

In October 1986, GZA conducted seven test borings along the north and westside of the proposed turbine and condenser building. Groundwater was encountered between 17 and 27 feet. GZA also collected groundwater samples the seven observation wells, and surface water samples from an onsite cistern and the Nashua River downstream of the WWTP outfall.

Subsurface conditions "generally consist of 5 to 8 feet of fill material consisting of sands, cinders and gravel overlying 10 to 30

feet of stratified natural sands and silts." Low levels of volatile organic compounds (VOCs) were detected in H-Nu screened samples. GZ-3 was the highest at 3.2 ppm. A portable GC was used to screen soil samples and no VOCs were observed above 100 ppb. Soil samples analyzed by E.P. Toxicity indicated that the samples did not classify as hazardous waste.

Groundwater and surface water were screened for VOCs with a GC. "Results of the screening indicated no volatile organic compound other than naturally occurring methane was detected above the detection limit of the instrument."

In April 1988 GZA completed a supplemental study of the proposed cogeneration plant in conjunction with demolition and proposed construction activities. It was aimed at assessing the contamination of the subsurface soils beneath oil stained concrete and asphalt floors, near the old septic system and near the old underground gasoline tanks which were removed in 1986. A former diesel tank was also reported to have existed at the site of the current wastewater treatment plant.

Twenty-two subsurface borings were placed in the concrete floor and drains. Three test pits were excavated near the septic tank and varied from 1.5 to 10.5 feet. The septic tank sludge was sampled with a 6' sediment bottom sampler. Four test pits were excavated in the vicinity of the former gasoline storage tanks; depth of the

pits varied from 7.5 to 12.5 feet. All soil samples were screened for VOC's using an H-Nu.

Four samples were also collected and screened for PCBs from oil stained areas. Aroclor 1254 concentrations varied between trace levels and 1.6 ppm.

Selected soil samples were submitted to ENSECO Laboratories for TPH, Petroleum hydrocarbon finger printing, and EP toxicity metals.

TPH Summary:

A composite - flooring areas 1,2 & 3	600 ppm
A composite - flooring area 4	980 ppm
Area 4 drain	110,000 ppm
A composite of gas tank test pits 5,6,7	ND

Petroleum Hydrocarbon Fingerprinting:

Composite area 1	23,000 ppm	lubricating oil
Area 3 Floor Drain	65,000 ppm	lubricating oil
Septic tank sludge	19,000 ppm	paint thinner; fuel oil; lubricating oil

EP Toxic Metals:

Composite Area 4	ND
Area 3 floor drain	ND
Septic tank sludge	ND

Goldberg-Zoino & Associates prepared a Soil Management Plan for Hydra-Co Enterprises, Inc. from Syracuse, New York in July 1988 for the proposed cogeneration facility site. Information excerpts available from the Massachusetts sites file for site number 2-0447, Cogeneration Facility, are contained within Attachment E and represent the only documents within the DEP file. The site is listed as a Location To Be Investigated within the DEP List of Confirmed Disposal Sites and Locations To Be Investigated, January 1990.

Further information concerning the site construction activities and development was not available. Neither Mr. Connelly of the cogeneration facility nor Mr. Mullan of James River -Pepperell were aware of the extent of DEP involvement during the site construction.

4.2 Locations with a Potential for a Release

4.2.1 Offsite Drum Disposal

Review of the Massachusetts Department of Environmental Protection site assessment, emergency response and RCRA general files identified case number C-84-170 pertaining to James River-Pepperell. The memorandum, from Diane Belliveau to John Desmond on October 9, 1984, states that 35 to 40 drums were reported via a complaint on October 4th to have been stored on the David Burton property located on Brookline Street. The drums were reported to have been in various stages of decay and it was not known if the drums were empty. Two drums were stenciled muriatic acid and sodium hydrosulfate.

When Ms. Belliveau met the town Building Inspector and the town Hazardous Waste Coordinator at the Burton property. She was told that all empty drums had been removed earlier by James River-Pepperell, but that a large scrap metal pile remained. No spills were noted in the vicinity of the scrap pile.

The problem was referred to the Pepperell Board of Health, and no further information regarding this incident was found in the DEP records.

4.2.2 Former Hazardous Waste Storage Areas - Outside the Wastewater Treatment Plant

According to the GZA November 1986 report concerning the cogeneration plant area, James River was issued a DEQE Notice of Violation in October 1984 for the storage of hazardous waste and oil outside on permeable soil next to the wastewater treatment building. The 23 waste drums were reportedly removed off-site by SCA Services, in November 1984 in order to obtain compliance.

James River personnel interviewed were evidently unaware of the earlier NOV since he did not indicate that the hazardous waste containment areas have been any where but inside the diked tank area near Buildings 4 and 36, and

During the site inspection three 55 gallon drums were noted behind the wastewater treatment plant and the clarifier along the perimeter of the lap paper storage area. It was not determined at the time if these drums were full or empty or if they had caused staining or discoloration to the ground surface.

4.2.3 Kerosene and Gasoline Underground Storage Tanks

A 500 gallon underground storage tank was known to have been located just west of Building 36 and south of Building 10. The kerosene was used to light the guns for the coal fired boilers. A 1988 drawing, reproduced as Figure 2, notes the presence of the tank and labels it "out of use". James River-Pepperell employees Mr. Mullan, Environmental & Safety Coordinator, and Mr. Bob Grogg, Maintenance Supervisor, could not recollect the removal of the tank. They thought it had been removed at least twenty years ago. Discussions with Captain Bob Winch of the Pepperell Fire Department, indicate that the Department began compiling records within the last three years. Information in the current system is available only for tanks registered since 1988. According to Captain Winch, all Pepperell Power and James River tanks are believed to be above ground.

Building 35, also known as the fire pumphouse, has an annex along the eastern wall which is not accessible from either the interior or exterior of Building 35. What is believed to be a tank fill pipe and vent protrudes from the roof of this annex. Facility personnel were unable to identify the use of this structure, how to gain access to the annex or why it may contain a tank.

Finally, two 1,000 gallon underground storage tanks are noted to have existed offsite on another James River parcel between the Main

Street parking area and Building 31. James River personnel were not sure of the fate of these tanks.

4.2.4 Crawl Space Beneath Buildings 12, 13 and 37

The machine, carpenter and electrical room areas of the mill contain wooden flooring unlike the majority of the mill which has poured concrete floors. Beneath the flooring in this area is a 30 inch to approximately 5 foot high dirt floored crawl space. A James River employee from the machining area accompanied ENSR personnel into the area. According to the employee the basement area here frequently becomes quite wet. Floor boards along the exterior walls and near overhead joists were observed to be wet. The machine room area above the crawl space has a well worn, but oil-like appearance. Seepage of oil over time through those boards may have reached the surface of the crawl space below. It was not possible with the dark and damp nature of some sections within the crawl space to distinguish wet soil from possible oil or otherwise stained soils. Certain areas of the crawl space had a fine black dust appearance unlike soils in other parts of the crawl space.

4.2.5 Former Transformer Locations

Sanborn atlas maps have shown the elimination of at least two transformer banks. Although no visual evidence of these banks were noted during the site walkover, these locations may be a potential source of oil or PCB contamination.

4.2.6 Former Septic System for Mills 1 & 2

no way - discharge to sewer until 1965

Prior to the early 1980's the mill utilized the on site septic system for sanitary waste disposal for over a century. No data exists regarding subsurface conditions near the septic system.

4.2.7 Former Coal Bunker Area

The surface soils at the location of the former coal bunkers near the old rail trestle and adjacent to Building 7 showed signs of blackened discoloration, which may be indicative of the presence of bottom or fly ash. This discoloration was easily noted from the rain or snow melted wetness. The affected area was partially hidden by ice and snow, but was estimated to cover a protracted area within the boiler courtyard. Evidence of an area formerly

used for the temporary stockpiling of flyash and bottom ash was also noted.

4.2.8 Stressed Vegetation Along the River Bank Near the Cogeneration Facility

Two areas of stressed vegetation were noted to the northern end of the cogeneration plant along the river. These areas were barren and the soil appeared to be fill material which did not readily support plant life. Mr. Connelly of Pepperell Power indicated that the construction trailers were once located in this general area.

In addition, a 1 foot diameter hole 2 to 2.5 feet deep was observed in this area. The hole did not show any evidence of discoloration or suggest its possible use.

4.2.9 Construction Debris Widely Noted Along River

The entire length of the river bank adjacent to the property was dotted by construction debris, old paper machine parts and paper blown down the hillside. No evidence of drums along the river side were noted.

4.2.10 Miscellaneous Containers

As a practice non-returnable totes are scraped for their metal, plastic and lumber onsite and are stored outside Building 30. Unlabelled drums were discovered behind dumpsters, within the Nashua River and adjacent to buildings. One drum adjacent to a dumpster was half full with a resin material. Others were old and rusted and contained what appeared to be rain water. Most drums appeared to be empty. A number of skids with empty barrels were awaiting pickup by a recycler or vendor. Returnable totes were stockpiled on the old yard scale concrete platform north of Building 30. Evidence of staining was difficult to observe due to snow, water and ice covering the area.

5.0 STUDY LIMITATIONS

This report describes the results of ENSR's initial investigation conducted to identify the presence of a significant oil or hazardous material contamination problem subject to Massachusetts General Law Chapter 21E involving or affecting the subject property. The results represent the application of a variety of engineering and technical disciplines to material facts and conditions associated with the subject property. Many of these facts and conditions are subject to change over time; accordingly, the conclusions and recommendations must be viewed within this context. We note the investigative activities took place on January 24, January 28, February 5 and February 6, 1991, with the on-site investigations being performed on February 6, 1991. We further note that this assessment did not include the collection and analysis of samples.

ENSR has performed this preliminary assessment in a professional manner using that degree of skill and care exercised for similar projects under similar conditions by reputable and competent environmental consultants.

This Report and all field data, notes and laboratory test data (hereinafter collectively "Information") were prepared by ENSR Corporation for the benefit of ENSR's Client, James River

Corporation and James River-Pepperell; Inc. ENSR's Client may release all or any part of the Information to third parties, who may use and rely upon the Information at their discretion. However, any use of or reliance upon the Information by a party other than ENSR's Client shall be solely at the risk of such third party and without legal recourse against ENSR and its employees, officers and directors regardless of whether the action in which recovery of damages is sought is based upon contract, tort (including the sole, concurrent or other negligence and strict liability of ENSR), statute or otherwise. The Information shall not be used or relied upon by a party which does not agree to be bound by the above statement.

6.0 REFERENCES

Persons Performing Initial Assessment:

Linda A. McCarthy and Angela Mathur of ENSR

Persons Performing Records Search:

Linda A. McCarthy and Angela Mathur of ENSR

Person Performing Quality Control Review:

Robert K. Cleary of ENSR

Persons Interviewed:

James River-Pepperell:

Bob Mullan, Environmental and Safety Coordinator

Bob Grogg, Maintenance Supervisor

Pepperell Power:

Jim Connelly, Chief Engineer

Public Officials Interviewed:

Captain Ron Winch, Pepperell Fire Department

unnamed, Pepperell Sewer Department of Wastewater
Treatment Plant

unnamed, Pepperell Health Department

Records Reviewed:

Massachusetts Department of Environmental Protection:

Sites Files

Pepperell Emergency Response Files

Pepperell General Files

Town of Pepperell:

Tax Assessor's Office

State House Library:

Miscellaneous Sanborn Fire Insurance Atlases

Other Sources:

James River-Pepperell:

Transformer Maintenance Records

Site Plan (1988)

**Goldberg-Zoino & Associates, Inc., Environmental Site
Assessment, Cogeneration Facility,
Pepperell, MA, November 1986.**

**Goldberg-Zoino & Associates, Inc., Soil Management Plan,
Proposed Cogeneration Facility, Pepperell, MA,
Volume I of II, July 1988**

**Goldberg-Zoino & Associates, Inc.,
Proposed Cogeneration Facility, Pepperell, MA,
Volume II of II, July 1988 (excerpts)**