BEFORE THE KANSAS DEPARTMENT OF HEALTH AND ENVIRONMENT
1000 S.W. Jackson, Suite 560
Topeka, Kansas 66612-1367

IN THE MATTER OF: )
) CONSENT ORDER
POLLUTIOON AT ) Case No. 01-E-0191
Union Pacific Railroad )
29th & Grove Site )
Wichita, Kansas )

PRELIMINARY STATEMENT

The parties hereto, the Kansas Department of Health and Environment ("KDHE"), and Union Pacific Railroad Company (hereinafter "Respondent"), having agreed that settlement of this matter is in the best interests of all parties and the public, hereby represent and state as follows:

1. KDHE is a duly authorized agency of the State of Kansas, created by act of the legislature.

2. KDHE has general jurisdiction of matters involving hazardous substance and hazardous substance cleanups under the authority of the Kansas Environmental Response Act (K.S.A. 65-3452a. et seq.), as well as hazardous waste and its cleanup (K.S.A. 65-3430 et seq.) and has general authority and responsibility to protect the waters and soils of the state under the authority of K.S.A. 65-161, et seq.

3. The Respondent agrees to undertake all actions required by the terms and conditions of this Consent Order. In any action by KDHE to enforce the terms of this Consent Order, the Respondent agrees not to contest the authority or jurisdiction of the Secretary of Health and Environment to issue this Consent Order.

4. This Consent Order shall apply to and be binding upon KDHE and the Respondent,
its agents, successors, and assigns. The signatories to this Consent Order certify that they are authorized to execute and legally bind the parties they represent to this Consent Order. No change in the ownership or corporate status of the Respondent shall alter its responsibilities under this Consent Order.

5. The Respondent shall provide a copy of this Consent Order to any subsequent owners or successors before ownership rights are transferred. The Respondent shall provide a copy of this Consent Order to all contractors, subcontractors, laboratories, and consultants which are retained to conduct any work performed under this Consent Order, within 14 days after the effective date of this Consent Order or the date of retaining their services. Notwithstanding the terms of any contract, Respondent is responsible for compliance with this Consent Order and for ensuring that its contractors and agents comply with this Consent Order.

6. The activities conducted under this Consent Order are subject to approval by KDHE and shall be undertaken in a manner that is consistent with the National Contingency Plan (NCP), 40 C.F.R. Part 300.

7. By entering into this Consent Order the Respondent does not admit liability for contamination at the Union Pacific Railroad, 29th and Grove Site, Wichita, Kansas facility and the surrounding environment.

FINDINGS OF FACT

The KDHE makes the following Findings of Fact:

8. The 29th and Grove site ("the Site") is located along 29th Street North and the Union Pacific Railroad Company railroad tracks between Interstate Highway 135 and Grove Street in Wichita, Kansas. Trichloroethene (TCE) contamination is located close to the south section line in the southwest quarter of Section 34 Township 26 South
Range 1 East in Sedgwick County, Kansas. The Site location is shown on Exhibit 2.

9. In July 1994 the City of Wichita conducted a ground water sampling event at the former Williams and Sons Service Station and the Madison Square Shopping Center south and west of the intersection of 21st Street North and Grove Streets in Wichita, Kansas. The analytical results for groundwater samples indicated the presence of benzene, toluene, chlorobenzene, ethylbenzene and xylene in the 21st and Grove area. The results also indicated the presence of TCE in ground water at concentrations above the maximum contaminant level (MCL) of 5 µg/L and ranging from 0.8 µg/L to 180 µg/L. Additional investigation and remediation of the petroleum hydrocarbon contamination was conducted at the 21st and Grove area through 1996.

10. In December 1995, KDHE initiated a Preliminary Assessment (PA) for the 21st and Grove area to assess the area and evaluate the potential risks related to the TCE contamination. The results of the Preliminary Assessment indicated further investigation was necessary to determine the source of the TCE contamination in the groundwater. Consequently, KDHE initiated a Screening Site Inspection (SSI) in January 1998 to identify the source of the TCE and conduct further evaluation of the potential risks related to the contamination. Field investigations for the SSI were conducted from February to May 1998. Results of the SSI indicate the presence of TCE along the Union Pacific Railroad tracks and 29th Street North between Interstate Highway 135 and Grove Street. Samples of ground water that were collected in the area contained TCE at concentrations up to 218,000 µg/L. The data collected during the SSI indicated that the TCE plume extends at least one mile to the south of the release area to Stadium Street. The concentration of TCE in the ground water at Stadium Street was as high as 886 µg/L.
11. Union Pacific Railroad conducted a Preliminary Investigation (PI) at the Site in October and November 2000 under a work plan approved by KDHE. Samples of soil collected during the PI were analyzed for TCE by field gas chromatograph. The field screening results indicated that the maximum concentration of TCE detected in the soils above the water table was 4.4 milligrams per kilogram (mg/Kg) in a sample (SS-29-10) collected at 10 feet below ground surface at a location on the Union Pacific property. Samples of soil collected from the Site were sent to an off-site laboratory for analyses of volatile organic compounds. The laboratory results indicate that several volatile organic compounds were present in the soil samples: bromodichloromethane; carbon disulfide; cis-1, 2-dichloroethene (cis-1,2-DCE); 1,1-dichloroethene (1,1-DCE); ethylbenzene; isopropylbenzene; n-propylbenzene; toluene; 1,1,2-trichloroethane; trichloroethene; 1,2,4-trimethylbenzene; 1,3,5-trimethylbenzene; vinyl chloride; and xylene. The highest concentration of TCE detected in the soil was 29.7 mg/Kg in a sample collected at 30 feet below ground surface in the boring for monitoring well MW-UP-01.

12. Groundwater samples collected at the Site during the Preliminary Investigation contained the following volatile organic compounds: bromodichloromethane; 1,1-DCE; cis-1,2-DCE; trans-1,2-DCE; 1,1,2-trichloroethane (1,1,2-TCA); TCE; and vinyl chloride. The groundwater samples collected from the upgradient monitoring well pair, MW-UP-04S and MW-UP-04D, did not contain detectable concentrations of volatile organic compounds. TCE was detected in the groundwater at a maximum concentration of 246,000 \( \mu \text{g/L} \) in a sample collected from a deep monitoring well, MW-UP-01D. The shallow monitoring well sample collected from MW-UP-01S contained 19,300 \( \mu \text{g/L} \) of TCE. Other volatile organic compounds that were detected
in ground water at concentrations above their respective MCLs were 1,1-DCE (17.9 μg/L), cis-1,2-DCE (115 μg/L), 1,1,2-TCA (7.4 μg/L), and vinyl chloride (estimated 15.6 μg/L). The MCLs for 1,1-DCE, cis-1,2-DCE, 1,1,2-TCA, and vinyl chloride are 5 μg/L, 70 μg/L, 5 μg/L, and 2 μg/L, respectively. These data, in addition to the soil data, indicate that a release of volatile organic compounds has occurred on the Union Pacific Railroad property.

13. Pursuant to the above referenced investigations, it has been reported that the soil and groundwater underlying the Site and adjacent areas are contaminated by hazardous substances and hazardous wastes, many of which are volatile organic compounds which are the result of one or more releases of hazardous substance(s) and hazardous waste(s).

14. The contamination of the soil and ground water beneath the Site and adjacent areas is or may be causing or threatening to cause pollution of the waters of the State or is or may be threatening to become a hazard to persons, public health, or safety.

**CONCLUSIONS OF LAW**


16. The presence of the contaminants in the area of the 29th and Grove Site constitutes "pollution" as defined by K.S.A. 65-171d.

17. Some of the contaminants identified in the groundwater underlying the site are "hazardous substances" as defined by K.S.A. 65-3452a and "hazardous wastes" as defined by K.S.A. 65-3430.

18. The area defined in paragraph 8 and identified as the 29th and Grove Site facility constitutes a "site" within the meaning of K.S.A. 65-3453.
19. The facts above constitute:
   a. the discharge, abandonment, or disposal of hazardous substances or hazardous wastes;
   b. the pollution of the land or waters of the state or the threat of pollution of the land or waters of the state;
   c. a hazard to persons, property or public health or threatens to become a hazard to persons, property or public health.

20. Under the facts as shown above, the Kansas Department of Health and Environment has concluded, and the Secretary has confirmed, that there is a need for a response action to prevent a continuing release or threat of release of hazardous substances.

21. The evaluation of such discharges is necessary to determine the potential threat to public health and safety and the environment. If a potential threat exists, the clean up of such discharges is necessary to remove the pollution or hazard and to protect the public health and safety and the environment, giving rise to the authority of the Kansas Department of Health and Environment to enter this Consent Order. A necessary part of this evaluation is an investigation of the nature and extent of the threat to the public health or welfare or the environment caused by the release or threatened release of hazardous substances, pollutants, or contaminants on or from the site.

22. The Kansas Department of Health and Environment has authority to enter the Consent Order herein, and to make the findings of fact and conclusions of law herein stated.

23. The Secretary of Health and Environment is authorized by K.S.A. 65-3453, K.S.A. 65-164, et seq., K.S.A. 65-3430, et seq. and the regulations issued pursuant thereto
to enter an order confirming the agreement of the parties, and ordering the actions and obligations required by the foregoing findings of fact and conclusions of law. The parties hereto agree to the following activities and the commitments.

**ORDER**

24. Within sixty (60) days of the effective date of this Consent Order, Respondent shall submit a draft Work Plan for KDHE approval which is consistent with the Scope of Work ("SOW") attached hereto, marked Exhibit 1.

25. KDHE will provide comments on the draft Work Plan. Within thirty (30) days of receipt of KDHE's comments, Respondent shall submit for final approval a revised Work Plan that addresses KDHE's comments. Upon KDHE approval, the Work Plan shall become incorporated into this Consent Order and a part hereof as Exhibit 4.

26. Within thirty (30) days from date of KDHE approval of the Work Plan, Respondent shall commence the implementation of the tasks detailed in the Work Plan. The work shall be conducted in accordance with the EPA Remedial Investigation and Feasibility Study guidance documents including but not limited to the "Interim Final Guidance for Conducting Remedial Investigations and Feasibility Studies" under CERCLA (OSWER Directive 9355.3-01) and with the standards and specifications contained in the Work Plan.

27. Respondent shall provide preliminary and final reports to KDHE according to the implementation schedule contained in Exhibit 4 in a form responsive to KDHE's comments.

28. After KDHE reviews the preliminary reports and after KDHE reviews the final reports, KDHE shall notify Respondent in writing, of KDHE's approval or disapproval of these reports or any part thereof. KDHE shall also notify Respondent in writing of KDHE...
disapproval of Respondent's implementation of the approved Work Plan.

29. In the event of any KDHE disapproval of a submitted report or disapproval of Respondent's implementation of the approved Work Plans, KDHE shall send Respondent a Notice of Disapproval delineating the deficiencies, requiring revisions to the reports or modified work to cure the deficiencies in the work and setting a schedule for response by Respondent, provided however that any such requirements are consistent with the objectives of the Work Plans and Consent Order. Thereafter, Respondent shall amend and submit to KDHE revised reports to address KDHE's concerns.

30. KDHE may determine that additional tasks consistent with the objectives of this Consent Order including Exhibits hereto are necessary in addition to the approved Work Plan tasks including reports, which have been completed pursuant to this Consent Order. KDHE may require Respondent to implement any such additional tasks within a timeframe mutually agreeable to the parties. KDHE agrees to meet with Respondent to discuss any additional tasks. Subject to the dispute resolution provisions contained herein, the failure by Respondent to implement additional tasks as required by KDHE, shall be considered a violation of this Consent Order.

31. All work performed pursuant to this Consent Order shall be under the direction and supervision of a professional engineer or geologist licensed in the State of Kansas with expertise in hazardous waste site investigations and remediation. Within thirty (30) days of the effective date of this Consent Order, Respondent shall notify KDHE in writing of the name, title, and qualification of the engineer or geologist, and of any contractors or subcontractors and their personnel to be used in carrying out the terms of this Consent Order.
32. Any reports, plans, specifications, schedules and attachments required by this Consent Order are, upon approval by KDHE, incorporated into this Consent Order. Any noncompliance with such approved reports, plans, specifications, schedules, and attachments shall be considered a violation of this Consent Order.

33. No informal advice, guidance, suggestions, or comments by KDHE regarding reports, plans, specifications, and any other writing submitted to Respondent will be construed as relieving Respondent of its obligation to obtain written approval, if and when required by this Consent Order.

QUALITY ASSURANCE

34. All samples analyzed pursuant to this Consent Order shall be analyzed using laboratory methodologies approved by KDHE. Respondent may submit electronic data pertaining to quality assurance in a form acceptable to KDHE with the lab pack and with hard copy to follow.

35. All sample collection and analysis shall be performed in compliance with the approved Work Plan, including scheduling of analyses, documentation of sample collection, handling and analysis.

36. Laboratory analytical report forms shall be submitted to KDHE for all analytical work performed pursuant to this Consent Order. Any deviations from the procedures and methods set forth in these documents must be approved in writing by KDHE prior to use. Respondent will notify KDHE in writing within five (5) working days of notice or knowledge of a potential deviation from prescribed procedures or methods. Such notice shall provide information as to the nature of the deviation, if known, and outline a proposed investigation to determine whether the sample or results are potentially representative or should not be considered valid. If the results cannot be validated
by evaluation of the Quality Assurance/Quality Control procedures, historical data, or laboratory protocol, Respondent will resample upon KDHE's approval and discretion. Respondent will notify KDHE at least seven (7) days before conducting resampling. Failure to follow the above procedure for notification of deviations will be considered violations of this Consent Order and may, as determined by KDHE, be subject to an administrative penalty of $1,000 per violation and the data resulting therefrom may be determined by KDHE to be invalid. If during field activities, conditions arise whereby Respondent desires to utilize procedures or methods not previously approved, Respondent shall contact KDHE's designated representative as set forth in paragraph 53 of this Consent Order for verbal approval. Such verbal approval shall not be unreasonably withheld. KDHE shall provide written confirmation of any such approval. KDHE may disregard data obtained in a manner contrary to the provisions herein.

37. Respondent shall use the quality assurance, quality control, and chain of custody procedures specified in the Quality Assurance Project Plan, which is part of the Work Plan, for all sample collection and analysis performed pursuant to this Consent Order, unless otherwise agreed to in writing by KDHE.

38. All contracts for field work shall provide that KDHE representatives are allowed access, for auditing and evaluation purposes, at reasonable times upon reasonable request, to all personnel utilized by Respondent for sample collection and analysis and other field work.

39. Upon request by KDHE, the laboratories shall perform analysis of a reasonable number of known samples provided by KDHE to demonstrate the quality of the analytical data.
40. Respondent shall provide KDHE with written progress reports quarterly, pursuant to the effective date of the Consent Order. At a minimum, these progress reports shall: (1) describe the actions, progress, and status of projects which have been taken toward achieving compliance with this Consent Order, as well as the actions which are scheduled for the next quarter; (2) identify any requirements under this Consent Order that were not completed as provided and any problem areas and anticipated problem areas in complying with this Consent Order; and (3) include all results of sampling, tests, data, and conclusions drawn from data generated pursuant to the Work Plan(s).

ACCESS

41. Upon providing written notice, KDHE and any of its agents or contractors is authorized by Respondent to enter and freely move about all property at the Site for the purposes of, inter alia; interviewing site personnel and contractors; inspecting records, operating logs, and contracts related to the activities set out in the Work Plan; reviewing the progress of Respondent in carrying out the terms of this Consent Order; conducting such sampling and tests as KDHE deems necessary; using a camera, sound recording, or other documentary type equipment; and verifying the reports and data submitted to KDHE by Respondent. After providing a written request, Respondent shall permit such persons to inspect and copy all records, files, photographs, documents, and other writings, including all sampling and monitoring data, that pertain to work undertaken pursuant to this paragraph. Upon request and satisfactory showing by Respondent to the Secretary, such information may be protected pursuant to the provisions of K.S.A. 65-170g, K.S.A. 65-3447 and K.S.A.
45-221 et seq. as applicable. KDHE shall not have access to any privileged documents or materials, including those covered by the attorney-client privilege or the attorney work product doctrine.

42. To the extent that work required by the Work Plan must be done on property not owned or controlled by Respondent, Respondent shall use its best efforts to obtain access agreements from the present owner(s) of such property within ninety (90) days of the effective date of this Consent Order or within thirty days of determining access is required to complete activities required by this Consent Order and attachments hereto, whichever occurs last. Best efforts include, but are not limited to, the offer of reasonable consideration. Any such access agreement shall be incorporated by reference into this Consent Order. In the event that agreements for site access are not obtained within ninety (90) days of the effective date of this Consent Order, Respondent shall notify KDHE regarding both the lack of and its failure to obtain such agreements within seven (7) days thereafter. Upon receiving such notice KDHE will meet with respondent to determine an appropriate course of action. In the event that KDHE obtains access for Respondent, all costs incurred by KDHE shall be reimbursed by Respondent. Upon KDHE’s obtaining access for Respondent, Respondent shall undertake approved work on such property. KDHE shall not be responsible for any injury or damage to persons or property caused by the negligent or willful acts or omissions of Respondent, its officers, employees, agents, successors, assigns, contractors, or any other person acting on Respondent’s behalf in carrying out any activities pursuant to the terms of this Consent Order. Prior to any action regarding access issues, KDHE shall coordinate and cooperate with the Respondent regarding what action shall be taken to assist in
obtaining access on behalf of Respondent.

**SAMPLING AND DATA/DOCUMENT AVAILABILITY**

43. Respondent shall make available to KDHE all results of sampling, tests, or other data generated by or on its behalf with respect to the implementation of this Consent Order. Respondent shall submit these results in the progress reports described in the "Reporting" section of this Consent Order. KDHE will make sampling results and other data available to Respondent.

44. Respondent shall notify KDHE at least seven (7) days before conducting any well drilling, installation of equipment, or sampling. At the request of KDHE, Respondent shall provide or allow KDHE or its authorized representatives to take split samples of all samples collected by Respondent pursuant to this Consent Order. Similarly, at the request of Respondent KDHE shall allow Respondent or its authorized representatives to take split or duplicate samples of all samples collected by KDHE under this Consent Order. KDHE shall notify Respondent at least seven (7) days before conducting any sampling under this Consent Order, provided, however, that if seven (7) days notice of sample collection activity is not possible, KDHE and Respondent shall give such advance notice to enable each party to have a representative present during said sample collection activity. If during field activities, conditions arise whereby Respondent desires to utilize procedures or methods not previously approved, Respondent shall contact KDHE's designated representative as set forth in paragraph 53 of this Consent Order for verbal approval. Such verbal approval shall not be unreasonably withheld. KDHE shall provide written confirmation of any such approval. KDHE may disregard data obtained in a manner contrary to the provisions herein.
45. Respondent agrees that it shall preserve, during the pendency of this Consent Order and for a minimum of six (6) years after its termination, all records and documents which have not previously been provided to KDHE in its possession or in the possession of divisions, employees, agents or consultants or contractors which relate in any way to this Consent Order or to hazardous substance and hazardous waste management and disposal at the site. At the conclusion of six (6) years upon written request by KDHE, Respondent shall then make such records available to KDHE for inspection or KDHE's retention or shall provide copies of any such records to KDHE. KDHE shall not have access to any privileged documents or materials, including those covered by the attorney-client privilege or the attorney work product doctrine.

46. For each period of time that Respondent fails to submit reports or deliverables at the times set out in Exhibit 3 which is part of this Consent Order, Respondent shall pay upon written demand by KDHE as stipulated penalties the following: $1,000 for the first week of delay or part thereof; $2,000 per day for each day of delay for the 8th through 14th day; and, $3,000 per day of delay thereafter. Any stipulated penalties shall be payable within twenty-one (21) days after Respondent's receipt of demand by KDHE and shall be paid by certified check to:

   Secretary of Health and Environment  
   Attn: Bureau of Environmental Remediation Administration  
   1000 SW Jackson Suite 410  
   Topeka, Kansas 66612-1367

A copy of the check and a transmittal letter shall be sent to the KDHE contact specified herein. Respondent may dispute imposition of the penalty in accordance
with the dispute resolution procedures herein.

47. Should Respondent fail to comply with a time requirement of any tasks required by this Consent Order, the period of noncompliance shall terminate upon Respondent's performance of said requirement.

OTHER CLAIMS AND PARTIES

48. Nothing in this Consent Order shall constitute or be construed as a release for any claim, cause of action or demand in law or equity against any person, firm, partnership, or corporation not a signatory to this Consent Order for any liability it may have arising out of or relating in any way to the generation, storage, treatment, handling, transportation, release, or disposal of any hazardous constituents, hazardous substances, hazardous wastes, pollutants, or contaminants found at, taken to, or taken from the facility.

CONTRIBUTION PROTECTION

50. KDHE acknowledges that Union Pacific Railroad has a right of contribution under federal law and may have such rights under state law, against other potentially responsible parties who may have created, contributed to, or otherwise have become responsible for the matters described herein, in that Union Pacific Railroad have expended or will expend reasonable response costs in performance of the activities required under this Agreement. KDHE agrees to provide reasonable assistance upon request to Union Pacific Railroad and to assist Union Pacific Railroad with enforcement of their claims against such third parties. The assistance referred to herein shall include making available records which relate to this matter, providing statements or testimony of staff upon notification when such requirements are relevant to the proceedings, or such other assistance as is reasonable and
appropriate.

51. The KDHE hereby expressly reserves a cause of action or any claims of whatever kind or nature not subject to this Agreement which it may have or hereafter have against any other person or persons not afforded protection hereunder.

OTHER APPLICABLE LAWS

52. All actions required to be taken pursuant to this Consent Order shall be undertaken in accordance with the substantive requirements of all applicable local, state, and federal laws and regulations.

PROJECT COORDINATORS

53. On or before the effective date of this Consent Order, KDHE and Respondent shall each designate a Project Coordinator. Each Project Coordinator shall be responsible for overseeing the implementation of this Consent Order. The KDHE Project Coordinator will be KDHE’s designated representative. To the maximum extent possible, all communications between Respondent and KDHE and all documents, reports, approvals, and other correspondence concerning the activities performed pursuant to the terms and conditions of this Consent Order, shall be directed through the Project Coordinators. The parties agree to provide at least seven (7) days written notice prior to changing Project Coordinators. The absence of the KDHE Project Coordinator from the Site shall not be cause for the stoppage of work.

NOTIFICATION

54. Unless otherwise specified, reports, notice or other submissions required under this Consent Order shall be in writing and shall be sent to:

a. **For KDHE:**
   Mary Daily
   Bureau of Environmental Remediation
For Respondent:
J.D. McDermott
Union Pacific Railroad
1416 Dodge Street Room 930
Omaha, Nebraska 68179-0930
E-mail: jmcdermo@up.com

Robert M. Kick, P.G.
The Forrester Group
605 North Boonville Avenue
Springfield, Missouri 65806
E-mail: bob@forristergroup.com

REIMBURSEMENT OF COSTS

55. Three (3) months after the effective date of this Consent Order and quarterly thereafter, KDHE shall submit to Respondent an accounting of all oversight costs incurred by KDHE with respect to this Consent Order during the previous three (3) month period. Oversight costs shall not exceed $20,000 per calendar year.

56. If KDHE determines a Baseline Risk Assessment is appropriate, Respondent may, at its option, perform a Baseline Risk Assessment. If Respondent chooses to develop a Baseline Risk Assessment, Respondent shall utilize a qualified contractor and such assessment shall be submitted to KDHE for approval. In this event the Respondent shall pay KDHE's contractor to review the assessment on behalf of KDHE. In the event the Respondent elects not to perform the assessment, KDHE shall submit to Respondent an accounting for the cost of performing the Baseline Risk Assessment. Respondent agrees to reimburse KDHE for such amount upon receipt
of the accounting. KDHE agrees to use a qualified contractor to perform such Risk Assessment.

57. KDHE shall submit to Respondent an accounting for the cost of development of a Plan for Community Relations, and implementation of such Plan. Respondent agrees to reimburse KDHE for such amount upon receipt of the accounting. KDHE agrees to perform such work itself or use a qualified contractor to develop and implement such Plan.

58. KDHE shall submit to Respondent the cost of preparing and maintaining the Administrative Record, including but not limited to photocopying, assembling, mailing, updating, storage and other maintenance services. Upon receipt of such accounting, Respondent agrees to reimburse KDHE for such amount.

59. KDHE shall submit to Respondent an accounting of those costs described above which have been incurred by KDHE with respect to this Consent Order during the previous fiscal year. Respondent shall, within thirty (30) calendar days from receipt of said accounting, remit a check for the amount of those costs made payable to the Secretary of Health and Environment. Checks should specifically reference the identity of this site, and should be addressed to:

Kansas Department of Health and Environment
Bureau of Environmental Remediation Administration
1000 SW Jackson Suite 410
Topeka, Kansas 66612-1367

A copy of the check and transmittal letter shall be sent to the KDHE contact specified herein. Respondent shall remit a check for the full amount of those costs. Any disputes regarding costs set forth in this paragraph shall be subject to the dispute resolution provisions herein.
FORCE MAJEURE

60. Delays that result from causes not foreseeable and beyond the Respondent's control and which cannot be overcome by due diligence shall not be a violation of the Respondent's obligations under this Consent Order. The Respondent shall notify KDHE orally as soon as possible, but no later than five (5) business days after the Respondent knows of any delay or anticipated delay in compliance with the requirements of this Consent Order, and in writing no later than five (5) business days after the oral notification of the delay. The written notice shall describe the nature of the delay, whether and why the delay was unforeseeable and beyond the control of the Respondent, the actions taken and/or that will be taken to mitigate, prevent and/or minimize further delay, and the anticipated length of the delay. The Respondent shall adopt all measures to avoid or minimize such delay. To the extent a delay is caused by circumstances beyond the control of the Respondent, or those resulting from delays caused by KDHE or any third party not under the control or employment of any of the signatories hereto, the schedule shall be extended for a period equal to the delay resulting from such circumstances. Such an extension does not alter the schedule for performance or completion of other tasks required by this Consent Order unless also specifically altered by amendment of this Consent Order. Failure to comply with the notice provision of this section may be grounds for KDHE to deny the Respondent an extension of time for performance. Unexpected delay events do not include unanticipated or increased costs of performance, changed economic circumstances, or normal precipitation events. If KDHE determines that the delay as stated in the Respondent's written notice to KDHE was not due to unexpected delay events, an administrative penalty may be assessed as provided in
paragraph 46.

DISPUTE RESOLUTION

61. If Respondent disagrees, in whole or in part, with any decision by KDHE pursuant to this Consent Order, Respondent shall notify KDHE within thirty (30) days of receipt of the decision. The parties shall then have an additional thirty (30) working days to attempt to resolve the dispute. If an agreement is reached, the resolution shall be reduced to writing, signed by each Party and incorporated thereupon into this Consent Order. If agreement is not reached, KDHE shall issue a final written decision on the dispute.

62. Respondent reserves its right to appeal any decision of the KDHE, which it believes is not consistent with law or which is arbitrary or capricious concerning a dispute under this Consent Order, to an administrative body with applicable jurisdiction and thereafter in compliance with the Kansas Administrative Procedures Act. The final decision or resolution of the applicable authority or court shall be incorporated as a part of this Consent Order. For purposes of this Consent Order, final order or decision shall mean an order or decision from which no appeal may be taken.

63. In the event that Respondent seeks dispute resolution concerning a date for performance of an act set out in the Work Plan, the date for performance of such act shall be extended for a period equal to the delay resulting from the invocation of the dispute resolution provision. However, such extension does not alter the schedule for performance of completion of other tasks required by this Consent Order unless also specifically altered by the amendment of this Consent Order.

64. However, in the event that it is determined that dispute resolution was not sought in good faith, administrative penalties may be assessed at the rate of $1,000 per day
for each day of delay caused by such invocation of the dispute resolution provisions.

EFFECTIVE DATE AND SUBSEQUENT MODIFICATION

65. This Consent Order shall become effective when signed by the Secretary of the Department of Health and Environment. Furthermore, upon execution of this document, the Interim Agreement entered into by the parties dated August 19, 1999, pertaining to this Site shall be terminated.

66. This Consent Order may be amended by mutual agreement of KDHE and Respondent. Such amendments shall be in writing, shall have as their effective date the date on which they are signed by both parties, and shall be incorporated into this Consent Order. Nothing herein shall limit KDHE's ability to require additional tasks as set forth in paragraph 30 herein.

TERMINATION

67. The provisions of this Consent Order shall terminate upon Respondent's receipt of written notice from KDHE that Respondent has demonstrated that the terms of this Consent Order, including any additional tasks which KDHE has determined to be necessary have been satisfactorily completed.

IN WITNESS WHEREOF, the parties have affixed their signatures below:

RESPONDENT:

[Signature]

By: Lawrence E. Wzorek

Title: Assistant Vice President • Law

Date: 9/20/2002

STATE OF KANSAS:
Clyde D. Graeber, Secretary
Kansas Department of Health & Environment
CERTIFICATE OF MAILING

I hereby certify that on this 7th day of October, 2002, a true and correct copy of the above and foregoing Consent Order was deposited in the United States Mail, postage prepaid, and addressed to:

David P. Young
Union Pacific Railroad Company
1416 Dodge Street, Room 830
Omaha, Nebraska 68179-5610

David Erickson
Shook Hardy and Bacon LLP
84 Corporate Woods
10801 Mastin Suite 1000
Overland Park, KS 66210-1671

[Signature]
KDHE Staff Member
EXHIBIT 1

SCOPE OF WORK
FOR A
REMEDIAL INVESTIGATION(RI)/FEASIBILITY STUDY (FS)

GENERAL:

All work conducted under a Remedial Investigation/Feasibility Study (RI/FS) Scope of Work (SOW) shall be consistent with § 300.430 of the National Oil and Hazardous Substances Pollution Contingency Plan (NCP), 40 CFR 300 (final rule promulgated 3/8/90), as provided by relevant portions of §§ 101-121 of the Comprehensive Environmental Response, Compensation and Liability Act as amended by the Superfund Amendments and Reauthorization Act of 1986. All work performed pursuant to an RI/FS Consent Agreement shall also follow all pertinent EPA and KDHE RI/FS guidance. This RI/FS Scope of Work (SOW) identifies the general activities that Respondent(s) are required to perform to complete an RI/FS. All work performed pursuant to an RI/FS SOW shall follow the Implementation Schedule and all procedures approved in the final RI/FS Work Plan.

SCOPING:

The Respondent shall meet with KDHE as necessary to address the scope of RI/FS activities. The RI/FS scoping should include the following items as appropriate: 1) assemble and evaluate the existing data for the site, including the results of any prior investigations or activities (removal actions, pertinent site assessments, or other investigations); 2) develop a conceptual understanding of the site based on the information described in the above item; 3) identify likely response scenarios, potentially applicable technologies, and operable units/source control actions that may address site problems; 4) undertake limited data collection efforts or studies (if necessary or appropriate) to assist in scoping RI/FS response actions or accelerating response actions, and to identify the initial need for treatability studies as appropriate; 5) identify the type, quality, and quantity of data that will be collected during the RI/FS to support decisions regarding remedial response activities; 6) identify relevant deliverables for the RI/FS process; 7) initiate the identification of potential applicable or relevant and appropriate requirements (ARARs) for actions at the site; and 8) discuss the development of appropriate community relation activities as determined by the KDHE Project Manager. Information gathered and discussed during these meetings should be used to assist in the development of an RI/FS Work Plan.

PURPOSE OF RI:

The purpose of the Remedial Investigation (RI) is to collect data necessary to adequately characterize the site for the purpose of developing and evaluating remedial alternatives. Field investigations should be conducted as necessary to provide sufficient data to characterize the site and to assess the risks to human health and the environment as well as support the development, evaluation, and selection of appropriate response alternatives. Site characterization may be conducted in one or more phases to focus sampling efforts and increase the efficiency of the RI. The primary objectives of the RI are described as follows:

1) Identify and characterize all significant source areas/operable units to the extent necessary to evaluate risk and determine appropriate remedial goals (i.e. identifying all contaminants of concern, determining the mechanism of the release(s), estimating the quantities of release(s), and determining whether the release(s) are active
(ongoing) or inactive). Site characterization activities should be fully integrated with the development and evaluation of alternatives in the Feasibility Study (FS). The contribution of each source area/operable unit to the general site contamination should be evaluated in the RI/FS.

2) The nature, threat, and full lateral and vertical extent of the hazardous substances, hazardous materials, and other pollutants present at the site must be characterized for the purpose of (and to the extent necessary for) developing and evaluating effective remedial alternatives and evaluating risk. Characterization of the physical environmental setting shall be conducted during the RI. Characterization shall include evaluation of regional and local geology, hydrogeology and hydrology, particularly as they pertain to contaminant transport and fate mechanisms and/or remedial design alternatives. The chemical and physical properties of the contaminants, their mobility and persistence in the environment and their important fate and transport mechanisms shall be characterized during the RI. Any human and environmental targets that are threatened or affected by contamination must be identified.

3) All data necessary to assess the extent to which releases of hazardous substances at the site pose a threat to human health and the environment must be gathered during the RI. A risk assessment of contaminant impacts on identified target areas must be completed consistent with EPA and KDHE guidance and policy.

4) Data supporting the evaluation and design, if appropriate, of potential response actions shall be gathered during the RI. The need for Interim Remedial Actions to address identified "hot spots" or active contaminant source areas should be assessed, where appropriate. Bench- or pilot-scale treatability studies shall be conducted, when appropriate and practicable, to provide additional data for the detailed analysis of remedial alternatives in the FS and to support engineering design of remedial alternatives.

PURPOSE OF THE FS:

The purpose of the Feasibility Study (FS) is to ensure that appropriate remedial alternatives are developed and evaluated such that relevant information concerning the remedial action options can be presented to allow the selection of the appropriate remedy(ies) by KDHE. The primary objectives of the FS are described as follows:

1) Identify and evaluate all appropriate remedial alternatives based on site characterization information obtained during the RI. The number of alternatives to be reviewed is highly site-specific and should be determined by the KDHE Project Manager in consultation with Respondent(s). Remedial action objectives (RAOs) shall be developed utilizing the results of site-specific risk assessments performed during the RI and should include discussion of the contaminants and media of concern, potential exposure pathways, and remediation goals. All applicable or relevant and appropriate requirements (ARARs) should be determined in the FS, if not previously determined in the RI.
2) Screen and assemble appropriate technologies into remedial action alternatives. Alternatives shall be developed that protect human health and the environment and meet remedial action objectives for the site.

3) Evaluate and refine alternatives based on the nine criteria as described in 40 CFR § 300.430 (e)(9)(iii) of the NCP. Relevant EPA guidance documents should be utilized as necessary in developing and evaluating remedial alternatives.

4) Conduct treatability studies or pilot tests as necessary and appropriate to support the effectiveness of certain alternatives.

5) Recommend the most feasible and effective remedial action for the site based on the nine criteria for evaluating remedial alternatives enumerated in 40 CFR § 300.430(e)(9)(iii) of the NCP.

RI/FS WORK PLAN:

As provided in the Consent Agreement, Respondents shall submit for review and final approval a RI/FS Work Plan. The Final RI/FS Work Plan shall address all KDHE comments received from review of prior work plan drafts. Respondent shall implement the RI/FS according to the implementation schedule contained in the Final KDHE-approved RI/FS Work Plan. The Final RI/FS Work Plan must include (physically or by reference) the following site-specific supporting documents: a Field Sampling Plan (FSP) and a Quality Assurance Project Plan (QAPP), (commonly referred to jointly as a site Sampling and Analysis Plan (SAP)), and a Health and Safety Plan (HASP). A quality assurance project plan describes the policy, organization, functional activities, and quality assurance and quality control protocols necessary to achieve the data quality objectives dictated by the intended use of the data. A field sampling plan provides the guidance for all field work by defining in detail the sampling and data-gathering methods to be used on a project. The field sampling plan should be written so that a field sampling team unfamiliar with the site would be able to gather the samples and field information required. A health and safety plan prepared to support the field effort must conform to the firm’s or agency’s health and safety program which must, in turn, be in compliance with requirements of the Occupational Safety and Health Administration.

IMPLEMENTATION:

Within 30 days from the date of KDHE approval of the Final RI/FS Work Plan, including the FSP, QAPP, and HASP, Respondents shall commence the schedule of work and implement the tasks detailed in the RI/FS Work Plan according to the KDHE-approved schedule. All work performed shall be consistent with activities and procedures proposed in the KDHE-approved Work Plan and consistent with the NCP and appropriate EPA and KDHE policies and guidance documents.

DELIVERABLES:

The general activities and subsequent deliverables that the Respondent(s) are required to complete are specified in 40 CFR § 300.430 of the NCP and are explained in the U.S. EPA document titled,
"Guidance for Conducting Remedial Investigations and Feasibility Studies Under CERCLA". The Implementation Schedule (contained in the approved Work Plan) shall provide the schedule for deliverable submissions, field work, document revisions, etc.

RI REPORT:

Upon completion of all RI field activities necessary to achieve the objectives of the RI Scope of Work, a RI Report must be submitted to KDHE for review and approval in a time frame consistent with the implementation schedule in the Final RI Work Plan. The RI Report shall follow appropriate EPA guidance documents, and shall include all information and data collected during the RI investigation and shall describe in detail the work performed to accomplish the objectives set forth in this SOW. The RI Report shall include appropriate tables, figures, well logs, laboratory analytical data, references, appendices etc. to clearly portray the data generated during the investigation and to support any conclusions drawn in the RI Report. A discussion of any deviations from the KDHE-approved Work Plan shall be included in the Report. KDHE will review the Draft RI Report and submit comments to the Respondent(s). All comments must be addressed to KDHE’s satisfaction prior to approval of the RI Report as Final. Upon KDHE approval of the Final RI Report, Respondent shall commence FS activities consistent with the KDHE-approved RI/FS Work Plan and implementation schedule.

BASELINE RISK ASSESSMENT:

A quantitative Baseline Risk Assessment (BRA) should be completed during the RI/FS process. Information and environmental data collected and validated as representative of site conditions will be used to quantitatively describe the potential excess human health risk and/or ecological risk posed by the site in the absence of remediation. This Risk Assessment process is used to characterize the risk posed to human health or the environment by environmental conditions at a contaminated site. The Respondent(s) may, at their option, perform such risk assessment for submittal to KDHE for approval. Prior to performing the risk assessment, the Respondent(s) must submit a baseline risk assessment work plan that provides, at a minimum: a site-specific conceptual exposure model which either graphically illustrates or states the impacted media and all the primary and secondary exposure pathways; and lists all contaminants of concern; standard exposure parameters; land use assumptions; methodologies for determining reasonable maximum exposure point concentrations; proxy determinations; and other statistical considerations. The BRA shall be conducted in compliance with the NCP and should be performed in accordance with “Risk Assessment Guidance for Superfund” EPA/540/1-89/002 and other associated guidance such as “Dermal Exposure Factors Handbook” and OSWER Directive, “Standard Exposure Factors”. The work plan must be approved by KDHE prior to commencing the Baseline Risk Assessment. Upon submittal, KDHE will have the BRA reviewed by a qualified contractor at the Respondent’s expense. Alternatively, the Respondent may elect to have KDHE’s contractor perform the BRA at the Respondent’s expense. If KDHE’s contractor prepares the BRA, the Respondent will be allowed to review and comment prior to finalization by KDHE. Coordination with KDHE is required throughout the risk characterization and cleanup goal determination process.

FS REPORT:

Respondents shall submit a FS Report, which evaluates appropriate remedial alternatives as
determined from information gathered during the RI. The FS Report shall include: 1) a brief summary of the findings of the RI and the BRA; 2) a description of the site-specific RAOs; 3) a detailed description of each remedial action alternative evaluated, one of which must be the “No Action” alternative; 4) a detailed discussion of the evaluation of each remedial alternative by the nine criteria described in 40 CFR § 300.430 (e)(9)(iii) of the NCP; 5) a recommended remedial action for the site (based on the results of the nine criteria evaluation); and 6) an appendix containing any background information or literature used to evaluate each alternative. As with the RI, KDHE will review Draft FS Report submittals and, upon satisfactory resolution of KDHE comments, KDHE will approve the Final FS Report.

COMMUNITY RELATIONS:

KDHE shall prepare a Community Relations Plan (CRP), in accordance with EPA guidance and consistent with 40 CFR § 300.430(c) of the NCP. KDHE shall allow review of the CRP by Respondent(s) prior to final approval. KDHE and the Respondent(s) shall jointly implement the approved plan. To the extent practicable, the CRP must be in place prior to implementation of on-site field activities.

CORRECTIVE ACTION DECISION (CAD)

After approval of the Final FS Report, KDHE shall prepare a Draft Corrective Action Decision (CAD) stating the preferred proposed remedial alternative as concluded from the RI/FS study. The Draft CAD shall support the selection of the preferred remedial alternative(s) by documenting the following: 1) how the remedy was selected; 2) how the remedy eliminates, reduces, or controls exposures to human and environmental receptors through reduction of mobility, toxicity or volume of site contaminants; 3) how the remedy meets federal, state and local remedial requirements, ARARs and remedial action objectives; and 4) discussion of remediation goals.

KDHE shall publish a notice of the availability of the Draft CAD and provide a public comment period of 30 calendar days. The notice shall include an agency contact person and address, for the submission of written and oral comments on the Draft CAD. As provided in 40 CFR § 300.430(f)(3)(i) of the NCP, the administrative record for the site shall be available for public comment and review at an appropriate accessible public location (library, KDHE office, etc.) during the 30-day public comment period. A public meeting will be held during the public comment period at or near the site regarding the preferred remedial alternative. A transcript of the meeting shall be prepared for the administrative record.

A Final CAD shall be prepared by KDHE that includes KDHE's explanation for any significant differences between the Draft CAD and the Final CAD as well as a responsiveness summary to the public comments.

KDHE/BER strongly recommends that any persons performing Remedial Investigation and/or Feasibility Study activities with State of Kansas oversight obtain and familiarize themselves with the following documents. These documents provide guidance for the preparation, implementation, and reporting of RI/FS activities, and constitute much of the technical basis on which KDHE/BER reviews work plans, reports, and other submittals related to the RI/FS process. This list is not intended to be
exhaustive and KDHE notes that other guidance documents may also be useful in this process. Information on obtaining the EPA documents is available on-line at http://www.epa.gov/epahome/publications.htm. Information on the State Cooperative Program administered by the Remedial Section of the Bureau of Environmental Remediation can be found on-line at the KDHE web site, http://www.kdhe.state.ks.us/ber/remedial/sru.html.


EPA/540/R/00/002 (OSWER 9355.0-75) July 2000; “A Guide to Developing and Documenting Cost Estimates During the Feasibility Study.”
29th and Grove Site, Wichita, Kansas
Site Location Map

Scale: 1 inch = 1/2 mile = 2640 feet

Source: The Kansas Blueprint Co. Street Atlas for Wichita and Vicinity, 1995
### EXHIBIT 3

#### Deliverables Schedule for a Remedial Investigation/Feasibility Study (RI/FS)

<table>
<thead>
<tr>
<th>Deliverable</th>
<th>Due Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Draft RI/FS Work Plan including:</td>
<td>Due 60 days after effective date of the Consent Order</td>
</tr>
<tr>
<td>Draft Field Sampling Plan</td>
<td></td>
</tr>
<tr>
<td>Draft Quality Assurance Project Plan</td>
<td></td>
</tr>
<tr>
<td>Draft Health and Safety Plan</td>
<td></td>
</tr>
<tr>
<td>Final RI/FS Work Plan including:</td>
<td>Due 30 days after receipt of KDHE comments on the draft RI/FS Work Plan</td>
</tr>
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</tr>
<tr>
<td>Final Health and Safety Plan</td>
<td></td>
</tr>
<tr>
<td>Community Relations Plan</td>
<td>KDHE will be responsible for preparing the Community Relations Plan.</td>
</tr>
<tr>
<td>Draft RI Report</td>
<td>The deliverable date will be set as part of the Implementation Schedule, which is an element of the approved RI/FS Work Plan</td>
</tr>
<tr>
<td>Final RI Report</td>
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</tr>
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<td>Final FS Report</td>
<td>Due 30 days after receipt of KDHE’s comments on the draft FS Report</td>
</tr>
<tr>
<td>Baseline Risk Assessment (BRA)</td>
<td>The deliverable date for the Baseline Risk Assessment will be set as part of the Implementation Schedule, which is an element of the approved RI/FS Work Plan.</td>
</tr>
<tr>
<td>Quarterly Progress Reports</td>
<td>Due quarter-annually upon or before the anniversary of the effective date of the Consent Order</td>
</tr>
</tbody>
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