

AGREEMENT BETWEEN THE QUAPAW TRIBE OF OKLAHOMA AND THE STATE OF OKLAHOMA FOR REMEDIATION OF CONTAMINATED PROPERTIES AT THE TAR CREEK SUPERFUND SITE

The Parties to this Agreement, the Quapaw Tribe of Oklahoma (Tribe) and the State of Oklahoma (State) hereby agree that the Tribe will remediate certain contaminated properties pursuant to the Environmental Protection Agency's (EPA) OU4 Tar Creek Record of Decision (ROD). The State enters into this Agreement under the authority of Oklahoma Statutes, Title 27A §§ 1-3-101 and 2-3-202 and other relevant statutes and rules.

ARTICLE 1

DESCRIPTION OF PROJECT: Landowners within the OU4 boundaries are being given an opportunity to have their property sampled and remediated if necessary. Attachment A is the statement of work which defines the work to be done.

ARTICLE 2

COSTS FOR REMEDIATION OF CONTAMINATED PROPERTIES: Oklahoma Department of Environmental Quality (DEQ) has requested approximately \$2 million dollars in funding from EPA to characterize and remediate properties that are part of the Tar Creek OU4 Superfund Site as defined in the ROD. Negotiated site specific costs will be attached as Attachment B.

ARTICLE 3

DURATION OF AGREEMENT: The Agreement begins May 1, 2015 and terminates April 30, 2016. This Agreement may be renewed annually. It is understood, acknowledged and agreed by and between the parties hereto that this Agreement is funded with federal dollars under a Cooperative Agreement between EPA and DEQ. If said funding is terminated or reduced for any reason, this Agreement shall also and necessarily be terminated or reduced accordingly and the respective obligations and duties of the DEQ and Tribe shall thereupon cease or be modified accordingly as of the effective date of such termination or failure to receive funding. Within 30 days of learning that the federal funding shall cease or be reduced, the DEQ shall notify the Tribe in writing of any such termination or reduction in funding.

ARTICLE 4

PAYMENT: The Tribe shall submit invoices for payment to DEQ within sixty (60) days of the end of the month in which the work was performed and accepted by DEQ. Each invoice must include an itemized statement of work performed and any additional information as requested by the DEQ. DEQ will confirm and accept performance of the itemized work in each invoice and provide payment to the Tribe within forty five (45) days thereof in accordance with Attachment A. The original amount of this Agreement is for \$2 million dollars. This amount may change

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OKLAHOMA SECRETARY OF STATE

depending on the addition of future projects through Agreement amendments and will be documented in a purchase order prepared by the DEQ.

ARTICLE 5

AUDIT: Authorized personnel of the DEQ or the State Auditor and Inspector shall have right of access to any and all documents, books, papers, accounting procedures, practices or any other items relevant to this Agreement.

ARTICLE 6

RECORDS: Tribe agrees to maintain all supporting documentation and required records for ten (10) years in accordance with generally accepted audit standards. All information generated by virtue of this Agreement shall become the property of the State and, unless otherwise allowed by law and agreed in writing, shall be subject to public access.

ARTICLE 7

GOVERNING LAWS: This Agreement shall be governed by the laws of the State of Oklahoma with respect to all contractual disputes, and jurisdiction and venue for such matters shall be in any state or federal court with jurisdiction.

ARTICLE 8

AMENDMENT AND TERMINATION: This Agreement may be modified, changed or amended only by an instrument in writing, signed and dated by the parties and appended hereto. No statements or promises made by any party or its representatives that are not contained in this Agreement shall be valid or binding.

This contract is subject to termination upon thirty (30) days advance written notice by either party in whole or in part when it is determined that either party has failed to comply with any of the conditions of this Agreement or may be terminated in whole or in part in writing for convenience. Notice of termination shall be made by Certified Mail to the business address of record.

The address for DEQ is:

Legal: Martha Penisten
General Counsel
(405) 702-7184

Technical: Rita Kottke
Environmental Programs Manager
(405) 702-5100

Oklahoma Department of Environmental Quality
PO Box 1677
Oklahoma City, OK 73101-1677

Address for the Tribe:

Tim Kent, Environmental Director
Environmental Office
Quapaw Tribe of Oklahoma
PO Box 765
Quapaw, OK 74363
(918) 542-1853

With a copy to:

Stephen R. Ward
Conner & Winters, LLP
4000 One Williams Center
Tulsa OK 74172-0148
(918) 586-8978

ARTICLE 9

DUTIES AND RESPONSIBILITIES:

A. The Parties agree that the Tribe will:

1. Assume all responsibility for work, workmanship, materials, labor, equipment, supplies, pollution prevention, cleanup, complaints, re-performance, maintenance, and all other associated work, including sampling and analysis.
2. Provide all services, labor, materials, equipment, subcontractors, supplies and insurance required to perform the remediation in accordance with the approved statement of work (SOW), including schedule, unit price cost estimate, maps, storm water control plan, maintenance plan and reports, attached hereto and incorporated as part of this Agreement.
3. Prepare and submit monthly progress reports no later than 5 working days from the end of the monthly reporting period to the DEQ detailing the status of activities, including progress, problems, delays and anticipated activities for the following month. Update and submit a project schedule that describes where and when work will start and end.
4. Submit any proposed revisions of the SOW, including a schedule and cost estimates to the DEQ for approval within 45 days prior to conducting work inconsistent with the original, approved SOW.
5. The contaminated material removed will be field verified by a weight ticket for tracking purposes.

B. The Parties agree that the DEQ will:

1. Obtain written permission to access and conduct work on each property. Any sampling or remediation of the contaminated property is contingent upon obtaining written access from the property owner. That includes access for the Tribe, DEQ and EPA.

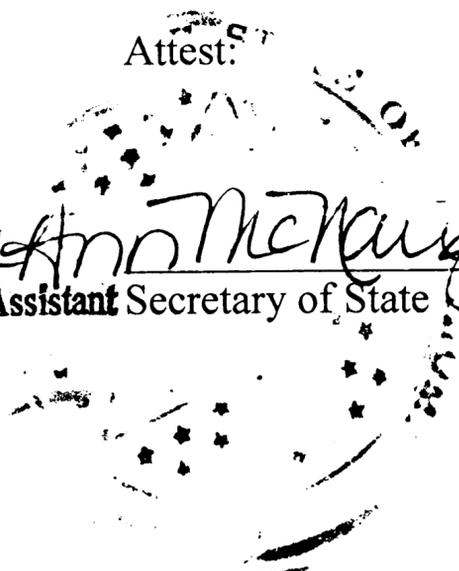
2. Approve, in conjunction with EPA, a repository for contaminated material excavated during this remediation effort.
3. Provide technical oversight as needed.
4. Provide other analysis as needed.
5. Provide assistance to the Tribe with community involvement activities as requested.
6. Confirm project completion within 90 days of notification by the Tribe that the project is complete.

Nothing in this Agreement binds the DEQ to the manner, schedule and suitability of materials or workmanship performed by the Tribe.

IN WITNESS WHEREOF, the STATE OF OKLAHOMA and the QUAPAW TRIBE OF OKLAHOMA have caused this Agreement to be executed and effective on the date of the last signature.

STATE OF OKLAHOMA

Mary Fallin 4-30-15
 MARY FALLIN, GOVERNOR DATE

Attest:

Jeffrey McNaughton Hayes
 Acting Assistant Secretary of State

QUAPAW TRIBE OF OKLAHOMA

John L. Berrey 4-27-15
 JOHN L. BERREY, CHAIRMAN DATE

**A Work Plan for Remedial Action for Operable Unit 4, Distal 6a located
in the Tar Creek Superfund Site In Ottawa County, Oklahoma**

March 6, 2014

Revised April 16, 2014

Revised August 28, 2014

Submitted to:
Kathy Gibson
Superfund Division
EPA, Region 6

Submitted by:

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Environmental Programs Specialist
Land Protection Division
Department of Environmental Quality

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Environmental Engineer
Land Protection Division
Department of Environmental Quality

Amy Brittain
Environmental Program Manager
Land Protection Division
Department of Environmental Quality

1. Introduction

1.1. Purpose

Region 6 of the U.S. Environmental Protection Agency (EPA) is sampling and remediating chat piles, mill ponds, and other contaminated areas that are located at the Tar Creek Superfund Site located in Ottawa County, Oklahoma as described in the Tar Creek Operable Unit 4 Record of Decision. This Cooperative Agreement will allow the State of Oklahoma Department of Environmental Quality (DEQ) to contract for the remediation of a portion of the Operable Unit 4 (OU4) Distal cleanup areas, as listed in Section 3 of this Work Plan. This work plan is for a one year period starting in April 2014 and may be renewed yearly.

Strategic Plan Objective 3.3: Restore Land. Prepare for and respond to accidental or intentional releases of contaminants and clean up and restore polluted sites. By 2015, complete assessments at potential hazardous waste sites to determine if they warrant Comprehensive Emergency Response, Compensation, and Liability Act (CERCLA) remedial response or other cleanup activities. The contaminated lands such as those found in the Tar Creek area pose risks to human health and the environment. The funding of this project would provide significant benefits for the State of Oklahoma, the Quapaw Tribe of Oklahoma, and EPA by allowing the State to assist in remediating the contamination at the site.

1.2. Background

The Tar Creek area encompasses the Oklahoma portion of the historic Tri-State Mining District, where lead and zinc were mined in underground drifts and milled at the surface from about 1900 to 1960's. When mining ceased, huge volumes of mining waste, including chat and mill tailings, were left on the surface. These wastes contain elevated concentrations of lead and zinc and contributed to elevated blood lead concentrations in approximately 33% of area children. Approximately 300 miles of underground mine tunnels underlie the Oklahoma portion of the District. More than 1,320 mine shafts and thousands of exploratory boreholes, air vents were abandoned. Since mining ceased, subsidence has occurred in several areas due both to roof collapse and erosion of mine shafts, and as the mine pool filled with water, the oxidation of exposed minerals generated acidic mine water that has severely impacted the Boone aquifer and in 1979, acid mine water began flowing into surface waters, severely impacting surface water quality. Contaminants may be leached from waste sources and migrate to surface waters that are used for recreational uses.

The Tar Creek area covers approximately 40 square miles in far northeastern Oklahoma and affected the towns of Quapaw, Commerce, Picher, North Miami and Cardin. In 2006, the towns of Picher and Cardin were involved in a buyout of approximately 882 homeowners, land owners

and businesses. Therefore these towns do not exist anymore even though a few people remain in the area. The 40 square miles include both allotted Indian Land, which is restricted properties (members of the Quapaw Tribe and other tribes are the beneficial owners) and unrestricted properties. The restricted properties are managed by the Bureau of Indian Affairs.

Under the Residential Areas Operable Unit 2, Record of Decision, August 1997 (OU2), EPA began removal actions of lead contaminated soils in 1996. Over 2,800 residential properties have been remediated by EPA in the affected towns. Children in this area are exposed to relatively high concentrations of lead (in the chat) through direct contact and ingestion. Many children in the Tar Creek area have had elevated blood lead concentrations, above the 10µg/dl health based limit. The high lead concentrations in the soils are related to the presence of chat being hauled into some of the residential properties, parks, alleyways, etc. There is an ongoing work of continuing the cleanup of additional residential properties with soil lead concentrations in excess of 500 mg/kg.

In 2005, the State of Oklahoma under what was called the Oklahoma Plan began cleaning up some contaminated areas and restoring 329 acres of land to beneficial use. In 2010, EPA began the implementation of the Operable Unit 4 Record of Decision. This includes 252 acres of land restored with a total area of 1,136 acres returned to beneficial use.

2. STATEMENT OF WORK

1. DEQ personnel will review reports of the project progress and meet with the EPA, the Quapaw Tribe, and other personnel pertaining to the project.
2. Travel for the DEQ personnel to visit the site and to attend meetings concerning the project, as needed. This is required for the DEQ to provide technical input and support on the project and keep up to date with the site's status. Travel to Dallas, Texas to meet with EPA Region VI officials may also be needed.
3. DEQ will use a state intergovernmental contract with the Quapaw Tribe of Oklahoma to perform a cleanup of the OU4, Distal 6a property.
4. DEQ will review invoices, documents, reports, test results, and papers prepared for the project. This will include attending meetings.
5. DEQ will work with EPA and landowners to develop and place institutional controls at properties as needed.
6. DEQ will assist the EPA Region VI and the Quapaw Tribe in sampling of the waste, soil, and other media at the site, site visits, and holding meetings. Project specific quality assurance plans, sampling plans, and other work plans will be developed as necessary.

3. Properties Where Work Will be Performed

The property where work will be performed is the Operable Unit 4, Distal 6a Site.

4. Community Involvement

1. DEQ will review and/or prepare fact sheets and press releases to the local community as needed and have EPA review these documents.
2. DEQ will also attend or host public meetings as necessary.
3. EPA will be notified when the public meetings are to be held.

5. Oversight

DEQ will oversee the work as follows:

1. Administer the grant, including review, approval and payment of invoices;
2. Review project work plans;
3. Travel to the project site and attend any meeting concerning the project;
4. The Quapaw Tribe will assist with community relations activities if needed;
5. Travel to Region 6 offices to meet with EPA regarding the site; and
6. Collect and analyze environmental data as necessary.

6. Outputs

1. DEQ will oversee remediation work of contaminated soil and chat as necessary.
2. Any information concerning site contaminants will be presented to EPA.
3. EPA will be updated on a weekly basis by phone calls and/or meetings.
4. Submit to EPA a final report that summarizes work, outputs and outcomes as described in this work plan.
5. Prepare and submit to EPA quarterly progress reports.
6. Prepare and submit to EPA quarterly financial reports.

7. Outcomes and Measurements

Outcomes for this project coincide with EPA Strategic Plan: Objective 3.3: Restore Land. Prepare for and respond to accidental or intentional releases of contaminants and clean up and restore polluted sites. By 2015, complete assessments at potential hazardous waste sites to determine if they warrant Comprehensive Emergency Response, Compensation, and Liability Act (CERCLA) remedial response or other cleanup activities.

- Remove chat
- Remove and/or cap mill pond material

- Remove or stabilize contaminated soils, grade areas for proper drainage and collect and analyze confirmation samples.
- Vegetate the areas that have been cleaned up
- Fill and cap subsidence features as needed

7. Deliverables

1. Quarterly progress and financial status reports within 30 days after the end of each federal quarter.
2. Submit to EPA a draft final report for review and approval that is prepared by the Quapaw Tribe that summarizes work, outputs, and outcomes within 90 days after completion of the project. Once approved then submit the final report to EPA.

State Match

This application includes 90% federal dollars and 10% state dollars.

Appendix 1

**Addendum to the Cooperative Agreement for
Remedial Action Cleanup for Distal 6a
Tar Creek Superfund Site Operable Unit 4
March 26, 2014
Revised April 16, 2014
Revised August 28, 2014**

**Addendum to the Cooperative Agreement for
Remedial Action Cleanup for Distal 6a
Tar Creek Superfund Site Operable Unit 4**
March 26, 2014
Revised April 16, 2014
Revised August 28, 2014

Introduction

The Environmental Protection Agency (EPA) has proposed to fund the Oklahoma Department of Environmental Quality (DEQ) to contract directly to remediate contaminated source material (chat, bull rock, fine tailings, and smelter waste), and transition zone soils within the distal areas of the Tar Creek Superfund Site. The contractor will conduct work in accordance with this project plan for the Distal 6a site, which conforms to the Record of Decision (ROD) for the chat piles, other mine and mill wastes and smelter waste, known as Operable Unit 4 (OU 4).

Project Narrative

Mine tailings known locally as chat are found in Ottawa County in large piles covering many acres and attaining several hundred feet in height. These tailings are the result of historical mining practices. The chat contains varying concentrations of lead and zinc (and few other heavy metals) that remain as contaminants as a result of incomplete ore processing.

Site Description

The Tar Creek Superfund site is part of the Tri-State Mining District located at the junction of Oklahoma, Kansas, and Missouri. The site has no clearly defined boundaries, but consists of the areas of Ottawa County impacted by mining waste. The superfund site includes all of the area (approximately 40 square miles) in northern Ottawa County where lead and zinc mining operations were conducted and any area where a hazardous substance from mining or milling in Ottawa County has been stored or disposed. This ROD for OU4 focuses on the 40 square mile area. The superfund site also includes all suitable areas in very close proximity to the contamination necessary for implementation of the response action. The superfund site is bounded by the State of Kansas to the north. The principal Site communities include Commerce, North Miami, and Quapaw.

This project is part of the Distal 6 group of the Tar Creek Superfund Site. This represents a small part of the overall site. The site is called Distal 6a and includes a chat base (CB011N), bull rock and at least one mine shaft. It is located in the north half of Section 6 Township 28 North (T28N) Range 24 East (R24E) in Ottawa County, Oklahoma. There are several parcels which are shown in the attached map that will be remediated through this project. Two parcels on the Distal 6a site have been remediated under the residential cleanup (OU2) (See attachment A).

Additional residential properties may need to be remediated along with transition zone soils and a tributary to Beaver Creek.

Proposed Site Specific Statement of Work (SOW)

The objective is to remove exposure and meet the remedial action objectives (RAO)s in contaminated properties by remediating contaminated source material (chat piles / bases, other mine and mill wastes and smelter waste) and transition zone soils, known as Operable Unit 4.

The remediation of the Distal 6a project will consist of the following:

1. The Contractor will provide all labor, design documents, materials, equipment, supplies, services, and subcontracts to perform the remediation work.
2. The work will consist of removing source material (chat, bull rock, fine tailings and smelter waste) from contaminated grids (shown on attached Distal 6a property map), then sample transition zone soils followed by evaluation and implementation of a remedy which may include excavation, deep tilling, depth averaging, or applying soil amendments. Following this, the site will be restored with grading, soil amendments and vegetation. A third phase may involve evaluation and remediation of chat in the nearby creek.
3. The DEQ will obtain property owner access and consent for construction. DEQ/Quapaw Tribe will provide to the Contractor any signed consent agreements that it has received.
4. The DEQ will develop a Community Involvement plan prior to beginning of work.
5. The Contractor will prepare a sign and post it at the site which provides the appropriate contacts for obtaining information on activities being conducted at the site, and for reporting suspected criminal activities
6. The Contractor will coordinate and work with each property owner to ensure that all areas are cleaned up. The Contractor will submit (or reference) various plans described below to the DEQ and EPA for review and approval.
7. The Contractor will develop and implement a site work plan for review and approval by DEQ and EPA. This plan will include estimated cost for the Distal 6a project and a work schedule.
8. The Contractor will prepare a Health and Safety Plan. The plan will include the location of the nearest hospital, a section on the hazards of lead, cadmium and zinc, a discussion of how to minimize any contamination of any individual, general construction safety issues, a discussion of how 29 CFR 1910 will be met, etc.
9. The Contractor will develop a complaints resolution plan and resolve any complaints about the work.
10. The Contractor will develop a site specific Quality Assurance Project Plan and provide appropriate quality assurance and quality control of the work.
11. The Contractor will develop the following site specific plans (or incorporate by reference any appropriate existing site wide plans) to be submitted to DEQ and EPA for review and approval prior to the start of construction work or sampling activities:
 - Site Work Plan with Cost estimates and schedule

- Field Sampling Analysis Plan
 - QA Project Plan
 - Site Health and Safety Plan
 - Site Management Plan
 - Storm Water Pollution Prevention Plan
 - Construction Quality Assurance Plan
 - Transportation Plan
 - Spill Response Plan
 - Disposition Plan
 - Mine Shaft Closure Plan
 - Close Boring Abandonment Procedures
 - Waste Management Plan
 - Spill Response Plan Complaints Resolution Plan
12. Remediation controls, such as wetting, shall be employed to stop fugitive dust generation. Haul trucks shall use covers when hauling soil. Haul routes shall be established and followed. A decontamination area or other means shall be employed to prevent tracking contaminated dirt offsite. The trucks will be decontaminated if used to haul clean soil.
 13. Excavated contaminated source material or TZ soils will be placed in a truck and hauled to a DEQ and EPA approved repository. Soil will be “end dumped” at the site. The material dumped at the repository will be used for remediation and restoration activities at the repository. The Contractor will establish a method to track material excavated from the contaminated areas, such as ticketing or other approved method.
 14. The Contractor will be responsible for design, site grading, and vegetation, including any necessary surveying, and will construct work to insure proper drainage so that water does not pond on the property and that drainage from the property is properly channeled to avoid erosion and flooding.
 15. A vegetative cover will be established on the remediated areas. The Contractor will amend the soils and place seed or use other approved cover for the remediated grids. The Contractor will ensure vegetation is established by watering as needed.
 16. The Contractor will develop and prepare a Remedial Action Report.
 17. The Contractor will provide surveying and placement support for any required Institutional Controls.
 18. Changes to the statement of work, either cost or work, will be submitted to the DEQ for approval prior to implementing changed work.

Cost Estimate:

The cost estimate is listed in Table 1 with the detail cost estimated in Attachment B.

Table 1: Summarized Cost Estimate

Description	Cost
Preparation of Site-Specific Plans, Pre-construction Submittals, and Project Engineering Support	\$170,284
Site Mobilization	\$56,090
Site Preparation	\$107,120
Preparation of Access Road	\$36,060
Removal, Transportation, & Disposal of Source Material & TZ Soils	\$1,030,710
Filling & Capping of Mine Shaft, Cased Borings, and Removal of Asphalt Piles	\$12,500
Water Management and Stream bank Stabilization	\$51,625
Confirmation Sampling and Analysis	\$14,550
Site Restoration (includes survey and placement of Institutional Controls)	\$85,908
Decontamination and Demobilization	\$89,000
Follow-up Monitoring and Maintenance of Pre-Operational Remedy	\$19,000
Health and Safety Incentive	\$7,674
Performance and Payment Bond	\$20,000
Total	\$1,700,521

Planned Scheduled/Output

This project is anticipated to be completed within a twelve (12) months.

Project Management

The DEQ will be responsible for the management of the Cooperative Agreement and for general project management and oversight of the Contractor. DEQ will have ultimate authority in ensuring the quality and effectiveness of the remediation.

See March 6, 2014, DEQ Work Plan for additional details on Project Management Statement of Work tasks.

Planned Schedule:

The Contractor will submit a detailed project schedule in the site work plan. Updates to the project schedule shall be conducted as needed and as issues arise. Schedule status will be reported to the EPA in DEQ Quarterly Reports.

Designation of Lead Site Project Manager

The lead site project manager for the remediation will be Dennis L. Datin, engineer with the Oklahoma Department of Environmental Quality (DEQ). Angela Hughes, Program Manager with the DEQ will be the manager in charge of the project.

Community Involvement Plan

A site-specific Community Involvement Plan (CIP) will be developed by the DEQ using the current site-wide community involvement plan as soon as funding is available. Fact sheets and other community involvement activities will be performed as necessary.

Health and Safety Plan

A site-specific Health and Safety Plan (HSP) will be developed by the Contractor and submitted to EPA Region VI before field activities begin, in accordance with 40 CFR part 35 Subpart O, Section 35.6105(a)(2)(v). The HSP will ensure the protection of on-site personnel and area residents. DEQ will follow its April 2012, Revised August 2014, Tar Creek OU1, OU2, and OU4 HSP, (See Attachment C) and update the document as needed.

Quality Assurance

A Quality Assurance Project Plan (QAPP) will be prepared as needed. The DEQ currently is operating under an EPA-Approved Quality Management Plan (QMP) dated November 6, 2013 (See Attachment D). All remedial activities for the proposed project will comply with the existing Site-Wide Quality Assurance Plan developed for EPA by CH2M Hill. The Contractor will be required to submit a site-specific QA/QC Plan before field work begins. QAPPs will also be developed for all proposed data collection activities associated with successful completion of the project.

Project Deliverables

Project deliverables will be both administrative and technical in nature. The administrative deliverables will include (1) quarterly reporting to the EPA-designated Project Officer on the progress made toward the individual work plan tasks along with the financial updates, (2) a final report documenting the successful completion of all work plan tasks, and (3) all other certifications and forms required to successfully administer and close-out this EPA Cooperative Agreement. The technical/remediation deliverables will include (1) regularly schedule calls with the EPA-designated Remedial Project manager (RPM) to report progress, (2) a final walk through with EPA and DEQ Staff and Contractor representatives prior to close-out, and (3) a remedial action report.

CERCLA Assurances

Operation and Maintenance

The state of Oklahoma will assume responsibility for future operations and maintenance when the Site is completed as listed in the Record of Decision in accordance with O&M provisions of the Superfund State Contract for OU4 (2009).

Cost Sharing

The state of Oklahoma will assume 10% of the remedial action costs through this Cooperative Agreement.

Twenty-Year Waste Capacity of Off-site Disposal Location

A relative small amount of source material will be disposed of on-site in an open mine shaft. The rest of the material will be hauled to a designated EPA approved repository or an EPA approved subsidence feature. The repository is operated by the EPA and its contractors at the Central Mill Tailing Pond on E. 40 Road in Picher, OK. The subsidence feature is near Hockerville, Oklahoma. There is more than adequate amount of space in the repository or subsidence to receive this material.

Off-site Storage, Treatment, or Disposal of a Hazardous Waste

Off-site storage, treatment, or disposal of a hazardous waste is not required for this site.

Real Property Acquisition

There will be no real property acquisition for this project.

Attachments:

- A. Project Map
- B. Cost Estimate
- C. April 2012, Revised August 2014 HSP
- D. QMP cover page

Statement of Work Cost Estimate for Remedial Response at Distal 6a CB011N (4-16-14)

Line Items	Quantities	Unit	Unit Price	Subtotal
1 Preparation of Site-Specific Plans, Pre-construction Submittals, and Project Engineering Support				
a. Site Work Plan	1	PLAN	\$2,500.00	\$2,500.00
b. Field Sampling and Analysis Plan	1	PLAN	\$2,500.00	\$2,500.00
c. QA Project Plan	1	PLAN	\$2,500.00	\$2,500.00
d. Site Management Plan	1	PLAN	\$1,500.00	\$1,500.00
e. Stormwater Pollution Prevention Plan	1	PLAN	\$4,500.00	\$4,500.00
f. Construction Quality Assurance Plan	1	PLAN	\$2,500.00	\$2,500.00
g. Transportation Plan	1	PLAN	\$2,500.00	\$2,500.00
h. Disposition Plan	1	PLAN	\$2,500.00	\$2,500.00
i. Mine Shaft Closure Plan	1	PLAN	\$2,500.00	\$2,500.00
j. Closed Boring Abandonment Procedures	1	PLAN	\$1,500.00	\$1,500.00
k. Site Health and Safety Plan - QTEO	1	PLAN	\$2,500.00	\$2,500.00
l. Site Health and Safety Plan - Engineer/Construction Manager	1	PLAN	\$2,500.00	\$2,500.00
m. Site Health and Safety Plan - Contractor	1	PLAN	\$2,500.00	\$2,500.00
n. Waste Management Plan	1	PLAN	\$1,500.00	\$1,500.00
o. Spill Response Plan	1	PLAN	\$2,500.00	\$2,500.00
p. Develop RFP	0	RFP	\$3,500.00	\$0.00
q. Evaluate Proposals and Develop Contract	0	CONTRACT	\$7,500.00	\$0.00
r. Develop Community Relation Plan	0	PLAN	\$3,000.00	\$0.00
s. Review Pre-Construction Submittals	0	REVIEW	\$1,800.00	\$0.00
t. Pre-Construction Meeting in Quapaw, OK	1	MEETING	\$2,400.00	\$2,400.00
u. Archeology Consultant (BIA)	0	DAYS	\$0.00	\$0.00
v. Engage Oklahoma Surveyor to Shoot Boundaries and Mark Work Areas	1	SURVEY	\$8,000.00	\$8,000.00
w. Environmental Engineering and Management Support	1	LUMP	\$118,084.00	\$118,084.00
x. Develop Remedial Action Report	1	REPORT	\$5,300.00	\$5,300.00
Line Item 1 Subtotal				\$170,284.00
2 Site Mobilization				
a. Office Trailer w/ Utilities	2	MONTHS	\$2,145.00	\$4,290.00
b. Portable Toilets x 5	2	MONTHS	\$520.00	\$1,040.00
c. Portable Truck Scales	2	MONTHS	\$3,900.00	\$7,800.00
d. Portable Truck Scales, Building w/ Utilities	2	MONTHS	\$1,980.00	\$3,960.00
e. Safety/Zone Fencing, Signage & Barricades	1	LUMP SUM	\$6,240.00	\$6,240.00
f. Lighted Traffic Boards x 3	2	MONTHS	\$3,510.00	\$7,020.00
g. 15k lb mini Excvator	1	DELIVERY	\$1,560.00	\$1,560.00
h. 100K lb Excavator	1	DELIVERY	\$3,250.00	\$3,250.00
i. 30 Ton Off Road Truck	0	DELIVERY	\$0.00	\$0.00
j. 40 Ton Off Road Truck	1	DELIVERY	\$3,250.00	\$3,250.00
k. 18 cy Scraper	0	DELIVERY	\$0.00	\$0.00
l. 21 cy Scraper	1	DELIVERY	\$3,250.00	\$3,250.00

Statement of Work Cost Estimate for Remedial Response at Distal 6a CB011N (4-16-14)

Line Items	Quantities	Unit	Unit Price	Subtotal
m. 7.25 cy Wheel Loader	1	DELIVERY	\$3,250.00	\$3,250.00
n. Motor Grader	1	DELIVERY	\$3,250.00	\$3,250.00
o. 25K lb Dozer	0	DELIVERY	\$0.00	\$0.00
p. 80K lb Dozer	1	DELIVERY	\$3,250.00	\$3,250.00
q. Skid Steer w/Sweeper Att.	1	DELIVERY	\$1,560.00	\$1,560.00
r. Rubber Tire Backhoe w/ Forks Att.	1	DELIVERY	\$1,560.00	\$1,560.00
s. Trencher	1	DELIVERY	\$1,560.00	\$1,560.00
Line Item 2 Subtotal				\$56,090.00
3	Site Preparation			
a. Install Protective Fencing	1000	LF	\$6.50	\$6,500.00
b. Clearing & Grubbing	1	ACRE	\$11,050.00	\$11,050.00
c. Zone Establishments	1	LUMP SUM	\$7,020.00	\$7,020.00
d. Prep Site, Set Office & Utilities	1	LUMP SUM	\$15,600.00	\$15,600.00
e. Materials for Office (Sb-2 Gravel, Stairs, Misc.)	1	LUMP SUM	\$10,400.00	\$10,400.00
f. Prep Site Scales, Office & Utilities	1	LUMP SUM	\$27,300.00	\$27,300.00
g. Materials for Scales (Sb-2 Gravel, Concrete, Misc.)	1	LUMP SUM	\$15,600.00	\$15,600.00
h. Traffic Controls	1	LUMP SUM	\$4,550.00	\$4,550.00
i. Utility Locates and Drawing Prep (Subcontracted)	1	LUMP SUM	\$4,550.00	\$4,550.00
j. Install Decontamination Zone	1	LUMP SUM	\$4,550.00	\$4,550.00
Line Item 3 Subtotal				\$107,120.00
4	Construction of Temporary Access Road			
Temporary Access Road for hauling of source material through Distal 6a - CB011N				
a. Excavation and Embankment	0	CY	\$9.10	\$0.00
b. Borrow	0	CY	\$0.00	\$0.00
c. Geogrid for Pavement (Complete in Place)	0	SY	\$5.60	\$0.00
d. Base Course for Haul Road	750	TONS	\$35.00	\$26,250.00
e. R.C. Pipe (Class III) Culvert (Two Stream Crossings)	0	LF	\$0.00	\$0.00
f. Seeding	0	AC	\$0.00	\$0.00
g. Mulch Cover	0	AC	\$0.00	\$0.00
h. Site Preparation (Incl. Mobilization)	0	LS	\$0.00	\$0.00
i. Trench and Excavation Safety Systems	0	LS	\$0.00	\$0.00
j. Erosion Control & Maintenance	1	LS	\$6,540.00	\$6,540.00
k. Roadway Construction Control	1	LS	\$3,270.00	\$3,270.00
Temporary Access Road Subtotal				\$36,060.00
5	Removal, Transportation, and Disposal of Source Material, Waste Material, and TZ Soils			
a. Engineering Support During Remediation	1	SUPPORT	\$10,500.00	\$10,500.00
b. On Site Engineering Construction Manager During Remediation Activities	10	DAYS	\$953.00	\$9,530.00
c. Engineering Contractor Project Meetings with Quawpaw Tribe	0	MEETING	\$0.00	\$0.00

Statement of Work Cost Estimate for Remedial Response at Distal 6a CB011N (4-16-14)

Line Items	Quantities	Unit	Unit Price	Subtotal
d. Engineering Contractor Project Meetings with DEQ in OKC, OK	0	MEETING	\$0.00	\$0.00
e. Water Truck and Water for Dust Control	30	DAYS	\$1,436.00	\$43,080.00
f. Removal and Transportation of Source Material to Repository	85,000	TONS	\$11.00	\$935,000.00
g. Excavate by Hand w/ Equipment Support	0	TONS	\$0.00	\$0.00
h. 20 cy Roll Off Containers, Waste Material X2	10	DAYS	\$650.00	\$6,500.00
i. Survey and Layout - Certified Surveyor	20	DAYS	\$1,105.00	\$22,100.00
j. Construction Fencing and Barricade Replacement	1000	LF	\$4.00	\$4,000.00
Line Item 5 Subtotal				\$1,030,710.00
6 Filling and Capping of Mine Shafts, Cased Borings, and Removal of Asphalt Piles				
a. Mine Shaft Filling, Adjustable per Site Conditions ea.	1	EA	\$5,000.00	\$5,000.00
b. Subsidence Features, Filling per Site Conditions ea.	1	EA	\$5,000.00	\$5,000.00
c. Cased Borings	1	EA	\$2,500.00	\$2,500.00
d. Remove Waste Asphalt Piles	0	TONS	\$0.00	\$0.00
Line Item 6 Subtotal				\$12,500.00
7 Water Management				
a. Silt Curtain	1000	LF	\$6.00	\$6,000.00
b. Hay Bales	25	BALES	\$10.00	\$250.00
c. Rock Ditch Checks	25	TONS	\$20.00	\$500.00
d. Rip Rap	25	TONS	\$50.00	\$1,250.00
e. Gabion Buckets	2	BUCKETS	\$200.00	\$400.00
f. Initial Installation and management of SWPPP	1	LS	\$5,000.00	\$5,000.00
g. Maintenance of Erosion Control	1	LS	\$1,500.00	\$1,500.00
h. 20k gal. Frac Tanks, Stormwater Collection x 2	5	DAYS	\$2,340.00	\$11,700.00
i. Double Bag, 10 Micron & 25 Micron Water Filter	5	DAYS	\$3,185.00	\$15,925.00
j. Storm Water Pumping and Handling	5	DAYS	\$1,820.00	\$9,100.00
Line Item 7 Subtotal				\$51,625.00
8 Sampling and Analyses				
a. Field Sampling, Compositing, Sieving	5	EVENT	\$1,494.00	\$7,470.00
b. Analytical (10 day TAT)	48	SAMPLES	\$97.50	\$4,680.00
c. Analytical (3 day TAT)	8	SAMPLES	\$150.00	\$1,200.00
d. Level IV Data Package	12	REPORT	\$100.00	\$1,200.00
e. MAES-Sampling and XRF (Pb)	0	SAMPLES	\$0.00	\$0.00
Line Item 8 Subtotal				\$14,550.00
9 Site Restoration				
a. Post Construction Final Site Review	1	REVIEW	\$1,550.00	\$1,550.00
b. Develop Remedial Action Report	1	REPORT	\$5,300.00	\$5,300.00
c. Survey of Grids by Certified Surveyor (topography and IC boundaries)	14	GRIDS	\$1,747.00	\$24,458.00
d. Soil Amendments & Hydromulching	14	GRIDS	\$1,300.00	\$18,200.00

Statement of Work Cost Estimate for Remedial Response at Distal 6a CB011N (4-16-14)

Line Items	Quantities	Unit	Unit Price	Subtotal
e. Maintain Grid to 70% Cover	14	GRIDS	\$2,600.00	\$36,400.00
Line Item 9 Subtotal				\$85,908.00
10	Decontamination and Demobilization			
a. Decon & Demobilize Scales	1	LUMP SUM	\$22,100.00	\$22,100.00
b. Decon & Demobilize Heavy Equipment	1	LUMP SUM	\$50,000.00	\$50,000.00
c. Decon & Demobilize Office	1	LUMP SUM	\$7,800.00	\$7,800.00
d. Decon & Demobilize Water Equip.	1	LUMP SUM	\$4,550.00	\$4,550.00
e. Decon & Demobilize Roll Off Boxes	1	LUMP SUM	\$4,550.00	\$4,550.00
Line Item 10 Subtotal				\$89,000.00
11	Pre-Operational Follow-Up Construction			
a. Maintenance of Capped Mine Shaft Until Final Acceptance of Remedial Action				\$11,000.00
b. Maintenance of Vegetative Cover Until Final Acceptance of Remedial Action				\$6,000.00
c. Repair of Erosion Controls Until Final Acceptance of Remedial Action				\$2,000.00
Line Item 11 Subtotal				\$19,000.00
12	Health and Safety Incentive			
a. Health and Safety Incentive				\$7,674.00
Line Item 12 Subtotal				\$7,674.00
13	Subcontractor Performance and Payment Bond (if needed for subcontracts over \$150,000)			
a. Performance and Payment Bond				\$20,000.00
Line Item 13 Subtotal				\$20,000.00
Total Costs				\$1,700,523.00

**HEALTH AND SAFETY PLAN
for the
TAR CREEK SUPERFUND SITE
OU1, OU2 and OU4**

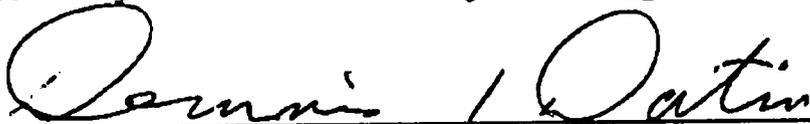
OTTAWA COUNTY, OKLAHOMA

**Cardin
Commerce
Douthat
Miami
North Miami
Picher
Quapaw**

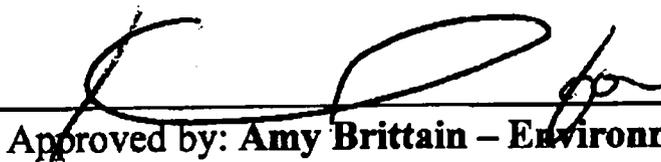
**April 04, 2012
Revised August 28, 2014**



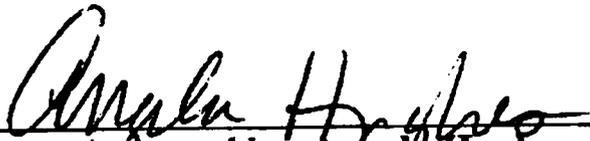
Approved by: David Cates – Project Manager, Health and Safety Officer – OU 1 and 4



Approved by: Dennis Datin – Project Manager, Health and Safety Officer – OU 2 and 4



Approved by: Amy Brittain – Environmental Programs Manager



Approved by: Angela Hughes – Environmental Programs Manager

**Oklahoma Department of Environmental Quality
Land Protection Division**

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A. General Information

Site Name: Tar Creek Superfund Site, including Operable Units 1, 2, and 4

Locations: Ottawa County, Oklahoma

The Tar Creek Superfund Site is in the Oklahoma portion of the Picher Field, located in the northern part of Ottawa County, Oklahoma. Although the site has no distinct boundaries, it is approximately 40 square miles in size.

Objective: The Health and Safety Plan (HASP) is intended to establish requirements and procedures to protect the health and safety of DEQ personnel and the nearby public during the oversight and community outreach efforts associated with the implementation of remedial actions of OU2 (residential operable unit), OU4 (non-residential operable unit), and activities associated with After Action Monitoring under OU1 (operable unit 1).

Dates: August 28, 2014 to January 31, 2025

Background Review: Complete: x Preliminary: _____

Overall Hazard: Serious: _____ Moderate: x Low: _____ Unknown: _____

B. Waste Characterization

Waste Type(s): Liquid: x Solid: x Sludge: _____ Gas: _____

Characteristic(s): Corrosive: x Ignitable: _____ Radioactive: _____
Volatile: _____ Toxic: x Reactive: _____ Unknown: _____

C. Hazard Evaluation

Heat and Cold Stress: Depending on the time of year in which site visits and activity occur, heat and cold stresses can be a major concern. In

Oklahoma, heat stress is of particular concern in the summer when temperatures can consistently be above 85°F. In spring, fall, and winter, wind and rain can increase the likelihood of cold stress and hypothermia, and are of concern. All field members will be monitored for heat and cold stress by the site health and safety officer. Work periods will be timed and shall not exceed one hour. Breaks will focus on fluid replenishment and removal from direct exposure to the elements, if deemed necessary. The exact work periods will be determined by the health and safety officer based on weather conditions. All personnel will be cautioned about pertinent potential heat and/or cold stress.

Physical and Mechanical Hazards:

Possible physical and mechanical hazards include fallen power lines, buried service lines, mine shafts, steep gradients, trenches, holes, ditches, boulder piles, slippery surfaces, heavy equipment such as drill rigs, backhoes, loaders, trucks, construction equipment, etc., and sharp objects such as nails, metal shards, broken glass, abandoned equipment, etc. Additional physical hazards can include high noise levels, fires, electricity, overhead obstruction or falling objects. All personnel will be cautioned about pertinent potential hazards, such as open mine shafts, prior to field entry.

Biological Hazards:

Dogs, feral animals, farm animals, domestic animals, snakes, rodents, spiders, scorpions, insects such as bees, mosquitos, ticks, and wasps, garbage, refuse, and poisonous plants are of concern while on the Tar Creek Superfund site. All personnel will be cautioned about pertinent potential biological hazards.

Chemical Hazards:

Chemical hazards associated with the project are minimal. Chemical chlorine is stored in the water chlorination units attached to some well houses. These are separate sealed units and since personnel will not enter this unit the hazard is low. The fine sized particles associated with chat and mill pond tailings and possible drill cuttings from an ore zone may contain relatively high concentrations of lead. This material tends to adhere to contact surfaces (boots, gloves, or hands), so care must be taken to practice good personal hygiene (e.g., washing hands before eating). Although chat is pervasive throughout the mining area in Ottawa County, the expected exposure while performing this work is minimal and avoidance of the exposure points are easily attained. Other chemical hazards may include the following: containers of ammonia, chlorine, and others; VOCs from solvents, fuel, and oils; wastes from sewers, landfills, smoke/dust/fume, metals, PCBs and paints/surfacing; particulates from fibers, diesel and asbestos; acids and bases from sampling; and other VOCs, SVOCs, pesticides,

herbicides, radionuclides and explosives. If necessary, DEQ personnel will be restricted from entering an area of possible contamination without upgraded personal protection. The health and safety officer will monitor site conditions for any possible chemical hazards. All personnel will be cautioned about pertinent potential chemical hazards.

Severe Weather:

Severe thunderstorms and tornadoes can occur at any time of the year. Directions and maps to the local tornado shelters are attached in Appendix C, maps C1 through C7. Weather forecasts will be monitored by the health and safety officer before field activities are planned to occur. Weather conditions will also be monitored continuously during on-site location. If lightening occurs in the area during field activities, all field activities will be suspended until weather permits field work to safely proceed. Listed below are the public tornado shelters in Commerce and Miami, Oklahoma. For directions to the closest tornado shelter please see (Cardin, OK – Map C1 – pg27; Commerce, OK – Map C2 – pg 29; Douthat, OK – Map C3 – pg 30; Miami, OK – Map C4 – pg 32; North Miami, OK – Map C5 – pg 33; Picher, OK – Map C6 – pg 35; Quapaw, OK – Map C7 – pg 37).

Commerce Middle School
500 E. Commerce Ave.
Commerce, OK 74339

Commerce Community Room in City Hall
618 Commerce Ave.
Commerce, OK 74339

Miami Civic Center Gym/ City Hall
129 5th Ave NW
Miami, OK 74354

D. Site Safety Work Plan

Perimeter Establishment: Site Map attached: yes Site secured: no

Zone(s) of Contamination Identified: yes

Personal Protection: Level of Protection: A ____ B ____ C ____ D X

General Information:

The following are not allowed within the areas that are being remediated: smoking, eating, drinking, chewing of gum or tobacco, applying of lip balm or cosmetics, or horseplay. All

personnel entering areas of contamination at the site are required to have the OSHA 40-Hour Hazardous Waste Operations (HAZWOPER) training and Baseline Medical Monitoring.

Personal Protection:

Level D equipment will be required, including safety glasses, disposable latex gloves, and steel-toed boots. In areas with construction work or heavy machinery work, hard hats, hearing protection, and reflective safety vests may also be required. The health and safety officer will make the determination whether the area is safe based on visual assessment. If adverse conditions exist the site will be vacated until conditions are safe. Hats, jackets, scarves, gloves, sunglasses, and sunscreen may be appropriate depending on the time of year.

Decontamination:

While on-site, disposable personal protective equipment (PPE) and disposable sampling tools will be collected, double-bagged, and stored for final disposal at DEQ headquarters. If immediate medical treatment is required to save a life or limb, decontamination will be delayed.

*Special Equipment,
Facilities, or Procedures:*

Modified Level C equipment that may be required for this project includes inner and outer chemical resistant gloves, steel toe boots, chemical resistant clothing, and overalls. Respirators, a full-face APR with appropriate cartridges may also be utilized if deemed necessary. The site health and safety officer will determine if this special safety equipment is necessary.

Site Control:

Access to the areas of contamination is partially restricted by barbed wire fences. DEQ field team members will continually monitor for unauthorized persons entering the site during sampling activities. Trespassers will be asked to leave the site. Local police will be notified if the unauthorized persons are uncooperative. If more than one team is conducting sampling at the site, two-way radios or cell phones will be employed.

Work Limitations:

Field activities will not be conducted if adverse weather conditions exist. Samples will not be collected if sample integrity is questioned (precipitation during sampling event). Field activities will be conducted in teams--a minimum of two people ("buddy system"). All personnel must maintain visual or vocal communication at all times with their "buddy". Emergency hand signals will be used if necessary.

E. Site Personnel

DEQ Contacts

Amy Brittain – Environmental Programs Manager
Office – (405) 702-5157

Angela Hughes – Environmental Programs Manager
Office – (405) 702-5141

David Cates – Project Manager, Health and Safety Officer – OU1 and OU4
Office – (405) 702-5124 Mobile – (405) 590-0283

Dennis Datin – Project Manager, Health and Safety Officer – OU2 and OU4
Office – (405) 702-5125 Mobile – (405) 203-2604

Rita Kottke – Remediation Unit Manager
Office – (405) 702-5156

Dustin Davidson – Environmental Program Specialist
Office – (405) 702-5115

Brian Stanila – Environmental Program Specialist
Office – (405) 702- 5138

Brittany Downs – Environmental Program Specialist
Office – (405) 702-5112

Aron Samwel – Environmental Programs Specialist
Office (405) 702-5123

EPA Contacts

Ursula Lennox – EPA Remedial Project Manager
Office – (214) 665-6743;
Cell – (214) 789-9354

Raphel Cassonova – EPA Remedial Project Manager
Office – (214) 665-7437

Bob Sullivan – EPA Task Order Manager – OU1 and OU2
Office – (214) 665-2223

Janetta Coats – EPA Site Community Outreach Coordinator
Office – (214) 665-7308

Quapaw Tribe Contacts

Tim Kent, PG
Environmental Director
Quapaw Tribe of Oklahoma
918-542-1853

Craig A. Kreman, E.I.
Environmental Engineer/Assistant Director
Quapaw Tribe Environmental Office
[P]: (918) 542-1853 Ext 226 | [M]: (918) 533-3085

Chris Roper
Construction Manager
Direct: (918) 919-6153
Mobil: (573) 247-8181

DEQ team may require additional personnel to assist in site activities. These additional staff members will be briefed on the project objectives and site conditions. In the absence of the Project Manager, the senior DEQ employee will be Site Project Manager and assumes the responsibilities of the Project Manager. Unless otherwise specified, the Site Project Manager assumes the responsibilities of Health and Safety Officer.

F. Emergency Information

Ambulance	911
Fire Department	911 (Emergency)
Police	911 (Emergency)
Integris Baptist Regional Health Center (Hospital in Miami, OK)	(918) 542-6611
Ottawa County Sheriff	(918) 542-2806
Ottawa County Commissioner	(918) 673-1100
Oklahoma Poison Control	1 (800) 522-4611
DEQ Land Protection Division	(405) 702-5100

Municipal Contact (City Hall)	City of Commerce: (918) 675-4373 City of Quapaw: (918) 674-2525 City of Miami: (918) 542-6685 City of North Miami: (918) 542-2718
-------------------------------	--

Local City and Tribal Contact:	City of Commerce: Jeb Jones (918) 533-0032 City of Miami: Keith Siler (918) 541-2240 City of Quapaw: Jim Brittle (918) 674-2525 Quapaw Tribe: Tim Kent (918)542-1853
--------------------------------	---

Emergency Medical Facility: Integris Medical Services
200 Second Avenue SW
Miami, Oklahoma 74354
Phone: (918) 542-6611

Directions to hospital: The maps are attached in Appendix B and should be kept onsite in the vehicle for quick reference. Directions to the hospital are as follows:

Directions to hospital: **From Cardin(See Map B1, pg 16):**
(continued) West on 1st St/E 30 Rd and then South on S 565 Rd. Continue on S 565 Rd which turns slightly left and become 560 Rd. Continue onto N. Mickey Mantle Blvd in Commerce, which then turns into US69 S; continue South on US-69 which becomes N. Main St. in Miami. Turn right on 2nd Ave SW. Integris Hospital will be on your right after ca. 0.1 mile on 2nd Ave.

From Commerce (Map B2, pg 18):
Go East to US69 and take a right going South on US69 S/S Mickey Mantle Blvd. Continue South on US-69 which becomes N. Main St. in Miami. Turn right on 2nd Ave SW. Integris Hospital will be on your right after ca. 0.1 mile on 2nd Ave.

From Douthat (Map B3, pg 20):
East on E 40 Rd toward US69. Take a right on US69 S, turn right onto US69 S/ E 50 Rd and continue on US69 which becomes N. Main St. in Miami. Take a right on 2nd Ave SW. Integris Hospital will be on your right after ca. 0.1 mile on 2nd Ave.

From Miami (Map B4, pg 22):
South on US69 S / N. Main St. Take a right on 2nd Ave SW. Integris Hospital will be on your right after ca. 0.1 mile on 2nd Ave.

From North Miami (Map B5, pg 23):
South on US69 S / N. Main St. Take a right on 2nd Ave SW. Integris Hospital will be on your right after ca. 0.1 mile on 2nd Ave.

From Picher (Map B6, pg 24):
South on US69 (S/N Connell St.), continue to follow US69, taking a right onto US69 S/E 50 Rd, and following the road as it becomes Main St. in Miami. Take a right on 2nd Ave SW. Integris Hospital will be on your right after ca. 0.1 mile on 2nd Ave.

From Ouapaw (Map B7, pg 26):

South on US69 Alt/S Main St. Continue onto US69/E 50 Rd, and continue following US69 S which becomes Main St. in Miami. Take a right on 2nd Ave SW. Integris Hospital will be on your right after ca. 0.1 mile on 2nd Ave.

<i>Emergency hand signals:</i>	Hand gripping throat:	Out of air; can't breathe!
	Grip partner's wrist or place hands around waist:	Leave area immediately!
	Hands on top of head:	Need assistance.
	Thumbs up:	OK; I'm all right; I understand.
	Thumbs down:	No; negative.

All injuries or illness will be immediately reported to the site project manager. A cellular phone will be taken to use in case of an emergency. A first aid kit and basic first aid manual will be located within each vehicle, enabling temporary first aid to be administered until necessary medical treatment can be obtained. All injuries or illnesses will be recorded in the site's logbook.

Chain-of-command in case of emergency:



Scott Thompson
DEQ Executive Director

Kelly Dixon
(405) 702-5151
Land Protection Division Director

Fenton Rood
(405) 702-5159
Land Protection Assistant Division Director

Rita Kottke
(405) 702-5156

Remediation Unit Program Manager

Amy Brittain / Angela Hughes
(405) 702-5157 / (405) 702-5141
Environmental Programs Manager

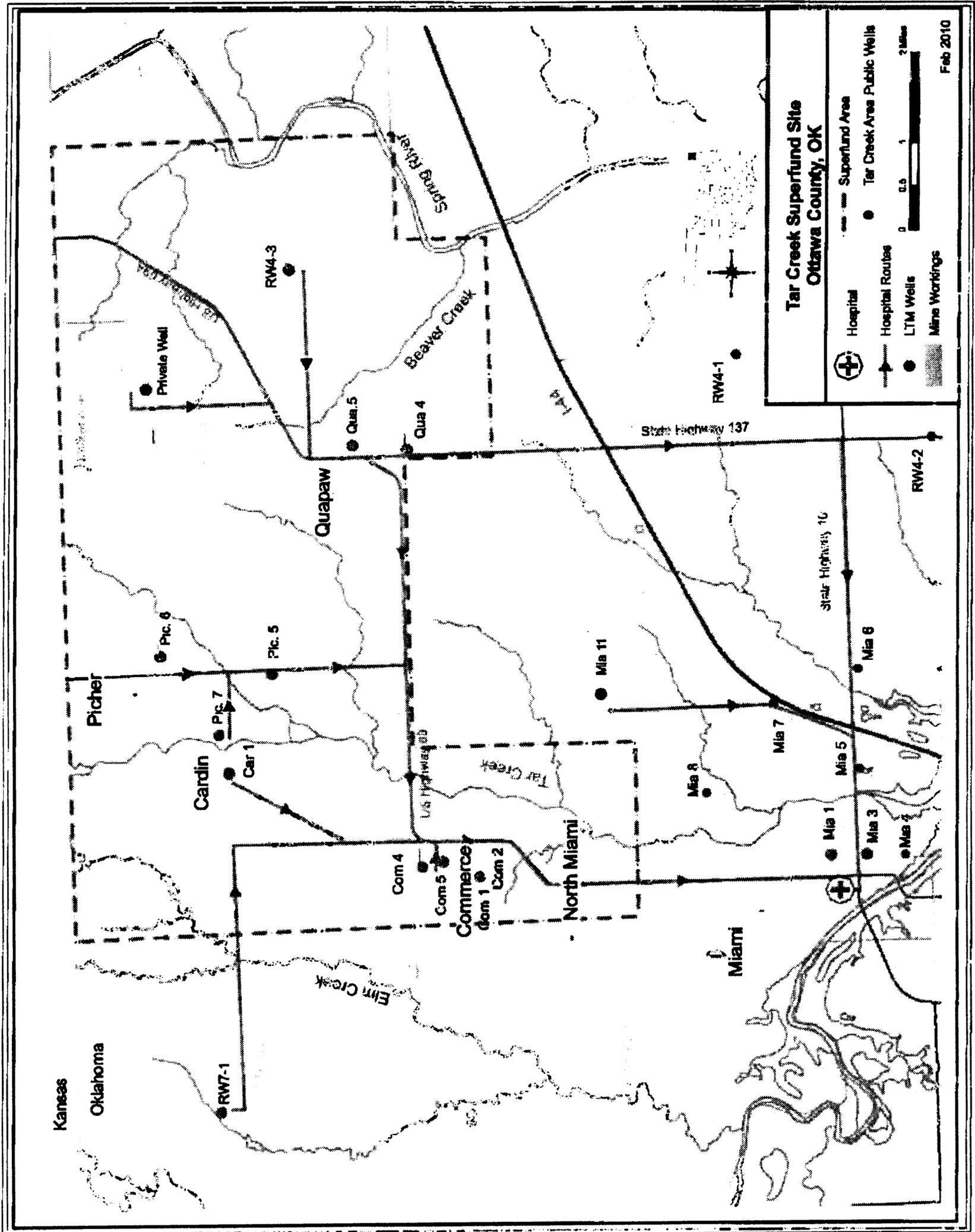
Site Project Manager

Unless otherwise specified, Site Project Manager assumes responsibilities of Health and Safety Officer

Field Team Members

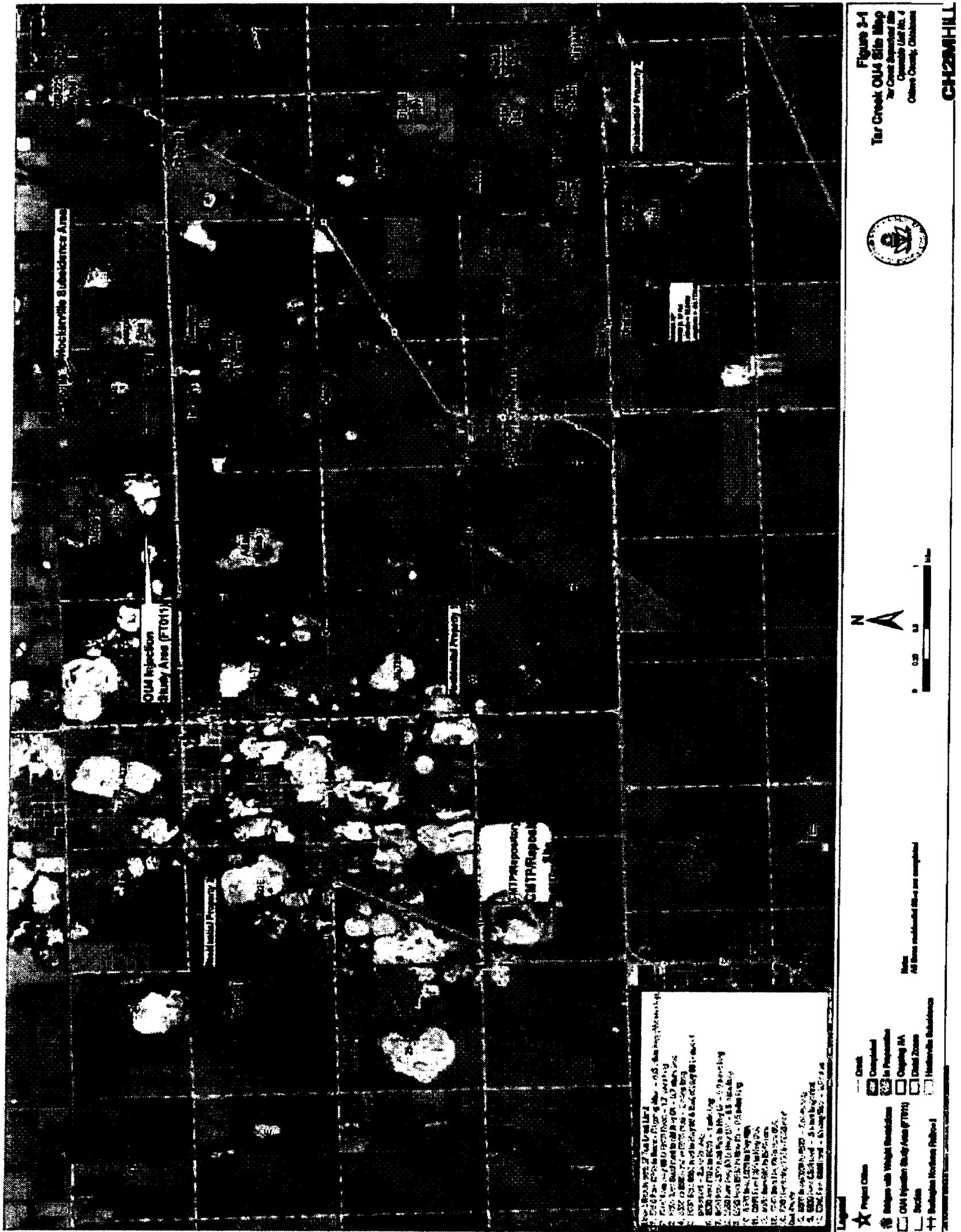
Senior DEQ employee assumes responsibilities of the Site Project Manager in his or her absence

Appendix A: Maps of Tar Creek



Map A 1: Map of Tar Creek Area

Tar Creek Superfund Site HASP



Map A 2: Map of Tar Creek Area including distal areas.

Appendix B: Maps and Directions to Hospital

Emergency Medical Facility:

Integris Medical Services

200 Second Avenue SW
Miami, Oklahoma 74354

Phone:

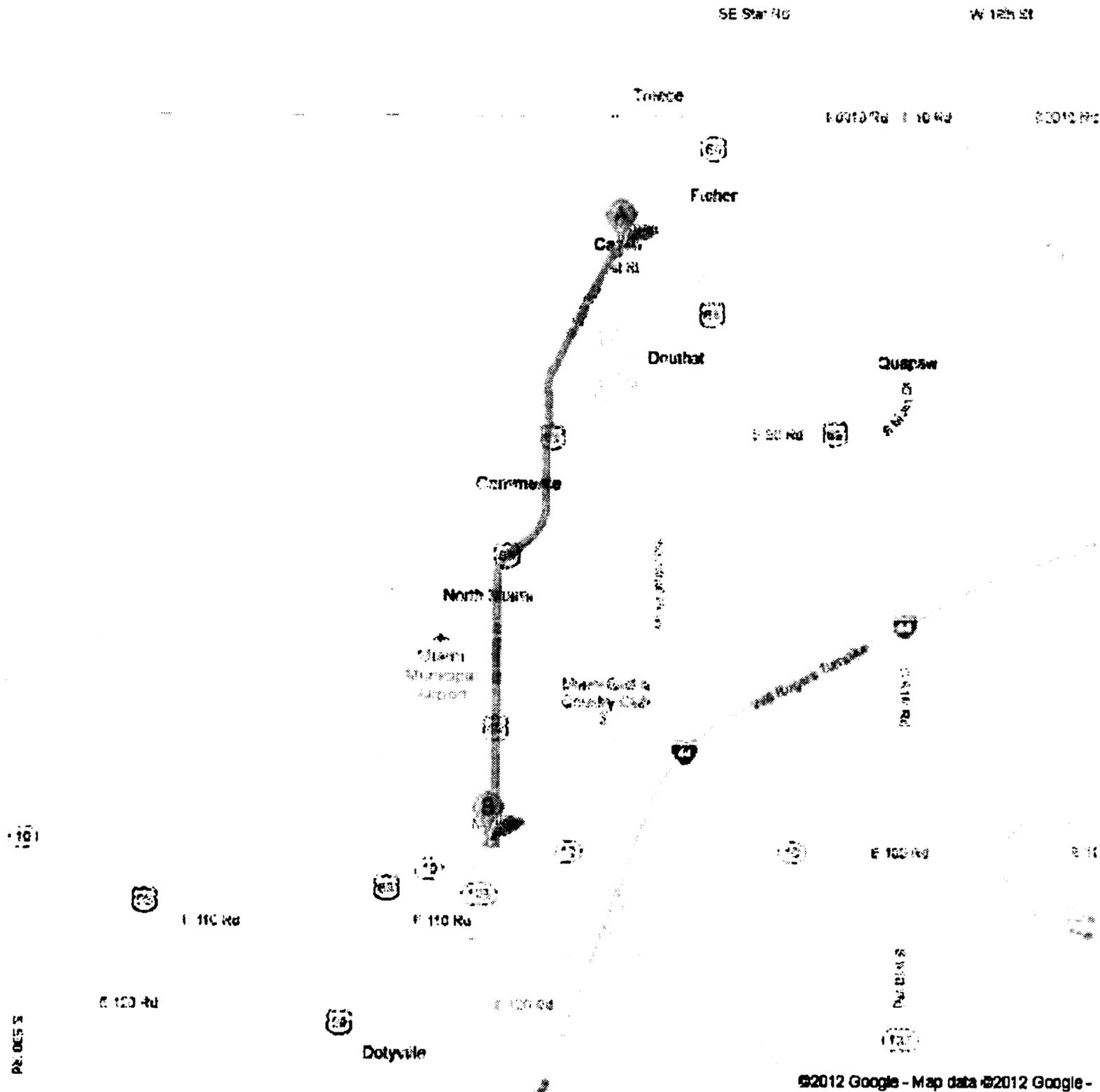
911 (Emergency)
918-542-6611

Cardin, OK

Directions from Cardin, Oklahoma to the Integris Hospital in Miami, Oklahoma.



Directions to 200 2nd Ave SW, Miami, OK 74354
7.7 mi – about 13 mins



Map B 1: Map from Cardin, Oklahoma (A) to Integris Hospital in Miami, Oklahoma (B). Detailed directions on next page.



Cardin, OK

- | | |
|--|---------------------------|
| 1. Head west on 3rd St toward Wade St | go 0.1 mi
total 0.1 mi |
| 2. Continue onto Elm St | go 0.1 mi
total 0.3 mi |
|  3. Turn left onto 1st St | go 43 ft
total 0.3 mi |
|  4. Take the 1st right onto S565rd | go 328 ft
total 0.3 mi |
| 5. Continue onto S 565 Rd
About 2 mins | go 1.4 mi
total 1.7 mi |
|  6. S 565 Rd turns slightly left and becomes 560 Rd
About 1 min | go 0.7 mi
total 2.4 mi |
| 7. Continue onto N Mickey Mantle Blvd
About 3 mins | go 1.7 mi
total 4.1 mi |
|  8. Continue onto US-69 S
About 4 mins | go 3.5 mi
total 7.6 mi |
|  9. Turn right onto 2nd Ave SW
Destination will be on the right
About 1 min | go 0.1 mi
total 7.7 mi |



200 2nd Ave SW, Miami, OK 74354

These directions are for planning purposes only. You may find that construction projects, traffic, weather, or other events may cause conditions to differ from the map results, and you should plan your route accordingly. You must obey all signs or notices regarding your route.

Map data ©2012 Google

Directions weren't right? Please find your route on maps.google.com and click "Report a problem" at the bottom left.

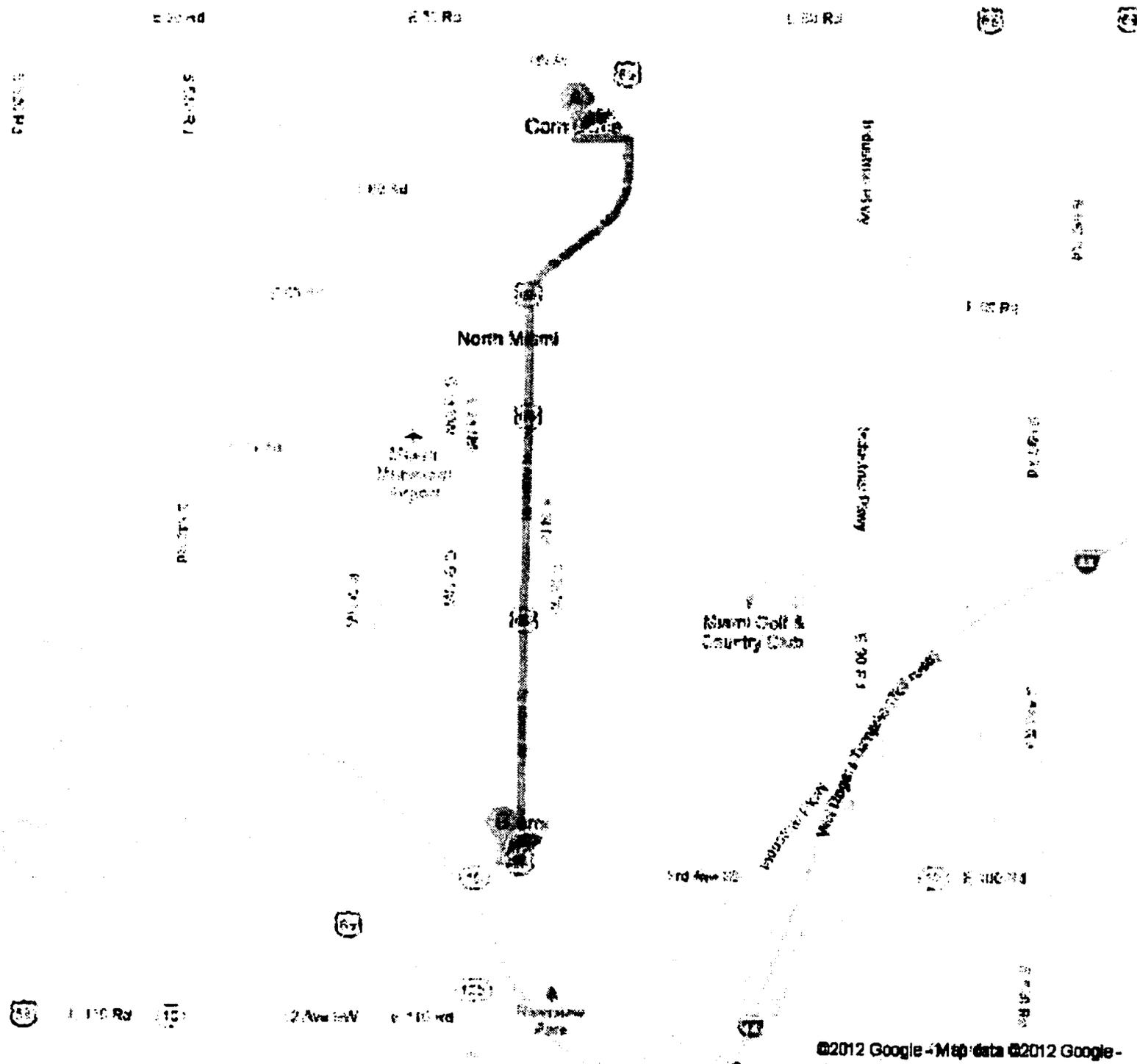
Directions B 1: Detailed directions from Cardin, Oklahoma (A) to Integris Hospital in Miami, Oklahoma (B).

Commerce, OK

Directions from Commerce, Oklahoma to the Integris Hospital in Miami, Oklahoma.



Directions to 200 2nd Ave SW, Miami, OK 74354
4.9 mi – about 8 mins



Map B 2: Map from Cardin, Oklahoma (A) to Integris Hospital in Miami, Oklahoma (B). Detailed directions on next page.

 Commerce, OK

-
1. Head south on N Cherry St toward Commerce St go 59 ft
total 59 ft

 -  2. Take the 1st left onto Commerce St go 0.3 mi
total 0.3 mi
About 2 mins

 -  3. Turn right onto US-69 S/S Mickey Mantle Blvd go 4.5 mi
total 4.8 mi
Continue to follow US-69 S
About 6 mins

 -  4. Turn right onto 2nd Ave SW go 0.1 mi
total 4.9 mi
Destination will be on the right
About 1 min

 200 2nd Ave SW, Miami, OK 74354

These directions are for planning purposes only. You may find that construction projects, traffic, weather, or other events may cause conditions to differ from the map results, and you should plan your route accordingly. You must obey all signs or notices regarding your route.

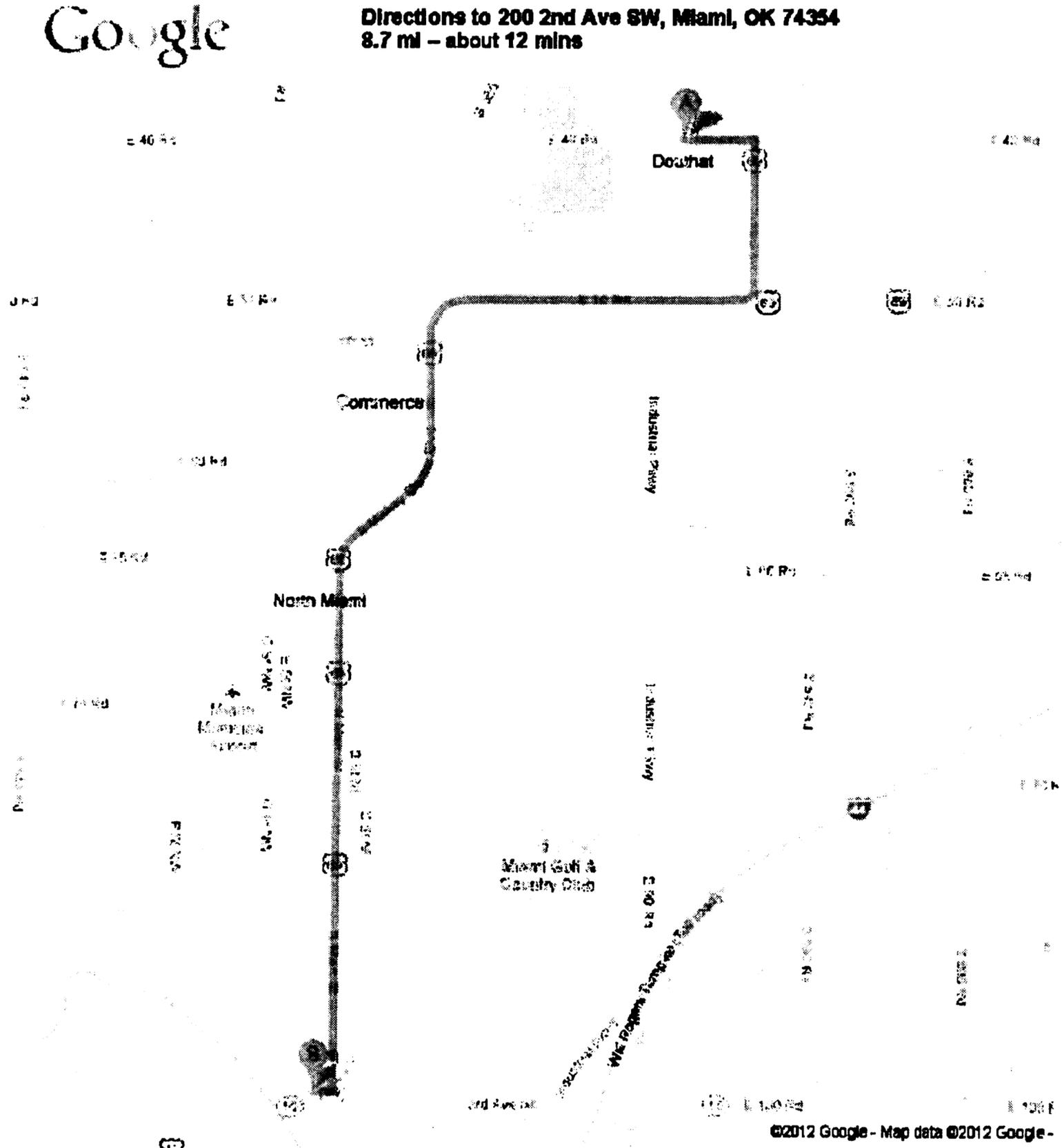
Map data ©2012 Google

Directions weren't right? Please find your route on maps.google.com and click "Report a problem" at the bottom left.

Directions B 2: Detailed directions from Commerce, Oklahoma (A) to Integris Hospital in Miami, Oklahoma (B).

Douthat, OK

Directions from Douthat, Oklahoma to the Integris Hospital in Miami, Oklahoma.



Map B 3: Map from Douthat, Oklahoma (A) to Integris Hospital in Miami, Oklahoma (B). Detailed directions on next page.



Douthat, OK

1. Head east on E 40 Rd toward US-69 N
About 1 min go 0.4 mi
total 0.4 mi
-  2. Take the 1st right onto US-69 S
About 2 mins go 1.0 mi
total 1.4 mi
-  3. Turn right onto US-69 S/E 50 Rd
Continue to follow US-69 S
About 9 mins go 7.1 mi
total 8.5 mi
-  4. Turn right onto 2nd Ave SW
Destination will be on the right
About 1 min go 0.1 mi
total 8.7 mi



200 2nd Ave SW, Miami, OK 74354

These directions are for planning purposes only. You may find that construction projects, traffic, weather, or other events may cause conditions to differ from the map results, and you should plan your route accordingly. You must obey all signs or notices regarding your route.

Map data ©2012 Google

Directions weren't right? Please find your route on maps.google.com and click "Report a problem" at the bottom left.

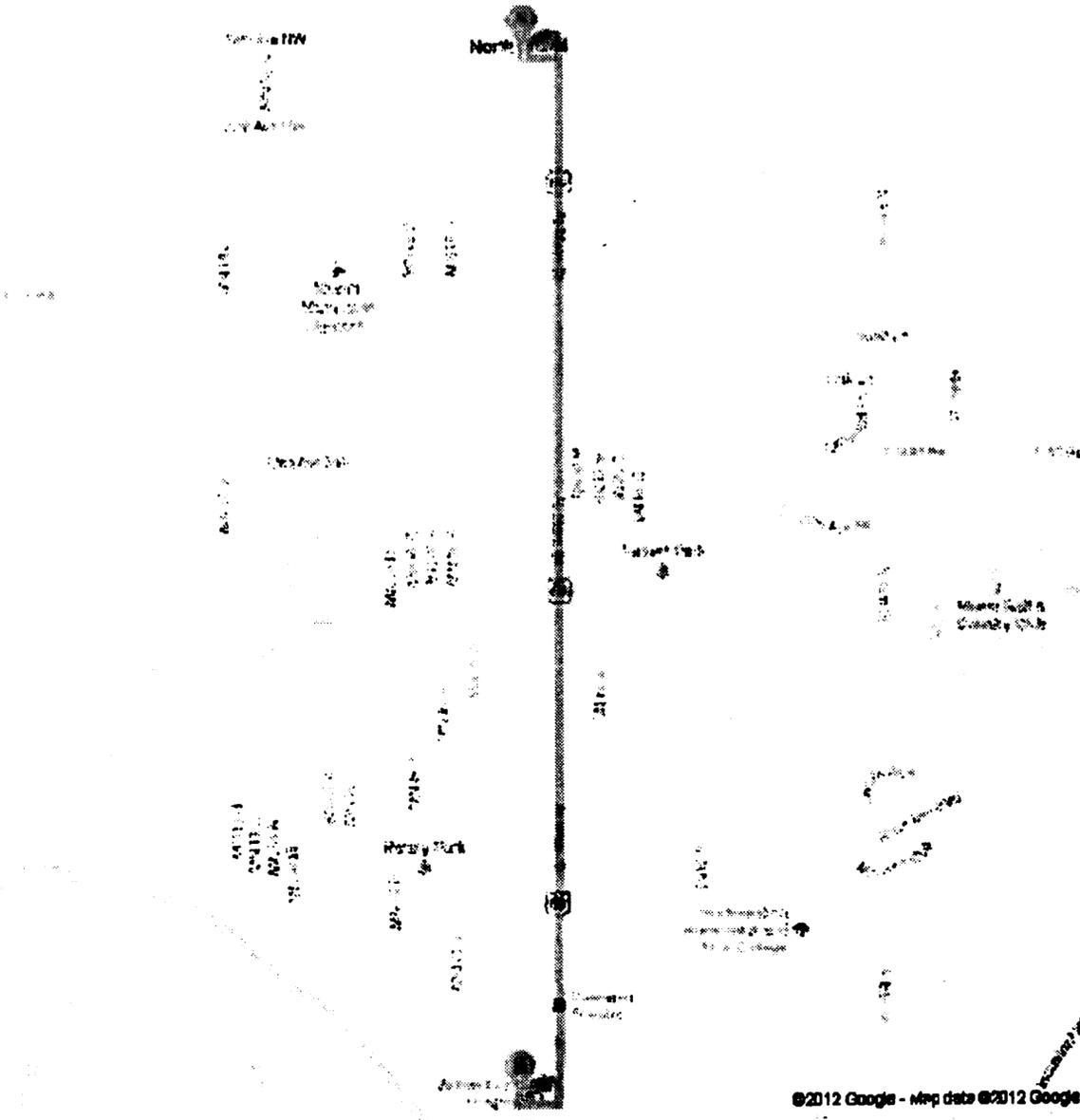
Directions B 3: Detailed directions from Douthat, Oklahoma (A) to Integris Hospital in Miami, Oklahoma (B).

North Miami, OK

Directions from North Miami, Oklahoma to the Integris Hospital in Miami, Oklahoma.



Directions to 200 2nd Ave SW, Miami, OK 74354
3.4 mi – about 5 mins



Map B 5: Map from North Miami (A) to Integris Hospital in Miami, Oklahoma (B).

North Miami, OK

- | | |
|--|---------------------------|
| 1. Head east on Lackledge Ave toward 3rd Ave | go 0.1 mi
total 0.1 mi |
| 2. Turn right onto N Main St
About 4 mins | go 3.1 mi
total 3.2 mi |
| 3. Turn right onto 2nd Ave SW
Destination will be on the right
About 1 min | go 0.1 mi
total 3.4 mi |

200 2nd Ave SW, Miami, OK 74354

These directions are for planning purposes only. You may find that construction projects, traffic, weather, or other events may cause conditions to differ from the map results, and you should plan your route accordingly. You must obey all signs or notices regarding your route.

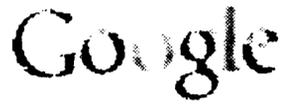
Map data ©2012 Google

Directions weren't right? Please find your route on maps.google.com and click "Report a problem" at the bottom left.

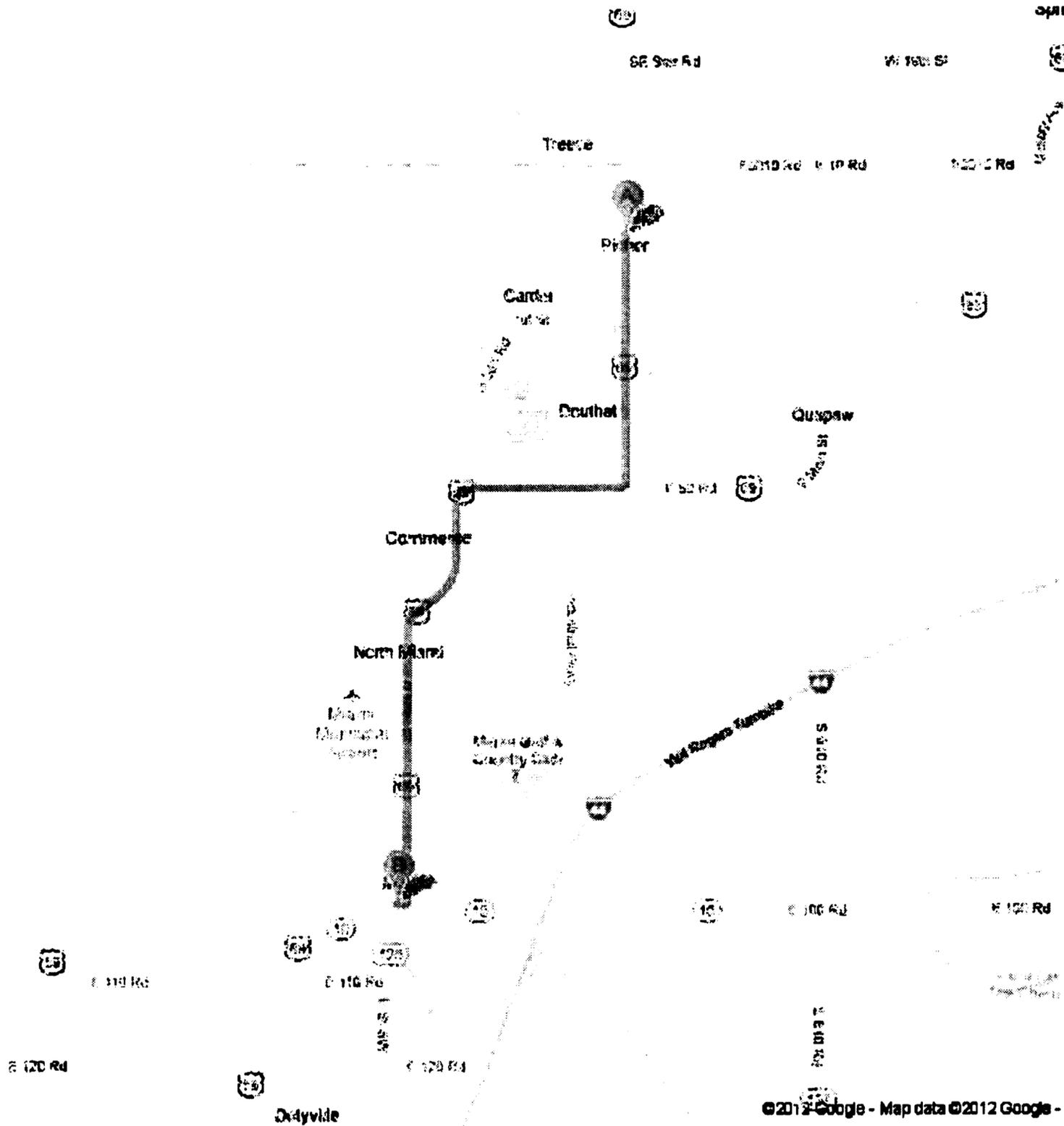
Directions B 5: Detailed directions from North Miami, Oklahoma (A) to Integris Hospital in Miami, Oklahoma(B).

Picher, OK

Directions from Picher, Oklahoma to the Integris Hospital in Miami, Oklahoma.



Directions to 200 2nd Ave SW, Miami, OK 74354
10.2 mi – about 15 mins



Map B 6: Map from Picher, Oklahoma (A) to the Integris Hospital in Miami, Oklahoma (B). Detailed directions on the next page.

 Picher, OK

-
1. Head west on E a St toward N Connell St go 56 ft
total 56 ft

 -  2. Take the 1st left onto US-69 S/N Connell St go 3.0 mi
total 3.0 mi
Continue to follow US-69 S
About 5 mins

 -  3. Turn right onto US-69 S/E 50 Rd go 7.1 mi
total 10.1 mi
Continue to follow US-69 S
About 9 mins

 -  4. Turn right onto 2nd Ave SW go 0.1 mi
total 10.2 mi
Destination will be on the right
About 1 min
-  200 2nd Ave SW, Miami, OK 74354
-

These directions are for planning purposes only. You may find that construction projects, traffic, weather, or other events may cause conditions to differ from the map results, and you should plan your route accordingly. You must obey all signs or notices regarding your route.

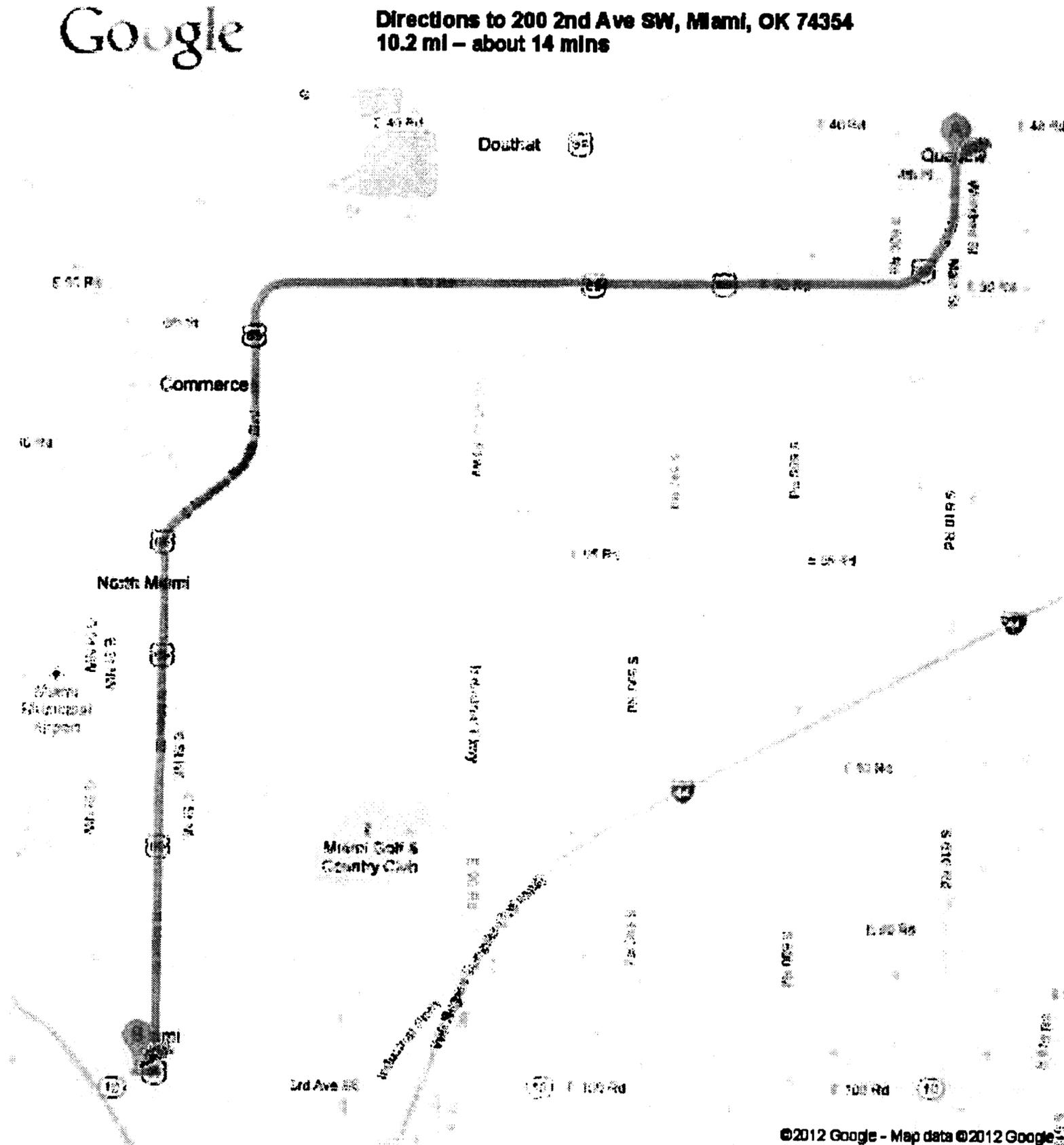
Map data ©2012 Google

Directions weren't right? Please find your route on maps.google.com and click "Report a problem" at the bottom left.

Directions B 6: Detailed directions from Picher, Oklahoma (A) to Integris Hospital in Miami, Oklahoma (B).

Quapaw, OK

Directions from Quapaw, Oklahoma to the Integris Hospital in Miami, Oklahoma.



Map B 7: Map from Quapaw, Oklahoma (A) to the Integris Hospital in Miami, Oklahoma (B). Detailed directions on the next page.



Quapaw, OK

1. Head east on W 4th St toward N Main St

go 33 ft
total 33 ft



2. Take the 1st right onto US-69 Alt/S Main St
Continue to follow US-69 Alt
About 4 mins

go 2.9 mi
total 2.9 mi



3. Continue onto US-69 S/E 50 Rd
Continue to follow US-69 S
About 9 mins

go 7.1 mi
total 10.0 mi



4. Turn right onto 2nd Ave SW
Destination will be on the right
About 1 min

go 0.1 mi
total 10.2 mi



200 2nd Ave SW, Miami, OK 74354

These directions are for planning purposes only. You may find that construction projects, traffic, weather, or other events may cause conditions to differ from the map results, and you should plan your route accordingly. You must obey all signs or notices regarding your route.

Map data ©2012 Google

Directions weren't right? Please find your route on maps.google.com and click "Report a problem" at the bottom left.

Directions B 7: Detailed directions from Quapaw, Oklahoma (A) to Integris Hospital in Miami, Oklahoma (B).

Appendix C: Maps and Directions to Tornado Shelters

City of Commerce:

Commerce Middle School
500 E. Commerce Ave.
Commerce, OK 74339

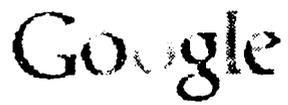
Community Room in City Hall
618 Commerce Ave.
Commerce, OK 74339

City of Miami:

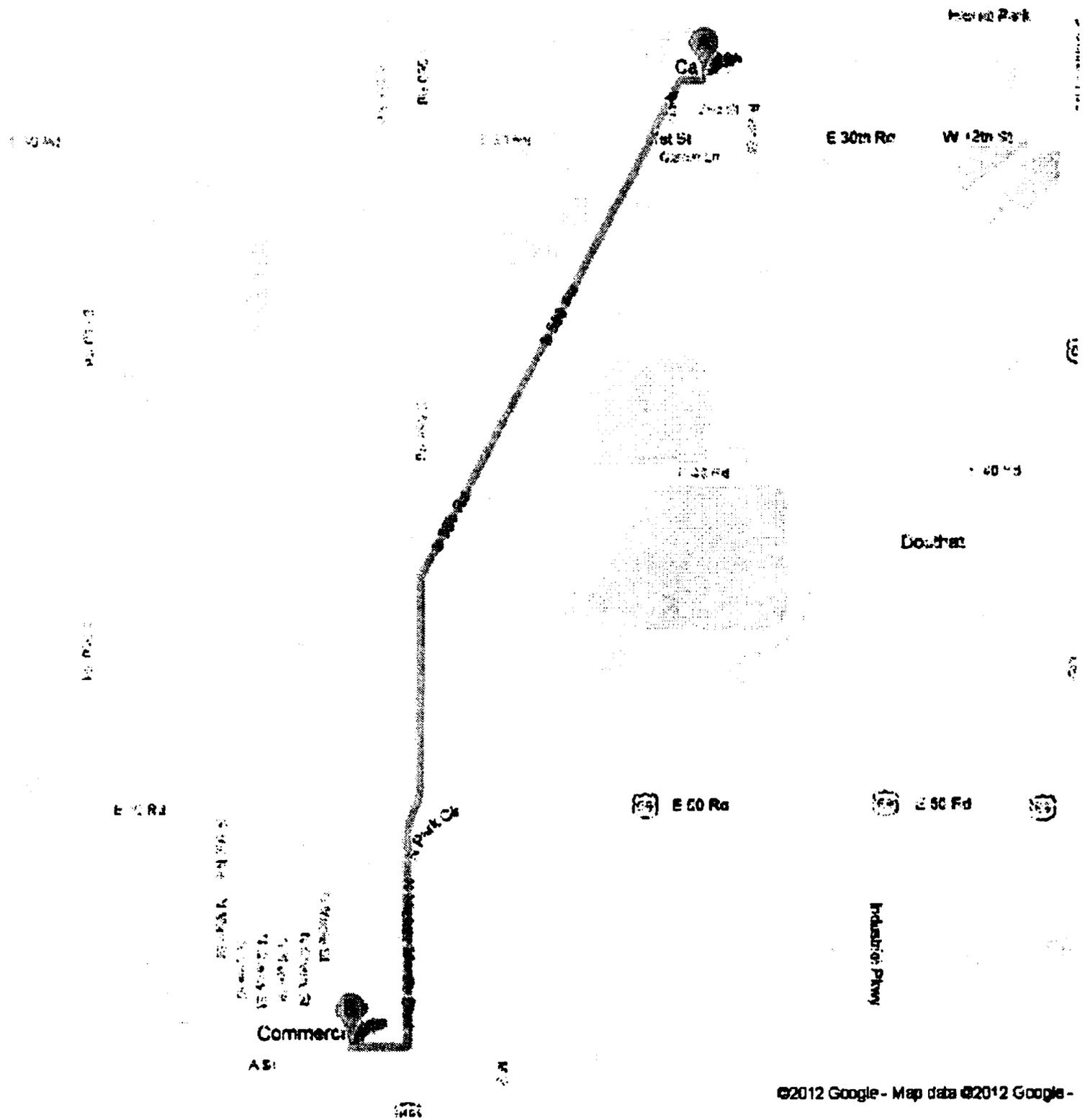
Civic Center Gym/ City Hall
129 5th Ave NW
Miami, OK 74354

Cardin, OK

Directions from Cardin, Oklahoma to the local tornado shelter in the City Hall of Commerce in Commerce, Oklahoma.



Directions to 618 Commerce St, Commerce, OK 74339
3.3 mi – about 8 mins



Map C 1: Map from Cardin, OK (A) to Tornado Shelter at City Hall of Commerce in Commerce, OK (B). Detailed directions on the next page.

 **Cardin, OK**

- | | |
|---|---------------------------|
| 1. Head west on 3rd St toward Wade St | go 0.1 mi
total 0.1 mi |
| 2. Continue onto Elm St | go 0.1 mi
total 0.3 mi |
|  3. Turn left onto 1st St | go 43 ft
total 0.3 mi |
|  4. Take the 1st right onto S565rd | go 328 ft
total 0.3 mi |
| 5. Continue onto S 565 Rd
About 2 mins | go 1.4 mi
total 1.7 mi |
|  6. S 565 Rd turns slightly left and becomes 580 Rd
About 1 min | go 0.7 mi
total 2.4 mi |
| 7. Continue onto N Mickey Mantle Blvd
About 2 mins | go 0.7 mi
total 3.2 mi |
|  8. Turn right onto Commerce St
Destination will be on the right
About 1 min | go 0.2 mi
total 3.3 mi |

 **618 Commerce St, Commerce, OK 74339**

These directions are for planning purposes only. You may find that construction projects, traffic, weather, or other events may cause conditions to differ from the map results, and you should plan your route accordingly. You must obey all signs or notices regarding your route.

Map data © 2012 Google

Directions weren't right? Please find your route on maps.google.com and click "Report a problem" at the bottom left.

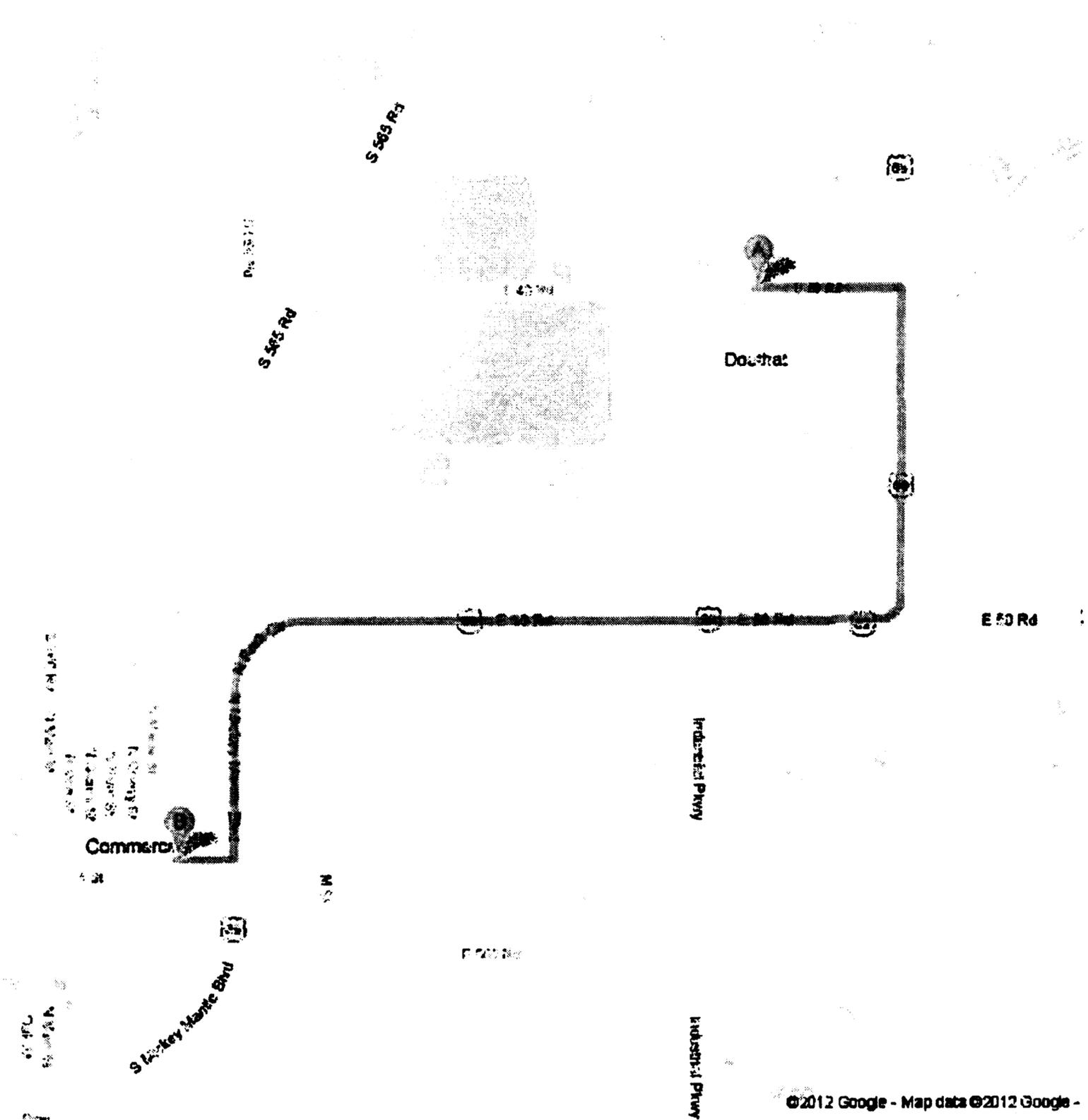
Directions C 1: Directions from Cardin, OK (A) to the Tornado Shelter at the City Hall of Commerce in Commerce, OK (B)

Douthat, OK

Directions from Douthat, Oklahoma to the local tornado shelter in the City Hall of Commerce in Commerce, Oklahoma.

Google

Directions to 618 Commerce St, Commerce, OK
74339
4.3 mi – about 7 mins



Map C 3: Map from Douthat, OK (A) to Tornado Shelter at City Hall of Commerce in Commerce, OK (B). Detailed directions on the next page.



Douthat, OK

1. Head east on E 40 Rd toward US-69 N
About 1 min go 0.4 mi
total 0.4 mi
-  2. Take the 1st right onto US-69 S
About 2 mins go 1.0 mi
total 1.4 mi
-  3. Turn right onto US-69 S/E 50 Rd
Continue to follow US-69 S
About 4 mins go 2.7 mi
total 4.1 mi
-  4. Turn right onto Commerce St
Destination will be on the right
About 1 min go 0.2 mi
total 4.3 mi



618 Commerce St, Commerce, OK 74339

These directions are for planning purposes only. You may find that construction projects, traffic, weather, or other events may cause conditions to differ from the map results, and you should plan your route accordingly. You must obey all signs or notices regarding your route.

Map data ©2012 Google

Directions weren't right? Please find your route on maps.google.com and click "Report a problem" at the bottom left.

Directions C3: Directions from Douthat, OK (A) to the Tornado Shelter at the City Hall of Commerce in Commerce, OK (B)

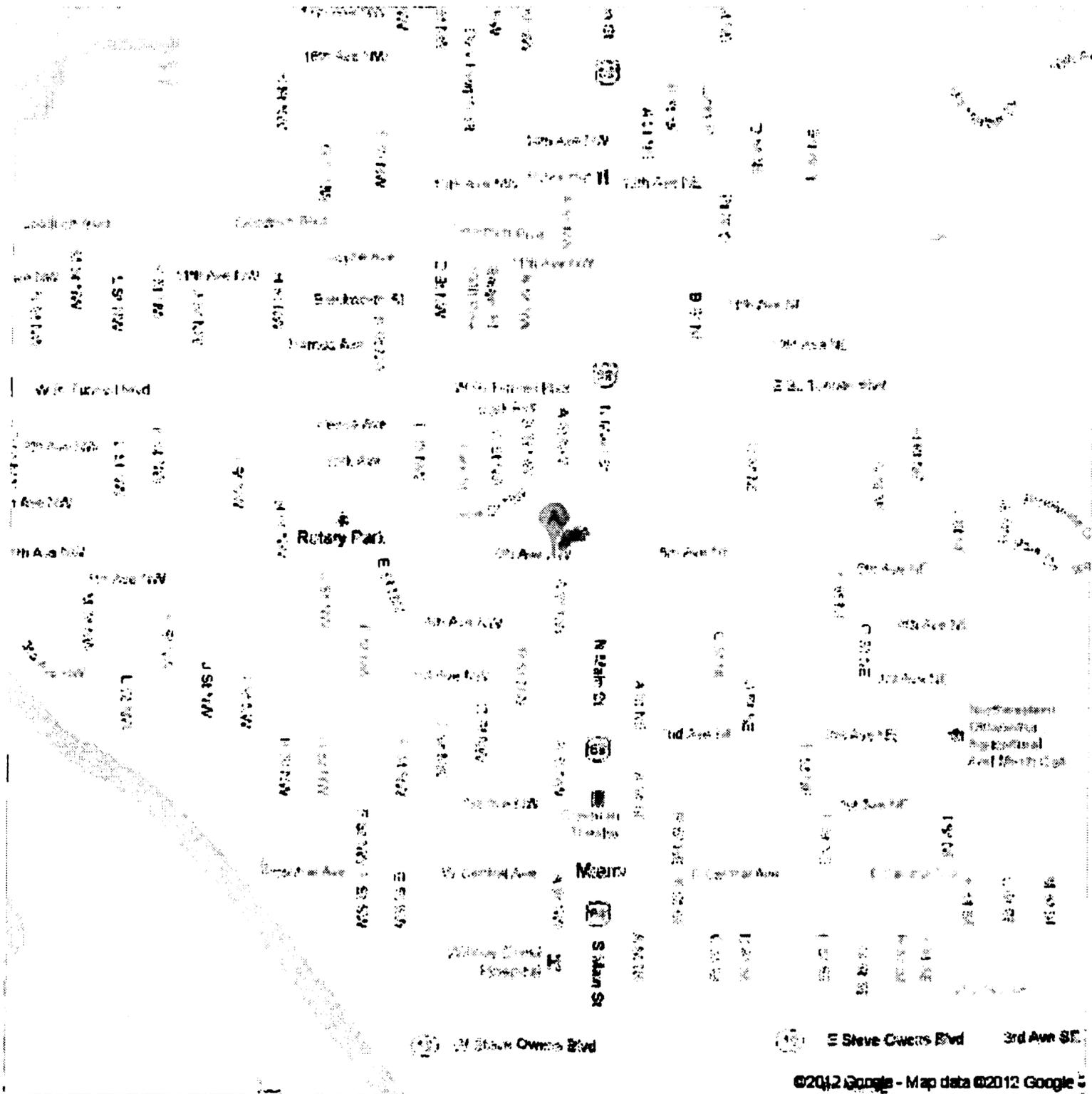
Miami, OK

Map of Miami, Oklahoma with the location of the local tornado shelter in the City Hall/Civic Center of Miami (A).

Google

Address 129 5th Ave NW
Miami, OK 74354

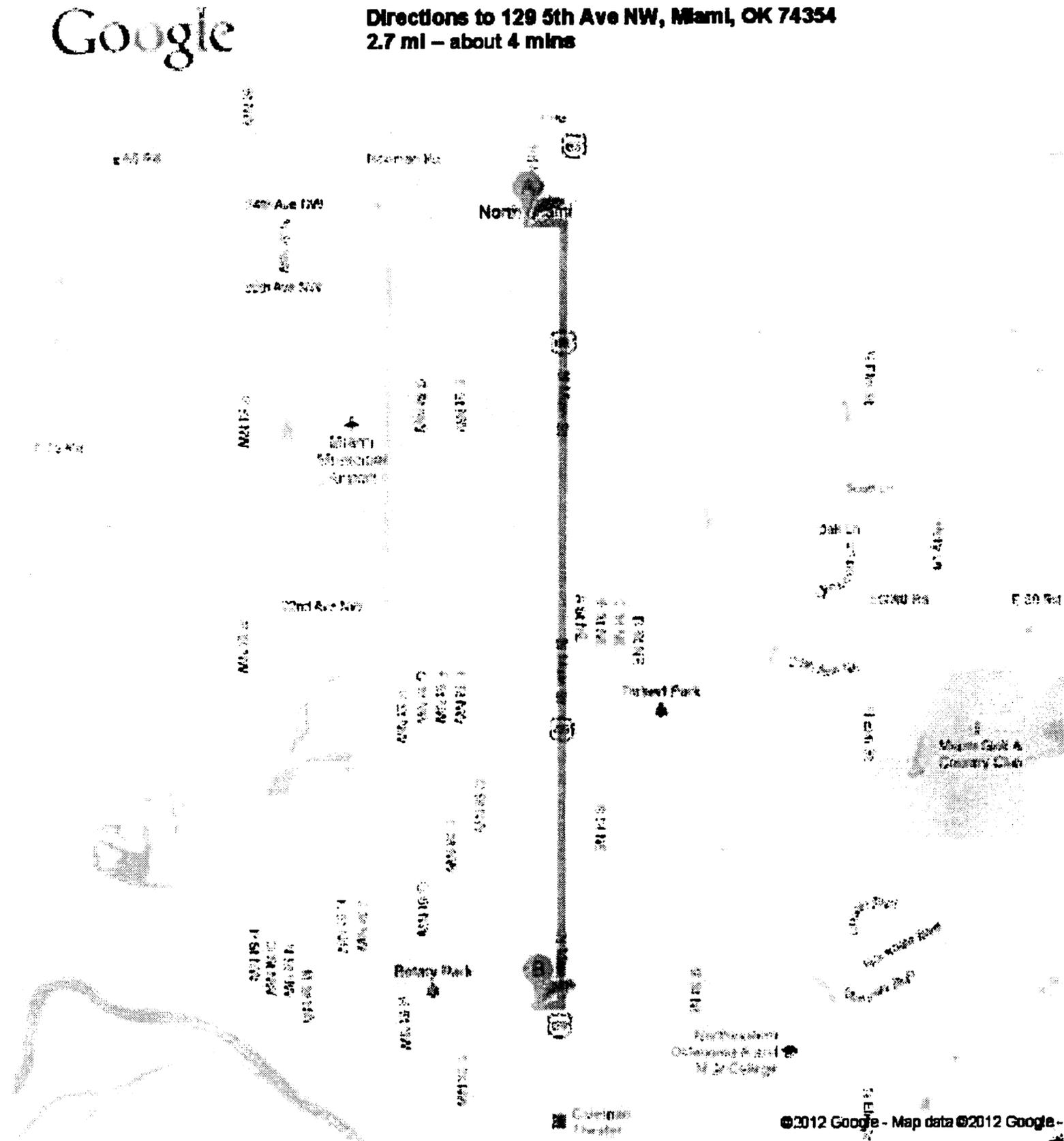
Get Google Maps on your phone
Text the word "GMAPS" to 466453



Map C 4: Map of City of Miami, OK with the location of the tornado shelter in the City Hall/Civic Center marked (A).

North Miami, OK

Directions from North Miami, Oklahoma to the local tornado shelter in the City Hall/Civic Center of Miami in Miami, Oklahoma.



Map C 5: Map from North Miami, OK (A) to Tornado Shelter at City Hall/Civic Center of Miami in Miami, OK (B). Detailed directions on the next page.



North Miami, OK

1. Head east on Lackledge Ave toward 3rd Ave

go 0.1 mi
total 0.1 mi



2. Turn right onto N Main St
About 3 mins

go 2.4 mi
total 2.6 mi



3. Turn right onto 5th Ave NW
Destination will be on the left

go 423 ft
total 2.7 mi



129 5th Ave NW, Miami, OK 74354

These directions are for planning purposes only. You may find that construction projects, traffic, weather, or other events may cause conditions to differ from the map results, and you should plan your route accordingly. You must obey all signs or notices regarding your route.

Map data ©2012 Google

Directions weren't right? Please find your route on maps.google.com and click "Report a problem" at the bottom left.

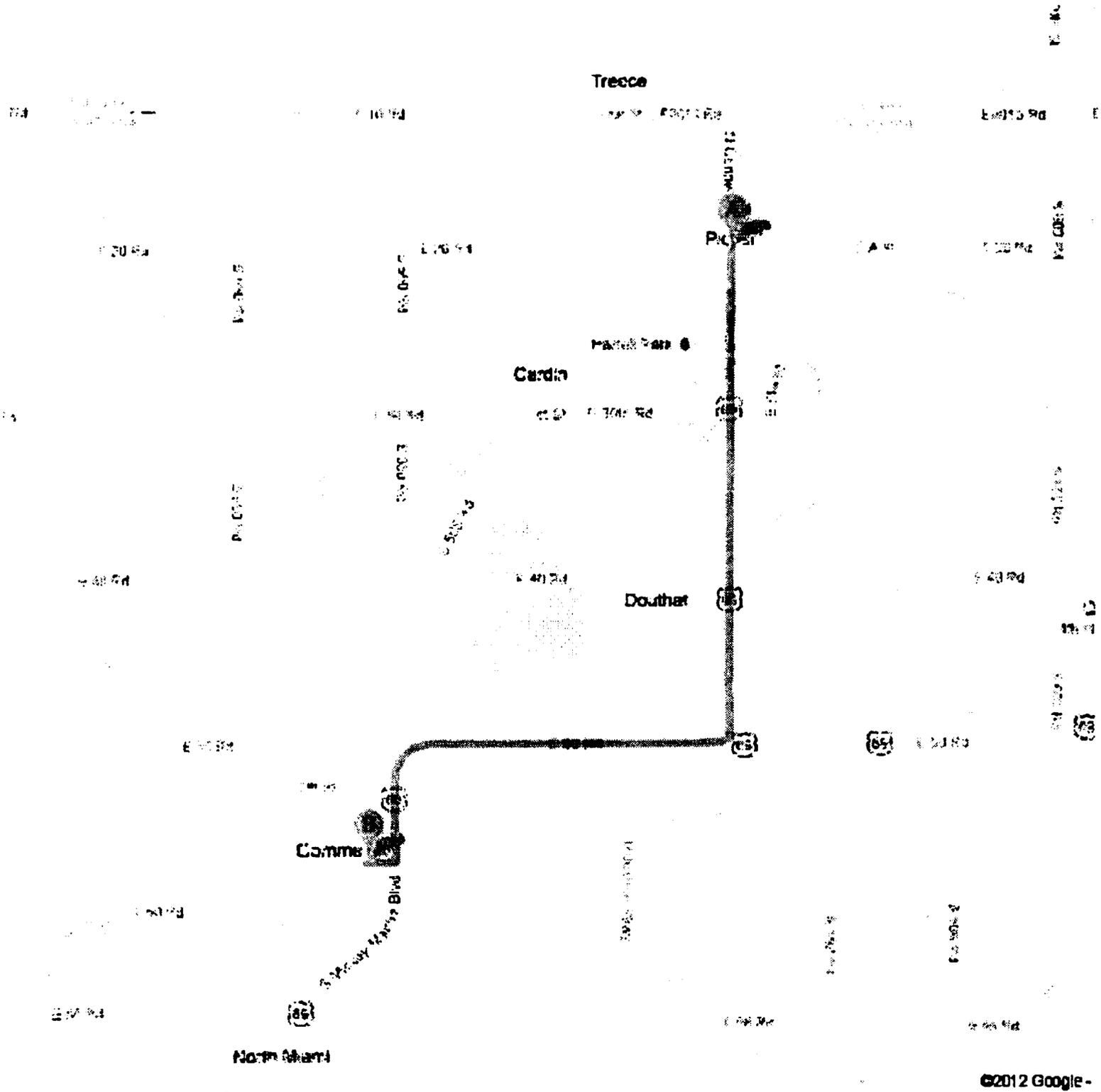
Directions C5: Detailed directions from North Miami, OK (A) to Tornado Shelter at City Hall/Civic Center of Miami in Miami, OK (B).

Picher, OK

Directions from Picher, Oklahoma to the local tornado shelter in the City Hall of Commerce in Commerce, Oklahoma.



Directions to 618 Commerce St, Commerce, OK 74339
5.8 mi – about 10 mins



Map C 6: Map from Picher, OK (A) to Tornado Shelter at City Hall of Commerce in Commerce, OK (B). Detailed directions on the next page.

 Picher, OK

-
1. Head west on E a St toward N Connell St go 56 ft
total 56 ft

 -  2. Take the 1st left onto US-69 S/N Connell St go 3.0 mi
total 3.0 mi
Continue to follow US-69 S
About 5 mins

 -  3. Turn right onto US-69 S/E 50 Rd go 2.7 mi
total 5.6 mi
Continue to follow US-69 S
About 4 mins

 -  4. Turn right onto Commerce St go 0.2 mi
total 5.8 mi
Destination will be on the right
About 1 min

 618 Commerce St, Commerce, OK 74339

These directions are for planning purposes only. You may find that construction projects, traffic, weather, or other events may cause conditions to differ from the map results, and you should plan your route accordingly. You must obey all signs or notices regarding your route.

Map data ©2012 Google

Directions weren't right? Please find your route on maps.google.com and click "Report a problem" at the bottom left.

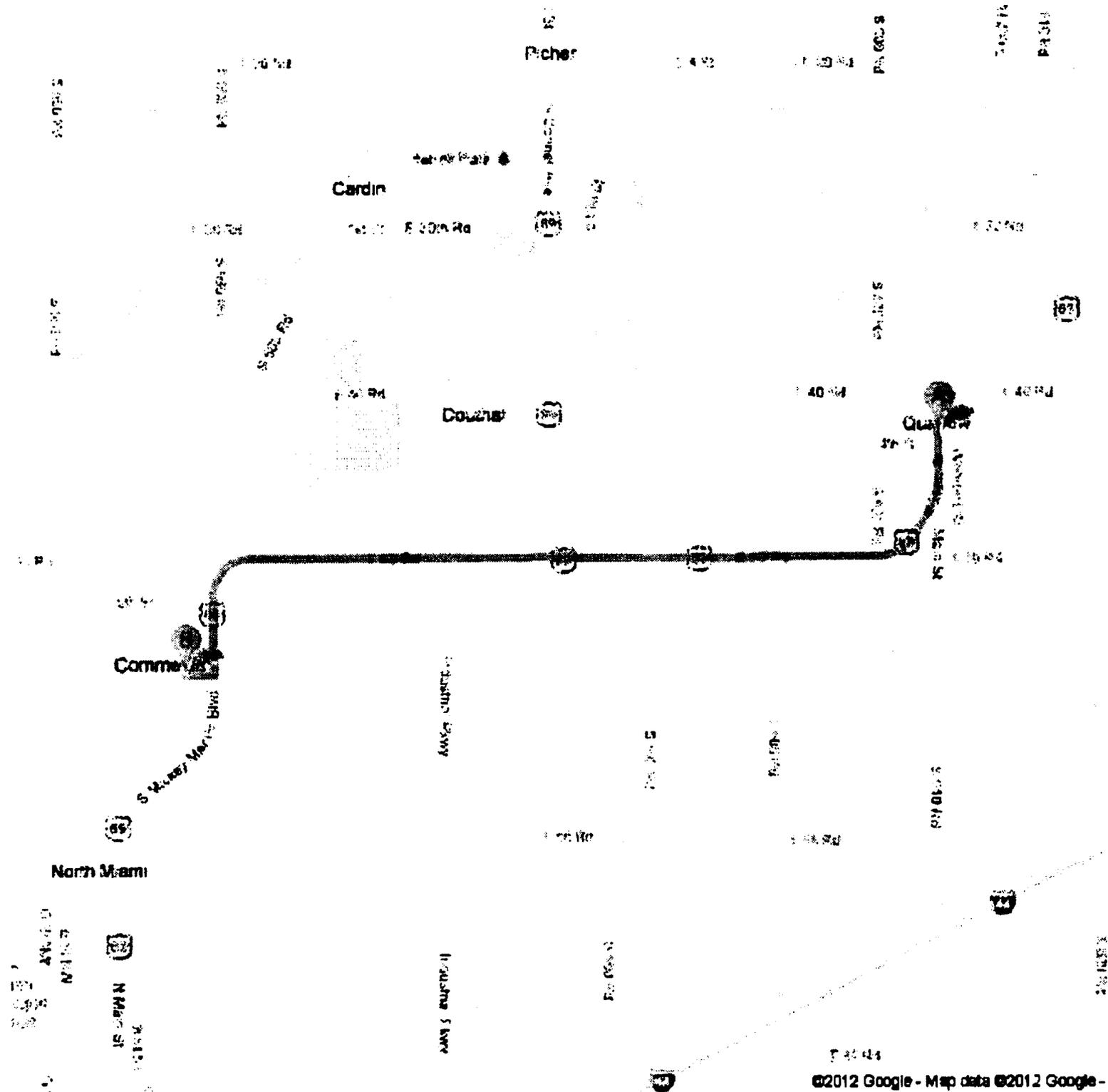
Directions C 6: Directions from Picher, OK (A) to the Tornado Shelter at the City Hall of Commerce in Commerce, OK (B)

Quapaw, OK

Directions from Quapaw, Oklahoma to the local tornado shelter in the City Hall of Commerce in Commerce, Oklahoma.



Directions to 618 Commerce St, Commerce, OK 74339
5.8 mi – about 9 mins



Map C 7: Map from Quapaw, OK (A) to Tornado Shelter at City Hall of Commerce in Commerce, OK (B). Detailed directions on the next page.

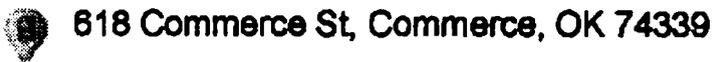


1. Head east on W 4th St toward N Main St go 33 ft
total 33 ft

-  2. Take the 1st right onto US-69 Alt/S Main St go 2.9 mi
total 2.9 mi
Continue to follow US-69 Alt
About 4 mins

-  3. Continue onto US-69 S/E 50 Rd go 2.7 mi
total 5.6 mi
Continue to follow US-69 S
About 4 mins

-  4. Turn right onto Commerce St go 0.2 mi
total 5.8 mi
Destination will be on the right
About 1 min



These directions are for planning purposes only. You may find that construction projects, traffic, weather, or other events may cause conditions to differ from the map results, and you should plan your route accordingly. You must obey all signs or notices regarding your route.

Map data ©2012 Google

Directions weren't right? Please find your route on maps.google.com and click "Report a problem" at the bottom left.

Directions C 7: Directions from Quapaw, OK (A) to the Tornado Shelter at the City Hall of Commerce in Commerce, OK (B)

**HEALTH AND SAFETY PLAN
for the
TAR CREEK SUPERFUND SITE
OU1, OU2 and OU4**

OTTAWA COUNTY, OKLAHOMA

**Cardin
Commerce
Douthat
Miami
North Miami
Picher
Quapaw**

**April 04, 2012
Revised August 28, 2014**

Approved by: David Cates – Project Manager, Health and Safety Officer – OU 1 and 4

Approved by: Dennis Datin – Project Manager, Health and Safety Officer – OU 2 and 4

Approved by: Amy Brittain – Environmental Programs Manager

Approved by: Angela Hughes – Environmental Programs Manager

**Oklahoma Department of Environmental Quality
Land Protection Division**

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A. General Information

Site Name: Tar Creek Superfund Site, including Operable Units 1, 2, and 4

Locations: Ottawa County, Oklahoma

The Tar Creek Superfund Site is in the Oklahoma portion of the Picher Field, located in the northern part of Ottawa County, Oklahoma. Although the site has no distinct boundaries, it is approximately 40 square miles in size.

Objective: The Health and Safety Plan (HASP) is intended to establish requirements and procedures to protect the health and safety of DEQ personnel and the nearby public during the oversight and community outreach efforts associated with the implementation of remedial actions of OU2 (residential operable unit), OU4 (non-residential operable unit), and activities associated with After Action Monitoring under OU1 (operable unit 1).

Dates: August 28, 2014 to January 31, 2025

Background Review: Complete: x Preliminary: _____

Overall Hazard: Serious: _____ Moderate: x Low: _____ Unknown: _____

B. Waste Characterization

Waste Type(s): Liquid: x Solid: x Sludge: _____ Gas: _____

Characteristic(s): Corrosive: x Ignitable: _____ Radioactive: _____

Volatile: _____ Toxic: x Reactive: _____ Unknown: _____

C. Hazard Evaluation

Heat and Cold Stress: Depending on the time of year in which site visits and activity occur, heat and cold stresses can be a major concern. In

Oklahoma, heat stress is of particular concern in the summer when temperatures can consistently be above 85°F. In spring, fall, and winter, wind and rain can increase the likelihood of cold stress and hypothermia, and are of concern. All field members will be monitored for heat and cold stress by the site health and safety officer. Work periods will be timed and shall not exceed one hour. Breaks will focus on fluid replenishment and removal from direct exposure to the elements, if deemed necessary. The exact work periods will be determined by the health and safety officer based on weather conditions. All personnel will be cautioned about pertinent potential heat and/or cold stress.

Physical and Mechanical Hazards:

Possible physical and mechanical hazards include fallen power lines, buried service lines, mine shafts, steep gradients, trenches, holes, ditches, boulder piles, slippery surfaces, heavy equipment such as drill rigs, backhoes, loaders, trucks, construction equipment, etc., and sharp objects such as nails, metal shards, broken glass, abandoned equipment, etc. Additional physical hazards can include high noise levels, fires, electricity, overhead obstruction or falling objects. All personnel will be cautioned about pertinent potential hazards, such as open mine shafts, prior to field entry.

Biological Hazards:

Dogs, feral animals, farm animals, domestic animals, snakes, rodents, spiders, scorpions, insects such as bees, mosquitos, ticks, and wasps, garbage, refuse, and poisonous plants are of concern while on the Tar Creek Superfund site. All personnel will be cautioned about pertinent potential biological hazards.

Chemical Hazards:

Chemical hazards associated with the project are minimal. Chemical chlorine is stored in the water chlorination units attached to some well houses. These are separate sealed units and since personnel will not enter this unit the hazard is low. The fine sized particles associated with chat and mill pond tailings and possible drill cuttings from an ore zone may contain relatively high concentrations of lead. This material tends to adhere to contact surfaces (boots, gloves, or hands), so care must be taken to practice good personal hygiene (e.g., washing hands before eating). Although chat is pervasive throughout the mining area in Ottawa County, the expected exposure while performing this work is minimal and avoidance of the exposure points are easily attained. Other chemical hazards may include the following: containers of ammonia, chlorine, and others; VOCs from solvents, fuel, and oils; wastes from sewers, landfills, smoke/dust/fume, metals, PCBs and paints/surfacing; particulates from fibers, diesel and asbestos; acids and bases from sampling; and other VOCs, SVOCs, pesticides,

herbicides, radionuclides and explosives. If necessary, DEQ personnel will be restricted from entering an area of possible contamination without upgraded personal protection. The health and safety officer will monitor site conditions for any possible chemical hazards. All personnel will be cautioned about pertinent potential chemical hazards.

Severe Weather:

Severe thunderstorms and tornadoes can occur at any time of the year. Directions and maps to the local tornado shelters are attached in Appendix C, maps C1 through C7. Weather forecasts will be monitored by the health and safety officer before field activities are planned to occur. Weather conditions will also be monitored continuously during on-site location. If lightening occurs in the area during field activities, all field activities will be suspended until weather permits field work to safely proceed. Listed below are the public tornado shelters in Commerce and Miami, Oklahoma. For directions to the closest tornado shelter please see (Cardin, OK – Map C1 – pg27; Commerce, OK – Map C2 – pg 29; Douthat, OK – Map C3 – pg 30; Miami, OK – Map C4 – pg 32; North Miami, OK – Map C5 – pg 33; Picher, OK – Map C6 – pg 35; Quapaw, OK – Map C7 – pg 37).

Commerce Middle School
500 E. Commerce Ave.
Commerce, OK 74339

Commerce Community Room in City Hall
618 Commerce Ave.
Commerce, OK 74339

Miami Civic Center Gym/ City Hall
129 5th Ave NW
Miami, OK 74354

D. Site Safety Work Plan

Perimeter Establishment: Site Map attached: yes Site secured: no

Zone(s) of Contamination Identified: yes

Personal Protection: Level of Protection: A B C D X

General Information: The following are not allowed within the areas that are being remediated: smoking, eating, drinking, chewing of gum or tobacco, applying of lip balm or cosmetics, or horseplay. All

personnel entering areas of contamination at the site are required to have the OSHA 40-Hour Hazardous Waste Operations (HAZWOPER) training and Baseline Medical Monitoring.

Personal Protection:

Level D equipment will be required, including safety glasses, disposable latex gloves, and steel-toed boots. In areas with construction work or heavy machinery work, hard hats, hearing protection, and reflective safety vests may also be required. The health and safety officer will make the determination whether the area is safe based on visual assessment. If adverse conditions exist the site will be vacated until conditions are safe. Hats, jackets, scarves, gloves, sunglasses, and sunscreen may be appropriate depending on the time of year.

Decontamination:

While on-site, disposable personal protective equipment (PPE) and disposable sampling tools will be collected, double-bagged, and stored for final disposal at DEQ headquarters. If immediate medical treatment is required to save a life or limb, decontamination will be delayed.

*Special Equipment,
Facilities, or Procedures:*

Modified Level C equipment that may be required for this project includes inner and outer chemical resistant gloves, steel toe boots, chemical resistant clothing, and overalls. Respirators, a full-face APR with appropriate cartridges may also be utilized if deemed necessary. The site health and safety officer will determine if this special safety equipment is necessary.

Site Control:

Access to the areas of contamination is partially restricted by barbed wire fences. DEQ field team members will continually monitor for unauthorized persons entering the site during sampling activities. Trespassers will be asked to leave the site. Local police will be notified if the unauthorized persons are uncooperative. If more than one team is conducting sampling at the site, two-way radios or cell phones will be employed.

Work Limitations:

Field activities will not be conducted if adverse weather conditions exist. Samples will not be collected if sample integrity is questioned (precipitation during sampling event). Field activities will be conducted in teams--a minimum of two people ("buddy system"). All personnel must maintain visual or vocal communication at all times with their "buddy". Emergency hand signals will be used if necessary.

E. Site Personnel

DEO Contacts

Amy Brittain – Environmental Programs Manager
Office – (405) 702-5157

Angela Hughes – Environmental Programs Manager
Office – (405) 702-5141

David Cates – Project Manager, Health and Safety Officer – OU1 and OU4
Office – (405) 702-5124 Mobile – (405) 590-0283

Dennis Datin – Project Manager, Health and Safety Officer – OU2 and OU4
Office – (405) 702-5125 Mobile – (405) 203-2604

Rita Kottke – Remediation Unit Manager
Office – (405) 702-5156

Dustin Davidson – Environmental Program Specialist
Office – (405) 702-5115

Brian Stanila – Environmental Program Specialist
Office – (405) 702- 5138

Brittany Downs – Environmental Program Specialist
Office – (405) 702-5112

Aron Samwel – Environmental Programs Specialist
Office (405) 702-5123

EPA Contacts

Ursula Lennox – EPA Remedial Project Manager
Office – (214) 665-6743;
Cell – (214) 789-9354

Raphel Cassonova – EPA Remedial Project Manager
Office – (214) 665-7437

Bob Sullivan – EPA Task Order Manager – OU1 and OU2
Office – (214) 665-2223

Janetta Coats – EPA Site Community Outreach Coordinator
Office – (214) 665-7308

Quapaw Tribe Contacts

Tim Kent, PG
Environmental Director
Quapaw Tribe of Oklahoma
918-542-1853

Craig A. Kreman, E.I.
Environmental Engineer/Assistant Director
Quapaw Tribe Environmental Office
[P]: (918) 542-1853 Ext 226 | [M]: (918) 533-3085

Chris Roper
Construction Manager
Direct: (918) 919-6153
Mobil: (573) 247-8181

DEQ team may require additional personnel to assist in site activities. These additional staff members will be briefed on the project objectives and site conditions. In the absence of the Project Manager, the senior DEQ employee will be Site Project Manager and assumes the responsibilities of the Project Manager. Unless otherwise specified, the Site Project Manager assumes the responsibilities of Health and Safety Officer.

F. Emergency Information

Ambulance	911
Fire Department	911 (Emergency)
Police	911 (Emergency)
Integrus Baptist Regional Health Center (Hospital in Miami, OK)	(918) 542-6611
Ottawa County Sheriff	(918) 542-2806
Ottawa County Commissioner	(918) 673-1100
Oklahoma Poison Control	1 (800) 522-4611
DEQ Land Protection Division	(405) 702-5100
Municipal Contact (City Hall)	City of Commerce: (918) 675-4373 City of Quapaw: (918) 674-2525 City of Miami: (918) 542-6685 City of North Miami: (918) 542-2718
Local City and Tribal Contact:	City of Commerce: Jeb Jones (918) 533-0032 City of Miami: Keith Siler (918) 541-2240 City of Quapaw: Jim Brittle (918) 674-2525 Quapaw Tribe: Tim Kent (918)542-1853

Emergency Medical Facility: Integris Medical Services
200 Second Avenue SW
Miami, Oklahoma 74354
Phone: (918) 542-6611

Directions to hospital: The maps are attached in Appendix B and should be kept onsite in the vehicle for quick reference. Directions to the hospital are as follows:

*Directions to hospital:
(continued)*

From Cardin(See Map B1, pg 16):

West on 1st St/E 30 Rd and then South on S 565 Rd. Continue on S 565 Rd which turns slightly left and become 560 Rd. Continue onto N. Mickey Mantle Blvd in Commerce, which then turns into US69 S; continue South on US-69 which becomes N. Main St. in Miami. Turn right on 2nd Ave SW. Integris Hospital will be on your right after ca. 0.1 mile on 2nd Ave.

From Commerce (Map B2, pg 18):

Go East to US69 and take a right going South on US69 S/S Mickey Mantle Blvd. Continue South on US-69 which becomes N. Main St. in Miami. Turn right on 2nd Ave SW. Integris Hospital will be on your right after ca. 0.1 mile on 2nd Ave.

From Douthat (Map B3, pg 20):

East on E 40 Rd toward US69. Take a right on US69 S, turn right onto US69 S/ E 50 Rd and continue on US69 which becomes N. Main St. in Miami. Take a right on 2nd Ave SW. Integris Hospital will be on your right after ca. 0.1 mile on 2nd Ave.

From Miami (Map B4, pg 22):

South on US69 S / N. Main St. Take a right on 2nd Ave SW. Integris Hospital will be on your right after ca. 0.1 mile on 2nd Ave.

From North Miami (Map B5, pg 23):

South on US69 S / N. Main St. Take a right on 2nd Ave SW. Integris Hospital will be on your right after ca. 0.1 mile on 2nd Ave.

From Picher (Map B6, pg 24):

South on US69 (S/N Connell St.), continue to follow US69, taking a right onto US69 S/E 50 Rd, and following the road as it becomes Main St. in Miami. Take a right on 2nd Ave SW. Integris Hospital will be on your right after ca. 0.1 mile on 2nd Ave.

From Ouapaw (Map B7, pg 26):

South on US69 Alt/S Main St. Continue onto US69/E 50 Rd, and continue following US69 S which becomes Main St. in Miami. Take a right on 2nd Ave SW. Integris Hospital will be on your right after ca. 0.1 mile on 2nd Ave.

Emergency hand signals:

Hand gripping throat:	Out of air; can't breathe!
Grip partner's wrist or place hands around waist:	Leave area immediately!
Hands on top of head:	Need assistance.
Thumbs up:	OK; I'm all right; I understand.
Thumbs down:	No; negative.

All injuries or illness will be immediately reported to the site project manager. A cellular phone will be taken to use in case of an emergency. A first aid kit and basic first aid manual will be located within each vehicle, enabling temporary first aid to be administered until necessary medical treatment can be obtained. All injuries or illnesses will be recorded in the site's logbook.

Chain-of-command in case of emergency:

Scott Thompson
DEQ Executive Director

Kelly Dixon
(405) 702-5151
Land Protection Division Director

Fenton Rood
(405) 702-5159
Land Protection Assistant Division Director

Rita Kottke
(405) 702-5156

Remediation Unit Program Manager

Amy Brittain / Angela Hughes
(405) 702-5157 / (405) 702-5141
Environmental Programs Manager



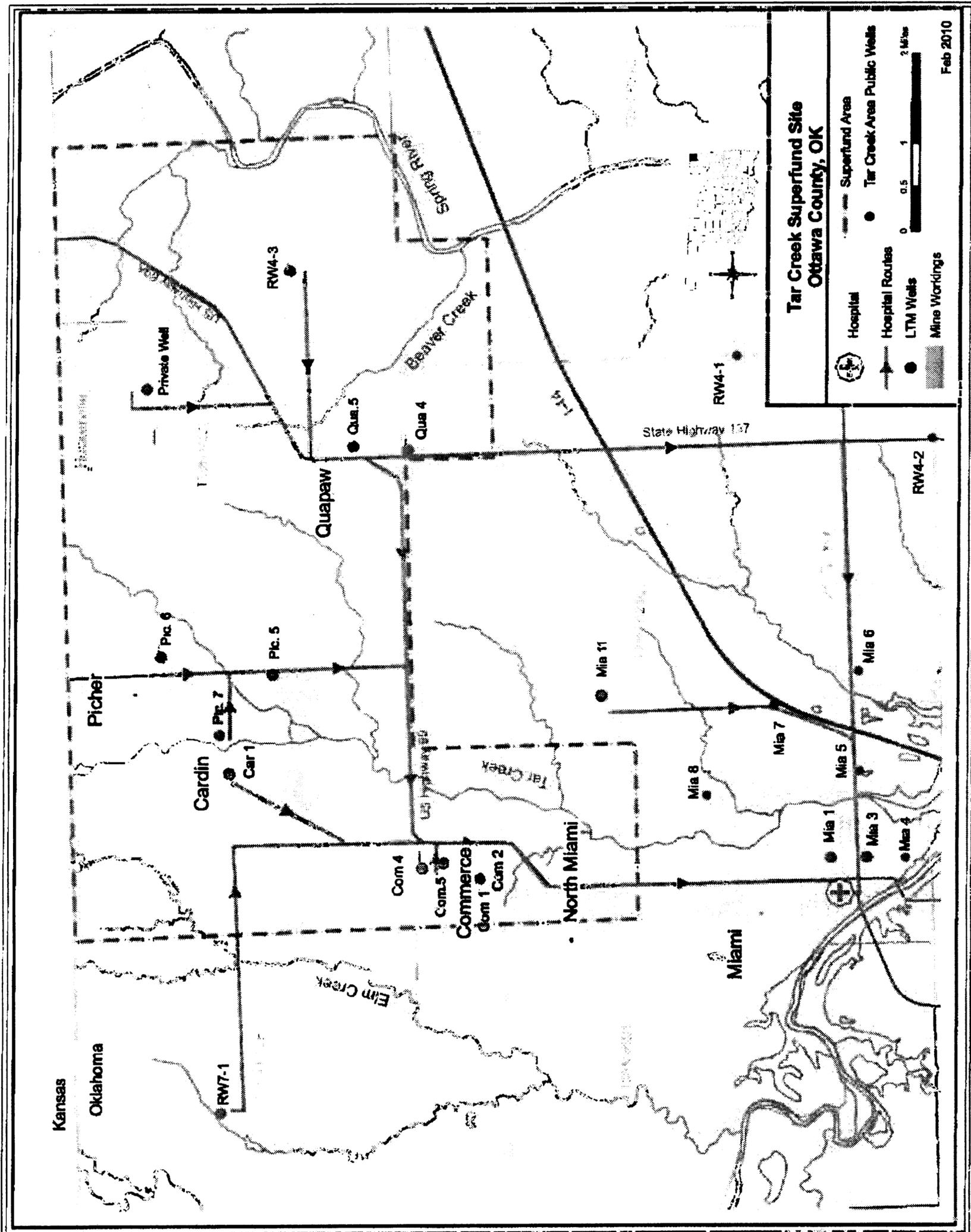
Site Project Manager

Unless otherwise specified, Site Project Manager assumes responsibilities of Health and Safety Officer

Field Team Members

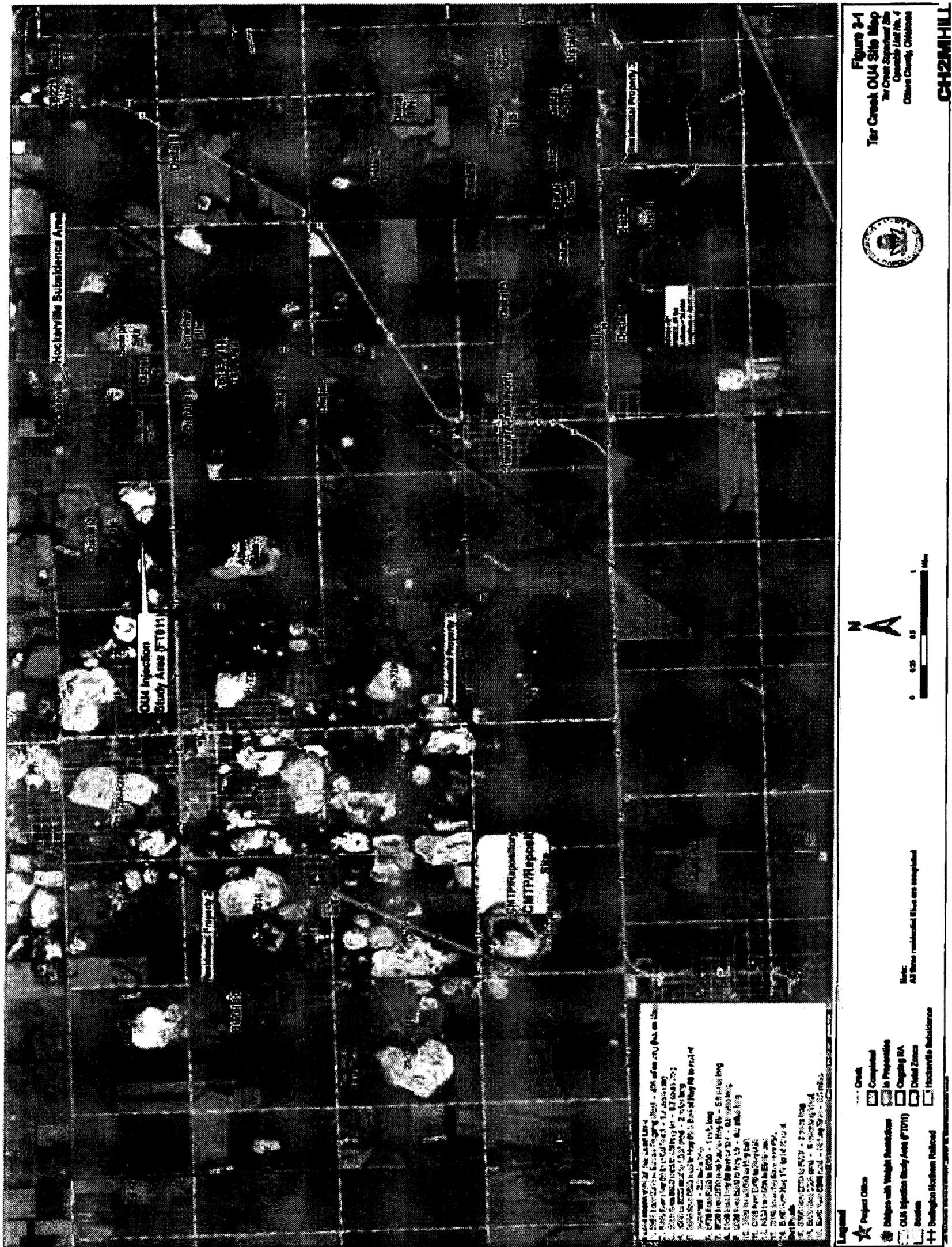
Senior DEQ employee assumes responsibilities of the Site Project Manager in his or her absence

Appendix A: Maps of Tar Creek



Map A 1: Map of Tar Creek Area

Tar Creek Superfund Site HASP



Map A 2: Map of Tar Creek Area including distal areas.

Appendix B: Maps and Directions to Hospital

Emergency Medical Facility:

Integris Medical Services

200 Second Avenue SW
Miami, Oklahoma 74354

Phone:

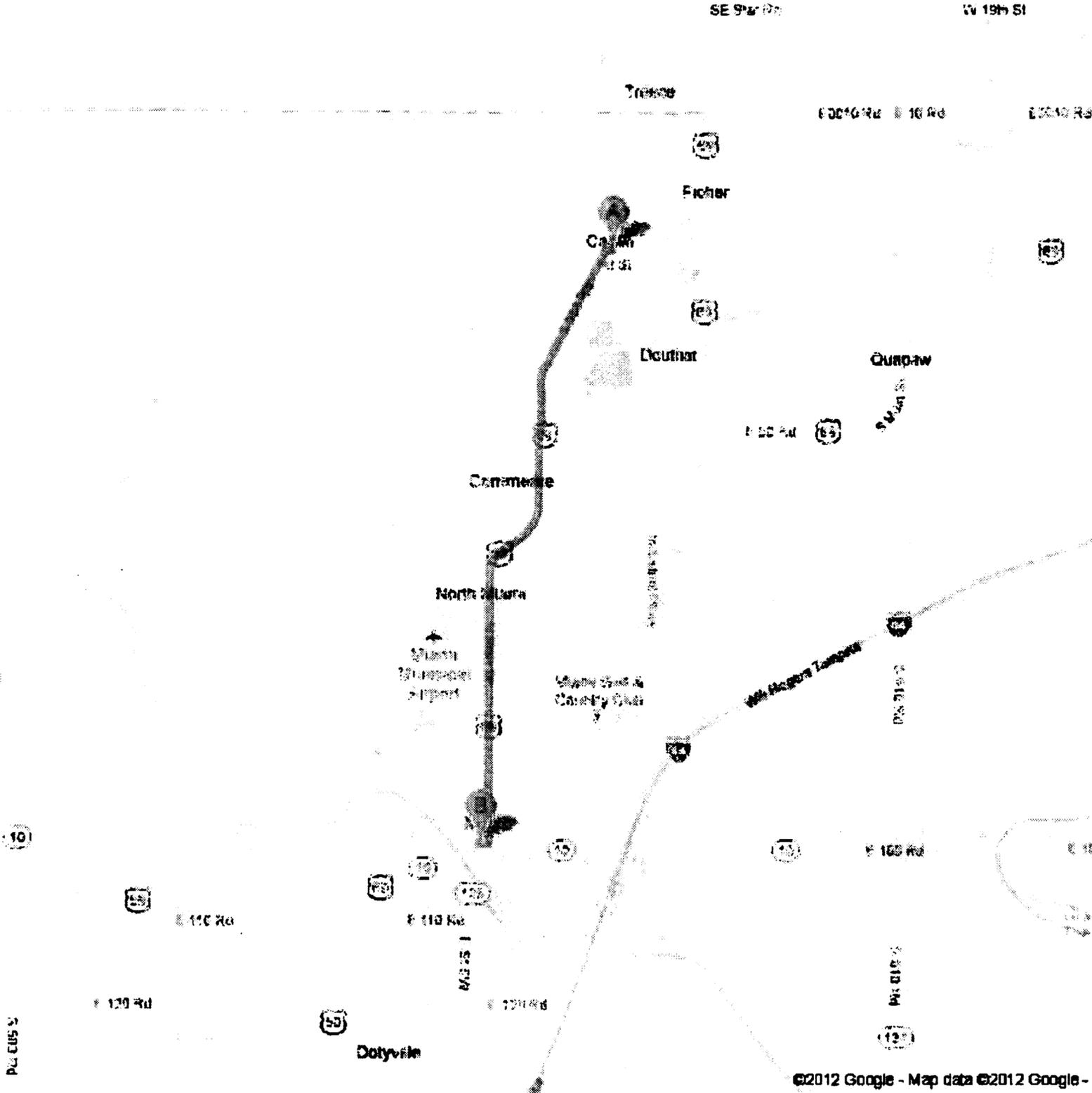
911 (Emergency)
918-542-6611

Cardin, OK

Directions from Cardin, Oklahoma to the Integris Hospital in Miami, Oklahoma.



Directions to 200 2nd Ave SW, Miami, OK 74354
7.7 mi – about 13 mins



Map B 1: Map from Cardin, Oklahoma (A) to Integris Hospital in Miami, Oklahoma (B). Detailed directions on next page.



Cardin, OK

-
1. Head west on 3rd St toward Wade St go 0.1 mi
total 0.1 mi

 2. Continue onto Elm St go 0.1 mi
total 0.3 mi

 -  3. Turn left onto 1st St go 43 ft
total 0.3 mi

 -  4. Take the 1st right onto S565rd go 328 ft
total 0.3 mi

 5. Continue onto S 565 Rd go 1.4 mi
total 1.7 mi
About 2 mins

 -  6. S 565 Rd turns slightly left and becomes 560 Rd go 0.7 mi
total 2.4 mi
About 1 min

 7. Continue onto N Mickey Mantle Blvd go 1.7 mi
total 4.1 mi
About 3 mins

 -  8. Continue onto US-69 S go 3.5 mi
total 7.6 mi
About 4 mins

 -  9. Turn right onto 2nd Ave SW go 0.1 mi
total 7.7 mi
Destination will be on the right
About 1 min



200 2nd Ave SW, Miami, OK 74354

These directions are for planning purposes only. You may find that construction projects, traffic, weather, or other events may cause conditions to differ from the map results, and you should plan your route accordingly. You must obey all signs or notices regarding your route.

Map data ©2012 Google

Directions weren't right? Please find your route on maps.google.com and click "Report a problem" at the bottom left.

Directions B 1: Detailed directions from Cardin, Oklahoma (A) to Integris Hospital in Miami, Oklahoma (B).

 Commerce, OK

-
1. Head south on N Cherry St toward Commerce St go 59 ft
total 59 ft

 -  2. Take the 1st left onto Commerce St go 0.3 mi
total 0.3 mi
About 2 mins

 -  3. Turn right onto US-69 S/S Mickey Mantle Blvd go 4.5 mi
total 4.8 mi
Continue to follow US-69 S
About 6 mins

 -  4. Turn right onto 2nd Ave SW go 0.1 mi
total 4.9 mi
Destination will be on the right
About 1 min

 200 2nd Ave SW, Miami, OK 74354

These directions are for planning purposes only. You may find that construction projects, traffic, weather, or other events may cause conditions to differ from the map results, and you should plan your route accordingly. You must obey all signs or notices regarding your route.

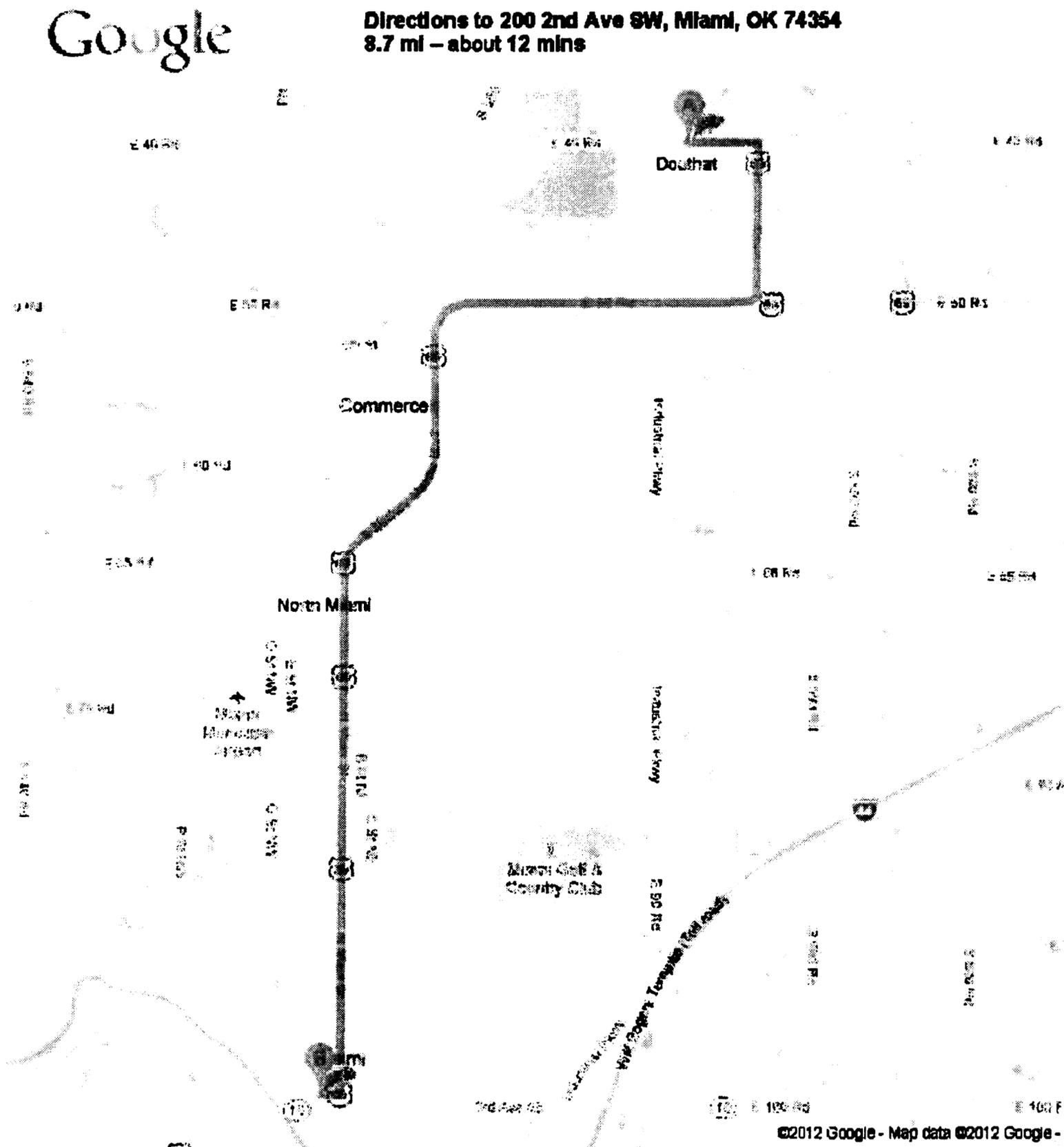
Map data ©2012 Google

Directions weren't right? Please find your route on maps.google.com and click "Report a problem" at the bottom left.

Directions B 2: Detailed directions from Commerce, Oklahoma (A) to Integris Hospital in Miami, Oklahoma (B).

Douthat, OK

Directions from Douthat, Oklahoma to the Integris Hospital in Miami, Oklahoma.



 Douthat, OK

-
1. Head east on E 40 Rd toward US-69 N
About 1 min go 0.4 mi
total 0.4 mi
 -  2. Take the 1st right onto US-69 S
About 2 mins go 1.0 mi
total 1.4 mi
 -  3. Turn right onto US-69 S/E 50 Rd
Continue to follow US-69 S
About 9 mins go 7.1 mi
total 8.5 mi
 -  4. Turn right onto 2nd Ave SW
Destination will be on the right
About 1 min go 0.1 mi
total 8.7 mi

 200 2nd Ave SW, Miami, OK 74354

These directions are for planning purposes only. You may find that construction projects, traffic, weather, or other events may cause conditions to differ from the map results, and you should plan your route accordingly. You must obey all signs or notices regarding your route.

Map data ©2012 Google

Directions weren't right? Please find your route on maps.google.com and click "Report a problem" at the bottom left.

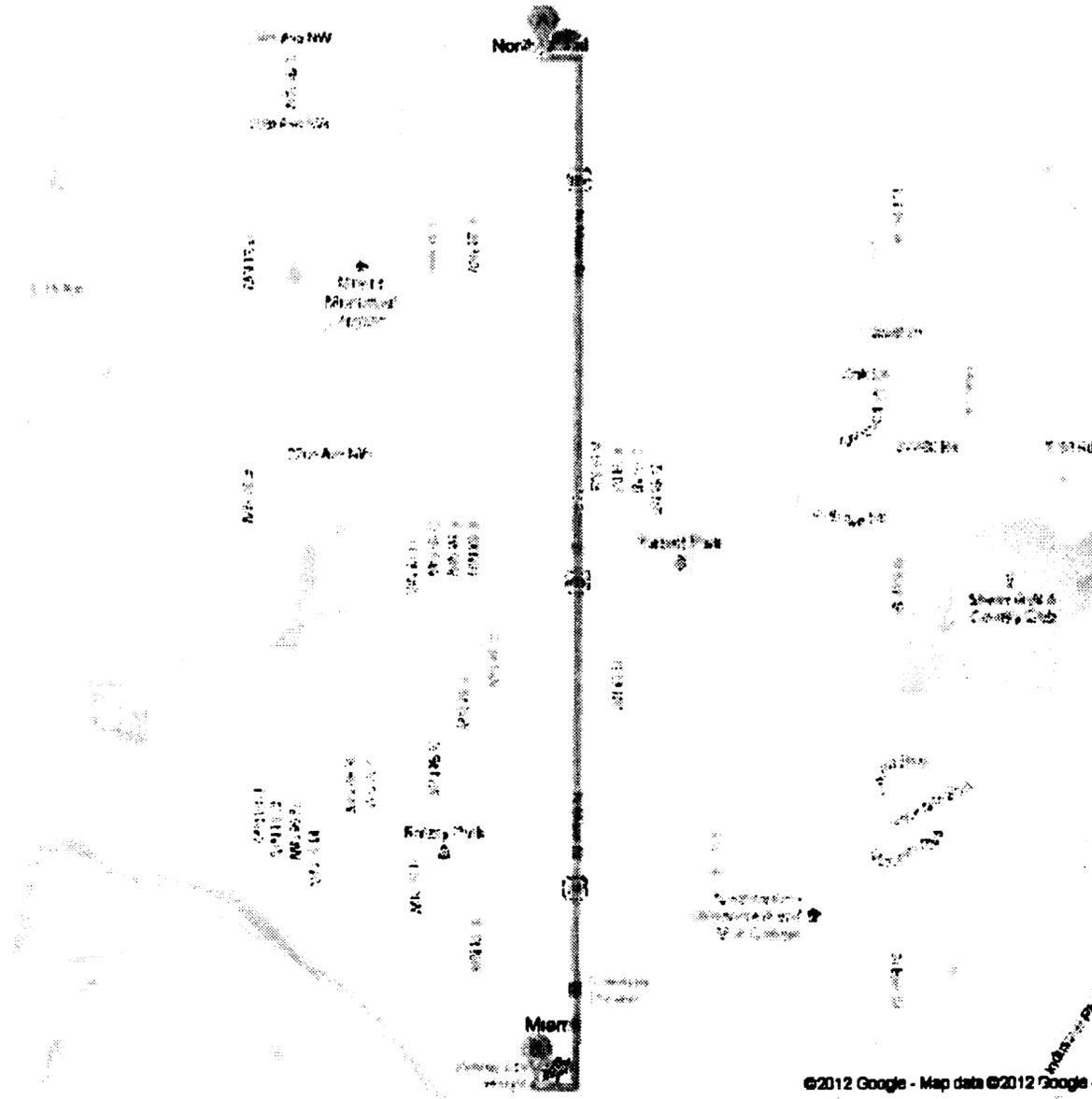
Directions B 3: Detailed directions from Douthat, Oklahoma (A) to Integris Hospital in Miami, Oklahoma (B).

North Miami, OK

Directions from North Miami, Oklahoma to the Integris Hospital in Miami, Oklahoma.



Directions to 200 2nd Ave SW, Miami, OK 74354
3.4 mi – about 5 mins



Map B 5: Map from North Miami (A) to Integris Hospital in Miami, Oklahoma (B).



North Miami, OK

- | | |
|---|-----------------------------------|
| <p>1. Head east on Lackledge Ave toward 3rd Ave</p> | <p>go 0.1 mi
total 0.1 mi</p> |
| <p> 2. Turn right onto N Main St
About 4 mins</p> | <p>go 3.1 mi
total 3.2 mi</p> |
| <p> 3. Turn right onto 2nd Ave SW
Destination will be on the right.
About 1 min</p> | <p>go 0.1 mi
total 3.4 mi</p> |



200 2nd Ave SW, Miami, OK 74354

These directions are for planning purposes only. You may find that construction projects, traffic, weather, or other events may cause conditions to differ from the map results, and you should plan your route accordingly. You must obey all signs or notices regarding your route.

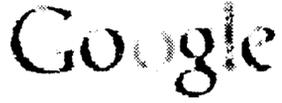
Map data ©2012 Google

Directions weren't right? Please find your route on maps.google.com and click "Report a problem" at the bottom left.

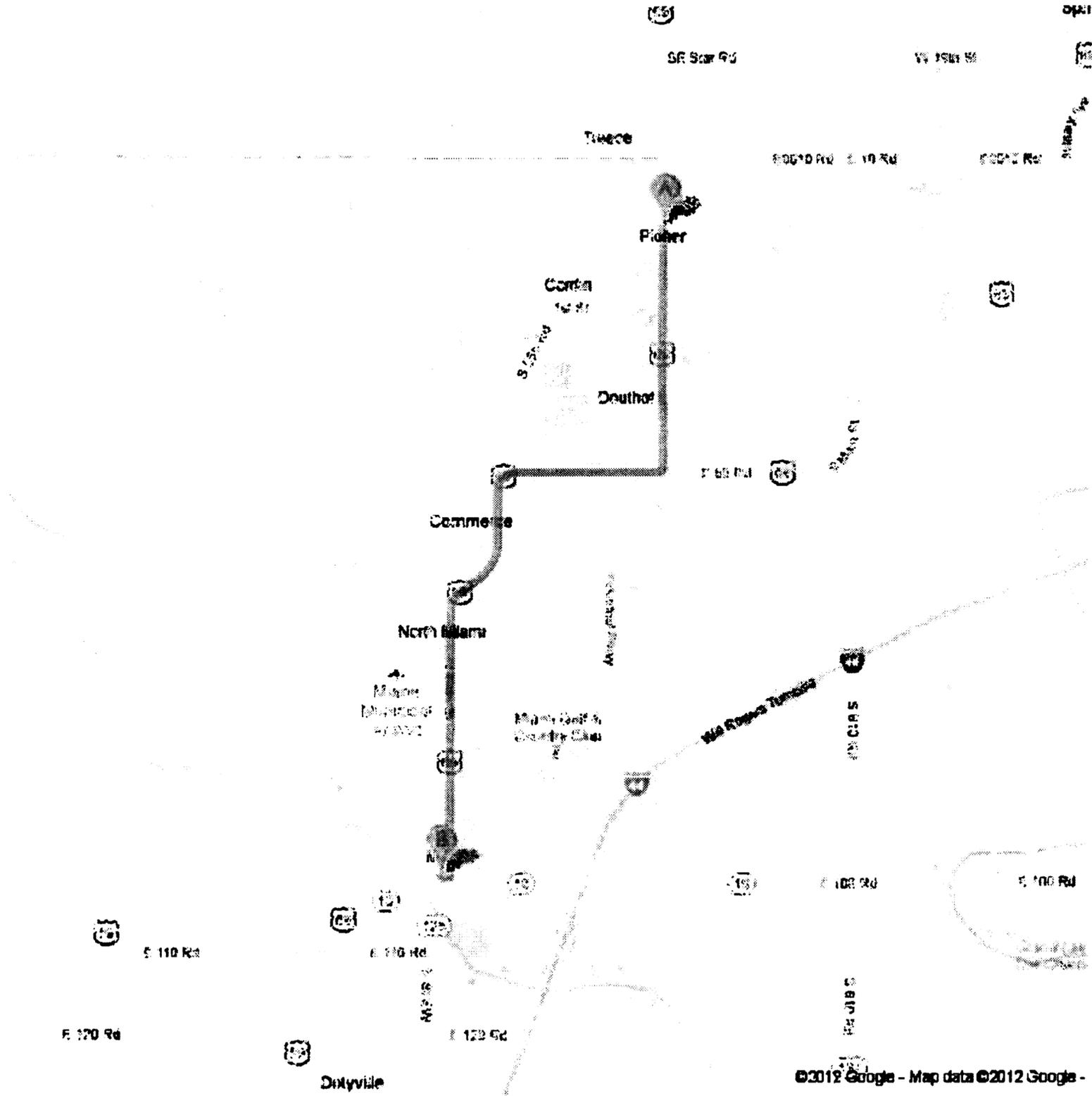
Directions B 5: Detailed directions from North Miami, Oklahoma (A) to Integris Hospital in Miami, Oklahoma(B).

Picher, OK

Directions from Picher, Oklahoma to the Integris Hospital in Miami, Oklahoma.



Directions to 200 2nd Ave SW, Miami, OK 74354
10.2 mi – about 15 mins



Map B 6: Map from Picher, Oklahoma (A) to the Integris Hospital in Miami, Oklahoma (B). Detailed directions on the next page.

 Picher, OK

- 1. Head west on E a St toward N Connell St go 56 ft
total 56 ft
-  2. Take the 1st left onto US-69 S/N Connell St go 3.0 mi
total 3.0 mi
Continue to follow US-69 S
About 5 mins
-  3. Turn right onto US-69 S/E 50 Rd go 7.1 mi
total 10.1 mi
Continue to follow US-69 S
About 9 mins
-  4. Turn right onto 2nd Ave SW go 0.1 mi
total 10.2 mi
Destination will be on the right
About 1 min

 200 2nd Ave SW, Miami, OK 74354

These directions are for planning purposes only. You may find that construction projects, traffic, weather, or other events may cause conditions to differ from the map results, and you should plan your route accordingly. You must obey all signs or notices regarding your route.

Map data ©2012 Google

Directions weren't right? Please find your route on maps.google.com and click "Report a problem" at the bottom left.

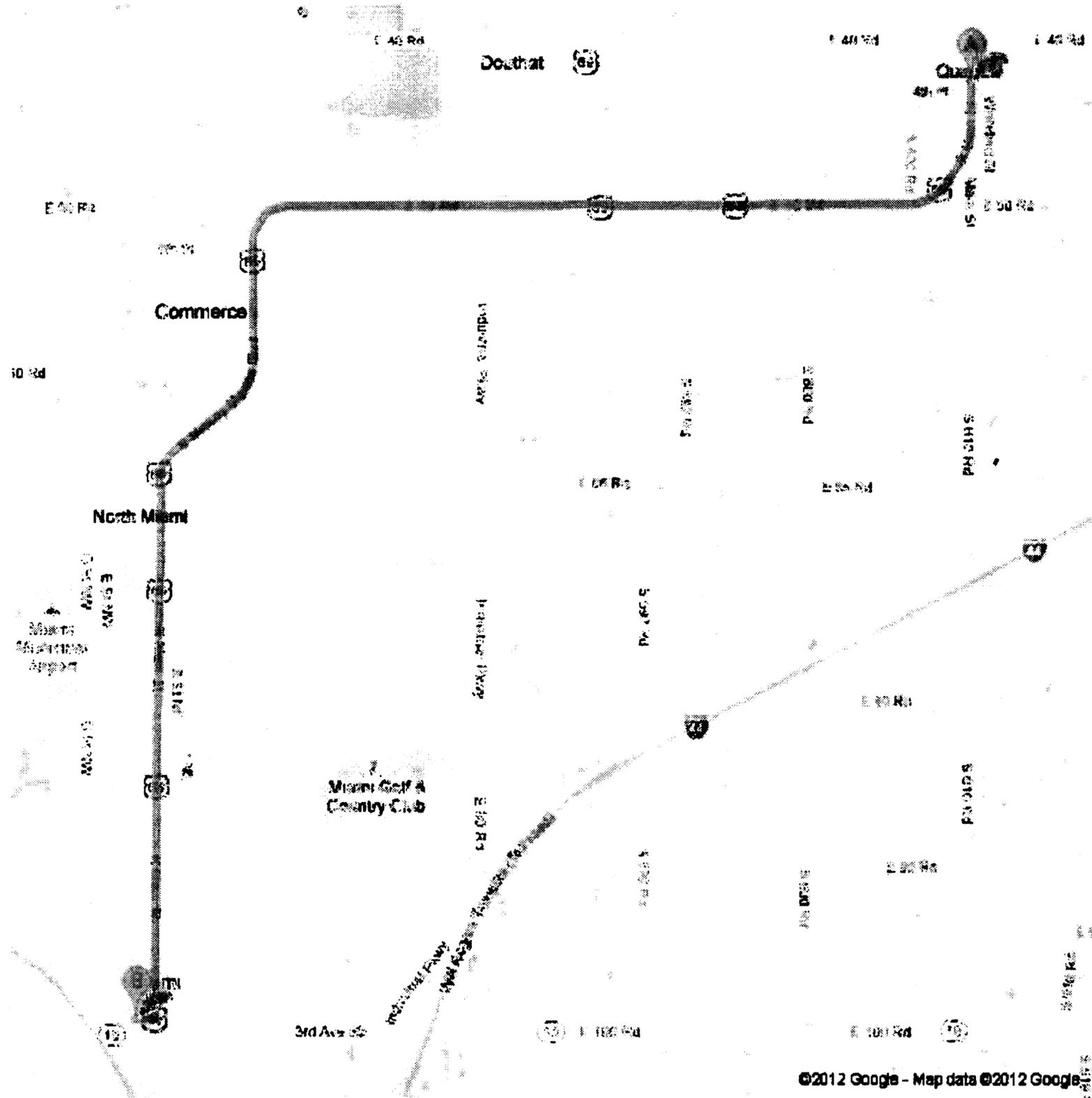
Directions B 6: Detailed directions from Picher, Oklahoma (A) to Integris Hospital in Miami, Oklahoma (B).

Quapaw, OK

Directions from Quapaw, Oklahoma to the Integris Hospital in Miami, Oklahoma.

Google

Directions to 200 2nd Ave SW, Miami, OK 74354
10.2 mi – about 14 mins



Map B 7: Map from Quapaw, Oklahoma (A) to the Integris Hospital in Miami, Oklahoma (B). Detailed directions on the next page.

 Quapaw, OK

-
1. Head east on W 4th St toward N Main St go 33 ft
total 33 ft

 -  2. Take the 1st right onto US-69 Alt/S Main St go 2.9 mi
total 2.9 mi
Continue to follow US-69 Alt
About 4 mins

 -  3. Continue onto US-69 S/E 50 Rd go 7.1 mi
total 10.0 mi
Continue to follow US-69 S
About 9 mins

 -  4. Turn right onto 2nd Ave SW go 0.1 mi
total 10.2 mi
Destination will be on the right
About 1 min
-  200 2nd Ave SW, Miami, OK 74354
-

These directions are for planning purposes only. You may find that construction projects, traffic, weather, or other events may cause conditions to differ from the map results, and you should plan your route accordingly. You must obey all signs or notices regarding your route.

Map data ©2012 Google

Directions weren't right? Please find your route on maps.google.com and click "Report a problem" at the bottom left.

Directions B 7: Detailed directions from Quapaw, Oklahoma (A) to Integris Hospital in Miami, Oklahoma (B).

Appendix C: Maps and Directions to Tornado Shelters

City of Commerce:

**Commerce Middle School
500 E. Commerce Ave.
Commerce, OK 74339**

**Community Room in City Hall
618 Commerce Ave.
Commerce, OK 74339**

City of Miami:

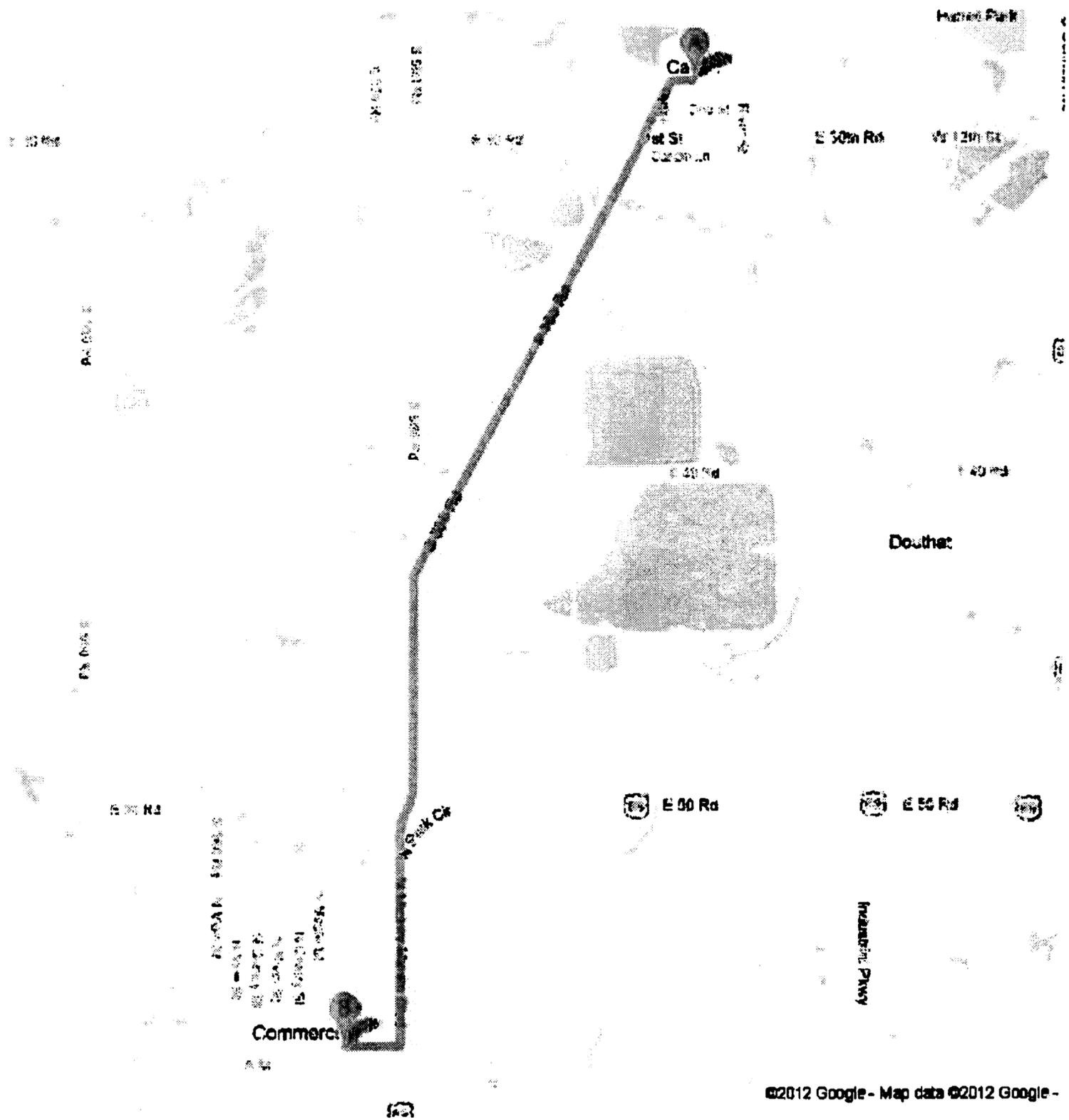
**Civic Center Gym/ City Hall
129 5th Ave NW
Miami, OK 74354**

Cardin, OK

Directions from Cardin, Oklahoma to the local tornado shelter in the City Hall of Commerce in Commerce, Oklahoma.



Directions to 618 Commerce St, Commerce, OK 74339
3.3 mi – about 8 mins



Map C 1: Map from Cardin, OK (A) to Tornado Shelter at City Hall of Commerce in Commerce, OK (B). Detailed directions on the next page.

 **Cardin, OK**

- | | |
|---|---------------------------|
| 1. Head west on 3rd St toward Wade St | go 0.1 mi
total 0.1 mi |
| 2. Continue onto Elm St | go 0.1 mi
total 0.3 mi |
|  3. Turn left onto 1st St | go 43 ft
total 0.3 mi |
|  4. Take the 1st right onto S565rd | go 328 ft
total 0.3 mi |
| 5. Continue onto S 565 Rd
About 2 mins | go 1.4 mi
total 1.7 mi |
|  6. S 565 Rd turns slightly left and becomes 560 Rd
About 1 min | go 0.7 mi
total 2.4 mi |
| 7. Continue onto N Mickey Mantle Blvd
About 2 mins | go 0.7 mi
total 3.2 mi |
|  8. Turn right onto Commerce St
Destination will be on the right
About 1 min | go 0.2 mi
total 3.5 mi |

 **618 Commerce St, Commerce, OK 74339**

These directions are for planning purposes only. You may find that construction projects, traffic, weather, or other events may cause conditions to differ from the map results, and you should plan your route accordingly. You must obey all signs or notices regarding your route.

Map data © 2017 Google

Directions weren't right? Please find your route on maps.google.com and click "Report a problem" at the bottom left.

Directions C 1: Directions from Cardin, OK (A) to the Tornado Shelter at the City Hall of Commerce in Commerce, OK (B)

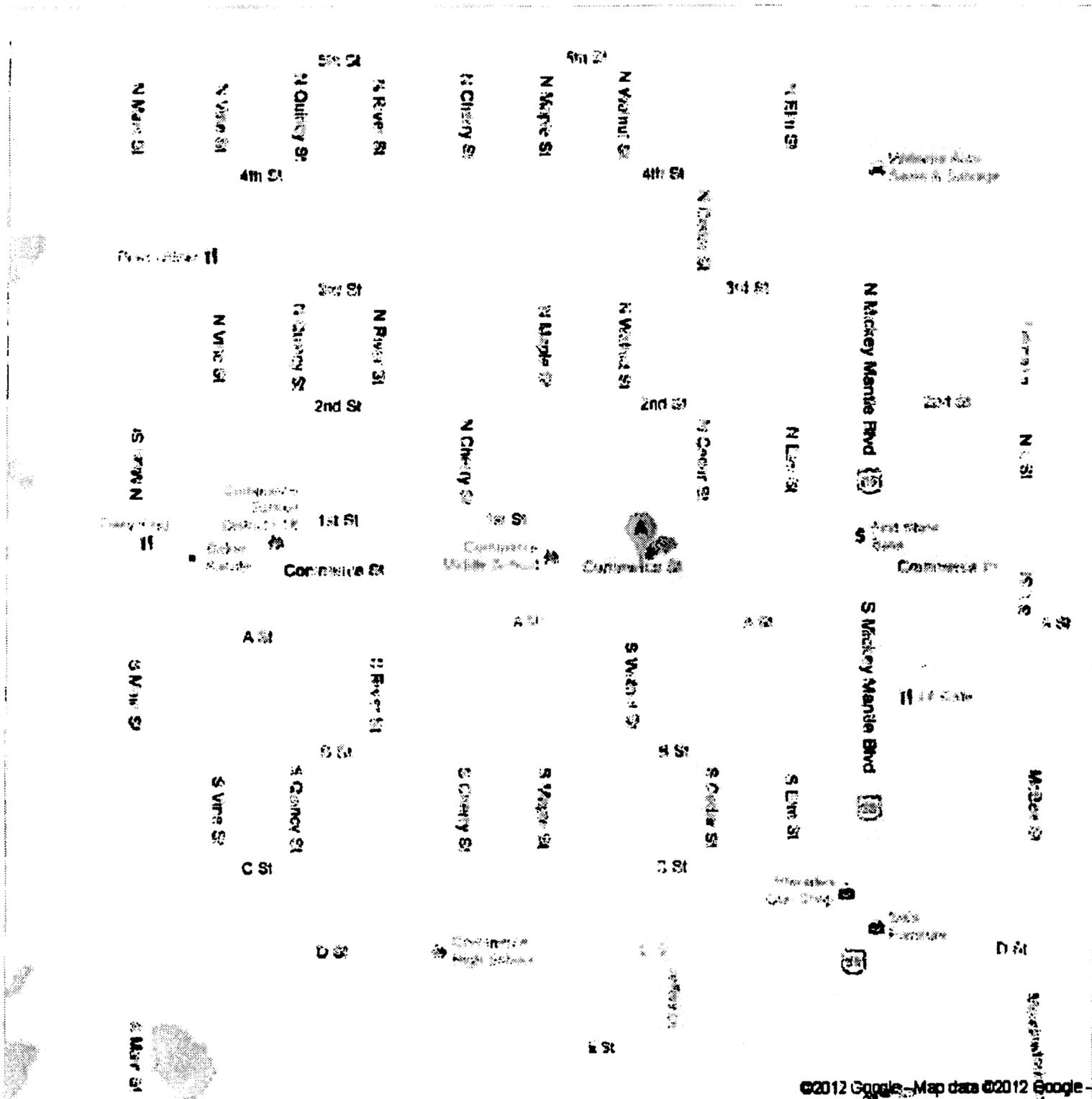
Commerce, OK

Map of Commerce, Oklahoma with the location of the local tornado shelter in the City Hall of Commerce (A).



Address **618 Commerce St**
Commerce, OK 74339

Get Google Maps on your phone
Text the word "GMAPS" to 466453



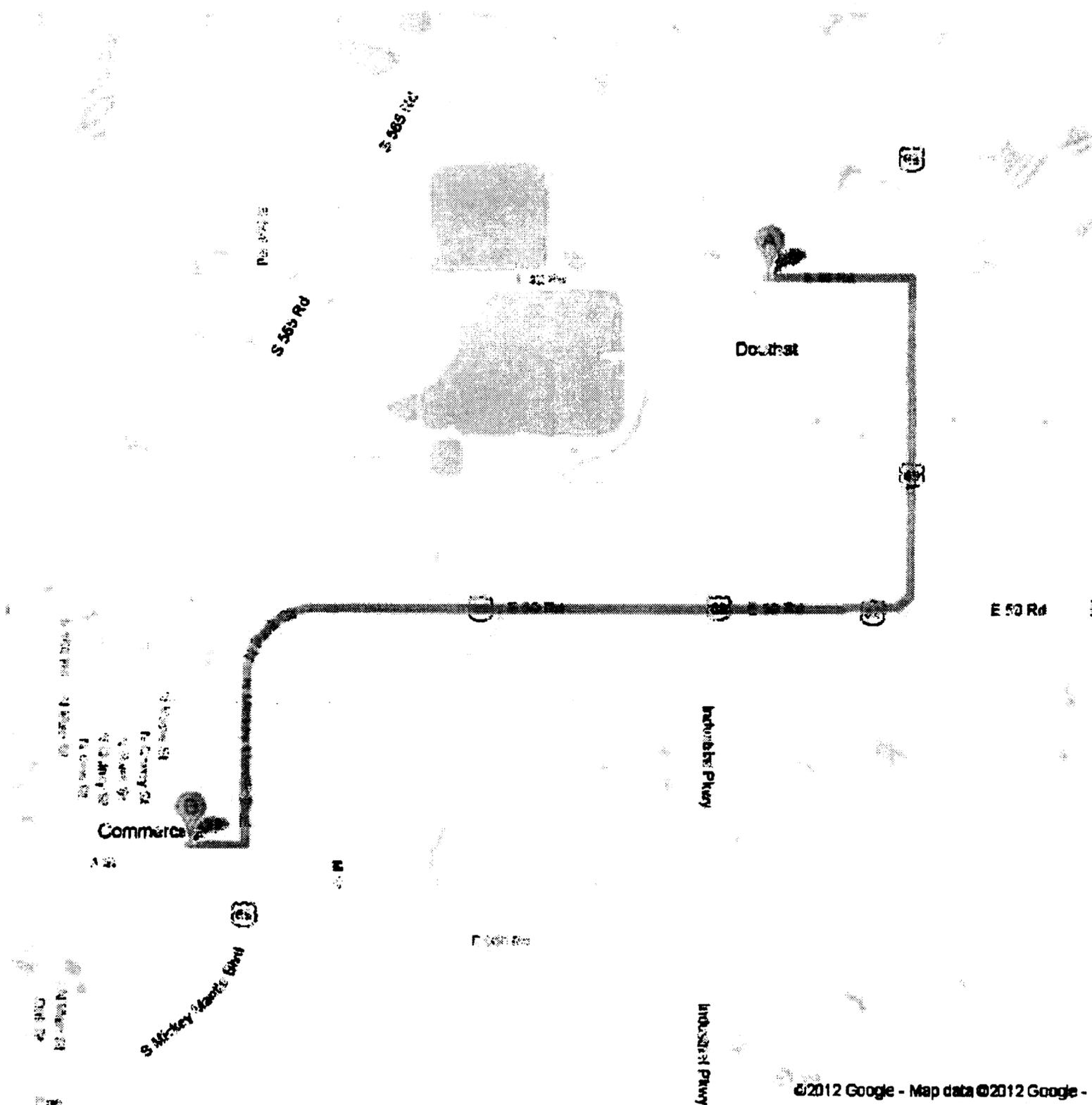
Map C 2: Map of City of Commerce, OK with the location of the tornado shelter in the City Hall marked (A).

Douthat, OK

Directions from Douthat, Oklahoma to the local tornado shelter in the City Hall of Commerce in Commerce, Oklahoma.

Google

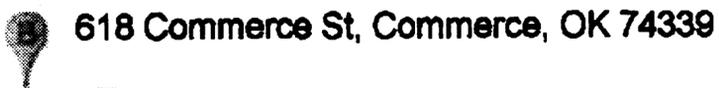
Directions to 818 Commerce St, Commerce, OK
74339
4.3 mi – about 7 mins



Map C 3: Map from Douthat, OK (A) to Tornado Shelter at City Hall of Commerce in Commerce, OK (B). Detailed directions on the next page.



-
1. **Head east on E 40 Rd toward US-69 N**
About 1 min go 0.4 mi
total 0.4 mi
 -  2. **Take the 1st right onto US-69 S**
About 2 mins go 1.0 mi
total 1.4 mi
 -  3. **Turn right onto US-69 S/E 60 Rd**
Continue to follow US-69 S
About 4 mins go 2.7 mi
total 4.1 mi
 -  4. **Turn right onto Commerce St**
Destination will be on the right
About 1 min go 0.2 mi
total 4.3 mi



These directions are for planning purposes only. You may find that construction projects, traffic, weather, or other events may cause conditions to differ from the map results, and you should plan your route accordingly. You must obey all signs or notices regarding your route.

Map data ©2012 Google

Directions weren't right? Please find your route on maps.google.com and click "Report a problem" at the bottom left.

Directions C3: Directions from Douthat, OK (A) to the Tornado Shelter at the City Hall of Commerce in Commerce, OK (B)

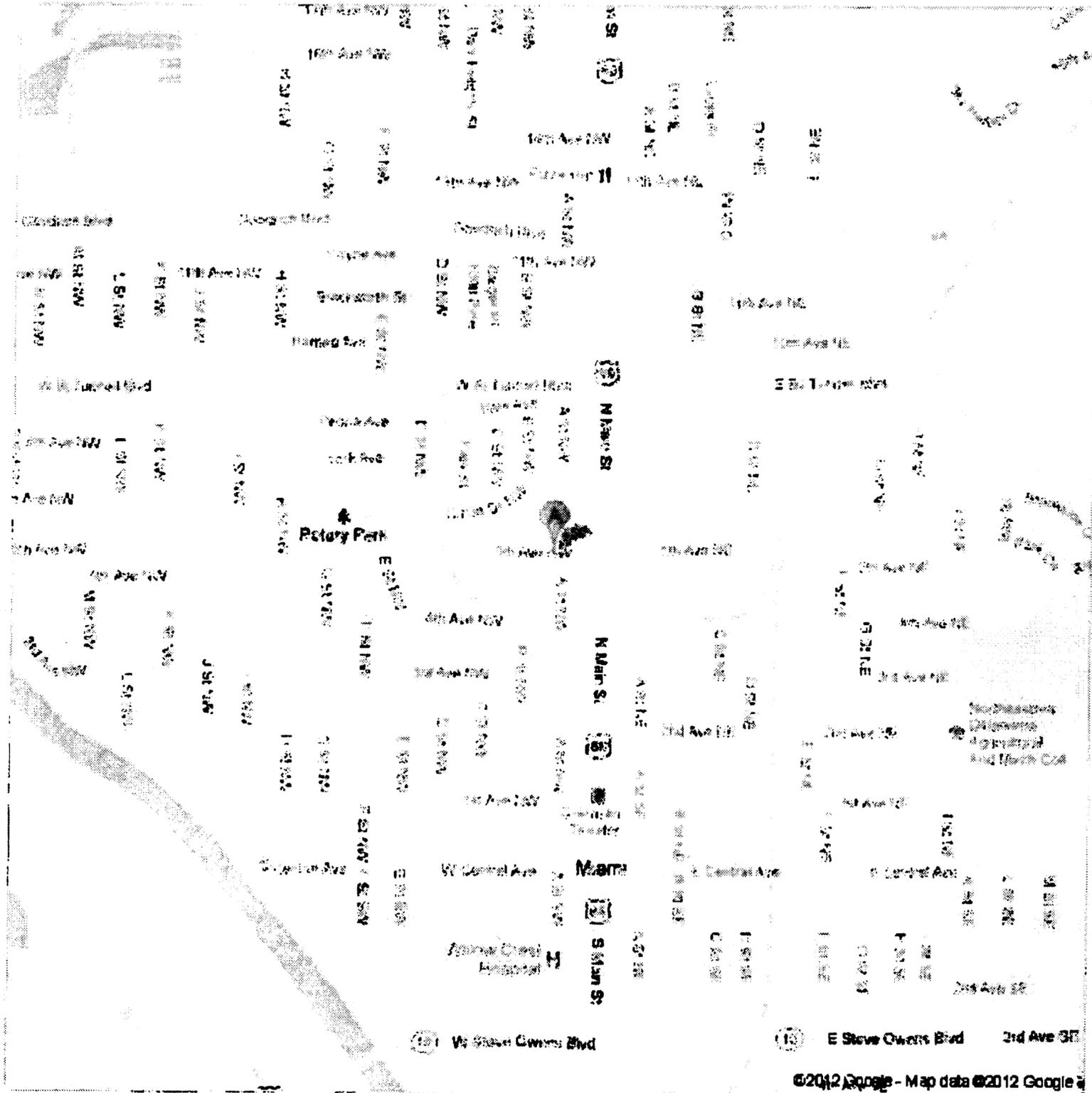
Miami, OK

Map of Miami, Oklahoma with the location of the local tornado shelter in the City Hall/Civic Center of Miami (A).



Address 129 5th Ave NW
Miami, OK 74354

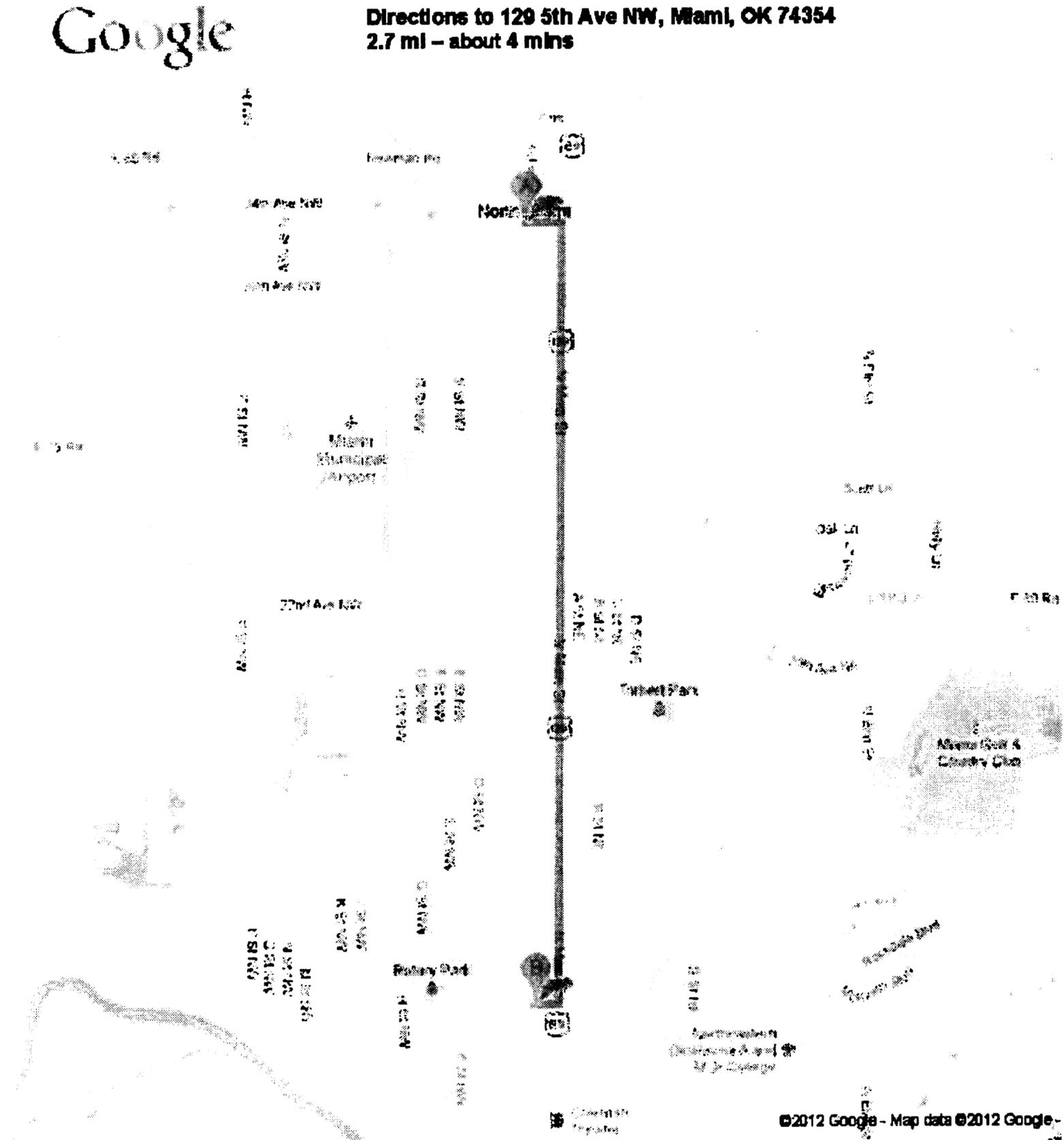
Get Google Maps on your phone
Text the word "GMAPS" to 466453



Map C 4: Map of City of Miami, OK with the location of the tornado shelter in the City Hall/Civic Center marked (A).

North Miami, OK

Directions from North Miami, Oklahoma to the local tornado shelter in the City Hall/Civic Center of Miami in Miami, Oklahoma.



Map C 5: Map from North Miami, OK (A) to Tornado Shelter at City Hall/Civic Center of Miami in Miami, OK (B). Detailed directions on the next page.

 North Miami, OK

-
- | | |
|--|---------------------------|
| 1. Head east on Lackledge Ave toward 3rd Ave | go 0.1 mi
total 0.1 mi |
|  2. Turn right onto N Main St
About 3 mins | go 2.4 mi
total 2.6 mi |
|  3. Turn right onto 5th Ave NW
Destination will be on the left | go 423 ft
total 2.7 mi |

 129 5th Ave NW, Miami, OK 74354

These directions are for planning purposes only. You may find that construction projects, traffic, weather, or other events may cause conditions to differ from the map results, and you should plan your route accordingly. You must obey all signs or notices regarding your route.

Map data ©2012 Google

Directions weren't right? Please find your route on maps.google.com and click "Report a problem" at the bottom left.

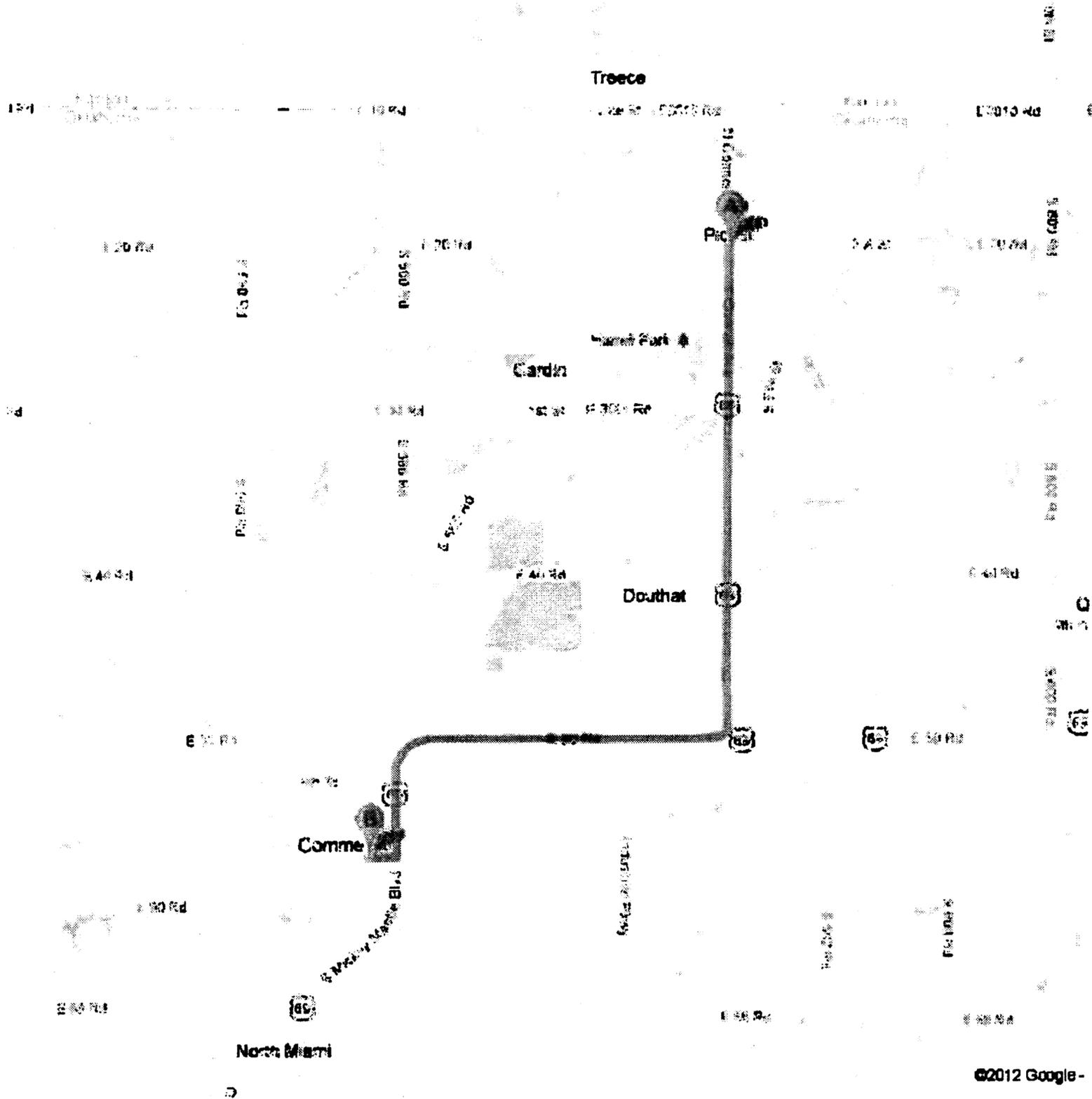
Directions C5: Detailed directions from North Miami, OK (A) to Tornado Shelter at City Hall/Civic Center of Miami in Miami, OK (B).

Picher, OK

Directions from Picher, Oklahoma to the local tornado shelter in the City Hall of Commerce in Commerce, Oklahoma.



Directions to 618 Commerce St, Commerce, OK 74339
5.8 mi – about 10 mins



Map C 6: Map from Picher, OK (A) to Tornado Shelter at City Hall of Commerce in Commerce, OK (B). Detailed directions on the next page.

 Picher, OK

-
1. Head west on E a St toward N Connell St go 56 ft
total 56 ft

 -  2. Take the 1st left onto US-69 S/N Connell St go 3.0 mi
total 3.0 mi
Continue to follow US-69 S
About 5 mins

 -  3. Turn right onto US-69 S/E 50 Rd go 2.7 mi
total 5.6 mi
Continue to follow US-69 S
About 4 mins

 -  4. Turn right onto Commerce St go 0.2 mi
total 5.8 mi
Destination will be on the right
About 1 min

 618 Commerce St, Commerce, OK 74339

These directions are for planning purposes only. You may find that construction projects, traffic, weather, or other events may cause conditions to differ from the map results, and you should plan your route accordingly. You must obey all signs or notices regarding your route.

Map data ©2012 Google

Directions weren't right? Please find your route on maps.google.com and click "Report a problem" at the bottom left.

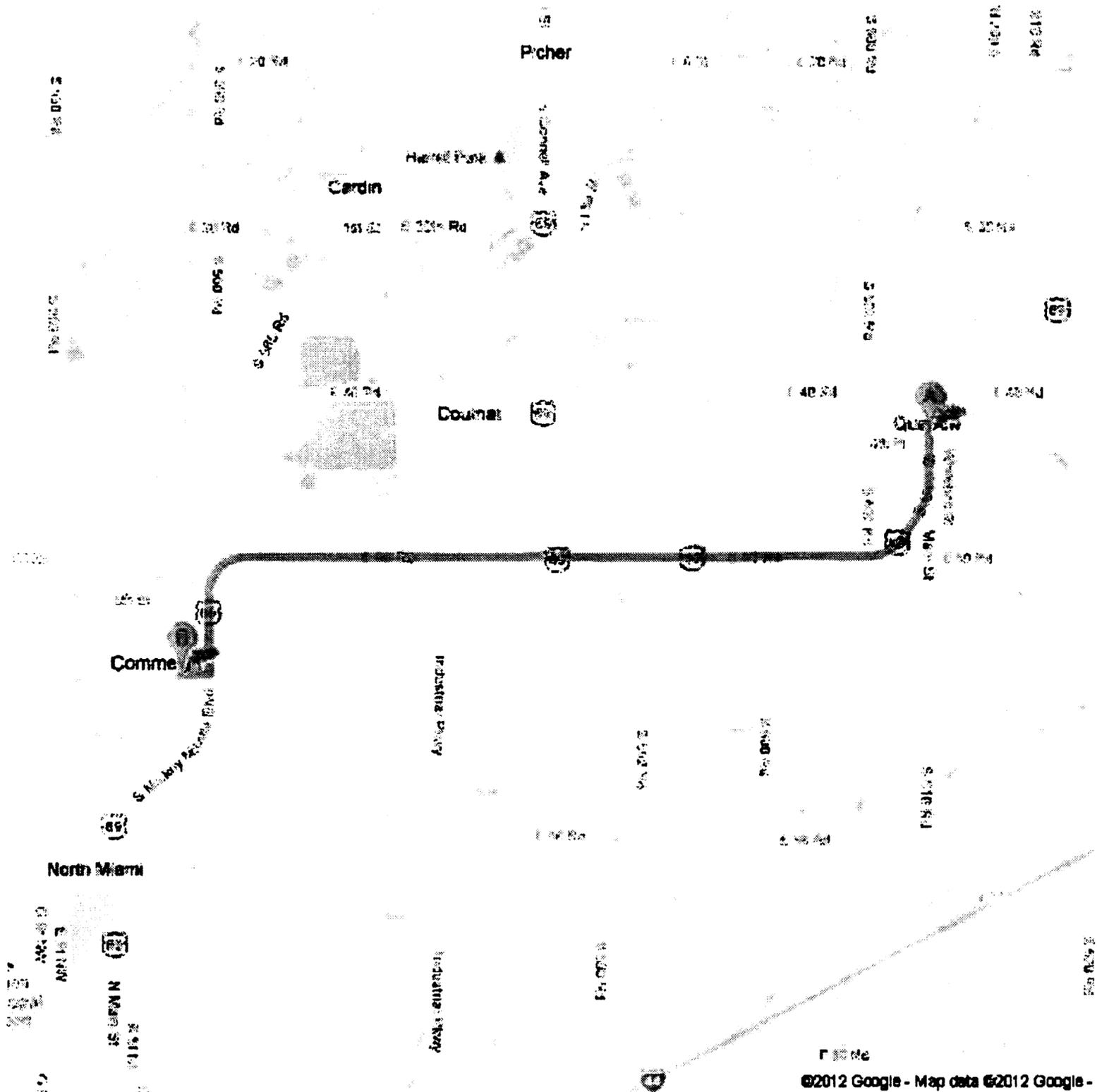
Directions C 6: Directions from Picher, OK (A) to the Tornado Shelter at the City Hall of Commerce in Commerce, OK (B)

Quapaw, OK

Directions from Quapaw, Oklahoma to the local tornado shelter in the City Hall of Commerce in Commerce, Oklahoma.



Directions to 618 Commerce St, Commerce, OK 74339
5.8 mi – about 9 mins



Map C 7: Map from Quapaw, OK (A) to Tornado Shelter at City Hall of Commerce in Commerce, OK (B). Detailed directions on the next page.



Quapaw, OK

-
1. Head east on W 4th St toward N Main St go 33 ft
total 33 ft

 -  2. Take the 1st right onto US-69 Alt/S Main St go 2.9 mi
total 2.9 mi
Continue to follow US-69 Alt
About 4 mins

 -  3. Continue onto US-69 S/E 50 Rd go 2.7 mi
total 5.6 mi
Continue to follow US-69 S
About 4 mins

 -  4. Turn right onto Commerce St go 0.2 mi
total 5.8 mi
Destination will be on the right
About 1 min



618 Commerce St, Commerce, OK 74339

These directions are for planning purposes only. You may find that construction projects, traffic, weather, or other events may cause conditions to differ from the map results, and you should plan your route accordingly. You must obey all signs or notices regarding your route.

Map data ©2012 Google

Directions weren't right? Please find your route on maps.google.com and click "Report a problem" at the bottom left.

Directions C 7: Directions from Quapaw, OK (A) to the Tornado Shelter at the City Hall of Commerce in Commerce, OK (B)

ATTACHMENT D

QUALITY MANAGEMENT PLAN

COVER PAGE

**OKLAHOMA DEPARTMENT OF
ENVIRONMENTAL QUALITY (DEQ)
QUALITY MANAGEMENT PLAN (QMP)
For State FY 2014—FY 2015**

Effective: (Date of EPA Approval)



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 6
1445 ROSS AVENUE, SUITE 1200
DALLAS TX 75202-2733

RECEIVED

NOV 14 2013

November 6, 2013

UNITED STATES
ENVIRONMENTAL PROTECTION AGENCY

Ms. Gayle Bartholomew
Environmental Grants Administrator
Office of the Secretary of Environment
3800 North Classen Boulevard
Oklahoma City, OK 73118

Dear Ms. Bartholomew:

The Region 6 Quality Assurance Staff has reviewed and approved your Oklahoma Department of Environmental Quality's Quality Management Plan (QMP), which was assigned the QTRAK number 14-001. The date of approval is November 6, 2013, and the plan expires one year from that date. I have enclosed a copy of the signature page for your records.

If you have any questions or concerns please contact Dr. Sala Senkayi at (214) 665-6477, or I may be reached at (214) 665-8343.

Sincerely yours,



Donald L. Johnson
Region 6 Quality Assurance Manager

enclosure

cc: Sharon Daugherty, (6WQ-AT)
Leslie Rauscher, (6WQ-AT)
Michael Vaughan, (6WQ-AP)
Mary Stanton, (6PD-S)
Karen Khalafian, ODEQ ✓



STATE OF OKLAHOMA
OFFICE OF THE
SECRETARY OF ENERGY & ENVIRONMENT

Memorandum

November 18, 2013

To: Karen Khalafian, Oklahoma Department of Environmental Quality

From: Gayle Bartholomew 

Re: Quality Management Plan (QMP) – QTRAK #14-001

The attached letter from U.S. EPA approves DEQ's updated Quality Management Plan effective November 6, 2013. Also attached are copies of the fully executed signature page for your records. The plan will remain in effect for one year from the date of the approval letter. Updates or a revised plan will be submitted to EPA in September 2013. If you have any questions or need additional information, please do not hesitate to contact me by phone at (405) 530-8996 or email gbartholomew@environment.ok.gov.

Enc.

Statement of Work Cost Estimate for Remedial Response at Distal 6a CB011N (4-16-14)

Line Items	Quantities	Unit	Unit Price	Subtotal
1 Preparation of Site Specific Plans, Pre-construction Submittals, and Project Engineering Support				
a. Site Work Plan	1	PLAN	\$2,500.00	\$2,500.00
b. Field Sampling and Analysis Plan	1	PLAN	\$2,500.00	\$2,500.00
c. QA Project Plan	1	PLAN	\$2,500.00	\$2,500.00
d. Site Management Plan	1	PLAN	\$1,500.00	\$1,500.00
e. Stormwater Pollution Prevention Plan	1	PLAN	\$4,500.00	\$4,500.00
f. Construction Quality Assurance Plan	1	PLAN	\$2,500.00	\$2,500.00
g. Transportation Plan	1	PLAN	\$2,500.00	\$2,500.00
h. Disposition Plan	1	PLAN	\$2,500.00	\$2,500.00
i. Mine Shaft Closure Plan	1	PLAN	\$2,500.00	\$2,500.00
j. Closed Boring Abandonment Procedures	1	PLAN	\$1,500.00	\$1,500.00
k. Site Health and Safety Plan - QTEO	1	PLAN	\$2,500.00	\$2,500.00
l. Site Health and Safety Plan - Engineer/Construction Manager	1	PLAN	\$2,500.00	\$2,500.00
m. Site Health and Safety Plan - Contractor	1	PLAN	\$2,500.00	\$2,500.00
n. Waste Management Plan	1	PLAN	\$1,500.00	\$1,500.00
o. Spill Response Plan	1	PLAN	\$2,500.00	\$2,500.00
p. Develop RFP	0	RFP	\$3,500.00	\$0.00
q. Evaluate Proposals and Develop Contract	0	CONTRACT	\$7,500.00	\$0.00
r. Develop Community Relation Plan	0	PLAN	\$3,000.00	\$0.00
s. Review Pre-Construction Submittals	0	REVIEW	\$1,800.00	\$0.00
t. Pre-Construction Meeting in Quapaw, OK	1	MEETING	\$2,400.00	\$2,400.00
u. Archeology Consultant (BIA)	0	DAYS	\$0.00	\$0.00
v. Engage Oklahoma Surveyor to Shoot Boundaries and Mark Work Areas	1	SURVEY	\$8,000.00	\$8,000.00
w. Environmental Engineering and Management Support	1	LUMP	\$118,084.00	\$118,084.00
x. Develop Remedial Action Report	1	REPORT	\$5,300.00	\$5,300.00
Line Item 1 Subtotal				\$170,284.00
2 Site Mobilization				
a. Office Trailer w/ Utilities	2	MONTHS	\$2,145.00	\$4,290.00
b. Portable Toilets x 5	2	MONTHS	\$520.00	\$1,040.00
c. Portable Truck Scales	2	MONTHS	\$3,900.00	\$7,800.00
d. Portable Truck Scales, Building w/ Utilities	2	MONTHS	\$1,980.00	\$3,960.00
e. Safety/Zone Fencing, Signage & Barricades	1	LUMP SUM	\$6,240.00	\$6,240.00
f. Lighted Traffic Boards x 3	2	MONTHS	\$3,510.00	\$7,020.00
g. 15k lb mini Excvator	1	DELIVERY	\$1,560.00	\$1,560.00
h. 100K lb Excavator	1	DELIVERY	\$3,250.00	\$3,250.00
i. 30 Ton Off Road Truck	0	DELIVERY	\$0.00	\$0.00
j. 40 Ton Off Road Truck	1	DELIVERY	\$3,250.00	\$3,250.00
k. 18 cy Scraper	0	DELIVERY	\$0.00	\$0.00
l. 21 cy Scraper	1	DELIVERY	\$3,250.00	\$3,250.00
m. 7.25 cy Wheel Loader	1	DELIVERY	\$3,250.00	\$3,250.00
n. Motor Grader	1	DELIVERY	\$3,250.00	\$3,250.00
o. 25K lb Dozer	0	DELIVERY	\$0.00	\$0.00
p. 80K lb Dozer	1	DELIVERY	\$3,250.00	\$3,250.00

Statement of Work Cost Estimate for Remedial Response at Distal 6a CB011N (4-16-14)

Line Items	Quantities	Unit	Unit Price	Subtotal
q. Skid Steer w/Sweeper Att.	1	DELIVERY	\$1,560.00	\$1,560.00
r. Rubber Tire Backhoe w/ Forks Att.	1	DELIVERY	\$1,560.00	\$1,560.00
s. Trencher	1	DELIVERY	\$1,560.00	\$1,560.00
Line Item 2 Subtotal				\$56,090.00
3	Site Preparation			
a. Install Protective Fencing	1000	LF	\$6.50	\$6,500.00
b. Clearing & Grubbing	1	ACRE	\$11,050.00	\$11,050.00
c. Zone Establishments	1	LUMP SUM	\$7,020.00	\$7,020.00
d. Prep Site, Set Office & Utilities	1	LUMP SUM	\$15,600.00	\$15,600.00
e. Materials for Office (Sb-2 Gravel, Stairs, Misc.)	1	LUMP SUM	\$10,400.00	\$10,400.00
f. Prep Site Scales, Office & Utilities	1	LUMP SUM	\$27,300.00	\$27,300.00
g. Materials for Scales (Sb-2 Gravel, Concrete, Misc.)	1	LUMP SUM	\$15,600.00	\$15,600.00
h. Traffic Controls	1	LUMP SUM	\$4,550.00	\$4,550.00
i. Utility Locates and Drawing Prep (Subcontracted)	1	LUMP SUM	\$4,550.00	\$4,550.00
j. Install Decontamination Zone	1	LUMP SUM	\$4,550.00	\$4,550.00
Line Item 3 Subtotal				\$107,120.00
4	Construction of Temporary Access Road			
Temporary Access Road for hauling of source material through Distal 6a - CB011N				
a. Excavation and Embankment	0	CY	\$9.10	\$0.00
b. Borrow	0	CY	\$0.00	\$0.00
c. Geogrid for Pavement (Complete in Place)	0	SY	\$5.60	\$0.00
d. Base Course for Haul Road	750	TONS	\$35.00	\$26,250.00
e. R.C. Pipe (Class III) Culvert (Two Stream Crossings)	0	LF	\$0.00	\$0.00
f. Seeding	0	AC	\$0.00	\$0.00
g. Mulch Cover	0	AC	\$0.00	\$0.00
h. Site Preparation (incl. Mobilization)	0	LS	\$0.00	\$0.00
i. Trench and Excavation Safety Systems	0	LS	\$0.00	\$0.00
j. Erosion Control & Maintenance	1	LS	\$6,540.00	\$6,540.00
k. Roadway Construction Control	1	LS	\$3,270.00	\$3,270.00
Temporary Access Road Subtotal				\$36,060.00
5	Removal, Transportation, and Disposal of Source Material, Waste Material, and TZ Soils			
a. Engineering Support During Remediation	1	SUPPORT	\$10,500.00	\$10,500.00
b. On Site Engineering Construction Manager During Remediation Activities	10	DAYS	\$953.00	\$9,530.00
c. Engineering Contractor Project Meetings with Quawpaw Tribe	0	MEETING	\$0.00	\$0.00
d. Engineering Contractor Project Meetings with DEQ in OKC, OK	0	MEETING	\$0.00	\$0.00
e. Water Truck and Water for Dust Control	30	DAYS	\$1,436.00	\$43,080.00
f. Removal and Transportation of Source Material to Repository	85,000	TONS	\$11.00	\$935,000.00
g. Excavate by Hand w/ Equipment Support	0	TONS	\$0.00	\$0.00
h. 20 cy Roll Off Containers, Waste Material X2	10	DAYS	\$650.00	\$6,500.00
i. Survey and Layout - Certified Surveyor	20	DAYS	\$1,105.00	\$22,100.00
j. Construction Fencing and Barricade Replacement	1000	LF	\$4.00	\$4,000.00

Statement of Work Cost Estimate for Remedial Response at Distal 6a CB011N (4-16-14)

Line Items	Quantities	Unit	Unit Price	Subtotal
Line Item 5 Subtotal				\$1,030,710.00
6	Filling and Capping of Mine Shafts, Cased Borings, and Removal of Asphalt Piles			
a. Mine Shaft Filling, Adjustable per Site Conditions ea.	1	EA	\$5,000.00	\$5,000.00
b. Subsidence Features, Filling per Site Conditions ea.	1	EA	\$5,000.00	\$5,000.00
c. Cased Borings	1	EA	\$2,500.00	\$2,500.00
d. Remove Waste Asphalt Piles	0	TONS	\$0.00	\$0.00
Line Item 6 Subtotal				\$12,500.00
7	Water Management			
a. Silt Curtain	1000	LF	\$6.00	\$6,000.00
b. Hay Bales	25	BALES	\$10.00	\$250.00
c. Rock Ditch Checks	25	TONS	\$20.00	\$500.00
d. Rip Rap	25	TONS	\$50.00	\$1,250.00
e. Gabion Buckets	2	BUCKETS	\$200.00	\$400.00
f. Initial Installation and management of SWPPP	1	LS	\$5,000.00	\$5,000.00
g. Maintenance of Erosion Control	1	LS	\$1,500.00	\$1,500.00
h. 20k gal. Frac Tanks, Stormwater Collection x 2	5	DAYS	\$2,340.00	\$11,700.00
i. Double Bag, 10 Micron & 25 Micron Water Filter	5	DAYS	\$3,185.00	\$15,925.00
j. Storm Water Pumping and Handling	5	DAYS	\$1,820.00	\$9,100.00
Line Item 7 Subtotal				\$51,625.00
8	Sampling and Analyses			
a. Field Sampling, Compositing, Sieving	5	EVENT	\$1,494.00	\$7,470.00
b. Analytical (10 day TAT)	48	SAMPLES	\$97.50	\$4,680.00
c. Analytical (3 day TAT)	8	SAMPLES	\$150.00	\$1,200.00
d. Level IV Data Package	12	REPORT	\$100.00	\$1,200.00
e. MAES-Sampling and XRF (Pb)	0	SAMPLES	\$0.00	\$0.00
Line Item 8 Subtotal				\$14,550.00
9	Site Restoration			
a. Post Construction Final Site Review	1	REVIEW	\$1,550.00	\$1,550.00
b. Develop Remedial Action Report	1	REPORT	\$5,300.00	\$5,300.00
c. Survey of Grids by Certified Surveyor (topography and IC boundaries)	14	GRIDS	\$1,747.00	\$24,458.00
d. Soil Amendments & Hydromulching	14	GRIDS	\$1,300.00	\$18,200.00
e. Maintain Grid to 70% Cover	14	GRIDS	\$2,600.00	\$36,400.00
Line Item 9 Subtotal				\$85,908.00
10	Decontamination and Demobilization			
a. Decon & Demobilize Scales	1	LUMP SUM	\$22,100.00	\$22,100.00
b. Decon & Demobilize Heavy Equipment	1	LUMP SUM	\$50,000.00	\$50,000.00
c. Decon & Demobilize Office	1	LUMP SUM	\$7,800.00	\$7,800.00
d. Decon & Demobilize Water Equip.	1	LUMP SUM	\$4,550.00	\$4,550.00
e. Decon & Demobilize Roll Off Boxes	1	LUMP SUM	\$4,550.00	\$4,550.00
Line Item 10 Subtotal				\$89,000.00

Statement of Work Cost Estimate for Remedial Response at Distal 6a CB011N (4-16-14)

Line Items	Quantities	Unit	Unit Price	Subtotal
11 Pre-Operational Follow-Up Construction				
a. Maintenance of Capped Mine Shaft Until Final Acceptance of Remedial Action				\$11,000.00
b. Maintenance of Vegetative Cover Until Final Acceptance of Remedial Action				\$6,000.00
c. Repair of Erosion Controls Until Final Acceptance of Remedial Action				\$2,000.00
Line Item 11 Subtotal				\$19,000.00
12 Health and Safety Incentive				
a. Health and Safety Incentive				\$7,674.00
Line Item 12 Subtotal				\$7,674.00
13 Subcontractor Performance and Payment Bond (If needed for subcontracts over \$150,000)				
a. Performance and Payment Bond				\$20,000.00
Line Item 13 Subtotal				\$20,000.00
Total Costs				\$1,700,521.00