

BEFORE THE KANSAS DEPARTMENT OF HEALTH AND ENVIRONMENT

Charles Curtis Building
1000 SW Eighth Street
Topeka, Kansas 66612-1368

RECEIVED
APR 07 2003
BUREAU OF
ENVIRONMENTAL REMEDIATION

IN THE MATTER OF:)
)
POLLUTION AT)
)
NATIONAL ZINC SITE,)
)
CHERRYVALE, KANSAS.)

CONSENT ORDER
Case No. 03-E-0022

BER SCANNED

JUL 18 2013

PRELIMINARY STATEMENT

The parties hereto, the Kansas Department of Health and Environment ("KDHE"), and United States Steel Corporation and Salomon Smith Barney Holdings, Inc. (hereinafter "Respondents"), 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 clean up (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 Respondents agree 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 Respondents agree 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 Respondents, their 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 Respondents shall alter its responsibilities under this Consent Order.
5. The Respondents shall provide a copy of this Consent Order to the City of Cherryvale, Kansas, which is the owner of the majority of the Site identified in Paragraph 9 hereof, and shall further request said City to provide a copy of this Consent Order to any subsequent owners or successors before ownership rights are transferred. The Respondents 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 fourteen (14) days after the effective date of this Consent Order or the date of retaining their services. Notwithstanding the terms of any contract, Respondents are responsible for compliance with this Consent Order and for ensuring that their contractors and agents comply with this Consent Order.
6. Neither entry into nor performance of this Consent Order shall constitute or be construed as an admission or acknowledgment by either Respondent of any fact, legal issue, or conclusion of law, or of any liability, fault or responsibility, or of a waiver of any rights, privileges, or defenses, by either of them, or as evidence of such with respect to the Site described in Paragraph 9 below and the surrounding environment, nor shall it be admitted in evidence against Respondents in any proceeding other than a proceeding by KDHE to enforce this Consent Order, and

Respondents expressly deny any liability, fault or responsibility with respect to said Site.

7. The Findings of Fact and Conclusions of Law made by KDHE as set forth below are not admitted by Respondents. However, solely for the purposes of this Consent Order, and subject to the provisions of Paragraph 6 above, Respondents consent that said Findings of Fact and Conclusions of Law shall govern and control their obligations, rights and duties under this Consent Order.
8. While the Respondents to this Consent Order do not admit liability for the contamination at the Site identified in Paragraph 9 hereof and the surrounding environment, nevertheless they agree to enter into this Consent Order to undertake the activities contained in the approved Work Plan and Scope of Work as described below.

FINDINGS OF FACT

9. The National Zinc Site (the "Site") is located at the northwestern city limits of Cherryvale, Montgomery County, Kansas. The geographic coordinates of the Site are 39° 42' 30.0" North latitude and 96° 25' 00" West longitude. The Site is located in Section 8 in Township 32 South, Range 17 East and is illustrated in the attached map incorporated herein as Exhibit 2.
10. The Site consists of approximately 360 acres including the former National Zinc smelter facility on the northern edge of Cherryvale, Kansas. Review of historical information indicates that the Edgar Zinc Company began construction of a primary lead and zinc smelter at the Site in 1898. The facility initially was constructed with 1,800 retorts and three furnace buildings. By 1908 the smelter facility had 4,800 retorts and 24 furnaces. By 1928 the facility had four (4) massive ore roasters and

24 furnaces in operation. This facility was recognized as the largest zinc smelter in the world until World War I. At least one half of the demand for primary zinc production was for galvanizing purposes.

11. The facility operated as the Edgar Zinc Company until sometime after 1928, when it was reorganized as the National Zinc Company. Production appears to have declined through the 1930s when most active operations ceased.
12. Sludges and liquid wastes contaminated with heavy metals were contained in large settling ponds covering approximately 23 acres. The lagoons were used to contain runoff from an estimated 2,000 tons of slag and roasted ore. The National Zinc smelter facility permanently terminated operations on December 24, 1976. Presently, the Site contains the encapsulated former lagoon, several abandoned buildings and building foundations, and the remains of the smelter operations.
13. Incidents of surface water contamination in the 1950s were reported to KDHE by adjacent property owners when contaminated water breached the large pond. On April 1976, the Site was investigated by KDHE following complaints from farmers regarding visual observations of contamination in Drum Creek and concern over the possibility of a fish kill or cattle illness from surface water consumption. KDHE personnel also inspected the Site on September 27, 1977 for possible surface water or groundwater pollution associated with facility runoff and seeps. At the request of KDHE, limited response actions were initiated at the Site by the National Zinc Company in October 1977. Beginning in 1979, approximately 95 million gallons of fluid from the lagoon were treated and discharged into the adjacent Drum Creek. Ore and sludge were removed from the Site; some of the remaining sludge (approximately 300 tons) was encapsulated on-site. The lagoon was filled with dirt

and top soil, treated with lime, and planted with grass. Five monitoring wells were installed in the western and southern edges of the large pond. Analytical results of groundwater samples collected in 1982, 1983, and 1984 showed high levels of cadmium and lead.

14. A restrictive covenant limiting use or development of part of the property was prepared in 1983 and still governs a majority of the Site. The City of Cherryvale currently owns the majority of the property containing the former National Zinc smelter.
15. In 1995 KDHE conducted additional sampling at the Site. Lead was detected at a maximum of 176,750 mg/kg, cadmium at 2,816 mg/kg, and arsenic at a maximum of 240 mg/kg in soils. Cadmium was detected in surface and groundwater up to 0.111 mg/l. In July 1996, sediment/sludge sampling indicated lead up to 1,786 mg/kg, and cadmium in surface water up to 0.347 mg/l on-site in standing water. Preliminary Assessment (PA) and Site Inspection forms were completed by KDHE in 1981 and the Site was assigned the CERCLA Identification System (CERCLIS) identification number KSD980406698.
16. In 1999 KDHE conducted a Brownfields Targeted Assessment (BTA) of the Site which included extensive sampling across the Site. Soils, subsurface soils, groundwater, surface water and sediment were sampled during the BTA. The maximum X-ray fluorescence (XRF) detection for lead during the BTA was 160,000 mg/kg and the maximum laboratory detection for lead was 120,800 mg/kg. The maximum detection for arsenic in soils was 306 mg/kg and the maximum cadmium detection was 1,488 mg/kg.
17. Toxicity Characteristic Leachate Procedure (TCLP) data collected for the BTA

indicated exceedences for cadmium (TCLP threshold 1 mg/l) and lead (TCLP threshold 5 mg/l) in several samples. Lead indicated a maximum TCLP detection of 288 mg/l, well over its TCLP threshold of 5.0 mg/l. The maximum cadmium TCLP value indicated was 70.2 mg/l.

18. Lead and cadmium were detected in groundwater at maximum detections of 0.136 mg/l and 3.062 mg/l respectively, above respective Maximum Contaminant Levels (MCLs) during the BTA.
19. Surface water analytical results obtained during the BTA indicated a maximum detection for lead of 1.789 mg/l, cadmium at 2.965 mg/l and arsenic at 0.063 mg/l. Sediment samples also indicated a maximum lead detection of 668.24 mg/kg, a maximum cadmium detection of 88.42 mg/kg, and a maximum arsenic detection of 289.82 mg/kg.
20. KDHE conducted a Phase I Removal Site Evaluation (RSE) of the Cherryvale Residential Yards site adjacent to the Site in 2001. Multiple residential yards were identified to be impacted with lead, cadmium and arsenic above KDHE residential Risk-based Standards for Kansas (RSKs). KDHE referred the site to United States Environmental Protection Agency (EPA) Region VII for initiation of a Fund-lead removal action consistent with the National Oil and Hazardous Substances Pollution Contingency Plan (NCP). The Action Memorandum was completed in August 2001. A Phase II RSE was also conducted by KDHE to screen additional residential yards for heavy metals contamination. To date 34 residential yards have been addressed through the EPA-lead removal action.
21. KDHE completed the Expanded Site Inspection (ESI) at the Site in 2001. Additional surface water sampling indicates off-site impacts from zinc and cadmium to surface

water. Off-site impacts from lead, cadmium, mercury, and zinc to sediments were also identified during the ESI. The Site is ready for preparation of a Hazard Ranking System (HRS) package for inclusion to the National Priorities List (NPL).

22. The investigations thus completed have documented releases from the Site of heavy metals, especially lead, cadmium, and arsenic, to on-site soils, surface water, sediments and groundwater, to off-site residential soils, sediments and surface water, and potentially to off-site groundwater. These constituents are hazardous substances as defined in § 302.4 of the NCP and as adopted by the Kansas Environmental Response Act, K.S.A. 65-3452a.
23. KDHE has completed a Potentially Responsible Party (PRP) search for the facility and identified Respondents as PRPs through a series of acquisitions and mergers.
24. The above investigations have determined that the soils and groundwater at the Site are contaminated by hazardous substances and hazardous wastes which are the result of one or more releases of hazardous substance(s) and hazardous waste(s).
25. The contamination of the groundwater beneath the Site and the potential for contamination to groundwater at adjacent areas is causing or threatens to cause pollution of the waters of the State or is or threatens to become a hazard to persons, public health, or safety.

CONCLUSIONS OF LAW

26. Respondents are "persons" within the meaning of K.S.A. 65-164 *et seq.*, K.S.A. 65-3430, *et seq.*, and K.S.A. 65-3452a, *et seq.*
27. The presence of the contaminants identified in the groundwater underlying the Site constitutes "pollution" as defined by K.S.A. 65-171d.
28. Some of the contaminants identified in the groundwater underlying the Site are

"hazardous substances" as defined by K.S.A. 65-3453 and "hazardous wastes" as defined by K.S.A. 65-3430.

29. The area defined in Paragraph 9 and identified as the Site constitutes a "site" within the meaning of K.S.A. 65-3453.
30. 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.
31. Under the facts as shown above, the KDHE 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.
32. 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 KDHE 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.
33. The KDHE has authority to enter the Consent Order herein, and to make the Findings of Fact and Conclusions of Law herein stated.

34. 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

35. Respondents have submitted, and KDHE approved on November 26, 2002, the *Revised Plan for Former National Zinc Site* (Revised Plan) which consists of five (5) phases: Phase 1—Develop Framework for Revised Plan; Phase 2—Plan for Field Sampling and Construction of Interim Drainage System (Phase 2 Work Plan); Phase 3—Develop Corrective Action Plan; Phase 4—Develop a Work Plan for Construction Activities; and, Phase 5—Execute the Construction Work Plan. The Revised Plan (consisting of the original Revised Plan submitted to KDHE September 16, 2002 and Amendment No. 1 submitted November 22, 2002) is incorporated herein as Exhibit 4. The investigative and mitigative measures described in the Phase 2 Work Plan are consistent with applicable Removal Site Evaluation (RSE) portions of the Scope of Work (SOW) attached hereto, marked Exhibit 1. Subsequent corrective measure development and design, as part of Phases 3 and 4, is to be consistent with applicable Removal Action Design (RAD) portions of the attached SOW. As referenced in Paragraph 77 hereof, execution of Phase 5 activities will be addressed in a future amendment to this Consent Order or execution of an additional Consent Order consistent with applicable removal action (RA) portions of the attached SOW. All documents and deliverables will be identified consistent with terminology used in the attached RSE/RAD/RA SOW.

36. Within thirty (30) days from the effective date of this Consent Order Respondents shall commence the implementation of the tasks detailed in the approved RSE Work Plan (Phase 2 of the above described Revised Plan); within thirty (30) days from the effective date of this Consent Order or after obtaining necessary access rights, Respondents shall commence the implementation of the off-site tasks detailed in the approved RSE Work Plan (Phase 2 of the above described Revised Plan). The work shall be conducted in accordance with the standards and specifications in the RSE Work Plan.
37. Within one hundred and eighty days (180) days from the effective date of this Consent Order, Respondent shall submit a draft RAD Report for KDHE approval; provided, KDHE shall grant an extension of this one hundred and eighty (180) day submittal date to the extent necessary due to any significant delays that may be encountered by Respondents in obtaining required off-site access rights. The draft RAD Report is to be prepared consistent with the RSE/RAD/RA SOW and is to specifically include a summary of RSE work completed.
38. KDHE shall provide comments on the draft RAD Report. Within thirty (30) days of receipt of KDHE's comments, Respondent shall submit for final approval a revised RAD Report that addresses KDHE's comments. Upon KDHE approval, the revised RAD Report shall become incorporated into this Consent Order and a part thereof as Exhibit 5.
39. Within thirty (30) days of issuance of the KDHE final Removal Action Decision, Respondent shall submit for KDHE approval a draft RA Plan consistent with the Removal Action Decision and the RSE/RAD/RA SOW.
40. KDHE shall provide comments on the draft RA Plan. Within thirty (30) days of receipt

of KDHE's comments, Respondent shall submit for final approval a revised RA Plan that addresses KDHE comments. Upon KDHE approval, the revised RA Plan shall become incorporated into this Consent Order and a part hereof as Exhibit 6.

41. Respondents shall provide preliminary and final reports and plans to KDHE according to the deliverables and milestones schedule contained in Exhibit 3 in a form responsive to KDHE's comments. After KDHE reviews the preliminary report or plan and after KDHE reviews the final report or plan, KDHE shall notify Respondents in writing, of KDHE's approval or disapproval of the report or plan or any part thereof. KDHE may also notify Respondents in writing of KDHE disapproval of Respondents' implementation of the approved RSE Work Plan.
42. In the event of any KDHE disapproval of a submitted report or plan or disapproval of Respondents' implementation of the approved RSE Work Plan, KDHE shall send Respondents a Notice of Disapproval delineating the deficiencies, requiring revisions to the reports or plan or modified work to cure the deficiencies in the work and setting a schedule for response by Respondents, provided however that any such requirements are consistent with the objectives of the Work Plans and Consent Order.
43. Thereafter, Respondents shall amend and submit to KDHE revised reports to cure the deficiencies in the reports in accordance with KDHE's requirements.
44. Subject to the dispute resolution provisions set forth herein, KDHE may determine that additional tasks are necessary, in addition to those identified in the deliverables and milestones schedule contained in Exhibit 3, to complete the SOW attached hereto as Exhibit 1 (other than implementation of any remedial alternative that may be selected by KDHE, such implementation being outside the scope of this Consent

Order) and to enable KDHE to promptly select a remedial alternative. KDHE may request Respondents to implement any such additional tasks within a timeframe specified by KDHE. Failure by Respondents to implement additional tasks as requested by KDHE, shall be considered a violation of this Consent Order.

45. All work performed pursuant to this Consent Order shall be under the direction and supervision of a professional engineer or geologist licensed in Kansas with expertise in hazardous waste site investigations and remediation. Within thirty (30) days of the effective date of this Consent Order, Respondents 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.
46. 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.
47. No informal advice, guidance, suggestions, or comments by KDHE regarding reports, plans, specifications, and any other writing submitted to Respondents will be construed as relieving Respondents of their obligation to obtain written approval, if and when required by this Consent Order.

QUALITY ASSURANCE

48. All samples analyzed pursuant to this Consent Order shall be analyzed using laboratory methodologies approved by KDHE.
49. 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.

50. 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. Respondents 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, Respondents will resample upon KDHE's approval and discretion. Respondents 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 will be subject to an administrative penalty of \$1,000 per violation and the data resulting therefrom shall be invalid.
51. Respondents shall use the quality assurance, quality control, and chain of custody procedures specified in the Quality Assurance Project Plan, which is part of Appendix B of the RSE Plan, for all sample collection and analysis performed pursuant to this Consent Order, unless otherwise agreed to in writing by KDHE.
52. 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 Respondents for sample collection and analysis and other field work. 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.

REPORTING

53. Respondents 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

54. KDHE and any of its agents or contractors are authorized by Respondents to enter and freely move about all property at the Site, subject to Respondents' obtaining access rights to the Site from the City of Cherryvale or other owners thereof 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 Respondents 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 Respondents. Respondents 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.

55. To the extent that work required by the Work Plan must be done on property not owned or controlled by Respondents, Respondents shall use their best effort to obtain site access agreements from the present owner(s) of such property within sixty (60) days of the effective date of this Consent Order. Best efforts include, but are not limited to, reasonable payment of monies to the property owner. 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 thirty (30) days of the effective date of this Consent Order, Respondents shall notify KDHE regarding both the lack of and their failure to obtain such agreements within seven (7) days thereafter. In the event that KDHE obtains access for Respondents, all costs incurred by KDHE shall be reimbursed by Respondents. Upon KDHE's obtaining access for Respondents, Respondents 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 Respondents, their officers, employees, agents, successors, assigns, contractors, or any other person acting on Respondents' behalf in carrying out any activities pursuant to the terms of this Consent Order.

SAMPLING AND DATA/DOCUMENT AVAILABILITY

56. Respondents 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. Respondents 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 Respondents.

57. Respondents shall notify KDHE at least seven (7) days before conducting any well

drilling, installation of equipment, or sampling. At the request of KDHE, Respondents shall provide or allow KDHE or its authorized representatives to take split samples of all samples collected by Respondents pursuant to this Consent Order. Similarly, at the request of Respondents KDHE shall allow Respondents or their authorized representatives to take split or duplicate samples of all samples collected by KDHE under this Consent Order. KDHE shall notify Respondents 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 Respondents shall give such advance notice to enable each party to have a representative present during said sample collection activity.

RECORD PRESERVATION

58. Respondents agree that they 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, Respondents shall then make such records available to KDHE for inspection or KDHE's retention or shall provide copies of any such records to KDHE.

STIPULATED PENALTIES

59. For each period of time that Respondents fail to submit reports or deliverables at the times set out in Exhibit 3 which is part of this Consent Order, Respondents shall pay 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,

\$4,000 per day of delay thereafter. Any stipulated penalties shall be payable within twenty-one (21) days after Respondents' 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. Respondents shall each remit a check for the full amount of penalty stated in the demand.

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

OTHER CLAIMS AND PARTIES

61. KDHE and Respondents retain their respective rights to assert claims against other persons not parties to this Consent Order, and 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 Site.

OTHER APPLICABLE LAWS

62. 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

63. On or before the effective date of this Consent Order, KDHE and Respondents 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 Respondents 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

64. Unless otherwise specified or until written notification is provided by any of the parties, reports, notice or other submissions required under this Consent Order shall be in writing, or by facsimile, or upon prior verbal approval from the KDHE contact, email transmission and shall be sent to:

- a. **For KDHE:**
E. Jean Underwood
Bureau of Environmental Remediation
Administration
1000 SW Jackson Suite 410
Topeka, Kansas 66612-1367
(785) 296-1681
Fax: (785) 296-7030
Email: junderwo@kdhe.state.ks.us

b. **For United States Steel Corporation:**

David L. Smiga, Esq.
General Attorney
US Steel
600 Grant Street, Rm 1500
Pittsburgh, PA 15219-2800
Fax: (412) 433-2811
Email: DLSmiga@uss.com

AND

Chuck Wentz
U.S. Steel Corporation
P.O. Box 336
George West, Texas 78022
Fax: (361) 449-2892
Email: CNWentz@uss.com

c. **For Salomon Smith Barney Holdings, Inc.:**

Ellen O'Brien, Esq.
300 St. Paul Place BSP07D
Baltimore, Maryland 21202
Fax: (410) 322-2947
Email: obriene@citi.com

AND:

William C. Anderson, Esq.
Doerner, Saunders, Daniel & Anderson, LLP
Suite 500
320 South Boston Avenue
Tulsa, Oklahoma 74103-3725
Fax: (918) 591-5362
Email: wanderson@dnda.com

d. **For Engineer Designated in Accordance with Paragraph 45**

Altay M. Ertugrul, P.E.
A&M Engineering and Environmental Services, Inc.
10010 E. 16th Street
Tulsa, OK 74128-4813
Fax: (918) 665-6576
Email: aertugrul@aandmengineering.com

REIMBURSEMENT OF COSTS

65. Three (3) months after the effective date of this Consent Order and quarterly thereafter, KDHE shall submit to Respondents an accounting of all oversight costs incurred by KDHE with respect to this Consent Order during the previous three (3) month period.
66. Based on the data developed by EPA in the Expanded Site Investigation Report and by KDHE in the Brownfields Targeted Assessment Report, KDHE does not presently believe that a Baseline Risk Assessment is necessary for the Site. However, if KDHE determines a Baseline Risk Assessment is appropriate, Respondent may, at its option, perform such assessment for submittal 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. Upon receipt of such accounting, Respondent agrees to reimburse KDHE for such amount in accordance with Paragraph 69 below. KDHE agrees to use a qualified contractor to perform such Risk Assessment.
67. If KDHE determines that a Community Relations Plan is appropriate with respect to this Consent Order, it shall submit to Respondents an accounting for the cost of development of a Plan for Community Relations, and implementation of such Plan. Upon receipt of such accounting, Respondents agree to reimburse KDHE for such amount in accordance with Paragraph 69 below. KDHE agrees to perform such work itself or use a qualified contractor to develop and implement such Plan.
68. KDHE shall submit to Respondents the cost of preparing and maintaining the

Administrative Record with respect to this Consent Order, including but not limited to photocopying, assembling, mailing, updating, storage and other maintenance services. Upon receipt of such accounting, Respondents agree to reimburse KDHE for such amount in accordance with Paragraph 69 below.

69. KDHE shall submit to Respondents an accounting of all oversight costs incurred by KDHE with respect to this Consent Order during the previous fiscal year. Respondents shall each, within thirty (30) calendar days from receipt of this and quarterly accounting, remit a check for one-half of the total 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:

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 transmittal letter shall be sent to the KDHE contact specified herein.

DISPUTE RESOLUTION

70. If Respondents disagree, in whole or in part, with any decision by KDHE pursuant to this Consent Order, Respondents 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.

71. Respondents reserve their right to appeal any decision of the KDHE, which 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.
72. In the event that Respondents seek 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.
73. 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.

FORCE MAJEURE

74. Delays that result from causes not foreseeable and beyond the Respondents' control and which cannot be overcome by due diligence shall not be a violation of the Respondents' obligations under this Consent Order. The Respondents shall notify KDHE orally as soon as possible, but no later than five (5) business days after the Respondents know of any delay or anticipated delay in compliance with the requirements of this Consent Order, and in writing no later than ten (10) 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 Respondents, 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 Respondents shall adopt all measures to avoid or minimize such delay. To the extent a delay is caused by circumstances beyond the control of the Respondents, 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 which are unaffected by such unexpected delay events, 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 Respondents 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 (having due regard for seasonal fluctuations). If KDHE determines that the delay as stated in the Respondents' written notice to KDHE was not due to unexpected delay events, an administrative penalty may be assessed as provided in Paragraph 59.

EFFECTIVE DATE AND SUBSEQUENT MODIFICATION

75. This Consent Order shall become effective when signed by the Secretary of the Department of Health and Environment. This Consent Order may be signed in any number of counterparts, each of which shall be an original, and all of which taken together shall constitute a single instrument, with the same effect as if the signatures thereto were upon the same instrument.

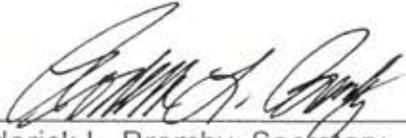
76. This Consent Order may be amended by mutual agreement of KDHE and Respondents. Such amendments shall be in writing, shall have as their effective date the date on which they are signed by all parties, and shall be incorporated into this Consent Order. Nothing herein shall limit KDHE's ability to require additional tasks as set forth in Paragraph 44 herein.
77. Following completion of the activities contemplated herein and final issuance of the KDHE Removal Action Decision, the Respondents shall negotiate in good faith with KDHE concerning a Removal Action (RA) Consent Order, or an Amendment to this Consent Order to address implementation of removal action activities. If either an Amendment or RA Order is not agreed to by the Respondents within sixty (60) days of KDHE approval of the Final RA Work Plan, the KDHE reserves the right to issue a unilateral administrative order to Respondents. In the event such a unilateral administrative order is issued by KDHE, Respondents reserve all legal and/or factual rights, privileges and defenses available to them to defend against said unilateral administrative order.

TERMINATION

78. The provisions of this Consent Order shall terminate upon Respondents' receipt of written notice from KDHE that Respondents have 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:

STATE OF KANSAS:



Roderick L. Bremby, Secretary
Kansas Department of Health &
Environment

Date: 4-7-03

UNITED STATES STEEL CORPORATION:



By: James David Moniot
Title: General Manager, Environmental Affairs

Date: 3-18-03

SALOMON SMITH BARNEY HOLDINGS, INC.:

Ellen T. O'Brien
By: Ellen T. O'Brien
Title: Counsel

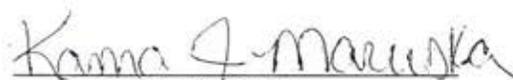
Date: March 18, 2003

CERTIFICATE OF MAILING

I hereby certify that on this 7th day of April, 2003,
I deposited a true and correct copy of the above and foregoing Consent Order in the United
States Mail, postage prepaid, and addressed to:

William C. Anderson
Doerner, Saunders, Daniel & Anderson, LLP
Suite 500
320 South Boston Avenue
Tulsa, Oklahoma 74103-3725

David L. Smiga
General Attorney
US Steel
600 Grant Street, Rm 1500
Pittsburgh, PA 15219-2800


KDHE Staff Person

EXHIBITS

SCOPE OF WORK	1
SITE MAP	2
DELIVERABLE SCHEDULE	3
REVISED PLAN	4
REMEDIAL ACTION DESIGN REPORT	5
REMEDIAL ACTION PLAN	6

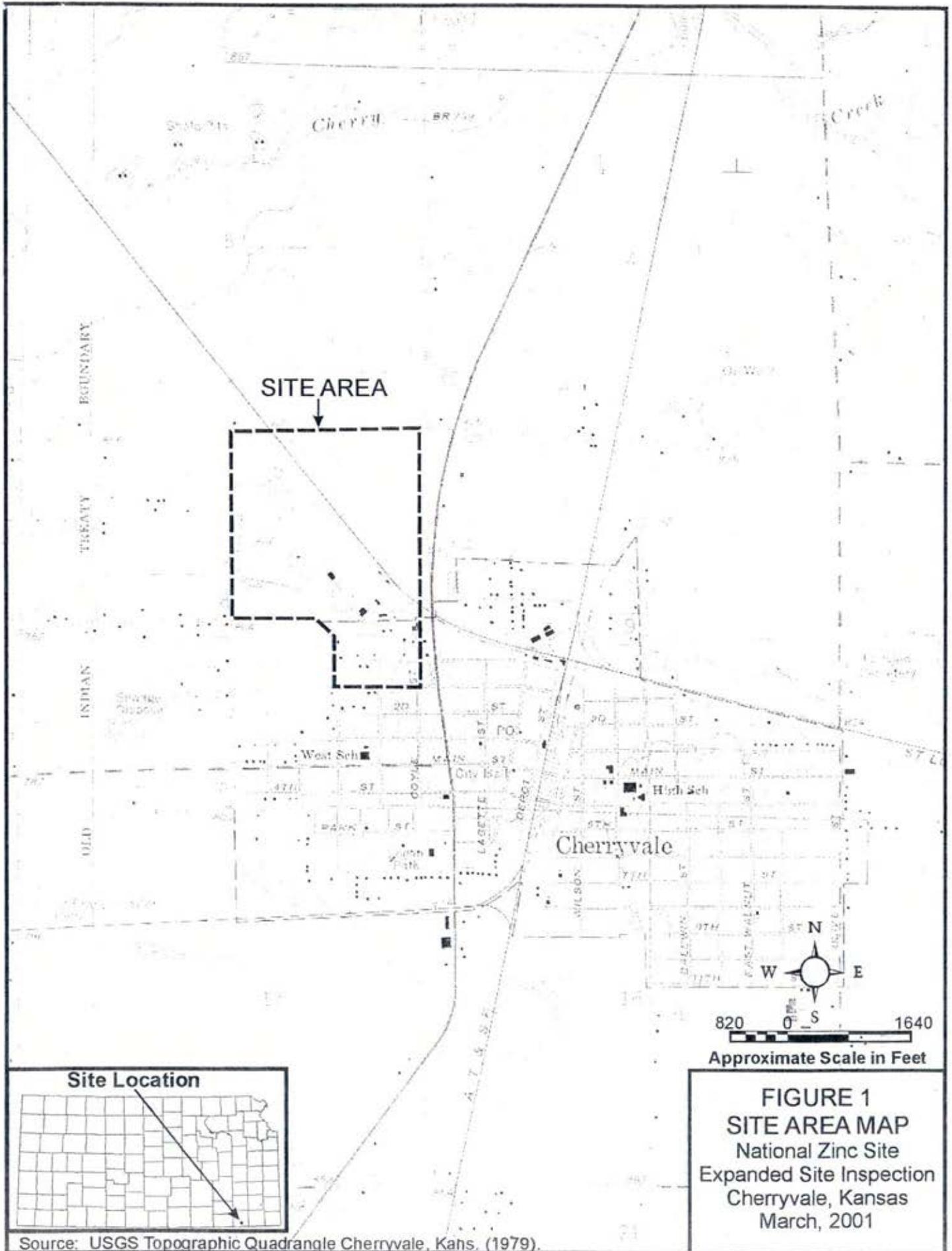


FIGURE 1
SITE AREA MAP
 National Zinc Site
 Expanded Site Inspection
 Cherryvale, Kansas
 March, 2001

Source: USGS Topographic Quadrangle Cherryvale, Kans. (1979).

BUREAU OF ENVIRONMENTAL REMEDIATION/REMEDIAL SECTION
GUIDELINE
**REMOVAL SITE EVALUATION (RSE)/REMOVAL ACTION
DESIGN(RAD)/REMOVAL ACTION (RA)**

BER POLICY#BER-RS-031

DATE: 1995, Updated 1996

PAGES: 4

A Removal Action can be defined as a prompt response action to actual or imminent threats to human health and/or the environment. Removal Actions are conducted to mitigate releases or potential releases of contaminants to minimize potential exposure or threats to health and the environment. Removal Actions under this Scope of Work (SOW) include:

- Drum, waste or contaminated soil removal;
- Security fencing or other measures to prevent access;
- Construction of drainage controls, stabilization of release mechanisms;
- Capping of contaminated surficial areas;
- Providing an alternate water supply; and
- Preventing exposure to human health and/or the environment.

This SOW for a **Removal Site Evaluation and Removal Action (RSE/RA)** provides an outline to abate, prevent, minimize, stabilize, mitigate or eliminate the release or the threat of release of a contaminant(s) from the site. Conditions considered appropriate for a Removal Action are defined by the National Oil and Hazardous Substances Contingency Plan (NCP) §300.415 (b-1) and include:

- 1) Actual or potential exposure to human health and/or environment from a hazardous substance(s), pollutant(s) or contaminant(s);
- 2) Actual or potential contamination of drinking water supplies or sensitive ecosystems;
- 3) High levels of hazardous substances(s), pollutant(s), or contaminant(s) in soils largely at or near the surface which may migrate and act as source areas to contaminate adjacent soils, sediment, surface and ground water; and
- 4) Other situations or factors posing a threat to public health, welfare, or the environment.

The RSE/RA is intended to be a flexible process in which portions can be waived or modified upon discretion of the KDHE Project Manager.

The primary objectives of the **Removal Site Evaluation (RSE)** are described as follows:

- 1) Determine the extent of contamination by contaminants of concern and evaluate the threat to human health and/or the environment;
- 2) Determine the migration of and the chemical/physical properties of the contaminants;
- 3) Collect the data necessary to select an appropriate removal action; and
- 4) Gather a sufficient amount of data to support the design parameters of the proposed removal action.

The RSE may be waived if adequate site information is present in another form, i.e. as a Screening Site Inspection or Expanded Site Inspection (SSI or ESI), KDHE approved Preliminary Investigation (PI), Comprehensive Investigation (CI) or equivalent investigation if the designated KDHE Project Manager agrees that adequate information exists which meets the objectives noted above; and if the investigation indicated a removal action is appropriate. If the RSE is waived the process can proceed directly to the Removal Action (RA) phase, with the existing investigative data summarized and/or included in the Removal Action Design (RAD) Plan.

The primary objectives of the **Removal Action Design (RAD)** are described below:

- 1) To evaluate the feasibility, effectiveness, and cost of at least two (2) viable removal actions based on the findings of the RSE and to evaluate the "no action" alternative;
- 2) To recommend and justify a specific removal action for the site consistent with long term remedial goals;
- 3) To determine the health and environmental effects of the Removal Action;
- 4) Establish up- and down-gradient ground water monitoring criteria for the performance of the Removal Action; and
- 5) To provide adequate documentation to support the Removal Action as being consistent with long-term remedial goals in the absence of a Corrective Action Study (CAS) if the KDHE Project Manager has determined that a CAS is not necessary for the site.

This SOW outlines the activities to be completed as part of the RSE/RAD. A Work Plan describing in detail the RSE/RAD activities must be developed and submitted to KDHE for review and approval. In addition, the Work Plan shall include the following section or appendices as appropriate: 1) Removal Site Evaluation Plan; 2) Quality Assurance Project Plan; 3) Health and Safety Plan; and 4) Removal Action Design Plan. An implementation schedule of all RSE/RAD activities outlined in this SOW should be included in the RSE/RAD Work Plan.

REMOVAL SITE EVALUATION

The RSE shall at a minimum include the following components:

- 1.0 A review of available information and documented findings;
- 2.0 A description of the physical characteristics of the site including the geology, soils, hydrogeology, surface hydrology, land use, and meteorology, at a minimum;
- 3.0 Detailed description of the type(s) of contaminants involved, release characteristics and contaminated media;
- 4.0 Procedures used to determine the nature and extent of the contaminant(s) and evaluate the transport pathways;
- 5.0 A screening risk assessment appropriate for determining site risk and removal goals may be required. The KDHE Project Manager will establish the need for and the scope of the risk assessment. The risk assessment should concentrate on the specific impacts and exposure threats the removal is to address in order to evaluate potential threat to human health and the environment, and establish appropriate removal action response goals.

REMOVAL ACTION DESIGN REPORT

The RAD shall evaluate at least two possible removal action alternatives from data collected. The removal action alternatives and "no action" alternative shall address threats to human health and the environment. The evaluation shall include:

- 1) Summary of RSE work completed (if appropriate);
- 2) Description of contaminants of concern, including a discussion and summary of data collected (with appropriate QA/QC and data validation information);
- 3) An evaluation of possible exposure pathways including areal extent of contaminants of concern;
- 4) Removal action goals and appropriate action levels;
- 5) A description of at least two potential removal action alternatives and a "no action" alternative for the site, including an evaluation of the effectiveness of the removal action alternatives in terms of the long term remedial objectives and reduction of risk to health and the environment;
- 6) A comparison and justification of the costs of each removal action;

- 7) A consideration of appropriate regulations, ARARs, etc. pertinent to each removal action alternative evaluated;
- 8) Selection of an appropriate removal action giving adequate supporting rationale for its selection based on the above defined criteria. Necessary plans, diagrams, etc. to implement the proposed removal action should be included; and,
- 9) Establishment of adequate post-removal confirmation sampling to determine removal action performance.

REMOVAL ACTION PLAN

If determined necessary by the KDHE Project Manager after approval of the RAD, a Removal Action Plan containing additional designs, technical specifications, etc. of the preferred removal alternative will be submitted to KDHE for review and approval according to the KDHE-approved schedule.

Note: For those removal actions which the KDHE Project Manager has determined will entail long-term monitoring or constitute a portion of a longer term remedial action, the removal action process should be consistent with the remedial action (investigation /remediation) for the site. The removal action alternative selected should be consistent with the preferred alternative selected in the Corrective Action Decision for the site. For example, the CAS may identify the previously implemented removal action in addition to institutional controls and long-term monitoring as the preferred alternative, if appropriate.

REMOVAL ACTION SUMMARY REPORT

A Removal Action Summary Report shall be submitted after completion of the removal action performed according to the KDHE-approved RAD. The Removal Action Summary Report shall include a final summary of removal action activity and an evaluation of the post-removal action confirmation sampling relative to removal action goals.

COMMUNITY RELATIONS ACTIVITIES

A Public Information Program (Policy #BER-RS-002) should be followed for all activities under this SOW. An NCP-consistent Community Relations Plan (CRP) may be necessary at certain sites and will be implemented upon discretion of the KDHE Project Manager.

Exhibit 3
Schedule of Deliverables and Milestones
for the
Removal Site Evaluation (RSE)/Removal Action Design (RAD)/Removal Action (RA)

Deliverable	Due Date
Commence Implementation of RSE Work Plan*	Within 30 Days of Execution of the Consent Order.
Submit Draft RSE/RAD Report	Within 180 Days of Execution of the Consent Order.
Submit Final RSE/RAD Report	Due within 30 days of receipt of KDHE comment on the Draft RSE/RAD Report.
Submit Draft RA Work Plan**	Due within 30 days of effective date of KDHE removal action decision.
Submit Final RA Work Plan	Due within 30 days of receipt of KDHE comment on the Draft RA Work Plan.
Commence Implementation of Final RA Work Plan	To be established in amendment to Consent Order.
Submit Draft and Final RA Summary Reports	To be established in amendment to Consent Order.
Submit Operations and Maintenance (O&M) Reports	To be established in amendment to Consent Order.
Community Relations Plan (CRP) or Public Information Plan (PIP)	As necessary, KDHE will prepare the CRP or PIP.
Submit Quarterly Progress Reports	Due quarter-annually upon or before the anniversary of the effective date of the Consent Order.

* - As described in Paragraph 35 of the Consent Order, the RSE Work Plan corresponds to Phase 2 (Plan for Field Sampling and Construction of Interim Drainage System) of the September 2002 *Revised Plan for Former National Zinc Site*.

** - Including detailed RA implementation schedule (e.g., Gantt chart) and O&M plan.