UNITED STATES
ENVIRONMENTAL PROTECTION AGENCY
REGION 4

IN THE MATTER OF:
Anniston Lead Site, and
Anniston PCB Site
Anniston, Calhoun County, Alabama

DII Industries, L.L.C.
FMC Corporation
Huron Valley Steel Corporation
McWane, Inc.
MW Custom Papers, L.L.C.
MeadWestvaco Corporation
MRC Holdings, Inc.
Phelps Dodge Industries, Inc.
United Defense, L.P.,
United States Pipe and Foundry Company, Inc., and
Walter Industries, Inc.,

Respondents

SECTION 122 ADMINISTRATIVE AGREEMENT AND ORDER ON CONSENT FOR REMOVAL ACTION

U.S. EPA Region 4

Docket No.: CERCLA-04-2005-3777

Proceeding Under Sections 104, 106(a), 107 and 122 of the Comprehensive Environmental Response, Compensation, and Liability Act, as amended, 42 U.S.C. §§ 9604, 9606(a), 9607 and 9622

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I. JURISDICTION AND GENERAL PROVISIONS

1. This Administrative Agreement and Order on Consent ("Agreement") is entered into voluntarily by the United States Environmental Protection Agency ("EPA") and DII Industries, L.L.C., FMC Corporation, Huron Valley Steel Corporation, McWane, Inc., MeadWestvaco Corporation, MRC Holdings, Inc., MW Custom Papers, L.L.C., Phelps Dodge Industries, Inc., United Defense, L.P., United States Pipe and Foundry Company, Inc., and Walter Industries, Inc. (collectively the "Foothills Community Partnership" or "Respondents"). This Agreement provides for the performance of time critical removal activities at the Anniston Lead Site, time critical and non-time critical removal activities at the Anniston PCB Site, and the reimbursement of certain response costs incurred by the United States and the Alabama Department of Environmental Management ("ADEM") at or in connection with the Anniston Lead Site. This Agreement requires, among other things, the performance of the following:

   a. Sampling all Residential Properties not already sampled within Zone A for lead and PCBs;

   b. intensive community outreach efforts to identify for Sampling, Residential Properties not already Sampled within Zone B which may contain Foundry Sand;

   c. removal activities at Residential Properties with elevated soil lead concentrations and removal activities at Residential Properties with both elevated soil PCB and soil lead concentrations, pursuant to the terms of this Agreement;

   d. gathering and reporting information on potential Foundry Sand disposal areas listed herein;

   e. reimbursing Three Million Two Hundred and Fifty Thousand Dollars ($3,250,000.00) in Past Response Costs incurred by the United States; and

   f. paying Future Response Costs of the United States, and ADEM's Oversight Costs.

2. This Agreement is entered under the authority vested in the President of the United States by Sections 104, 106(a), 107 and 122 of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, 42 U.S.C. §§ 9604, 9606(a), 9607 and 9622, as amended ("CERCLA"), and delegated to the Administrator of EPA by Executive Order No. 12580, January 23, 1987, 52 Federal Register 2923, and further delegated to the EPA Regional Administrators by EPA Delegation Nos. 14-14-A, 14-14-C, 14-14-D, and 14-14-E; and further delegated to the Director, Waste Management Division by EPA Region 4 Delegation Nos. 14-14-A, 14-14-C, 14-14-D and 14-14-E. This Agreement is also entered into pursuant to the authority of the Attorney General of the United States to

compromise and settle claims of the United States, which authority, in the circumstances of this settlement, has been delegated to the Assistant Attorney General, Environment and Natural Resources Division, U.S. Department of Justice.

3. EPA has notified the State of Alabama (the "State") of this action pursuant to Section 106(a) of CERCLA, 42 U.S.C. § 9606(a).

4. The Parties recognize that this Agreement has been negotiated in good faith and that the actions undertaken by Respondents in accordance with this Agreement do not constitute an admission of any liability. Respondents do not admit, and retain the right to controvert in any subsequent proceedings other than proceedings to implement or enforce this Agreement, the validity of the Allegations of Facts, Conclusions of Law, and Determinations in Sections IV and V of this Agreement. Respondents agree to comply with and be bound by the terms of this Agreement and further agree that they will not contest the basis or validity of this Agreement or its terms.

II. PARTIES BOUND

5. This Agreement applies to and is binding upon the United States, and Respondents and their successors and assigns. Any change in ownership or corporate status of a Respondent including, but not limited to, any transfer of assets or real or personal property shall not alter such Respondent's responsibilities under this Agreement.

6. Each Respondent is jointly and severally liable for carrying out all activities required by this Agreement.

7. Respondents shall ensure that their contractors, subcontractors, and representatives receive a copy of this Agreement and comply with this Agreement. Respondents shall be responsible for any noncompliance with this Agreement by themselves, their respective contractors, subcontractors, and representatives.

III. DEFINITIONS

8. Unless otherwise expressly provided herein, terms used in this Agreement which are defined in CERCLA or in regulations promulgated under CERCLA shall have the meaning assigned to them in CERCLA or in such regulations. Whenever terms listed below are used in this Agreement or in the appendices, the following definitions shall apply:

   a. "Action Memorandum" shall mean all the EPA Action Memoranda relating to the Site and all attachments thereto, signed prior to EPA's signature of this

Agreement, including those Action Memoranda signed on June 28, 2001, August 19, 2002 and May 26, 2004, by the Regional Administrator, EPA Region 4, or his delegate.

b. "ADEM" shall mean the Alabama Department of Environmental Management and any successor departments or agencies of the State of Alabama.

c. "ADEM's Oversight Costs" shall mean all costs, including, but not limited to, direct and indirect costs, that ADEM incurs in reviewing or developing plans, reports and other items under this Agreement, verifying the Work, or otherwise implementing, or overseeing, this Agreement, including but not limited to, payroll costs, contractor costs, travel costs, and laboratory costs.

d. "Anniston Industrial Operations" shall mean those current and former industrial operations listed on Appendix 1.

e. "Anniston PCB Site" shall mean, for purposes of this Agreement, the areas where PCBs associated with releases from the Anniston Industrial Operations, have come to be located.

f. "CERCLA" shall mean the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended, 42 U.S.C. §§ 9601, *et seq.* and regulations promulgated thereunder.

g. "Cleaned up" or "Cleanup" when used in this Agreement means excavation activities conducted in accordance with this Agreement to remove soils containing lead greater than or equal to 400 parts per million (ppm) and/or PCBs greater than or equal to 1 ppm, and the restoration activities conducted in accordance with this Agreement in the areas disturbed by such excavation activities.

h. "Commingled Residential Property" shall mean a Residential Property with both soil lead concentrations greater than or equal to 400 ppm, and soil PCB concentrations greater than or equal to 1 ppm, as determined by sampling and analysis consistent with the procedures set forth in this Agreement.

i. "Consent Decree" shall mean the Partial Consent Decree by and between the United States and Solutia, Inc. and Pharmacia Corporation which was entered in the District Court for the Northern District of Alabama on August 4, 2003, in Civil Action Number CV-02-C-0749-E.

j. "Day" shall mean a calendar day. In computing any period of time under this Agreement, where the last day would fall on a Saturday, Sunday, or Federal holiday, the period shall run until the close of business of the next working day.

k. "Effective Date" shall be the effective date of this Agreement as provided in Section XXXII.

l. "EPA" shall mean the United States Environmental Protection Agency and any successor departments or agencies of the United States.

m. "Existing Contamination" shall mean any hazardous substances, pollutants or contaminants present or existing on or under the Anchor Metals Property, the Anniston Industrial Operation located on or about 1008 Glen Addie Avenue, or any alternative property described in Paragraph 95, as of the date of signature of this Agreement by Respondents.

n. "Foundry Sand" shall mean sand or similar materials generated in the foundry manufacturing process, including molding or core materials or other Waste Materials mixed with such sand or similar materials. "Foundry Sand" may also be known as foundry fill, foundry dirt, and/or pipe shop dirt, among other things.

o. "Future Response Costs" shall mean all costs, including, but not limited to, direct and indirect costs, that the United States incurs in reviewing or developing plans, reports and other items pursuant to this Agreement, verifying the Work, or otherwise implementing, overseeing, or enforcing this Agreement, including but not limited to, payroll costs, contractor costs, travel costs, laboratory costs, the costs incurred pursuant to Paragraph 26 (costs and attorneys fees and any monies paid to secure access, including the amount of just compensation), Paragraph 36 (emergency response), and Paragraph 67 (work takeover)." "Future Response Costs" shall also include all costs, including, but not limited to, direct and indirect costs, that the United States incurs in performing indoor sampling and/or indoor cleaning of PCBs at Residential Properties where Respondents otherwise have Cleanup obligations under Paragraph 16, so long as such sampling and/or removal of indoor PCBs is consistent with the Supplemental Sampling and Analysis Plan dated June 2004, submitted under the Consent Decree for the Anniston PCB Site.

p. "Interest" shall mean interest, compounded annually on the anniversary of the Effective Date, at 2.21%, the current rate specified for interest on investments of the EPA Hazardous Substance Superfund established by 26 U.S.C. § 9507.

q. "National Contingency Plan" or "NCP" shall mean the National Oil and Hazardous Substances Pollution Contingency Plan promulgated pursuant to Section 105 of CERCLA, 42 U.S.C. § 9605, codified at 40 C.F.R. Part 300, and any amendments thereto.

r. "Agreement" shall mean this Administrative Agreement and Order on Consent

and all appendices attached hereto (listed in Paragraph 90). In the event of conflict between this Agreement and any appendix, this Agreement shall control.

s. "Paragraph" shall mean a portion of this Agreement identified by an Arabic numeral.

t. "Parties" shall mean EPA and Respondents.

u. "Past Response Costs" shall mean all costs, including, but not limited to, direct and indirect costs, that the United States paid at or in connection with the Anniston Lead Site through the Effective Date, plus Interest on all such costs through such date.

v. "PCB" or "PCBs" shall mean polychlorinated biphenyls.

w. "RCRA" shall mean the Solid Waste Disposal Act, as amended, 42 U.S.C. §§ 6901, *et seq.* (also known as the Resource Conservation and Recovery Act).

x. "Residential Properties" shall mean properties containing single and multi-family dwellings, apartment complexes, vacant lots in areas zoned residential by local authorities, schools, churches, day-care centers, community centers, playgrounds, and parks, but "Residential Properties" shall not include Undeveloped Vacant Lots.

y. "Respondents" shall mean collectively DII Industries, L.L.C., FMC Corporation, for itself and as the successor to Kilby Steel Company, Inc., and for FMC Technologies, Inc., Huron Valley Steel Corporation, McWane, Inc. for itself and as the successor by merger with Ransom Industries, L.P., MeadWestvaco Corporation, MRC Holdings, Inc., MW Custom Papers, L.L.C., Phelps Dodge Industries, Inc., United Defense, L.P., United States Pipe and Foundry Company, Inc., and Walter Industries, Inc.

z. "Sampling" shall mean, when used to describe Work required of Respondents, sampling and analysis consistent with the procedures set forth in this Agreement, including Paragraphs 16.g., 16.h., and 20.

aa. "Section" shall mean a portion of this Agreement identified by a Roman numeral.

bb. "Site" or "Anniston Lead Site," shall mean, for purposes of this Agreement, the areas where lead associated with releases from the Anniston Industrial Operations, has come to be located.

cc. "Solutia and Pharmacia Lawsuit" shall mean the civil action, filed on or about

October 15, 2003 by Solutia Inc. and Pharmacia Corporation against Respondents and others, No. CV-03-PWG-1345-E in the United States District Court for the Northern District of Alabama.

dd. "State" shall mean the State of Alabama.

ee. "Undeveloped Vacant Lot" shall mean for purposes of this Agreement, properties which are otherwise Residential Properties but that have not been historically or currently developed or re-graded as determined by visual inspection, review of aerial photographs, and review of appropriate county records.

ff. "United States" shall mean the United States of America.

gg. "Waste Material" shall mean 1) any "hazardous substance" under Section 101(14) of CERCLA, 42 U.S.C. § 9601(14); 2) any pollutant or contaminant under Section 101(33) of CERCLA, 42 U.S.C. § 9601(33); or, 3) any "solid waste" under Section 1004(27) of RCRA, 42 U.S.C. § 6903(27).

hh. "Work" shall mean all activities Respondents are required to perform under this Agreement.

ii. "Zone A" shall mean the area within 500 meters of each current or former Anniston Industrial Operation, as depicted on Appendix 2. Only Residential Properties located partially or wholly within 500 meters of each Anniston Industrial Operation shall be included in Zone A. Notwithstanding the foregoing, Zone A shall not include any areas that are included in Zone C or Zone D.

jj. "Zone B" shall mean the area within the dashed yellow line depicted on the map attached as Appendix 3. Only Residential Properties within the yellow line shall be included in Zone B. Notwithstanding the foregoing, Zone B shall not include any areas that are included in Zone A, Zone C or Zone D.

kk. "Zone C" shall mean the area within the solid red line depicted on the map attached as Appendix 4. Only Residential Properties located within the red line shall be included in Zone C. Notwithstanding the foregoing, Zone C shall not include any areas that are included in Zone D.

ll. "Zone D" shall mean the area depicted on Appendix 5 with a dotted blue line. Only Residential Properties located partially or wholly within the Zone D boundary shall be included in Zone D.

IV. FINDINGS OF FACT BY EPA

9. EPA finds the following facts:

a. EPA became aware of soil lead concentrations greater than or equal to 400 ppm in some locations within the Anniston, Alabama area during EPA's investigation of the Anniston PCB Site during 1999 - 2000. EPA has established 400 ppm as the Cleanup standard for lead in residential soils at the Site. Sampling results show that some properties contain lead concentrations greater than or equal to 400 ppm, some properties contain PCB concentrations greater than or equal to 1 ppm PCBs, and some Commingled Residential Properties contain both. The Commingled Residential Properties are part of both the Anniston Lead Site and the Anniston PCB Site.

b. EPA entered into a Consent Decree with Solutia, Inc. and Pharmacia Corporation ("Defendants") for the Anniston PCB Site, which was entered by the District Court for the Northern District of Alabama on August 4, 2003 in Civil Action Number CV-02-C-0749-E. Under the Consent Decree, the Defendants are conducting time critical and non-time critical removal activities, and a remedial investigation and feasibility study at the Anniston PCB Site.

c. Corporate predecessors of Pharmacia Corporation and Solutia, Inc. owned and/or operated a PCB manufacturing plant in Anniston from which PCBs and lead were released into the environment. Millions of pounds of PCBs were released from the plant through the disposal of: PCB liquids, sludges, and other wastes into unlined and uncapped landfills and other areas outside of the plant site; PCBs to sewer lines and surface and groundwater; and PCBs through air and fugitive emissions.

d. Respondents and other persons operated foundries and/or other industrial facilities in the Anniston area from which lead was released into the environment. PCBs were not manufactured by the Respondents, nor were PCBs a raw material in the products manufactured by the Respondents. While Respondents' operations utilized transformers, capacitors, and hydraulic equipment which may have contained PCBs, and from which there may have been periodic leaks and spills which may have been released into the environment, Respondents' potential PCB contribution is minimal in comparison to the millions of pounds of PCBs contributed by Pharmacia Corporation and Solutia, Inc. to the Anniston PCB Site.

e. As set forth in 9.a. above, Commingled Residential Properties are part of both the Anniston Lead Site and the Anniston PCB Site. Under this Agreement, Respondents will be conducting substantial Sampling for PCBs at Residential Properties as well as Cleanup at Commingled Residential Properties. Respondents therefore, will be performing substantial response activities at the Anniston PCB

Site.

f. EPA has been addressing the presence of lead at the Anniston Lead Site through a time critical removal action. EPA sampled approximately 2,000 Residential Properties for lead. Soil lead concentrations greater than or equal to 400 ppm were detected at over 300 of the Residential Properties sampled. As of the Effective Date, EPA has cleaned up approximately 132 of these Residential Properties. Additional Residential Properties remain in need of Sampling, and potential Cleanup.

g. EPA has been cleaning up lead from Residential Properties at the Site based on a three-tiered approach, consistent with EPA's August 2003 *Superfund Lead-Contaminated Residential Sites Handbook*, OSWER 9285.7-50. Tier I properties are Residential Properties with soil lead concentrations greater than 1,200 ppm, and a sensitive population: either a child less than 7 years old, or a pregnant woman residing at the property. Tier II properties are Residential Properties with soil lead concentrations between 400 ppm and 1,200 ppm and a sensitive population, or soil lead concentrations above 1,200 ppm and no sensitive population. Tier III properties are Residential Properties with soil lead concentrations between 400 ppm and 1200 ppm and no sensitive population.

h. The release or threat of release of hazardous substances at the Site and at the Anniston PCB Site may present an imminent and substantial endangerment to the public health, welfare or the environment within the meaning of Section 106(a) of CERCLA, 42 U.S.C. § 9606(a).

V. EPA'S CONCLUSIONS OF LAW AND DETERMINATIONS

10. Based on the Allegations of Fact set forth above, and the Administrative Record supporting this removal action, EPA has determined that:

a. The Anniston Lead Site and the Anniston PCB Site are "facilities" as defined by Section 101(9) of CERCLA, 42 U.S.C. § 9601(9).

b. The lead found at the Anniston Lead Site, as identified in the Allegations of Fact above, is a "hazardous substance" as defined by Section 101(14) of CERCLA, 42 U.S.C. § 9601(14). The PCBs found at the Anniston PCB Site, as identified in the Findings of Fact above, are also "hazardous substances" as defined by Section 101(14) of CERCLA, 42 U.S.C. § 9601(14)

c. Each Respondent is a "person" as defined by Section 101(21) of CERCLA, 42 U.S.C. § 9601(21).

d. Each Respondent arranged for disposal or treatment, or arranged with a transporter for transport for disposal or treatment of hazardous substances at a facility, within the meaning of Section 107(a) of CERCLA, 42 U.S.C. § 9607(a).

e. The conditions described above in Section IV, the Findings of Fact, constitute an actual or threatened "release" of a hazardous substance from a facility as defined by Section 101(22) of CERCLA, 42 U.S.C.§ 9601(22).

f. The removal action required by this Agreement is necessary to protect the public health, welfare, or the environment and, if carried out in compliance with the terms of this Agreement, will be considered consistent with the National Contingency Plan (NCP), as provided in Section 300.700(c)(3)(ii) of the NCP.

g. Subject to Paragraph 66, EPA has determined that the quantity and/or toxic effects of the hazardous substances contributed by Respondents to the Anniston PCB Site is minimal in comparison to other hazardous substances at the Anniston PCB Site, particularly, PCBs contributed by Solutia and/or Pharmacia or their predecessors. In accordance with Section 122(g)(10) of CERCLA, 42 U.S.C. § 9622(g)(10), EPA has determined that Respondents are eligible for an expedited settlement under Section 122(g)(1) of CERCLA, 42 U.S.C. § 9622(g)(1), for the Anniston PCB Site. This Agreement constitutes the settlement of an administrative action within the meaning of Section 122(g) of CERCLA, 42 U.S.C. § 9622(g).

h. EPA has also determined that the Work agreed to be performed by Respondents under this Agreement represents an appropriate settlement of Respondents' potential liability for the Anniston PCB Site.

i. EPA also has determined that implementation of this Agreement will expedite the cleanup of the Anniston PCB Site and the Anniston Lead Site and will avoid prolonged and complicated litigation between the Parties, and that this Agreement is fair, reasonable, and in the public interest.

VI. AGREEMENT AND ORDER

11. Based upon the foregoing Allegations of Fact, Conclusions of Law and Determinations, and the Administrative Record for this Site, it is hereby Agreed that Respondents shall comply with all provisions of this Agreement, including, but not limited to, all attachments to this Agreement and all documents incorporated by reference into this Agreement.

VII. DESIGNATION OF CONTRACTOR, PROJECT COORDINATOR, AND ON-SCENE COORDINATOR

12. Respondents shall retain one or more contractors to perform the Work and shall notify EPA of the name(s) and qualifications of such contractor(s) within thirty (30) days of the Effective Date. Respondents shall also notify EPA of the name(s) and qualification(s) of any other contractor(s) or subcontractor(s) retained to perform the Work at least ten (10) days prior to commencement of such Work. EPA retains the right to disapprove of any or all of the contractors and/or subcontractors retained by Respondents, or of Respondents' choice of itself to do the Work. If EPA disapproves of a selected contractor, Respondents shall retain a different contractor and shall notify EPA of that contractor's name and qualifications within fourteen (14) days of EPA's disapproval. The proposed contractor must demonstrate compliance with ANSI/ASQC E-4-1994, "Specifications and Guidelines for Quality Systems for Environmental Data Collection and Environmental Technology Programs" (American National Standard, January 5, 1995), by submitting a copy of the proposed contractor's Quality Management Plan ("QMP"). The QMP should be prepared in accordance with "EPA Requirements for Quality Management Plans (QA/R-2)" (EPA/240/B0-1/002), or equivalent documentation as required by EPA.

13. Within fourteen (14) days after the Effective Date, Respondents shall designate a Project Coordinator who shall be responsible for administration of all actions by Respondents required by this Agreement and shall submit to EPA the designated Project Coordinator's name, address, telephone number, and qualifications. To the greatest extent possible, the Project Coordinator shall be present on Site or readily available during Site work. EPA retains the right to disapprove of the designated Project Coordinator. If EPA disapproves of the designated Project Coordinator, Respondents shall retain a different Project Coordinator and shall notify EPA of that person's name, address, telephone number, and qualifications within fourteen (14) days following EPA's disapproval. Receipt by Respondents' Project Coordinator of any notice or communication from EPA relating to this Agreement shall constitute receipt by all Respondents.

14. EPA has designated Warren Dixon of Region 4's Emergency Response and Removal Branch, as its On-Scene Coordinator ("OSC") for the Respondents' actions under this Agreement. Except as otherwise provided in this Agreement, Respondents shall direct all submissions required by this Agreement to the OSC at EPA, Region 4, Emergency Response and Removal Branch, 61 Forsyth Street, S.W., Atlanta, Georgia 30303 via a nationally reputable overnight delivery service.

15. EPA and Respondents shall have the right, subject to Paragraph 13, to change their respective designated OSC or Project Coordinator. Respondents shall notify EPA ten (10) days before such a change is made. The initial notification may be made orally, but shall be promptly followed by a written notice.

VIII. WORK TO BE PERFORMED

16. Respondents shall perform the removal activities described below, subject to Paragraph 26. These removal activities include community outreach efforts, Sampling and Cleanup activities, and certain information gathering. All Sampling under this Agreement shall follow the procedures set forth in this Agreement, including Paragraphs 16.g., 16.h., and 20. All Cleanup activities under this Agreement shall follow the procedures set forth in this Agreement, including Paragraphs 16.h and 19. All Work shall be conducted in the sequence specified in Paragraph 17.

a. Cleanup of Residential Properties known, as of Effective Date, to have soil lead concentrations greater than or equal to 400 ppm, in Zones A, B and C.

i. Respondents shall conduct the applicable removal activities described in Paragraph 16.h at the Residential Properties listed on Appendix 6, regardless of their location inside or outside Zones A, B, or C. All of the Residential Properties listed on Appendix 6 are known to have soil lead concentrations greater than or equal to 400 ppm. Some of the Residential Properties on Appendix 6 are Commingled Residential Properties, also having soil PCB concentrations greater than or equal to 1 ppm. Respondents shall meet the requirements of Paragraph 16.h.xi. when addressing the Commingled Residential Properties. Respondents shall perform such Work at each Residential Property, only after the receipt of laboratory data, supporting analytical (QA/QC) information, as well as relevant diagrams and associated notes.

ii. Within 60 days after this Agreement is signed by the United States and EPA, Respondents shall mobilize to the Site to commence the Cleanup of those Residential Properties listed on Appendix 6 to which EPA has obtained access. Pursuant to 40 C.F.R. 300.400(d)(3), Respondents shall be EPA's authorized representatives for purposes of access to such properties. Respondents shall seek access to the remaining Residential Properties listed on Appendix 6 and shall perform Cleanup on such properties as access is obtained. Until Respondents' Work Plans are approved, Respondents shall follow the Interim Work Plan, the interim Quality Assurance Project Plan, and the interim Health and Safety Plan, attached as Appendix 7, the provisions of this Section, and shall perform at a level of effort equivalent to EPA's level of effort. If this Agreement fails to become effective in accordance with Paragraph 91, Respondents may suspend the Work until such time that this Agreement becomes effective.

b. Work Activities in Zone A.

i. Respondents shall Sample all Residential Properties in Zone A, except for those properties for which EPA, as of the Effective Date, has laboratory sample results for lead and PCBs, obtained as part of EPA's removal and enforcement activities at the Anniston Lead Site and/or the Anniston PCB Site.

ii. Respondents' Sampling shall follow the procedures described in this Agreement, including Paragraph 16.g.

iii. Respondents shall conduct Work activities, described in this Agreement, including Paragraph 16.h., at all Residential Properties in Zone A where Sampling detects soil lead concentrations greater than or equal to 400 ppm including Commingled Residential Properties with both soil lead concentrations greater than or equal to 400 ppm, and soil PCB concentrations greater than or equal to 1 ppm.

iv. Where a Residential Property contains soil PCB concentrations greater than or equal to 1 ppm, and no soil lead concentrations greater than or equal to 400 ppm, Respondents shall inform EPA in Residential Property Completion Reports submitted under Paragraph 21.

v. Where Sampling of a Commingled Residential Property listed on Appendix 8 detects a contiguous area larger than one acre which contains soil PCB concentrations greater than or equal to 1 ppm, and no soil lead concentrations greater than or equal to 400 ppm, Respondents shall inform EPA in Residential Property Completion Reports submitted under Paragraph 21, and Respondents shall have no further obligations regarding such contiguous area, except as otherwise provided in Section XX.

c. Activities for Zone B.

i. Community Outreach Efforts for Zone B.

(1) For ninety (90) consecutive days, commencing on a date agreed to in writing by EPA, ("the Community Outreach Period"), Respondents shall undertake efforts to identify Residential Properties in Zone B for Sampling based on the potential presence of Foundry Sand. During the first sixty (60) days of the Community Outreach Period, Respondents shall place radio and newspaper announcements, distribute flyers, and hold public availability sessions, as described below, and for the last thirty (30) days of the

Community Outreach Period, Respondents shall continue to receive responses regarding Residential Properties in Zone B. Any information provided to the Respondents after the Community Outreach Period expires shall be promptly referred to EPA, and Respondents shall have no further obligations with respect to Residential Properties in Zone B for which initial information is provided after the expiration of the Community Outreach Period, except as otherwise provided in Section XX.

(2) Prior to commencing activities required by this Paragraph, Respondents must establish and adequately staff a telephone hotline with a local or toll free number, maintain an email address and establish an informational website.

(3) Respondents shall place a total of eight (8) quarter-page newspaper announcements, one per week for eight (8) weeks, in the Anniston Star, requesting that people who believe they may have Foundry Sand on their Residential Properties call a local or toll free number for Sampling or other follow-up by Respondents.

(4) Respondents shall place a total of 180 radio announcements between the hours of 8 a.m. and 9 p.m. Respondents shall place such radio announcements on each of three popular radio stations in the Anniston area for each day of the first sixty (60) days of the Community Outreach Period, or upon such other schedule approved by EPA. The radio announcements shall request that people who believe they may have Foundry Sand on their Residential Properties in Zone B call a local or toll free number for Sampling or other follow-up by Respondents.

(5) Respondents shall prepare and distribute informational flyers to churches, libraries, and meetings halls in Anniston, West Anniston, Hobson City and Oxford, to the extent such locations are within Zones A, B, or C. The informational flyers shall explain Respondents' activities under this Agreement, and ask people who believe they may have Foundry Sand on their Residential Properties in Zone B to call a local or toll free number for Sampling or other follow-up by Respondents.

(6) Simultaneous with completion of the activities in Paragraph 16.c.i.(1) through 16.c.i.(5), Respondents shall hold at least four (4) public availability sessions, two (2) in West Anniston, one (1) in Hobson City and one (1) in Oxford, at locations within Zones A or

B. During these public availability sessions, Respondents shall explain their activities under this Agreement, and ask people who believe they may have Foundry Sand on their Residential Properties in Zone B to provide their names and addresses and execute access agreements to have their property Sampled.

(7) Respondents shall conduct all community outreach efforts in coordination with EPA, and in accordance with Work Plan(s) submitted by Respondents and approved by EPA.

(8) If Respondents fail to perform all the activities of this Paragraph during the Community Outreach Period, the Community Outreach Period shall be extended for such time as is necessary to complete the activities of this Paragraph.

ii. Sampling Residential Properties identified through community outreach.

(1) Except for those properties for which EPA, as of the Effective Date, has laboratory sample results for lead and PCBs, obtained as part of EPA's removal and enforcement activities at the Anniston Lead Site and the Anniston PCB Site, Respondents shall Sample every Residential Property in Zone B identified during the Community Outreach Period where a property owner or tenant contacts EPA or Respondents in any of the following manners, and reports that the property contains Foundry Sand:

(a) calling the hotline established pursuant to this Agreement;

(b) sending an e-mail to the e-mail address established pursuant to this Agreement; or

(c) registering on an official list at EPA's Anniston Project Office, or at any public meeting or availability session held by EPA or held pursuant to this Agreement, where such list(s) shall be made available.

(2) Except for those properties for which EPA, as of the Effective Date, has laboratory sample results for lead and PCBs, obtained as part of EPA's removal and enforcement activities at the Anniston Lead Site and the Anniston PCB Site, where a property owner or tenant of a Residential Property contacts EPA or Respondents as provided above, and indicates that he/she is unsure about whether his/her Residential Property within Zone B contains Foundry Sand,

Respondents shall conduct a visual screening to determine if visually identifiable Foundry Sand is present, including a visual screening of soil below ground surface collected with a hand auger or similar instrument. The Residential Property will be visually screened, with a special focus on potential fill areas. Respondents shall Sample all Residential Properties discovered through visual inspection to contain Foundry Sand.

(3) Respondents' Sampling shall follow the procedures described in this Agreement, including Paragraph 16.g.

iii. Cleanup of Residential Properties in Zone B.

(1) Respondents shall conduct Work activities, described in this Agreement, including Paragraph 16.h., at all Residential Properties in Zones B where Sampling detects soil lead concentrations greater than or equal to 400 ppm, including Commingled Residential Properties with both soil lead concentrations greater than or equal to 400 ppm, and soil PCB concentrations greater than or equal to 1 ppm.

(2) Where Sampling at a Residential Property in Zone B detects soil PCB concentrations greater than or equal to 1 ppm, and no soil lead concentrations greater than 400 ppm, Respondents shall inform EPA in Residential Property Completion Reports submitted under Paragraph 21, and Respondents shall have no further obligations regarding such Residential Property, except as otherwise provided in Section XX.

(3) Where Sampling of a Commingled Residential Property in Zone B detects a contiguous area larger than one acre which contains soil PCB concentrations greater than or equal to 1 ppm, and no soil lead concentrations greater than or equal to 400 ppm, Respondents shall inform EPA in Residential Property Completion Reports submitted under Paragraph 21, and Respondents shall have no further obligations regarding such contiguous area, except as otherwise provided in Section XX.

d. Work Activities in Zone C.

i. Cleanup of Lead-Only Residential Properties in Zone C. Respondents shall conduct Work activities, described in this Agreement, including Paragraph

16.h., at all Residential Properties in Zone C containing soil lead concentrations greater than or equal to 400 ppm, and no soil PCB concentrations greater than or equal to 1 ppm as detected through sampling not inconsistent with Paragraph 16.g.iii. Respondents' obligations under this Paragraph 16.d. shall not apply to Residential Properties for which such sample results have not been provided to Respondents within three years after the Effective Date.

ii. Cleanup of Commingled Residential Properties in Zone C. Respondents shall not be required to conduct any Sampling or Cleanup activities at Commingled Residential Properties in Zone C, except as set forth in (1) and (2) below.

(1) Cleanup of Commingled Residential Properties listed on Appendix 6. As required by Paragraph 16.a. of this Agreement, Respondents shall Cleanup all Commingled Residential Properties in Zone C that are listed on Appendix 6.

(2) Cleanup of Lead-Only Portions of Commingled Residential Properties in Zone C. Respondents shall conduct Work activities, described in this Agreement, including Paragraph 16.h., at the portion(s) of Commingled Residential Properties in Zone C represented by a composite soil sample containing soil lead concentrations greater than or equal to 400 ppm, but no soil PCB concentrations greater than or equal to 1 ppm, as detected through sampling not inconsistent with Paragraph 16.g.iii.

e. Zone D.

i. Respondents shall have no Sampling or Cleanup obligations under this Agreement regarding Zone D, except as otherwise provided in Section XX.

f. Survey of Potential Disposal areas.

i. For the potential disposal areas listed below, Respondents shall gather information to identify the condition and current use of the disposal area, and the possibility that such area could reasonably cause soil lead levels on nearby Residential Properties to be greater than or equal to 400 ppm lead.

(1) Lot located at the Intersection of Hwy 78 East and Hillyer-Robinson Industrial Parkway;
(2) Lot located between "Loves Supermarket" and Snow Creek, near the intersection of Hwy 21 and Snow St.; and

(3) Lot located between Hwy 21 South and Choccolocco Creek across from the airport.

ii. Respondents' information gathering shall include a review of all relevant information and documents in Respondents' possession or control, or that of their contractors or agents, and a reasonable review of all relevant publicly available information and documents in ADEM files.

iii. Respondents shall report this information in writing to EPA no later than 180 days after the Effective Date.

g. Sampling Procedures.

i. All samples, except X-Ray Fluorescence (XRF) samples, shall be analyzed in a laboratory for lead and PCBs. To ensure an expedient removal, Respondents shall provide for a turnaround time for sample results of no greater than twenty-one (21) days from sample submittal.

ii. All samples, including XRF samples, shall be composite soil samples consisting of five (5) aliquots of surficial soil collected from the top six (6) inches of soil.

iii. For Residential Properties, Respondents shall collect at least one composite soil sample from the front yard, and one composite soil sample from the back yard. If the Residential Property has a substantial side yard, then one composite soil sample shall also be collected from the side yard, in accordance with EPA's August 2003 *Superfund Lead-Contaminated Residential Sites Handbook*, OSWER 9285.7-50. All such samples shall be analyzed in a laboratory for lead and PCBs.

iv. Residential Properties greater than 5,000 square feet. For Residential Properties with a front yard, side yard, or back yard that is greater than 5,000 square feet, Respondents shall sub-divide such Residential Property into grids, in accordance with EPA's August 2003 *Superfund Lead-Contaminated Residential Sites Handbook*, OSWER 9285.7-50, for purposes of collecting composite soil samples for analysis.

(1) At least one composite soil sample shall be collected from each grid.

(2) Respondents may use laboratory or XRF instruments to analyze each composite soil sample from each grid, for the purpose of

identifying the grids with soil lead concentrations greater than or equal to 400 ppm. Upon XRF identification of a grid with soil lead concentrations greater than or equal to 400 ppm, Respondents shall collect and composite five (5) aliquots of surficial soil taken from the top six (6) inches of soil from such grid, and shall perform laboratory analysis of such samples for lead and PCBs. For those grids where, through XRF analysis, lead concentrations are determined to be less than 400 ppm, the OSC shall, in consultation with Respondents, determine the most appropriate sampling procedure for evaluating the presence of PCBs, not inconsistent with the Supplemental Sampling and Analysis Plan dated June 2004, submitted under the Consent Decree for the Anniston PCB Site.

v. Respondents are not required to sample under or within paved or impervious and wooded areas, stationary fixed structures or drip zones, except as required in Paragraph 16.h.xi.

vi. On a quarterly basis, Respondents shall report all Sampling results to EPA in electronic form, compatible with EPA's existing database containing Anniston sample results. Each composite sample must have, where available, a corresponding Calhoun County tax parcel identification number; street address; latitude and longitude coordinates; and, owner and/or tenant information.

vii. Respondents shall inform EPA, in electronic form, as stated above, and in Residential Property Completion Reports, provided under Paragraph 21 of the location of any Residential Properties where Sampling detects soil PCB concentrations greater than or equal to 1 ppm and soil lead concentrations less than 400 ppm. Respondents shall have no further obligations regarding such Residential Properties, except as otherwise provided in Section XX.

viii. Respondents shall devise and implement a program to inform each owner and tenant of the results of Sampling of soil at his or her property. This program shall be implemented such that results are easily understood by the residents and delivered to the residents within thirty (30) days of Respondents' receipt of confirmed Sampling results.

ix. Respondents' Sampling and analysis shall ensure that Respondents can meet the requirements of Paragraph 16.h.xi., below, relating to Commingled Residential Properties.

x. At any Residential Property where sampling activities have been conducted by a person other than Respondents and Respondents lack information on or question the accuracy of supporting laboratory data, analytical information, sampling locations, or sampling methodology, Respondents may propose to conduct Sampling activities, as described in Paragraph 16.g. herein, to determine whether the Cleanup requirements, as described in Paragraph 16.h., apply to such Residential Property.

h. Cleanup Procedures.

i. Respondents shall excavate the top one (1) foot of soil and shall then conduct confirmation Sampling surveys on a grid pattern using accepted XRF techniques on samples from such grids to determine the effectiveness of the removal activity. If soils in any grid have lead concentrations greater than or equal to 400 ppm, Respondents shall continue excavation and confirmation Sampling in such grid until lead concentrations are below 400 ppm, or the excavation reaches two (2) feet below ground surface, which ever occurs first. Once excavation is complete, Respondents shall collect a final composite confirmation sample for laboratory analysis for lead. Respondents shall have no further obligations with respect to lead in soils at Residential Properties beneath two (2) feet below ground surface, except as otherwise provided in Section XX.

ii. Respondents shall excavate the portion(s) of the Residential Property represented by the composite Sample(s) with elevated soil concentrations of lead and/or PCBs, except as otherwise set forth in Paragraph 16.c.iii.(3). For example, if the composite Sample with soil lead concentrations greater than or equal to 400 ppm represents the front yard, Respondents shall excavate the front yard.

iii. If the property owner or tenant identifies a portion(s) of the Residential Property not to be disturbed, such as shrubberies or flowerbeds, Respondents shall exclude those portions from excavation. Respondents shall document the identification of such areas in writing, signed by the property owner or tenant. Further, if the property owner identifies certain plants to be re-planted after the completion of the excavation, Respondents shall similarly document the location of the plants, remove such plants, and replant after Cleanup. Respondents are not required to ensure the survival of replanted plants.

iv. In the Residential Property Completion Reports submitted to EPA under Paragraph 21, Respondents shall describe the location of any area where soil lead concentrations remain greater than or equal to 400 ppm. For

example, Respondents shall describe the location where soil lead concentrations remain greater than or equal to 400 ppm at two (2) feet below ground surface in reports submitted to EPA.

v. Upon completion of the excavation and confirmation Sampling at each property, Respondents shall backfill the excavated area with clean soil suitable for top soil and having appropriate drainage characteristics. Soil used for backfill shall be sampled to screen for hazardous substance contamination. A vegetative cover of Bermuda sod or hydroseed, as appropriate, shall be installed to prevent the erosion of the soil backfill. Respondents shall ensure that the vegetative cover appears visually consistent over the entire area where excavation activities have taken place. Respondents shall irrigate the vegetative cover once after installation, and provide the residents with maintenance instructions for the vegetative cover.

vi. Respondents shall repair or replace hard features in the landscape if removed or damaged in the process of conducting the removal activity. Hard features include, but are not limited to, fences, walls, retaining walls, etc.

vii. Respondents shall, upon a property owner's request, replace landscaping if removed or destroyed in the process of conducting the removal activity by Bermuda sod or clean soil. Landscaping includes, but is not limited to, trees, sod, shrubs, plantings, etc. Respondents do not guarantee the survival of any replaced landscaping.

viii. Respondents shall survey and document the current condition of the structure prior to any excavation. This survey shall include an exterior visual and videotape or pictorial survey of the house, building, deck, patio, sidewalks, hard features, etc. In the event of accidental contact with any of the above features, Respondents shall assess, then repair and/or replace the damaged feature to the extent practicable. Where Respondents' survey evidences damage to a structure prior to excavation, Respondents shall not be required to repair or replace the structure. Written notice shall be given to EPA upon the discovery of any damage immediately upon completion of the assessment.

ix. Respondents shall offer/provide for the temporary relocation of the people residing at the properties at which the removal activities are taking place if excavation/restoration activities are scheduled to exceed five (5) days, or if the OSC otherwise determines that relocation is necessary for health or safety reasons. Relocation shall be offered to the people residing at the

properties at which the removal activities are taking place only for the period in which the removal activities are taking place. Any temporary relocations under this Agreement must meet the requirements of the Uniform Relocation Act (URA), 42 U.S.C. § 4601 *et seq,* 44 C.F.R. Parts 220 - 222, and EPA's April 2002 *Superfund Response Actions: Temporary Relocations Implementation Guidance*, OSWER Directive 9230.0-97.

x. Respondents shall offer/provide temporary relocation of any other people living in the immediate vicinity of the property at which the removal activities are taking place, if EPA determines it is necessary for health and safety reasons. Any temporary relocations under this Agreement must meet the requirements of the Uniform Relocation Act (URA), 42 U.S.C. § 4601 *et seq,* 44 C.F.R. Parts 220 - 222, and EPA's April 2002 *Superfund Response Actions: Temporary Relocations Implementation Guidance*, OSWER Directive 9230.0-97.

xi. Commingled Residential Properties shall be addressed by Respondents in a manner consistent with the final, EPA-approved Residential Soil Removal Work Plan, and the Supplemental Sampling and Analysis Plan dated June 2004, submitted under the Consent Decree for the Anniston PCB Site, to the extent they pertain to the Work described in this Paragraph.

(1) Respondents shall conduct excavation until confirmation sampling during Cleanup of a Commingled Residential Property reflects soil PCB concentrations less than 1 ppm in the top one (1) foot of soil and soil PCB concentrations less than 10 ppm in all remaining sampled soils.

(2) For those Commingled Residential Properties having composite sample PCB levels at or above 1 ppm in surface soils, Respondents shall make an exposure evaluation of the areas under any structures that are accessible solely from the outside, provided that the area is easily accessible, the distance from the ground surface to the ceiling is greater than four feet, and access to the area cannot be permanently restricted through the use of locks, etc. The evaluation shall identify such areas and assess the potential exposure such areas pose to individuals who may use or live at each property. Respondents shall sample any such area if EPA determines that it poses a potential direct contact threat. If any such area is sampled and the sample results indicate PCB concentrations at or above 1 ppm, Respondents will determine and, subject to EPA approval, provide the appropriate institutional/engineering controls to protect human health and the environment.

17. Work Plans and Implementation.

a. All Work required under this Agreement shall be conducted in a timely and logical manner, pursuant to the schedule and in the sequence set forth herein.

b. Respondents shall submit, no later than ninety (90) days after the Effective Date, Work Plan(s) explaining in detail how Respondents will perform the Work required under this Agreement. Respondents' Work Plan(s) shall comply with the following requirements:

i. Respondents' Work Plan(s) shall include schedules with specific initiation and completion dates, and a level of effort that will be met for all Work. In particular, the Work Plan shall include schedules for finalization and approval of the list of all Residential Properties to be subject to visual screening, Sampling and/or Cleanup, and of access agreements that could not, despite Respondents' best efforts, be secured under this Agreement.

ii. Respondents' Work Plan(s) shall include procedures for Sampling and analysis to be performed in the manner described in Paragraphs 16.g., 16.h., and 20.

iii. Respondents' Work Plan(s) shall include procedures for performance of physical on-Site activities, such as excavation, backfilling, and vegetative cover installation in the manner described in Paragraph 16.h., and shall include a process for prioritizing the Cleanup of Tier I, Tier II, and Tier III properties (See Paragraph 9.g.), staged on a neighborhood or other geographic basis, and a process for incorporating into Respondents Cleanup efforts, those Residential Properties in Zone C at which Respondents shall perform removal activities (See Paragraph 16.d.).

iv. For Residential Properties within Zone B, Respondents' Work Plan(s) shall include a community outreach plan that includes a process for coordinating Respondents' community outreach efforts with EPA, a process for determining the beginning and end of the ninety (90) day Community Outreach Period, and a process to determine whether Respondents have performed all required community outreach activities during such ninety (90) day period.

v. Respondents' Work Plan(s) shall include procedures for obtaining access in the manner described in Section IX (Site Access), and shall include proposed access agreements for the various activities required under this Agreement, names of owners and tenants of Residential Properties for

which access is needed, along with telephone numbers, if telephone numbers are available, and schedules for contacting owners and obtaining access agreements. Respondents shall provide such information in the quarterly reports submitted under Paragraph 22.

vi. Respondents' Work Plan(s) shall set forth procedures for gathering required information about the condition and current use of potential disposal areas listed under Paragraph 16.f., and for visually assessing the possibility that any such area could reasonably cause soil lead levels on nearby Residential Properties to be greater than or equal to 400 ppm lead. If EPA and Respondents determine that the potential disposal areas listed under Paragraph 16.f. could reasonably cause soil lead levels on nearby Residential Properties to be greater than or equal to 400 ppm lead, Respondents shall Sample such Residential Properties, and Cleanup such Residential Properties where Sampling detects lead soil levels greater than or equal to 400 ppm lead.

vii. Upon EPA's approval of the Work Plan(s) in accordance with Paragraph 18, Respondents shall implement the Work in accordance with the following schedule:

(1) Respondents shall implement procedures to gain access for the investigation of Zone A and for the continued Cleanup of Residential Properties listed on Appendix 6 as soon as practicable, but no later than thirty (30) days after EPA approves Respondents' Work Plan relating to access procedures.

(2) Respondents shall commence Sampling of Residential Properties in Zone A, as soon as practicable, but no later than thirty (30) days after obtaining twenty-five (25) access agreements for such Residential Properties. Notwithstanding any other time frame(s) set forth in this Agreement, Respondents shall ensure that their Sampling and Cleanup activities remain reasonably continuous until all Sampling and Cleanup activities under this Agreement are completed.

(3) Within thirty (30) days after receipt of Sampling results from at least ten (10) Residential Properties in Zone A indicating that Cleanup is required, Respondents shall implement procedures to obtain access agreements for the Cleanup of such Residential Properties, and, as soon as practicable after such access is obtained, Respondents shall commence Cleanup of such Residential Properties.

(4) Respondents shall attempt to obtain access agreements, whenever practicable, during the Community Outreach Period. No later than thirty (30) days after completion of the Community Outreach Period, Respondents shall implement procedures to obtain access agreements for the Sampling and visual screening of those Residential Properties within Zone B for which Sampling and/or visual screening is required; and, as soon as practicable after such access is obtained, Respondents shall commence Sampling and visual screening of such Residential Properties.

(5) Respondents shall Sample those Residential Properties identified through visual screening to require Sampling, as soon as practicable after visual screening.

(6) Within thirty (30) days after receipt of Sampling results for at least ten (10) Residential Properties in Zone B indicating that Cleanup is required, Respondents shall implement procedures to obtain access agreements for the Cleanup of such Residential Properties, and, as soon as practicable after such access is obtained, Respondents shall commence Cleanup of such Residential Properties.

c. All Work Plans under this Agreement shall include a Quality Assurance Project Plan ("QAPP"). The QAPP shall be prepared in accordance with "EPA Requirements for Quality Assurance Project Plans (QA/R-5)" (EPA/240/B-01/003, March 2001), and "EPA Guidance for Quality Assurance Project Plans (QA/G-5)" (EPA/600/R-98/018, February 1998).

18. EPA approval, disapproval, revisions or modifications of Work Plans.

a. EPA may approve, disapprove, require revisions to, or modify any Work Plan(s), in whole or in part, as long as such action is not inconsistent with this Agreement. If EPA requires revisions, Respondents shall submit a revised draft Work Plan within thirty (30) days of receipt of EPA's notification of the required revisions. Respondents shall implement the Work Plan as approved in writing by EPA in accordance with the schedule approved by EPA. Once approved, or approved with modifications, the Work Plan(s), the schedule, and any subsequent modifications shall be incorporated into and become fully enforceable under this Agreement.

b. Respondents shall not commence any Work except in conformance with the terms of this Agreement. Respondents shall not commence implementation of any Work Plan(s) developed hereunder until receiving written EPA approval pursuant to this Paragraph.

19. Health and Safety Plan.

a. Within ninety (90) days after the Effective Date, Respondents shall submit for EPA review and comment, a plan that ensures the protection of the public health and safety during performance of Work under this Agreement. This plan shall be prepared in accordance with EPA's Standard Operating Safety Guide (PUB 9285.1-03, PB 92-963414, June 1992). In addition, the plan shall comply with all currently applicable Occupational Safety and Health Administration regulations found at 29 C.F.R. Part 1910. Respondents shall incorporate all changes to the plan recommended by EPA and shall implement the plan during the pendency of the removal action.

20. Quality Assurance and Sampling.

a. All Sampling, laboratory analyses, and XRF measurements performed pursuant to this Agreement shall conform to EPA direction, approval, and guidance regarding sampling, quality assurance/quality control ("QA/QC"), data validation, and chain of custody procedures. Respondents shall ensure that the laboratory used to perform the analyses participates in a QA/QC program that complies with the appropriate EPA guidance. Respondents shall follow, as appropriate, "Quality Assurance/Quality Control Guidance for Removal Activities: Sampling QA/QC Plan and Data Validation Procedures" (OSWER Directive No. 9360.4-01, April 1, 1990), as guidance for QA/QC and sampling. Respondents shall only use laboratories that have a documented Quality System that complies with ANSI/ASQC E-4 1994, "Specifications and Guidelines for Quality Systems for Environmental Data Collection and Environmental Technology Programs" (American National Standard, January 5, 1995), and "EPA Requirements for Quality Management Plans (QA/R-2) (EPA/240/B-01/002, March 2001)," or equivalent documentation as determined by EPA. EPA may consider laboratories accredited under the National Environmental Laboratory Accreditation Program ("NEAP") as meeting the Quality System requirements.

b. Upon request by EPA, Respondents shall have such an accredited laboratory analyze samples submitted by EPA for QA monitoring. Respondents shall provide to EPA the QA/QC procedures followed by all sampling teams and laboratories performing data collection and/or analysis. This information shall be provided in the QAPP as specified in Paragraph 17.c.

c. Upon request by EPA, Respondents shall allow EPA or its authorized representatives to take split and/or duplicate samples. Respondents shall periodically provide the OSC with their updated Sampling schedule. EPA shall have the right to take any additional samples that EPA deems necessary. Upon

request, EPA shall allow Respondents to take split or duplicate Samples of any samples it takes as part of its oversight of Respondents' implementation of the Work.

21. Residential Property Completion Reports.

a. On a quarterly basis, Respondents shall prepare and submit to EPA Residential Property Completion Reports for each Residential Property identified by Respondents as requiring no further Work under this Agreement, including:

i. Residential Properties in Zone B where no evidence of Foundry Sand was observed based upon visual screening;
ii. Sampled Residential Properties in Zone A and Zone B with soil lead concentrations detected at less than 400 ppm and soil PCB concentrations detected at less than 1 ppm,
iii. Sampled Residential Properties in Zone A and Zone B with soil PCB concentrations detected at greater than 1 ppm and soil lead concentrations detected at less than or equal to 400 ppm; and,
iv. Residential Properties where removal/Cleanup procedures have been completed; and
v. Residential Properties that have been determined to be Undeveloped Vacant Lots.

b. In each Completion Report, Respondents shall include all the relevant information and documentation in support of their conclusion that no further Work by Respondents is required. Each Completion Report shall also include the following certification signed by a person who supervised or directed the preparation of that report:

"Under penalty of law, I certify that to the best of my knowledge, after appropriate inquiries of all relevant persons involved in the preparation of the report, the information submitted is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

c. EPA shall review each Residential Property Completion Report, and if EPA identifies deficiencies, EPA will notify Respondents, provide a list of the deficiencies, and require that Respondents modify the Residential Property Completion Report, if appropriate, in order to correct such deficiencies. Respondents shall submit the modified Residential Property Completion Report in accordance with the EPA notice.

22. Reporting.

a. Respondents shall submit written progress reports to EPA concerning actions undertaken pursuant to this Agreement, on a quarterly basis, until termination of this Agreement, unless otherwise directed in writing by the OSC.

i. These reports shall describe all significant developments during the preceding period, including the actions performed and any problems encountered, analytical data received during the reporting period including Sampling locations and Sampling results, and the developments anticipated during the next reporting period, including a schedule of actions to be performed, anticipated problems, and planned resolutions of past or anticipated problems. All reports containing Sampling data must also include cumulative Sampling maps, showing cumulative Sampling results for lead differentiated by Tier I, Tier II, and Tier III, (See Paragraph 9.g.), and PCBs. All data relating to Sampling and Cleanup activities must also be submitted in electronic form in a manner that is compatible with EPA's existing database containing data on sampling and cleanup activities in Anniston, Alabama.

ii. These reports shall list every Residential Property where Respondents, after using their "best efforts," were not able to obtain access by the time of submission of the report, and shall list all of Respondents' efforts to obtain access.

b. Respondents shall submit 4 copies of all plans, reports or other submissions required by this Agreement, or any approved Work Plan, as well as an electronic copy.

c. If Respondents own or lease Residential Property at the Site, such Respondents shall, at least thirty (30) days prior to the conveyance of any interest in real property at the Site, give written notice to the transferee that the Residential Property is potentially subject to this Agreement and written notice to EPA and the State of the proposed conveyance, including the name and address of the transferee. Respondents who own or lease property at the Site also agree to require that their transferees comply with the immediately proceeding sentence and Sections IX (Site Access) and X (Access to Information).

23. Final Report. Within thirty (30) days after completion of all Work required by this Agreement, Respondents shall submit for EPA review and approval a final report summarizing the actions taken to comply with this Agreement. The final report shall conform to the requirements set forth in Section 300.165 of the NCP entitled "OSC Reports" and shall also comply with the requirements set forth in "Superfund Removal

Procedures: Removal Response Reporting – POLREPS and OSC Reports" (OSWER Directive No. 9360.3-03, June 1, 1994). The final report shall include a good faith estimate of total costs or a statement of actual costs incurred in complying with the Agreement, a listing of quantities and types of materials removed off-Site or handled on-Site, a discussion of removal and disposal options considered for those materials, a listing of the ultimate destination(s) of those materials, and a summary of the analytical results of all Sampling and analyses performed. The final report shall also include the following certification signed by a person who supervised or directed the preparation of that report:

> "Under penalty of law, I certify that to the best of my knowledge, after appropriate inquiries of all relevant persons involved in the preparation of the report, the information submitted is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

24. Off-Site Shipments.

a. Respondents shall, prior to any off-Site shipment of Waste Material from the Site to an out-of-state waste management facility, provide written notification of such shipment of Waste Material to the appropriate state environmental official in the receiving facility's state and to the On-Scene Coordinator. However, this notification requirement shall not apply to any off-Site shipments when the total volume of all such shipments will not exceed 10 cubic yards.

i. Respondents shall include in the written notification the following information: 1) the name and location of the facility to which the Waste Material is to be shipped; 2) the type and quantity of the Waste Material to be shipped; 3) the expected schedule for the shipment of the Waste Material; and 4) the method of transportation. Respondents shall notify the state in which the planned receiving facility is located of major changes in the shipment plan, such as a decision to ship the Waste Material to another facility within the same state, or to a facility in another state.

ii. The identity of the receiving facility and state will be determined by Respondents following the award of the contract for the removal action. Respondents shall provide the information required by Paragraph 24(a) and 24(b) as soon as practicable after the award of the contract and before the Waste Material is actually shipped.

b. Before shipping any hazardous substances, pollutants, or contaminants from the Site to an off-site location, Respondents shall obtain EPA's certification that the proposed receiving facility is operating in compliance with the requirements of

CERCLA Section 121(d)(3), 42 U.S.C. § 9621(d)(3), and 40 C.F.R. § 300.440. Respondents shall only send hazardous substances, pollutants, or contaminants from the Site to an off-site facility that complies with the requirements of the statutory provision and regulation cited in the preceding sentence.

IX. SITE ACCESS

25. If the Site, or any other property where access is needed to implement this Agreement, is owned or leased by any of the Respondents, such Respondents shall, commencing on the Effective Date, provide EPA and its representatives, including contractors with access at all reasonable times to the Site, or such other property, for the purpose of conducting any activity related to this Agreement.

26. Where any action under this Agreement is to be performed in areas owned by or in possession of someone other than Respondents, Respondents shall use their "best efforts" to obtain all access agreements from owners and tenants that are necessary for the Work, in accordance with time frames in Section VIII, or as otherwise specified in the Work Plan(s) or in writing by the OSC.

a. If Respondents are unable to obtain such access agreements after using their "best efforts," Respondents shall notify EPA in reports submitted under Paragraph 22. EPA may then assist Respondents in gaining access, to the extent necessary to effectuate the response actions described herein, using such means as EPA deems appropriate. Respondents shall reimburse EPA for all costs and attorney's fees incurred by the United States in obtaining such access, in accordance with the procedures in Section XV (Payment of Response Costs). Notwithstanding the foregoing, Respondents shall not be required to reimburse the United States for any monies paid by the United States to an owner or tenant of a Residential Property to secure access to such Residential Property, except for payments made upon order of a court, or payments made after the consent of Respondents. If Respondents do not provide such consent, EPA reserves whatever rights it may have to seek recovery of such payments from Respondents.

b. For purposes of this Paragraph, "best efforts" are defined as an initial mailing, two follow-up telephone calls or visits after business hours, and a certified letter from Respondents to the property owners, tenants, or their authorized representatives requesting an access agreement to permit Respondents access to the property to conduct the activities required under this Agreement. The property owners, tenants, or their authorized representatives shall have thirty (30) days from receipt of the certified mailing to respond.

c. Respondents shall detail in a log their efforts to obtain access, including the dates

and times of all telephone calls and visits, the date the certified letter was mailed, the date the notice of delivery was received, and either the date of the response by the property owners, tenants, or their authorized representatives, or the date EPA was notified of the property owners', tenants', or their authorized representatives' failure to respond.

27. Notwithstanding any provision of this Agreement, EPA retains all of its access authorities and rights as well as all of its rights to require land/water use restrictions, including enforcement authorities related thereto, under CERCLA, RCRA, and any other applicable statutes or regulations.

X. ACCESS TO INFORMATION

28. Respondents shall provide to EPA, upon request, copies of all non-privileged documents and information within their possession or control or that of their contractors or agents relating to activities at the Anniston Lead Site and/or the Anniston PCB Site or to the implementation of this Agreement, including, but not limited to, sampling, analysis, chain of custody records, manifests, trucking logs, receipts, reports, sample traffic routing, correspondence, or other documents or information related to the Work. Respondents shall also make available to EPA, for purposes of investigation, information gathering, or testimony, their employees, agents, or representatives with knowledge of relevant facts concerning the performance of the Work, excluding their attorneys.

29. Respondents may assert business confidentiality claims covering part or all of the documents or information submitted to EPA under this Agreement to the extent permitted by and in accordance with Section 104(e)(7) of CERCLA, 42 U.S.C. § 9604(e)(7), and 40 C.F.R. § 2.203(b). Documents or information determined to be confidential by EPA will be afforded the protection specified in 40 C.F.R. Part 2, Subpart B. If no claim of confidentiality accompanies documents or information when they are submitted to EPA, or if EPA has notified Respondents that the documents or information are not confidential under the standards of Section 104(e)(7) of CERCLA or 40 C.F.R. Part 2, Subpart B, the public may be given access to such documents or information without further notice to Respondents.

30. Respondents may assert that certain documents, records and other information are privileged under the attorney-client privilege or any other privilege recognized by federal law. If the Respondents assert such a privilege in lieu of providing documents, they shall provide EPA with the following, unless an alternate format is agreed upon by EPA: 1) the title of the document, record, or information; 2) the date of the document, record, or information; 3) the name and title of the author of the document, record, or information; 4) the name and title of each addressee and recipient; 5) a description of the contents of the document, record, or information; and 6) the privilege asserted by Respondents.

31. No documents, reports or other information created or generated as a requirement of this Agreement shall be withheld on the grounds that they are privileged, including, but not limited to, all sampling, analytical, monitoring, hydrogeologic, scientific, chemical, or engineering data.

XI. RECORD RETENTION

32. Until Five (5) years after Respondents' receipt of EPA's notification pursuant to Section XXVIII (Notice of Completion of Work), each Respondent shall preserve and retain all non-identical copies of records and documents (including records or documents in electronic form), other than attorney work product, now in its possession or control or which come into its possession or control that relate in any manner to the performance of the Work or the liability of any person under CERCLA with respect to the Anniston Lead Site and/or the Anniston PCB Site, regardless of any corporate retention policy to the contrary. Until Five (5) years after Respondents' receipt of EPA's notification pursuant to Section XXVIII (Notice of Completion of Work), Respondents shall also instruct their contractors and agents to preserve all documents, records, and information of whatever kind, nature or description relating to performance of the Work.

33. At the conclusion of this document retention period, Respondents shall notify EPA at least ninety (90) days prior to the destruction of any such records or documents described in Paragraph 32 above. Alternatively, Respondents may, subject to assertion of privilege, deliver any such records or documents to EPA in advance of the conclusion of this document retention period. Respondents may assert that certain documents, records and other information are privileged under the attorney-client privilege or any other privilege recognized by federal law. If Respondents assert such a privilege, they shall provide EPA with the following, unless an alternative format is agreed upon by EPA: 1) the title of the document, record, or information; 2) the date of the document, record, or information; 3) the name and title of the author of the document, record, or information; 4) the name and title of each addressee and recipient; 5) a description of the subject of the document, record, or information; and 6) the privilege asserted by Respondents. However, no documents, reports or other information created or generated as a requirement of this Agreement shall be withheld on the grounds that they are privileged.

34. Each Respondent hereby certifies individually that to the best of its knowledge and belief, after thorough inquiry, it has not altered, mutilated, discarded, destroyed or otherwise disposed of any records, documents or other information (other than identical copies) evidencing to its potential liability regarding the Anniston Lead Site and/or the Anniston PCB Site since service upon them of the Solutia and Pharmacia Lawsuit, and that it has fully complied with any and all EPA requests for information regarding the Anniston Lead Site and/or the Anniston PCB Site pursuant to Sections 104(e) and 122(e) of

CERCLA, 42 U.S.C. §§ 9604(e) and 9622(e), and Section 3007 of RCRA, 42 U.S.C. § 6927.

XII. COMPLIANCE WITH OTHER LAWS

35. Respondents shall perform all actions required pursuant to this Agreement in accordance with all applicable local, state, and federal laws and regulations except as provided in Section 121(e) of CERCLA, 42 U.S.C. § 6921(e), and 40 C.F.R. §§ 300.400(e) and 300.415(j). In accordance with 40 C.F.R. § 300.415(j), all on-Site actions required pursuant to this Agreement have been determined by EPA, considering the exigencies of the situation, to attain applicable or relevant and appropriate requirements ("ARARs") under federal environmental or state environmental or facility siting laws. Respondents shall identify ARARs, if any, in the Work Plans subject to EPA approval. Subject only to a subsequent determination by EPA pursuant Paragraphs 65.b. and/or 66.b. of this Agreement, EPA has determined that the Work set forth in this Agreement attains such ARARs. Any modifications made to the Work shall take such ARARs into account.

XIII. EMERGENCY RESPONSE AND NOTIFICATION OF RELEASES

36. In the event of any action or occurrence during performance of the Work which causes or threatens a release of Waste Material from the Site that constitutes an emergency situation or may present an immediate threat to public health or welfare or the environment, Respondents shall immediately take all appropriate action. Respondents shall take these actions in accordance with all applicable provisions of this Agreement, including, but not limited to, the Health and Safety Plan, in order to prevent, abate or minimize such release or endangerment caused or threatened by the release. Respondents shall also immediately notify the OSC, Warren Dixon, at (404) 229-9519 or (404) 562-8739, and the National Response Center at (800) 424-8802 of the incident or Site conditions. In the event that Respondents fail to take appropriate response action as required by this Paragraph, and EPA takes such action instead, Respondents shall reimburse EPA all costs of the response action incurred in a manner not inconsistent with the NCP pursuant to Section XV (Payment of Response Costs).

37. In addition, in the event of any release of a hazardous substance from the Site in amounts at or above a reportable quantity, Respondents shall immediately notify the OSC, Warren Dixon, at (404) 229-9519 or (404) 562-8739, and the National Response Center at (800) 424-8802. Respondents shall submit a written report to EPA within seven (7) days after each release, setting forth the events that occurred and the measures taken or to be taken to mitigate any release or endangerment caused or threatened by the release and to prevent the reoccurrence of such a release. This reporting requirement is in addition to, and not in lieu of, reporting under Section 103(c) of CERCLA, 42 U.S.C. § 9603(c), and Section 304 of the Emergency Planning and Community Right-To-Know Act of 1986, 42

U.S.C. § 11004, *et seq.*

XIV. AUTHORITY OF ON-SCENE COORDINATOR

38. The OSC shall be responsible for overseeing Respondents' implementation of this Agreement. The OSC shall have the authority vested in an OSC by the NCP, including the authority to halt, conduct, or direct any Work required by this Agreement. Absence of the OSC from the Site shall not be cause for stoppage of work unless specifically directed by the OSC.

XV. PAYMENT OF RESPONSE COSTS

39. Payment for Past Response Costs.

a. Respondents shall pay to EPA Three Million Two Hundred Fifty Thousand Dollars ($3,250,000.00) for Past Response Costs, as follows:

i. Within thirty (30) days after the Effective Date, Respondents shall make an initial payment to EPA in the amount of $812,500.00.

ii. Within one year after the Effective Date, Respondents shall make a second payment to EPA in the amount of $812,500.00.

iii. Within two years after the Effective Date, Respondents shall make a third payment to EPA in the amount of $812,500.00.

iv. Within three years after the Effective Date, Respondents shall make a fourth payment to EPA in the amount of $812,500.00, plus all accrued Interest on unpaid balances accrued from the Effective Date through the date of the fourth payment.

v. Payments shall be made to EPA by Electronic Funds Transfer ("EFT") in accordance with current EFT procedures, to Bank of America, Route #111000012, Account Number 3750217962.

b. At the time of payment, Respondents shall send notice that such payment has been made, along with a statement identifying the name and address of the party(ies) making payment, the Site name, the EPA Region and Site/Spill ID Number A43T, and the EPA docket number for this Agreement to:

Paula V. Batchelor
US EPA, Region 4

61 Forsyth Street, S.W.
Atlanta, Georgia 30303

c. The total amount to be paid by Respondents pursuant to Paragraph 39(a) shall be deposited in the Anniston Lead Site Special Account within the EPA Hazardous Substance Superfund to be retained and used to conduct or finance response actions at or in connection with the Anniston Lead Site, or to be transferred by EPA to the EPA Hazardous Substance Superfund.

40. Payments for Future Response Costs of United States.

a. Respondents shall pay EPA all Future Response Costs incurred in a manner not inconsistent with the NCP. EPA shall send Respondents a bill requiring payment that includes a Region 4 cost summary and a Department of Justice cost summary, which includes direct and indirect costs incurred by EPA and Department of Justice and their contractors. EPA will attempt to do so on an annual basis. EPA's failure to send Respondents a bill for any particular year does not prevent EPA from seeking recovery of those costs in any subsequent year. Respondents shall make all payments within sixty (60) days of receipt of each bill requiring payment, except as otherwise provided in Paragraph 42 of this Agreement.

b. Respondents shall make all payments required by this Paragraph by a certified or cashier's check or checks made payable to "EPA Hazardous Substance Superfund," referencing the name and address of the party(ies) making payment and EPA Site/Spill ID number A43T. Respondents shall send the check(s) to:

US EPA Region 4
Superfund Accounting
Attention: Collection Officer in Superfund
P.O. Box 100142
Atlanta, Georgia 30384

c. At the time of payment, Respondents shall send notice that payment has been made, along with a statement identifying the name and address of the party(ies) making payment, the Site name, the EPA Region and Site/Spill ID Number A43T, and the EPA docket number for this Agreement to:

Paula V. Batchelor
US EPA, Region 4
61 Forsyth Street, S.W.
Atlanta, Georgia 30303:

d. The total amount to be paid by Respondents pursuant to this Paragraph shall be

deposited in the Anniston Lead Site Special Account within the EPA Hazardous Substance Superfund to be retained and used to conduct or finance response actions at or in connection with the Anniston Lead Site, or to be transferred by EPA to the EPA Hazardous Substance Superfund.

41. In the event that the payment for Past Response Costs is not made within the time set forth in Paragraph 39, or the payments for Future Response Costs are not made within sixty (60) days of Respondents' receipt of a bill, Respondents shall pay Interest on the unpaid balance. The Interest on Past Response Costs shall begin to accrue on the Effective Date and shall continue to accrue until the date of payment. The Interest on Future Response Costs shall begin to accrue on the date of the bill and shall continue to accrue until the date of payment. Payments of Interest made under this Paragraph shall be in addition to such other remedies or sanctions available to the United States by virtue of Respondents' failure to make timely payments under this Section, including but not limited to, payment of stipulated penalties pursuant to Section XVIII.

42. Respondents may dispute all or part of a bill for Future Response Costs submitted under this Agreement, if Respondents allege that EPA has made an accounting error, or if Respondents allege that a cost item was incurred in a manner not consistent with the NCP. If any dispute over costs is resolved before payment is due, the amount due will be adjusted as necessary. If the dispute is not resolved before payment is due, Respondents shall pay the full amount of the uncontested costs to EPA as specified in Paragraph 40 on or before the due date. Within the same time period, Respondents shall pay the full amount of the contested costs into an interest-bearing escrow account. Respondents shall simultaneously transmit a copy of both checks to the persons/addresses listed in Paragraph 40 above. Respondents shall ensure that the prevailing party or parties in the dispute shall receive the amount upon which they prevailed from the escrow funds plus interest within fourteen (14) days after the dispute is resolved.

43. Payments for ADEM's Oversight Costs.

a. Respondents shall pay ADEM's Oversight Costs not inconsistent with the NCP, up to Two Hundred Thousand Dollars ($200,000.00) per year. On a periodic basis, ADEM will send Respondents a bill requiring payment that includes a cost summary, with information equivalent to EPA Region 4's cost summary. Respondents shall make all payments within sixty (60) days of receipt of each bill requiring payment, except as otherwise provided in this Paragraph. Respondents' obligation to pay ADEM's Oversight Costs shall be contingent on receipt by EPA of a written document from ADEM stating that (1) ADEM's oversight activities at the Site will be coordinated with, and to the extent possible not duplicative of, EPA oversight activities, and (2) ADEM does not intend to seek recovery against Respondents of any ADEM Oversight Costs exceeding $200,000.00 per year with respect to Respondents' performance under this Agreement.

b. In the event that the payment for ADEM's Oversight Costs are not made within sixty (60) days of Respondents' receipt of a bill, Respondents shall pay Interest on the unpaid balance. The Interest on Oversight Costs shall begin to accrue on the date of the bill and shall continue to accrue until the date of payment. Payments of Interest made under this Paragraph shall be in addition to such other remedies or sanctions available to the United States by virtue of Respondents' failure to make timely payments under this Section, including but not limited to, payment of stipulated penalties pursuant to Section XVIII.

c. Respondents shall make all payments required by this Paragraph by a certified or cashier's check or checks made payable to "Alabama Department of Environmental Management," referencing the name and address of the party(ies) making payment and the EPA Site/Spill ID number A43T. Respondents shall send the check(s) to:

Alabama Department of Environmental Management
Attention: Chief, Land Division
P.O. Box 301463
Montgomery, Alabama 36130

d. Respondents may dispute all or part of a bill for ADEM's Oversight Costs submitted under this Agreement, if Respondents allege that ADEM has made an accounting error, or if Respondents allege that a cost item is inconsistent with the NCP. If any dispute over costs is resolved before payment is due, the amount due will be adjusted as necessary. If the dispute is not resolved before payment is due, Respondents shall pay the full amount of the uncontested costs to ADEM as specified in this Paragraph on or before the due date. Within the same time period, Respondents shall pay the full amount of the contested costs into an interest-bearing escrow account. Respondents shall simultaneously transmit a copy of both checks to the person listed in this Paragraph. Respondents shall ensure that the prevailing party or parties in the dispute shall receive the amount upon which they prevailed from the escrow funds plus interest within fourteen (14) days after the dispute is resolved.

XVI. DISPUTE RESOLUTION

44. Unless otherwise expressly provided for in this Agreement, the dispute resolution procedures of this Section shall be the exclusive mechanism for resolving disputes arising under this Agreement. The Parties shall attempt to resolve any disagreements concerning this Agreement expeditiously and informally.

45. If Respondents object to any EPA action taken pursuant to this Agreement, including billings for Future Response Costs, they shall notify EPA in writing of their objection(s) within fourteen (14) days of such action, unless the objection(s) has/have been resolved informally. EPA and Respondents shall have sixty (60) days from EPA's receipt of Respondents' written objection(s) to resolve the dispute through formal negotiations (the "Negotiation Period"). The Negotiation Period may be extended at the sole discretion of EPA.

46. Any agreement reached by the parties pursuant to this Section shall be in writing and shall, upon signature by both parties, be incorporated into and become an enforceable part of this Agreement. If the Parties are unable to reach an agreement within the Negotiation Period, the Director of the Waste Management Division, EPA Region 4, or a higher level manager in Region 4, if requested by Respondents, will issue a written decision on the dispute to Respondents. EPA's decision shall be incorporated into and become an enforceable part of this Agreement, to the extent it is not otherwise inconsistent with this Agreement. In any action by the United States to enforce EPA's written decision on a dispute relating to Sections XIX, XX, XXI, XXIII, or XXIV of this Agreement, Respondents collectively and individually retain all rights they may have, and judicial review of any such action shall be governed by applicable principles of law. Respondents' obligations under this Agreement that are not otherwise implicated by the dispute shall not be tolled by submission of any objection for dispute resolution under this Section. Following resolution of the dispute, as provided by this Section, Respondents shall fulfill the requirement that was the subject of the dispute in accordance with the agreement reached or with EPA's decision, whichever occurs.

47. If Respondents object to ADEM's billings for Oversight Costs, they shall notify ADEM in writing of their objection(s) within fourteen (14) days of their receipt of ADEM's bill, unless the objection(s) has/have been resolved informally. ADEM and Respondents shall have sixty (60) days from ADEM's receipt of Respondents' written objection(s) to resolve the dispute through formal negotiations (the "ADEM Negotiation Period"). The ADEM Negotiation Period may be extended upon the mutual agreement of ADEM and the Respondents.

48. Any agreement reached by ADEM and Respondents pursuant to Paragraph 47 shall be in writing and shall, upon signature by both parties, be incorporated into and become an enforceable part of this Agreement. If the Parties are unable to reach an agreement within the ADEM Negotiation Period, ADEM shall retain its rights to seek such costs in a court of competent jurisdiction, and if ADEM prevails, Respondents shall pay such contested costs together with Interest and attorneys fees.

XVII. FORCE MAJEURE

49. Respondents agree to perform all requirements of this Agreement within the time limits established under this Agreement, unless the performance is delayed by a *force majeure*. For purposes of this Agreement, a *force majeure* is defined as any event arising from causes beyond the control of Respondents, or of any entity controlled by Respondents, including but not limited to their contractors and subcontractors, which delays or prevents performance of any obligation under this Agreement despite Respondents' best efforts to fulfill the obligation. *Force majeure* does not include financial inability to complete the Work, or increased cost of performance, or a failure to attain performance standards or action levels set forth in this Agreement, or any plans submitted hereunder.

50. If any event occurs or has occurred that will or is likely to delay the performance of any obligation under this Agreement, whether or not caused by a *force majeure* event, Respondents shall notify the OSC orally within 48 hours of when Respondents first knew that the event would or would likely cause a delay. Within seven (7) days thereafter, Respondents shall provide to EPA in writing an explanation and description of the reasons for the delay; the anticipated duration of the delay; all actions taken or to be taken to prevent or minimize the delay; a schedule for implementation of any measures to be taken to prevent or mitigate the delay or the effect of the delay; Respondents' rationale for attributing such delay to a *force majeure* event if they intend to assert such a claim; and a statement as to whether, in the opinion of Respondents, such event may cause or contribute to an endangerment to public health, welfare or the environment. Failure to comply with the above requirements shall preclude Respondents from asserting any claim of *force majeure* for that event for the period of time of such failure to comply and for any additional delay caused by such failure.

51. If EPA agrees that the delay or anticipated delay is attributable to a *force majeure* event, the time for performance of the obligations under this Agreement that are affected by the *force majeure* event will be extended by EPA for such time as is necessary to complete those obligations. An extension of the time for performance of the obligations affected by the *force majeure* event shall not, of itself, extend the time for performance of any other obligation unless such completion is dependent on conduct of the obligations affected by the *force majeure* events. If EPA does not agree that the delay or anticipated delay has been or will be caused by a *force majeure* event, EPA will notify Respondents in writing of its decision. If EPA agrees that the delay is attributable to a *force majeure* event, EPA will notify Respondents in writing of the length of the extension, if any, for performance of the obligations affected by the *force majeure* event.

XVIII. STIPULATED PENALTIES

52. Pursuant to the authority contained in Section 122(l) of CERCLA and subject to dispute

resolution provisions set forth in this Agreement, Respondents shall be liable to EPA for stipulated penalties in the amounts set forth in Paragraphs 53 and 54 for failure to comply with the requirements of this Agreement specified below, unless excused under Section XVII (*Force Majeure*). "Compliance" by Respondents shall include completion of the activities under this Agreement in accordance with all applicable requirements of law, this Agreement, and any plans or other documents approved by EPA pursuant to this Agreement, and within the specified time schedules established by and approved under this Agreement.

53. Stipulated Penalty Amounts - reports, Cleanup, Sampling, and response cost payments.

a. The following stipulated penalties shall accrue per violation per day for any noncompliance identified in Paragraph 53(b):

Penalty Per Violation Per Day	Period of Noncompliance
$ 500.00	1st through 7th day
$1,000.00	8th through 15th day
$5,000.00	16th day and beyond

b. Failure to comply with Paragraph 12, 13, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 39, 40, 41, 42, or 43.

54. Stipulated Penalty Amounts - other activities.

The following stipulated penalties shall accrue per violation per day for failure to comply with any other term, condition, requirement or obligation of the Agreement not included in 53.b.:

Penalty Per Violation Per Day	Period of Noncompliance
$ 250.00	1st through 7th day
$ 500.00	8th through 15th day
$1,000.00	16th day and beyond

55. In addition to the stipulated penalties set forth above, in the event that EPA assumes performance of a significant portion, or all of the Work pursuant to Paragraph 67 (Work Takeover) of Section XX, Respondents shall be liable for a stipulated penalty in the amount of One Hundred and Fifty Thousand Dollars ($150,000.00).

56. All penalties shall begin to accrue on the day after the complete performance is due or the day a violation occurs, and shall continue to accrue through the final day of the correction of the noncompliance or completion of the activity. However, stipulated penalties shall not accrue: 1) with respect to a deficient submission under Section VIII (Work to be Performed), during the period, if any, beginning on the 15th day after EPA's receipt of

such submission until the date that EPA notifies Respondents of the deficiency(ies); and 2) with respect to a decision by the EPA management official, under Paragraph 46 of Section XVI (Dispute Resolution), during the period, if any, beginning on the 21st day after the Negotiation Period begins until the date that the EPA management official issues a final decision regarding such dispute. Nothing herein shall prevent the simultaneous accrual of separate penalties for separate violations of this Agreement.

57. Following EPA's determination that Respondents have failed to comply with a requirement of this Agreement, EPA shall give Respondents written notification of the failure and describe the noncompliance. EPA may send Respondents a written demand for payment of the penalties. However, penalties shall accrue as provided in the preceding Paragraph regardless of whether EPA has notified Respondents of a violation.

58. All penalties accruing under this Section shall be due and payable to EPA within thirty (30) days of Respondents' receipt from EPA of a demand for payment of the penalties, unless Respondents invoke the dispute resolution procedures under Section XVI (Dispute Resolution). All payments to EPA under this Section shall be paid by certified or cashier's check(s) made payable to "EPA Hazardous Substance Superfund," shall be mailed to:

US EPA Region 4
Superfund Accounting
Attention: Collection Officer in Superfund
P.O. Box 100142
Atlanta, Georgia 30384

along with a statement indicating that the payment is for stipulated penalties, and shall reference the EPA Region and Site/Spill ID Number A43T, the EPA Docket Number for this Agreement, and the name and address of the party(ies) making payment. Copies of check(s) paid pursuant to this Section, and any accompanying transmittal letter(s), shall be sent to:

Paula V. Batchelor
US EPA, Region 4
61 Forsyth Street, S.W.
Atlanta, Georgia 30303.

59. The payment of penalties shall not alter in any way Respondents' obligation to complete performance of the Work required under this Agreement.

60. Penalties shall accrue in accordance with Paragraph 56 during any dispute resolution period, but need not be paid until fifteen (15) days after the dispute is resolved by agreement or by receipt of EPA's decision.

61. If Respondents fail to pay stipulated penalties when due, EPA may institute proceedings to collect the penalties, as well as Interest. If EPA secures a judgment, Respondents shall pay Interest on the unpaid balance, which shall begin to accrue on the date of demand made pursuant to Paragraph 57. Nothing in this Agreement shall be construed as prohibiting, altering, or in any way limiting the ability of EPA to seek any other remedies or sanctions available by virtue of Respondents' violation of this Agreement or of the statutes and regulations upon which it is based, including, but not limited to, penalties pursuant to Sections 106(b) and 122(*l*) of CERCLA, 42 U.S.C. §§ 9606(b) and 9622(*l*), and punitive damages pursuant to Section 107(c)(3) of CERCLA, 42 U.S.C. § 9607(c)(3). Provided, however, that EPA shall not seek civil penalties pursuant to Section 106(b) or 122(*l*) of CERCLA or punitive damages pursuant to Section 107(c)(3) of CERCLA for any violation for which a stipulated penalty is provided herein, except in the case of a willful violation of this Agreement or in the event that EPA assumes performance of a portion or all of the Work pursuant to Paragraph 67. Notwithstanding any other provision of this Section, EPA may, in its unreviewable discretion, waive any portion of stipulated penalties that have accrued pursuant to this Agreement.

XIX. COVENANT NOT TO SUE BY UNITED STATES AND EPA

62. Covenant regarding Anniston Lead Site. In consideration of the actions agreed to be performed and the payments that will be made by Respondents under the terms of this Agreement, and except as otherwise specifically provided in this Agreement, including Section XX, the United States and EPA covenant not to sue or to take administrative action against Respondents pursuant to Sections 106 and 107(a) of CERCLA, 42 U.S.C. §§ 9606 and 9607(a), for the Anniston Lead Site.

a. With respect to liability for Past Response Costs, this covenant not to sue shall take effect upon receipt by EPA of the Past Response Costs due under Section XV of this Agreement and any Interest or Stipulated Penalties due for failure to pay Past Response Costs as required by Sections XV and XVIII of this Agreement.

b. With respect to other liability for the Anniston Lead Site, including liability for performance of the Work, and liability for Future Response Costs, this covenant not to sue shall take effect upon EPA's issuance of written Notice of Completion of the Work to Respondents, under Section XXVIII.

This covenant not to sue is conditioned upon the complete and satisfactory performance by Respondents of their obligations under this Agreement, including, but not limited to, Respondents' payment of Future Response Costs pursuant to Section XV. This covenant not to sue extends only to Respondents and does not extend to any other person. Furthermore, this covenant not to sue is subject to all reservation and reopener provisions

of this Agreement.

63. Covenant regarding Anniston PCB Site. In consideration of the actions that will be performed and the payments that will be made by Respondents under the terms of this Agreement, and except as otherwise specifically provided in this Agreement, including Section XX, the United States and EPA covenant not to sue or to take administrative action against Respondents pursuant to Sections 106 and 107(a) of CERCLA, 42 U.S.C. §§ 9606 and 9607(a), for the Anniston PCB Site. This covenant not to sue shall take effect upon EPA's issuance of written Notice of Completion of the Work, under Section XXVIII. This covenant not to sue is conditioned upon the complete and satisfactory performance by Respondents of their obligations under this Agreement, including, but not limited to, payment of Past Response Costs and Future Response Costs pursuant to Section XV. This covenant not to sue extends only to Respondents and does not extend to any other person. Furthermore, this covenant not to sue is subject to all reservations and reopener provisions of this Agreement.

XX. REOPENERS AND RESERVATIONS OF RIGHTS BY UNITED STATES AND EPA

64. Except as specifically provided in this Agreement, nothing herein shall limit the power and authority of EPA or the United States to take, direct, or order all actions necessary to protect public health, welfare, or the environment or to prevent, abate, or minimize an actual or threatened release of hazardous substances, pollutants or contaminants, or hazardous or solid waste on, at, or from the Anniston PCB Site and/or the Anniston Lead Site. Further, nothing herein shall prevent the United States or EPA from seeking legal or equitable relief to enforce the terms of this Agreement, from taking other legal or equitable action as it deems appropriate and necessary, or from requiring Respondents in the future to perform additional activities pursuant to CERCLA or any other applicable law. No such action shall be taken as to Respondents that is inconsistent with this Agreement.

65. Reservations and Reopeners regarding Anniston Lead Site

a. Reservations regarding Anniston Lead Site. The covenant not to sue set forth in Paragraph 62 does not pertain to any matters other than those expressly identified therein. The United States and EPA reserve, and this Agreement, including Paragraph 62, is without prejudice to, all rights against Respondents with respect to all other matters, including, but not limited to:

i. claims based on a failure by Respondents to meet a requirement of this Agreement;

ii. claims for reimbursement of payments made to owners or tenants of Residential Properties to secure access as provided in Paragraph 26.a.;

iii. criminal liability;

iv. liability for damages for injury to, destruction of, or loss of natural resources, and for the costs of any natural resource damage assessments;

v. liability for violations of federal or state law which occur during or after implementation of this Agreement;

vi. liability arising from the disposal, release or threat of release of Waste Materials after signature of this Agreement by the Respondents within the Anniston Lead Site, other than as ordered by EPA; and

vii. liability arising from the past, present, or future disposal, release or threat of release of Waste Materials outside of the Anniston Lead Site.

b. Reopeners regarding Anniston Lead Site

i. Unknown Conditions - Anniston Lead Site. Notwithstanding Section XIX, or any other provision of this Agreement, the United States and EPA reserve, and this Agreement is without prejudice to, the right of the United States or EPA to institute an action in court, or to issue an administrative order seeking to compel Respondents:

(1) to perform further response actions relating to the Site, or

(2) to reimburse EPA for additional costs of response if, subsequent to Notice of Completion of the Work under Section XXVIII:

(a) conditions at the Site, previously unknown to EPA, are discovered, or

(b) information, previously unknown to EPA, is received, in whole or in part,

and EPA determines that these previously unknown conditions or information together with any other relevant information indicates that the Work is not protective of human health or the environment.

For purposes of Paragraph 65.b.i., the information and conditions known to EPA shall include only that information and those conditions known to EPA as of the

Effective Date, including information set forth in the Action Memorandum or Administrative Record for the Site, or the Administrative Record for the Anniston PCB Site. The following shall not be considered conditions previously unknown to EPA for purposes of this Paragraph: lead from Anniston Industrial Operations, if any, in soil at any Residential Property where access was sought using the procedures in Section IX, but was not obtained; lead from Anniston Industrial Operations, if any, in soil at any Residential Property outside of Zone B; or lead concentrations above 400 ppm in soils at or deeper than two feet below ground surface.

ii. Additional Reopener - Anniston Lead Site. Notwithstanding Section XIX, or any other provision of this Agreement, the United States and EPA reserve, and this Agreement is without prejudice to, the right of the United States or EPA to institute an action in court, or to issue an administrative order seeking to compel any Respondent or Respondents:

(1) to perform response actions relating to the Anniston Lead Site, other than response action related to lead from the Anniston Industrial Operations in soil at Residential Properties; and/or

(2) to reimburse the United States for additional costs of response, for performance of response action other than response action related to lead from the Anniston Industrial Operations in soil at Residential Properties.

66. Reservations and Reopeners regarding Anniston PCB Site

a. Reservations regarding Anniston PCB Site. The covenant not to sue set forth in Paragraph 63 does not pertain to any matters other than those expressly identified therein. The United States and EPA reserve, and this Agreement, including Paragraph 63, is without prejudice to, all rights against Respondents with respect to all other matters, including, but not limited to:

i. claims based on a failure by Respondents to meet a requirement of this Agreement;

ii. claims for reimbursement of payments made to owners or tenants of Residential Properties to secure access as provided in Paragraph 26.a.;

iii. criminal liability;

iv. liability for damages for injury to, destruction of, or loss of natural resources, and for the costs of any natural resource damage assessments;

v. liability for violations of federal or state law which occur during or after implementation of this Agreement;

vi. liability arising from the disposal, release or threat of release of Waste Materials after signature of this Agreement by the Respondents within the Anniston PCB Site, other than as ordered by EPA;

vii. liability arising from the past, present, or future disposal, release or threat of release of Waste Materials outside of the Anniston PCB Site;

viii. liability arising from the past present, or future placement of PCBs outside of the Anniston PCB Site; and

ix. liability for response actions that may be taken at any Anniston Industrial Operations property itself.

b. Reopeners regarding Anniston PCB Site.

i. Unknown Conditions. Notwithstanding Section XIX, or any other provision of this Agreement, the United States and EPA reserves, and this Agreement is without prejudice to, the right of the United States or EPA to institute an action in court, or to issue an administrative order seeking to compel Respondents:

(1) to perform further response actions relating to the Anniston PCB Site, or

(2) to reimburse EPA for additional costs of response if, subsequent to Notice of Completion of the Work under Section XXVIII:

(a) conditions at the Anniston PCB Site, previously unknown to EPA, are discovered, or

(b) information, previously unknown to EPA, is received, in whole or in part,

and EPA determines that these previously unknown conditions or information together with any other relevant information indicates that the Work is not protective of human health or the environment.

For purposes of Paragraph 66.b.i., the information and conditions known to EPA shall include only that information and those conditions known to

EPA as of the Effective Date, including information set forth in the Action Memorandum or Administrative Record for the Site, or the Administrative Record for the Anniston PCB Site. The following shall not be considered conditions previously unknown to the United States or EPA for purposes of this Paragraph: PCBs from Anniston Industrial Operations, if any, in soil at any Residential Property where access was sought using the procedures in Section IX, but was not obtained; PCBs from Anniston Industrial Operations, if any, in soil at any Residential Property outside of Zone B.

ii. Additional Reopener. If information not known to EPA as of the Effective Date of this Agreement is discovered which indicates that the volume of PCBs contributed to the Anniston PCB Site by any Respondent or Respondents is not minimal, or is of such greater toxic or other hazardous effects, compared to the other PCBs and hazardous substances at the Anniston PCB Site, EPA, in its sole nonreviewable discretion, may determine that such Respondent or Respondents, are no longer eligible for a settlement under Section 122(g) for the Anniston PCB Site, and, in such case, notwithstanding Section XIX, or any other provision in this Agreement, the United States, including EPA, reserves, and this Agreement is without prejudice to, the right to institute judicial or administrative proceedings, including an administrative order, against any Respondent or Respondents seeking to compel such Respondent or Respondents to perform response actions relating to the Anniston PCB Site, and/or to reimburse the United States for additional response costs at the Anniston PCB Site.

iii. The Parties expressly acknowledge and agree that the decision to institute proceedings based on EPA's conclusion that the standard in Paragraph 66.b.ii. has been met shall be in EPA's sole discretion; provided, however, that in the event EPA institutes any such proceedings, Respondents collectively and individually retain all rights and defenses they may have.

67. Work Takeover. In the event EPA determines that Respondents have ceased implementation of any portion of the Work, are seriously or repeatedly deficient or late in their performance of the Work, or are implementing the Work in a manner which may cause an endangerment to human health or the environment, EPA may assume the performance of all or any portion of the Work as EPA determines necessary. Respondents may invoke the procedures set forth in Section XVI (Dispute Resolution) to dispute EPA's determination that takeover of the Work is warranted under this Paragraph. Costs incurred by the United States in performing the Work pursuant to this Paragraph shall be considered Future Response Costs that Respondents shall pay pursuant to Section XV (Payment of Response Costs). Notwithstanding any other provision of this

Agreement, EPA retains all authority and reserves all rights to take any and all response actions authorized by law.

XXI. COVENANT NOT TO SUE BY RESPONDENTS

68. Respondents covenant not to sue and agree not to assert any claims or causes of action against the United States, or its contractors or employees, with respect to the Anniston Lead Site and/or the Anniston PCB Site, including, but not limited to:

a. any direct or indirect claim for reimbursement from the Hazardous Substance Superfund established by 26 U.S.C. § 9507, based on Sections 106(b)(2), 107, 111, 112, or 113 of CERCLA, 42 U.S.C. §§ 9606(b)(2), 9607, 9611, 9612, or 9613, or any other provision of law;

b. any claim arising out of response actions at or in connection with the Anniston Lead Site and/or the Anniston PCB Site, including any claim under the United States Constitution, the State Constitution, the Tucker Act, 28 U.S.C. § 1491, the Equal Access to Justice Act, 28 U.S.C. § 2412, as amended, or at common law; or

c. any claim against the United States pursuant to Sections 107 and 113 of CERCLA, 42 U.S.C. §§ 9607 and 9613, relating to the Anniston Lead Site, and/or the Anniston PCB Site, except any claim against any department or agency of the United States which is a responsible party under Section 107 of CERCLA, 42 U.S.C. §§ 9607, at the Anniston Lead Site, and/or the Anniston PCB Site.

These covenants not to sue shall not apply in the event the United States brings a cause of action or issues an order pursuant to the reservations set forth in Paragraphs 65.a.iii. or 66.a.iii., Paragraphs 65.a.v. or 66.a.v., or Paragraphs 65.b.i. or 66.b.i., but only to the extent that Respondents' claims arise from the same response action, response costs, or damages that the United States is seeking pursuant to the applicable reservation.

69. Nothing in this Agreement shall be deemed to constitute approval or preauthorization of a claim within the meaning of Section 111 of CERCLA, 42 U.S.C. § 9611, or 40 C.F.R. § 300.700(d).

70. Respondents agree not to assert any claims or causes of action (including claims for contribution under CERCLA) that they may have for all matters relating to the Anniston PCB Site against each other or any other person who is a potentially responsible party under CERCLA at the Anniston PCB Site, except for claims Respondents may have against each other arising out of contracts entered into among Respondents. The waivers in this Paragraph shall not apply with respect to any defense, claim, or cause of action that a Respondent may have against any person if such person asserts or has asserted a claim

or cause of action relating to the Anniston Lead Site and/or the Anniston PCB Site against such Respondent. In any such claim or cause of action, the waivers in this Paragraph shall also not apply to any defense, claim, or cause of action that a Respondent may have against any third parties, or other Respondents. Furthermore, the waivers in this Paragraph shall not apply with respect to any Respondent or Respondents for whom EPA revokes *de minimis* status pursuant to Paragraph 66.b. Nothing in this Paragraph, nor in this Agreement limits EPA or the United States's right to settle any claim or cause of action with any person.

XXII. OTHER CLAIMS

71. By issuance of this Agreement, the United States and EPA assume no liability for injuries or damages to persons or property resulting from any acts or omissions of Respondents. The United States or EPA shall not be deemed a party to any contract entered into by Respondents or their directors, officers, employees, agents, successors, representatives, assigns, contractors, or consultants in carrying out actions pursuant to this Agreement.

72. Except as expressly provided in Section XIX (Covenant Not to Sue by EPA), nothing in this Agreement constitutes a satisfaction of or release from any claim or cause of action against Respondents or any person not a party to this Agreement, for any liability such person may have under CERCLA, other statutes, or common law, including but not limited to any claims of the United States for costs, damages and interest under Sections 106 and 107 of CERCLA, 42 U.S.C. §§ 9606 and 9607.

73. No action or decision by EPA pursuant to this Agreement shall give rise to any right to judicial review, except as set forth in Section 113(h) of CERCLA, 42 U.S.C. § 9613(h).

XXIII. CONTRIBUTION PROTECTION

74. EPA and Respondents agree that this Agreement constitutes an administrative settlement for purposes of section 113(f) of CERCLA, 42 U.S.C. § 9613(f). Respondents are entitled, as of the Effective Date, to protection, to the extent allowed by law, from contribution actions or claims as provided by Sections 113(f)(2), 122(g)(5), and 122(h)(4) of CERCLA, 42 U.S.C. §§ 9613(f)(2), 9622(g)(5), and 9622(h)(4), for "matters addressed" in this Agreement. Pursuant to the terms of this Agreement, Respondents are resolving their liability to the United States under CERCLA for the Anniston Lead Site and the Anniston PCB Site. The "matters addressed" in this Agreement are Respondents' liability under CERCLA for the Anniston Lead Site and Respondents' liability under CERCLA for the Anniston PCB Site, and includes all response actions taken or to be taken, and response costs incurred or to be incurred, by any person, with regard to any hazardous substance at the Anniston Lead Site and/or the Anniston PCB Site. The United States and Respondents each reserve any and all rights (including, but

not limited to, any right to contribution), defenses, claims, demands, and causes of action which they may have with respect to any matter, transaction, or occurrence relating in any way to the Anniston PCB Site and/or the Anniston Lead Site against any person not a Party hereto, except as otherwise provided in Section XXI of this Agreement.

XXIV. INDEMNIFICATION

75. Respondents shall indemnify, save and hold harmless the United States, its officials, agents, contractors, subcontractors, employees and representatives from any and all claims or causes of action arising from, or on account of, negligent or other wrongful acts or omissions of Respondents, their officers, directors, employees, agents, contractors, or subcontractors, in carrying out actions pursuant to this Agreement. In addition, Respondents agree to pay the United States all costs incurred by the United States, including but not limited to attorneys fees and other expenses of litigation and settlement, arising from or on account of claims made against the United States based on negligent or other wrongful acts or omissions of Respondents, their officers, directors, employees, agents, contractors, subcontractors and any persons acting on their behalf or under their control, in carrying out activities pursuant to this Agreement. The United States shall not be held out as a party to any contract entered into by or on behalf of Respondents in carrying out activities pursuant to this Agreement. Neither Respondents nor any such contractor shall be considered an agent of the United States.

76. The United States shall give Respondents notice of any claim for which the United States plans to seek indemnification pursuant to this Section and shall consult with Respondents prior to settling such claim.

77. Respondents waive all claims against the United States for damages or reimbursement or for set-off of any payments made or to be made to the United States, arising from or on account of any contract, agreement, or arrangement between any one or more of Respondents and any person for performance of Work on or relating to the Anniston Lead Site and/or the Anniston PCB Site, including, but not limited to, claims on account of construction delays. In addition, Respondents shall indemnify and hold harmless the United States with respect to any and all claims for damages or reimbursement arising from or on account of any contract, agreement, or arrangement between any one or more of Respondents and any person for performance of Work on or relating to the Anniston Lead Site and/or the Anniston PCB Site, including, but not limited to, claims on account of construction delays.

XXV. INSURANCE

78. At least seven (7) days prior to commencing any on-Site work under this Agreement,

Respondents shall secure, and shall maintain for the duration of this Agreement, comprehensive general liability insurance and automobile insurance with limits of One million dollars ($1,000,000.00), combined single limit. Within the same time period, Respondents shall provide EPA with certificates of such insurance and a copy of each insurance policy. In addition, for the duration of the Agreement, Respondents shall satisfy, or shall ensure that their contractors or subcontractors satisfy, all applicable laws and regulations regarding the provision of worker's compensation insurance for all persons performing the Work on behalf of Respondents in furtherance of this Agreement. If Respondents demonstrate by evidence satisfactory to EPA that any contractor or subcontractor maintains insurance equivalent to that described above, or insurance covering some or all of the same risks but in an equal or lesser amount, then Respondents need provide only that portion of the insurance described above which is not maintained by such contractor or subcontractor.

XXVI. FINANCIAL ASSURANCE

79. Respondents hereby represent that collectively, they have the financial ability to perform the Work required hereunder. If the financial ability of any Respondent or Respondents change, such that the previous sentence may no longer be accurate, Respondents shall immediately notify EPA. If the Respondents so notify EPA, and EPA determines that the financial certification and/or the financial assurances provided pursuant to this Section are inadequate, Respondents shall, within 30 days of receipt of EPA's determination, obtain and present to EPA for approval one of the forms of financial assurance listed below, for the establishment and maintenance of financial security in the amount of Forty Million Dollars ($40,000,000.00) (or such lesser amount as may be appropriate, in EPA's discretion, in light of the estimated cost of the Work then remaining):

a. A surety bond guaranteeing performance of the Work;

b. One or more irrevocable letters of credit equaling the total estimated cost of the Work;

c. A trust fund;

d. A guarantee to perform the Work by one or more parent corporations or subsidiaries, or by one or more unrelated corporations that have a substantial business relationship with at least one of Respondents; or

e. A demonstration that one or more of the Respondents satisfy the requirements of 40 C.F.R. Part 264.143(f).

80. If Respondents seek to demonstrate the ability to complete the Work through a guarantee

by a third party pursuant to Paragraph 79(a), Respondents shall demonstrate that the guarantor satisfies the requirements of 40 C.F.R. Part 264.143(f). If Respondents seek to demonstrate their ability to complete the Work by means of the financial test or the corporate guarantee pursuant to Paragraph 79(d) or (e), they shall resubmit sworn statements conveying the information required by 40 C.F.R. Part 264.143(f) annually, on the anniversary of the Effective Date.

XXVII. MODIFICATIONS

81. The OSC may make modifications, not inconsistent with this Agreement, to any Work Plan or schedule in writing or by oral statement. Any oral modification will be memorialized in writing by EPA or Respondents promptly, but shall have as its effective date the date of the OSC's oral statement. Any other requirements of this Agreement may be modified in writing by mutual agreement of the parties

82. If Respondents seek permission to deviate from any approved Work Plan or schedule, Respondents' Project Coordinator shall submit a written request to EPA for approval outlining the proposed modification and its basis. Respondents may not proceed with the requested deviation until receiving oral or written approval from the OSC pursuant to Paragraph 81.

83. No informal advice, guidance, suggestion, or comment by the OSC or other EPA representatives regarding reports, plans, specifications, schedules, or any other writing submitted by Respondents shall relieve Respondents of their obligation to obtain any formal approval required by this Agreement, or to comply with all requirements of this Agreement, unless it is formally modified.

XXVIII. NOTICE OF COMPLETION OF WORK

84. When EPA determines, after EPA's review of the Final Report, that all Work has been fully performed in accordance with this Agreement, with the exception of any continuing obligations required by this Agreement, including, but not limited to, payment of Future Response Costs, record retention, or obligations set forth in Paragraph 86, EPA will provide written notice to Respondents. If EPA determines that any such Work has not been completed in accordance with this Agreement, EPA will notify Respondents, provide a list of the deficiencies, and require that Respondents modify the Work Plan(s) if appropriate in order to correct such deficiencies. Respondents shall implement the modified and approved Work Plan(s) and shall submit a modified Final Report in accordance with the EPA notice. Failure by Respondents to implement the approved modified Work Plan(s) shall be a violation of this Agreement. EPA's Notice of Completion shall be issued irrespective of conditions that may exist that are excluded

from the definition of "unknown conditions" in Paragraph 65.b.

85. Timing of EPA's issuance of Notice of Completion. If there are Residential Properties for which Sampling is required but not performed because Respondents were unable to obtain access after using their "best efforts," EPA may delay issuance of the Notice of Completion with respect to such properties until after EPA has had "sufficient time" to obtain access for Sampling, and, if such access is obtained, until after Respondents have completed Sampling and, if necessary, Cleanup. If access for Sampling is not obtained in "sufficient time," Respondents shall be entitled to a Notice of Completion for such properties.

a. "Sufficient time" for EPA to obtain access for Sampling shall mean the later of: [1] one year from the date upon which Respondents notify EPA, in written reports under Paragraph 22, that Respondents have been unable to obtain access after using their "best efforts," (as defined in Paragraph 26); or, [2] the date of submission of Respondents' Final Report. Notwithstanding the foregoing, if EPA is actively seeking access as of such dates, through issuance of an administrative order or judicial process, "sufficient time" shall mean the time necessary to conclude such administrative and/or judicial process.

86. Cleanup obligations excluded from the Notice of Completion. Any Notice of Completion granted pursuant to this Section shall not extend to Residential Properties at which Cleanup is required but not performed because Respondents were unable to obtain access after using their "best efforts," (as defined in Paragraph 26). For such Residential Properties, Respondents shall implement the Work required under this Agreement whenever such access is obtained. Notwithstanding the preceding sentence, the Parties agree that upon submission of Respondents' Final Report, except as provided in Paragraph 85, Respondents shall have the option to negotiate a payment to settle in whole or in part their obligations addressed in this Paragraph. Payment shall be based on Respondents' average Cleanup cost per Residential Property during the last fifty (50) Residential Property Cleanups prior to the submission of the Final Report. In the event of such a payment, EPA shall grant a Notice of Completion for such properties. If the Parties cannot reach agreement on such payment after the Dispute Resolution process, Respondents obligations addressed in this Paragraph continue.

XXIX. PUBLIC COMMENT

87. This Agreement shall be subject to a thirty (30) day public comment period pursuant to Section 122(i) of CERCLA, 42 U.S.C.§ 9622(i), which requires EPA to publish notice of the proposed settlement to provide persons who are not parties to the proposed settlement an opportunity to comment, and to consider comments filed in determining whether to consent to the proposed settlement. EPA may withhold consent from, or seek to modify,

all or part of this Agreement if comments received disclose facts or considerations that indicate that the proposed settlement is inappropriate, improper, or inadequate.

XXX. ATTORNEY GENERAL APPROVAL

88. This Agreement is entered into by the United States based upon the Attorney General's inherent authority to compromise and settle claims of the United States. The Attorney General or his designee has approved the settlement embodied in this Agreement in accordance with Sections 122(g)(4) and 122(h)(1) of CERCLA, 42 U.S.C. §§ 9622(g)(4) and 9622(h)(1).

XXXI. SEVERABILITY/INTEGRATION/APPENDICES

89. If a court issues an order that invalidates any provision of this Agreement, or issues any type of ruling which has or may have the effect of voiding or limiting any provision of this Agreement, Respondents shall remain bound to comply with all other provisions of this Agreement not invalidated by the court's order or ruling.

90. This Agreement (including all documents incorporated into this Agreement under Paragraph 18), its appendices, and all attachments thereto, constitute the final, complete and exclusive agreement and understanding among the Parties with respect to the settlement embodied in this Agreement. The Parties acknowledge that there are no representations, agreements or understandings relating to the settlement other than those expressly contained in this Agreement. The following appendices are attached to and incorporated into this Agreement:

Appendix 1	List of Anniston Industrial Operations
Appendix 2	Zone A
Appendix 3	Zone B
Appendix 4	Zone C
Appendix 5	Zone D
Appendix 6	List of properties known to have soil lead concentrations greater than or equal to 400 ppm
Appendix 7	Interim Work Plan, Interim Quality Assurance Project Plan, and Interim Health and Safety Plan
Appendix 8	Zone A Properties Subject to PCB Exclusion
Appendix 9	Map of Zones A, B, C, and D

XXXII. EFFECTIVE DATE

91. This Agreement shall be effective on the thirtieth (30th) day after the close of the public comment period in Section XXIX, unless, before the thirtieth (30th) day after the close of the 30-day public comment period, EPA notifies Respondents in writing that it is withholding consent from, or seeking to modify, all or part of this Agreement based on public comments received, if any. If the parties agree upon any modification as a result of public comments, the Effective Date shall be the date of such agreement.

92. The undersigned representatives of each Respondent and the Assistant Attorney General for the Environment and Natural Resources Division of the Department of Justice certify that he or she is fully authorized to enter into the terms and conditions of this Agreement and to execute and legally bind the parties they represent to this document.

XXXIII. EXECUTE IN COUNTERPARTS

93. This Agreement may be executed in multiple counterparts, each of which shall be deemed an original, but all of which constitute one and the same Agreement.

XXXIV. EXCLUSIVE JURISDICTION

94. Subject to Section XVI. (Dispute Resolution), and in accordance with Section 113 of CERCLA, 42 U.S.C. § 9613, the United States district courts shall have exclusive original jurisdiction over any controversy arising from this Agreement, without regard to the citizenship of the parties or the amount in controversy. Venue of any action relating to or under this Agreement shall lie exclusively in the United States District Court for the Northern District of Alabama, which is located in the district in which the Anniston Lead Site and Anniston PCB Site are located.

XXXV. COVENANT NOT TO SUE REGARDING STAGING AREA PROPERTY

95. Subject to Paragraph 96 and Paragraph 97 of this Agreement, upon payment of the amounts specified in Section XV of this Agreement and upon completion of the Work to the satisfaction of EPA, the United States and EPA covenant not to sue or take any other civil or administrative action against Respondents for any and all civil liability for injunctive relief or reimbursement of response costs pursuant to Sections 106 or 107(a) of CERCLA, 42 U.S.C. §§ 9606 or 9607(a) with respect to Existing Contamination at the Anchor Metals Property or any other alternative property approved by EPA used by the Respondents in the performance of the Work to stage, prior to disposal, materials excavated from Residential Properties or to stockpile materials to be used to backfill

Residential Properties.

96. The covenant not to sue set forth in Paragraph 95 shall not apply to any liability, direct or indirect, that any Respondent or Respondents may have arising from the ownership and/or operation of, and/or the arrangement for disposal or transportation of Waste Materials to, the Anchor Metals Property, or any alternative property described in Paragraph 95, prior to Respondents signature of this Agreement.

97. With respect to any claim or cause of action asserted by the United States or EPA for the Anchor Metals Property or any alternative property described in Paragraph 95, the Respondents shall bear the burden of proving that the claim or cause of action, or any part thereof, is attributable solely to Existing Contamination.

IT IS SO AGREED:

IN THE MATTER OF:
Anniston Lead Site and Anniston PCB Site, Anniston, AL
Section 122 Administrative Agreement
and Order on Consent for Removal Action

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

BY: _____ DATE: July 27, 2005
Winston A. Smith
Director, Waste Management Division
U.S. Environmental Protection Agency, Region 4
61 Forsyth Street, S.W.
Atlanta, Georgia 30303
EFFECTIVE DATE: _____

IN THE MATTER OF:
Anniston Lead Site and Anniston PCB Site, Anniston, AL
Section 122 Administrative Agreement
and Order on Consent for Removal Action

FOR THE UNITED STATES OF AMERICA

Kelly A Johnson

DATE: 7/25/05

Kelly A. Johnson
Acting Assistant Attorney General
Environment and Natural Resources Division
United States Department of Justice
Room 2143
950 Pennsylvania Avenue, N.W.
Washington, D.C. 20530-0001

DATE: 8/2/05

William Weinischke
Trial Attorney
Environmental Enforcement Section
Environment and Natural Resources Division
United States Department of Justice
P.O. Box 7611
Washington, D.C. 20044-7611

IN THE MATTER OF:
Anniston Lead Site and Anniston PCB Site, Anniston, AL
Section 122 Administrative Agreement
and Order on Consent for Removal Action

FOR RESPONDENT MW CUSTOM PAPERS, LLC

Date 9/6/05

By Joseph C. Hutchinson for Wm. L. H. Cwille, GC

Title Assoc. General Counsel

IN THE MATTER OF:
Anniston Lead Site and Anniston PCB Site, Anniston, AL
Section 122 Administrative Agreement
and Order on Consent for Removal Action

FOR RESPONDENT DII INDUSTRIES, LLC

Date 5/6/05

By _____

Title VP

IN THE MATTER OF:
Anniston Lead Site and Anniston PCB Site, Anniston, AL
Section 122 Administrative Agreement
and Order on Consent for Removal Action

FOR RESPONDENT FMC CORPORATION

Date May 4, 2005

By Robert T. Fikes

Title Director, Environment

IN THE MATTER OF:
Anniston Lead Site and Anniston PCB Site, Anniston, AL
Section 122 Administrative Agreement
and Order on Consent for Removal Action

FOR RESPONDENT HURON VALLEY STEEL CORPORATION

Date May 4, 2005

By David Wallace

Title Senior Vice President

IN THE MATTER OF:
Anniston Lead Site and Anniston PCB Site, Anniston, AL
Section 122 Administrative Agreement
and Order on Consent for Removal Action

FOR RESPONDENT MCWANE, INC.

Date 5/5/05

By _____

Title President

IN THE MATTER OF:
Anniston Lead Site and Anniston PCB Site, Anniston, AL
Section 122 Administrative Agreement
and Order on Consent for Removal Action

FOR RESPONDENT MEADWESTVACO CORPORATION

Date 9/6/05

By Jas. C. Hutchins for Wendell C. Willett, G.C.

Title Assoc. General Counsel

IN THE MATTER OF:
Anniston Lead Site and Anniston PCB Site, Anniston, AL
Section 122 Administrative Agreement
and Order on Consent for Removal Action

FOR RESPONDENT MRC HOLDINGS, INC.

Date May 4, 2005

By Ellen T. O'Brien

Title Senior Vice President

IN THE MATTER OF:
Anniston Lead Site and Anniston PCB Site, Anniston, AL
Section 122 Administrative Agreement
and Order on Consent for Removal Action

FOR RESPONDENT PHELPS DODGE INDUSTRIES, INC.

Date 05/03/2005

By _____

Title Vice President & General Counsel

IN THE MATTER OF:
Anniston Lead Site and Anniston PCB Site, Anniston, AL
Section 122 Administrative Agreement
and Order on Consent for Removal Action

FOR RESPONDENT UNITED DEFENSE, L.P.

Date 5/4/05

By Robert Houston

Title V.P. & General Mgr.

IN THE MATTER OF:
Anniston Lead Site and Anniston PCB Site, Anniston, AL
Section 122 Administrative Agreement
and Order on Consent for Removal Action

FOR RESPONDENT UNITED STATES PIPE AND FOUNDRY COMPANY, INC.

Date 5/4/05

By Raymond P. Jones

Title President and Chief Operating Officer

IN THE MATTER OF:
Anniston Lead Site and Anniston PCB Site, Anniston, AL
Section 122 Administrative Agreement
and Order on Consent for Removal Action

FOR RESPONDENT WALTER INDUSTRIES, INC.

Date 5/04/05

By _____

Title Sr. Vice President, General Counsel & Secretary

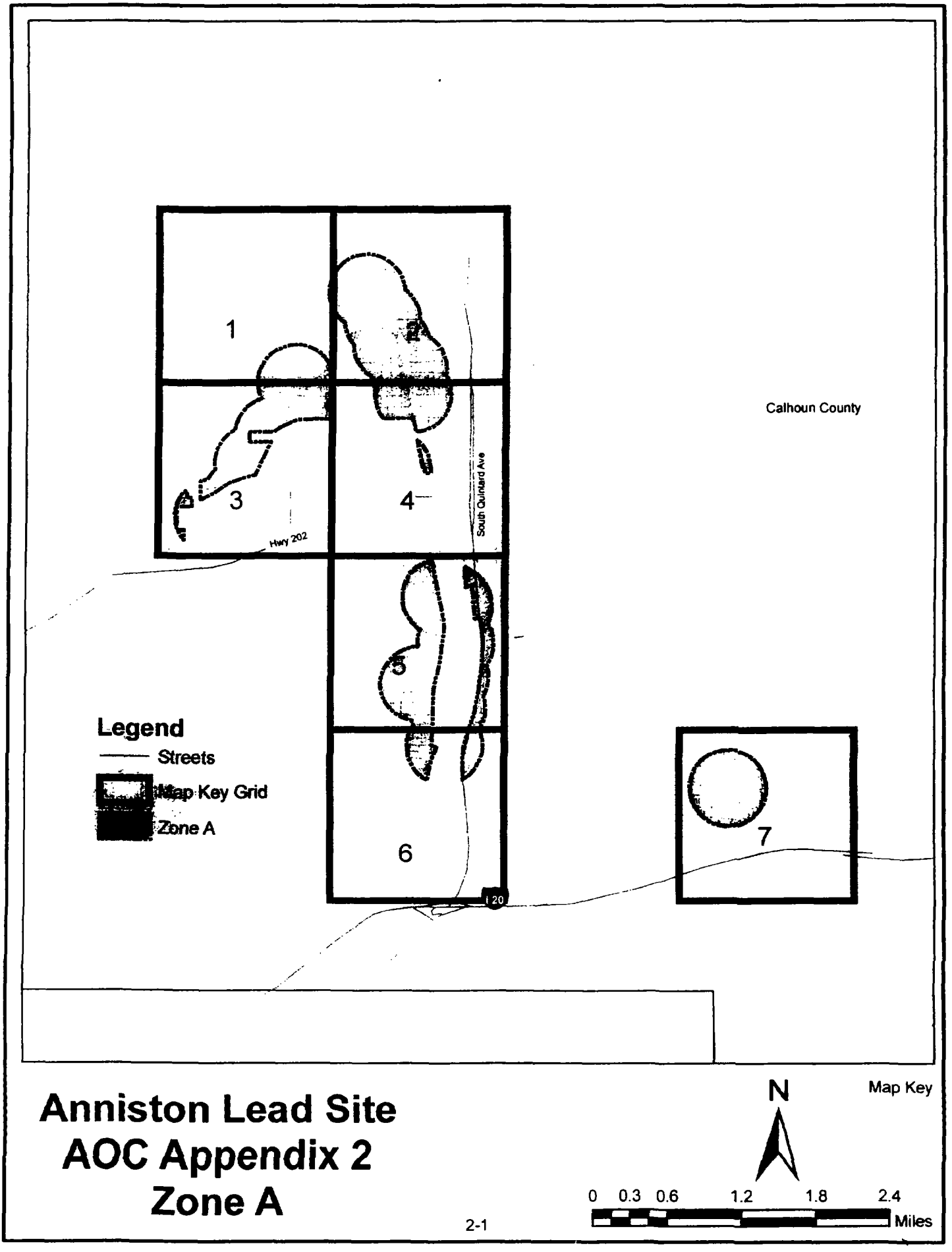
APPENDIX 1
LIST OF ANNISTON INDUSTRIAL OPERATIONS

Names	Location
Alabama Pipe & Foundry other names of businesses that operated at this location: Adair Machine Works, Anniston Foundry & Machine, Alabama Pipe Company, Woodward Iron Company, Woodward Corporation, and Mead Corporation	on or about McCoy Avenue between 18th and 20th Streets
Anchor Metals other names of businesses that operated at this location: Anniston Foundry, Noble Brothers, Anniston Locomotive & Machine Works, Kilby Steel, and J. I. Case	on or about 1008 Glen Addie Avenue
Central Foundry other names of businesses that operated at this location: Southeastern Casting Co., Munro Van Helm, and Dean's Foundry	on or about 1428 West 10th Street
Donoho Foundry	on or about 1100 West 10th Street
Emory Foundry	on or about 1000 Front Street

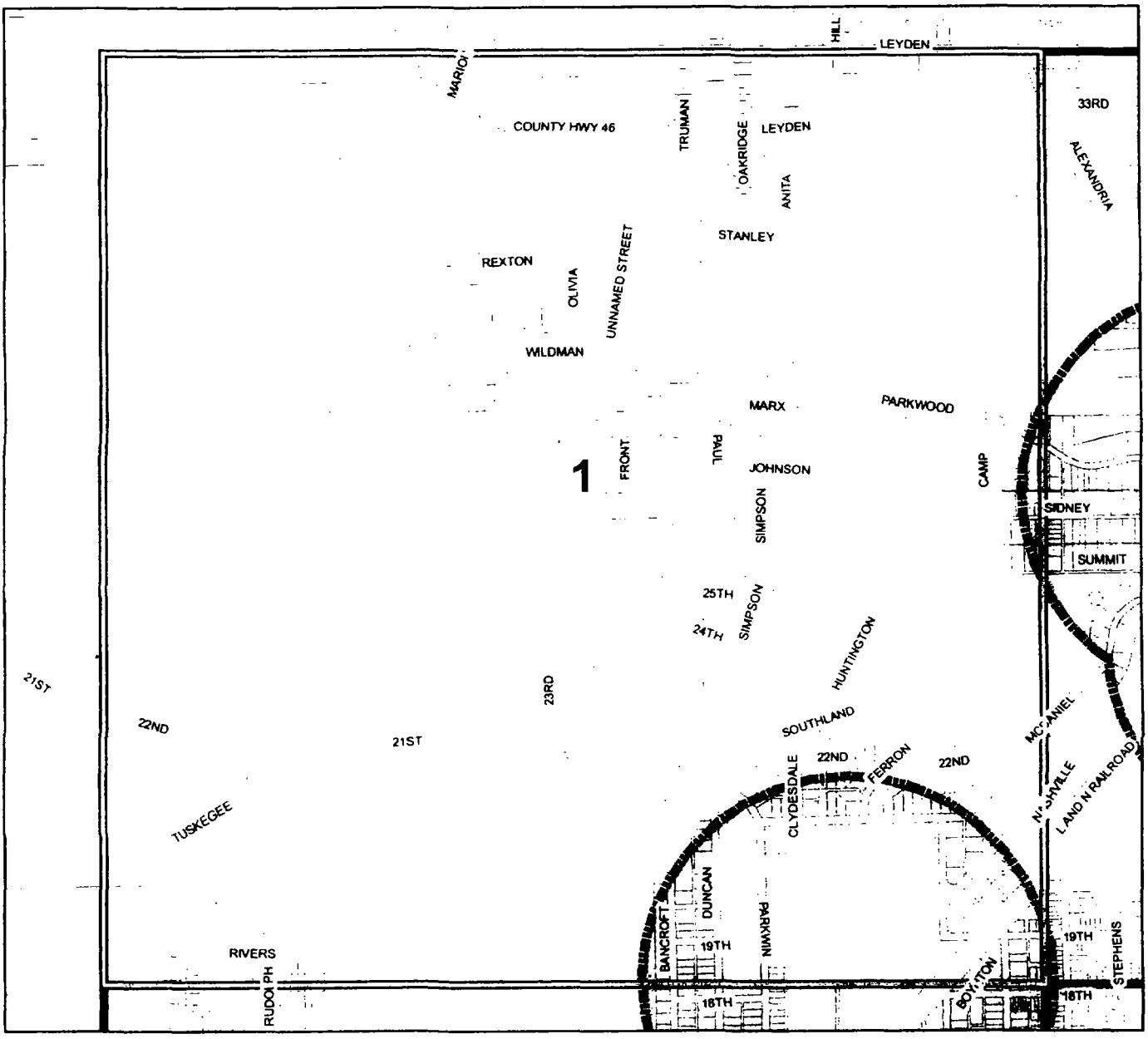
FMC Forge other names of businesses that operate or operated at this location: United Defense, Kilby Steel Company, Inc., United States Pipe Cast Iron Pipe and Foundry Company, Southern Pipe Company, Anniston Pipe Works, Radford Pipe and Foundry Company, Anniston Pipe and Foundry Company, and United States Pipe and Foundry Company	on or about 2101 West 10th Street, Anniston, Alabama 30201
FMC Foundry other names of businesses that operate or operated at this location: MCT, Inc./Trinity Industries, United Defense, and Kilby Steel Company, Inc.	on or about 2412 Eulaton Road, Anniston, Alabama 36201
Huron Valley Steel other names of businesses that operated at this location: US Reduction, Anniston Foundry Company, Anniston Foundry & Machine, Woodward Iron Company, Woodward Iron & Steel, Woodward Corporation, and Mead Corporation	on or about 820 Ware Street
Interstate Roofing & Foundry Co.	on or about 402 South Noble Street
Kennedy Pattern & Foundry other names of businesses that operated at this location: Walls Brothers Foundry or Smith Foundry & Machine	on or about the 200-300 Block of Front Street
Lee Brothers Foundry	on or about W. 17th and Walnut

Lee Brass other names of businesses that operated at this location: Lee Brothers Foundry, Lee Brothers Corporation, and Phelps Dodge Brass Company	on or about 1800 Golden Springs Road
M&H Valve other names of businesses that operated at this location: Dresser Industries	on or about 605 W. 23rd Street
Monsanto other names of businesses that operated at this location: Southern Manganese Corporation, the Swann Chemical Company, and Solutia, Inc.	on or about 702 Clydesdale Avenue
Ornamental Foundry other names of businesses that operated at this location: Engineering Research, Defense Research, Inc., Carrier Research, Alabama Pipe Company, Woodward Iron Company, Woodward Corporation, and Mead Corporation	on or about 1205 Front Street
Peerless Pipe & Foundry	on or about 1906 West 13th Street
Rudisill Foundry	on or about the intersection of Front and Elm Streets
Standard Foundry other names of businesses that operated at this location: Alabama Pipe Company, Woodward Iron Company, Woodward Corporation, and Mead Corporation	on or about 600 West 21st Street

Star Foundry	on or about 355 Maple Street
Union Foundry other names of businesses that operated at this location: Hercules Pipe, Hercules Iron & Supply, Alabama Pipe Company, Woodward Iron Company, Woodward Corporation, and Mead Corporation	on or about 1501 West 17th Street
United States Castings Company other names of businesses that operated at this location: United States Castings Corporation, T.C. King Pipe & Foundry (aka T.C. King Pipe and Fittings Company), and United States Pipe & Foundry Company	on or about 1831 Front Street
Water Pipe Plant other names of businesses that operated at this location: Lynchburg Foundry, Alabama Pipe & Foundry Company, Alabama Pipe Company, Woodward Iron Company, Woodward Corporation, and Mead Corporation	on or about Alexandria Street between 25th and 27th Streets
Woodstock Iron & Steel other names of businesses that operated at this location: Calhoun Foundry	on or about the intersection of 13th Street and Duncan Avenue



Anniston Lead Site
AOC Appendix 2
Zone A



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- Streets
- Map Key Grid
- Zone A

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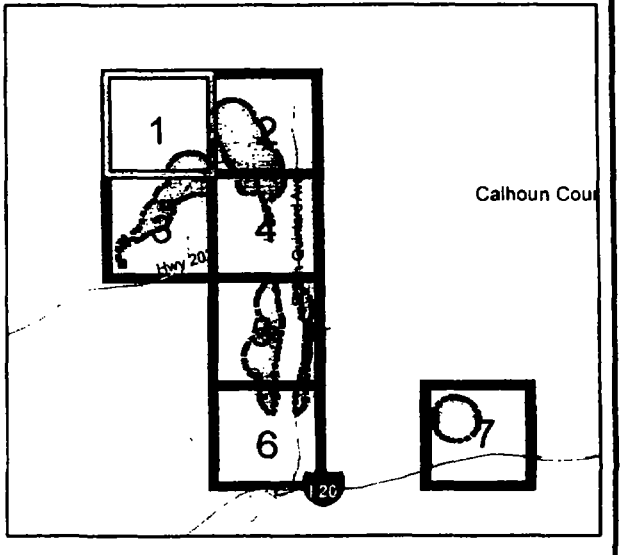
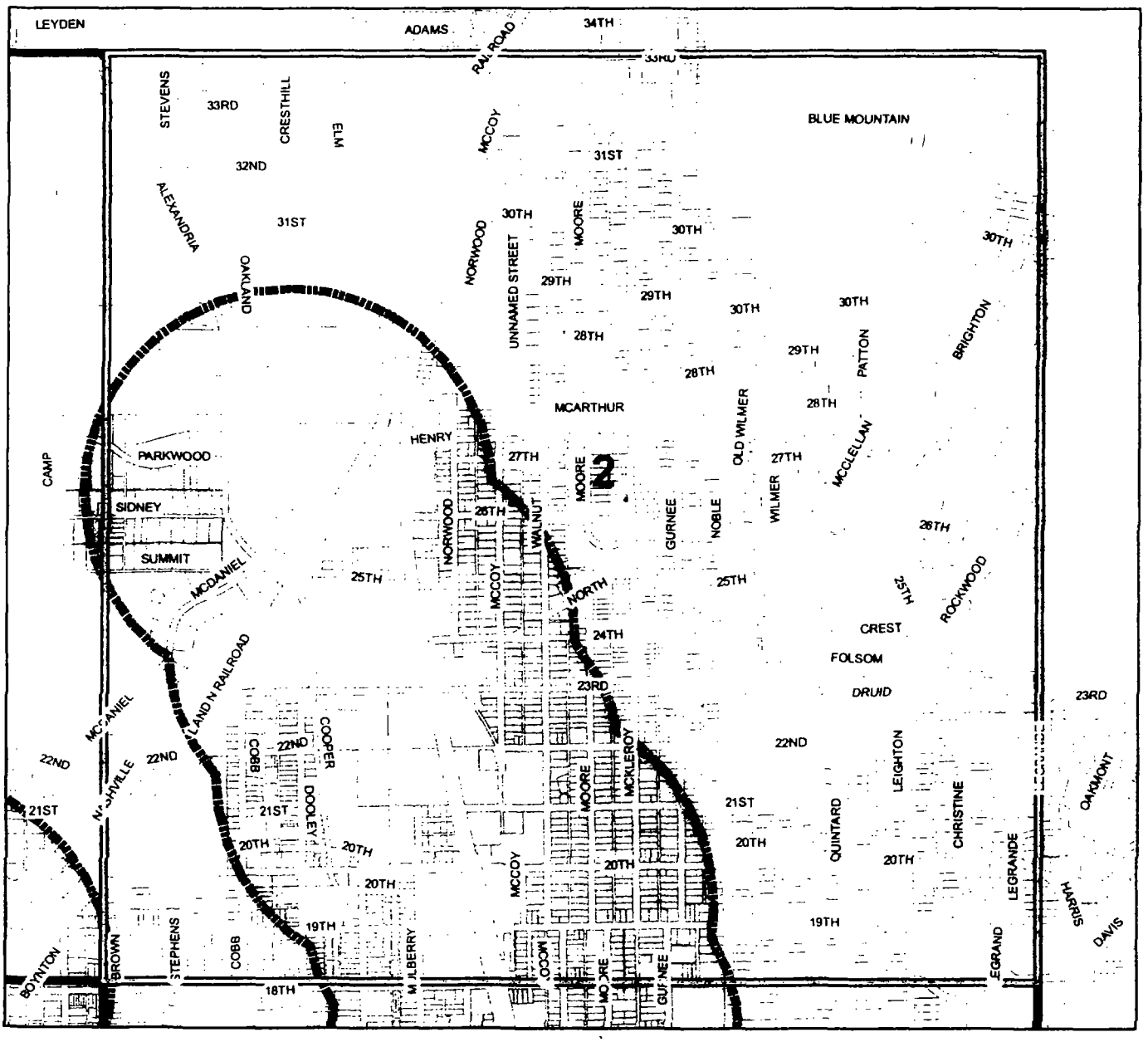


Map Key

Anniston Lead Site
AOC Appendix 2
Zone A



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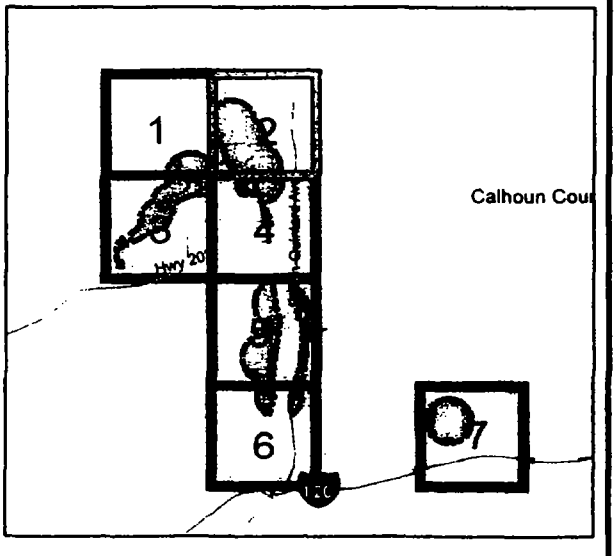
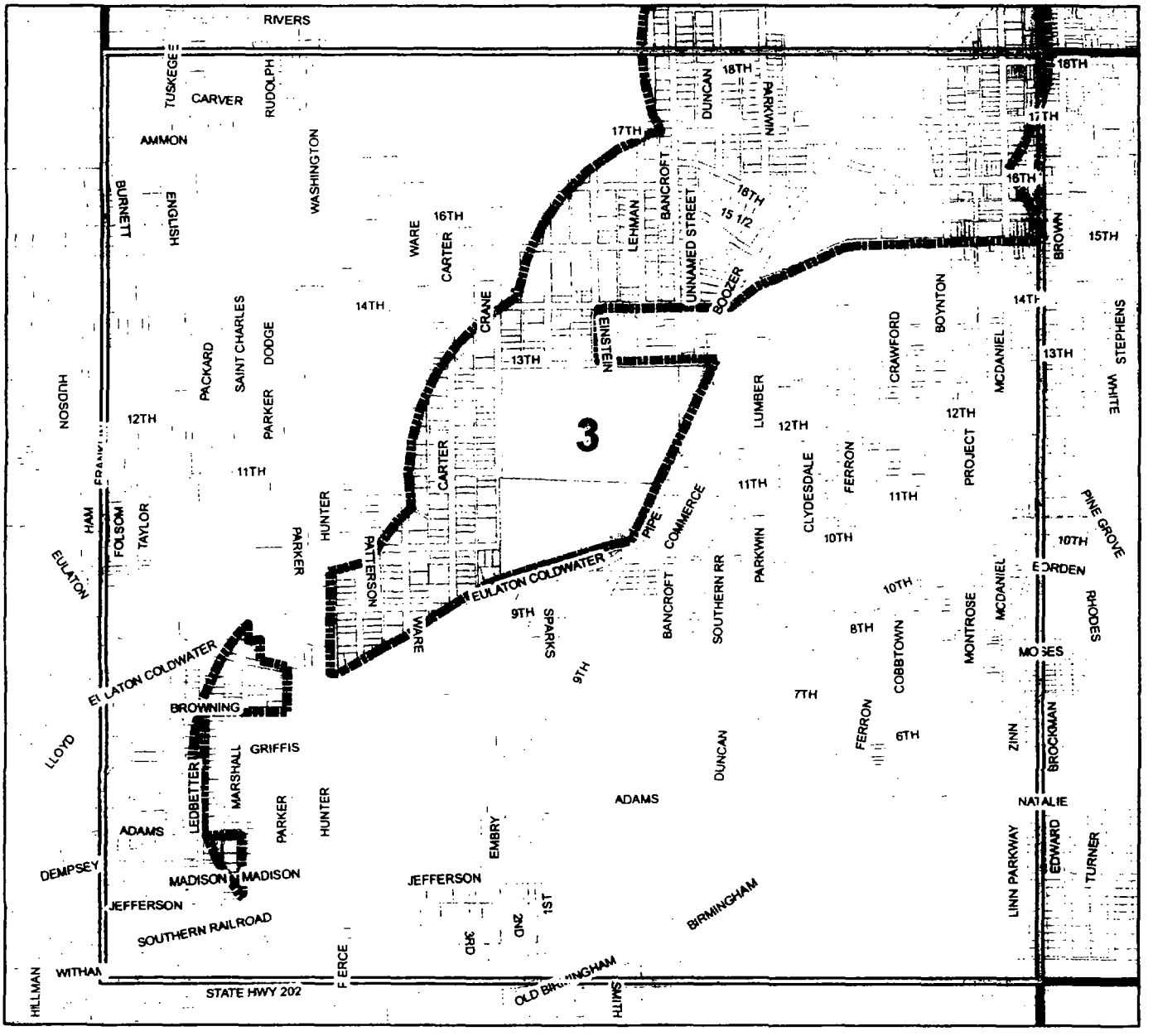


Anniston Lead Site
AOC Appendix 2
Zone A

Map Key



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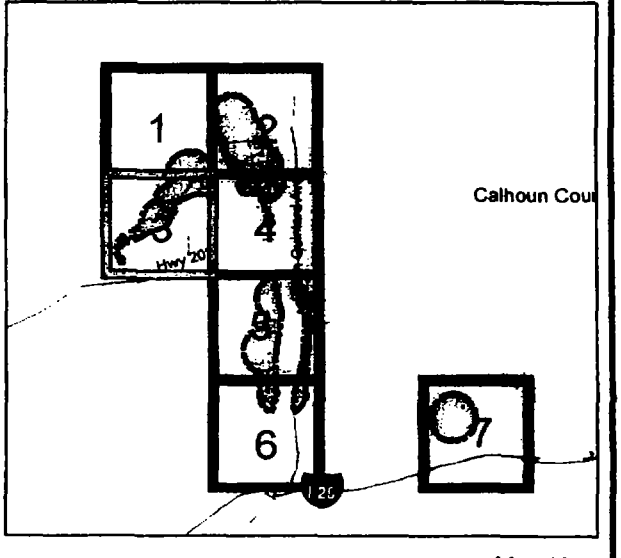
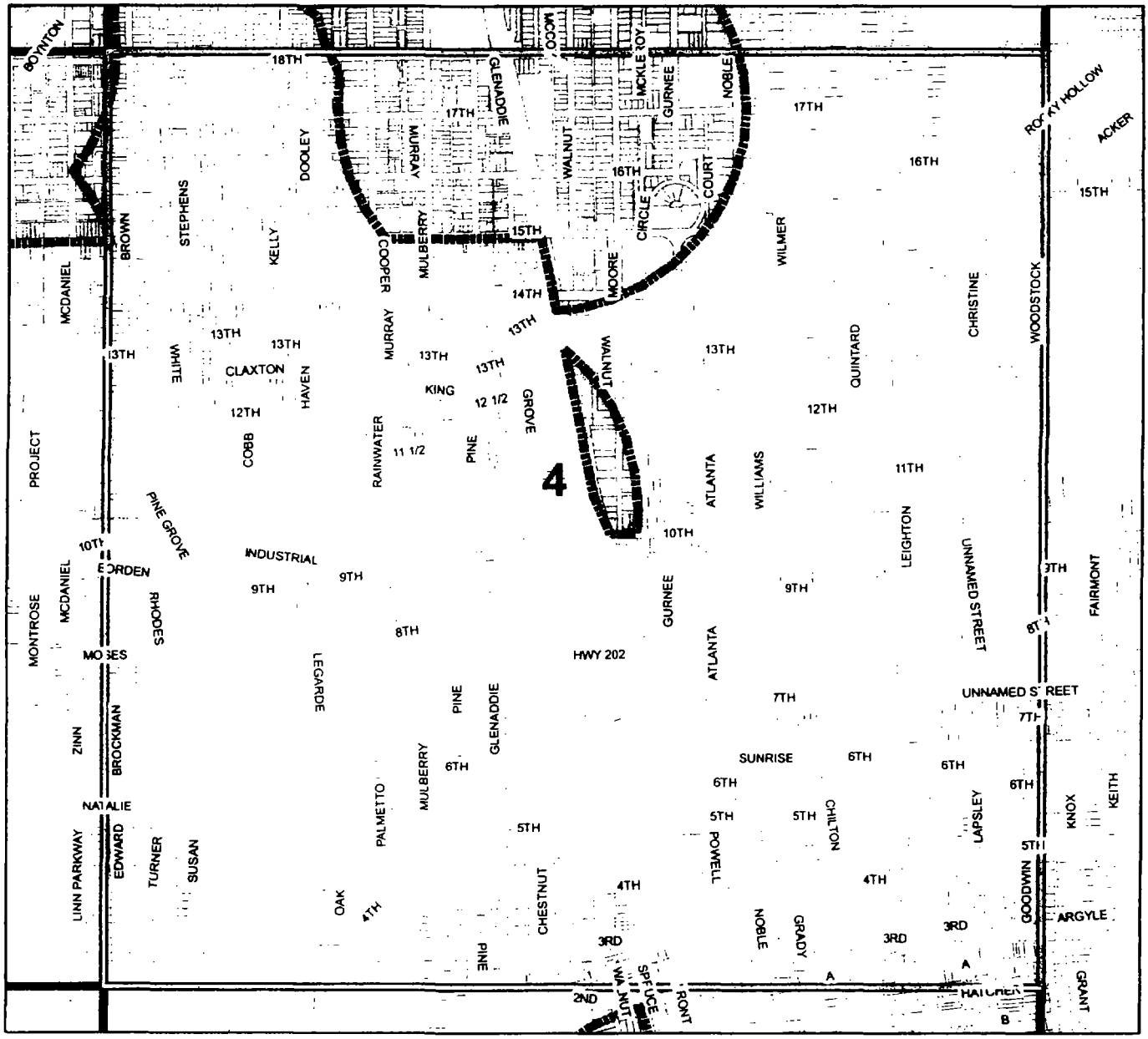


Map Key

Anniston Lead Site
AOC Appendix 2
Zone A



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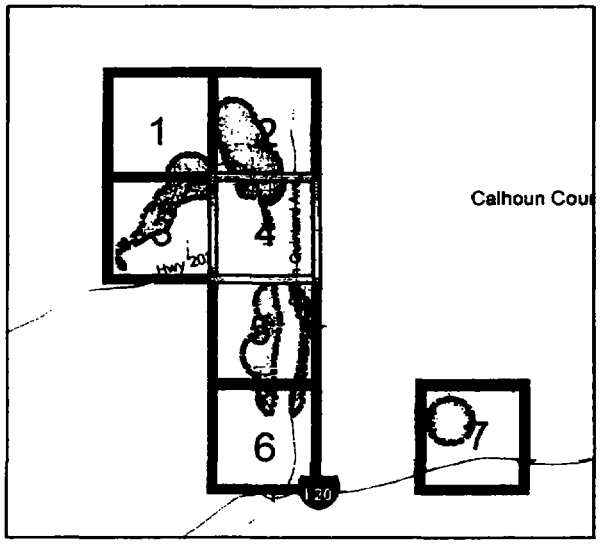
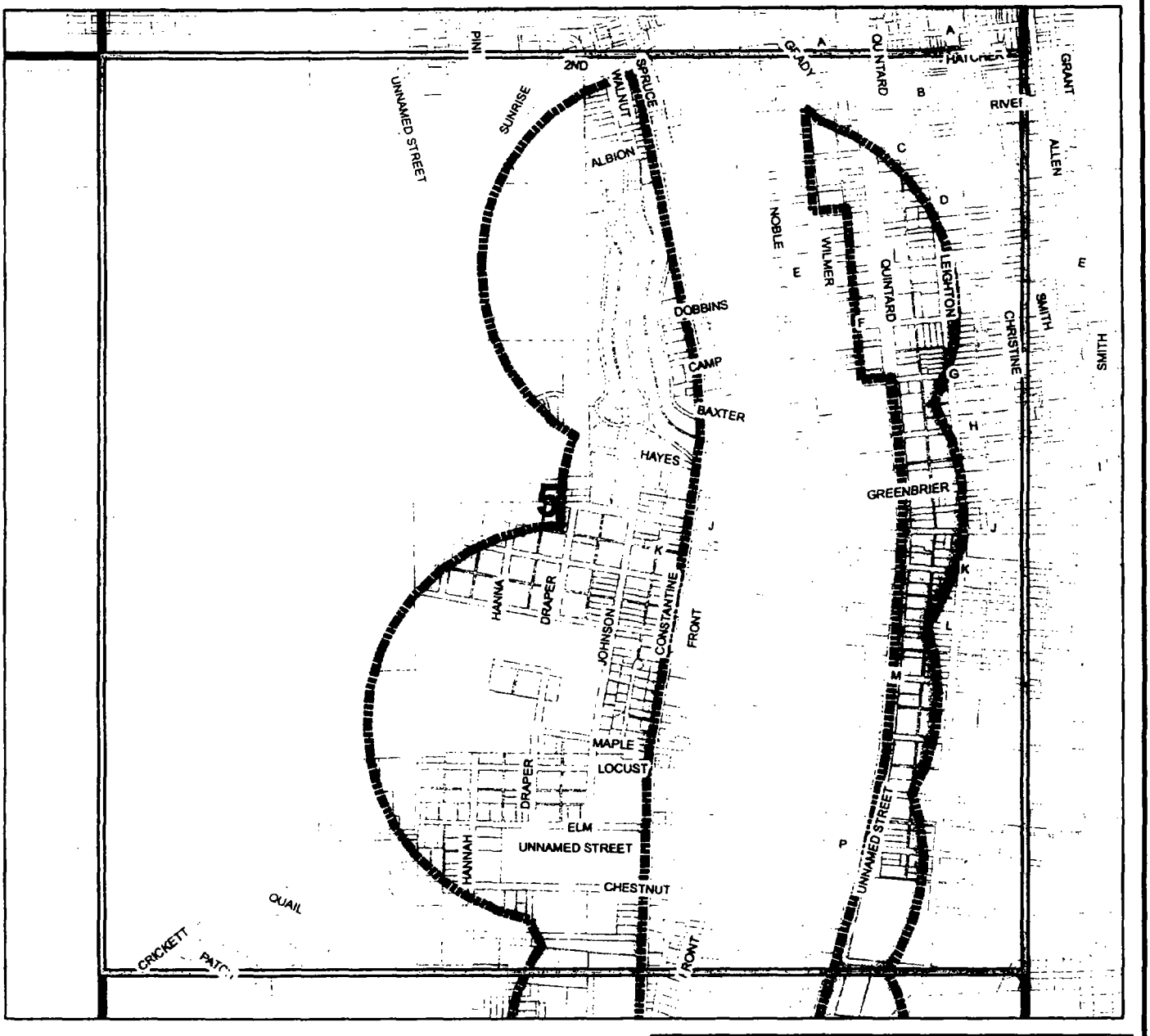


Anniston Lead Site
AOC Appendix 2
Zone A

Map Key

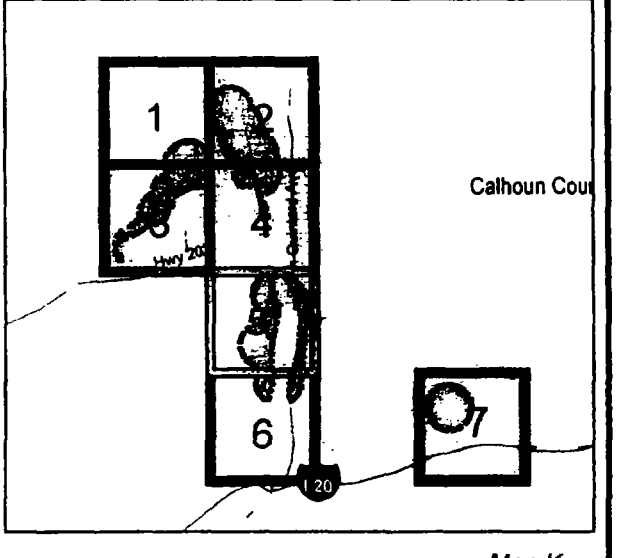


Legend

- Streets
- Map Key Grid
- Zone A

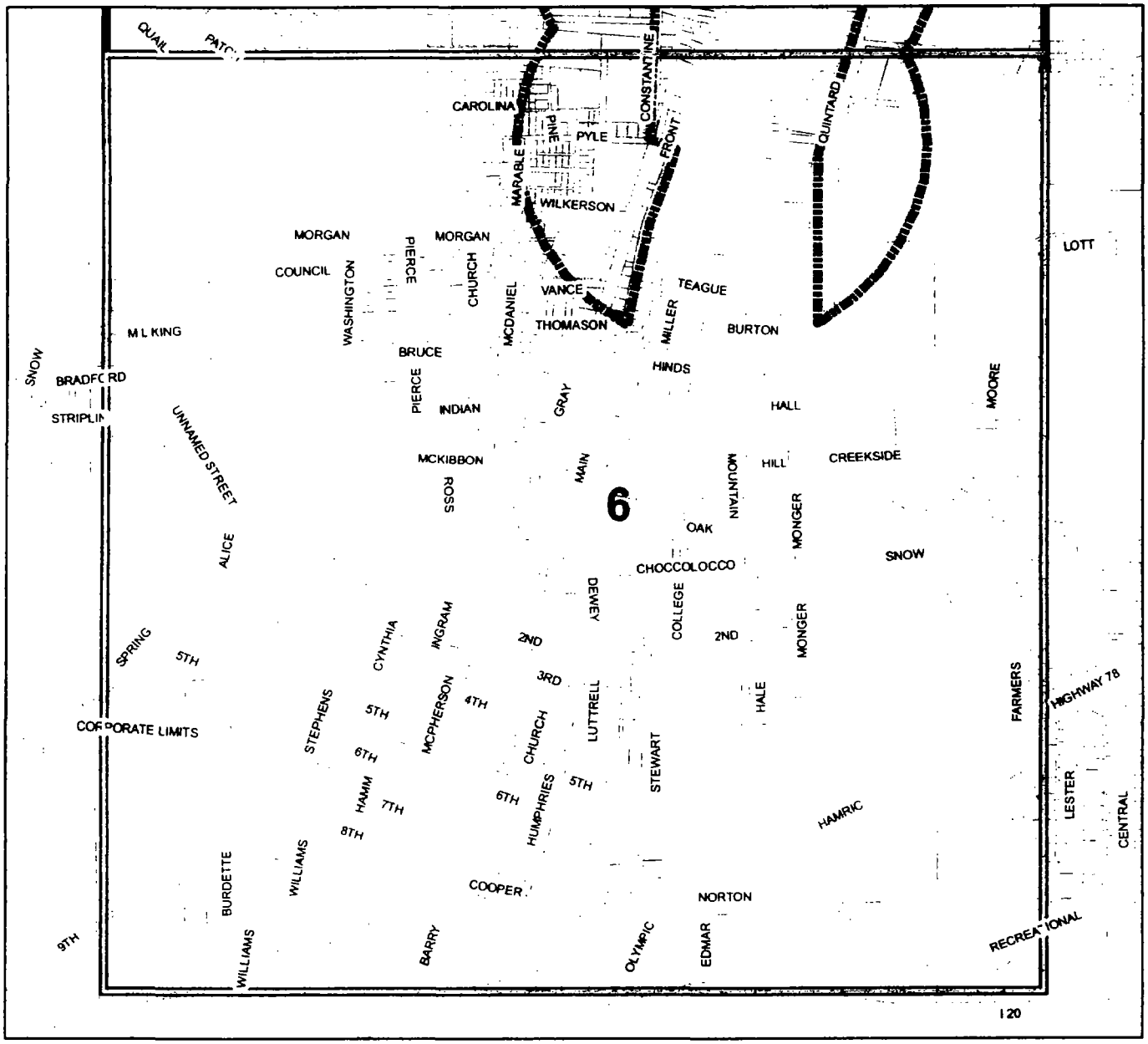
0 405 810 1,620 2,430 3,240 Feet

N



Map Key

Anniston Lead Site
AOC Appendix 2
Zone A

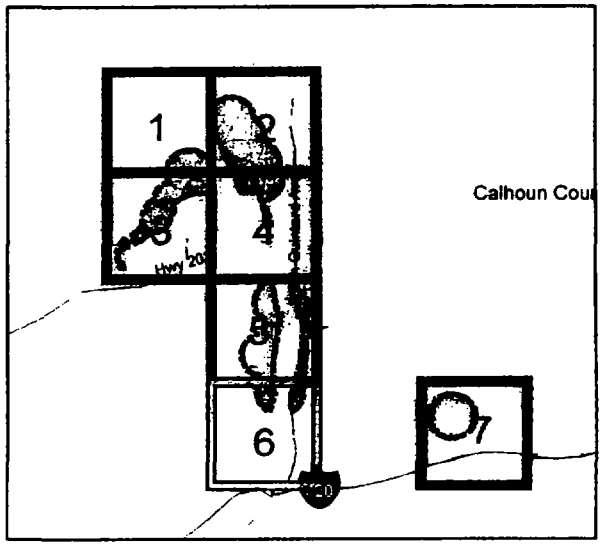


Legend

- Streets
- Map Key Grid
- Zone A

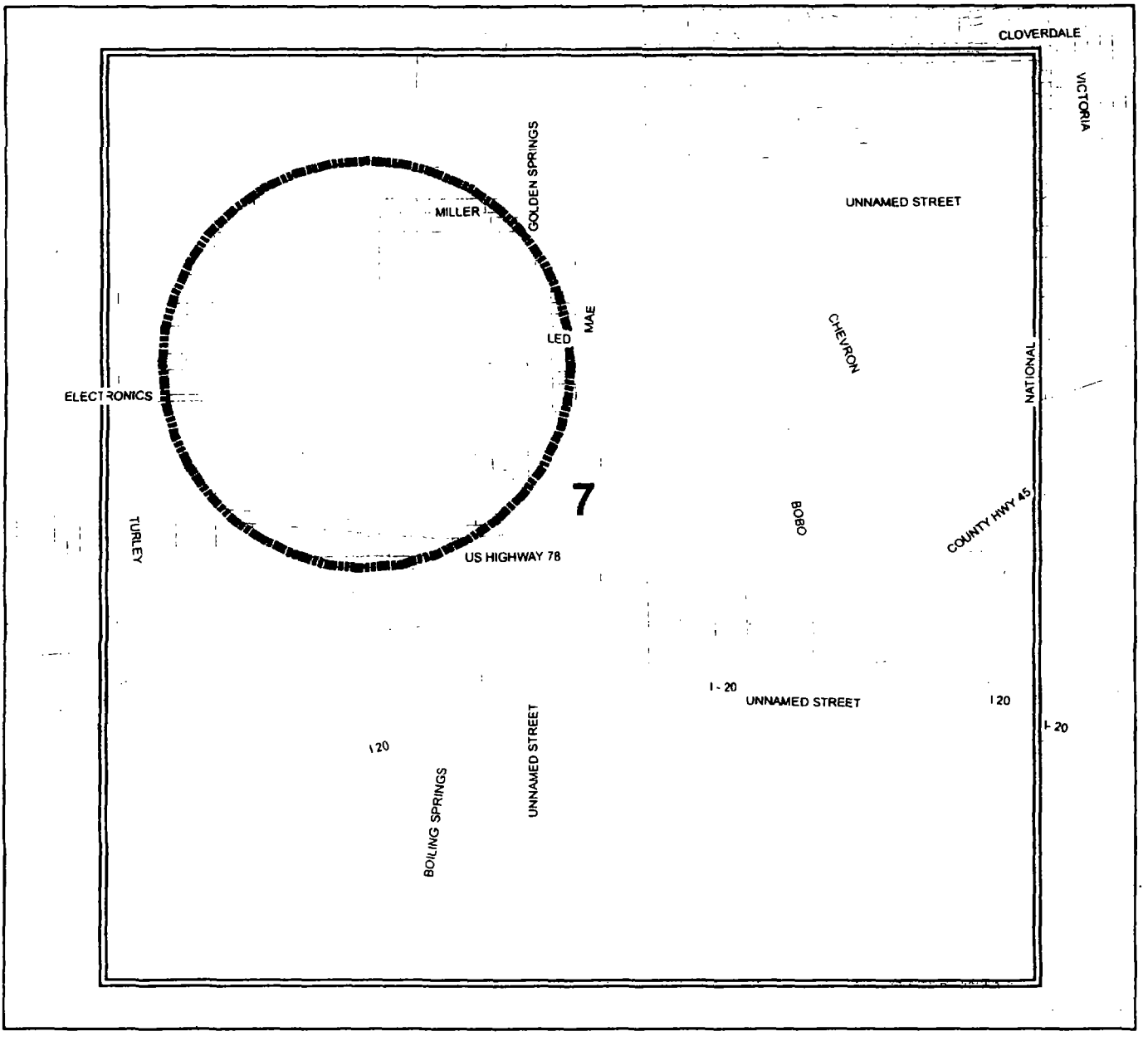
0 405 810 1,620 2,430 3,240 Feet

N



Anniston Lead Site AOC Appendix 2 Zone A

Map Key

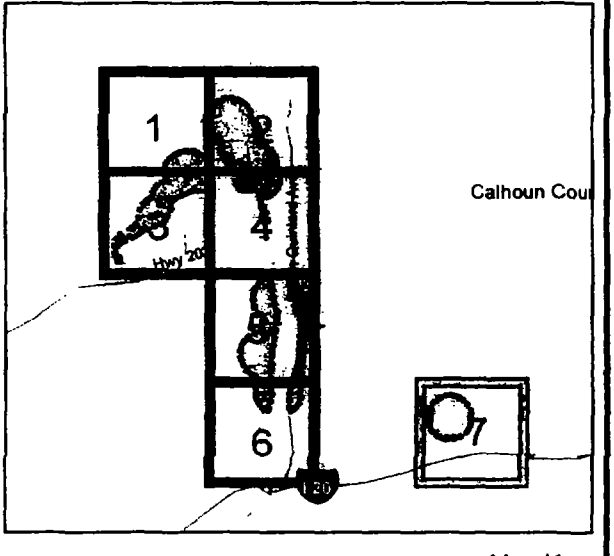


Legend

- Streets
- Map Key Grid
- Zone A

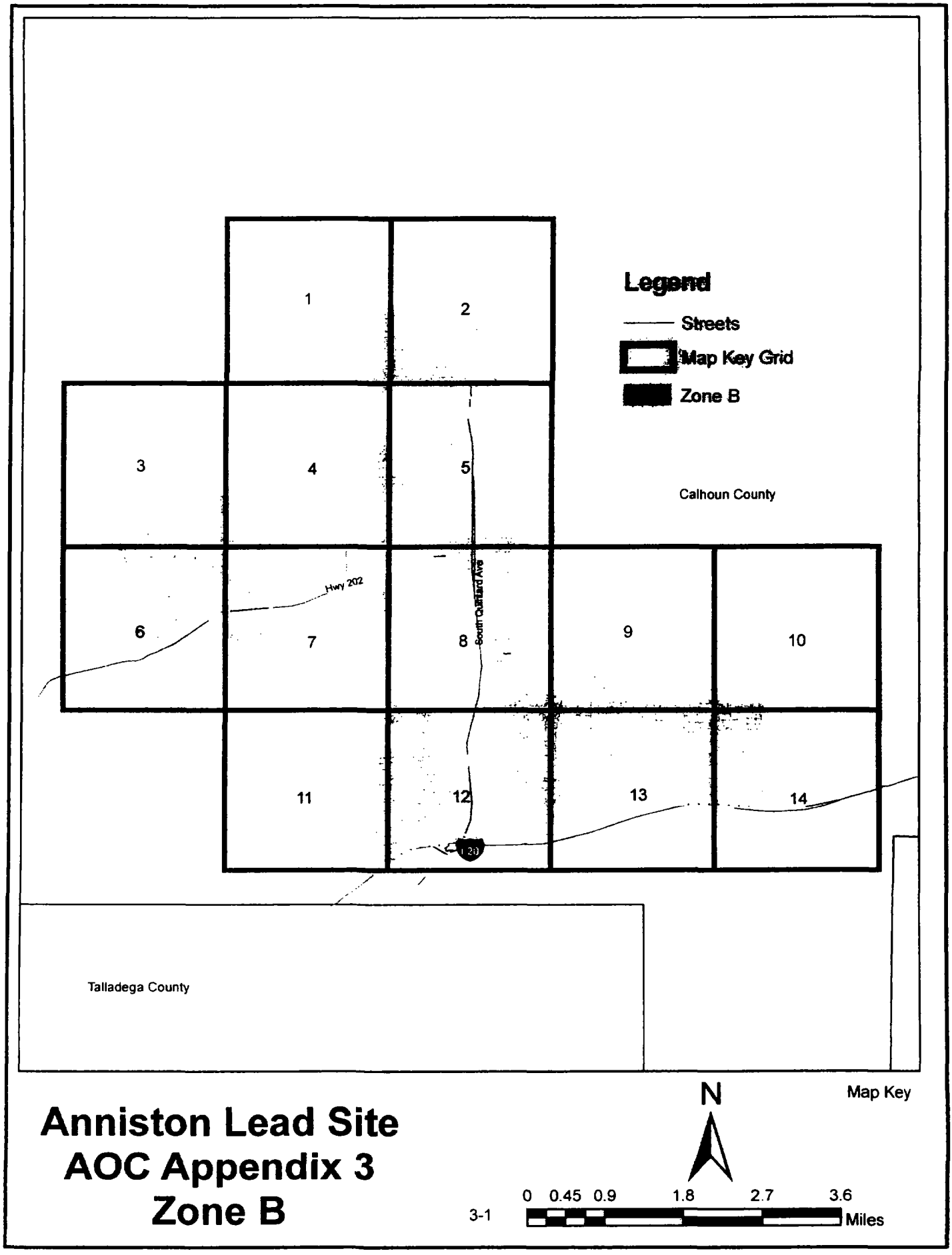
0 405 810 1,620 2,430 3,240 Feet

N

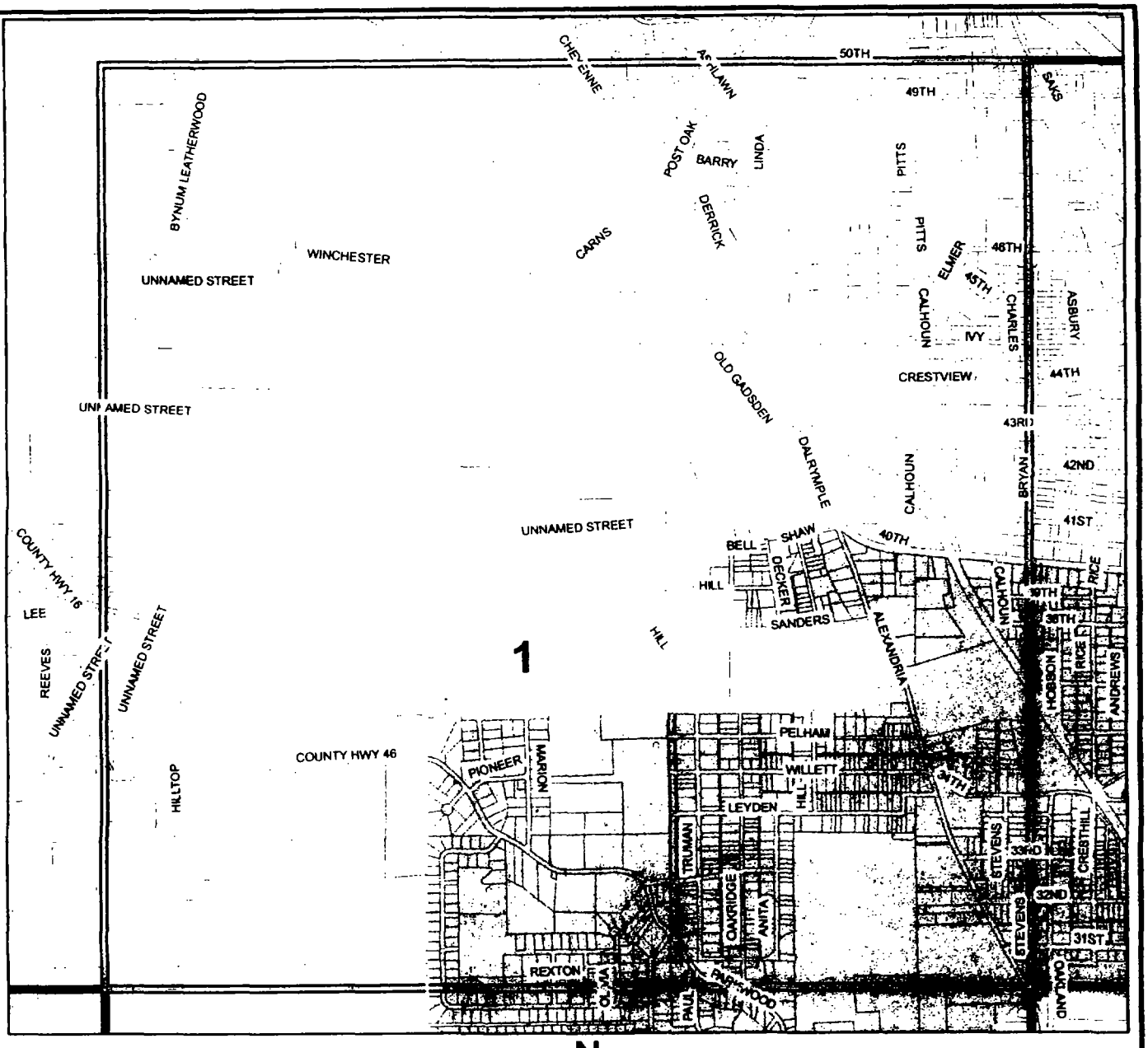


Map Key

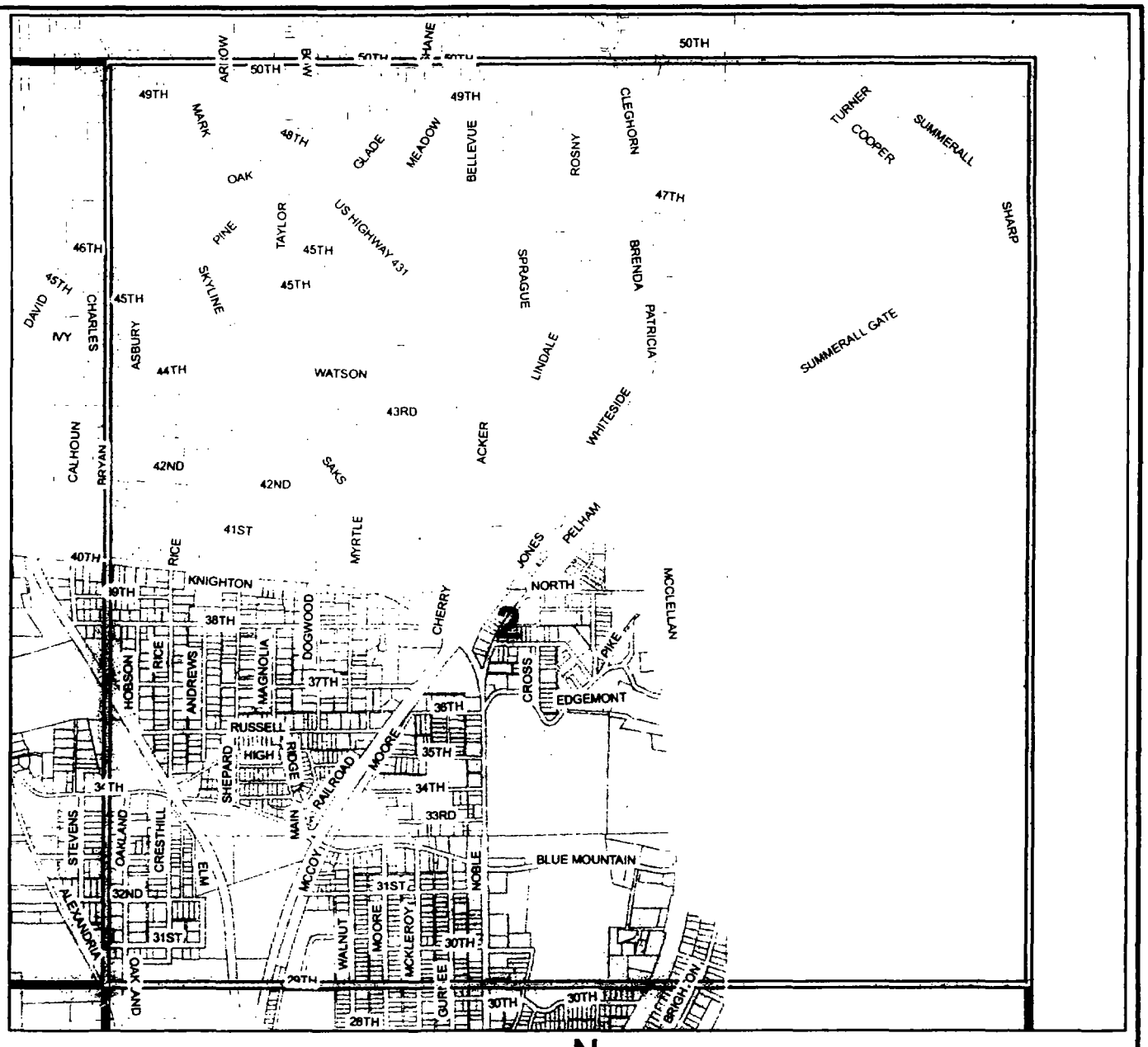
Anniston Lead Site
AOC Appendix 2
Zone A



Anniston Lead Site
AOC Appendix 3
Zone B



Anniston Lead Site
AOC Appendix 3
Zone B

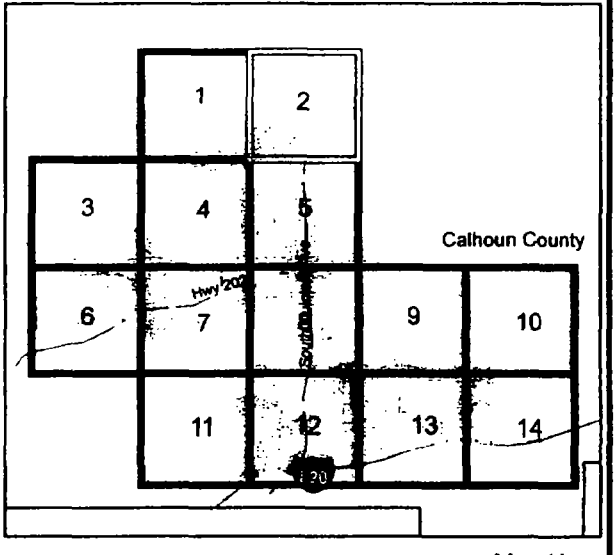


N

Legend

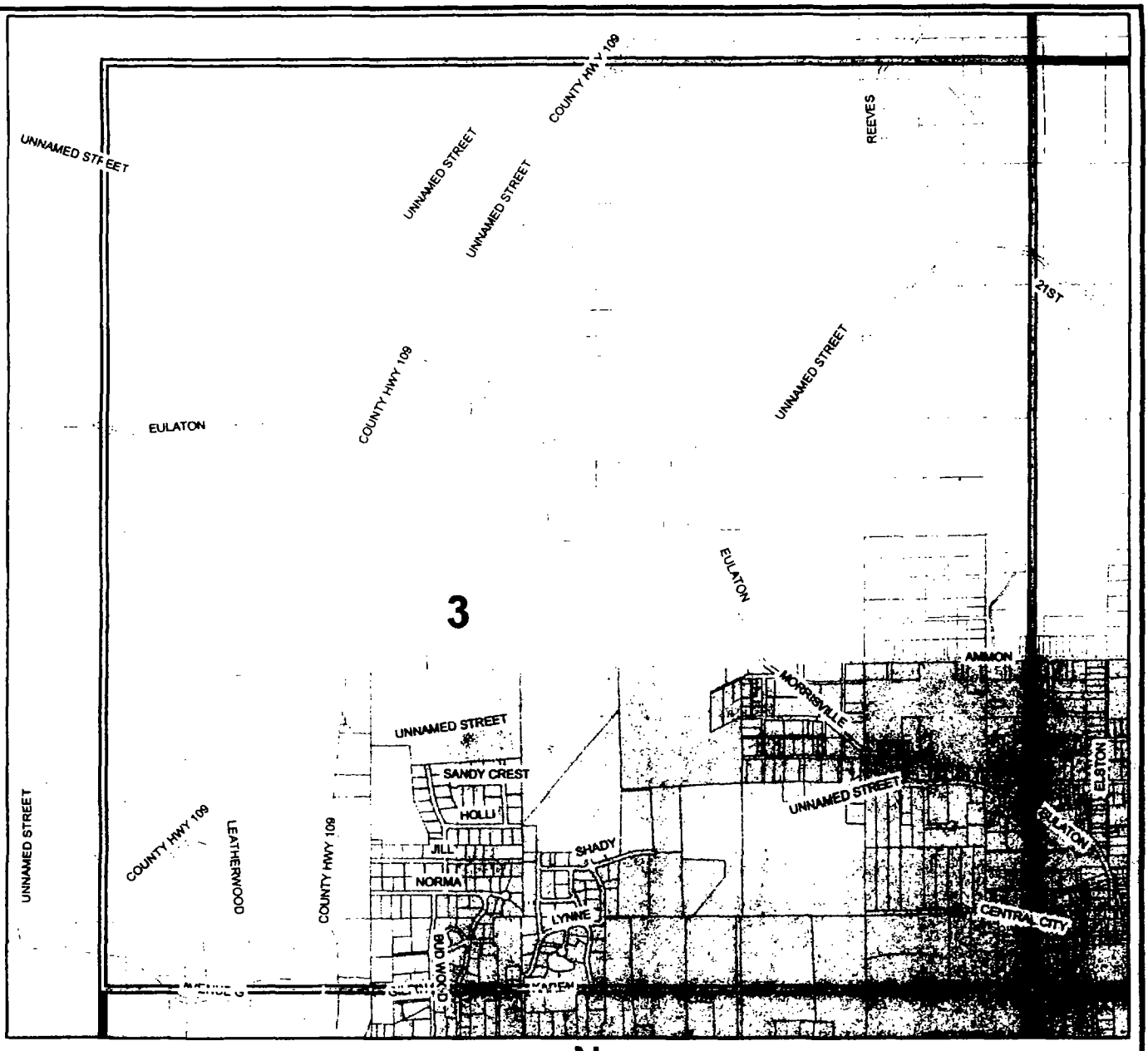
- Streets
- Map Key Grid
- Zone B

0 550 1,100 2,200 3,300 4,400 Feet



Map Key

Anniston Lead Site
AOC Appendix 3
Zone B

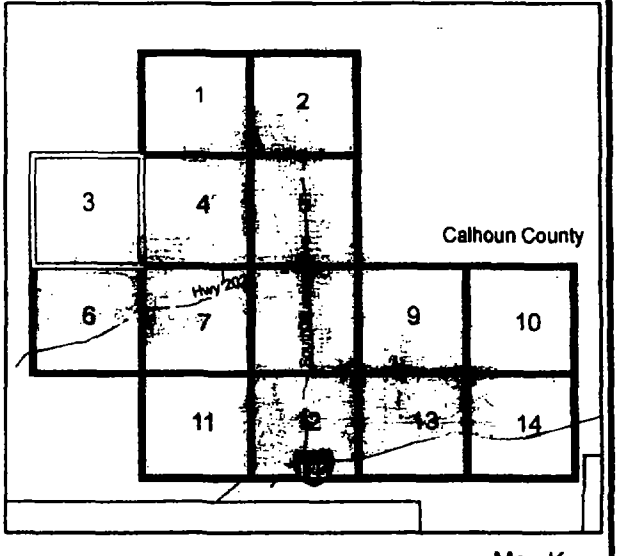


N

Legend

- Streets
- Map Key Grid
- Zone B

0 550 1,100 2,200 3,300 4,400 Feet



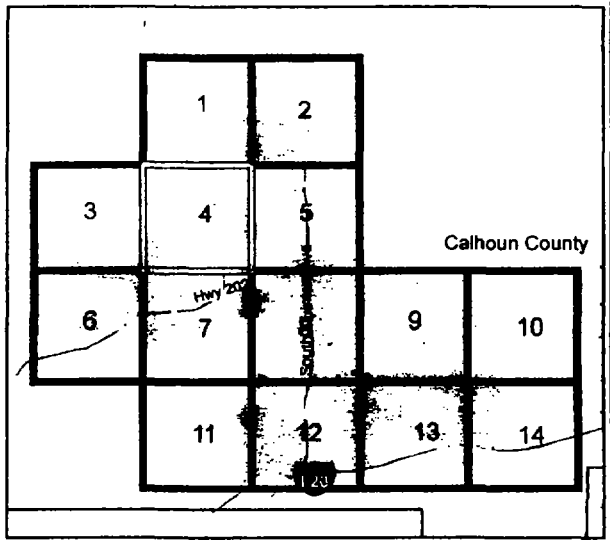
Anniston Lead Site AOC Appendix 3 Zone B

Legend

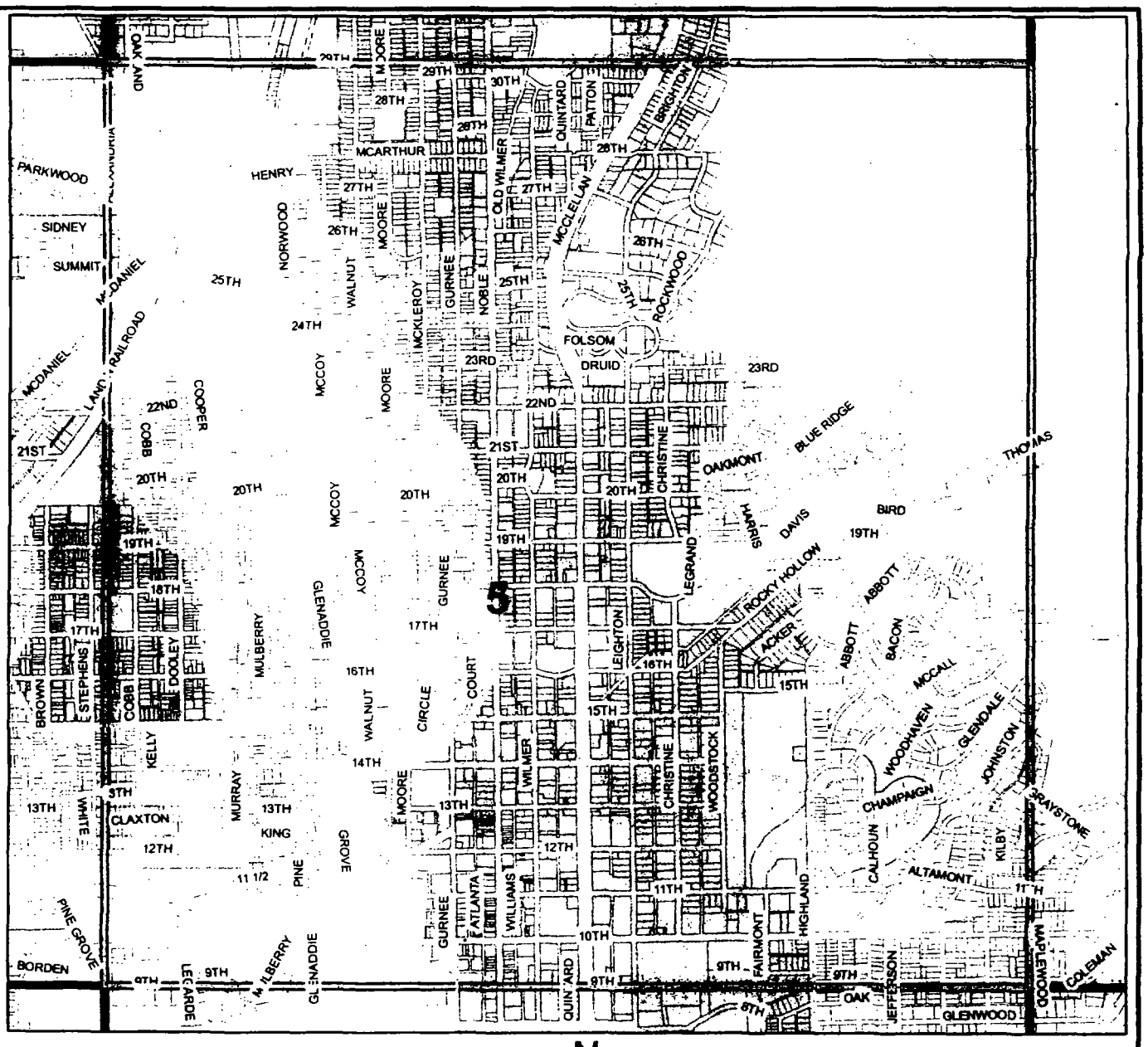
- Streets
- Map Key Grid
- Zone B

0 550 1,100 2,200 3,300 4,400 Feet

N



Anniston Lead Site
AOC Appendix 3
Zone B

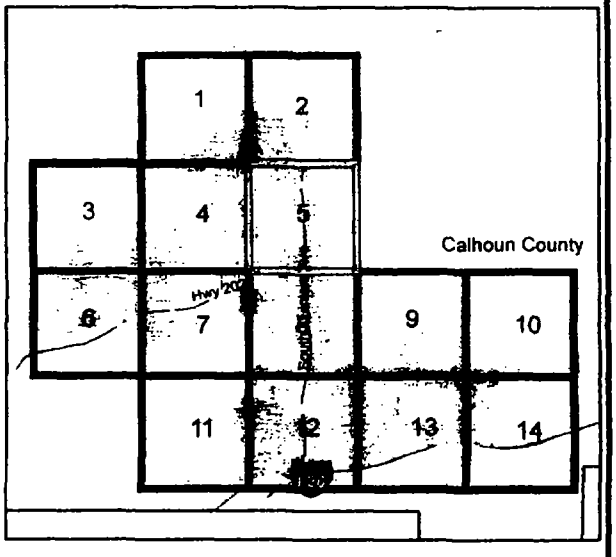


N

Legend

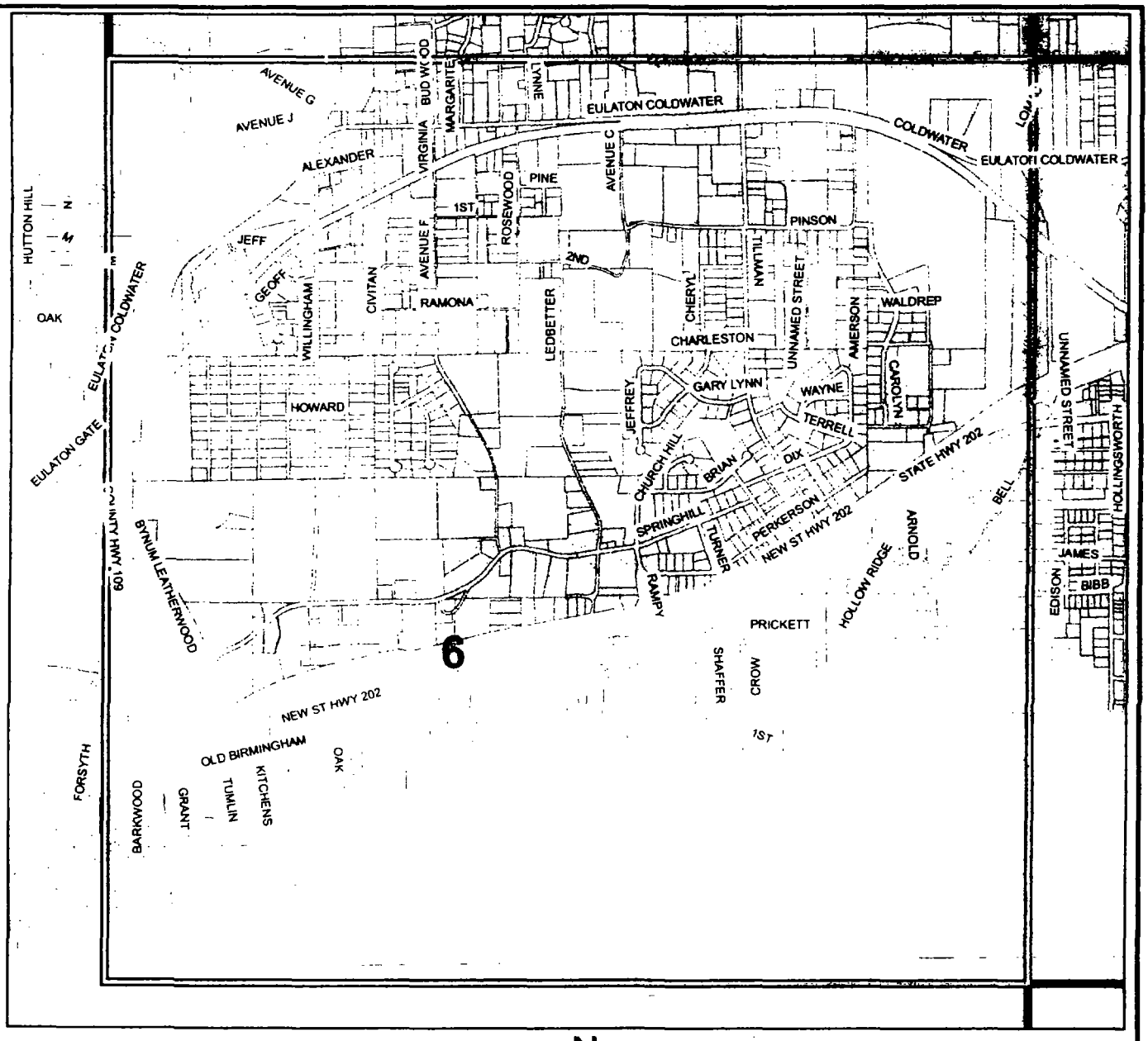
- Streets
- Map Key Grid
- Zone B

0 550 1,100 2,200 3,300 4,400 Feet



Map Key

Anniston Lead Site
AOC Appendix 3
Zone B

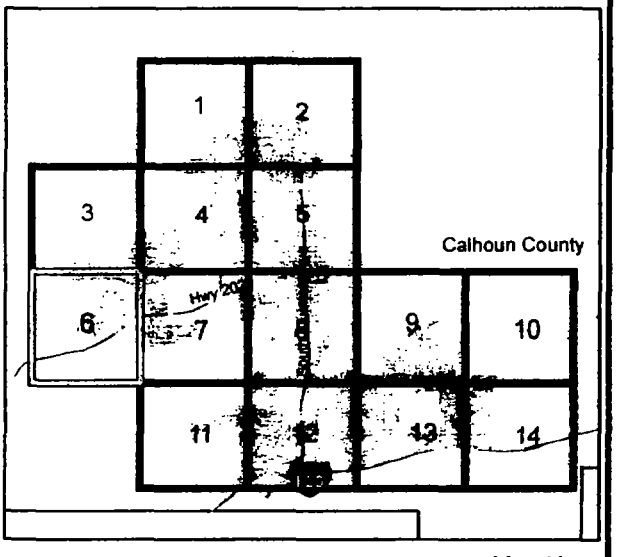


Legend

- Streets
- Map Key Grid
- Zone B

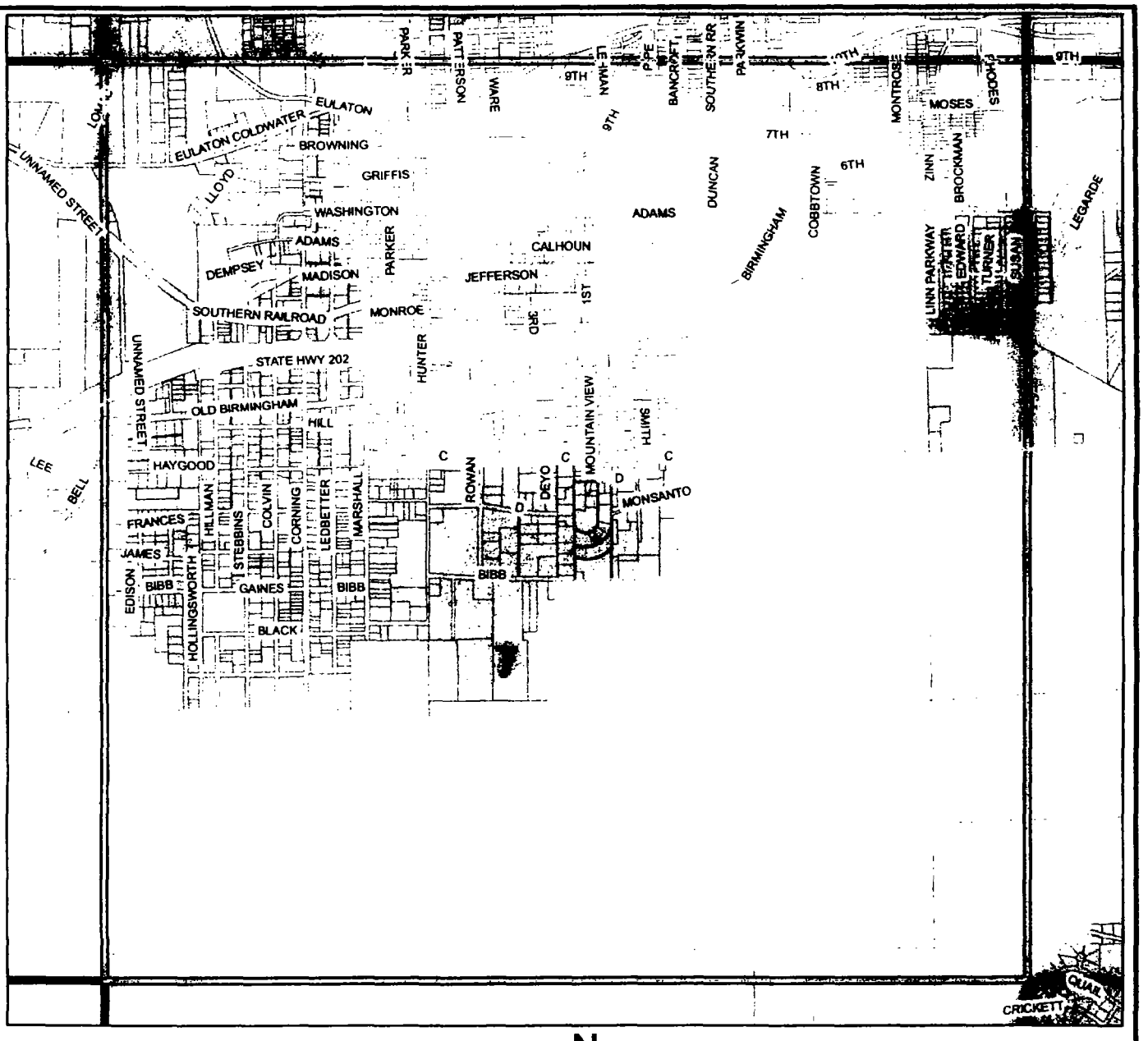
0 550 1,100 2,200 3,300 4,400 Feet

N



Map Key

Anniston Lead Site
AOC Appendix 3
Zone B

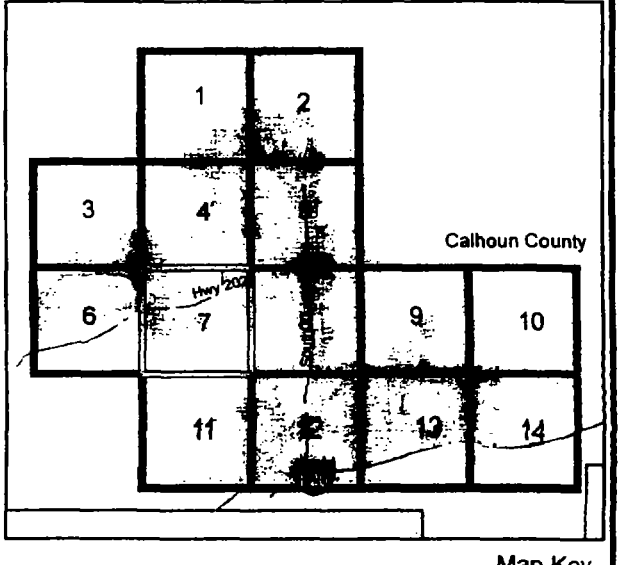


Legend

- Streets
- Map Key Grid
- Zone B

0 550 1,100 2,200 3,300 4,400 Feet

N



Map Key

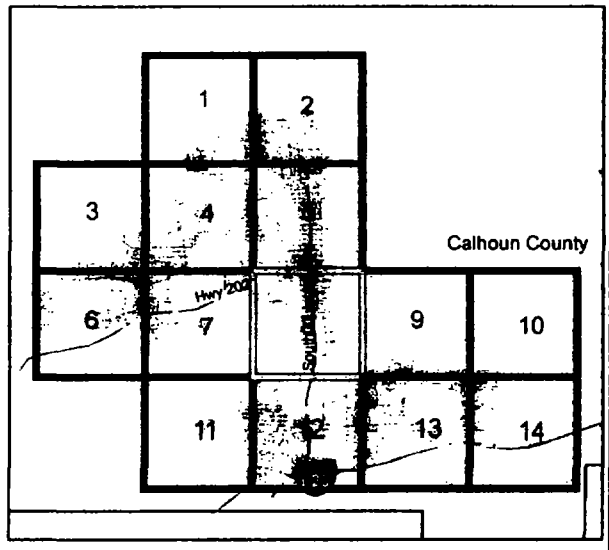
Anniston Lead Site
AOC Appendix 3
Zone B

Legend

- Streets
- Map Key Grid
- Zone B

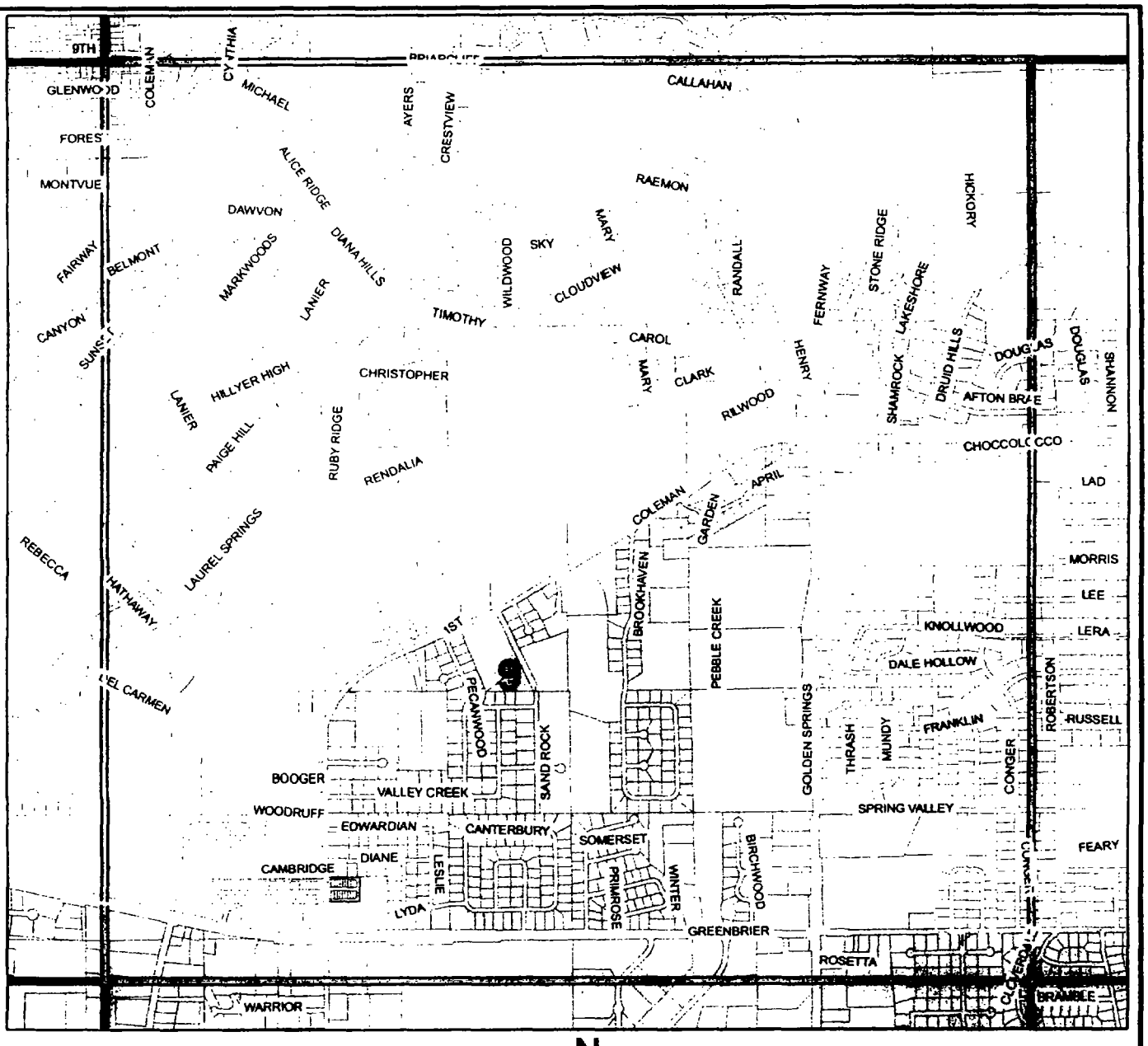
0 550 1,100 2,200 3,300 4,400 Feet

N



Map Key

Anniston Lead Site
AOC Appendix 3
Zone B

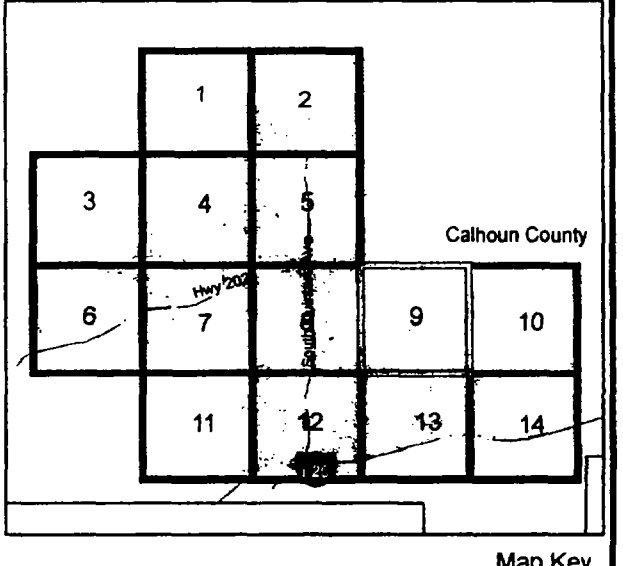


N

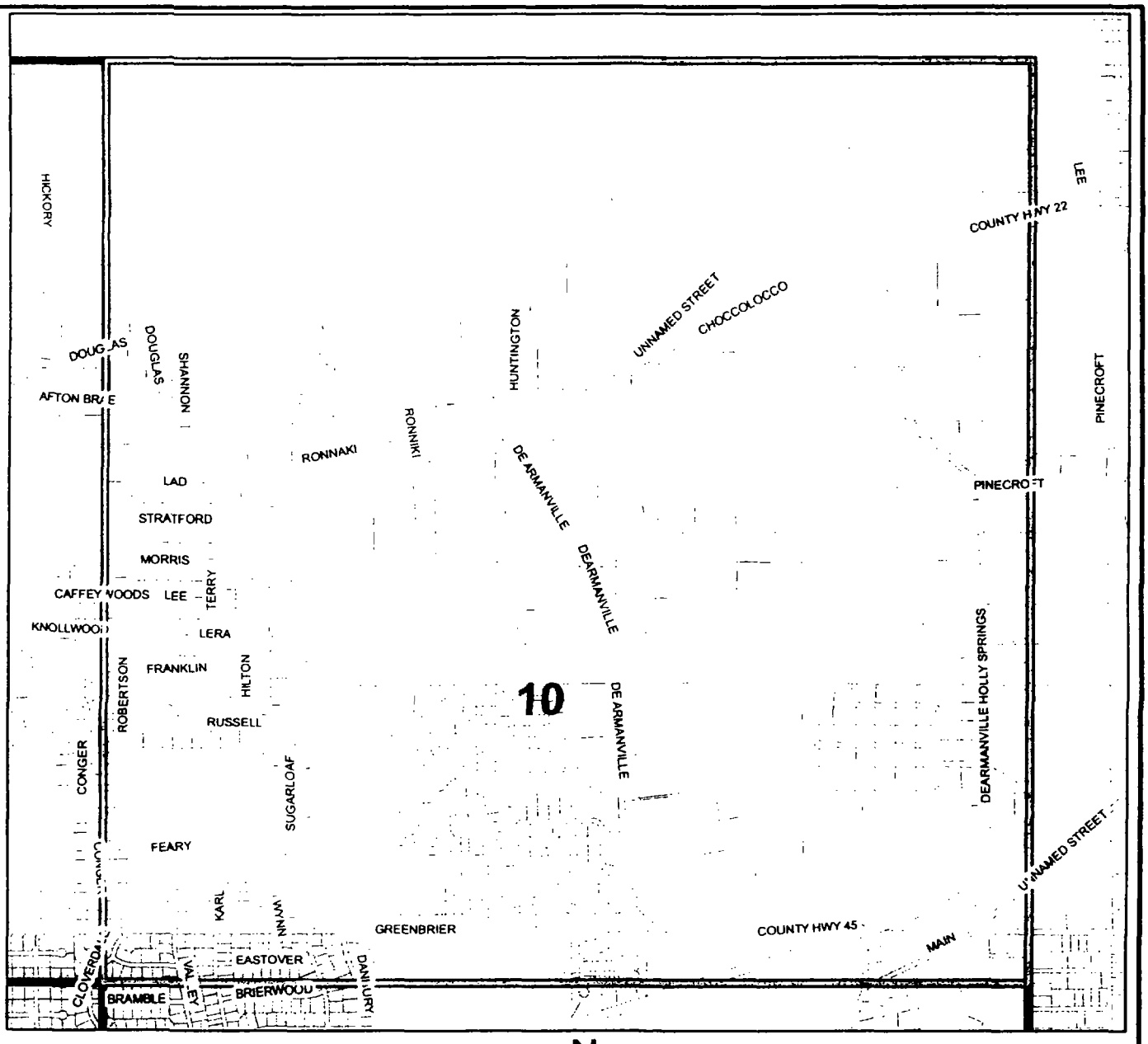
Legend

- Streets
- Map Key Grid
- Zone B

0 550 1,100 2,200 3,300 4,400 Feet



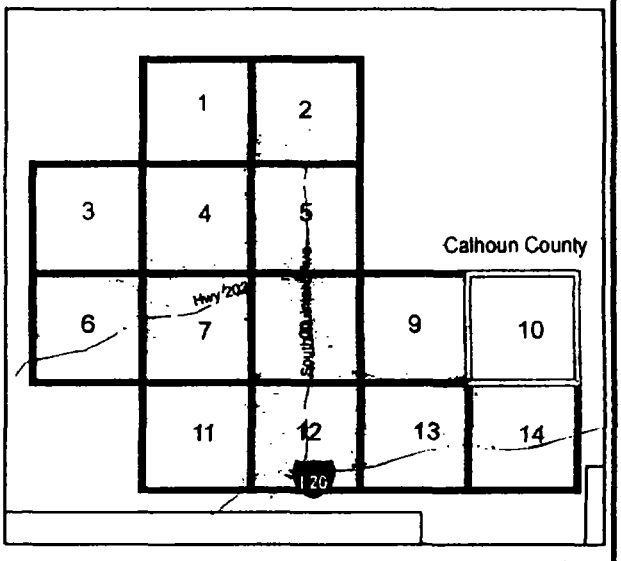
Anniston Lead Site
AOC Appendix 3
Zone B



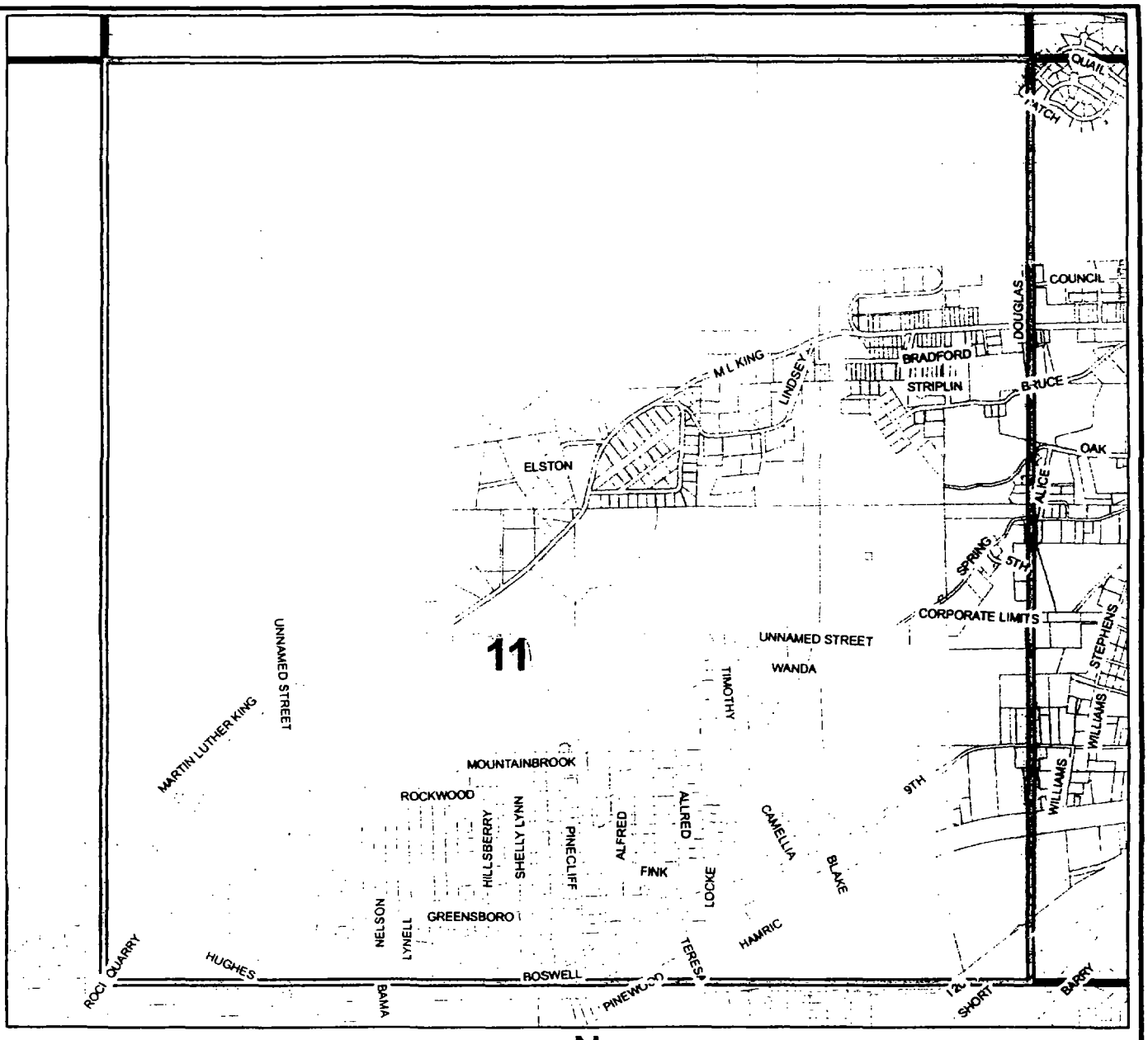
Legend

- Streets
- Map Key Grid
- Zone B

0 550 1,100 2,200 3,300 4,400 Feet



Anniston Lead Site
AOC Appendix 3
Zone B

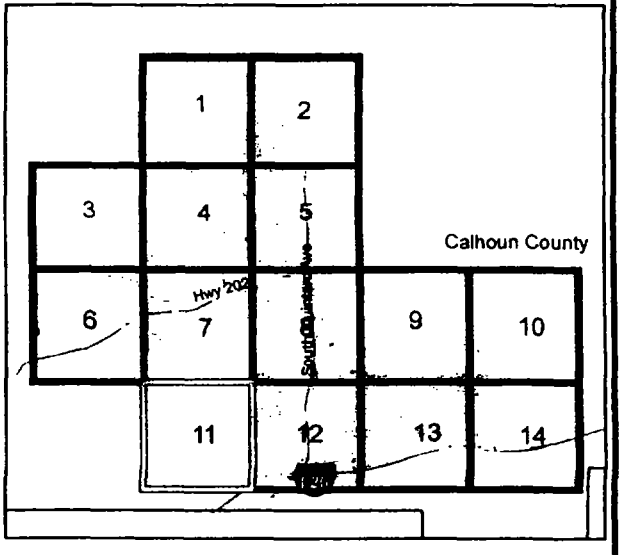


Legend

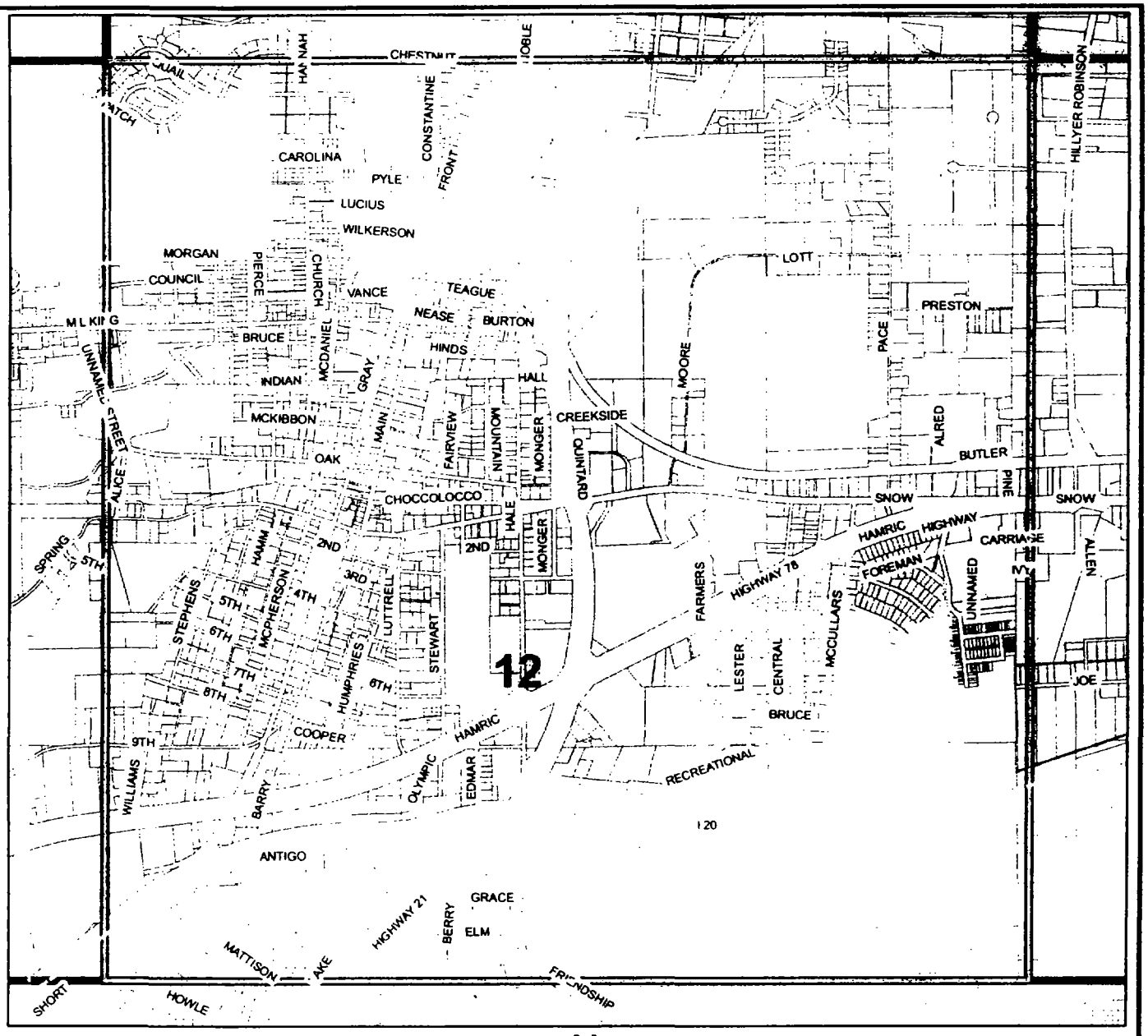
- Streets
- Map Key Grid
- Zone B

0 550 1,100 2,200 3,300 4,400 Feet

N



Anniston Lead Site
AOC Appendix 3
Zone B

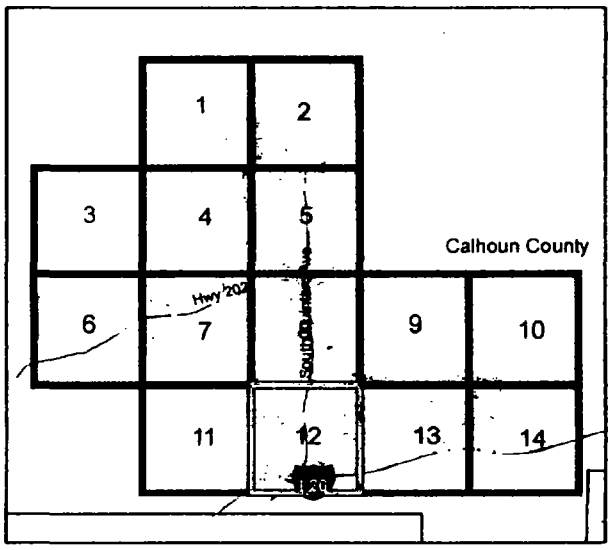


Legend

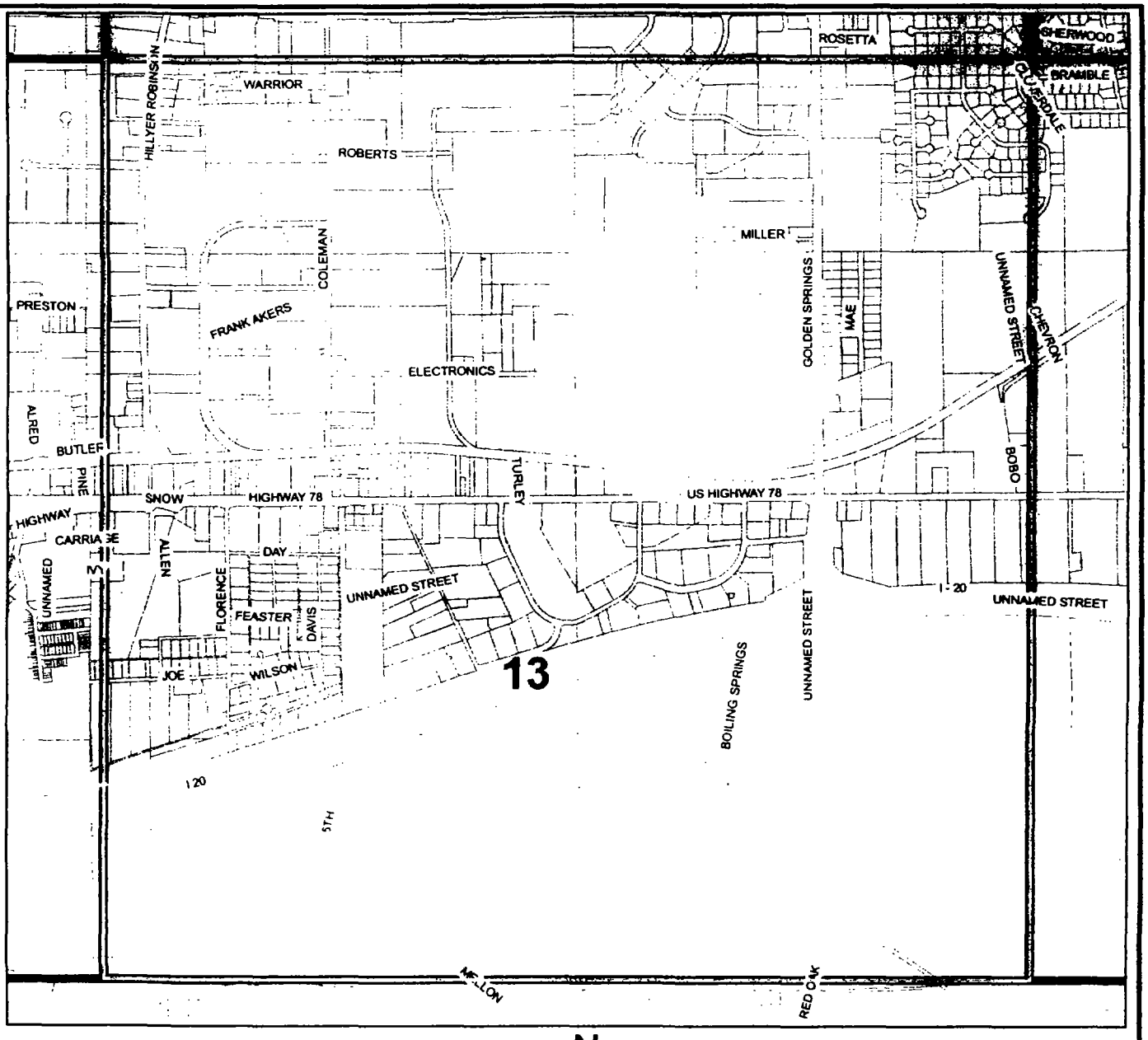
- Streets
- Map Key Grid
- Zone B

0 550 1,100 2,200 3,300 4,400 Feet

N



Anniston Lead Site
AOC Appendix 3
Zone B

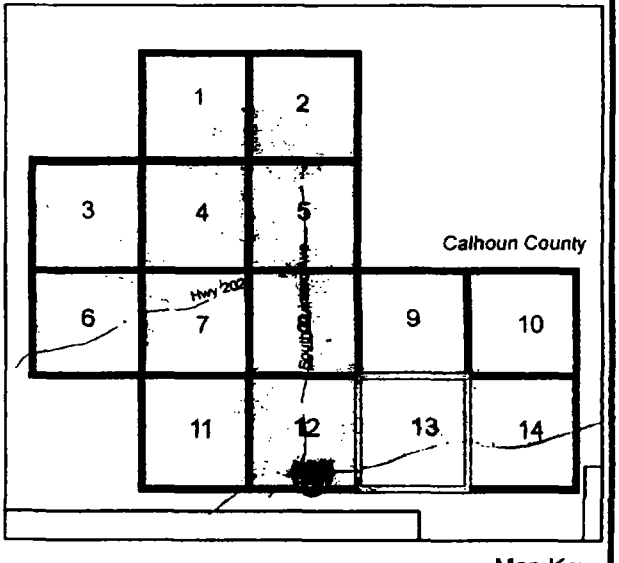


Legend

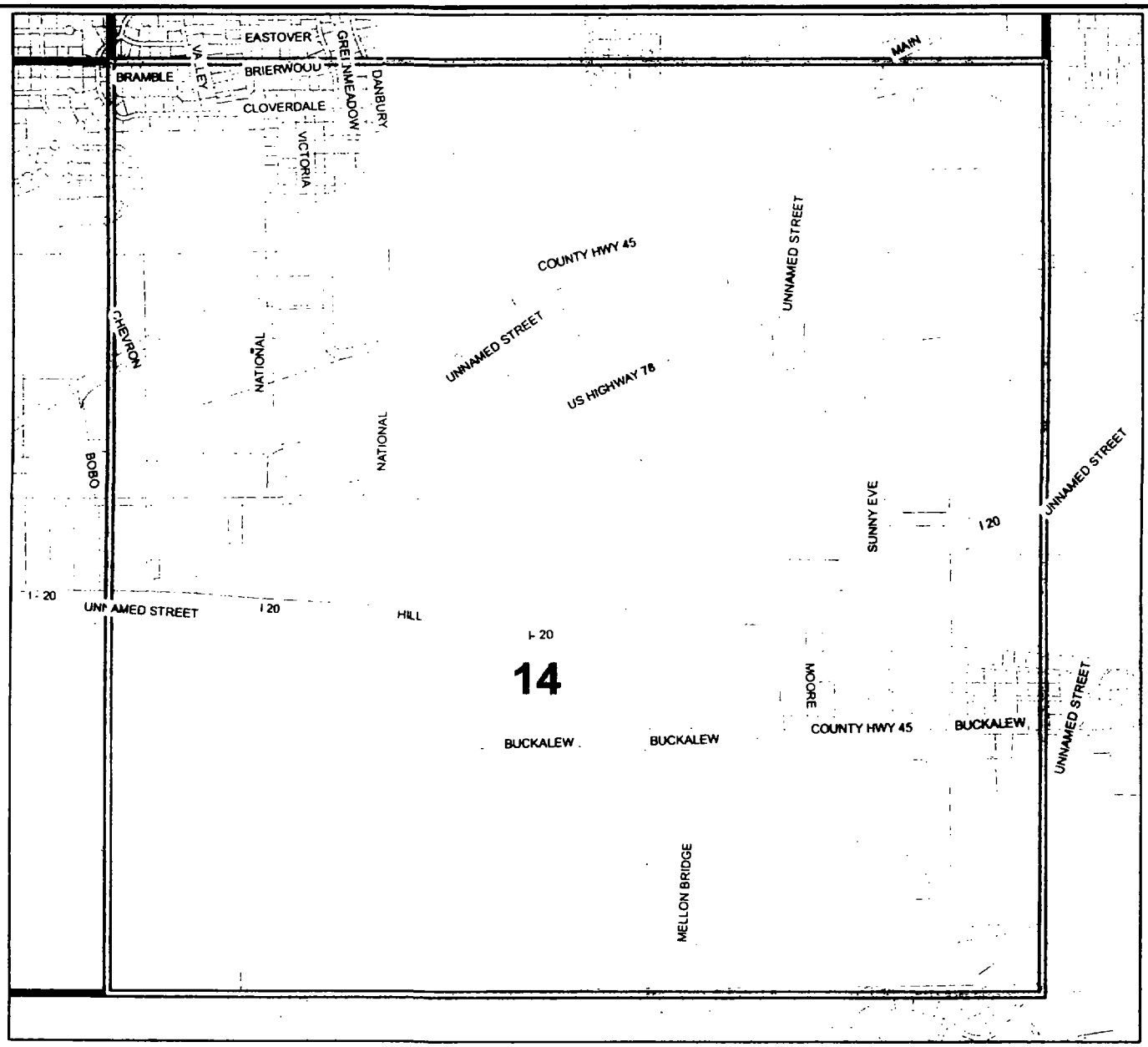
- Streets
- Map Key Grid
- Zone B

0 550 1,100 2,200 3,300 4,400 Feet

N



Anniston Lead Site
AOC Appendix 3
Zone B

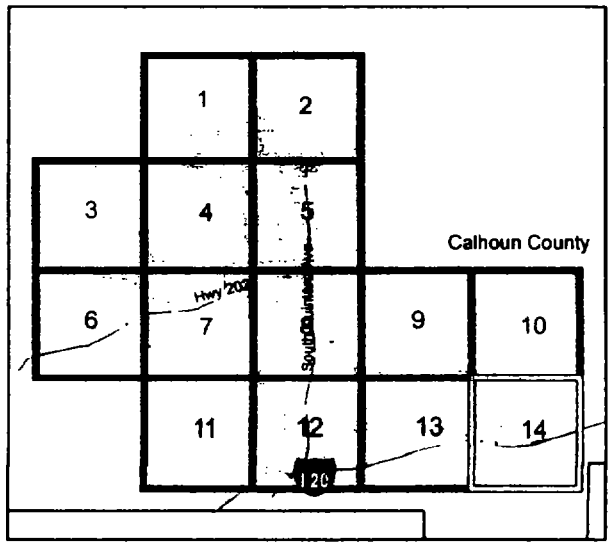


Legend

- Streets
- Map Key Grid
- Zone B

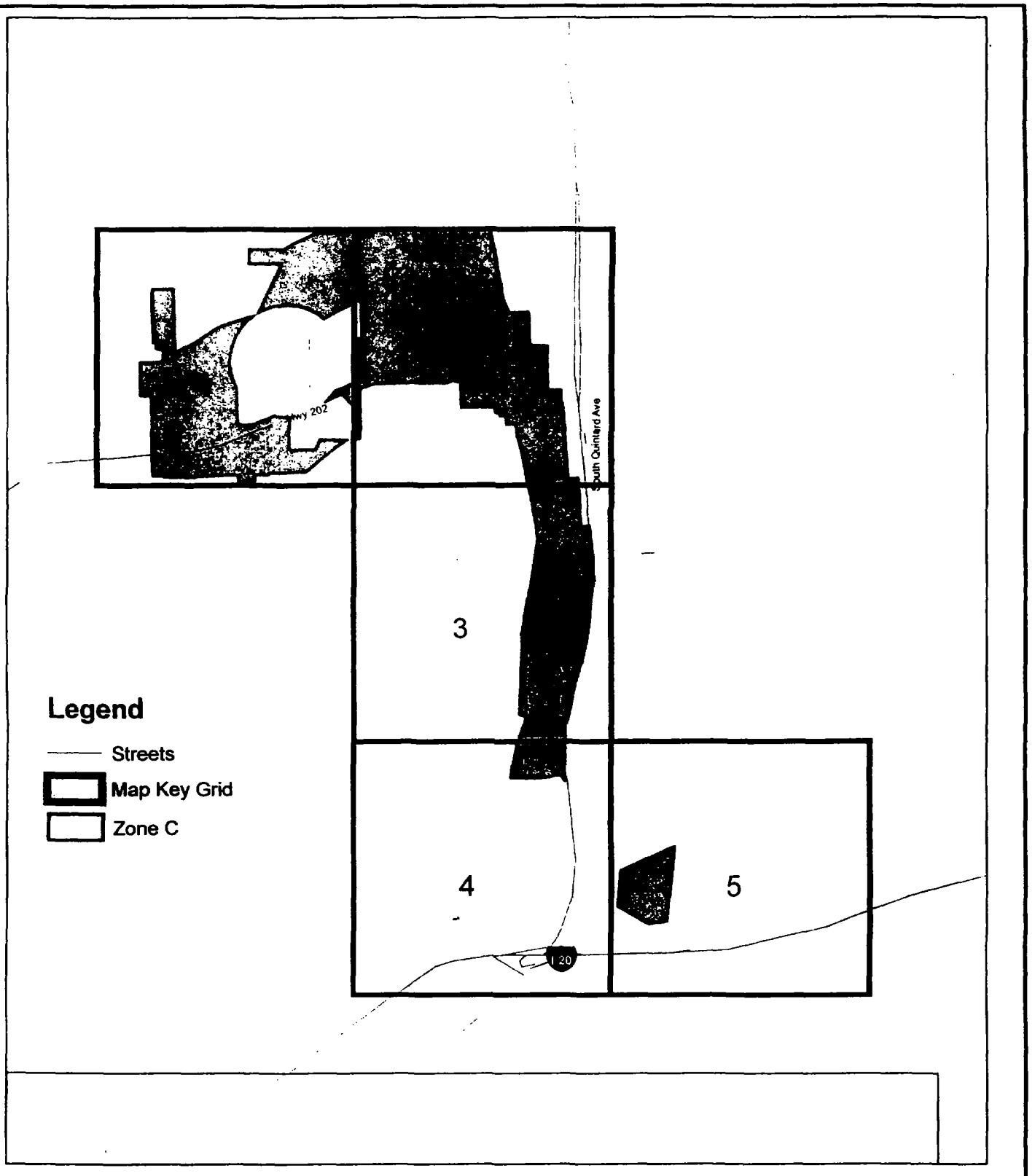
0 550 1,100 2,200 3,300 4,400 Feet

N



Map Key

Anniston Lead Site
AOC Appendix 3
Zone B



Anniston Lead Site
AOC Appendix 4
Zone C

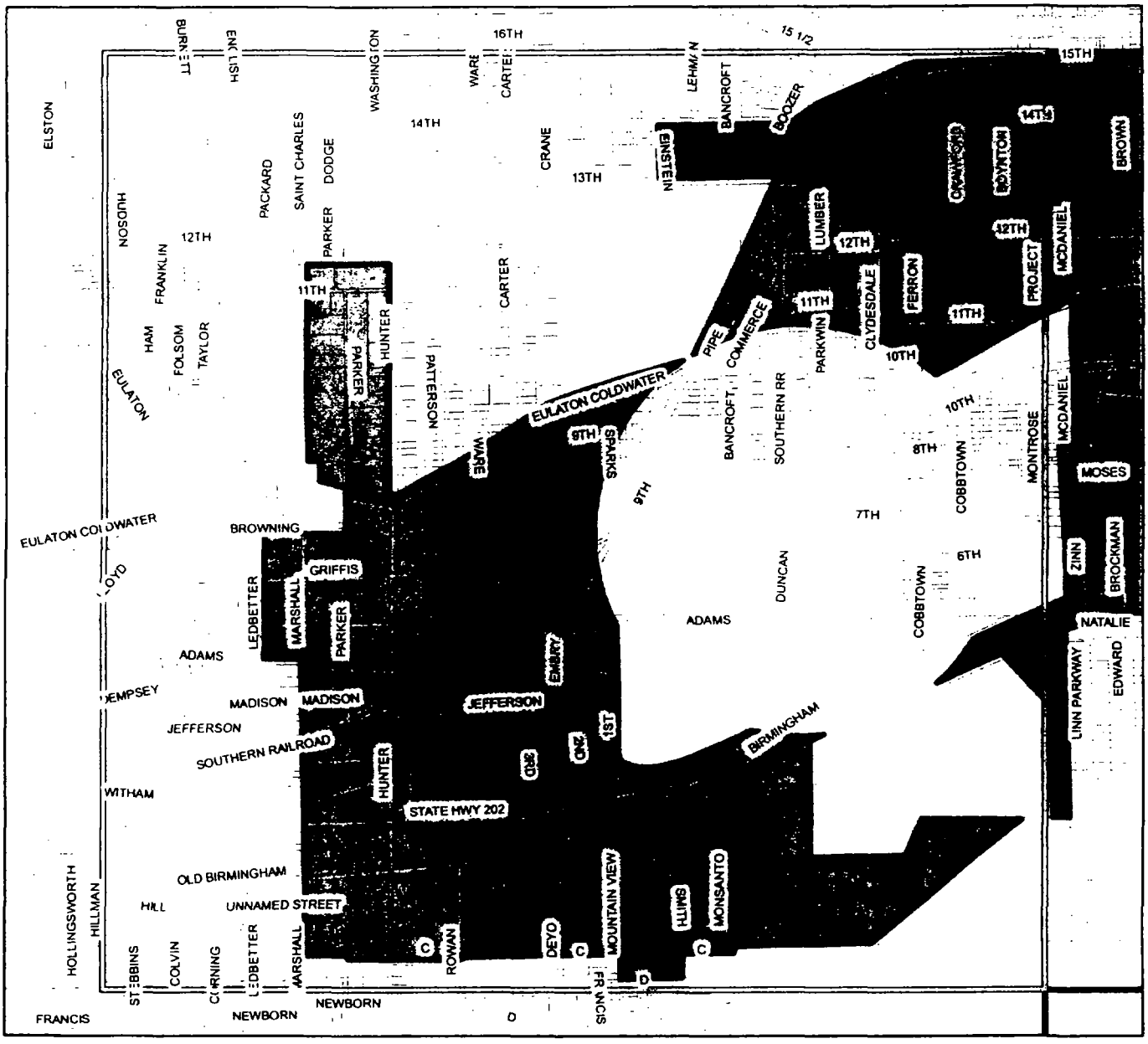
4-1

Map Key

N

0 0.2 0.4 0.8 1.2 1.6

Miles

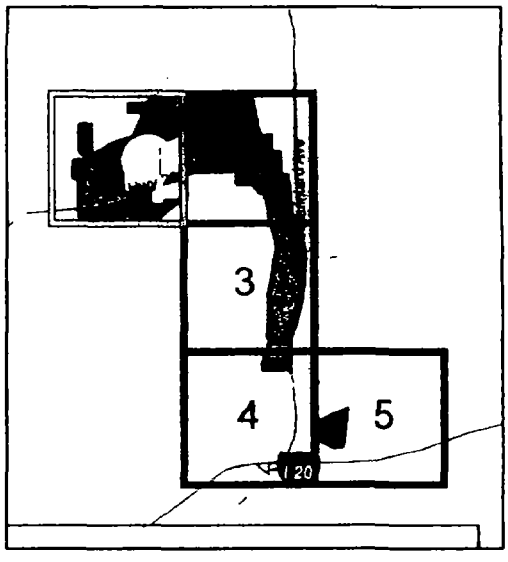


N

Legend

- Streets
- Map Key Grid
- Zone C

0 405 810 1,620 2,430 3,240 Feet



Map Key

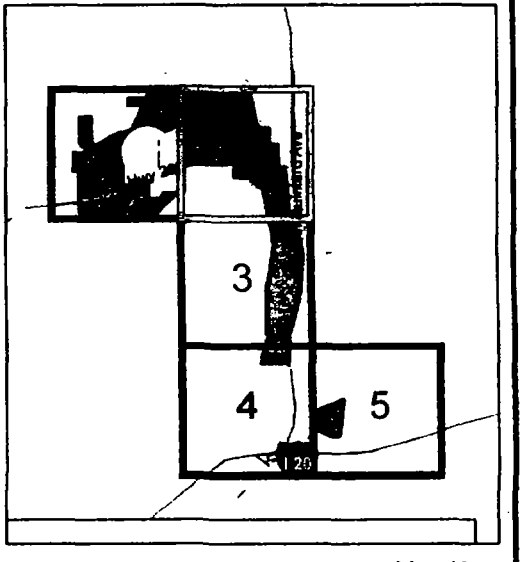
Anniston Lead Site
AOC Appendix 4
Zone C

Legend

- Streets
- Map Key Grid
- Zone C

N

0 405 810 1,620 2,430 3,240 Feet



Map Key

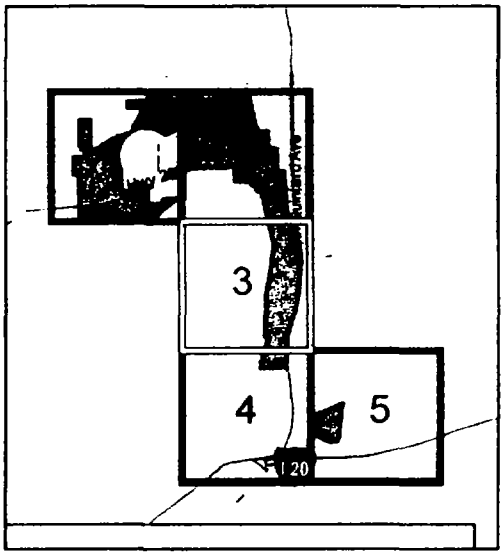
Anniston Lead Site
AOC Appendix 4
Zone C

N

Legend

- Streets
- Map Key Grid
- Zone C

0 405 810 1,620 2,430 3,240 Feet



Map Key

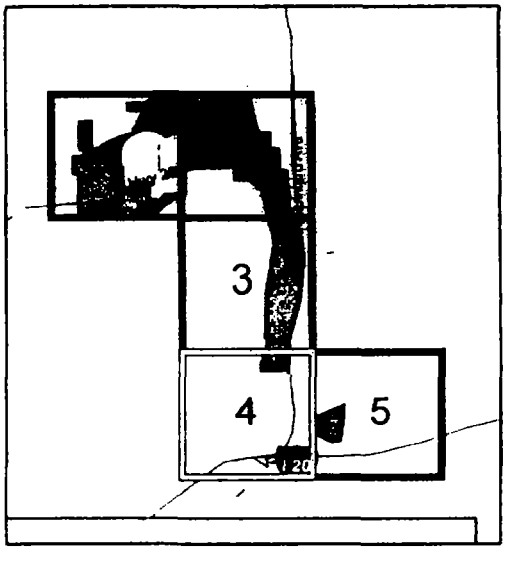
Anniston Lead Site
AOC Appendix 4
Zone C

Legend

- Streets
- Map Key Grid
- Zone C

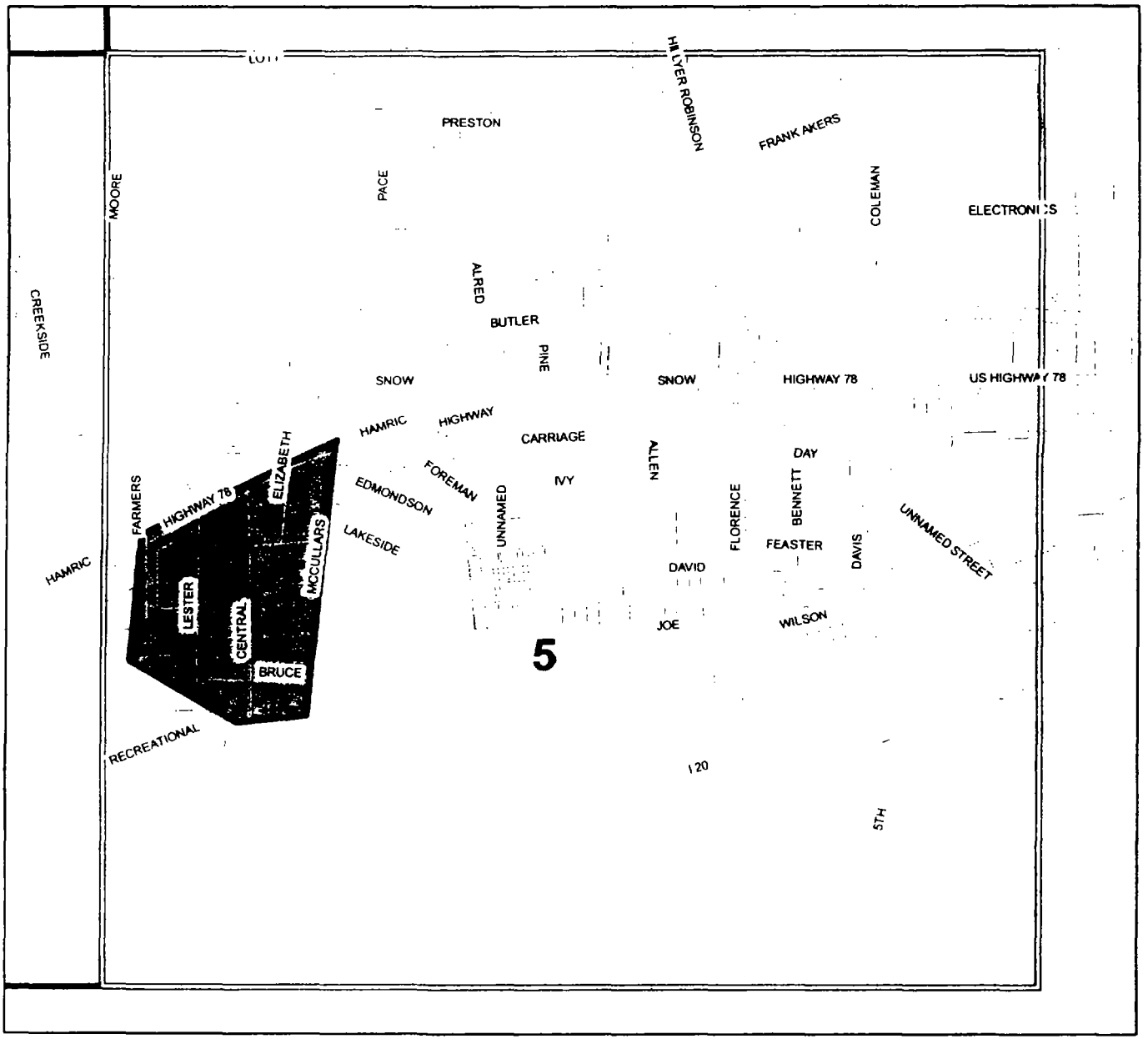
N

0 405 810 1,620 2,430 3,240 Feet



Map Key

Anniston Lead Site
AOC Appendix 4
Zone C

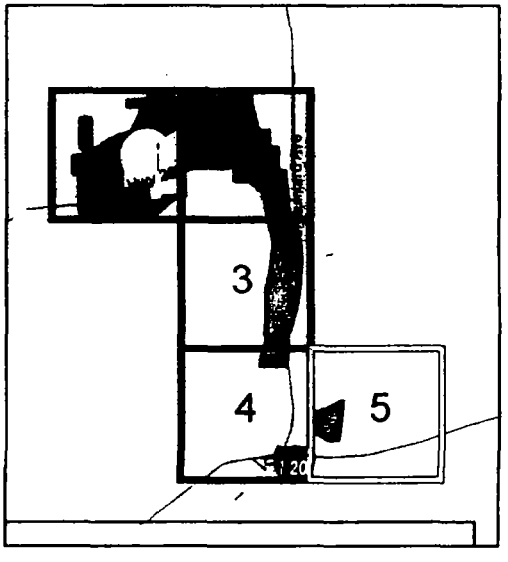


Legend

- Streets
- Map Key Grid
- Zone C

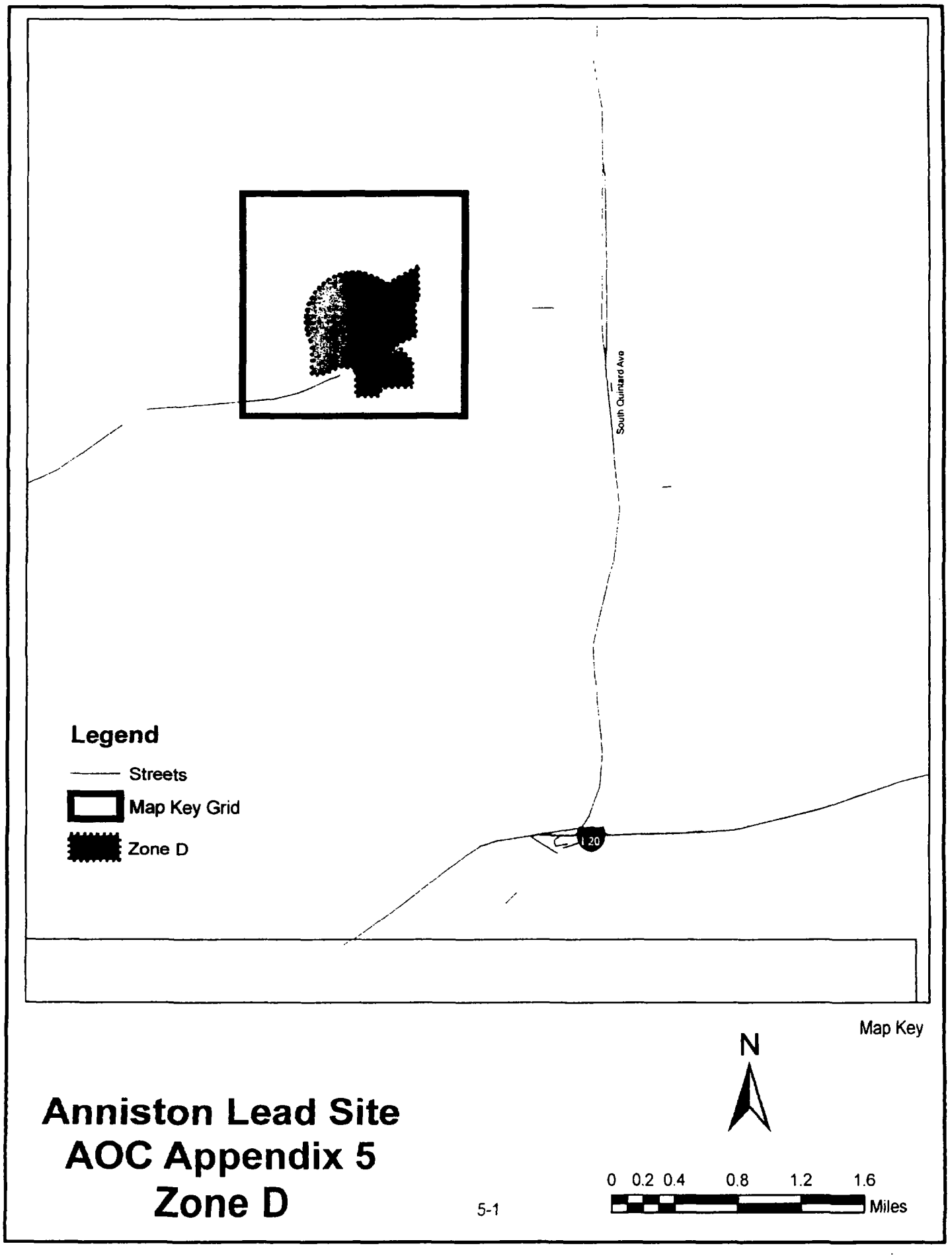
N

0 405 810 1,620 2,430 3,240 Feet



Map Key

Anniston Lead Site
AOC Appendix 4
Zone C



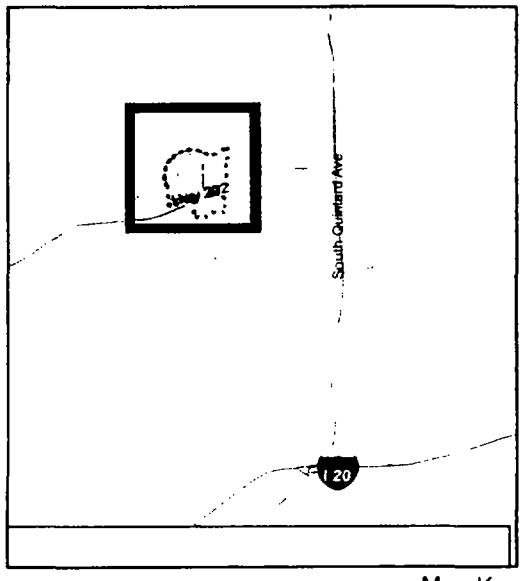
Anniston Lead Site
AOC Appendix 5
Zone D

Legend

- Streets
- Map Key Grid
- Zone D

N

0 405 810 1,620 2,430 3,240 Feet



Map Key

Anniston Lead Site
AOC Appendix 5
Zone D

Appendix 6
List of Known Parcels Requiring Cleanup

Property Address

1	2326 W. 9th
2	0603 W. 11th
3	1931 W. 11th
4	0511 W. 11 1/2
5	0602 W. 11 1/2
6	0508 W. 12th
7	0510 W. 12th
8	0515 W. 12th
9	0934 W. 12th
10	1329 W. 12th
11	2927 W 12th
12	0516 W. 12 1/2
13	0518 W. 12 1/2
14	1629 W. 13th
15	1703 W 13th
16	1707 W 13th
17	1831 W 13th
18	0601 W 14th

Property Address

19	2505 W 14th
20	0603 W. 15th
21	1319 W 15th
22	0104 W 16th
23	0626 W. 16th
24	0715 W. 16th
25	0716 W. 16th
26	0726 W. 16th
27	1836 W 16th
28	0117 W. 17th
29	0218 W. 17th
30	0714 W. 17th
31	0408 W 18th
32	0610 W. 18th
33	0813 W. 18th
34	0909 W. 18th
35	1230 W. 18th
36	0401 W 19th
37	1208 W. 19th
38	0131 W. 20th
39	0621 & 623 21st Place

Property Address

40	0917 W. 21st
41	0115 W 22nd
42	0401 W. 22nd
43	0930 W. 22nd
44	0129 W. 23rd
45	1521 Bancroft Ave
46	1612 Bancroft Ave
47	1813 Bancroft Ave
48	0121 Boundry St
49	1211 Boynton
50	1224 Boynton
51	1228 Boynton
52	1307 Boynton
53	0530 Brockman
54	0713 Brockman
55	1208 Brown Ave.
56	1301 Brown
57	1722 Brown
58	1808 Brown
59	2408 Calhoun
60	0 Carter (Parcel # 22-01-01-3-002-028.000)

Property Address

61	1022 Carter St
62	0931 Claxton
63	1128 Clydesdale
64	1407 Cobb Ave
65	1617 Cobb
66	1621 Cobb
67	2116 Cobb
68	1603 Cooper
69	1607 Cooper Avenue
70	1608 Cooper
71	1611 Cooper Avenue
72	1701 Cooper
73	1803 Cooper
74	1805 Cooper
75	1811 Cooper
76	1816 Cooper Ave
77	1913 Cooper Ave
78	2004 Cooper
79	0717 Cooper Short St
80	0723 Cooper Short St.
81	1515 Cooper Short St

Property Address

82	1100 Crawford
83	1212 Crawford
84	1213 Crawford
85	1215 Crawford
86	1216 Crawford
87	1217 Crawford
88	1218 Crawford
89	1307 Crawford
90	1507 Dooley Ave
91	1510 Dooley Ave
92	1624 Dooley
93	1717& 1719 Dooley
94	1914 Dooley
95	2005 Dooley
96	2100 Dooley
97	1316 Einstein Ave
98	2805 Eulaton Rd
99	1018 Ferron
100	1224 Ferron
101	1225 Ferron
102	1232 Ferron

Property Address

103	0600 Front Street
104	1700 Glen Addie
105	1620 Gurnee
106	1624 Gurnee
107	1726 Gurnee
108	2201 Gurnee Ave
109	2209 Gurnee Ave
110	2229 Gurnee Ave
111	2230 Gurnee Ave
112	015 Gwin
113	0800 Hunter Avenue
114	0810 N. Hunter
115	1002 Hunter St, Short
116	0711 N. Ledbetter
117	0609 Lincoln St
118	1222 Lumber
119	0001 Main
120	0015 Main
121	0119 Main
122	0131 Main
123	1801 McCoy

Property Address

124	2500 McCoy Avenue
125	200-216 McCullars Lane
126	1701 McDaniel
127	1714 McDaniel
128	2204 McKleroy Ave
129	2327 McKleroy Ave
130	1526 Moore Ave
131	1608 Moore
132	1612 Moore
133	1616 Moore Ave
134	1628 Moore Ave
135	1926 Moore Ave
136	1930 Moore
137	2030 Moore
138	0612 & 614 Mulberry
139	1521 Mulberry
140	1527 Mulberry
141	1612 Mulberry
142	1622 Mulberry
143	1624 Mulberry
144	1717 Mulberry

Property Address

145	1724 Mulberry
146	1912 Mulberry
147	1916 Mulberry
148	1629 Murray Ave
149	0215 S. Noble
150	2316 Noble St
151	0929 Patterson St
152	1120 Pine
153	1126 Pine
154	1134 Pine
155	1314 Pine
156	1415 Pine
157	1509 Pine
158	1510 & 1512 Pine
159	1511 Pine
160	1522 Pine
161	1524 Pine (Parcel # 21-03-06-4-003-038.000)
162	1526 Pine (front)
163	1526 Pine (rear)
164	1531 Pine
165	1604 Pine

Property Address

166	1609 Pine
167	1627 Pine
168	1706 Pine (aka 1714 Pine) (Parcel # 21-03-06-1-007-047.000)
169	1005 Sidney St
170	1108 Sidney St
171	0300 Snow St
172	0900 Sparks
173	005, 007, & 009 Spruce St
174	0308 Spruce
175	0310 Spruce
176	0312 Spruce
177	0314 Spruce
178	0322 Spruce
179	0401 S. Stebbins St
180	1615 Stephens Ave.
181	1712 Stephens
182	031 Teague
183	0121 Thomason St
184	0 Walnut (Parcel # 11-21-03-07-04-1-47)
185	0315 Walnut Avenue
186	0317 Walnut

Property Address

187	0319 Walnut
188	0321 Walnut
189	1518 Walnut
190	1525 Walnut
191	1526 Walnut
192	1538 Walnut
193	1631 Walnut
194	1709 Walnut Ave
195	1716 Walnut Ave
196	1802 Walnut
197	1820 Walnut
198	1822 Walnut
199	1908 Walnut
200	1919 Walnut
201	2013 Walnut Ave
202	1301 White Ave.
203	1304 White
204	0212 Wildman Rd
205	0116 Williamson
206	120 Williamson
207	0214 S. Wilmer

INTERIM WORK PLAN
ANNISTON LEAD SITE
ANNISTON PCB SITE

Site Location: Anniston, Calhoun County, Alabama
EPA OSC: Gerald F. Foree (404) 229-9530

PART 1. SITE INFORMATION AND BACKGROUND

A. Type of Site:
Numerous residential properties.

B. Wastes on Site:
Surface and subsurface soils containing lead and polychlorinated biphenyls (PCBs)

C. Description of Site Physical Features:
The Anniston Lead Site is located at numerous privately owned residential properties in and around the Anniston area.

E. Site Office Facilities:
Electricity, running water, telephone/fax and toliets will be installed at the time of mobilization.

PART 2. SCOPE OF WORK AND APPROACH

A. Tasks:

1. Mobilization: In accordance with Administrative Order on Consent for Removal Action for Site, including Paragraph 16.a.ii.

2. Site Logistics: Office Trailer/Command Post/Support and Staging Area to be established before mobilization, at time of Site preparation activities.

3. Entry: Through Command Post/Support Area, Maintain Site Entry/Exit Log.

4. Security: Subcontracted security guard to be present during off hours.

5. Decon Area: To be established at time of Site preparation activities.

6. Initial Containment/Control:

    a. Set up and establish a centralized Command Post to be used for office space, equipment storage, and materials handling;

    b. Establish erosion control as needed to prevent migration from

stockpiled materials; and

c. Cover and seal any stockpiles that are constructed while awaiting disposal.

7. Cleanup Activities: In accordance with Administrative Order on Consent for Removal Action at Site, and the following:

a. Locate and/or relocate existing underground utilities on each property prior to excavation. Establish erosion control as needed to prevent migration from individual properties as they are being excavated;

b. Conduct meeting with resident to explain activities before cleanup activities begin;

c. Document condition of residential property before cleanup activities begin;

d. From preliminary sampling results identify and mark areas to be excavated;

e. Remove/ relocate personal property that interfere with operations;

f. Once site is cleared of obstacles, begin excavation using Nitron (XRF) as a screening device for total lead. This will aid in finding the horizontal extent and depth of the excavation;

g. Transport material as it is removed to be stockpiled at the Command Post;

h. Collect composite confirmation samples and send them to the selected approved laboratory once the XRF detects that the contamination has been removed;

i. Upon completion of soil excavation and sampling activities, proceed with backfilling operations. Bring excavation back to original grade, unless a change in original grade is necessary to avoid water accumulation; sod and revegetate property; and

j. Once a significant amount of the soil has been removed and stockpiled, take samples to be analyzed for disposal pursuant to the Administrative Order on Consent for the Site.

8. Onsite Treatment: None anticipated at this time.

9. Onsite Waste Staging/Management: Excavated soils will be staged short term until transportation and disposal activities can be completed. During storage, the material will be properly covered and bermed to prevent run on/ run off of any contaminants.

10. Waste Transportation and Disposal: Soils from excavation activities will be transported and disposed of at a facility meeting the requirements of 42 U.S.C. § 9621(d)(3). Prior to off-Site disposal, information regarding the proposed disposal facility shall be submitted to the OSC for validation.

11. Sampling and Analysis: Sampling and laboratory analysis will be utilized to confirm horizontal and vertical extent of contamination. Sampling and laboratory analysis will also be used for disposal of stockpiled materials. It is anticipated that TCLP (Full), Flash Point, Paint Filter, Density and pH (at a minimum) will be required for disposal profiling. A waste profile sample will be collected from the stockpiled materials and submitted for analysis, periodically, pursuant to direction of the OSC.

12. Reporting: Prepare daily/weekly status reports for the OSC.

PART 3. HEALTH AND SAFETY

A. Special Safety Considerations: See Interim Health & Safety Plan

B. PPE Requirements: See Interim Health & Safety Plan

PART 4. SAMPLING, ANALYSIS, AND QA/QC

A. Site Characterization Sampling and Analysis:

1. Sampling: To be performed in accordance with Administrative Order on Consent for Removal Action for Site

2. Analysis: To be performed in accordance with Administrative Order on Consent for Removal Action for Site; Total Lead and PCBs for confirmation/ Full TCLP, PCB's for Disposal

3. QA/QC: To be performed in accordance with Administrative Order on Consent for Removal Action for the Site and Quality Assurance Project Plan for Interim Removal Action.

B. Waste Management/Profiling Sampling and Analysis:

1. Sampling will be conducted in accordance with Paragraph 20 of the Administrative Order on Consent for Removal Action for the Site and will follow the disposal firm's parameters for disposal. Upon receipt of analysis, the Project Manager will complete a waste profile and submit to the disposal firm for approval.

PART 5. REGULATORY COMPLIANCE

A. Site Permits: N/A

B. Transportation and Disposal Status: Determined upon award of Transportation and Disposal subcontract. The successful disposal firm will be checked via EPA's Regulatory Compliance Division to ensure no violations and that the firm is CERCLA Approved to accept CERCLA waste.

QUALITY ASSURANCE PROJECT PLAN

Interim Removal Action
Anniston Lead Site

Effective Date: March 15, 2005

Revision Number: 1

Project Quality Assurance Officer	Signature and Date
David R. Hinrichs, PG *Sample Program Manager*	Signature and Date
Companies' Site Manager	Signature and Date
EPA Project Coordinator	Signature and Date
EPA Regional Quality Assurance Manager	Signature and Date

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QUALITY ASSURANCE PROJECT PLAN

1.0 INTRODUCTION

This Quality Assurance Project Plan (QAPP) presents the policies, organization, objectives, functional activities, and specific quality assurance (QA) and quality control (QC) activities designed to achieve the data quality goals of the Interim Removal Action at the Anniston Lead Site (Site) in Anniston, Alabama. It is an attachment to the Administrative Order on Consent for Removal Action (AOC) between the United States Environmental Protection Agency and DII Industries, L.L.C., FMC Corporation, Huron Valley Steel Corporation, McWane Inc., Mead Custom Papers, LLC, MeadWestvaco Corporation, MRC Holdings, Inc., Phelps Dodge Industries, Inc., United Defense, L.P., United States Pipe and Foundry Company, Inc., and Walter Industries, Inc. (referred to herein as "the Companies"). During the interim period the Companies will continue residential cleanup activities currently being performed by EPA. The interim period will end when a removal contractor is mobilized to the Site based on EPA-approved plans, as set out in the AOC.

EPA policy requires environmental monitoring and measurement activities to be conducted in accordance with a quality assurance program. This requirement applies to all environmental monitoring and measurement efforts mandated or supported by EPA.

Data generated during environmental monitoring and measurement efforts must be valid (*i.e.*, supported by documented procedures), such that they can be used with confidence to support determinations regarding the need for and design of subsequent monitoring or the need for corrective measures. For the purpose of the plan, QA and QC are defined as follows:

- **QA** - The program or structure used to define procedures for the evaluation and documentation of investigation functions (*e.g.*, sampling and laboratory methodologies) to provide a uniform basis for reporting and managing data and performing investigation functions.

- **QC** - Tasks and procedures designed to provide measures of performance for analytical procedures, including accuracy and precision of data, and procedures for corrective action.

The Companies and their subcontractors will be responsible for performing environmental sampling activities at the Site in accordance with the AOC. This QAPP is a dynamic document that may be amended as the interim project progresses.

1.1 PROJECT DESCRIPTION

The Anniston Lead Site is located in Anniston and Hobson City, Alabama approximately 90 miles west of Atlanta, Georgia. EPA became aware of soil lead concentrations greater than or equal to 400 ppm in some locations within the Anniston, Alabama area during EPA's investigation of the Anniston PCB Site during 1999 - 2000. Sampling results show that some properties contain lead concentrations greater than or equal to 400 ppm, some properties contain PCB concentrations greater than or equal to 1 ppm, and some Commingled Residential Properties contain both. The Commingled Residential Properties are part of both the Anniston Lead Site and the Anniston PCB Site.

Yard cleanup activities are being performed by EPA. These activities entail removal of accessible soil with lead or PCB concentrations above action levels, disposal of the excavated soil at a solid waste landfill, and backfilling of excavations with clean soil and installation of sod. For the interim work, only yards with lead concentrations greater than or equal to 400 ppm and PCB concentrations less than 1 ppm (as determined by existing EPA data) will be cleaned up.

1.2 Problem Definition and Data Uses

The primary objective of the Interim Removal Action is to remediate properties identified by EPA that contain lead concentrations greater than or equal to 400 ppm. There is a need to describe lead concentrations in the post-excavation subgrade soils in order to confirm that excavation is complete at individual properties. In addition, the borrow soils that will be used as backfill on the properties will need to be periodically characterized to ensure that the soil is appropriate for its intended use as clean fill in residential areas. The chemical criteria for backfill materials are shown in Table 1.

Table 1 Backfill Material Chemical Criteria

Constituent	Maximum Concentration[6] (mg/Kg)
Metals	
Arsenic	0.39
Cadmium[1]	37

Constituent	Maximum Concentration[6] (mg/Kg)
Chromium[2]	210
Lead[3]	100
Mercury[1]	23
Volatile Organic Compounds	
Benzene	0.64
Carbon Tetrachloride	0.25
1,1-Dichloroethane	510
1,1-Dichloroethene	120
Ethylbenzene	400
Tetrachloroethylene	0.48
Toluene	520
1,1,1-Trichloroethane	1,200
Trichloroethylene	0.053
Vinyl chloride	0.079
Semi-Volatile Organic Compounds	
Naphthalene	56
Phenol	18,000
Xylene (total)	270
Pesticides/PCBs	

Constituent	Maximum Concentration[6] (mg/Kg)
DDT	1.7
Dieldrin	0.03
Total PCBs	0.017[4]

Notes:

(1) PRGs are for metal and compounds. Analyses will be performed for total metal concentration for comparison to the PRG.
(2) PRG assumes 1:6 ratio Cr VI: Cr III. PRG for Cr VI is 30 mg/Kg.
(3) PRG is 400 mg/Kg. Level set at 25% of PRG.
(4) PRG is 0.22 mg/Kg (unspecified mixture, high risk). Site-specific requirement is less than detection limit (0.017 mg/Kg based on lab quotes).
(5) Concentrations of other constituents generated by analyses will also be compared to PRGs in EPA Region IX PRG Table (October 2004)
(6) If a background levels are higher than PRG levels, then the maximum allowable concentration will default to background.

In addition, backfill soil will have properties that are appropriate for their intended use. For example, replacement soil will have properties that promote plant growth and provide suitable drainage, while replacement gravel for unpaved driveway and parking area will have appropriate gradation. Specific textural requirements for the backfill soil will be established by the Supervising Contractor (the Companies' on-Site representative), in consultation with EPA, prior to initiation of backfilling activities consistent with the process outlined in Section 4.1.2. The Supervising Contractor will determine clay, silt and sand composition for each backfill source and plot them on a textural triangle, such as the one shown on Figure 2. Professional judgment (including input from EPA on the material are currently using) will be applied to select backfill that will sustain landscape growth and provide suitable drainage characteristics.

Excavated materials will need to be periodically tested to ensure that they meet waste profile criteria specified by the disposal firm or storage facility. Materials will be tested by Toxicity Characteristic Leaching Procedure (TCLP) for metals. Disposal criteria are shown in Table 2.

Table 2 Disposal Chemical Criteria

Constituent	Maximum TCLP Concentration (mg/L)
Arsenic	5.0
Barium	100
Cadmium	1.0
Chromium	5.0
Lead	5.0
Mercury	4
Selenium	1.0
Silver	5.0

Notes: (1) Other criteria may be set by the disposal facility.

2.0 PROJECT ORGANIZATION AND RESPONSIBILITIES

The removal action work will be performed by a construction contractor under the direct supervision of the Supervising Contractor (NewFields) who will act as the on-Site representative for the Companies. All sampling will be performed by the Supervising Contractor. All project personnel performing data collection and reporting activities are subject to the requirements of this QAPP. The responsibilities of selected project personnel are described in the following sections.

2.1 Site Manager

The Site Manager will be designated as the ranking Supervising Contractor person on-Site at any given time. The Site Manager will have the responsibility for oversight of implementation of this plan during field operations. The Site Manager will have primary responsibility for technical and scheduling matters. Additional responsibilities for the Site Manager include the following:

- Review and approval of the QAPP
- Coordination with EPA's oversight personnel
- Assign duties to project staff and educate staff to the needs and requirements of the project, including all QA requirements
- Provide sufficient resources and necessary tools to the project team so it can respond adequately to the requirements of the project
- Review project deliverables for technical accuracy and completeness before their release.

2.2 Sampling Program Manager

The Sampling Program Manager's responsibilities include:

- Provide sampling training to all Site personnel
- Coordinate sampling activities with the Site Manager and contract laboratory
- Monitor compliance of sampling activities within the provisions of the QAPP
- Ensure that the most current version of the QAPP is available to the sampling team
- Obtain approval from the Companies and EPA for proposed changes to the QAPP that constitute major changes affecting the scope of the approved technical approach
- Review project deliverables for technical accuracy and completeness before their release
- Regularly communicate project status, progress, and any nonconformances or other problems to the Companies and the Project QA Officer
- Perform other responsibilities as directed by the Site Manager.

2.3 Project Quality Assurance Officer

Responsibilities of the Project QA Officer include:

- Develop the QAPP
- Identify and respond to QA/QC needs, assist in resolving quality problems, and respond to requests for QA/QC guidance or assistance
- Verify that appropriate corrective actions are taken for all QA/QC nonconformances
- Perform program QA audits and participate in project and site audits, when appropriate
- Perform QA verification activities as requested by the Site Manager or Sampling Program Manager to verify compliance with the requirements and procedures contained in the AOC
- Provide oversight of the contracted laboratory
- Provide oversight of data validation efforts
- Provide oversight of data management.

3.0 DATA QUALITY OBJECTIVES

Analytical data collected in support of the Interim Removal Action will be equivalent to Level III data as defined in Data Quality Objectives Process for Superfund (EPA 1993). Data quality will be assessed in terms of its precision, accuracy, representativeness, completeness, and comparability (PARCC). The PARCC objectives are defined in the following paragraphs. Acceptance limits for precision and accuracy of data generated during the Interim Removal Action are provided in Section 6.

3.1 Precision

Precision is the degree of reproducibility of measurements under a given set of conditions. Specifically, it is a quantitative measure of the variability of a pair of measurements compared to their average value, expressed as relative percent difference (RPD). The overall precision of a sampling event has both sampling and analytical components. Laboratory duplicate and field duplicate data will be reviewed to evaluate sampling and analytical precision.

RPDs of laboratory duplicates are measures of laboratory precision and RPDs of field duplicates are measures of combined sampling and analytical precision. Laboratory duplicates will be analyzed for every batch of 20 samples or less. Field duplicates will be collected at a 5 percent frequency.

RPD will be calculated according to the following equation, where A and B represent duplicate sample results:

$$RPD = \frac{A - B}{(A + B)/2} \times 100$$

For X-ray fluorescence (XRF) analyses of soils, precision of the XRF instrument shall be maintained as described in Draft SW-846 Method 6200. A minimum of one precision sample will be collected each day. The precision sample will be analyzed seven times in replicate. The precision goals for replicate XRF measurements is an RPD within ±20 percent.

3.2 Accuracy

Accuracy is a measure of bias in a measurement system. Sampling accuracy will be assessed by evaluating the results of confirmation samples. Laboratory accuracy will be evaluated by comparing the analytical difference of measurements to reference values. Laboratory accuracy will be expressed as percent recovery (%R). The accuracy of data collected in support of the sampling program will be assessed in the following manner:

- Calculation of the %R of matrix spikes (MSs) and laboratory control samples (LCSs)
- Evaluation of the concentrations of target analytes present, if any, in blanks.

Percent recovery will be calculated according to the following calculations:

For matrix spikes: $\%R = \frac{\text{Spiked Sample Result - Sample Result}}{\text{Spike Added}} \times 100$

For LCSs: $\%R = \frac{\text{Analyzed Value}}{\text{True Value}} \times 100$

Accuracy of the XRF measurements will be confirmed through a comparison with laboratory results. The percent recoveries for each analyte measured with the XRF should be within the 80 to 120 percent of the laboratory analysis for the same samples.

3.3 Representativeness

Representativeness indicates the degree to which sample data accurately and precisely represents a characteristic of a population, parameter variations at a sampling point, or an environmental condition. Representativeness is a qualitative parameter that applies to proper sampling program design. The sample design rationale is described below in Section 4.

3.4 Comparability

Comparability is a qualitative parameter that indicates the confidence with which one data set can be compared to another. Comparability will be promoted by using approved sampling plans, standardizing analytical and field procedures, and reporting data in uniform units. Data will be grouped and evaluated according to sampling media and laboratory analytical methods.

3.5 Completeness

Completeness is defined as the percentage of the total number of measurements judged to be acceptable for their intended use under normal conditions. Under normal sampling and analysis efforts, it is expected that 90 percent completeness is realistic. For purposes of the Interim Removal Action, the completeness goal will be to obtain a sufficient amount of valid data to address the objectives stated for the investigation and to reach the necessary conclusions. Completeness will be assessed by calculating the percentage of valid data points compared to the total data set. A valid data point is a data point judged to be acceptable for its intended use.

4.0 SAMPLING RATIONALE

The objective of sampling for the Interim Removal Action will be to obtain samples that are physically and chemically representative of the media being investigated. The inclusion of contaminants from external sources will be minimized through the use of experienced field personnel, approved sampling techniques, and decontaminated sampling equipment. Sampling shall be performed in accordance with EPA-accepted standard operating procedures. References used in preparation of the sampling methods are:

- A Compendium of Superfund Field Operations Methods (EPA/540/P-87/001)

- Samplers and Sampling Procedures for Hazardous Waste Streams (EPA-600/2-80-018)
- Test Methods for Evaluating Solid Wastes-Physical/Chemical Methods (EPA SW-846, Third Edition, April 1998)
- Superfund Lead-Contaminated Residential Sites Handbook (OSWER 9285.7-50, August 2003)
- XRF SW 846 Draft Method 6200.

4.1 Sample Collection Methods

In general, three types of sampling will be performed as part of the Interim Removal Action.

- Confirmation sampling will consist of a screening XRF sampling for lead and a composite laboratory analyzed sampling for lead. XRF screening will be performed at the base of excavations to verify the complete removal of soils with lead concentrations above 400 ppm and to delineate areas, if any, that require additional excavation and removal. Composite soil samples will be collected from the base of excavations and sent to a laboratory for confirmation that the remaining soil meets the removal confirmation criteria of 400 ppm lead, as specified in the AOC.
- Stockpiled backfill soil will be sampled to ensure that it meets specified chemical and physical requirements (see Table 1 and Section 1.2).
- Excavated materials will be profiled to ensure that they are disposed in accordance with State and federal regulations (see Table 2).

The methods for each type of sampling are described separately in the following subsections.

4.1.1 Removal Confirmation Sampling

After the excavation of a residential yard or portion of a yard is complete, a temporary grid will be laid out on the subgrade soil using either a 10-foot or 3-meter spacing – each grid node marked with a spray paint location. XRF readings for lead will be taken at each grid node location using a Niton XLi Spectrum Analyzer. If an organic layer is present above the soil at the grid node location, the duff, litter, grass, and/or roots will be removed. The lead readings will be taken using the instrument in the in-situ mode

following the manufacturer's specifications and XRF standard operating procedure (SOP) (see Appendix A). XRF identification numbers (assigned by the machine) will be noted on the Yard Soil Removal Data Form (Figure 1). The XRF results will be used to identify areas where total lead concentrations exceed or are equal to 400 ppm, and additional excavation is necessary. If additional excavation is required, the newly excavated area will be resampled with the XRF to verify that removal criteria for lead has been achieved. Quality control for the XRF will be maintained by following the XRF SOP (Appendix A).

At every twentieth XRF in-situ measurement, a bulk sample will be collected. Each calibration bulk sample will be analyzed for total lead using the XRF and then will be analyzed for lead by a laboratory using SW-846 Method 6010B. The lead results (XRF and laboratory) of these samples will be used in an XRF calibration model (see Section 4.1.2). Sample collection and preparation for laboratory analysis is described in the XRF SOP (Appendix A).

After excavation is complete, and XRF screening has demonstrated that lead concentrations in subgrade soils are less than 400 ppm, a composite sample will be collected from the base of the excavation for laboratory analysis of total lead. The composite sample will consist of five aliquots taken from the upper six (6) inches of the subgrade soils exposed by excavation. The aliquots will typically consist of a central sample site, surrounded by four radiating in accordance with EPA's August 2003 *Superfund Lead-Contaminated Residential Sites Handbook.* Guidelines that will be used when selecting the individual aliquot sampling locations are the following:

- Locations will be selected at locations no closer than 5 feet from existing structures to minimize the potential influence of lead-based paint in the drip zone
- Locations will be selected at locations no closer than 5 feet from existing roads, parking lots, and driveways to minimize the potential influence of lead from fuel, oils, and automobile emissions.

Each aliquot of soil will be collected with a clean spoon (stainless steel or plastic), hand trowel or soil trier. If an organic layer is present above the soil, the duff, litter, grass, and roots will be removed. At each aliquot location, a small area will be excavated down to approximately six (6) inches into the subgrade soil. Aliquots will be composited into a stainless steel bowl. The soil will be sieved through a #10 screen (2 mm) to remove gravel-sized particles then homogenized. If samples appear to have a moisture content of greater than 20 percent, or sieving is difficult, the sample may be air dried before sieving. The sieved, homogenized soil will be placed into glass jars provided by the testing laboratory. At a minimum frequency of one in twenty samples (five percent) a duplicate sample will be collected.

For properties with an area less than 5,000 ft^2, the sampling zone code will begin with a "C" for confirmation and then identify the position of the sample within the residential property as follow:

FY – Front yard

BY – Back yard

SR – Side yard on the right side of the residence (when facing the front of the residence)

SL – Side yard on the left side of the residence (when facing the front of the residence)

For properties with an area greater than 5,000 ft^2, the sampling zone code will correspond to a 50 ft by 50 ft grid numbering system as follows:

Gn – Grid Number (n = 1, 2, 3, n)

All samples collected within a yard will be identified by the Calhoun County Property Identification Number (PIN) and sampling zone code. The PIN is a unique identifier assigned by the Calhoun County Tax Assessor's Office; this unique code will be used to link to property address and owner information contained in the Tax Assessors Property Database.

For example 12345-CFY would indicate it was a confirmation sample of the 12345 property collected from the front yard of a property less than 5,000 ft^2 in area. A sample identification of 12346-CG1 would indicate it was a sample within the 12346 property collected from the 50 ft by 50 ft Grid 1 area of a property greater than 5,000 ft^2 in area.

Blind duplicate samples will be obtained at a rate of one every twentieth sample as described above, for these blind duplicates, two fields have been developed for the sample number scheme: Sample Crew Number, and a unique integer representing the duplicate sample number. For example, SC1-100 would correspond to the 100th blind duplicate of Sample Crew One. The samplers will maintain a duplicate key log that will be used to match the duplicate to its original sample.

4.1.2 XRF Calibration Model

Prior to commencement of the sampling program, a calibration model will be developed using site-specific samples (SSS). Samples used to develop the calibration model will be representative of the expected range of lead concentrations that will be encountered in the field. Approximately 20 SSS will be collected as described in the XRF SOP as bulk samples (see Appendix A) and each homogenized sample will be placed in an XRF

sample analysis cup. Each SSS will be analyzed for total lead using the XRF and then will be analyzed for lead by a laboratory using SW-846 Method 6010B – as described above for the calibration bulk samples. To construct the model, a line of regression will be constructed using the XRF SSS results versus the laboratory SSS results. The results of the calibration bulk sample analysis will be added to the regression to fine-tune the calibration model throughout the life of the project.

4.1.3 Backfill Soil Characterization

Soils to be used for backfill will be stockpiled at the Soil Staging Area. For each selected borrow area, the backfill soil will be characterized for a broad range of parameters to verify that it is suitable for backfill. The initial sample will be analyzed for total concentrations of volatile organics, semi-volatile organics, pesticides, PCBs and the eight RCRA metals. In addition, the sample will be analyzed for clay, silt and sand composition according to American Society for Testing and Materials (ASTM) Method D-422, or equivalent. This sampling will be repeated if the backfill source changes.

Samples will either be collected from the backfill source or from the stockpile at the Soil Staging Area. For source sampling, the borrow area will be divided into four quadrants and an aliquot sample collected from a random location in each from the surface to a depth of 6 inches. The aliquots will be composited into one sample for analysis. For stockpile sampling, a decontaminated trowel or shovel will be used to cut four semi-vertical channels 6-inches deep from the top to the bottom of the pile. These four channels will be located in the four compass directions. A soil aliquot will be collected from each channel, top to bottom. At either location the aliquots will be composited into one sample for analysis and placed into glass jars provided by the testing laboratory.

After this initial characterization, the backfill soils will sampled periodically (minimum of one sample every 500 cubic yards) to verify their suitability for the intended use. Samples will be collected from the Soil Staging Area stockpiles, as described above. A duplicate sample will be collected with every 20 backfill soil samples (5 percent frequency). These verification samples will be tested for total lead and PCBs only.

Samples will be identified with the sample code "TS" (top soil) followed by the sample date. A backfill log will be maintained at the Soil Staging Area that tracks the properties receiving backfill represented by each sample.

4.1.4 Excavated Material Characterization

Soils and associated materials excavated from the properties will be stockpiled at the Soil Staging Area before disposal. These stockpiled materials will be sampled

periodically (minimum of one sample per 500 cubic yards) to ensure that the materials meet the specified requirements of the disposal facility. Sample aliquots will be collected as described above. The composite sample will be tested using TCLP for the eight RCRA metals. This characterization may be modified to meet the disposal facility's requirements. Samples will also be analyzed for lead metal concentrations to provide data to establish a correlation that may be used to modify sampling requirements after the interim period. Samples will be identified with the sample code "YM" (yard material) followed by the sample date. An excavated material log will be maintained at the Soil Staging Area that identifies the soil stockpiles and associated sample number for disposal characterization (e.g., YM-050205).

4.2 Investigation-Derived Wastes

The generation of investigation-derived wastes will be held to a minimum. Used personal protective equipment and field disposables will be bagged and disposed with rubbish from the Soil Staging Area. Soil sample remnants not returned to the sample site and samples remnants returned to the generator by the analytical laboratory will be disposed at the excavated soils stockpile at the Soil Staging Area.

4.3 Decontamination Procedures

Disposable sampling equipment maybe used to eliminate the need for decontamination. All disposable sampling equipment will be bagged and properly disposed.

Non-disposable equipment (spoons, bowls, shovels, trowels) used to collect soil samples shall be decontaminated between composite samples by washing in a soap solution (such as Alconox), rinsing with potable water, and allowing to air dry.

All reusable, non-dedicated sampling equipment will be decontaminated prior to use in the field, between sampling points, and at the completion of the sampling program. The following procedures will be used:

- Prior to collection of the first sample, clean two buckets or tubs with potable water and phosphate-free detergent, and thoroughly rinse with potable water
- Fill one bucket or tub with phosphate-free detergent and potable water
- Fill the other bucket or tub with potable water
- Clean equipment thoroughly in detergent water using brushes as necessary
- Rinse thoroughly with potable water
- Rinse with de-ionized water.

4.4 Sample Containers, Preservation, and Holding Times

Appropriate sample containers, preservation/additive, and holding times for soil samples are listed on Table 3. Materials will be inspected to insure that no containers are broken, split, or cracked, and the integrity of the shipping containers appears intact. Deviations will be reported to the supplying laboratory or other supplier.

Table 3 Sample Containers, Preservation/Additive, and Holding Times

Container	Parameter	Preservation/ Additive	Hold Time
8 oz glass jar	Lead	None	180 days
	Total PCB	None	14 days until extraction; 40 days until analysis
4 oz glass jar	RCRA 8 Metals	None	180 days with the exception of mercury which is 28 days
4 oz glass jar with Teflon lid	Volatile Organics – Hazardous Substance List	Sodium bisulfate	14 days
8 oz glass jar	Semi-volatile Organics – BNA Hazardous Substance List	None	14 days until extraction; 40 days until analysis
	Chlorinated Pesticides	None	
8 oz glass jar and 4oz glass jar with Teflon lid	TCLP Extraction	None	Typically 14 days until extraction; 40 days until analysis with exception of mercury at 28 days and other metals at 180 days

4.5 Sample Custody

The handling of all samples collected will be traceable from the time of collection, through analyses, until final disposition. Documentation of the sample history is referred to as chain-of-custody. The components of field chain-of-custody (chain-of-custody record and custody seals) and procedures for their use are described in the following paragraphs.

A sample is considered to be under a person's custody if it is:

- In a person's physical possession

- In view of the person after he/she has taken possession
- Secured by that person so that no one can tamper with the sample
- In a secure area accessible only to authorized personnel.

At the time of sample collection, labels will be affixed to the sample containers. These labels will contain the following information:

- Sample identification number
- Date and time of sampling
- Parameter(s) to be analyzed
- Name or initials of sampler(s).

To establish the documentation necessary to trace sample possession from the time of collection, a chain-of-custody record must be completed and accompany every sample shipment. At a minimum, chain-of-custody records should contain the following information:

- Project name
- Sample identification
- Date and time of sample collection
- Type of matrix
- Number of containers
- Preservative
- Analyses requested
- Method of shipment
- Signature of sampler
- Date and time of each change in custody.

Each person who has custody of the samples must sign the record. The completed chain-of-custody record should be put in a waterproof plastic bag and placed inside the sample cooler. The sampler should keep a copy of each chain-of-custody record. Custody seals should be affixed to the front and back of the cooler and covered with clean tape.

The laboratory Sample Custodian will assess the integrity of the custody seals upon sample arrival. The Sample Custodian will also verify and document the following information upon sample receipt:

- Condition of shipping container
- Condition of sample container(s)
- Condition of custody seals
- Presence/absence of custody seals
- Presence/absence of custody records
- Presence/absence of airbill

- Presence/absence of sample labels
- Agreement/non-agreement of documents
- Cross-reference of laboratory numbers
- Temperature inside shipping container.

The Sample Custodian will document any problems or discrepancies with the samples or custody documents, contact the sampling organization, and document the resolution to the problems or discrepancies.

4.6 Field Documentation

Information pertinent to the sampling effort will be documented. All entries will be made in indelible ink and all corrections will be made by drawing one line through the error and initialing and dating the correction. Each field team's lead investigator will be responsible for maintaining the field documentation and providing a copy of all field documentation to the Site Manager to allow appropriate reporting to the agencies.

All information gathered during the work performed as part of the Interim Removal Action will be entered into the Anniston Lead Site Geographic Information System (GIS). A sample numbering system will be used to identify each sample submitted for chemical analysis. The purpose of this numbering system is to provide a tracking system for retrieval of information from the project GIS. The sample identification numbers allocated for all sampling efforts will be used on sample labels, field sheets, chain-of-custody records, and all other applicable documentation used during the sampling activity. A listing of all sample identification numbers will be maintained in the field logbook. Each sample will be given a unique sample identification number. Sampling zone codes are described in the following sections describing the sampling. Samples collected for backfill or disposal characterization will be given a source and sample zone code.

XRF analysis results will be downloaded into an electronic file. An electronic data log file will be maintained to allow data to be reviewed. The log will note the sample date, the yard PIN number, XRF sample ID numbers, and the electronic data file. The Yard Soil Removal Data Form will record the QC checks made.

All samples collected and shipped to a laboratory for analytical analysis will be recorded on a chain-of-custody. Sample duplicates will be noted on the Yard Soil Removal Data Form.

The sampler will maintain a sample log to record daily sampling activities. At a minimum, entries on field documentation will include the following:

- Location and description of sampling point
- Identification of sampling team members
- Sampling methodology
- Sample preservation
- Date and time of sample collection
- Sample identification
- Field observations
- Field instrument calibration results.

Because sampling situations vary widely, no general rules can specify the extent of information that must be documented. However, documentation will contain sufficient information to reconstruct the sampling activity without relying on the sampler's memory. The field documentation will be kept under strict chain-of-custody at the Soil Staging Area.

5.0 FIELD ANALYSIS PROTOCOLS

Lead concentrations in the base of excavations will be measured in the field using an XRF. Details of use of the XRF, including operating procedures, equipment calibration and maintenance, and QC procedures are provided in Appendix A.

6.0 LABORATORY ANALYTICAL PROTOCOLS

Laboratory analytical methods, target detection limits, calibration procedures and frequency, and criteria for laboratory QC samples are specified in the following sections. The analytical methods specified are based on current information on Site conditions and are selected to meet the objectives of the Interim Removal Action sampling program. In time, new considerations may need to be addressed and additional guidelines may be provided to maximize the quality and efficiency of the laboratory procedures. Any future changes in laboratory procedures during the interim period will be included in revisions to this QAPP.

EPA-approved methods will be used for all environmental media chemical analyses. Any omission in this QAPP of relevant requirements, tasks, and other items found in the referenced methods does not constitute a waiver of the omitted requirement, task, or item. The laboratory manager and analysts are expected to be cognizant of all relevant

aspects of the referenced methods to the extent necessary to provide accurate, precise, and defensible data.

Laboratories will be subcontracted to perform sample analyses. The Companies or their contractors will inform EPA in advance regarding which laboratories will be used, and will ensure that EPA personnel have reasonable access to the laboratories and personnel performing the analyses. In addition, the Companies will ensure that the laboratory selected to perform environmental sample analyses actively participates in EPA/State Water Supply Performance Programs. Current laboratory results for the evaluation program(s) and other laboratory certifications will be provided to EPA.

6.1 Laboratory Analytical Methods and Target Detection Limits

Analytical methods that will be used for soil samples are listed on Table 4. Analytical methods to be used for chemical analyses are fully described in "Methods for Chemical Analysis of Water and Wastes" (EPA 1983) and "Test Methods for Evaluating Solid Waste" (SW-846) (EPA 1986). If methods other than those specified in this QAPP are used, they will be submitted to EPA for approval prior to performing analyses.

~~Target detection limits are also listed on Table 4 for the required analyses.~~ Detection limits cannot accurately be established prior to sample analysis, because achievable levels are determined by instrumentation and matrix effects. Actual detection limits will be determined and reported by the laboratory. Turnaround time for soil analytical results is 10 working days.

Table 4 Analytical Methods and Target Detection Limits for Solid Samples

Parameter	Method[1]	Target Detection Limit
Lead	3050/6010/6020	0.6 mg/kg
Total PCB	8082	50 µg/kg
RCRA 8 Metals	3050/6010/6020 7471 - mercury	arsenic, cadmium, lead, selenium – 0.5 mg/kg barium, chromium, zinc – 1.0 mg/kg mercury – 0.2 mg/kg
Volatile Organics – Hazardous Substance List	8260	generally 5 µg/kg
Semivolatile Organics – BNA Hazardous Substance List	3550/8270	generally 330 µg/kg
Organochlorine Pesticides	8081	generally µg/kg
Full TCLP Extraction	1311	Generally 50 µg/kg

[1]Test Methods for Evaluating Solid Waste (EPA 1986).

6.2 Calibration Procedures and Frequency

Laboratory instruments will be calibrated in accordance with the guidelines specified in the methods. Instruments used for metals analyses will be calibrated each time the instruments are set up. The inductively coupled plasma (ICP) instrument will be calibrated according to the manufacturer's recommended procedures using mixed calibration standards containing all analytes of interest. Immediately after the system is calibrated, the highest mixed calibration standard will be re-analyzed. If the concentration values obtained deviate from the actual values by more than 5 percent, recalibration is required. The calibration curve will be verified every ten samples and at the end of the analytical run using a calibration blank and a single point check standard. If the results of the check standard are not within 10 percent of the expected value, the analysis will be terminated and the instrument recalibrated. If recalibration is required, all samples analyzed after the last acceptable check standard should be re-analyzed. The laboratory will record all calibrations and recalibrations in accordance with the laboratory's standard operating procedures and quality assurance manual.

6.3 Laboratory Quality Control Samples

QC samples that will routinely be analyzed in the laboratory include MSs, method blanks, duplicates, and LCSs. Established acceptance criteria for these samples,

described in the following subsections, will be used to assess the acceptability of the associated sample analyses. The calculations to be used during this assessment are presented in Section 3.

6.3.1 Matrix Spikes

An MS is an environmental sample to which predetermined quantities of stock solutions of certain analytes are added (spiked) prior to sample digestion. Samples are split to form MSs. The percent recoveries of the spiked compounds will be calculated to assess analytical accuracy. An MS will be analyzed with each batch of 20 samples or less. Control limits for MS recovery for metals in soil will be 75 to 125 percent.

6.3.2 Method Blanks

A method blank consists of laboratory-grade pure water containing all of the reagents utilized in the analytical procedure. A method blank is prepared in the same manner as a sample and is processed through all of the analytical steps, including sample preparation. Method blanks will be analyzed to determine whether there is glassware, reagent, instrument, or laboratory contamination. Method blanks will be analyzed for each batch of samples.

No contaminants should be present in the method blanks above the detection limits. Sample results greater than the detection limits, but less than five times the concentration in a method blank, will be flagged for the data users as potentially biased.

6.3.3 Laboratory Duplicates

Laboratory duplicates are splits of environmental samples and are indicators of laboratory precision. For metals, a control limit of 35 percent will be used for the RPD between duplicate soil results greater than five times the target detection limit. A control limit of plus or minus two times the target detection limit will be used for soil sample results less than five times the target detection limit, including the case when only one of the duplicate results is less than the target detection limit. Laboratory duplicates will be analyzed for every batch of samples.

6.3.4 Laboratory Control Samples

Laboratory control samples (LCSs) are an interference-free matrix with known quantities of target analytes. Laboratory control samples serve as monitors of the overall

performance of all steps in the analytical process, including sample preparation. Laboratory control samples will be analyzed for every batch of samples. Control limits for LCS recovery are ± 20 percent for lead analyses of soil by Method 6010B. Laboratory control limits will be adopted for LCS recoveries when other methods are used for soil analyses.

7.0 DATA VALIDATION, REDUCTION, AND REPORTING

7.1 Non-Direct Measurements (Acquired Data)

Data collected by EPA will be used in this Interim Removal Action to identify yards for soil removal. These data will be used to reduce the duplication between these two programs and to reduce the impact of sampling on the community and allow the Interim Removal Action to begin as quickly as possible in areas where data have already been collected. The Companies will review these data and determine their usability to meet the objectives of this Interim Removal Action.

7.2 XRF Data Review/Data Quality Evaluation

XRF data review/data quality evaluation procedures are described in Appendix A. Data will be reported as described in Section 13.

7.3 Data Validation

Data validation for a sampling effort involves an examination of all documentation for field QC and analytical method QC elements to ensure that all requirements have been met. Field documentation will be verified by examining photocopies of all field documents, chain-of-custody forms, etc. Laboratory data packages will be reviewed for submission of all documentation required to assess QC elements contained in the analytical methods and EPA guidelines for contract laboratory program (CLP) data review, where appropriate. Laboratory data will also be assessed relative to the project-specific DQOs. The review of laboratory data will include, but will not necessarily be limited to, the following:

- Overview of the data package for inclusion of all appropriate raw data
- Calculation of holding times for all analytes
- Checking transcriptions and calculations with raw data documentation

- Evaluating all QC samples for required frequency of analysis and required control limits.

During data review, EPA CLP data review guidelines will be used, where appropriate, for qualifying data. Sample results may be qualified as estimates or rejected if the QC criteria specified in Section 6 and in the EPA guidelines are not met. The purpose of the qualification is to alert the data users that biases may potentially be associated with the data. Data that have been qualified as estimated are usable for their intended purposes.

7.4 Data Reduction

Reduction of laboratory data and laboratory reporting of analytical parameters will be in accordance with the procedures specified for each analytical method. The calculations of randomly selected results will be recalculated during the data validation process. If laboratory calculations are in error, the data reviewers will continue to recalculate results until they are satisfied that the error is an isolated occurrence or will return the data package to the laboratory for corrective action.

7.5 Final Reporting and Report Archival

Upon successful completion of the data validation process, analytical results will be entered into a computerized data management system. The Sampling Program Manager and Project Quality Assurance Officer will use the quality checks listed in this QAPP to ensure that project data, document, and records are properly managed. Hard copies of the analytical results entered into the data management system will be provided as an attachment to the quarterly progress report which provides the data quality assessment report (see Section 13). Hard copies of the data will be maintained for a period of ten years after the completion of the Interim Removal Action. The Sampling Program Manager is responsible for reporting the sample results quarterly in accordance with the project's distribution list.

8.0 INTERNAL QUALITY CONTROL CHECKS

Internal QC checks are specific QC activities related to both field and laboratory efforts. Internal QC checks for field efforts are described in Section 5. Internal QC checks for laboratory activities are specified in Section 6.

9.0 SYSTEM AND PERFORMANCE AUDITS

A system audit consists of evaluating all components of the measurement systems to determine their proper selection and use. This type of audit includes a careful evaluation of both field and laboratory QC procedures. System audits may be performed at any time during sampling activities to determine whether the QC procedures contained in this QAPP are being followed and, if they are, whether the QC procedures are adequate.

Performance audits are conducted to assess the accuracy of total measurement systems or component parts thereof. Performance audits may be conducted periodically during sampling activities.

The subcontract laboratory may be audited at any time. This audit will include a review of actual and written laboratory procedures. During this audit, auditors will verify that the laboratory's QA Officer has performed adequate internal audits of performance.

Both the Sampling Program Manager and the Quality Assurance Officer have responsibilities to monitor for compliance with the QAPP; therefore, one or both of these individuals would initiate and be responsible for the audits.

10.0 PREVENTIVE MAINTENANCE

Preventive maintenance of all field and laboratory equipment is essential to ensure the quality and efficiency of the analytical data produced. Field measurement equipment (i.e., the XRF instrument) will be maintained in accordance with the manufacturer's instructions. Either the project schedule shall include "down time" for instrument maintenance or more than one XRF instrument will be available for use. The laboratory selected to perform analyses will maintain service contracts for all major instruments to be used for the project. All instruments will receive routine preventive maintenance, which will be recorded in instrument-specific maintenance logs. Expendable items for all major instruments will be kept on hand to minimize downtime.

11.0 DATA ASSESSMENT PROCEDURES

Data assessment is the determination of data usability (*e.g.*, screening only, human health risk, etc.) in terms of the project-specific DQOs and is part of the data validation process. Quarterly, data reviewers under the direction of the Project Quality Assurance Officer will prepare data assessment reports that explain data quality issues, taking into account potential biases, matrix effects, and predetermined DQOs. The Project Quality

Assurance Officer is responsible for ensuring that these quarterly reports are all inclusive and submitted on schedule.

12.0 CORRECTIVE ACTION PROCEDURES

Laboratory nonconformances are defined as any analytical procedure that deviates from standard protocol, or those data associated with QC samples that fail to meet acceptance criteria. Data reporting errors are also considered nonconformances. Laboratories typically use QC charts to assist in identifying nonconformances.

If, as a result of audits or QC sample analyses, analytical systems prove to be unsatisfactory, corrective action will be implemented. The Sample Program Manager is responsible for corrective actions in the field and the Project Quality Assurance Officer is responsible for corrective actions in the laboratory. For immediate or long-term corrective actions, steps comprising a closed-loop corrective action system follow:

1. Define the problem.
2. Assign responsibilities for problem investigation.
3. Investigate and determine the cause of the problem.
    a. Check all calculations.
    b. Re-analyze the sample.
    c. Verify the integrity of the standards, spiking solution, laboratory control sample, or calibration sample.
    d. Check instrument operating conditions to preclude the possibility of malfunctions or operator error.
4. Determine the corrective action(s) necessary to eliminate the problem.
5. Assign and accept responsibilities for implementing the corrective action.
6. Evaluate the effectiveness of the corrective action and implement the corrective action.
7. Verify and document that the corrective action has eliminated the problem.

Depending upon the nature of the problem, the corrective action implemented may be formal or informal. In either case, occurrence of the problem, the corrective action employed, and verification that the problem has been eliminated must be documented.

13.0 QUALITY ASSURANCE REPORTS

Data will be reported on a quarterly basis. All samples analyzed will be described in tabular format and maps will be provided to show sampling locations, where necessary. Measured concentrations will be reported along with information on data quality and an assessment of data usability.

14.0 REFERENCES

U.S. Environmental Protection Agency (EPA), August 2003. Superfund Lead-Contaminated Residential Sites Handbook, OSWER 9285.7-50.

U.S. Environmental Protection Agency (EPA), July 1988 (Draft). Laboratory Data Validation Functional Guidelines for Evaluating Inorganic Analyses.

U.S. Environmental Protection Agency (EPA), September 1993. Data Quality Objectives Process for Superfund.

U.S. Environmental Protection Agency (EPA), 1986. Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW-846.

U.S. Environmental Protection Agency (EPA), 1983. Methods for Chemical Analysis of Water and Wastes. EPA-600/4-79-020.

U.S. Environmental Protection Agency (EPA), May 1978 (Revised May 1986). National Enforcement Investigations Center (NEIC) Policies and Procedures. EPA-330/9-78-001-R.

FIGURES

PROPERTY REMEDIATION FORM

Property Address: 185 Henderson Street **PPIN 923892**

City: Anniston Owner Name: Jim Smith

Total Sq ft Removed: _____ Additional Removal: _____

Pre-Video Date: _____ Initials: _____

Post-Video Date: _____ Initials: _____

Removal Start Date: _____ Removal Contractor: _____

Authorization to Backfill Date: _____ Samplers Signature: _____

Backfill Date: _____ Contractor Signature: _____

Sod Installation Date: _____ Contractor Signature: _____

Field Schematics Area

Sample Information

LocID	*DupAlias*	*Date*	*Time*	*Sdepth*	*Edepth*	*Sampler*	*COC No*
		__/__/__					
		__/__/__					
		__/__/__					
		__/__/__					

XRF Sample Information

XRF No.	*LocID*	*Results*	*Units*	*Operator*	*Comments*

Property Plan View

Parcel to be Remediated

Excavation Area

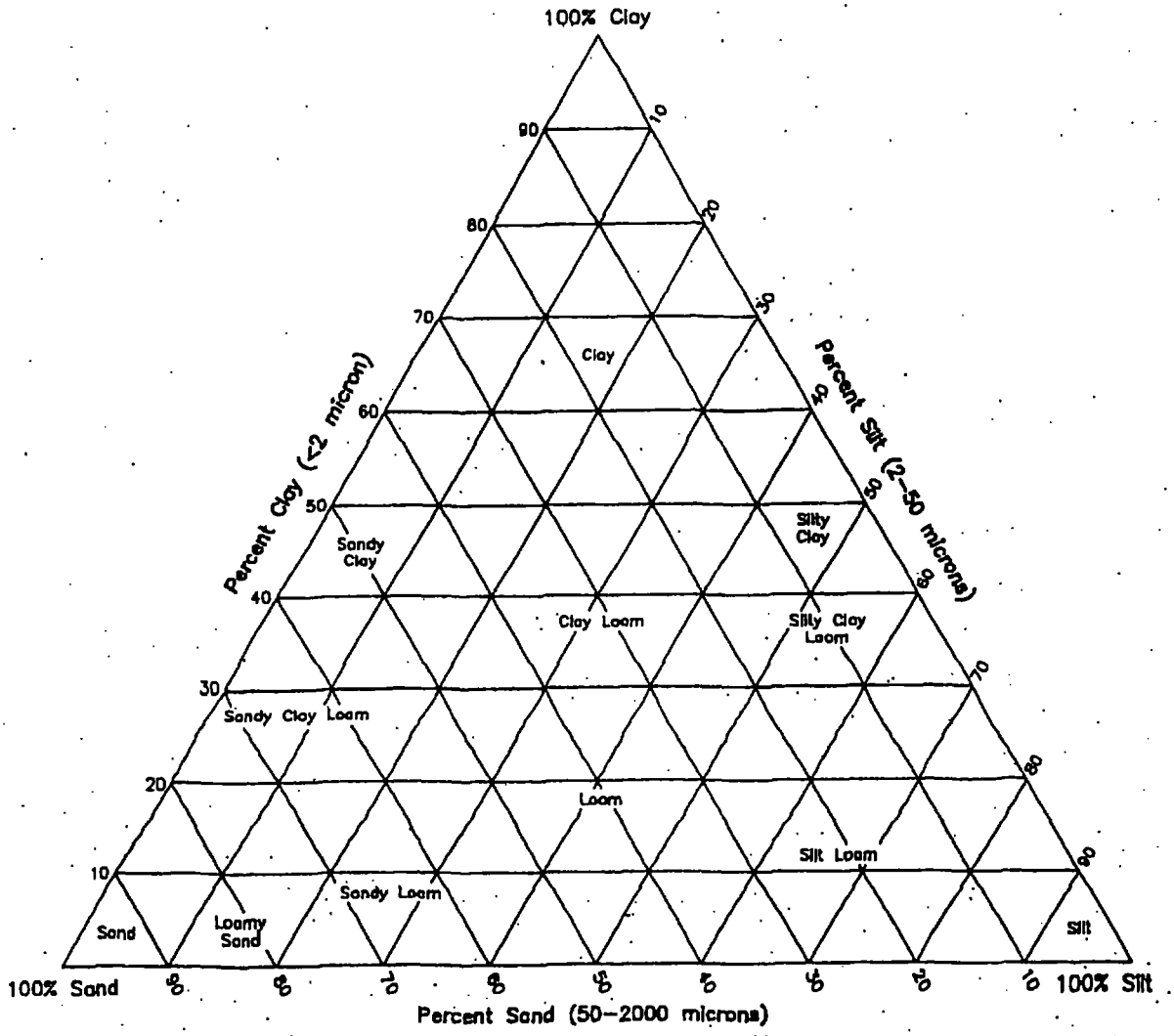
Clean Area

Composite Sample Points

0 50 100 200 Feet

Ground Photo

12/97 BY: SCG



ANNSTON LEAD SITE		
FIGURE		
SOIL TEXTRUAL TRIANGLE		
PRJ: 0478-001-150	DATE: FEBRUARY 2005	
REV:	BY: DEP	CHK: ACK
NEWFIELDS		

Appendix A

STANDARD OPERATING PROCEDURES FOR XRF

Standard Operating Procedure for Measurement of Lead with the Niton XRF Interim Removal Action, Anniston Lead Site, Alabama

This standard operating procedure (SOP) is prepared for sampling and analyzing lead in soil using the Niton x-ray fluorescent spectrometer (XRF). This SOP has been customized to reflect the needs of the Interim Removal Action for the Anniston Lead Site. It is noted that following the procedures in this SOP will produce qualitative (screening) soil sampling data – as no laboratory confirmation samples will be collected that represent the specific samples analyzed by the XRF. XRF measurements will not be individually recorded in the field, rather the Niton's automatically assigned sample identification number will be recorded on the Yard Soil Removal Data Form to be used as a cross-reference to the Niton downloaded data. Use pen on all forms. Any errors are to be marked out with one line and initialed.

Equipment and Materials needed:

- XRF Spectrometer
- Spare batteries for XRF and charger
- Cotton swabs
- Ziplock-type bags
- XRF cups
- Trowel and/or trier
- Stainless steel bowls
- #10 Sieve
- Reference samples provided by Niton (3 NIST soil samples)
- Blank sample (clean sand) provided by Niton
- 2 precision check samples of Anniston Lead Site soil
- Yard Soil Removal Data Form(s)
- Daily XRF Sample Log – used for recording QA/QC measurements and calculations
- Checklists from this SOP
- Laboratory chain-of custody
- Laptop (optional) or calculator
- Pens
- Markers

A. XRF PREPARATION PROCEDURE

At the beginning of each day or each sampling activity, the following steps need to be completed to document calibration, accuracy, and precision. Table 1 provides a beginning of the day checklist. **Use *Daily XRF Sample Log* (attached) to record every XRF measurement.**

A1 Use cotton swab to clean the XRF analysis window of any dust accumulated since last use.

A2 Turn on XRF and allow to warm up for 15 minutes.

A3 Check the instrument date and time. If incorrect, consult manual to set correct date and time. NOTE: do not run instrument if date and time are incorrect.

A4 Perform instrument self calibration:

A4.a. Go to the Setup Menu and select Mode – note the NITON XRF will start up in the mode it was turn off in. The user should make a habit of selecting the mode each morning to ensure data quality. The Niton XRF will provide the choices of *"Test Soil, Bulk Samples"*, *"Thin Sample"*, or *"Paint"*.

Table 1 Beginning of Day Checklist

Date _____ **Time** _____ **Activity (see description below for details)**	**Complete?**	**Status**
Clean XRF window		
Allow XRF to warm up for 15 minutes		
Check instrument's date and time		
Perform internal calibration check		
Analyze instrument blank		
Analyze CVC sample – NIST Low 2709 [calculate %D (≤ 20%) using the measurement and the marked concentration]		
Analyze CVC sample – NIST Med 2711 [calculate %D (≤ 20%) using the measurement and the marked concentration]		
Analyze CVC sample – NIST High 2710 [calculate %D (≤ 20%) using the measurement and the marked concentration]		
Analyze precision check sample – SSS-1 – low reference [analyze the sample 7 times and calculate the RSD of the measurements; (≤ 20%)]		
Analyze precision check sample – SSS-2 – high reference [analyze the sample 7 times and calculate the RSD of the measurements; (≤ 20%)]		

A4.b. Select "Test Soil, Bulk Samples" by moving arrows and pressing "Clear/Enter". ***Note to the user:*** *the instrument must be calibrated and tested for accuracy and precision each morning in the soil testing mode.*

A4.c. Instrument will return to Main Menu.

A4.d. Select Calibrate and Test by moving arrows, if necessary, and pressing "Clear/Enter".

A4.e. Self-calibration will take approximately 1 to 2 minutes and instrument will beep upon completion and display "Ready to Test".

A5 Record status of instrument self calibration:

A5.a. If instrument is calibrated proceed.

A5.b. If instrument failed the self-calibration, push the Reset button on the bottom of the instrument and recalibrate (see step A.3). If the instrument does not calibrate successfully in three attempts call NITON service 401-294-1234.

A6 Analyze a blank. A blank is clean silica sand (99.5%). Record instrument reading on the ***Daily XRF Sample Log***. If instrument detects lead, reclean the XRF analysis window with a cotton swab. Reanalyze blank and record instrument reading.

A7 Analyze the three CVC samples – NIST reference samples Low 2709, Med 2711, and High 2710. Record all measurements on the ***Daily XRF Sample Log***. Calculate the percent difference (%D) of each measured sample using the following equation or the provided Excel Spreadsheet.

$$\%D = \frac{|(CVC_m - CVC_s)|}{(CVC_m + CVC_s)} \times 100$$

where:

%D = percent difference

CVC_m = Measured concentration of the CVC sample

CVC_s = Marked standard concentration of the CVC sample see Table 2 for the standard concentration

If any of the %Ds is greater than 20%, reanalyze the affected sample. If after reanalysis, the %D is still greater than 20%, return to Step A4, recalibrate the instrument, and repeat the procedure until the %D are within the accuracy range. If the instrument does not demonstrate accuracy (%D $\leq$ 20%) after two attempts of recalibration, call NITON service 401-294-1234.

Table 2 CVC Standard Concentrations

Standard	Lead Concentration (CVC_s)
NIST Low 2709	18.9
NIST Med 2711	1162
NIST High 2710	5532

If the %D is less than 20%, continue.

A8 Analyze the precision check samples (SSS-1 and SSS-2). Analyze each sample at a minimum seven times. Record all measurements on the Daily XRF Sample Log. Calculate the arithmetic mean and the standard deviation for each sample (in Microsoft Excel software use the AVERAGE and STDDEV functions, respectively). Then calculate the relative standard deviation (RSD) for each precision sample as described below or use the provided Excel Spreadsheet.

$$RSD = \frac{SD}{\bar{x}} \times 100$$

where:

RSD = relative standard deviation of the sample's measurements

SD = standard deviation of the sample's measurements

$\bar{x}$ = mean of the sample's measurements

If either or both of the RSDs are greater than 20%, reanalyze the affected sample(s) with a greater count time and recalculate the RSD on these new concentrations. If the count time becomes to greater to be feasible (i.e., too long to hold the instrument), return to Step A4, recalibrate the instrument, and repeat the procedure until the RSD are within the precision range with a feasible count time. If the instrument does not demonstrate precision (RSD $\leq$ 20%) after two attempts of recalibration, call NITON service 401-294-1234.

A9 If all calibration and checks are complete and within guidance, the instrument is ready for the daily analysis.

B. SOIL REMOVAL CONFIRMATION SAMPLING

After excavation and prior to placement of backfill soils, XRF *in situ* samples will be measured from all excavations. Every twentieth sample will also be collected for bulk analysis for use in the XRF calibration model. These samples are collected for the XRF's calibration purposes only and not for yard characterization.

B1 *In situ* analyses will be collected on a 10-foot (or 3-meter) grid in each removed yard area to determine the concentration of the remaining soil.

B2 Results of the XRF analyses will be recorded by the Niton XRF. Be sure to record the XRF ID number range on the corresponding Yard Subgrade Soil Removal form.

B3 At a 5% frequency (every twentieth *in situ* sample or grid node) a bulk sample will be collected for use in the XRF calibration model. After the collection of the

sample, the *in situ* sampling will continue. The calibration samples will be analyzed separately prior to shipment to an analytical laboratory (See Section C).

B3.a. Soil from a small area, at the 20th *in situ* sample's location, will be excavated with a clean decontaminated trowel (or disposable spoon) to approximately 1 inch into the soil. Removed soil will be composited into a stainless steel bowl. The soil will be sieved through a #10 screen (2 mm) to remove gravel-sized particles then homogenized. Any material left on the screen will be discarded on site.

B3.b. If a sample appears to have a moisture content of greater than 20 *percent, the sample will be air dried before sieving or analysis.*

B3.c. Screened, homogenized soil will be placed into plastic Ziploc-type baggies for later analysis. Mark sample name (PIN number and associated XRF *in situ* sample id number) on bag with permanent marker.

B3.d. Continue *in situ* measurements for another twenty samples, then repeat B3.a through B3.c. If ten or more *in situ* measurements are made between the last bulk sample and the last *in situ* measurement, a bulk sample will also be collected at the last *in situ* measurement location.

B4 Quality Assurance Analyses:

B4.a. **Every 20th grid node** will be analyzed twice (duplicated) by the XRF. Record both instrument readings on the ***Daily XRF Sample Log***. Calculate the %D of this grid node's measurements using the following equation (the %D will be used in Step B3.d)

$$\%D = \frac{|(PS - DS)|}{(PS + DS)} \times 100$$

where:

%D = percent difference

PS = First measured concentration of the grid node

DS = Second measured concentration of the grid node.

B4.b. **Analyze a blank.** Record instrument reading on the ***Daily XRF Sample Log***. If instrument detects lead, reclean the XRF analysis window with a cotton swab. Reanalyze blank and record instrument reading.

Table 3 Quality Assurance Checklist for Each Sample Batch

Date _____ Time _____ Activity (see description below for details)	Complete?	Status
Analyze Sample Duplicate (20th analysis) Calculate %D of duplicate pair (19th and 20th analyses)		
Analyze instrument blank		
Analyze CVC sample – NIST Low 2709 [calculate %D (≤ 20%) using the measurement and the marked concentration]		
Analyze CVC sample – NIST Med 2711 [calculate %D (≤ 20%) using the measurement and the marked concentration]		
Analyze CVC sample – NIST High 2710 [calculate %D (≤ 20%) using the measurement and the marked concentration]		
If %D of the duplicate pair is greater than 20% do the following:		
Analyze precision check sample – SSS-1 – low reference [analyze the sample 7 times and calculate the RSD of the measurements; (≤ 20%)]		
Analyze precision check sample – SSS-2 – high reference [analyze the sample 7 times and calculate the RSD of the measurements; (≤ 20%)]		

B4.c. ~~**Analyze the three CVC samples –** NIST reference~~ samples Low 2709, Med 2711, and High 2710. Record all measurements on the ***Daily XRF Sample Log***. Calculate the percent difference (%D) of each measured sample using the following equation.

$$\%D = \frac{|(CVC_m - CVC_s)|}{(CVC_m + CVC_s)} \times 100$$

where:

%D = percent difference

CVC_m = Measured concentration of the CVC sample

CVC_s = Marked standard concentration of the CVC sample see Table 2 for the standard concentration

If any of the %Ds is greater than 20%, reanalyze the affected sample. If after reanalysis, the %D is still greater than 20%, return to Step A4, recalibrate the instrument, and repeat the procedure until the %D are within the accuracy range. If the instrument does not demonstrate accuracy (%D ≤ 20%) after two attempts of recalibration, call NITON service 401-294-1234.

If the %D is equal or less than 20%, continue.

If the **initial %D** was greater than 20%, the batch of grid nodes (1 through 20 – with one of the 20 grid nodes duplicated) must be reanalyzed. Recalculate the %D of the sample duplicates (see Step B3.a).

B4.d. If the %D of the site duplicates (calculated in Step B3.a) is greater than 20%, then the precision samples will need to be reanalyzed in accordance with Step A8.

B4.e. Continue sampling with the next site grid node considered the first sample of the next batch.

Table 4
Example of Quality Assurance Samples Recorded on Daily XRF Sample Log

XRF No.	Sample ID	Result	Units	Comments
65	Yard PIN number	250	ppm	20th grid node of the batch
66	Duplicate	248	mg/kg	Duplicate ; %D= 0.4%
67	Blank	<15	mg/kg	
68	NIST Low 2709	17	mg/kg	%D= 11.5%
69	NIST Med 2711	1000	mg/kg	%D= 7.5%
70	NIST High 2710	4800	mg/kg	%D= 7.1%

B5 Areas of the excavation with soil grid nodes with lead concentrations greater than or equal to 400 ppm will be marked in the field with spray paint for additional excavation.

B6 If additional excavation is required, the new subgrade will be re-sampled. The re-excavated area will be re-gridded and new measurements will be collected following the original grid procedures. If the area is smaller than 10 ft by 10 ft, then three subgrade measurements, spread in a triangle to characterize the area, will be made. Areas of the re-excavation with lead concentrations greater than 400 ppm will be again marked with spray paint for additional excavation. Excavation and measurement will continue until lead concentrations are below 400 ppm.

C. BULK SAMPLE ANALYSIS FOR XRF CALIBRATION

C1 During the *in situ* sampling, bulk samples will be collected to establish a calibration model between XRF lead measurements and analytical laboratory lead measurements. These samples will be collected into ziplock-type baggies during the confirmation sampling (see Section B3).

C2 Prior to shipping to the laboratory, the bagged sample will be analyzed with the XRF. A portion of the bagged sample will be placed into an XRF sample analysis cup, labeled, and measured with the XRF. XRF measurements and the XRF id number will be recorded onto the ***Daily XRF Sample Log***.

C3 These samples should be analyzed prior to completing the End of Day activities, described in Section D. Quality Assurance should be followed at the same frequency, as described in Section B4.

C4 XRF cups will then be shipped to the analytical laboratory for analysis of lead by SW-846 Method 6010B. The laboratory sample name (marked on the XRF cup) will end with a "C" (for "calibration") to allow for sample differentiation in the database. Mark sample name on the XRF cup and record sample on the laboratory chain-of-custody.

D. END OF EACH DAY

D1 Analyze a blank. Record instrument reading on the ***Daily XRF Sample Log***.

D2 Analyze the precision check samples (SSS-1 and SSS-2). Analyze each sample at a minimum seven times. Record all measurements on the ***Daily XRF Sample Log***. Calculate the arithmetic mean and the standard deviation for each sample. Then calculate the relative standard deviation (RSD) for each precision sample as described below.

$$RSD = \frac{SD}{\bar{x}} \times 100$$

where:

RSD = relative standard deviation of the sample's measurements

SD = standard deviation of the sample's measurements

$\bar{x}$ = mean of the sample's measurements

D3 Analyze the three CVC samples – NIST reference samples Low 2709, Med 2711, and High 2710. Record all measurements on the ***Daily XRF Sample Log***. Calculate the percent difference (%D) of each measured sample using the following equation.

$$\%D = \frac{|(CVC_m - CVC_s)|}{(CVC_m + CVC_s)} \times 100$$

where:

%D = percent difference

CVC_m = Measured concentration of the CVC sample

CVC_s = Marked standard concentration of the CVC sample see Table 2 for the standard concentration

If any of the %Ds is greater than 20%, reanalyze the affected sample. If after reanalysis, the %D is still greater than 20%, return to Step A4, recalibrate the instrument, and repeat the procedure until the %D are within the accuracy range. If the instrument does not demonstrate accuracy (%D ≤ 20%) after two attempts of recalibration, call NITON service 401-294-1234.

If the %D was greater than 20%, the batch of samples (1 through 20 [or less]) must be reanalyzed.

If the %D is less than 20%, continue.

D4 Clean window with cotton swab.

D5 Download the day's results to the computer. See XRF's user's manual.

Table 5 End of Day Checklist

Date _____ **Time** _____ **Activity (see description below for details)**	**Complete?**	**Status**
Analyze instrument blank		
Analyze precision check sample – SSS-1 – low reference [analyze the sample 7 times and calculate the RSD of the measurements; (≤ 20%)]		
Analyze precision check sample – SSS-2 – high reference [analyze the sample 7 times and calculate the RSD of the measurements; (≤ 20%)]		
Analyze CVC sample – NIST Low 2709 [calculate %D (≤ 20%) using the measurement and the marked concentration]		
Analyze CVC sample – NIST Med 2711 [calculate %D (≤ 20%) using the measurement and the marked concentration]		
Analyze CVC sample – NIST High 2710 [calculate %D (≤ 20%) using the measurement and the marked concentration]		
Clean XRF window		
Download Data to computer and turn off XRF		
Send out laboratory samples with chain-of-custody		

Beginning of Day Checklist

Date _____ **Time** _____ **Activity (see description below for details)**	**Complete?**	**Status**
Clean XRF window		
Allow XRF to warm up for 15 minutes		
Check instrument's date and time		
Perform internal calibration check		
Analyze instrument blank		
Analyze CVC sample – NIST Low 2709 [calculate %D (≤ 20%) using the measurement and the marked concentration]		
Analyze CVC sample – NIST Med 2711 [calculate %D (≤ 20%) using the measurement and the marked concentration]		
Analyze CVC sample – NIST High 2710 [calculate %D (≤ 20%) using the measurement and the marked concentration]		
Analyze precision check sample – SSS-1 – low reference [analyze the sample 7 times and calculate the RSD of the measurements; (≤ 20%)]		
Analyze precision check sample – SSS-2 – high reference [analyze the sample 7 times and calculate the RSD of the measurements; (≤ 20%)]		

Quality Assurance Checklist for Each Sample Batch

Date _____ **Time** _____ **Activity (see description below for details)**	**Complete?**	**Status**
Analyze Sample Duplicate (20th grid node). Calculate %D of duplicate pair		
Analyze instrument blank		
Analyze CVC sample – NIST Low 2709 [calculate %D (≤ 20%) using the measurement and the marked concentration]		
Analyze CVC sample – NIST Med 2711 [calculate %D (≤ 20%) using the measurement and the marked concentration]		
Analyze CVC sample – NIST High 2710 [calculate %D (≤ 20%) using the measurement and the marked concentration]		
If %D of the duplicate pair is greater than 20% do the following:		
Analyze precision check sample – SSS-1 – low reference [analyze the sample 7 times and calculate the RSD of the measurements; (≤ 20%)]		
Analyze precision check sample – SSS-2 – high reference [analyze the sample 7 times and calculate the RSD of the measurements; (≤ 20%)]		

Quality Assurance Checklist for Each Sample Batch

Date _____ **Time** _____ **Activity (see description below for details)**	**Complete?**	**Status**
Analyze Sample Duplicate (20th grid node). Calculate %D of duplicate pair		
Analyze instrument blank		
Analyze CVC sample – NIST Low 2709 [calculate %D (≤ 20%) using the measurement and the marked concentration]		
Analyze CVC sample – NIST Med 2711 [calculate %D (≤ 20%) using the measurement and the marked concentration]		
Analyze CVC sample – NIST High 2710 [calculate %D (≤ 20%) using the measurement and the marked concentration]		
If %D of the duplicate pair is greater than 20% do the following:		
Analyze precision check sample – SSS-1 – low reference [analyze the sample 7 times and calculate the RSD of the measurements; (≤ 20%)]		
Analyze precision check sample – SSS-2 – high reference [analyze the sample 7 times and calculate the RSD of the measurements; (≤ 20%)]		

End of Day Checklist

Date _____ **Time** _____ **Activity (see description below for details)**	**Complete?**	**Status**
Analyze instrument blank		
Analyze precision check sample – SSS-1 – low reference [analyze the sample 7 times and calculate the RSD of the measurements; (≤ 20%)]		
Analyze precision check sample – SSS-2 – high reference [analyze the sample 7 times and calculate the RSD of the measurements; (≤ 20%)]		
Analyze CVC sample – NIST Low 2709 [calculate %D (≤ 20%) using the measurement and the marked concentration]		
Analyze CVC sample – NIST Med 2711 [calculate %D (≤ 20%) using the measurement and the marked concentration]		
Analyze CVC sample – NIST High 2710 [calculate %D (≤ 20%) using the measurement and the marked concentration]		
Clean XRF window		
Download Data to computer and turn off XRF		
Send out laboratory samples with chain-of-custody		

Interim
Health and Safety Plan

Residential Soil Removal,
Anniston Lead Site

Anniston, Alabama

March 14, 2005

Reviewed by:

_____

Site Health and Safety Officer

_____

Site Manager

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LIST OF ACRONYMS

AOC	Administrative Order on Consent
ACGIH	American Conference of Governmental Industrial Hygienists
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
CPR	Cardio-pulmonary Resuscitation
EPA	Environmental Protection Agency
HASP	Health and Safety Plan

HAZWOPER	Hazardous Waste Operations and Emergency Response
OSHA	Occupational Safety and Health Administration
PEL	Permissible Exposure Limit
PPE	Personal Protective Equipment
SHSO	Site Health and Safety Officer
TLV	Threshold Limit Value
ZPP	Zinc Protoporphyrin

Interim Health and Safety Plan
Residential Soil Removal

Anniston Lead Site
February 17, 2005

1.0 INTRODUCTION

This Interim Health and Safety Plan (HASP) establishes policies and procedures to protect workers from the potential hazards posed by residential soil cleanup at the Anniston Lead Site (Site) located in Anniston, Alabama. It is an attachment to the Administrative Order on Consent for Removal Action (AOC) between the United States Environmental Protection Agency and DII Industries, L.L.C., FMC Corporation, Huron Valley Steel Corporation, McWane Inc., Mead Custom Papers, LLC, MeadWestvaco Corporation, MRC Holdings, Inc., Phelps Dodge Industries, Inc., United Defense, L.P., United States Pipe and Foundry Company, Inc., and Walter Industries, Inc. (referred to herein as "the Companies"). During the interim period the Companies will continue residential cleanup activities currently being performed by EPA. The interim period will end when a removal contractor is mobilized to the Site based on EPA-approved documents, as set out in the AOC.

The plan assigns personnel responsibilities, prescribes mandatory operating procedures, establishes personal protective equipment (PPE) requirements and describes actions to be taken during a Site emergency. The plan has been prepared to comply with the requirements of 29 CFR 1910.120 (b)(4) and CERCLA Sections 104(f) and 111(c)(6) and NewFields Health and Safety Program Plan (March 2004). In addition, requirements of the Environmental Protection Agency (EPA) Occupational Health and Safety Manual and EPA Interim Standard Operating Safety Guide will be followed.

The provisions of this plan are mandatory for all personnel assigned to the project, including all employees, subcontractors, and visitors. A copy of this plan will be made available to all NewFields personnel, contractors, subcontractors and authorized visitors that may enter work areas; said personnel will also sign the HASP review form (Section 8). This plan does not apply to the EPA or State of Alabama personnel or their on-site representatives.

All personnel working on soil sampling and removal components of the work must have received the Occupational Safety and Health Administration (OSHA) 40-hour HAZWOPER training (29 CFR 1910.120). HAZWOPER training certificates will be maintained on-site by the Site Health and Safety Office (SHSO). Those personnel must be involved in the communication and understanding of potential chemical hazards

through a Hazard Communication Program in accordance with the provisions of the OSHA Regulations 29 CFR 1910.1200.

This plan also provides for alternate procedures to address changing situations that may arise during construction and other field operations. This plan shall be present and readily available during all on-site activities. All personnel working on or visiting work areas at the Site shall be briefed on the HASP and adhere to all provisions of this plan. Any supplemental plans used by subcontractors during this phase of on-site activities shall conform to this HASP as a minimum.

This plan has been developed using the historical information and the analytical data available. As additional information is collected, this HASP may be updated to reflect new hazard analysis and new health and safety program requirements.

Overall Hazard is: High: _____ Moderate: _____

Low: ___X_____ Unknown: _____

1.1 Site Description

The Anniston Lead Site is located in northeastern Alabama, entirely within Calhoun County, approximately 60 miles east-northeast of Montgomery, Alabama and contains all or part of the cities/towns of Anniston, West End Anniston, Blue Mountain, Hobson City, and Oxford. The Site lies in the foothills of the Appalachian Mountains in varied terrain ranging from approximately 600 to 1,000 ft above Mean Sea Level. The total population of the area is approximately 35,000 residents.

1.2 Scope of Work

Details documenting the work to be performed are presented in the Administrative Order on Consent Statement of Work, to which this HASP is attached. Principal activities will include:

- Removal of soil/foundry sand containing lead concentrations above 400 mg/Kg from residential yards;
- Sampling to verify removal, including use of an XRF to measure lead concentrations in soil;
- Placement of clean backfill and installation of sod;

- Management of a Soil Staging Area for excavated soil and clean backfill; and
- Disposal of excavated soil at a Solid Waste Landfill.

1.3 Plan Revisions

The procedures presented herein are intended to serve as guidelines. They are not a substitute for the sound judgment of on-site personnel. Work conditions may change as the project progresses. As appropriate, addenda to the plan will be provided by the SHSO. Prompt notification of changing work conditions requiring possible modification of this plan is the responsibility of the SHSO. Additional field tasks with unique hazards or risks may also require addenda to this plan. In addition, procedures and equipment specified in this plan will be reviewed and updated as new technologies and equipment are developed. In any event, no changes to this plan will be implemented without prior approval of the Site Manager.

Appendix A of this plan will be reserved for plan addenda. The addenda will be identified by letter and will refer to the latest current revision of the plan (e.g., the first addendum to this plan will be Addendum 1A). Each person with a copy of this plan will be provided with each addendum. A list of those persons who have a copy of this plan will be kept by the SHSO.

2.0 TEAM ORGANIZATION AND HEALTH AND SAFETY RESPONSIBILITIES

The work will be performed by a construction contractor under the direct supervision of the Supervising Contractor (NewFields) who will act as the on-site representative for the Companies. The following personnel are designated to carry out the stated job functions on the Site.

Table 1 – Personnel Organization

Personnel	Name	Affiliation	Phone
Project Manager:	Thomas Schmittou	Oak Environmental Services, Inc.	Cell (205) 410 8684
Site Manager:	Thomas Schmittou	Oak Environmental Services, Inc.	Cell (205) 410 8684
Site Health and Safety Officer:	To Be Determined		
Contractor Site Manager:	To Be Determined		
Project Staff:	To Be Determined		

2.1 Responsibility of Personnel

Responsibilities of all project personnel are provided below.

2.1.1 Site Manager Responsibilities

The Site Manager will be designated as the ranking Supervising Contractor person on-site at any given time. The Site Manager will have the responsibility for oversight of implementation of this plan during field operations. Specific responsibilities include:

- Providing technical input for pre-entry briefing and tailgate safety meetings with field personnel;
- Liaising with the SHSO to ensure that health and safety requirements are met;
- Correcting work practices or conditions that may result in accidents, injuries, or chemical exposure to Site personnel; and
- Approving this plan, as well as any updates or changes.

2.1.2 Site Health and Safety Officer Responsibilities

The SHSO will be designated as the on-site Supervising Contractor person responsible for all health and safety activities. The SHSO will report directly to the Site Manager on a daily basis, when construction activities are occurring. Specific responsibilities include:

- Participating in the preparation of and implementation of this plan;
- Conducting initial briefings for personnel beginning work at the Site. Personnel will supply copies for all training, medical surveillance, and fit testing documentation. Such documentation will be reviewed and maintained by the SHSO;
- Conducting daily tailgate safety meetings (meetings will be documented [attendees and safety issues discussed] and documentation maintained on-site);
- Informing personnel involved in the field operations of the proper procedures during emergencies;
- Ensuring that personnel involved in this project are aware of the provisions of this HASP;

- Informing and reminding personnel of the potential hazards associated with this project;
- Ensuring that field personnel receive Site-specific training the first day on-site;
- Selecting appropriate protective clothing and equipment;
- Monitoring on-site intrusive operations and conditions;
- Immediately reporting any unusual or unsafe conditions to the Site Manager;
- Coordinating emergency procedures, evacuation routes, and calling the appropriate emergency contacts; and
- Approving this plan and making any updates or changes based on experience at the Site or new data gathered.

2.1.3 Project Staff Responsibilities

Specific responsibilities for all field personnel involved with the project include:

- Complying with the plan;
- Administering necessary precautions to minimize injury or chemical exposure to themselves or other personnel; and
- *Notifying the SHSO or Site Manager of unsafe or potentially unsafe conditions,* as well as of any accidents or injuries.

2.2 Contractors

NewFields subcontractors and third party contractors (including the construction contractor) shall bear the ultimate responsibility for all matters dealing with safety in the performance of their work. This responsibility includes the safety of all persons and property and any and all employees of subcontractors that may perform work on their behalf. This requirement will apply continuously regardless of time or place, and will in no way be altered because NewFields personnel provide general directions as to the location where work should be performed. The construction contractor, their employees and any and all employees of subcontractors that may perform work on their behalf may be required to work with potentially hazardous substances. The Site Manager/SHSO will, to the best of their ability, inform subcontractors or their representatives of any

potential fire, explosion, health, or other safety hazards that have been identified during operations. A copy of this plan shall be made available to all contractors performing work at the Site.

3.0 HAZARD EVALUATION

3.1 Site Hazards

The major goal of the procedures defined in this HASP is to protect the workers from physical, chemical and radiological hazards that may be encountered during implementation of the work. Potential hazards are summarized in Table 2 and described in detail in the following subsections.

The Site contains properties with both lead and PCB concentrations in yard soils above action levels. However, it is planned that properties selected to undergo cleanup in the interim program covered by this HASP will have only lead concentrations above action levels, as verified by EPA sampling data. However, if a property that has PCBs above action levels is to be addressed in the interim program, this HASP will be modified accordingly prior to initiation of work at the property.

Table 2 – List of Activities with their Respective Hazards and Mitigation Measures

Activity	Hazard	Mitigation
Soil Sampling	Hand contact with lead and other potentially hazardous soil contaminants, with a potential for ingestion	Use of gloves
	Release of dust containing contaminants, leading to respiratory contact	Minimize activities that generate dust. Respiratory protection and dust suppression using water, as needed.
	General safety hazards	Comply with OSHA guidelines
	Radiation from XRF detector	Use XRF according to manufacturer's guidelines
	Cold and Heat Stress	See Sections 5.2.3 and 5.2.4, respectively
	Native wildlife, such as rodents, ticks, mosquitoes and snakes, present the possibility of bites and associated diseases	Wear permethrin treated clothing in tick infested areas, at least 20% DEET insect repellent on exposed skin and avoid wildlife when possible. In case of an animal bite, perform first aid and seek medical attention.
Soil removal/ stockpiling/ transportation	Physical hazards from heavy equipment	Wear PPE such as steel-toed boots, safety glasses or goggles and hard hats.
	Contact with buried utilities	Contact local utilities company for location/information on buried utilities
	Overhead utilities	Utilize safe operating practices. Maintain minimum clearances.
	Hand contact with lead and other hazardous materials	Use gloves and respiratory protection as needed
	Release of dust containing contaminants, leading to respiratory contact	Minimize activities that generate dust. Respiratory protection and dust suppression using water as needed.
	Noise from heavy equipment	Use hearing protection as needed.
	Native wildlife, such as rodents, ticks, mosquitoes and snakes, present the possibility of bites and associated diseases	Wear permethrin treated clothing in tick infested areas, at least 20% DDT insect repellent on exposed skin and avoid wildlife when possible. In case of an animal bite, perform first aid and seek medical attention.
	Cold and Heat Stress	See Sections 5.2.3 and 5.2.4, respectively
	High traffic areas	Set up signs, signals, or barricades as necessary to provide worker protection and maintain appropriate traffic flow. Flagmen, or other appropriate traffic controls may be necessary in very high traffic areas.

3.1.1 Physical Hazards

Physical hazards associated with excavation, earthmoving and other construction activities pose a greater potential for injury at this Site than chemical exposure. Physical hazards can be posed by:

- Heavy Equipment;
- Cold Stress/Heat Stress;
- Noise;
- Slip, Trip and Fall;
- Overhead Utilities; and
- Underground Utilities.

Injuries that may result from these physical hazards can range from simple slip-trip-fall types of accidents to casualties, including fatalities due to moving and/or rotating heavy equipment or electrocution. Injuries resulting from physical hazards can be avoided through the adoption of safe work practices and employing caution when working with machinery.

All field personnel shall be conscious of their work environment and should notify the Site Manager or SHSO or other appropriate supervisory personnel of any unsafe conditions. All field personnel should also familiarize themselves with other contractors safety procedures. The above mentioned physical hazards are discussed in the following sections.

In addition, access to potable water and to sanitary facilities will be provided for all workers.

3.1.1.1 Heavy Equipment

Operation of heavy equipment in excavation/earthmoving activities presents potential physical hazards to personnel. PPE such as steel-toed boots, safety glasses or goggles, and hard hats shall be worn whenever such equipment is present. Personnel should at all times be aware of the location and operation of heavy equipment, and take precautions to avoid getting in the way of their operation. An audible backup alarm is mandatory on all heavy equipment working on site. High visibility vests may be appropriate in open areas subject to heavy equipment traffic.

3.1.1.2 Cold Stress

Personnel working outdoors in low temperatures, especially at or below 40° Fahrenheit (F), wet conditions, wind speed 5 miles per hour or higher, lack of water, previous cold injuries, use of tobacco, fatigue and low activity are subject to cold stress. Exposure to extreme cold for a short time causes severe injury to the surface of the body. Areas of the body which have high surface area-to-volume ratio such as fingers, toes, feet and ears are the most susceptible.

Two factors influence the development of a cold injury: ambient temperature and the velocity of the wind. Wind chill is used to describe the chilling effect of moving air in combination with low temperature. A wind chill chart is shown in Appendix C.

Frostbite

Local injury resulting from cold is included in the generic term frostbite. Frostbite of the extremities can be categorized as:

- "Frost nip or incipient frostbite" which is characterized by sudden whitening of skin;
- "Superficial frostbite" which is characterized by skin with a waxy or white appearance and is firm to the touch, but tissue beneath is resilient; and
- "Deep frostbite" which is characterized by tissues that are cold, pale, and solid.

Hypothermia

Hypothermia is most likely at very cold temperatures but it can occur even at cool temperatures if an individual becomes chilled from rain or sweat. Systemic hypothermia is caused by exposure to freezing or rapidly dropping temperature. Its symptoms are usually exhibited in five stages:

- Shivering, exhaustion;
- Apathy, listlessness, sleepiness, and (sometimes) rapid cooling of the body to less than 95° F;
- Unconsciousness, glassy stare, slow pulse, and respiratory rate;
- Freezing of the extremities; and

- Death.

Field activities shall be terminated by the SHSO if initial signs of frostbite or hypothermia exist or if equivalent wind chill temperature is below 0° F. All affected personnel shall be kept warm and receive immediate medical care.

Additional notes to remember:

- Do not rub the frostbitten part;
- Do not use ice, snow, gasoline or anything cold on the frostbitten area;
- Do not use heat lamps or hot water bottles to rewarm the part; and
- Give a warm drink - not coffee, tea, or alcohol.

3.1.1.3 Heat Stress

When personnel are working in hot environments, the Site Manager and all field personnel should be trained to recognize the symptoms of heat stress and provide initial first aid treatment if required until more qualified personnel take over. Heat stress occurs when the rate of heat gain is greater than the body's ability to remove it. It is important to understand the factors that cause overheating and mechanisms to control those factors.

Heating of the body occurs from three sources:

- Radiant heating from heat sources or sunlight;
- Convective heating from contact with a warmer object or liquid; and
- Metabolic heating caused by activity.

Cooling occurs through three mechanisms:

- Respiration: Exhaled air is warm. As the body overheats, respiration becomes more rapid;
- Radiation: Heat is released at the surface of the skin. As the body overheats, the surficial blood vessels dilate and allow more heat to be lost; and

- Evaporation: Perspiration is released to the skin surface and evaporates. The skin is cooled by evaporative cooling.

Employee Education

The heat stress education poster is shown in Appendix D will be posted at the work site and reviewed during safety meetings.

Table 3 – Heat Stress Symptoms and Treatment

CONDITION	COMMON SYMPTOMS	TREATMENT
Slightly elevated body temperature	Body temperature between 99 and 101° F Headache	Drink cool fluids. Rest in cool place until temperature and pulse are below 99° and 110, respectively.
Heat rash	Rash mainly on back	Shower at the end of the shift. Observe for signs of heat exhaustion.
Heat cramps	Muscle cramps or twitching often starting in abdominal area. Pain in hands, feet and abdominal areas.	Remove from field work. Take off PPE. Encourage consumption of cool fluids designed to replenish electrolytes (e.g., Gatorade). Observe for signs of heat exhaustion.
Heat exhaustion	Body temperature between 99 and 102° F Headache, weakness Elevated pulse Profuse sweating Pale skin Cool wet/clammy skin Lethargic Nausea Dizziness	Act immediately. Remove to a cool shaded area. Take off PPE. Drink cool fluids, about a cup every 15 minutes unless sick to the stomach. Spray with a cool mist of water of apply wet cloth to skin. Treat as a medical emergency if the person does not feel better in a few minutes. No field work for at least 48 hours.
Heat stroke **LIFE THREATENING**	Temperature greater than 102° F Hot, dry pale skin with no sweating Flushed skin Irritability, confusion, seizures, unconsciousness. Rapid pulse	Treat as a medical emergency. Remove from field work. Remove PPE. Spray with a cool water mist, or apply cool wet cloth to skin, not cold water. Place ice packs under armpits and groin area until emergency medical services arrive. Written release from doctor required to return to work.

Effects of PPE

Heat stress may occur with or without the use of PPE. PPE adds layers of clothing that insulate the wearer from cooling air. Chemical protective clothing generally has a vapor barrier to keep out chemical vapors. The vapor barrier also prevents evaporative cooling of perspiration. In short, PPE increases the heat stress on workers.

Practical Methods to Reduce Heat Stress

These methods will be discussed during safety meetings:

- Become acclimated to heat for several days whenever possible. Plan work in the cooler portions of the day. Early morning hours and evening hours are cooler.
- Perform Site preparations before the field team dresses out. Instrument calibrations, equipment preparation, and planning for the work day, etc., should be performed before dressing in PPE.
- Take frequent breaks and consume at least one pint of cool fluid every hour. Replenish electrolytes through the consumption of diluted drinks. The body loses more water than electrolytes. Concentrated salt, electrolyte, or juices can increase susceptibility to heat stress.
- Avoid beverages with caffeine, which make the body lose water and increase risk for heat illnesses.

Occupational Exposure Standards

The EPA and the American Conference of Governmental Industrial Hygienists (ACGIH) have published heat stress monitoring recommendations. The EPA recommends heat-stress monitoring at temperatures above 70° F when chemical PPE is used.

The tabulated information assumes that no chemical PPE is being worn. Since chemical PPE tends to increase heat stress, ACGIH has published correction factors in the same standard. **OSHA *enforces the* ACGIH *recommendation.***

3.1.1.4 Noise

Personnel working around large construction equipment and loud, congested areas can be exposed to excessive noise causing temporary or permanent damage to hearing. The effects of noise can include:

- workers being startled, annoyed, or distracted;
- physical damage to the ear; and
- communication impediment that may increase potential hazards.

All personnel shall wear hearing-protective devices (i.e., either ear plugs or muffs) when noise levels interfere with normal speech. Hand signals will be established by on-site personnel, as appropriate, to facilitate communications while involved in high-noise activities.

3.1.1.5 Slip, Trip and Fall

Protection from slip, trip and fall hazards will be provided through standard safety procedures including good housekeeping. Removing equipment and debris, and taking general precautions during Site operations will be standard operating procedures. Workers will be apprised of any potential physical hazards through regularly scheduled health and safety meetings. Whenever possible, trip and fall hazards will be eliminated or clearly identified with yellow "caution" tape. Impalement hazards will be neutralized as soon as they are identified.

3.1.1.6 Overhead Utilities

Before equipment setup and excavation activities begin, all overhead utilities will be identified by all members of the crew. The construction contractor will be responsible for operation of equipment in a safe manner and follow the relevant regulations of 29 CFR 1926.952(c). These regulations require all operating equipment maintain minimum safe operating distances from overhead power transmission lines as given in 29 CFR 1926.950 (Table 4).

Table 4 – Minimum Safe Working Distances (Alternating Current)

Voltage Range (phase to phase) *(kilovolt)*	Minimum Working and Clear Hot Stick Distance *(Stick Distance)*
2.1 to 15	2 feet 0 inches
15.1 to 35	2 feet 4 inches
35.1 to 46	2 feet 6 inches
46.1 to 72.5	3 feet 0 inches
72.6 to 121	3 feet 4 inches
138 to 145	3 feet 6 inches
161 to 169	3 feet 8 inches
230 to 242	5 feet 0 inches
345 to 363	7 feet 0 inches[1]
500 to 552	11 feet 0 inches[1]
700 to 765	15 feet 0 inches[1]

[1] For 345-362 kv., 500-552 kv., and 700-765 kv., minimum clear hot stick distance may be reduced provided that such distances are not less than the shortest distance between the energized part and the grounded surface.

For most residential situations the minimum safe distance will be five feet. Whenever equipment is working near active overhead transmission lines a worker not located in or on the operating equipment is required to provide confirmation the minimum safe distances are being observed.

3.1.1.7 Underground Utilities

All excavations must comply with 29 CFR 1926.956(b) and 29 CFR 1926.651(b). These regulations include, but are not limited to:

- Before excavation activities begin, all utilities (i.e., electricity, natural gas lines, water lines, sewer lines, etc.) should be identified and located by the local utilities companies.
- The utilities companies should be notified within a reasonable amount of time before excavation activities are to take place to allow enough time for all utilities present to be located.
- When excavation operations approach the underground utilities, the exact location of the utilities will be found in a safe manner.

The construction contractor is responsible for compliance with these regulations.

3.1.2 Chemical Exposures

The effects of exposure depend on the chemical, its concentration, route of entry, and duration of exposure. Health effects may also be influenced by personal factors such as the individual's alcohol consumption, smoking habits, medical use, fitness and nutrition, age, and gender.

The following substances are of primary health concern due to their toxicity and concentrations on the Site. There are two categories of chemical hazards associated with Site activities:

- Site-related constituents (lead); and
- chemicals used to conduct Site work (*e.g.*, gasoline).

3.1.2.1 Site Constituents

For interim work, yards with lead concentrations above the 400 ppm action level only will be selected for cleanup. This section therefore provides information for lead.

Permissible Exposure Limit (PEL) – 0.05 mg/m^3 (8 hour workday)

The PEL is the maximum average time weighted concentration of a substance that a worker can be exposed to over a workday.

Action Level – 0.03 mg/m^3 (8 hour workday)

The action level is a time weighted average that indicates the level at which medical surveillance or increased industrial hygiene monitoring is required for a given substance.

Threshold limit value (TLV) – 0.05 mg/m^3

The TLV is a guideline that reflects the level of exposure to a substance that the typical worker can experience without an unreasonable risk of disease or injury as prepared by the American Conference of Governmental industrial Hygienists.

Acute lead poisoning manifests as lethargy, progression to coma, seizures, renal failure, and severe gastrointestinal symptoms. Lead accumulates in the body; chronic lead poisoning may be manifested by headaches, sleep disturbance, irritability, hypertension, anemia, constipation, and gastrointestinal symptoms. Accumulation in the peripheral nerves can lead to carpel tunnel and tarsal tunnel syndromes. Effects to the renal system can include renal failure and gout.

Lead enters the body primarily by inhalation. Poisoning can also develop from ingestion of lead via contaminated food, drink or tobacco products. Prevention of lead poisoning through ingestion is almost entirely achieved through good personal hygiene and housekeeping. Personal protective measures, including respiratory and personal hygiene will be covered during site health and safety briefings. Lead is regulated by OSHA in Standard 29 CFR 1910.1025 and 29 CFR 1926.62 for construction. These regulations will be adhered to within this project. Lead is present at the Site at elevated concentrations in foundry sands and soils in residential yards.

3.1.2.2 Hazard Communication Chemicals

Gasoline, motor oil, and other products will be brought onto the Site by project staff. These hazardous materials will be managed under each company's Hazard Communication Program. An inventory of all hazardous materials brought onto the Site, along with a copy of all MSDSs, will be available on Site.

3.1.3 Radiological Hazards

The XRF used in soil sampling for lead contains a radiation source. The model XRF proposed to be used for soil sampling on site is the Niton Xli-712. It uses americium-241 (Am^{241}) as a primary radiation source and has a maximum exposure of <0.1 mrem/hr while the shutter is open (the source exposed). Typical occupational exposure limits are 5,000 mrem/year, or 2-3 mrem/hr.

All project staff using this instrument are required to have training on proper use of the XRF, and need to be informed of the potential radiation exposure hazard inherent in using the instrument.

3.2 Training Requirements

All personnel performing sampling or activities associated with contaminated soil shall have received training in accordance with OSHA 29 CFR 1910.120(e) (3) or have gained experience equivalent to this training and documented in their respective company's files. Specifically, the training will include 40 hours of initial course instruction plus three days of actual field experience. The 40 hours of instruction will cover, at a minimum, the following items:

- hazard types;
- basic industrial hygiene;
- basic toxicology;
- worker rights and responsibilities under 29 CFR;
- environmental monitoring equipment;
- hazard evaluation;
- safe work practices;
- site safety plans;
- PPE;
- decontamination;
- emergency response;
- contingency plans; and
- engineering controls.

All Site personnel are responsible for completing and annual eight-hour OSHA refresher course. The SHSO will verify appropriate training for all project staff. Other specific OSHA training requirements may apply to specific tasks or additional tasks that occur as

part of this project, such as confined space training. The SHSO will determine these training needs as the project develops.

3.3 Medical Surveillance

Soil sampling and yard removal personnel will participate in a medical surveillance program as required by OSHA 29 CFR 1910.120(f). Due to the possible hazards presented at the Site, medical monitoring will be performed for all applicable personnel prior to initiation of field investigation activities. Site-specific medical monitoring includes:

- Blood lead and zinc protoporphyrin (ZPP), conducted by a qualified laboratory

Blood lead and ZPP analyses, as required in 29 CFR 1910.1025, will be repeated upon completion of field investigation activities, and/or within six months, whichever comes first. A comprehensive medical surveillance program including all provisions defined in 29 CFR 1910.125 will be implemented for all employees who are or may be exposed above the action level for more than 30 days per year. All medical surveillance conditions required by 29 CFR 1910.125 will be followed. Similar Site-specific monitoring will be required for subcontractor personnel involved in intrusive investigation activities. Medical monitoring records will be maintained by the Director of Human Resources. The SHSO will verify that personnel, as applicable, have received appropriate medical surveillance clearance prior to accessing the Site work areas.

Workers required to wear respirators will receive training and respirator fit-testing in accordance with the OSHA Regulation 29 CFR 1910.134. The medical evaluation will have categorized employees as fit-for-duty and able to wear respiratory protection. It is the responsibility of each employee to maintain proper medical documentation. The SHSO will maintain respirator fit-testing results on-site. Records will be maintained by the Director of Human Resources as well.

4.0 PERSONAL PROTECTIVE EQUIPMENT

The following are general safety procedures which will be implemented at the Site:

1. Foam, carbon dioxide, or dry-chemical fire extinguishers shall be provided on all heavy equipment and shall conform to the applicable requirements of 29 CFR 1926.

2. Electrical equipment and wiring on heavy equipment shall confirm to applicable requirements of Chapter 5 of the National Electric Code, 29 CFR, and 49 CFR.

3. Soil excavation, handling and transportation will be performed in a manner to minimize dust generation. Personnel shall not work in the area immediately downwind of any activities that generate dust.

4. Supervising Contractor employees shall be issued and utilize appropriate health and safety equipment as determined by the SHSO. The Construction Contractor will be responsible for issuing health and safety equipment to its employees, but shall meet the requirements of this plan at a minimum. Except in emergency cases, the Supervising Contractor workers and contractors shall be advised by the SHSO of changes in the degree of PPE prior to implementation.

5. PPE requirements shall be determined by personal air monitoring.

Based on an evaluation of the potential hazards, the initial level of PPE for sampling personnel and the Supervising Contractor will be:

- Steel toe work boots;
- Full length pants;
- Shirts with sleeves that reach the elbows;
- Hard hat (when around operating equipment);
- Leather/Cotton gloves (if necessary);
- Safety glasses (if necessary); and
- Safety vest (if near vehicular traffic).

Based on experience of EPA personnel already performing similar activities on Site the initial level of PPE defined for the intrusive activities on the project will be level D for the Construction Contractor personnel with potential to be exposed to lead from soil excavation and loading activities and Basic PPE for other personnel. For the Construction Contractor, Level D protection will be maintained on appropriate personnel unless personal air monitoring data indicates that Level D is inappropriate (Section 5.0) at which time personnel will be upgraded to Level Mod-D.

Table 5 – Levels of Protection

Activity	Levels Of PPE	
	Initial	Contingency
Soil sampling	Basic	-
Soil removal	D	Mod-D

Table 6 – PPE for Levels of Protection

Basic	Level D	Level Mod-D
Sturdy shoes/boots	Steel toe work boots	Steel toe work boots
Full length pants	Coveralls	Coveralls
Shirt with sleeves that reach the elbows	Leather/Cotton Gloves	Half-face air-purifying respirator equipped with appropriate cartridges
Leather/Cotton gloves, if necessary	Safety glasses	Leather/Cotton Gloves
Safety glasses, if necessary	Ear plugs/muffs, if necessary	Hard hat (ANSI-approved)
Safety vest, if near vehicular traffic	Hard hat (ANSI-approved)	Ear plugs/muffs, if necessary
	Safety vest	Safety vest Safety glasses

NO CHANGES TO THE SPECIFIED LEVELS OF PROTECTION SHALL BE MADE UNLESS APPROVED BY THE SHSO.

5.0 AIR MONITORING PROGRAM

At the start of construction activities, personal air monitoring will be conducted by the Construction Contractor for activities in which its personnel have the potential to be exposed to airborne dusts containing lead. At a minimum, one worker per crew with the highest potential for exposure will be monitored daily for one week. If the measured concentrations are below worker-protection action levels (see Section 3.1.2), the Construction Contractor will maintain the current level of PPE. If concentrations exceed action levels, the level of PPE will be upgraded and additional dust control measures will be implemented and the monitoring repeated. This will continue until action levels are met. If action levels are met after dust control measures are implemented the PPE level can be downgraded again. Sampling and analysis will be according to NIOSH- and OSHA-approved methods.

After this initial period the Construction Contractor will perform personal air monitoring on one employee at least one day every two weeks to verify that the level of PPE is appropriate. The Supervising Contractor may direct monitoring at properties where lead concentrations are higher.

6.0 DECONTAMINATION PROCEDURES

Disposable PPE will be disposed of in an appropriate trash receptacle. Reusable PPE should be cleaned per the manufacturer's recommendations. Equipment should be cleaned of gross amounts of soil by brush or scraper before leaving the Site. In addition, a hand washing station will be available for use before lunch and after each work day.

During soil removal activities, the excavation and loading area will be cordoned off by flagging or fencing and will be controlled. No unauthorized personnel shall proceed beyond the established security barrier. All unattended soil removal areas that exhibit elevated lead levels will be secured from unauthorized access during non-working hours.

To prevent the spread of contaminants from the work areas, all personnel, samples, and equipment leaving the designated soil removal area shall be thoroughly decontaminated. The following decontamination steps shall be performed in a designated area free of the hazards of the contaminated area.

Personnel (Level Mod-D)	1)	Remove hard hat and eye protection.
	2)	Remove gloves.
	3)	Remove respirator. .
	4)	Wash and rinse boots, gloves, and protective coverall.
	4)	Wash all exposed skin (face and hands).
	5)	Bag all disposable PPE and dispose of in a manner approved by the SHSO.
	6)	Wipe respirators after each use and clean at the end of the day with soap and water.
Personnel (for Level D)	1)	Wash and rinse boots and gloves.
	2)	Soap and water wash hands and face and exposed skin.
	3)	Shower and change as soon as possible upon exiting Site.
	4)	Wash all soiled clothing as soon as possible.
	5)	Bag all disposable PPE and dispose of in a manner approved by the SHSO.
Equipment:	1)	Scrape off encrusted material.
	2)	Soap and water wash equipment using brushes (high-pressure steam or water may be used).
	3)	Rinse equipment with water.
	4)	Continue washing and rinsing until clean.

Emergency decontamination procedures will include the following: decontaminate personnel and equipment using soap and water as much as possible prior to administering first aid procedures or transporting the victim to medical facility.

The following decontamination equipment is required:

- soap and water solution; and
- brushes.

7.0 EMERGENCY RESPONSE PLAN

7.1 Guidelines for Pre-Emergency Planning and Training

Employees must read this plan and familiarize themselves with the information in this chapter. Employees will be required to have a copy of this plan and a list of the emergency contacts and phone numbers immediately accessible on Site and to know the route to the nearest qualified emergency medical services.

7.2 Emergency Recognition

Emergency conditions are considered to exist if:

- Any member of the field crew is involved in an accident or experiences any adverse health effects or symptoms of exposure while on Site.
- A condition is discovered that suggests the existence of a situation more hazardous than anticipated.

In the event that any member of the work crew experiences any adverse health effects or symptoms of exposure while on the scene, the entire crew working in that area will immediately halt work and act according to the instructions provided by the SHSO or Site Manager.

The discovery of any condition that would suggest the existence of a situation more hazardous than anticipated will result in the evacuation of the work crew and re-evaluation of the hazard and the level of protection required.

7.3 Emergency Contacts

In the event of any situation or unplanned occurrence requiring assistance, the appropriate contact(s) should be made from the list below. For emergency situations, contact the appropriate emergency contacts immediately and then telephone or radio the Site Manager or SHSO Site emergency personnel who will then coordinate response.

Table 7 – Emergency Contacts

Emergency Contacts		Phone Number
Fire Department and Ambulance		911
Poison Control	24 hour information	1-800-366-8888
National Response Center	For spill reporting	1-800-424-8802
U.S. Environmental Protection Agency Environmental Response	For spill reporting	1-201-321-6660
EPA Region IV Gerald F. Foreé On Scene Coordinator		Cell 1-404-229-9530
Alabama Department of Environmental Management To Be Determined		
Ramada Inn – 300 Quintard Avenue, Anniston 36201		(256) 237-9777
Site Manager Thomas Schmittou		Cell 1-205-410-8684

Medical Emergency	Hospital	Phone Number
Ambulance	Northeast Alabama Regional Medical Center	911

Nearest Hospitals

The two nearest hospitals (Figure 2) are the Northeast Alabama Regional Medical Center and the Stringfellow Memorial Hospital. The Northeast Alabama Regional Medical Center is located in the southern portion of the project area and a map showing the location of the hospital is included as Figure 3. The Stringfellow Memorial Hospital is located in the northern portion of the project area and a map showing the location of the hospital is included as Figure 3.

The driving directions to the Northeast Alabama Regional Medical Center from the South are:

- Take Alabama Highway 21/Quintard Avenue North to 10th Street;
- Turn right onto East 10th Street; and
- Proceed East through one traffic light, two blocks and hospital is on the right.

Driving directions to the Northeast Alabama Regional Medical Center from the North are:

- Take Alabama Highway 21/Quintard Avenue South to 10th Street;
- Turn left onto East 10th Street at red light; and
- Proceed East through one traffic light, two blocks and hospital is on the right.

Driving directions to the Stringfellow Memorial Hospital from the South are:

- Take Alabama Highway 21/Quintard Avenue North to 18th Street;
- Turn right onto East 18th Street; and
- Proceed East one block and hospital is on the left.

Driving directions to the Stringfellow Memorial Hospital from the North are:

- Take Alabama Highway 21/Quintard Avenue South to 18th Street;
- Turn left onto East 18th Street; and
- Proceed East one block and hospital is on the left.

7.4 Personnel Roles, Lines of Authority, and Communication Procedures During Emergency

Table 8 – Employer Contacts

EMPLOYER CONTACTS	PHONE NUMBERS
Thomas Schmittou	Cell 1-205-410-8684
Others to be determined.	

In the event of a hazardous material emergency situation at any work area, the SHSO or the Site Manager will assume control and will be responsible for on-site decision making. These individuals have the authority to resolve disputes about health and safety requirements and precautions. They will also be responsible for coordinating all activities until emergency response teams (ambulance, fire department) arrive at the Site.

The Site Manager will ensure that the necessary personnel and agencies are contacted as soon as possible after the emergency occurs.

All on-site personnel must know the location of the nearest phone and the location of the emergency phone number list.

7.5 Evacuation Routes and Procedures, Safe Distances, and Places of Refuge

In the event of hazardous material emergency conditions, employees will evacuate the area, transport injured personnel, or take other measures to safely remedy the situation. Evacuation routes and safe distances will be determined by the SHSO and the field team prior to initiating work.

7.6 Accident Prevention

All hazardous waste site activities present a degree of risk to on-site personnel. During routine operations, risk is minimized by establishing good work practices, staying alert, and using proper PPE. Unpredictable events such as physical injury, chemical exposure, or fire may occur and must be anticipated. All employees are encouraged to participate in Red Cross first aid and cardio-pulmonary resuscitation (CPR) courses in order to more effectively handle physical and medical emergencies that may arise in the field.

The discovery of any condition that would suggest the existence of a situation more hazardous than anticipated will result in the evacuation of the work crew from the work area and re-evaluation of the hazard and the level of protection required.

7.7 Emergency Site Security and Control

For this project, the SHSO (or designated representative) must know who is performing activities associated with the work on Site and who is in the work area. Personnel access into the work area must be controlled. In an emergency situation, only necessary rescue and response personnel should be allowed into the designated area.

7.8 Procedures for Emergency Medical Treatment and First Aid

7.8.1 Personal Injury

In the event of personal injury: Workers will be trained in first aid and CPR either through or equivalent to American Red Cross standards. These individuals will be on-site to administer treatment to an injured worker. At least one trained worker for the Supervising Contractor will be onsite while work is being performed. The construction contractor will be required to have one trained employee per work crew. A first aid kit will be available on-site which meets OSHA 1910.151, Appendix A. The victim should be transported to the nearest qualified hospital or medical center. If necessary, an ambulance should be called to transport the victim. A Site medical emergency plan will be developed during initial project meetings. The SHSO is responsible for the completion of an Accident Report Form included as Appendix B to this plan.

7.8.2 Fire or Explosion

In the event of fire or explosion, personnel will evacuate the area immediately. Administer necessary first aid to injured employees. Personnel will proceed to a safe area and phone the local fire department. Upon contacting the fire department, state your name, nature of the hazard (fire, high combustible vapor levels), the location of the incident, and whether there were any physical injuries requiring an ambulance.

8.0 RECORD OF HEALTH AND SAFETY PLAN REVIEW

The undersigned have reviewed the contents of the HASP for the residential cleanup at the Anniston Lead Site. The undersigned understands the means and objectives of the interim work and have been fully apprised of the risks and hazards involved in accomplishing the work. The undersigned further agrees to comply with the requirements and protocols set forth in this document.

NAME	SIGNATURE	DATE

Appendix A

PLAN ADDENDA

ACCIDENT REPORT FORM

Employee Injury or Illness:

Name: _____ Date: _____
Occupation: _____ Part of body: _____
Nature of injury or illness: _____
Object/equipment/element inflicting injury or illness: _____
Person with most control o f object/equipment/etc.: _____
Job or activity at time of accident: _____
Exact location: _____

Property Damage:

Property damaged: _____
Estimated cost: _____ Actual cost: _____
Nature of damage: _____
Object/equipment inflicting damage: _____
Vehicle Speed: _____ Registration No: _____
Department: _____
Date of Occurrence: _____ Time: _____
Date Reported: _____

Describe clearly how the accident occurred (what happened) for all motor vehicle accidents, draw a diagram on the other side:

_____

_____

_____

_____

The cause of the accident: What acts, failure to act, and/or conditions contributed most directly to this accident? Describe unsafe acts and/or unsafe conditions:

_____

_____

_____

Explain specifically why these act and/or conditions existed:

Loss of Severity Potential: ☐ Minor ☐ Serious

Probable Recurrence Rage: ☐ Frequent ☐ Occasional ☐ Rare

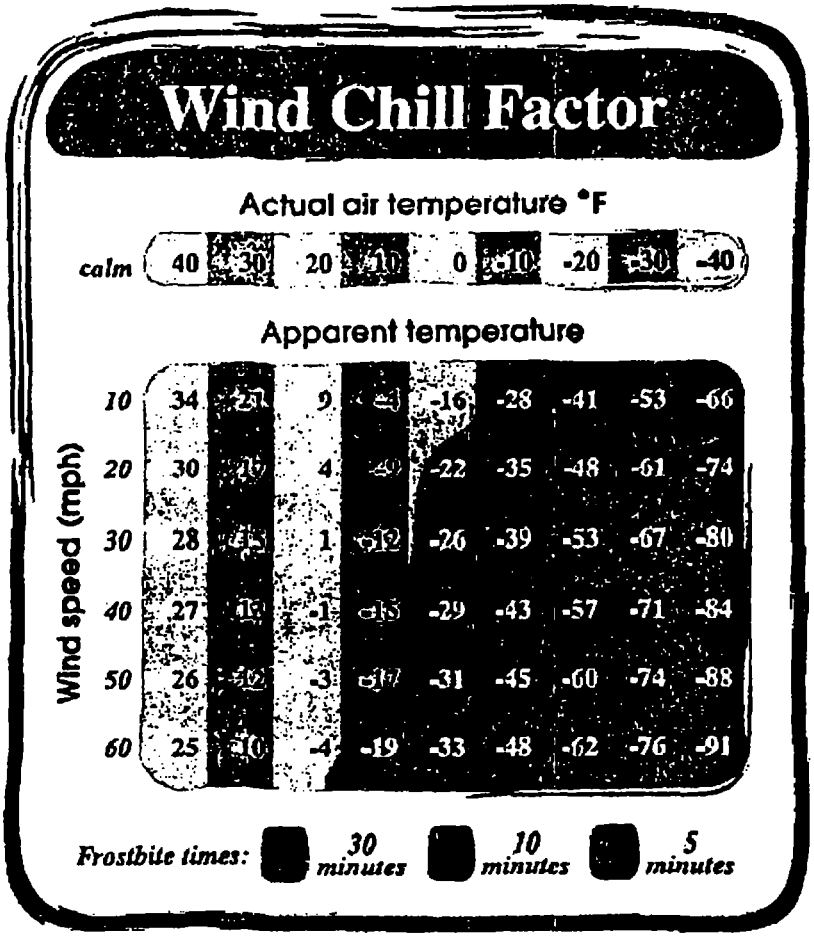
What action has or will be taken to prevent recurrence? (List items, then place and "x" by items completed and date)

Supervisor of Injured Person: _____ Date: _____

Reviewed by Manager: _____ Date: _____

Appendix C

WIND CHILL CHART



National Weather Service (NWS) Wind Chill Chart adapted May 2004 from http://www.nws.noaa.gov/om/windchill/

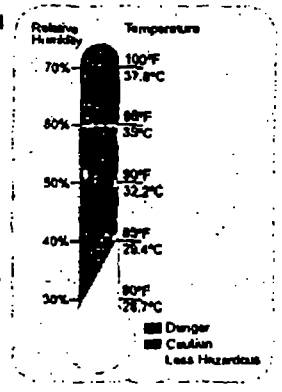
Appendix D

HEAT STRESS EDUCATION POSTER

The Heat Equation

HIGH TEMPERATURE + HIGH HUMIDITY + PHYSICAL WORK = HEAT ILLNESS

When the body is unable to cool itself through sweating, serious heat illnesses may occur. The most severe heat-induced illnesses are heat exhaustion and heat stroke. If left untreated, heat exhaustion could progress to heat stroke and possible death.



U.S. Department of Labor
Occupational Safety and Health Administration
OSHA 3154
2002

Heat Exhaustion

What are the symptoms?

HEADACHES; DIZZINESS OR LIGHTHEADEDNESS; WEAKNESS; MOOD CHANGES SUCH AS IRRITABILITY, CONFUSION, OR THE INABILITY TO THINK STRAIGHT; UPSET STOMACH; VOMITING; DECREASED OR DARK-COLORED URINE; FAINTING OR PASSING OUT; AND PALE, CLAMMY SKIN

What should you do?

- Act immediately. If not treated, heat exhaustion may advance to heat stroke or death.
- Move the victim to a cool, shaded area to rest. Don't leave the person alone. If symptoms include dizziness or lightheadedness, lay the victim on his or her back and raise the legs 6 to 8 inches. If symptoms include nausea or upset stomach, lay the victim on his or her side.
- Loosen and remove any heavy clothing.
- Have the person drink cool water (about a cup every 15 minutes) unless sick to the stomach.
- Cool the person's body by fanning and spraying with a cool mist of water or applying a wet cloth to the person's skin.
- Call 911 for emergency help if the person does not feel better in a few minutes.

Heat Stroke–A Medical Emergency

What are the symptoms?

DRY, PALE SKIN WITH NO SWEATING; HOT, RED SKIN THAT LOOKS SUNBURNED; MOOD CHANGES SUCH AS IRRITABILITY, CONFUSION, OR THE INABILITY TO THINK STRAIGHT; SEIZURES OR FITS; AND UNCONCIOUSNESS WITH NO RESPONSE

What should you do?

- Call 911 for emergency help immediately.
- Move the victim to a cool, shaded area. Don't leave the person alone. Lay the victim on his or her back. Move any nearby objects away from the person if symptoms include seizures or fits. If symptoms include nausea or upset stomach, lay the victim on his or her side.
- Loosen and remove any heavy clothing.
- Have the person drink cool water (about a cup every 15 minutes) if alert enough to drink something, unless sick to the stomach.
- Cool the person's body by fanning and spraying with a cool mist of water or wiping the victim with a wet cloth or covering him or her with a wet sheet.
- Place ice packs under the armpits and groin area.

How can you protect yourself and your coworkers?

- Learn the signs and symptoms of heat-induced illnesses and how to respond.
- Train your workforce about heat-induced illnesses.
- Perform the heaviest work during the coolest part of the day.
- Build up tolerance to the heat and the work activity slowly. This usually takes about 2 weeks.
- Use the buddy system, with people working in pairs.
- Drink plenty of cool water, about a cup every 15 to 20 minutes.
- Wear light, loose-fitting, breathable clothing, such as cotton.
- Take frequent, short breaks in cool, shaded areas to allow the body to cool down.
- Avoid eating large meals before working in hot environments.
- Avoid alcohol or beverages with caffeine. These make the body lose water and increase the risk for heat illnesses.

What factors put you at increased risk?

- Taking certain medications. Check with your health-care provider or pharmacist to see if any medicines you are taking affect you when working in hot environments.
- Having a previous heat-induced illness.
- Wearing personal protective equipment such as a respirator or protective suit.

APPENDIX 8
ZONE A PROPERTIES SUBJECT TO PCB EXCLUSION

1. 12 Gray St.
2. 8 Gray St.
3. 1900 Constantine Ave.
4. 1600 Constantine Ave.
5. 316 Elm St. (Constantine Homes)
6. 1200 Johnson Ave.
7. 1 Sunrise Dr.

N

Legend

Calhoun Co Streets

Zone A

Zone B

Zone C

Zone D

0 0.25 0.5 1 1.5 2 Miles

Anniston Lead Site AOC Appendix 9 All Zones Map