

**Exhibit F – Bank Crediting and Credit Transfers**

F-1: Credit Evaluation and Credit Table

**EXHIBIT F-1 Credit Evaluation and Credit Table**

Table 1. Dirty Creek Conservation Bank Credits				
Type of Credits	Acres	Factor	Credits	Comments
Preservation	1,003.80	1.0	1,003.80	Covered Species and Covered Habitat Credits
Buffer	28.0	0.5	14.0	Food Plots, Pipeline ROW, Unimproved Roads, and ATV Trails
<b>Total Bank Credits</b>			<b>1,017.80</b>	

Table 2. Dirty Creek Conservation Bank credit release schedule		
Percent of Credits Released	Credits Released	Milestone Event
85.0%	865.1	Site protection, Non-Compatible Land Uses, and Est. Financial Assurances
15.0%	152.7	Fully Funding Endowment/Final Release
<b>Total Bank Credits</b>	<b>1,017.80</b>	

F-2: Credit Purchase Agreement and Payment Receipt Template

**PURCHASE AND SALE AGREEMENT FOR RESERVED  
CONSERVATION CREDITS  
(Dirty Creek Conservation Bank)**

This Purchase and Sale Agreement for Reserved Conservation Credits (“**Agreement**”) is entered into this \_\_\_\_\_ day of \_\_\_\_\_, \_\_\_\_\_, (the “Effective Date”) by and between **ABB DIRTY CREEK, LLC** (“**Seller**”) a Texas limited liability company, **Mitigation Solutions USA, LLC**, (“**MSUSA**”) a Texas limited liability company (“**Agent**”) and \_\_\_\_\_ (“**Buyer**”), together collectively referred to herein as the “**Parties**.”

RECITALS

A. Seller is the Bank Sponsor for the Dirty Creek Conservation Bank (“**DCCB**”), under that certain agreement entitled “Conservation Bank Agreement, Dirty Creek Conservation Bank (the “**CBA**”), located in McIntosh County, Oklahoma, for the Dirty Creek Conservation Bank”, signed on July 1, 2017 by the U.S. Fish and Wildlife Service (“**USFWS**”) which sets forth the requirements for the development of the DCCB;

B. Seller has received its initial credit release for DCCB from the USFWS, allowing Seller to offer conservation credits for sale as compensation for the loss of the federally listed American Burying Beetle’s (the “**ABB**”) habitat in the service area illustrated in more detail on **Exhibit A** attached hereto, (the “**Service Area**”) or other areas as may be approved by the USFWS in accordance with the CBA (“Conservation Credits”).

C. Buyer is seeking to implement project(s) in the Service Area of the DCCB that will unavoidably and adversely impact the ABB’s habitat;

D. Buyer seeks to compensate for the loss of such ABB habitat by purchasing \_\_\_\_\_ Conservation Credits from the DCCB (referred to hereinafter as the “**Subject Credits**”, the same being also set forth in **Exhibit B**);

E. Buyer will diligently seek all required authorization from the USFWS for its purchase and use of the Subject Credits (the “**Authorization**”); and

F. Buyer desires to purchase from Seller, and Seller desires to sell, through its exclusive marketing agent MSUSA to Buyer the aforementioned Subject Credits according to the terms and conditions set forth herein:

NOW, THEREFORE, IN CONSIDERATION OF THE RECITALS SET FORTH ABOVE AND THE REMAINING TERMS, COVENANTS AND CONDITIONS SET FORTH HEREIN THE PARTIES AGREE AS FOLLOWS:

1. **Reservation, Purchase and Payment.**

a. **Purchase Price.** From the DCCB, Seller agrees to sell to Buyer, and Buyer agrees

to purchase from Seller, the Subject Credits for the total purchase price of \_\_\_\_\_ (\$\_\_\_\_.00) (the “**Purchase Price**”). The Purchase Price is due and payable to MSUSA for further credit unto Seller immediately upon the execution of this Agreement by Buyer. Buyer shall make all payments to Seller under this Agreement in immediately available US funds.

b. In consideration of the Purchase Price, Seller represents and warrants that the Subject Credits to be sold to Buyer are currently available and have been approved as Conservation Credits for release by the USFWS.

c. BUYER ACKNOWLEDGES AND AGREES THAT (I) THIS AGREEMENT IS AN ARM’S-LENGTH CONTRACT BETWEEN THE PARTIES; (II) SELLER HAS NO CONTROL OVER THE ACTIONS OR INACTIONS OF THE USFWS OR ANY OTHER GOVERNMENTAL AGENCY; AND (III) **EXCEPT AS EXPRESSLY STATED IN THIS AGREEMENT, ALL REPRESENTATIONS, DISCLOSURES AND WARRANTIES, EXPRESS OR IMPLIED, ARE FULLY DISCLAIMED.**

2. **Sale of Subject Credits.** Following MSUSA’s receipt of payment of the Purchase Price, which shall be evidenced with a final invoice marked “PAID IN FULL”; and Seller’s receipt of an Authorization or Authorizations by the USFWS for the use of a specified number of the Subject Credits to be utilized in connection with a particular USFWS approved project and/or USFWS approved permit (the “**Project Credits**”), the Project Credits will be transferred by Seller to Buyer. Once the balance of the Purchase Price has been received by MSUSA for the Subject Credits, and Authorization of the Project Credits is received by Seller, MSUSA will so notify the USFWS with a copy to Buyer.

MSUSA shall be solely responsible for maintaining the credit ledger associated with the Subject Credits, as well as, responsible for compliance with all notification and record keeping requirements prescribed by the USFWS incident to the sale of the Subject Credits; accordingly Buyer covenants and agrees to cooperate with MSUSA, to the fullest extent practical, to immediately notify MSUSA of Buyer’s use or application for use of all or any portion of the Subject Credits.

3. **No Property Interest or Special Relationship.** The sale of Subject Credits as described herein is not intended as a sale to Buyer of a security, license, lease, easement or possessory or non-possessory interest in real property, nor the granting of any interest in the foregoing. The relationships between the Parties are ordinary commercial relationships; and the Parties do not intend to create any other kind of relationship, such as principal and agent, a partnership, a joint venture or any other special relationship.

4. **Conservation Bank Maintenance.** Notwithstanding the sale of the Subject Credits to Buyer, Seller shall remain responsible for performing all of the obligations of “Bank Sponsor” under the CBA with respect to the DCCB, including any maintenance, monitoring and reporting obligations, and Buyer shall have no responsibility therefore. Buyer acknowledges that the terms of this Agreement are consistent with the CBA.

5. **No Other Brokers.** Seller and Buyer each represent and warrant to the other that they have not had any dealings with any brokers, finders or agents, and no commissions or fees are payable, in connection with this Agreement, other than to MSUSA, whose commission is paid by Seller pursuant to a separate agreement. **EACH OF THE PARTIES AGREES TO INDEMNIFY, DEFEND, RELEASE AND HOLD THE OTHER PARTIES, AND THOSE PERSONS ACTING ON BEHALF OF SUCH INDEMNIFYING PARTY, HARMLESS FROM AND AGAINST ALL CLAIMS, CAUSES OF ACTION, LOSS, ATTORNEYS' FEES, COURT COSTS AND OTHER EXPENSES ARISING OUT OF ANY CLAIM BY SUCH PARTY OR ANY PERSON OR ENTITY CLAIMING BY, THROUGH OR UNDER THE INDEMNIFYING PARTY FOR ANY BROKER'S OR FINDER'S FEE OR COMMISSION ARISING UNDER THIS AGREEMENT.** The obligations of the Parties under this provision will survive termination of this Agreement and the purchase of the Subject Credits.

6. **Responsibility for Authorization.** As between Buyer and Seller, Buyer will be responsible for making all required applications and seeking all required Authorization(s) from the USFWS, or any other governmental entity, as applicable, regarding the authorization and its use and application of the Subject Credits.

7. **Default and Remedies.**

- a. **Seller's Default; Buyer's Remedies.** If Seller shall fail to transfer the Subject Credits to Buyer in accordance with this Agreement, and Seller's failure is not caused by or a result of (i.) an act of default by Buyer under this Agreement, (ii.) Buyer's failure to obtain Authorization(s) from the USFWS for the use of all, or any portion of the Subject Credits, or (iii.) any other act or omission by Buyer under the terms of this Agreement, Buyer, as Buyer's sole and exclusive remedy, may terminate this Agreement by written notice to Seller and MSUSA, upon which notice Seller shall return the entire Purchase Price to Buyer and the Parties shall have no further rights or obligations hereunder.
- b. **Buyer's Default; Seller's Remedies.** If Buyer fails to deliver the Purchase Price or commits an act of default under this Agreement Seller may, as Seller's sole and exclusive remedy, terminate this Agreement by written notice to Buyer and MSUSA, upon which notice Seller shall be entitled to receive, and Buyer shall immediately remit to Seller, 20% of the Purchase Price as full liquidated damages and not as a penalty and the Parties shall have no further rights or obligations hereunder.

8. **Notice.** Any notice or demand permitted or required by this Agreement shall be made in writing and shall be delivered by hand delivery, which shall include delivery by reputable national overnight courier service, such as Federal Express, or by electronic transmission (including electronic mail or facsimile, as may be set forth below) with confirmation of transmission followed by hand delivery of a copy of such notice or demand. Any such notice or demand shall be effective and deemed received on the date delivered to the address of the addressee, as indicated on the receipt confirmation if delivered by hand, or if delivered by electronic transmission, on the date of such transmission, as indicated on the receipt confirmation. Rejection or other refusal to accept or the inability to deliver because of changed address of which no notice was given shall be deemed

receipt of the notice, demand or request sent. For the purposes of this Section, notices shall be directed as follows:

If to Seller:                   ABB DIRTY CREEK LLC  
2557 State Hwy 7 East  
Center, Texas 75935  
Attn: J. Mike Bird  
Email: jmbird@adv-eco.com

With a copy to:               Mettauer Law Firm, PLLC.  
403 Nacogdoches, Suite 1  
Center, TX 75935  
Attn: Matthew D. Mettauer  
Phone: (936) 598-9400  
Email: matthew@mettauerlaw.com

If to Purchaser:               \_\_\_\_\_

  \_\_\_\_\_

  \_\_\_\_\_

  Attn: \_\_\_\_\_

  Phone: \_\_\_\_\_

  Email: \_\_\_\_\_

If to MSUSA:                   Mitigation Solutions USA, LLC  
3200 Wilcrest, Suite 460  
Houston, TX 77042  
Attn: Terry McKenzie, President  
Phone: (713) 812-9000  
Email: terry@msusa.com

9. **Assignment.** No party will be entitled to assign this Agreement to any person without the prior written consent of all the Parties hereto; provided, however, that Buyer may assign this Agreement to an Affiliate. Written consent will not be unreasonably withheld. The term “Affiliate” as used in this Section 10 shall mean an entity that directly or indirectly through one or more intermediaries’ controls or is controlled by or is under common control with Buyer.

10. **Confidentiality.** Buyer and Seller each agree that, except with the prior written permission of the other Parties, it shall at all times keep confidential and not divulge, furnish or make accessible to anyone any confidential information, knowledge or other information concerning or relating to (a) the business or financial affairs of the other Parties to which it has been or shall become privy by reason of this Agreement, (b) the terms of this Agreement and the transaction contemplated hereby or thereby, and/or (c) the content of any discussions or negotiations relating to this Agreement (collectively, the “*Confidential Information*”); provided, however, that such Party may disclose the terms and conditions of this Agreement as required by a court or as otherwise required by law or in confidence and as reasonably necessary (i) to any of its officers,

directors, employees, affiliates, agents, representatives and advisors, (ii) to its legal counsel, accountants, banks and financing sources, and their advisors, and (iii) to its actual or potential investors or owners. If any Party is requested or required (by oral question or request for information or documents in any legal proceeding, interrogatory, subpoena, civil investigative demand or similar process) to disclose any Confidential Information other than as permitted above, such Party shall promptly so notify the other Parties to allow such other Parties sufficient time to seek an appropriate protective order or waive compliance with the provisions of this Section.

11. **Miscellaneous.**

a. The section headings in this Agreement are for convenience of reference only and are not intended, to any extent and for any purposes, to limit or define text of any section of subsection thereof. If any provision of this Agreement is determined by a court of competent jurisdiction to be invalid or unenforceable, the remainder of this Agreement will nonetheless remain in full force and effect.

b. This Agreement and all rights, duties and responsibilities hereunder shall be interpreted and construed in accordance with the laws of the State of Texas, without regard to choice-of-law rules of any jurisdiction. Venue for any dispute arising pursuant to this Agreement shall be in the state courts serving Shelby County, Texas, or the Federal District Court of the Eastern District of Texas, Lufkin Division if more proper.

c. This Agreement may be executed in any number of counterparts, each of which shall be considered an original, but such counterparts together shall constitute one and the same instrument. The signature pages may be detached from one counterpart and reattached to another counterpart in order to form a fully-executed original instrument. Signatures to this Agreement transmitted by facsimile or electronic mail will be valid and effective to bind the party so signing. Each party agrees to promptly deliver any execution original to this Agreement with its actual signature to the other Parties, but a failure to do so will not affect the enforceability of this Agreement.

d. This Agreement shall be binding upon and inure to the benefit of the Parties' respective successors, successors-in-title and assigns. There are no third-party beneficiaries of this Agreement.

e. Each party shall be responsible for its own attorneys' fees in connection with the subject matter of this Agreement. The rule of construction that ambiguities in a document will be construed against the drafting party will not be applied in interpreting this Agreement. If either party retains an attorney to enforce this Agreement, the party prevailing in litigation is entitled to recover reasonable and actual attorney's fees and court and other costs.

f. Each party agrees that it will, at any time and from time to time after the execution of this Agreement, upon request of the other party, do, execute, acknowledge and deliver, or will cause to be done, executed, acknowledged or delivered, all such further acts, deeds,

assignments, conveyances and assurances as may reasonably be required to carry out the intended purposes of this Agreement.

g. This Agreement, together with its exhibits, constitutes the entire agreement of the Parties concerning the sale of the Subject Credits to Buyer. There are no oral representations, warranties, agreements or promises pertaining to such sale not incorporated in writing in this Agreement.

h. This Agreement may be amended only by an instrument in writing signed by the Parties. No term or condition of this Agreement will be deemed to have been waived or amended unless expressed in writing, and the waiver of any condition or the breach of any term will not be a waiver of any subsequent breach of the same or any other term or condition.

i. The obligations of this Agreement that cannot be performed before termination of this Agreement or before closing of the sale of the Subject Credits will survive termination of this Agreement or such closing, and the legal doctrine of merger will not apply to these matters.

j. Time is of the essence of this Agreement and each provision hereof. If the last day upon which performance would otherwise be required or permitted is a Saturday, Sunday or holiday, then the time for performance shall be extended to the next day which is not a Saturday, Sunday or holiday. The term "holiday" shall mean all and only mandatory federal holidays including which deliveries by the United States Postal Services are suspended.

*[Signatures commence following page]*

*Seller Signature Page to  
Purchase and Sale Agreement for Reserved Conservation Credits*

IN WITNESS WHEREOF, the parties have executed this Agreement the day and year first above written.

**SELLER:**

**ABB DIRTY CREEK, LLC**

By: \_\_\_\_\_  
Name: J. Mike Bird  
Title: Manager  
Date: \_\_\_\_\_

*[Signatures continue following page]*

*Buyer Signature Page to  
Purchase and Sale Agreement for Reserved Conservation Credits*

**BUYER**

\_\_\_\_\_

Signature: \_\_\_\_\_

Printed Name: \_\_\_\_\_

Title: \_\_\_\_\_

Date: \_\_\_\_\_

*[Signatures continue following page]*

*Agent Signature Page to  
Purchase and Sale Agreement for Reserved Conservation Credits*

**AGENT:**

**MITIGATION SOLUTIONS USA, LLC**

Signature: \_\_\_\_\_

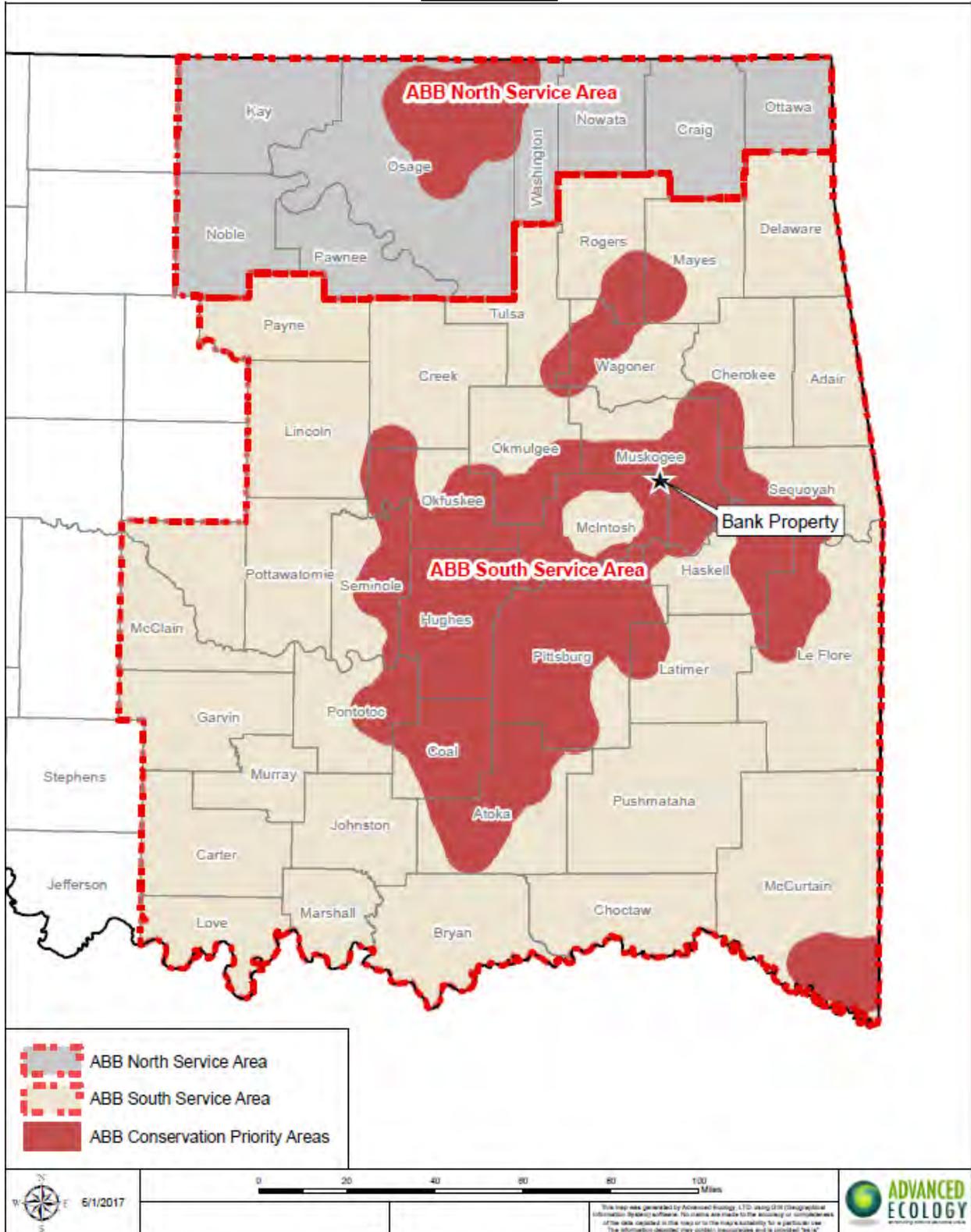
Printed Name: \_\_\_\_\_

Title: \_\_\_\_\_

Date: \_\_\_\_\_

*[End of Signatures]*

## EXHIBIT A Service Area



**EXHIBIT B**

**Purchase of Subject Credits**

Subject to the terms and conditions of the Agreement:

Buyer will purchase \_\_\_\_ Conservation Credits from Dirty Creek Conservation Bank for the Purchase Price of \$\_\_\_\_\_.

**Total Purchase Price:** \_\_\_\_\_



Invoice

**Mitigation Solutions USA**  
Dirty Creek Conservation Bank

Buyer, Company Name  
Attn: Buyer, Primary Contact  
Buyer, Address  
Buyer, Address  
Buyer, Phone Number  
Buyer, Email Address

Transaction ID: 1805008  
Invoice Date: 5/18/2018  
Invoice Status: **Paid In Full**  
Agreement Type: Purchase  
Permit No.: Unknown

Project: Example  
Additional Information: Example

<u>Description</u>	<u>Qty</u>
ABB Conservation Credits Released and Authorized by USFWS	0.0
<b>Total Credits Purchased:</b> 0.0	
Total Purchase Price:	\$0.00
Amount Paid To Date:	\$0.00
<b>Amount Due:</b>	<b>\$0.00</b>

**Example - Payment Receipt Template**

MitigationSolutionsUSA

2557 State Highway 7 East, Center, Texas 75935  
3200 Wilcrest Drive, Suite 460, Houston, Texas 77042



Letter of Notification

US Fish and Wildlife Service, Oklahoma  
Ecological Services Field Office  
Attn: Field Supervisor  
9014 East 21st Street  
Tulsa, OK 74129-1428

Transaction Date: \_\_\_\_\_  
MSUSA Transaction ID: 000000

Transaction Details

Dirty Creek Conservation Bank  
Permittee: \_\_\_\_\_  
Project: \_\_\_\_\_  
Permit No.: \_\_\_\_\_  
Location Details: (County, State)

<u>Description</u>	<u>Qty</u>
ABB Conservation Credits Released and Authorized by USFWS	

This document is notification of a credit transfer. The above mentioned credits have been debited from the MSUSA credit ledger to account for this transaction.

Respectfully,

Terry McKenzie, President

p.p. \_\_\_\_\_

Mitigation Solutions USA

3200 Wilcrest Drive, Suite 460, Houston, Texas 77042

[www.msusa.com](http://www.msusa.com)

F-3: Credit Ledger Template

Transaction Date	Company/ Permittee	Project Description	Bank Owner	Bank	Permit No.	County/Location Details	Transaction Type	Permittee Address	Permittee Phone Number	Amount Paid To Date	Total Purchase Price	Price per Credit	Credits Sold	Notes/Additional Info
				Dirty Creek Conservation Bank										
										\$0.00	\$0.00		0.0	

## F-4: Instructions for Covered Species Credits Transfers Using RIBITS



US Army Corps of Engineers  
Fort Worth District

BUILDING STRONG®

## RIBITS Instructions For Bankers



July 2012

## RIBITS Background

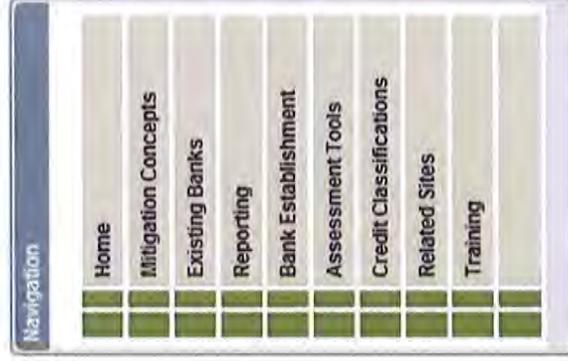
Federal resource agencies, including the USACE, started an initiative several years ago to better track mitigation banking. The product resulting from this initiative is RIBITS (Regulatory In-lieu fee and Bank Information Tracking System), which was developed by the USACE Engineer Research and Development Center (ERDC) and Applied Research Associates, Inc. (ARA). In accordance with a national initiative, a number of Districts have completed loading mitigation bank data into RIBITS which is intended to bring transparency to mitigation banking (as well as In-Lieu Fees in the future) by providing public access to the location of bank sites, available credits and bank points of contract.

## RIBITS Instructions For Bankers

The new version of RIBITS can be found at <https://rsgisias.crrel.usace.army.mil/ribits/f?p=107:2:>

Enter your username and password in the lower lefthand area of the screen to login.

Navigation around the RIBITS site is by the buttons on the left side of the page. Each button provides information on a different aspect of mitigation and mitigation banking. Both National and District-specific guidance is available for each of these topics based on the District selected when entering the site.



For example:

- “**Mitigation Concepts**” includes copies of the Mitigation Rule and a very helpful glossary of terms.
- “**Bank Establishment**” identifies useful information related to the establishment of mitigation banks that is applicable across the United States and any District-specific guidance.
- The “**Reporting**” button allows the user to prepare and execute queries of the data in RIBITS.
- “**Assessment Tools**” provides references to aid in understanding the assessment methodologies utilized in the selected District.
- “**Credit Classifications**” identify the types of wetland and stream credits available for the specified District.



## Updating Ledgers

From the list of “Existing Banks”, select the bank or banks that you are responsible for maintaining RIBITS data. You will see a summary page for that bank. Clicking on the action labeled “View Ledger” will take you to the bank ledger.

To enter a new credit withdrawal, click on the action under the header labeled “New Transaction”.

Column Name	Column Value	Internal Comments
		1-1

Only enter data in the following fields:

1. Jurisdiction
2. Transaction Date
3. Client Name
4. Credits Debited
5. Corps Permit Number  
Format: SWF/Year/Permit Number  
\*must be 5-digits long (example: SWF-2000-00150)
6. Name of Permittee
7. Credit Classification (if applicable, with functional assessment subcategories identified; ie. if HGMi identify amounts within each subcategory TSSW/RSEC/MPAC, etc.)
8. Specific Area(s) Within Bank That Credits Are To Be Debited (example: Enhancement Area 1, Upland Buffer, Ephemeral Stream, Intermittent Stream, Etc., based on how total potentially available credits are distributed throughout different areas in the bank and where they have been released)

\*\*\* See Notes About Ledger Security \*\*\*

Impact Information (Optional entry)

- Cowardin System (“Riverine” for stream impacts, “Palustrine” for wetland impacts)
- Impact HUC
- Impact quantity

Then click on “Create” at the top of the transaction form . It will take you to a form to provide the permit number & agency for other permits issued in known either enter the data or click on “Skip”

Finally, click on “Create” to finalize the transaction.

## Notes About Ledger Security

- The ledger data seen by the **general public** includes transaction type (initiation, release, withdrawal), jurisdiction, transaction date, number of credits (debited or credited), permit number, credit classification, impact HUC (optional), impact quantity (optional), total withdrawals (TW, running total of all credits sold), balance of released (BoR, running total of available credits (Available credits = Released minus Withdrawn)). This is consistent with the RIBITS ledger data of other USACE districts.

Credit Ledger											
View	Type	Jurisdiction	Date	Credits	Permits	Credit Classification	Impact HUC	Impact Quantity	TW	BoR	Comment
	Init	Federal	07/18/2004	648.7		Wetlands			.0	.0	
	Rel	Federal	07/18/2004	181.0		Wetlands			.0	181.0	
	Wdr	Federal	05/18/2008	1.0	SWF-2007-00479	Wetlands			1.0	180.0	
	Wdr	Federal	07/24/2008	.5	SWF-2006-00537	Wetlands			1.5	159.5	
	Wdr	Federal	09/23/2008	5.6	SWF-2007-00542	Wetlands			7.1	153.9	
	Wdr	Federal	09/23/2008	4.8	SWF-2007-00550	Wetlands			11.9	149.1	
	Wdr	Federal	11/25/2008	5.8	SWF-2006-00253	Wetlands			17.7	143.3	
	Wdr	Federal	12/01/2008	.5	SWF-2007-00541	Wetlands			18.2	142.8	
	Wdr	Federal	04/03/2009	.7	SWF-2009-00054	Wetlands			18.9	142.1	
	Wdr	Federal	05/15/2009	.3	SWF-2008-00321	Wetlands			19.2	141.8	
	Wdr	Federal	07/14/2009	.8	SWF-2009-00213	Wetlands			19.8	141.2	
	Wdr	Federal	07/14/2009	15.5	SWF-2009-00051	Wetlands			35.3	125.7	
	Wdr	Federal	07/14/2009	.5	SWF-2009-00140	Wetlands			35.8	125.2	

- A banker POC that has logged in with their username and password has access to additional ledger columns **permittee** and **internal comments** for their bank's ledger only; there is no access to the **permittee** or **internal comments** of other banks. The internal comments field should be used to identify an area within a bank where credits will be debited or any other information the banker POC wishes to keep invisible from the general public or other banker POC's.

Ledger Columns for Fort Worth District	
Column Name	Column Value
Internal Comments	

1 - 1

F-5: Credit Release Schedule

Exhibit F-5. Dirty Creek Conservation Bank credit release schedule

Percent of Credits Released	Credits Released	Milestone Event
85.0%	865.1	Site protection, Non-Compatible Land Uses, and Est. Financial Assurances
15.0%	152.7	Fully Funding Endowment/Final Release
<b>Total Bank Credits</b>	<b>1,017.80</b>	

F-6: Implementation Fee Schedule – NOT APPLICABLE

## **Exhibit G- Phase I Environmental Site Assessment**

**PHASE 1 ENVIRONMENTAL SITE ASSESSMENT**

**Dirty Creek**

**West of State Highway 64 and South of County Road E1010N  
McIntosh County, Oklahoma**



**Prepared For:  
AE Land and Timber LLC  
Center, Texas**

**Report Date  
Update: May 4, 2018  
Original: November 15, 2016**

**Prepared By:**

**Heithaus Engineering & Associates, Inc.**  
535 West Battlefield Street  
Springfield, Missouri 65807  
(417) 887-3238, Fax (417) 887-1940



**Phase 1 Environmental Site Assessment  
Dirty Creek (1,067-acres) near Warner, OK**

**Report Date: Nov. 2016 / May 2018  
HEI Project No. 216027Env**

**Heithaus Engineering & Associates, Inc.**  
535 W. Battlefield Street Springfield, MO 65807 Ph: 417-887-3238 Fax: 417-887-1940  
Certificate of Authorization #6376 (E&LS)

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# PHASE 1 ENVIRONMENTAL SITE ASSESSMENT

## DIRTY CREEK

### 1 SUMMARY

At the request of Michael D. Bird, OK-AE Land & Timber LLC. of Center Texas, a Phase 1 Environmental Site Assessment (ESA) was conducted by Heithaus Engineering and Associates, Inc. (HEI) for the Dirty Creek (1,067 acres) near Warner, Oklahoma, said property subsequently referred to in this report as the “subject property”. This assessment was prepared in accordance with the American Society of Testing and Materials (ASTM) standard practice for Environmental Site Assessments: Phase I Environmental Site Assessment process (ASTM designation: E2247-16, *Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process for Forestland or Rural Property*). Subject to the limitations and exceptions discussed in Section 2.4. The ESA was conducted under the supervision or responsible charge of Kenneth M. Heithaus, P.E. The site reconnaissance was performed on April 14, 2018.

The site is an approximate 1,067-acre tract of land with Dirty Creek traversing the site. In addition to Dirty Creek, the site is partially wooded, partially pastured with significant forested wetlands and some marshlands. The property is in an undeveloped forestland area northwesterly of Warner OK with surrounding properties consisting of similar farmland, pastures and undeveloped woodlands.

The report must be read in its entirety for a comprehensive understanding of the items contained herein. The results of this assessment have revealed:

- No currently recognized environmental conditions (RECs) associated with subject property.
- No gaps that significantly affected our ability to identify RECs.

Based on the scope of services, limitations, and findings of this assessment, HEI did not identify RECs, which, in our opinion, warrant additional investigation at this time.

## 2 INTRODUCTION

The Phase I Environmental Site Assessment (Phase I ESA) for the subject property has been performed in accordance with ASTM Standard Practices to encompass the following:

### 2.1 Purpose

The purpose of this Phase I ESA is to update the Phase 1 ESA report prepared November 15, 2016 which serves to assist the client in identifying any current Recognized Environmental Conditions (**RECs**) in connection with the subject property. This process included user-provided information, a regulatory database review, historical and physical records review, interviews, including local government inquiries, as applicable and a visual noninvasive reconnaissance of the site and adjoining properties. Limitations, ASTM deviations, and significant data gaps (if identified) are noted in the report.

### 2.2 Detailed Scope-of-Services

The scope of work for this assessment was in general accordance with the American Society of Testing and Materials (ASTM) Standard Practices for Environmental Site Assessments: Phase I ESA Process (ASTM Designation: ASTM E 2247-16, Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process for Forestland or Rural Property) which provide methodologies for conducting a Phase I ESA of a property for the purpose of identifying recognized environmental conditions. This scope includes the following:

- Review of building, zoning, planning, water, sewer, fire, environmental and other records relating to current and previous uses of the subject property.
- Review of historical aerial and topographical documentation
- Review of historical Fire Insurance Maps
- Visual inspection of subject property and surrounding properties
- Interviews of past and present owners and occupants
- Interviews of local governing agencies
- Analysis of local hydrogeologic conditions
- Review of state and federal lists of known contaminated sites, hazardous materials, spill and underground tanks (National Priority List (NPL) of the Environmental Response Compensation and Liability Information System, or similar lists).
- Evaluation of nearby operations for their potential to affect subject property.
- Digital photographic documentation of existing site conditions
- Opinion of findings and recommendations

- (Note: property tax files and land title were records not provided and were not included)

### 2.3 Significant Assumptions

While this report provides an overview of potential environmental concerns, both past and present, the environmental assessment is limited by the availability of information at the time of the assessment. It is possible that unreported disposal of waste or illegal activities impairing the environmental status of the property may have occurred which could not be identified. The conclusions and recommendations regarding environmental conditions that are presented in this report are based on a scope of work authorized by the Client.

Phase I ESAs, such as the one performed at this site, are of limited scope, are noninvasive, and cannot eliminate the potential that hazardous, toxic, or petroleum substances are present or have been released at the site beyond what is identified by the limited scope of this ESA. In conducting the limited scope of services described herein, certain sources of information and public records were not reviewed. It should be recognized that environmental concerns may be documented in public records that were not reviewed. No ESA can wholly eliminate uncertainty regarding the potential for RECs in connection with a property. Performance of this practice is intended to reduce, but not eliminate, uncertainty regarding the potential for RECs. No warranties, express or implied, are intended or made. The limitations herein must be considered when the user of this report formulates opinions as to risks associated with the site or otherwise uses the report for any other purpose. These risks may be further evaluated - but not eliminated - through additional research or assessment. We will, upon request, advise you of additional research or assessment options that may be available and associated costs.

### 2.4 Limitations and Exceptions

The report has been prepared in accordance with generally accepted environmental methodologies referred to in ASTM E 2247-16 and contains all of the limitations inherent in these methodologies. No environmental site assessment can wholly eliminate uncertainty regarding the potential for recognized environmental conditions in connection with a property. This report is intended to reduce, but not eliminate, uncertainty while recognizing limits of time and costs. No other warranties, expressed or implied, are made as to the professional services provided under the terms of our contract and included in this report.

This report is site-specific in that it relates to assessment of environmental conditions on a specific parcel. Consequently, this report does not address any additional issues raised in transactions such as purchases of business entities, or interests therein, or assets involving environmental liabilities pertaining to properties previously owned or operated or other off-site liabilities.

Based upon the agreed-on scope of services, this ESA did not include subsurface or other invasive assessments, business environmental risk evaluations, or other services not particularly identified and discussed herein, including an evaluation of vapor encroachment conditions. Pertinent documents are referred to in the text of this report, and a separate reference section has not been included. Reasonable attempts were made to obtain information within the scope and time constraints set forth by the client; however, in some instances, information requested is not, or was not, received by the issuance date of the report. Information obtained for this ESA was received from several sources that we believe to be reliable; nonetheless, the authenticity or reliability of these sources cannot and is not warranted hereunder.

An evaluation of the significance of these limitations and missing information with respect to our findings has been conducted, and where appropriate, significant data gaps are identified and discussed in the text of the report. However, it should be recognized that an evaluation of significant data gaps is based on the information available at the time of report issuance, and an evaluation of information received after the report issuance date may result in an alteration of our conclusions, recommendations, or opinions. We have no obligation to provide information obtained or discovered by us after the issuance date of the report, or to perform any additional services, regardless of whether the information would affect any conclusions, recommendations, or opinions in the report. This disclaimer specifically applies to any information that has not been provided by the client.

This report represents our service to you as of the report date and constitutes our final document; its text may not be altered after final issuance. Findings in this report are based upon the site's current utilization, information derived from the most recent reconnaissance and from other activities described herein; such information is subject to change. Certain indicators of the presence of hazardous substances or petroleum products may have been latent, inaccessible, unobservable, or not present during the most recent reconnaissance and may subsequently become observable (such as after site renovation or development). Further, these services are not to be construed as legal interpretation or advice.

The conclusions of this report are based in part, on the information provided by others. The possibility remains that unexpected environmental conditions may be encountered at the site in locations not specifically investigated. Should such an event occur, HEI must be notified to determine if modifications to our opinions of findings are necessary.

## 2.5 Special Terms and Conditions

This report is an update to the November 15, 2016 report which was prepared prior to the purchase of the property by the client. There has been no other specific terms and conditions agreed upon for this assessment.

## 2.6 User Reliance

This report may be distributed and relied upon by AE Land and Timber LLC for environmental development on subject property. Reliance on the information and conclusions in this report by any other person or entity is not authorized without the written consent of HEI. This report was prepared in accordance with **ASTM E2247-16** requirements for Phase I ESA with opinions and recommendations being valid for one year with some updates required after 180 days.

Reliance on the ESA by the client and all authorized parties will be subject to the terms, conditions and limitations stated in the proposal, ESA report, and HEI Agreement for Services. The limitation of liability defined in the Agreement for Services is the aggregate limit of HEI liability to the client and all relying parties.

## 3 SITE DESCRIPTION

<b>Site Name:</b>	Dirty Creek
<b>Site Location/Address:</b>	West of State Highway 64 and between County Roads E1010 & E1020 Northwest of Warner in Northeasterly corner of McIntosh County, Oklahoma
<b>Land Area:</b>	Approximately 1,067 acres

### 3.1 Location and Property Description

The Property Lies west of Highway 64 along Dirty Creek in McIntosh County, Oklahoma and is described as:

Lots One (1), Two (2), Three (3) and Four (4) and the South Half of the North Half (S/2 N/2) and the North half of the Southwest Quarter (N/2 SW/4) and the Southwest Quarter of Southwest Quarter (SW/4 SW/4) and North Half of Southeast Quarter of Southwest Quarter (N/2 SE/4 SW/4) and Southwest Quarter of Southeast Quarter of Southwest Quarter (SW/4 SE/4 SW/4) and North Half of Northwest Quarter of Southeast Quarter (N/2 NW/4 SE/4) and Southwest Quarter of Northwest Quarter of Southeast Quarter (SW/4 NW/4 SE/4) and the Northwest Quarter of Southwest Quarter of Southeast Quarter (NW/4 SW/4 SE/4) all in Section 1, Township 12 North, Range 18 East of the I.B.M., McIntosh County, Oklahoma.

AND

Lot One (1) and The East 22.48 acres of Lot Two (2) and the Southwest (SW) 10 acres of Lot Three (3) and Southeast (SE) 10 acres of Lot Four (4) and the South Half of North Half (S/2 N/2) and Northeast Quarter of Southwest Quarter (NE/4 SW/4) and East Half of Northwest Quarter of Southwest Quarter (E/2 NW/4 SW/4) and Northeast Quarter of Southeast Quarter of Southwest Quarter (NE/4 SE/4 SW/4) and Southeast Quarter (SE/4)

all in Section 2, Township 12 North, Range 18 East of the I.B.M., McIntosh County, Oklahoma.

AND

The Southeast Quarter of Northeast Quarter (SE/4 NE/4) and East Half of Southwest Quarter of Northeast Quarter (E/2 SW/4 NE/4) in Section 3, Township 12 North, Range 18 East of the I.B.M., McIntosh County, Oklahoma.

### **3.2 Site and Vicinity General Characteristics**

The subject property is bounded by County Road E1010 on the north and E1020 on the south as well as various farms, woodlands and marshlands on all four sides of the property. The property lies entirely within McIntosh County, but is bounded by Muskogee County along a portion of both the northerly and easterly sides.

### **3.3 Current and Past Uses of the Property**

The property is currently lying inactive, with indication of some recent farming and cattle grazing activity. The remaining property consists of undeveloped forested wetlands and marshlands. Dirty Creek flows through the property generally from west to east.

The farmhouse and barn have been razed. There is little evidence as to where the structures existed except for the ruins near an existing abandoned power pole and windmill well with a concrete holding tank. The holding tank is presumed to have been used as a watering trough.

FEMA has not mapped the area for a designated 100-year floodplain, however the US Fish and Wildlife National Wetlands Inventory map shows considerable amounts of the property to be designated as wetlands.

### **3.4 Descriptions of Structures, Roads and/or Other Improvements**

Following is a brief description of the physical improvements within the subject property. For reference, photographic documentation of said improvements is included in Appendices.

#### **3.4.1 Existing Structures**

There are four oil/gas wells located on the property which are not currently in operation. I was able to inspect three of the sites.

Except for the farmhouse and farming complex, no additional structures appear to have existed on the subject property.

### 3.4.2 Roads

Historically, from the aerial, USGS maps as well as County Road Maps it appears access to the property has been via County Road E1010 and E1020. Several dirt trails exist within the property. These trails access the gas well sites, meadows, creek crossings and adjacent properties.

The property is fenced along the north and south sides. There are two gates along the north side, the westerly one being accessed through an adjoining neighbor's property and used to access an abandoned gas well. The easterly gate accesses the farm/grazing land's dirt trails as well as the location of both the farmhouse and farming complex.

To the south there are also two gates. One gate is near the easterly property line providing access to the bottoms along Dirty Creek and a low-water crossing. Lying approximately 1,350 feet west of the southeasterly corner of the property along E1020 the second gate is found. It was used primarily to provide access to a gas well which exists approximately 800 feet northerly from County Road E1020. Along the northerly, southerly and westerly property lines the fences are generally in good condition. However, the easterly fence lines are in poor condition and in need of repair or replacement. In several areas the fence is down.

### 3.4.3 Adjoining Properties

The adjoining properties consist primarily of farmlands some undeveloped forested wetlands with some marsh/wetlands.

## 4 USER PROVIDED INFORMATION

Following is a list of the items provided by the purchaser regarding the ownership of the subject property. A copy of the User Questionnaire is included in the appendices and summarized in Section 7.4 *Interviews with User*.

### 4.1 Title Records

In 2016 a title commitment was acquired for this property. This title report had been reviewed in the process of preparing the original report. No new title commitment was provided.

### 4.2 Environmental Liens or Activity and Use Limitations (AUL's)

The client is not aware of any environmental cleanup liens against the property that are filed or recorded under federal, tribal, state or local law. The client is not aware of any AULs, such as engineering controls, land use restrictions or institutional controls that are in place at the site and/or have been filed or recorded in a registry.

#### 4.3 Specialized Knowledge

The client does not have any specialized knowledge or experience related to the property or nearby properties which would pertain to this assessment.

#### 4.4 Commonly Known or Reasonably Ascertainable Information

The client has not provided any commonly known or reasonably ascertainable information pertaining to this assessment regarding the subject property or nearby properties.

#### 4.5 Valuation Reduction for Environmental Issues

The client does not believe that the property valuation has been reduced as a reflection of environmental issues.

#### 4.6 Owner, Property Manager, and Occupant Information

Based on information obtained Michael D. Bird, OK-AE Land & Timber LLC. of Center Texas, is the current owner.

#### 4.7 Reason for Performing Phase I ESA

The Phase 1 ESA was performed by HEI at the request of Michael D. Bird of AE Land and Timber LLC, a Texas Limited Liability Corporation. This Phase 1 ESA was requested for the following reasons:

- Update the November 12, 2016 report in the determination whether any immediate actions at the subject property are necessary to comply with environmental laws and regulations.

#### 4.8 Other

No other information or documentation was provided by the user.

### 5 RECORDS REVIEW

Regulatory database information was provided by GeoServices, a contract information services company. The purpose of the records review was to identify RECs in connection with the site. Information in this section is subject to the accuracy of the data provided by the information services company and the date at which the information is updated, and the scope herein did not include confirmation of facilities listed as "unmappable" by regulatory databases.

The groundwater flow direction is westerly to easterly along Dirty Creek with tributaries from the northerly and southerly directions. The depth of water varies from shallow to flood conditions depending upon seasonal variations in rainfall. Without the benefit of on-site groundwater monitoring wells surveyed to a datum, groundwater depth and flow direction beneath the site cannot be directly ascertained.

### 5.1 Federal and State/Tribal Databases

Reference the Radius Report for data base summary of the facility listings identified on federal and state/tribal databases within the ASTM-required search distances from the approximate site boundaries. Database definition, descriptions, and the complete database search report are included in the Appendices titled Radius Report.

### 5.2 Additional Environmental Record Sources

Additional Environmental Record Sources are listed in said Radius Report in the Appendix. The current Radius Report includes the location of a surface coal mine near the property. Reference Mine #4 it has been listed as abandoned with no violations noted.

### 5.3 Physical Setting Source(s):

Physical Setting Sources are outlined in the tables below:

<b>Topography &amp; Hydrology</b> (Reference Physical Setting Maps & USGS Topographical Maps)	
<b>Site Elevation</b>	Approximately 510 to 570 feet (NGVD)
<b>Surface</b>	From the north property generally southerly to Dirty Creek while the property to the south slopes northerly to Dry Creek. Dry Creek
<b>USGS Quadrangle</b>	Muskogee, OK 1901, Keefeton, OK 1948, Oktaha, OK 1974 & Keefeton, OK / Oktaha, OK 2012
<b>Runoff Topographic Gradient</b>	Northerly portion of tract slopes generally to the south to Dirty Creek while the property to the south slopes northerly to Dry Creek. Dry Creek runs through the property from the west to the east.
<b>Closest Surface Water*</b>	Dirty Creek traverses the site. The 100-year FEMA floodplain has not been mapped to date however; wetlands are indicated on the NWI maps.

\*National Flood Insurance Program – Flood Hazard Boundary Map McIntosh County, OK Community Panel indicates that this property has not been mapped Because detailed hydraulic analyses have not been performed, no Base Flood Elevations (BFEs) or flood depths are shown.

<b>Soil Characteristics</b> (Reference Physical Settings Maps)	
<b>Soil Type</b>	<p>Predominant soil types are unmapped forested wetlands, Verdigris Silt Loam, Dennis Silt Loam, Coweta (Collinsville)-Bates complex with some inclusion of Bates loam and Linker-Hector Series.</p>
<b>Description</b>	<p>Forested wetlands are dominated by woody vegetation 20' or taller.</p> <p>Verdigris Series consists of deep, loamy moderately well drained soils that formed in silty alluvium on floodplains in the Cherokee Prairies major land resource area (MLRA 112). Dark brown with slope ranging from 0 to 2 percent. Frequently flooded.</p> <p>Dennis series consists of deep, moderately well drained, slowly permeable soils that formed in residuum weathered from silty shales and clays. These very gently sloping to sloping soils are on slightly convex side slopes of uplands. They have a perched water table at a depth between 2 and 3 feet in winter and early in spring. Slopes range from 1 to 8 percent. The soils of the Dennis series are fine, mixed, thermic Aquic Paleudolls.</p> <p>Collinsville-Bates complex with some inclusion of Bates This series consists of very shallow and shallow, well drained or somewhat excessively drained, moderately rapidly permeable soils that formed in residuum weathered from sandstone. These gently sloping to strongly sloping soils are on convex ridges of uplands. Slopes range from 3 to 12 percent. The soils of the Collinsville series are loamy, siliceous, thermic lithic Hapludolls. Collinsville soils are associated with Bates and Talihina soils. Bates soils, on lower slopes, are deeper and have an argillic horizon. Talihina soils, on similar landscapes, have a clayey control section.</p> <p>The Bates series consists of moderately deep, well drained, moderately permeable soils that formed in residuum weathered from sandstone and silty shales. These very gently sloping to sloping soils are on broad, smooth, slightly convex uplands. Slopes range from 1 to 8 percent. The soils of the Bates series are fine-loamy, siliceous, thermic Typic Argiudolls.</p> <p>The Linker series consists of moderately deep, well drained, moderately permeable soils that formed in residuum weathered from sandstone. These very gently</p>

sloping to gently sloping soils are on broad, slightly convex side slopes of uplands. They have slopes ranging from 1 to 5 percent. Soils of the Linker series are fine-loamy, siliceous, thermic Typic Hapludults.

Hector series consists of shallow, well drained, moderately rapid permeable soils that formed in residuum weathered from sandstone. These moderately steep to steep soils are on convex ridges and side slopes on uplands. Slopes range from 12 to 30 percent. The soils of the Hector series are loamy, siliceous, thermic Lithic Dystrochrepts.

The Taloka series consists of deep, somewhat poorly drained, very slowly permeable soils that formed in clayey alluvium (fig. 9). These nearly level to very gently sloping soils are on broad smooth uplands or high terraces. They have a perched water table between depths of 1 foot and 2 feet during the spring and summer. Slopes range from 0 to 3 percent. Soils of the Taloka series are fine, mixed, thermic Mollie Albaqualfs.

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### Geology / Hydrogeology (Reference Physical Settings Maps)

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#### Formation

**McAlester and Hartshome Formation** composed of: Shale, gray, with "Upper Hartshome coal" 1 to 50 feet above base, 500 to 600 feet thick; overlain by dark-gray shale with many buff fine-grained sandstones, 595 to 1,030 feet thick; overlain by dark-gray shale, 300 to 925 feet thick, with "McAlester coal," 1 to 3 feet thick, a few feet above base. Total thickness ranges from 1,150 to 2,420 feet. (Lower Franks Conglomerate) McALESTER TEXARKANA-Shale, gray, illitic, chloritic, with many tan to gray sandstones, fine- to coarse-grained, micaceous, quartzose; "McAlester and Stigler coals" 600 to 800 feet or more below top; thickness, 2,000 to 2,830 feet, increasing eastward

**Alluvium** material is formed by deposits where the river overflows its banks and consists of silt, sand, clay, and gravel and often contains a good deal of organic matter.

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#### Estimated Depth to First Occurrence of Groundwater

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Estimated depth to the first occurrence of groundwater is weather dependent.

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<b>*Hydrogeologic Gradient</b>	Not known - may be inferred to be parallel to topographic gradient (primarily to the east).
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\*The groundwater flow direction and the depth to shallow, unconfined groundwater, if present, would likely vary depending upon seasonal variations in rainfall and other hydrogeological features. Without the benefit of on-site groundwater monitoring wells surveyed to a datum, groundwater depth and flow direction beneath the site cannot be directly ascertained.

#### 5.4 Historical Use Information on the Subject Property

Based on our review of the historical information, the subject property has been operated as a farm and cattle raising operation since the early 1900's until 2016 when it became part of an Environmental Wooded Wetland Facility. This report is to bring current the original report of November 15, 2016 except as previously noted and further identified below. Copies of historical documents are included in the Appendix.

#### 5.5 Historical Topographic Maps

<b>Historical Topographic Maps</b>	
(Refer to Appendix A for Historical topographical Muskogee, OK 1901, Keefeton, OK 1948, Oktaha, OK 1974 & Keefeton, OK / Oktaha, OK 2012)	
<b>Location / Direction</b>	<b>Description</b>
<b>Subject Property</b>	Undeveloped land with Dirty Creek and other tributaries
<b>North</b>	Undeveloped land with multiple tributaries
<b>East</b>	Undeveloped land with multiple tributaries
<b>South</b>	Undeveloped land with multiple tributaries
<b>West</b>	Undeveloped land with multiple tributaries

#### 5.6 Historical Aerial Photographs

Selected historical aerial photographs were reviewed at approximately 12 to 18-year intervals, to obtain information concerning the history of development on and near the site. Evaluation of these aerials may be limited by a photo's quality and scale. Selected photographs are summarized below.

<b>Historical Aerials</b>
(Refer to Appendix A for Historical Aerial Maps for McIntosh County, Oklahoma)
USDA 2005 & 2015 - 1" = 1,000' scale
USGS 1972, 1980, 1984 & 1995 - 1" = 1,000' scale
ASCS 1938, 1949, 1956 & 1963, 1" = 1,000' scale

<b>Location / Direction</b>	<b>Description</b>
<b>Subject Property</b>	Predominantly farming and raising of cattle with significant sections of forested wetlands. Possible homestead (1938, 1949, 1956, 1963, 1972, 1980, 1984, 1995, 2005 & 2015). Access from the north via County Road E1010 and from the south from Co Road E1020 Based on the aerials, sometime during the late 1980's early 1990's the farming operation had decreased and the removal of most of the supporting structures as well as the homestead had occurred.
<b>North</b>	Predominantly pasture with possible homesteads (1938, 1949, 1956, 1963, 1972, 1980, 1984, 1995, 2005 & 2015).
<b>East</b>	Predominantly wooded sections with some pasture to the southeast (1938, 1949, 1956, 1963, 1972, 1980, 1984, 1995, 2005 & 2015). Access from the north via County Road E1010 and from the south from Co Road E1020.
<b>South</b>	Predominantly farming & raising of cattle with significant sections of forested wetlands. Possible homestead (1938, 1949, 1956, 1963, 1972, 1980, 1984, 1995, 2005 & 2015). Access from the north via County Road E1010 and from the south from Co Road E1020.
<b>West</b>	Predominantly farming & raising of cattle with significant sections of forested wetlands. Possible homestead (1938, 1949, 1956, 1963, 1972, 1980, 1984, 1995, 2005 & 2015). Access from the north via County Road E1010 and from the south from Co Road E1020.

## 5.7 Historical City Directories

The city directories were requested through GeoSearch. According to GeoSearch there are no directories listed for the area requested.

## 5.8 Historical Fire Insurance Maps

Historical fire insurance maps produced by the Sanborn Map Company were requested from GeoSearch to evaluate past uses and relevant characteristics of the site and surrounding properties. Based upon inquiries to the above-listed Sanborn provider, Sanborn Maps were not available for the site.

## 5.9 Historical Use Information on Adjoining Properties

Historical Use of Adjoining Properties	
Location / Direction	Description
North	Farmland and Pastures with some undeveloped woodlands
East	Undeveloped woodlands with some farmland & pastures.
South	Farmland and Pastures
West	Farmland and Pastures with some undeveloped woodlands

## 6 SITE RECONNAISSANCE

The purpose of the site reconnaissance is to obtain information indicating the likelihood of identifying recognized environmental conditions in connection with the subject property. Based on the site reconnaissance, RECs were not identified associated with the current site operations.

Site Reconnaissance	
Field Personnel	Kenneth M. Heithaus, P.E., P.L.S. Travis W. Heithaus
Date	Saturday April 14, 2018
Weather Conditions	Sunny and mid-40 degrees
Site Contact/Title	Mike D. Bird of AE Land and Timber, LLC

### 6.1 Methodology and Limiting Conditions

This report was prepared from field visits and interviews with various governmental officials and landowners. All areas of the subject property were accessible at the time of the inspection. Adjoining properties were visually evaluated for any recognized environmental concerns (RECs). There were no visual or physical obstructions or other limiting conditions observed at the subject property.

### 6.2 General Site Setting and Observations

The site is an approximate 1,067-acre tract of land with Dirty Creek traversing the site. In addition to the Dirty Creek, the site is partially wooded, partially pastured with significant forested wetlands and some marshlands. The property is in an undeveloped

forestland area northwesterly of Warner OK with surrounding properties consisting of similar farmland, pastures and undeveloped woodlands.

Information contained in this section is based on a visual reconnaissance conducted while traversing around through the subject property site. There were no structures located on the site. Photo documentation of the site at the time of the original visual reconnaissance is provided in the Appendix. No additional pictures were necessary.

The following table summarizes site observations. Affirmative responses (designated by an "X") are discussed in more detail following the table.

General Site Observations			
Category	Item or Feature	Observed	Comment
<b>Site Operations, Processes &amp; Equipment</b>	Emergency generators	-	-
	Elevators	-	-
	Air compressors	-	-
	Hydraulic lifts	-	-
	Dry cleaning	-	-
	Photo processing	-	-
	Ventilation hoods and/or incinerators	-	-
	Waste treatment systems and/or water treatment systems	-	-
	Heating and/or cooling systems	-	-
Other processes or equipment	-	-	
<b>Aboveground Chemical/Waste Storage</b>	Aboveground storage tanks	-	-
	Drums, barrels and/or containers > 5 gallons	-	-
<b>Underground Chemical or Waste Storage, Drainage or Collection Systems</b>	Underground storage tanks or ancillary UST equipment	-	-
	Sumps, cisterns, catch basins and/or dry wells	X	-
	Grease traps	-	-
	Septic tanks and/or leach fields	-	-
	Oil/water separators	X	-
	Pipeline markers	-	-
<b>Electrical Transformers/PCB's</b>	Transformers and/or capacitors	-	-
	Other equipment	-	-
<b>Releases or Potential Releases</b>	Stressed vegetation	-	-
	Stained soil	-	-
	Stained pavement or similar surface	-	-
	Leachate and/or waste seeps	-	-
	Trash, debris and/or other waste materials	-	-
	Dumping or disposal areas	-	-
	Construction/demolition debris and/or dumped fill dirt	X	-
	Surface water discoloration, odor, sheen, and/or free floating product	-	-
	Strong, pungent or noxious odors	-	-
Exterior pipe discharges and/or other effluent discharges	-	-	

<b>Other Notable Site Features</b>	Surface water bodies	X	Dirty Creek
	Quarries or pits	-	(Ref. Oil & Gas Well Report in Appendices)
	Wells	X	

### 6.3 Pits, Ponds, or Lagoons

No pits or lagoons were observed on the property or adjoining properties. A marsh area exists as outlined on the USDA, McIntosh, OK 2015 aerial photo and on the Keefton, Oktaha, OK 2012 USGS Map.

### 6.4 Solid Waste

No areas, mounds, or depressions filled with material of unknown origin suggesting trash or other solid waste disposal were observed on the subject property.

#### 6.4.1 Wastewater

There was no wastewater or other liquids visibly discharging into Dirty Creek or its tributaries.

### 6.5 Wells

The USGS records indicate that a well was drilled in 1966 to a depth of 36 feet in the southwesterly portion of the property (Latitude 35.539820570 Longitude -95.373026900, ref. GeoPlus Water Well Report included in the Appendix). This water well was not apparent in the field. A drinking water well / cistern was known to have existed on the subject property serving a well with windmill supplying water to the cattle in the farming operations area. According to the GeoPlus Oil & Gas Well Report, several gas wells exist on the property as indicated in the report Appendix. The updated Radius Report The existence of the abandon gas well

### 6.6 Septic Systems

No septic systems or cesspools were observed on the subject property.

## 7 INTERVIEWS

The purpose of the interviews is to visit with regulatory agencies as well as persons directly associated with the property to obtain information which may indicate related environmental conditions. Copies of the interview documentation can be found in the Appendix.

### 7.1 Interview with Owner

Mr. Michael D. Bird, representing OK-AE Land & Timber LLC, was interviewed via phone conversation in the preparation of this environmental assessment and provided the responses summarized below.

#### Owner Questionnaire Responses

Question & Comments	Response		
	Yes	No	N/A
Aware of any Environmental Cleanup Liens against the site?		x	
Actual Knowledge of Environmental Liens or Activity Use Limitations (AULs) that may encumber the site.		x	
Aware of any Specialized Knowledge or Experience related to the site or nearby properties.	x farming		
Actual Knowledge of a Significantly Lower Purchase Price because of hazardous substances or petroleum products.		x	
Commonly Known or Reasonably Ascertainable Information that is material to a release in connection with the site.		x	
Obvious Indicators of Contamination at the site.		x	
Wells drilled on property were dry except for some natural gas found.	x		

### 7.2 Interviews with Former Owners and of Neighboring Properties

In preparation of the previous Phase 1 ESA, Mr. Keith Woods, representing the former owners Muriel Family, LLP, provided similar responses to the owner summary above during a phone call noting that a two-story, residential home burned to the ground in the 1970s.

With respect to neighboring property owners, I interviewed the following persons which were not aware of any environmental hazards in connection with the subject property:

Date	Name	Relation to Subject Property	Contact
8/31/16	Leon Greb	Lives north adjacent for over 40 years	Route 1 Muskogee, Box 7200, Warner, OK 74469
8/31/16	Jack Kelly	Lives northeast adjacent for over 50 years	Route 1 Muskogee, Box 8110, Warner, OK 74469
8/31/16	Lawrence Eugene Speck	Lives adjacent north and northwest for over 20 years	3405 Hyde Park, Muskogee, OK 74033

Phase 1 Environmental Site Assessment  
Dirty Creek (1,067-acres) near Warner, OK

Report Date: Nov. 2016 / May 2018  
HEI Project No. 216027Env

8/31/16	Judith Kay Wilson	Lives in area for over 70 years. Her father operated the former farm.	Pine Hollow Settlement, Rattlesnake Mtn, Muskogee, OK 74033
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### 7.3 Interviews with Local Government Officials

Date	Name	Organization/Company	Contact
4/27/18	Joe Glover	McIntosh Health Dept.	(918) 689-7774
4/27/18	Jeff Brents	OK DEQ – McIntosh	(918) 423-3482

The local government officials contacted above were not aware of any environmental hazards in connection with the subject property.

### 7.4 Interviews with User

As part of the review, the client's representative, was asked to provide the following user questionnaire information as described in ASTM E 2247-16 Section 6.

#### User Questionnaire Responses

Question	Response		
	Yes	No	N/A
Aware of any Environmental Cleanup Liens against the site?		x	
Actual Knowledge of Environmental Liens or Activity Use Limitations (AULs) that may encumber the site.		x	
Aware of any Specialized Knowledge or Experience related to the site or nearby properties.		x	
Actual Knowledge of a Significantly Lower Purchase Price because of hazardous substances or petroleum products.		x	
Commonly Known or Reasonably Ascertainable Information that is material to a release in connection with the site.		x	
Obvious Indicators of Contamination at the site.		x	

## 8 FINDINGS

The results of this assessment have revealed:

- no current recognized environmental conditions associated with the property;
- no historical recognized environmental conditions associated with the property;
- no de minimis conditions associated with the property.

The property is not currently listed as a hazardous waste site; there is no current investigation at this site or of the owners by the Oklahoma Department of Natural

Resources Ecology and Management or the United States Environmental Protection Agency.

## 9 OPINION

Based on the physical site inspection and interviews of knowledgeable parties, it is my professional opinion there are no current recognized environmental conditions as identified in the Findings section of this report. There were no data gaps that significantly affected our ability to identify recognized environmental conditions associated with the property.

## 10 CONCLUSIONS

I have performed a Phase I Environmental Site Assessment of the subject property in conformance with the scope and limitations of ASTM Practice E2247-16. Any exceptions to, or deletions from, this practice are described in Section 11 of this report. This assessment has revealed no evidence of recognized environmental conditions in connection with the subject property.

## 11 DEVIATIONS

Except for the limitations and exceptions discussed in Section 2.4, this Phase I ESA complies with the ASTM Standard E2247-16.

## 12 ADDITIONAL SERVICES

Per the agreed scope of services specified in the proposal, additional services (e.g. asbestos sampling, lead-based paint sampling, wetlands evaluation, lead in drinking water testing, radon testing, vapor encroachment screening, endangered species screening, etc.) were not conducted. A property boundary survey of the subject property was provided under a separate contract with the User in 2016.

## 13 REFERENCES

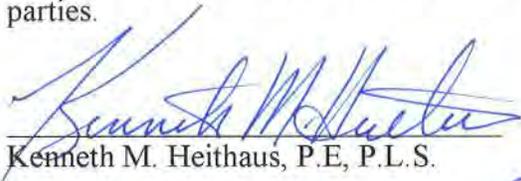
The documents, maps, or other publications used in the preparation of this report are included in the Appendix.

## 14 SIGNATURE(S) OF ENVIRONMENTAL PROFESSIONAL(S)

I declare that to the best of my professional knowledge and belief, I meet the definition of Environmental Professionals as defined in 312.10 of 40CFR312. I have the specific qualifications based on education, training, and experience to assess a property of the nature, history, and setting of the subject property.

This report was prepared in accordance with generally accepted engineering practices. The findings are reasonable for the site conditions observed during the site inspection. Additional data or differing site conditions could result in different findings. No other

warranty, express or implied, is made as to the information included in this report. In the event that conclusions and recommendations based on the data contained in this report are made by others, such conclusions and recommendations are the responsibility of said parties.

  
Kenneth M. Heithaus, P.E., P.L.S.

5/4/2018



#### 15 QUALIFICATION(S) OF ENVIRONMENTAL PROFESSIONAL(S)

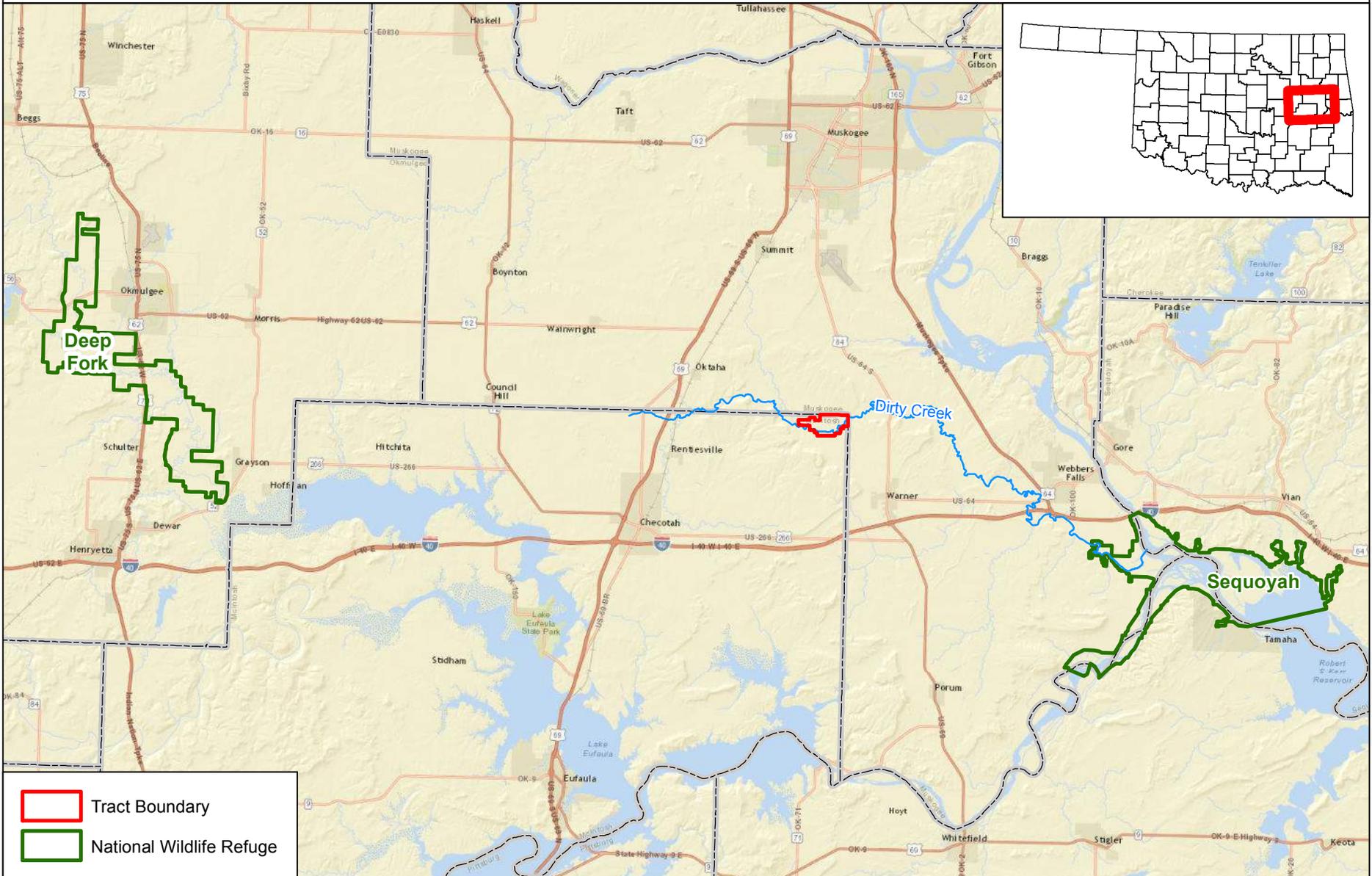
The qualifications of the environmental professional(s) and personnel conducting the site reconnaissance and interviews (if conducted by someone other than an environmental professional) are provided in Appendix 16.8.

#### 16 APPENDICES

- 16.1 Site (Vicinity) Map
- 16.2 Site Plan
- 16.3 Site Photographs
- 16.4 Historical Research &
- 16.5 Regulatory Records Documentation
  - Radius Report
  - Physical Setting Maps
  - Historical Topographic Maps
  - Historical Aerials Photos
  - Environmental Liens (No Liens of Record)
  - Fire Insurance Maps (No Coverage Available)
  - Oil & Gas Report
  - Water Well Report
- 16.6 Interview Documentation
- 16.7 Special Contractual Conditions between User and Environmental Professional
- 16.8 Qualification(s) of the Environmental Professional
- 16.9 Terminology / Definitions

## 16.1 Site (Vicinity) Map

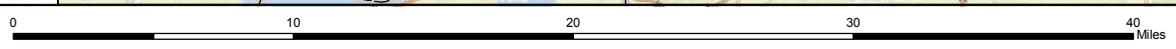
# Dirty Creek McIntosh County, Oklahoma



 Tract Boundary

 National Wildlife Refuge

 5/3/2016

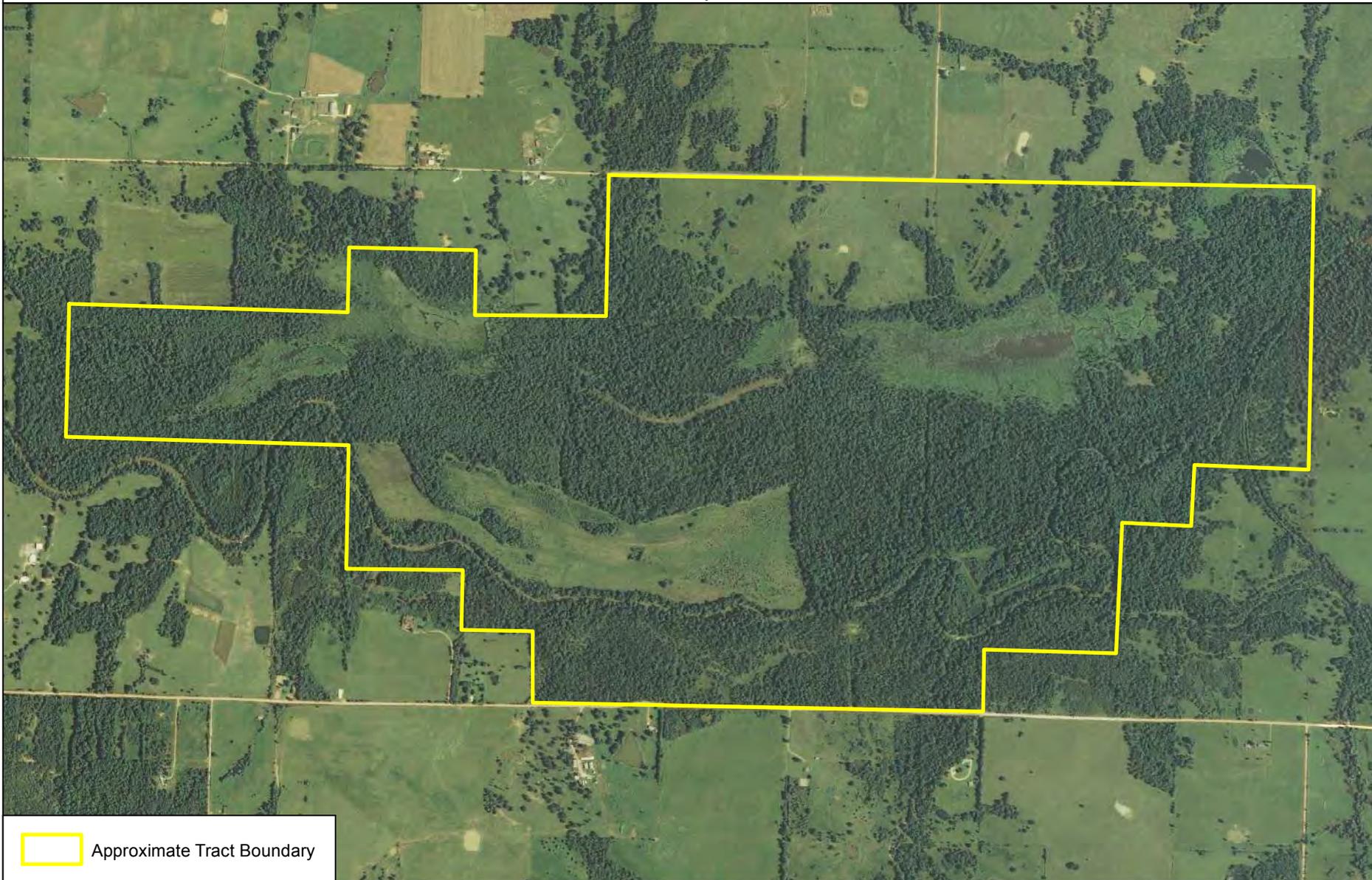


This map was generated by Advanced Ecology, LTD. using GIS (Geographical Information System) software. No claims are made to the accuracy or completeness of the data depicted in this map or to the map's suitability for a particular use. The information depicted may contain inaccuracies and is provided "as is".



# Dirty Creek

## McIntosh County, Oklahoma



 Approximate Tract Boundary

 9/1/2015

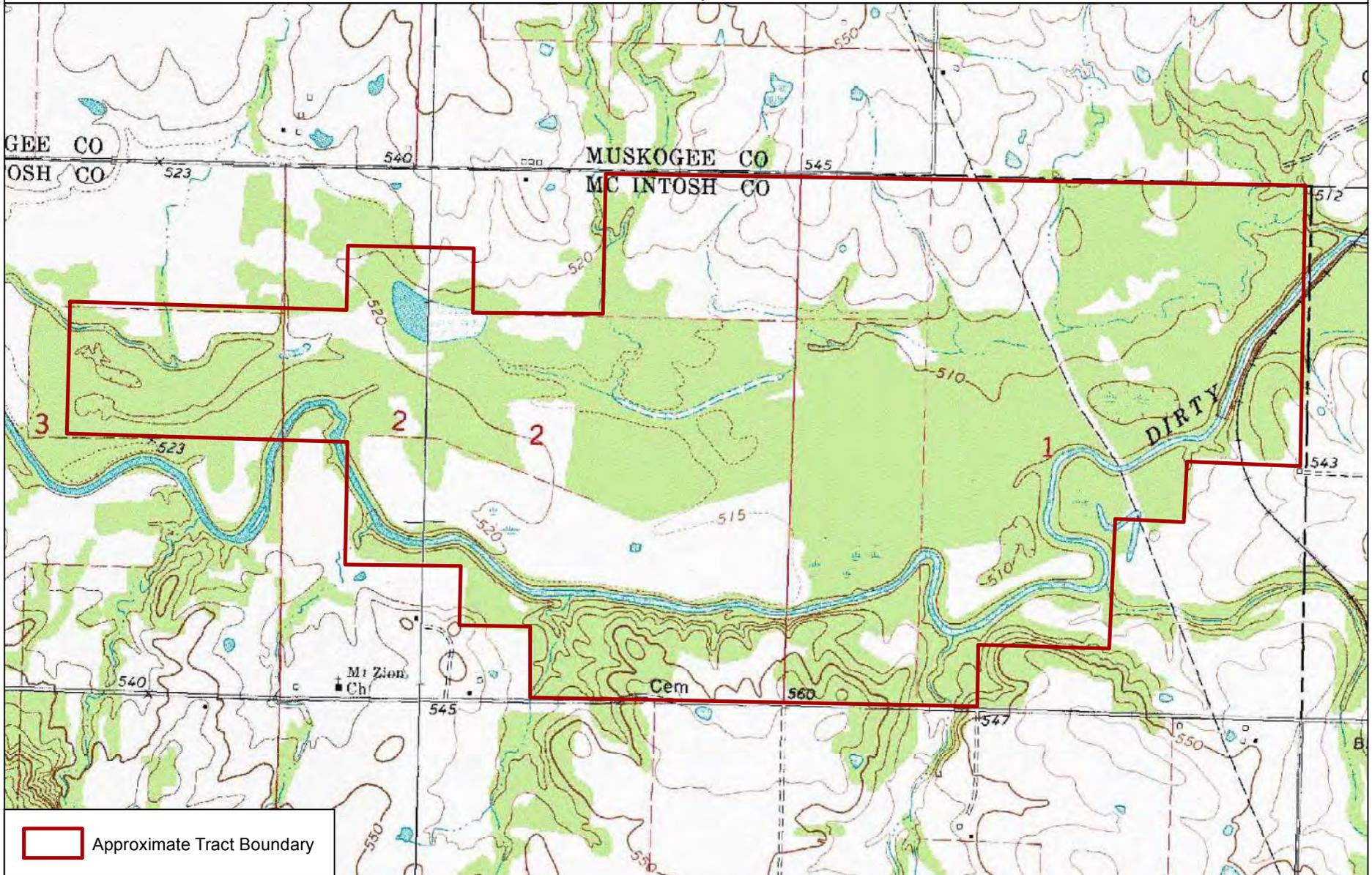
0 2,000 4,000 6,000 8,000 10,000 Feet

Imagery: 2013 NAIP

This map was generated by Advanced Ecology, LTD. using GIS (Geographical Information System) software. No claims are made to the accuracy or completeness of the data depicted in this map or to the map's suitability for a particular use. The information depicted may contain inaccuracies and is provided "as is".

 **ADVANCED  
ECOLOGY**  
enhancing natural resource value

Dirty Creek  
McIntosh County, Oklahoma



Approximate Tract Boundary



9/1/2015

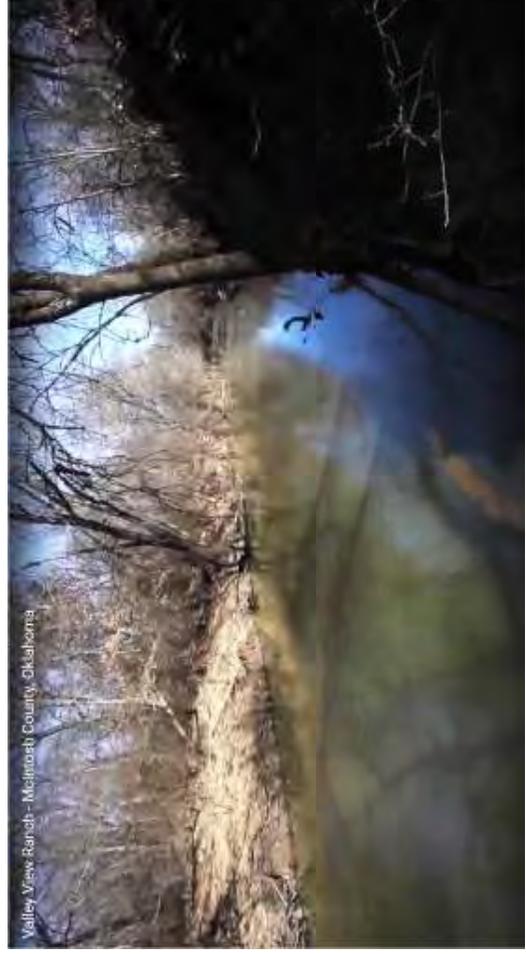
Base Map: USGS



This map was generated by Advanced Ecology, LTD. using GIS (Geographical Information System) software. No claims are made to the accuracy or completeness of the data depicted in this map or to the map's suitability for a particular use. The information depicted may contain inaccuracies and is provided "as is".



## 16.2 Site Photographs



Valley View Ranch - McIntosh County, Oklahoma



Valley View Ranch - McIntosh County, Oklahoma



Valley View Ranch - McIntosh County, Oklahoma



Valley View Ranch - McIntosh County, Oklahoma



### **16.3 Historical Research &**

### **16.4 Regulatory Records Documentation**

- Radius Report
- Physical Setting Maps
- Environmental Liens (None of Record)
- Historical Topographic Maps
- Historical Aerials Photos
- Fire Insurance Maps (No Coverage Available)
- Oil & Gas Report
- Water Well Report

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## **Radius Report**

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[Satellite view](#)

*Target Property:*

**Dirty Creek**

**McIntosh, McIntosh County, Oklahoma 74469**

*Prepared For:*

**Heithaus Engineering & Associates**

**Order #: 106790**

**Job #: 233074**

**Date: 04/17/2018**

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## Disclaimer

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*This report was designed by GeoSearch to meet or exceed the records search requirements of the All Appropriate Inquiries Rule (40 CFR §312.26) and the current version of the ASTM International E1527, Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process or, if applicable, the custom requirements requested by the entity that ordered this report. The records and databases of records used to compile this report were collected from various federal, state and local governmental entities. It is the goal of GeoSearch to meet or exceed the 40 CFR §312.26 and E1527 requirements for updating records by using the best available technology. GeoSearch contacts the appropriate governmental entities on a recurring basis. Depending on the frequency with which a record source or database of records is updated by the governmental entity, the data used to prepare this report may be updated monthly, quarterly, semi-annually, or annually.*

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## Target Property Summary

### **Target Property Information**

*Dirty Creek  
McIntosh, Oklahoma 74469*

#### **Coordinates**

*Area centroid (-95.363323, 35.5448749)  
513 feet above sea level*

#### **USGS Quadrangle**

*Oktaha, OK  
Keifton, OK*

### **Geographic Coverage Information**

**County/Parish:** McIntosh (OK) , Muskogee (OK)

**ZipCode(s):**

Muskogee OK: 74403  
Checotah OK: 74426  
Oktaha OK: 74450  
Warner OK: 74469

#### **Radon**

\* Target property is located in Radon Zone 3.

Zone 3 areas have a predicted average indoor radon screening level less than 2 pCi/L (picocuries per liter).

## Database Summary

### **FEDERAL LISTING**

#### **Standard Environmental Records**

<b>Database</b>	<b>Acronym</b>	<b>Locatable</b>	<b>Unlocatable</b>	<b>Search Radius (miles)</b>
EMERGENCY RESPONSE NOTIFICATION SYSTEM	<a href="#">ERNSOK</a>	0	0	TP/AP
FEDERAL ENGINEERING INSTITUTIONAL CONTROL SITES	<a href="#">EC</a>	0	0	TP/AP
LAND USE CONTROL INFORMATION SYSTEM	<a href="#">LUCIS</a>	0	0	TP/AP
RCRA SITES WITH CONTROLS	<a href="#">RCRASC</a>	0	0	TP/AP
RESOURCE CONSERVATION & RECOVERY ACT - GENERATOR	<a href="#">RCRAGR06</a>	0	0	0.1250
RESOURCE CONSERVATION & RECOVERY ACT - NON-GENERATOR	<a href="#">RCRANGR06</a>	0	0	0.1250
FEMA OWNED STORAGE TANKS	<a href="#">FEMAUST</a>	0	0	0.2500
BROWNFIELDS MANAGEMENT SYSTEM	<a href="#">BF</a>	0	0	0.5000
DELISTED NATIONAL PRIORITIES LIST	<a href="#">DNPL</a>	0	0	0.5000
NO LONGER REGULATED RCRA NON-CORRACTS TSD FACILITIES	<a href="#">NLRRCRAT</a>	0	0	0.5000
RESOURCE CONSERVATION & RECOVERY ACT - NON-CORRACTS TREATMENT, STORAGE & DISPOSAL FACILITIES	<a href="#">RCRAT</a>	0	0	0.5000
SUPERFUND ENTERPRISE MANAGEMENT SYSTEM	<a href="#">SEMS</a>	0	0	0.5000
SUPERFUND ENTERPRISE MANAGEMENT SYSTEM ARCHIVED SITE INVENTORY	<a href="#">SEMSARCH</a>	0	0	0.5000
NATIONAL PRIORITIES LIST	<a href="#">NPL</a>	0	0	1.0000
NO LONGER REGULATED RCRA CORRECTIVE ACTION FACILITIES	<a href="#">NLRRCRAC</a>	0	0	1.0000
PROPOSED NATIONAL PRIORITIES LIST	<a href="#">PNPL</a>	0	0	1.0000
RESOURCE CONSERVATION & RECOVERY ACT - CORRECTIVE ACTION FACILITIES	<a href="#">RCRAC</a>	0	0	1.0000
RESOURCE CONSERVATION & RECOVERY ACT - SUBJECT TO CORRECTIVE ACTION FACILITIES	<a href="#">RCRASUBC</a>	0	0	1.0000
<b>SUB-TOTAL</b>		<b>0</b>	<b>0</b>	

#### **Additional Environmental Records**

<b>Database</b>	<b>Acronym</b>	<b>Locatable</b>	<b>Unlocatable</b>	<b>Search Radius (miles)</b>
AEROMETRIC INFORMATION RETRIEVAL SYSTEM / AIR FACILITY SUBSYSTEM	<a href="#">AIRSAFS</a>	0	0	TP/AP
BIENNIAL REPORTING SYSTEM	<a href="#">BRS</a>	0	0	TP/AP
CERCLIS LIENS	<a href="#">SFLIENS</a>	0	0	TP/AP
CLANDESTINE DRUG LABORATORY LOCATIONS	<a href="#">CDL</a>	0	0	TP/AP
EPA DOCKET DATA	<a href="#">DOCKETS</a>	0	0	TP/AP
ENFORCEMENT AND COMPLIANCE HISTORY INFORMATION	<a href="#">ECHKOR06</a>	0	0	TP/AP

## Database Summary

<b>Database</b>	<b>Acronym</b>	<b>Locatable</b>	<b>Unlocatable</b>	<b>Search Radius (miles)</b>
FACILITY REGISTRY SYSTEM	<a href="#">FRSOK</a>	0	0	TP/AP
HAZARDOUS MATERIALS INCIDENT REPORTING SYSTEM	<a href="#">HMIRSR06</a>	0	0	TP/AP
INTEGRATED COMPLIANCE INFORMATION SYSTEM (FORMERLY DOCKETS)	<a href="#">ICIS</a>	0	0	TP/AP
INTEGRATED COMPLIANCE INFORMATION SYSTEM NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM	<a href="#">ICISNPDES</a>	0	0	TP/AP
MATERIAL LICENSING TRACKING SYSTEM	<a href="#">MLTS</a>	0	0	TP/AP
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM	<a href="#">NPDESR06</a>	0	0	TP/AP
PCB ACTIVITY DATABASE SYSTEM	<a href="#">PADS</a>	0	0	TP/AP
PERMIT COMPLIANCE SYSTEM	<a href="#">PCSR06</a>	0	0	TP/AP
SEMS LIEN ON PROPERTY	<a href="#">SEMSLIENS</a>	0	0	TP/AP
SECTION SEVEN TRACKING SYSTEM	<a href="#">SSTS</a>	0	0	TP/AP
TOXIC SUBSTANCE CONTROL ACT INVENTORY	<a href="#">TSCA</a>	0	0	TP/AP
TOXICS RELEASE INVENTORY	<a href="#">TRI</a>	0	0	TP/AP
ALTERNATIVE FUELING STATIONS	<a href="#">ALTFUELS</a>	0	0	0.2500
HISTORICAL GAS STATIONS	<a href="#">HISTPST</a>	0	0	0.2500
INTEGRATED COMPLIANCE INFORMATION SYSTEM DRYCLEANERS	<a href="#">ICISCLEANERS</a>	0	0	0.2500
MINE SAFETY AND HEALTH ADMINISTRATION MASTER INDEX FILE	<a href="#">MSHA</a>	1	0	0.2500
MINERAL RESOURCE DATA SYSTEM	<a href="#">MRDS</a>	0	0	0.2500
OPEN DUMP INVENTORY	<a href="#">ODI</a>	0	0	0.5000
SURFACE MINING CONTROL AND RECLAMATION ACT SITES	<a href="#">SMCRA</a>	0	0	0.5000
URANIUM MILL TAILINGS RADIATION CONTROL ACT SITES	<a href="#">USUMTRCA</a>	0	0	0.5000
DEPARTMENT OF DEFENSE SITES	<a href="#">DOD</a>	0	0	1.0000
FORMER MILITARY NIKE MISSILE SITES	<a href="#">NMS</a>	0	0	1.0000
FORMERLY USED DEFENSE SITES	<a href="#">FUDS</a>	0	0	1.0000
FORMERLY UTILIZED SITES REMEDIAL ACTION PROGRAM	<a href="#">FUSRAP</a>	0	0	1.0000
RECORD OF DECISION SYSTEM	<a href="#">RODS</a>	0	0	1.0000
<b>SUB-TOTAL</b>		<b>1</b>	<b>0</b>	

## Database Summary

### STATE (OK) LISTING

#### Standard Environmental Records

Database	Acronym	Locatable	Unlocatable	Search Radius (miles)
SITES WITH INSTITUTIONAL CONTROLS	<a href="#">IC</a>	0	0	TP/AP
UNDERGROUND AND ABOVEGROUND STORAGE TANKS	<a href="#">UAST</a>	0	0	0.2500
LEAKING UNDERGROUND AND ABOVEGROUND STORAGE TANKS	<a href="#">LUAST</a>	0	0	0.5000
OCC BROWNFIELDS PUBLIC RECORD	<a href="#">BFPR</a>	0	0	0.5000
OKDEQ BROWNFIELD PROPERTIES	<a href="#">BF</a>	0	0	0.5000
SOLID WASTE FACILITIES	<a href="#">SWF</a>	0	0	0.5000
VOLUNTARY CLEANUP PROGRAM SITES	<a href="#">VCP</a>	0	0	0.5000
SUPERFUND LISTING	<a href="#">SF</a>	0	0	1.0000

SUB-TOTAL		0	0	
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#### Additional Environmental Records

Database	Acronym	Locatable	Unlocatable	Search Radius (miles)
LISTING OF PERMITTED AIRS FACILITIES	<a href="#">AIRS</a>	0	0	TP/AP
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMITS	<a href="#">OKNPDES</a>	0	0	TP/AP
TIER II HAZARDOUS SUBSTANCE INVENTORY REPORTS	<a href="#">TIERII</a>	0	0	TP/AP
UNDERGROUND INJECTION CONTROL WELLS	<a href="#">UIC</a>	0	0	TP/AP
REGISTERED DRY CLEANING FACILITIES	<a href="#">DCR</a>	0	0	0.2500

SUB-TOTAL		0	0	
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## Database Summary

### **TRIBAL LISTING**

#### **Standard Environmental Records**

<b>Database</b>	<b>Acronym</b>	<b>Locatable</b>	<b>Unlocatable</b>	<b>Search Radius (miles)</b>
UNDERGROUND STORAGE TANKS ON TRIBAL LANDS	<a href="#">USTR06</a>	0	0	0.2500
LEAKING UNDERGROUND STORAGE TANKS ON TRIBAL LANDS	<a href="#">LUSTR06</a>	0	0	0.5000
OPEN DUMP INVENTORY ON TRIBAL LANDS	<a href="#">ODINDIAN</a>	0	0	0.5000
<b>SUB-TOTAL</b>		<b>0</b>	<b>0</b>	

#### **Additional Environmental Records**

<b>Database</b>	<b>Acronym</b>	<b>Locatable</b>	<b>Unlocatable</b>	<b>Search Radius (miles)</b>
INDIAN RESERVATIONS	<a href="#">INDIANRES</a>	0	0	1.0000
<b>SUB-TOTAL</b>		<b>0</b>	<b>0</b>	
<b>TOTAL</b>		<b>1</b>	<b>0</b>	

## Database Radius Summary

### **FEDERAL LISTING**

Standard environmental records are displayed in **bold**.

Acronym	Search Radius (miles)	TP/AP (0 - 0.02)	1/8 Mile (> TP/AP)	1/4 Mile (> 1/8)	1/2 Mile (> 1/4)	1 Mile (> 1/2)	> 1 Mile	Total
AIRSAFS	0.0200	0	NS	NS	NS	NS	NS	0
BRS	0.0200	0	NS	NS	NS	NS	NS	0
CDL	0.0200	0	NS	NS	NS	NS	NS	0
DOCKETS	0.0200	0	NS	NS	NS	NS	NS	0
<b>EC</b>	<b>0.0200</b>	<b>0</b>	<b>NS</b>	<b>NS</b>	<b>NS</b>	<b>NS</b>	<b>NS</b>	<b>0</b>
ECHOR06	0.0200	0	NS	NS	NS	NS	NS	0
<b>ERNSOK</b>	<b>0.0200</b>	<b>0</b>	<b>NS</b>	<b>NS</b>	<b>NS</b>	<b>NS</b>	<b>NS</b>	<b>0</b>
FRSOK	0.0200	0	NS	NS	NS	NS	NS	0
HMIRSR06	0.0200	0	NS	NS	NS	NS	NS	0
ICIS	0.0200	0	NS	NS	NS	NS	NS	0
ICISNPDES	0.0200	0	NS	NS	NS	NS	NS	0
<b>LUCIS</b>	<b>0.0200</b>	<b>0</b>	<b>NS</b>	<b>NS</b>	<b>NS</b>	<b>NS</b>	<b>NS</b>	<b>0</b>
MLTS	0.0200	0	NS	NS	NS	NS	NS	0
NPDES06	0.0200	0	NS	NS	NS	NS	NS	0
PADS	0.0200	0	NS	NS	NS	NS	NS	0
PCSR06	0.0200	0	NS	NS	NS	NS	NS	0
<b>RCRASC</b>	<b>0.0200</b>	<b>0</b>	<b>NS</b>	<b>NS</b>	<b>NS</b>	<b>NS</b>	<b>NS</b>	<b>0</b>
SEMSLIENS	0.0200	0	NS	NS	NS	NS	NS	0
SFLIENS	0.0200	0	NS	NS	NS	NS	NS	0
SSTS	0.0200	0	NS	NS	NS	NS	NS	0
TRI	0.0200	0	NS	NS	NS	NS	NS	0
TSCA	0.0200	0	NS	NS	NS	NS	NS	0
<b>RCRAGR06</b>	<b>0.1250</b>	<b>0</b>	<b>0</b>	<b>NS</b>	<b>NS</b>	<b>NS</b>	<b>NS</b>	<b>0</b>
<b>RCRANGR06</b>	<b>0.1250</b>	<b>0</b>	<b>0</b>	<b>NS</b>	<b>NS</b>	<b>NS</b>	<b>NS</b>	<b>0</b>
ALTFUELS	0.2500	0	0	0	NS	NS	NS	0
<b>FEMAUST</b>	<b>0.2500</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>NS</b>	<b>NS</b>	<b>NS</b>	<b>0</b>
HISTPST	0.2500	0	0	0	NS	NS	NS	0
ICISCLEANERS	0.2500	0	0	0	NS	NS	NS	0
MRDS	0.2500	0	0	0	NS	NS	NS	0
MSHA	0.2500	0	1	0	NS	NS	NS	1
<b>BF</b>	<b>0.5000</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>NS</b>	<b>NS</b>	<b>0</b>
<b>DNPL</b>	<b>0.5000</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>NS</b>	<b>NS</b>	<b>0</b>
<b>NLRRCRAT</b>	<b>0.5000</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>NS</b>	<b>NS</b>	<b>0</b>
ODI	0.5000	0	0	0	0	NS	NS	0
<b>RCRAT</b>	<b>0.5000</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>NS</b>	<b>NS</b>	<b>0</b>

## Database Radius Summary

Acronym	Search Radius (miles)	TP/AP (0 - 0.02)	1/8 Mile (> TP/AP)	1/4 Mile (> 1/8)	1/2 Mile (> 1/4)	1 Mile (> 1/2)	> 1 Mile	Total
<b>SEMS</b>	0.5000	0	0	0	0	NS	NS	0
<b>SEMSARCH</b>	0.5000	0	0	0	0	NS	NS	0
SMCRA	0.5000	0	0	0	0	NS	NS	0
USUMTRCA	0.5000	0	0	0	0	NS	NS	0
DOD	1.0000	0	0	0	0	0	NS	0
FUDS	1.0000	0	0	0	0	0	NS	0
FUSRAP	1.0000	0	0	0	0	0	NS	0
<b>NLRRCRAC</b>	1.0000	0	0	0	0	0	NS	0
NMS	1.0000	0	0	0	0	0	NS	0
<b>NPL</b>	1.0000	0	0	0	0	0	NS	0
<b>PNPL</b>	1.0000	0	0	0	0	0	NS	0
<b>RCRAC</b>	1.0000	0	0	0	0	0	NS	0
<b>RCRASUBC</b>	1.0000	0	0	0	0	0	NS	0
RODS	1.0000	0	0	0	0	0	NS	0
<b>SUB-TOTAL</b>		0	1	0	0	0	0	1

## Database Radius Summary

### STATE (OK) LISTING

Standard environmental records are displayed in **bold**.

Acronym	Search Radius (miles)	TP/AP (0 - 0.02)	1/8 Mile (> TP/AP)	1/4 Mile (> 1/8)	1/2 Mile (> 1/4)	1 Mile (> 1/2)	> 1 Mile	Total
AIRS	0.0200	0	NS	NS	NS	NS	NS	0
<b>IC</b>	<b>0.0200</b>	<b>0</b>	<b>NS</b>	<b>NS</b>	<b>NS</b>	<b>NS</b>	<b>NS</b>	<b>0</b>
OKNPDES	0.0200	0	NS	NS	NS	NS	NS	0
TIERII	0.0200	0	NS	NS	NS	NS	NS	0
UIC	0.0200	0	NS	NS	NS	NS	NS	0
DCR	0.2500	0	0	0	NS	NS	NS	0
<b>UAST</b>	<b>0.2500</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>NS</b>	<b>NS</b>	<b>NS</b>	<b>0</b>
<b>BF</b>	<b>0.5000</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>NS</b>	<b>NS</b>	<b>0</b>
<b>BFPR</b>	<b>0.5000</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>NS</b>	<b>NS</b>	<b>0</b>
<b>LUAST</b>	<b>0.5000</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>NS</b>	<b>NS</b>	<b>0</b>
<b>SWF</b>	<b>0.5000</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>NS</b>	<b>NS</b>	<b>0</b>
<b>VCP</b>	<b>0.5000</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>NS</b>	<b>NS</b>	<b>0</b>
<b>SF</b>	<b>1.0000</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>NS</b>	<b>0</b>
<b>SUB-TOTAL</b>		<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

## Database Radius Summary

### **TRIBAL LISTING**

Standard environmental records are displayed in **bold**.

<b>Acronym</b>	<b>Search Radius (miles)</b>	<b>TP/AP (0 - 0.02)</b>	<b>1/8 Mile (&gt; TP/AP)</b>	<b>1/4 Mile (&gt; 1/8)</b>	<b>1/2 Mile (&gt; 1/4)</b>	<b>1 Mile (&gt; 1/2)</b>	<b>&gt; 1 Mile</b>	<b>Total</b>
<b>USTR06</b>	<b>0.2500</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>NS</b>	<b>NS</b>	<b>NS</b>	<b>0</b>
<b>LUSTR06</b>	<b>0.5000</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>NS</b>	<b>NS</b>	<b>0</b>
<b>ODINDIAN</b>	<b>0.5000</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>NS</b>	<b>NS</b>	<b>0</b>
<b>INDIANRES</b>	<b>1.0000</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>NS</b>	<b>0</b>

<b>SUB-TOTAL</b>		<b>0</b>						
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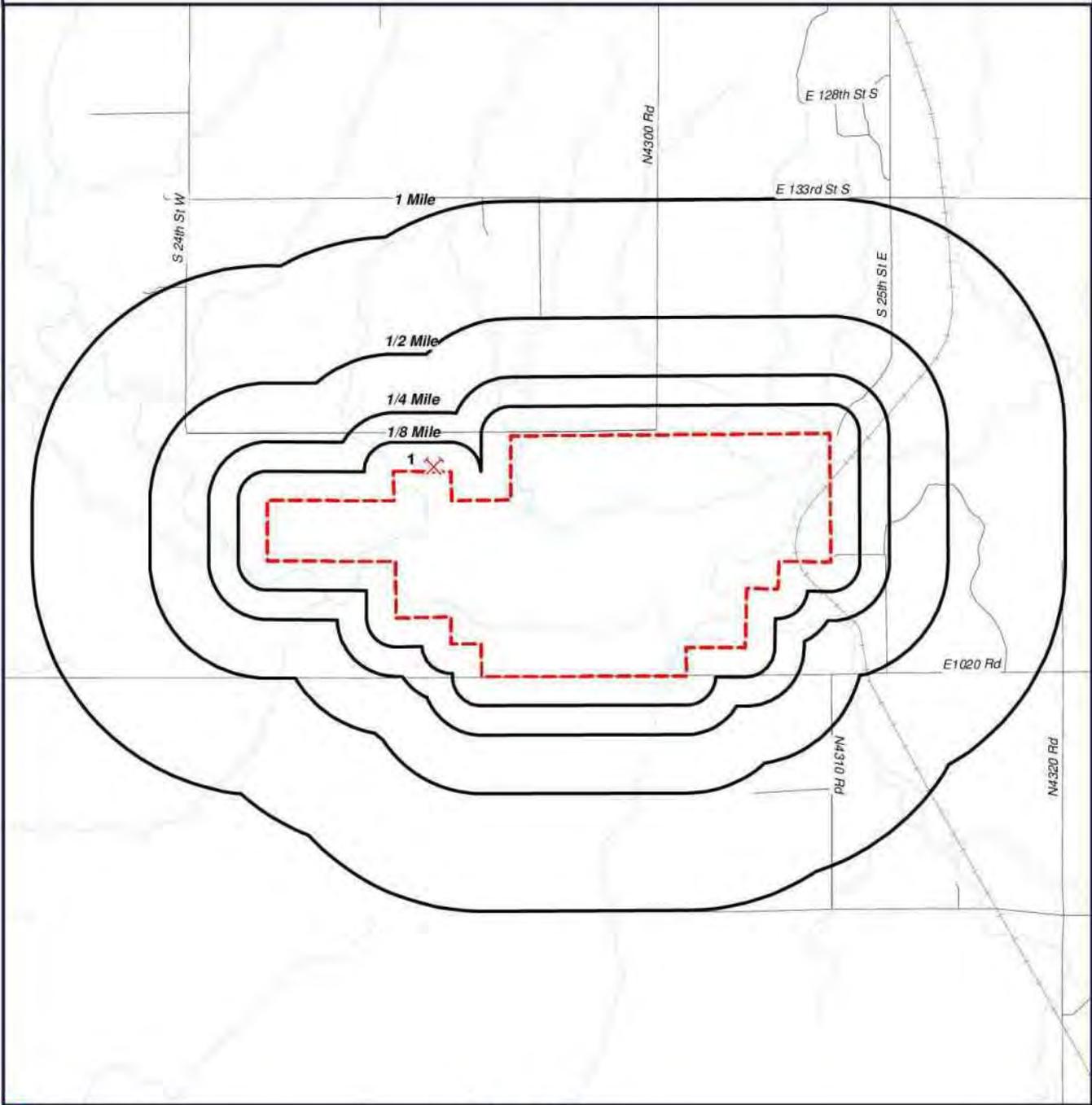
<b>TOTAL</b>		<b>0</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>
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**NOTES:**

**NS = NOT SEARCHED**

**TP/AP = TARGET PROPERTY/ADJACENT PROPERTY**

# Radius Map 1



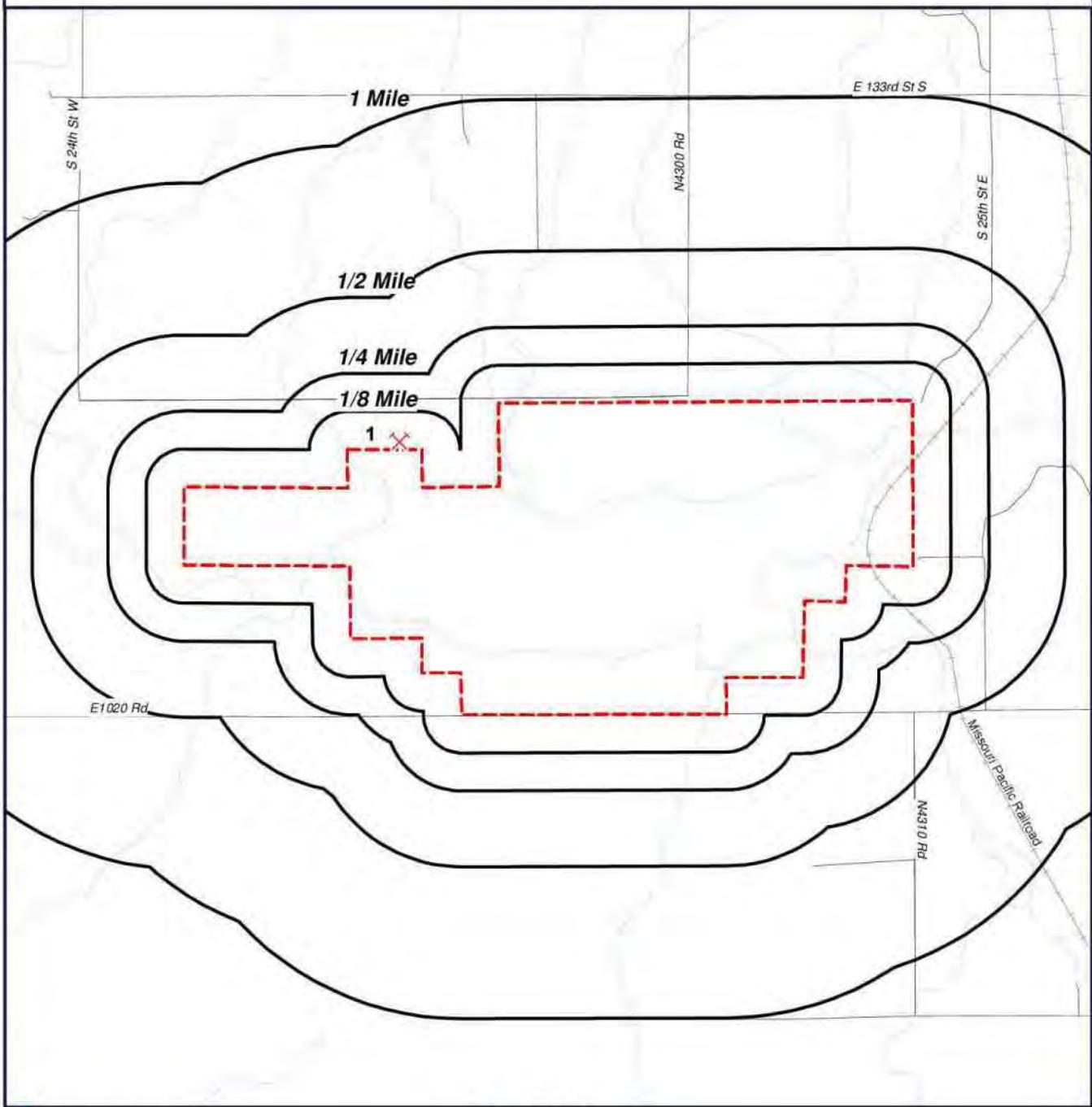
- Target Property (TP)
- MSHA

**Dirty Creek  
McIntosh, Oklahoma  
74469**



[Click here to access Satellite view](#)

# Radius Map 2



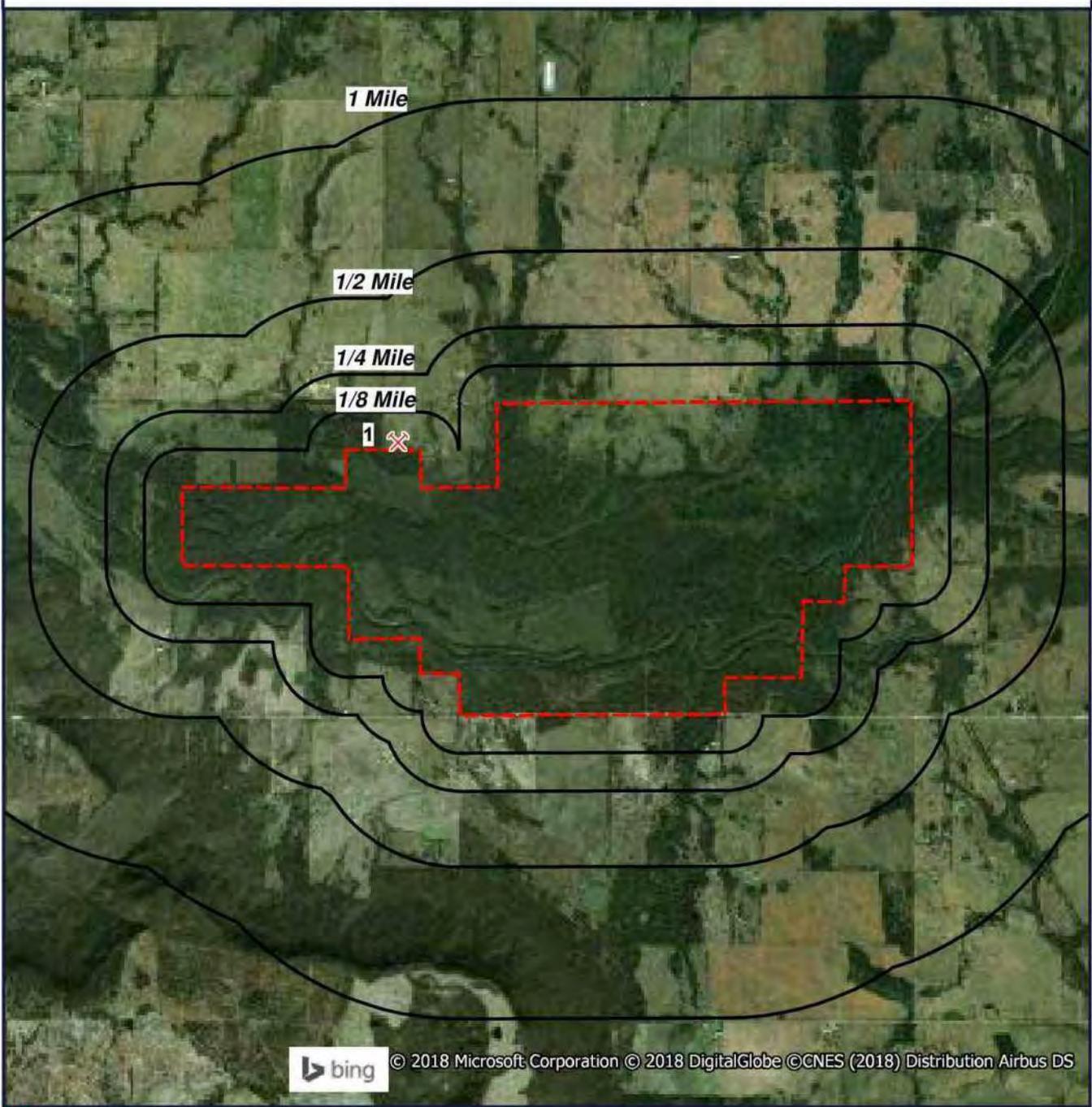
- Target Property (TP)
- MSHA

**Dirty Creek  
McIntosh, Oklahoma  
74469**



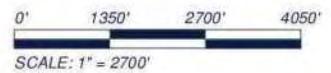
[Click here to access Satellite view](#)

# Ortho Map



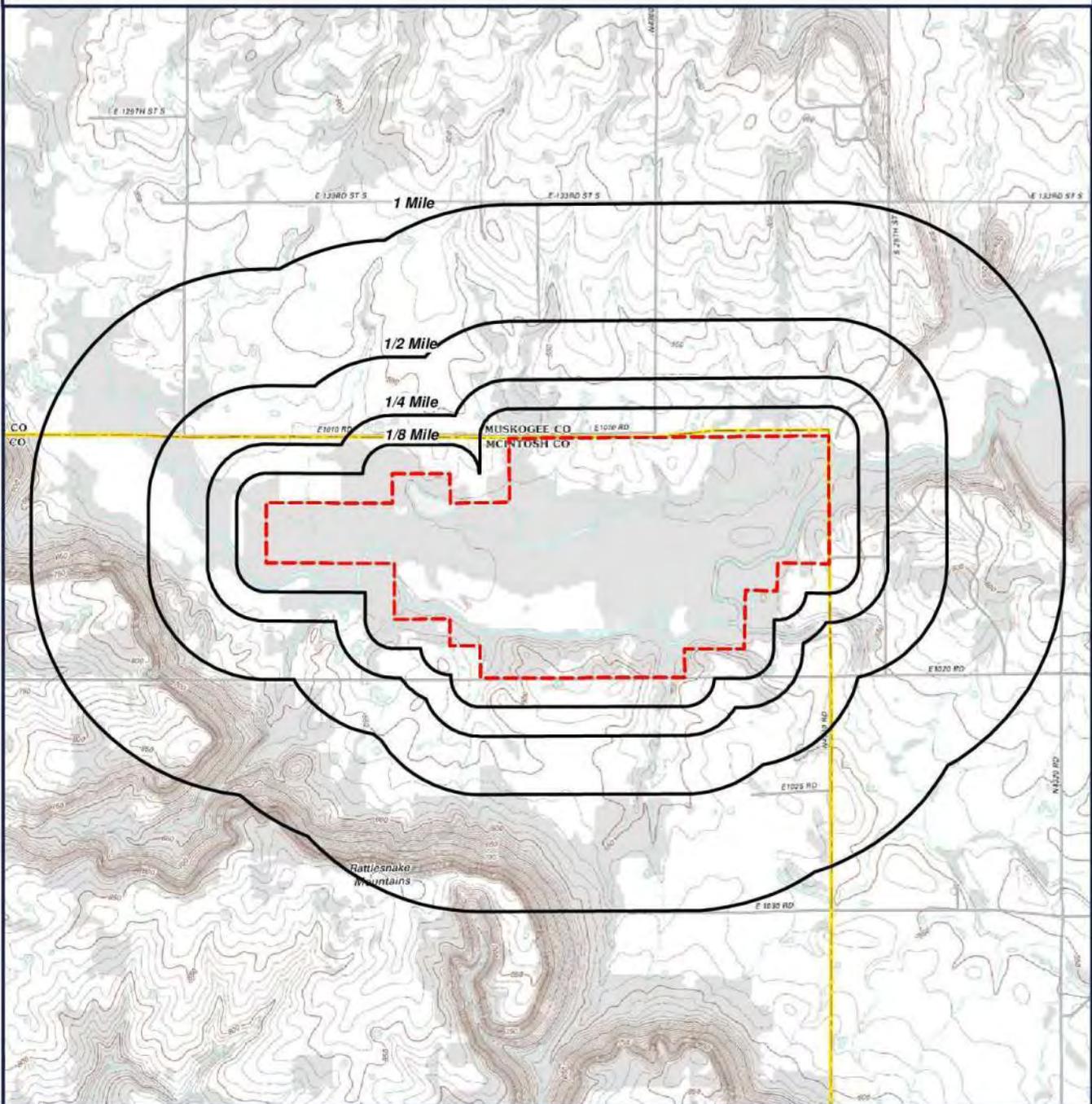
-  Target Property (TP)
-  MSHA

**Quadrangle(s): Oktaha, Keefton**  
**Dirty Creek**  
**McIntosh, Oklahoma**  
**74469**



[Click here to access Satellite view](#)

# Topographic Map



 Target Property (TP)

**Quadrangle(s): Oktaha, Keefton**  
**Source: USGS, 11/08/2012**  
**Dirty Creek**  
**McIntosh, Oklahoma**  
**74469**



0' 1750' 3500' 5250'  
SCALE: 1" = 3500'

[Click here to access Satellite view](#)

## Located Sites Summary

NOTE: Standard environmental records are displayed in **bold**.

Map ID#	Database Name	Site ID#	Relative Elevation	Distance From Site	Site Name	Address	PAGE #
<a href="#">1</a>	MSHA	3401323	Higher (534 ft.)	0.035 mi. N (185 ft.)	WESTHOFF MINE #4	WARNER, OK	<a href="#">16</a>

## Elevation Summary

Elevations are collected from the USGS 3D Elevation Program 1/3 arc-second (approximately 10 meters) layer hosted at the NGTOC. .

**Target Property Elevation: 513 ft.**

NOTE: Standard environmental records are displayed in **bold**.

### EQUAL/HIGHER ELEVATION

Map ID#	Database Name	Elevation	Site Name	Address	Page #
<a href="#">1</a>	MSHA	534 ft.	WESTHOFF MINE #4	WARNER, OK	<a href="#">16</a>

### LOWER ELEVATION

No Records Found

# Mine Safety and Health Administration Master Index File (MSHA)

**MAP ID# 1**

Distance from Property: 0.035 mi. (185 ft.) N  
Elevation: 534 ft. (Higher than TP)

## **FACILITY INFORMATION**

MINE ID: **3401323**  
MINE NAME: **WESTHOFF MINE #4**  
DIRECTIONS TO MINE: **NOT REPORTED**  
NEAREST TOWN: **WARNER**  
STATE: **OK**  
COUNTY: **MCINTOSH**

## **FACILITY DETAILS**

MINE TYPE: **SURFACE**  
MINE STATUS: **ABANDONED AND SEALED**  
STATUS DATE: **06/16/1983**  
COAL OR METAL\NON-METAL MINE: **COAL**  
CONTROLLER ID: **C06178**  
CONTROLLER NAME: **WESTHOFF EARL**  
CONTROLLER BEGIN DATE: **06/01/1981**  
OPERATOR ID: **P08696**  
OPERATOR NAME: **WESTHOFF BROTHERS INC**  
COMPANY TYPE: **OTHER**  
PRIMARY SIC CODE: **122200**  
PRIMARY SIC DESCRIPTION: **COAL (BITUMINOUS)**  
SECONDARY SIC CODE: **NOT REPORTED**  
SECONDARY SIC DESCRIPTION: **NOT REPORTED**  
PRIMARY CANVASS: **COAL**  
SECONDARY CANVASS: **NOT REPORTED**  
AVERAGE MINE HEIGHT: **NOT REPORTED**  
MINE GAS CATEGORY: **NOT REPORTED**  
METHANE LIBERATION: **NOT REPORTED**  
NUMBER OF PRODUCING PITS: **NOT REPORTED**  
NUMBER OF NON-PRODUCING PITS: **NOT REPORTED**  
NUMBER OF TAILING PONDS: **NOT REPORTED**  
PILLAR RECOVERY USED: **NO**  
HIGHWALL MINER USED: **NO**  
MULTIPLE PITS: **NO**

*Optional business information that can be used for this address association to allow a different name than the Legal Entity Name*

BUSINESS NAME: **WESTHOFF BROTHERS INC**  
ADDRESS: **RTE 1 BOX 63B**  
**WARNER, OK 74469**  
COUNTRY: **USA**  
PROVINCE: **NOT REPORTED**  
POSTAL CODE: **NOT REPORTED**

## **VIOLATION DETAILS**

NO VIOLATION DETAILS REPORTED

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[Back to Report Summary](#)

## **Unlocated Sites Summary**

*This list contains sites that could not be mapped due to limited or incomplete address information.*

*No Records Found*

## ***Environmental Records Definitions - FEDERAL***

**AIRSAFS** Aerometric Information Retrieval System / Air Facility Subsystem

VERSION DATE: 10/20/14

The United States Environmental Protection Agency (EPA) modified the Aerometric Information Retrieval System (AIRS) to a database that exclusively tracks the compliance of stationary sources of air pollution with EPA regulations: the Air Facility Subsystem (AFS). Since this change in 2001, the management of the AIRS/AFS database was assigned to EPA's Office of Enforcement and Compliance Assurance.

**BRS** Biennial Reporting System

VERSION DATE: 12/31/11

The United States Environmental Protection Agency (EPA), in cooperation with the States, biennially collects information regarding the generation, management, and final disposition of hazardous wastes regulated under the Resource Conservation and Recovery Act of 1976 (RCRA), as amended. The Biennial Report captures detailed data on the generation of hazardous waste from large quantity generators and data on waste management practices from treatment, storage and disposal facilities. Currently, the EPA states that data collected between 1991 and 1997 was originally a part of the defunct Biennial Reporting System and is now incorporated into the RCRAInfo data system.

**CDL** Clandestine Drug Laboratory Locations

VERSION DATE: 07/01/16

The U.S. Department of Justice ("the Department") provides this information as a public service. It contains addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the Department, and the Department has not verified the entry and does not guarantee its accuracy. Members of the public must verify the accuracy of all entries by, for example, contacting local law enforcement and local health departments. The Department does not establish, implement, enforce, or certify compliance with clean-up or remediation standards for contaminated sites; the public should contact a state or local health department or environmental protection agency for that information.

**DOCKETS** EPA Docket Data

VERSION DATE: 12/22/05

The United States Environmental Protection Agency Docket data lists Civil Case Defendants, filing dates as far back as 1971, laws broken including section, violations that occurred, pollutants involved, penalties assessed and superfund awards by facility and location. Please refer to ICIS database as source of current data.

**EC** Federal Engineering Institutional Control Sites

VERSION DATE: 08/03/15

This database includes site locations where Engineering and/or Institutional Controls have been identified as part

## ***Environmental Records Definitions - FEDERAL***

of a selected remedy for the site as defined by United States Environmental Protection Agency official remedy decision documents. A site listing does not indicate that the institutional and engineering controls are currently in place nor will be in place once the remedy is complete; it only indicates that the decision to include either of them in the remedy is documented as of the completed date of the document. Institutional controls are actions, such as legal controls, that help minimize the potential for human exposure to contamination by ensuring appropriate land or resource use. Engineering controls include caps, barriers, or other device engineering to prevent access, exposure, or continued migration of contamination.

**ECHOR06** Enforcement and Compliance History Information

VERSION DATE: 08/26/17

The EPA's Enforcement and Compliance History Online (ECHO) database, provides compliance and enforcement information for facilities nationwide. This database includes facilities regulated as Clean Air Act stationary sources, Clean Water Act direct dischargers, Resource Conservation and Recovery Act hazardous waste handlers, Safe Drinking Water Act public water systems along with other data, such as Toxics Release Inventory releases.

**ERNSOK** Emergency Response Notification System

VERSION DATE: 10/15/17

This National Response Center database contains data on reported releases of oil, chemical, radiological, biological, and/or etiological discharges into the environment anywhere in the United States and its territories. The data comes from spill reports made to the U.S. Environmental Protection Agency, U.S. Coast Guard, the National Response Center and/or the U.S. Department of Transportation.

**FRSOK** Facility Registry System

VERSION DATE: 09/06/17

The United States Environmental Protection Agency's Office of Environmental Information (OEI) developed the Facility Registry System (FRS) as the centrally managed database that identifies facilities, sites or places subject to environmental regulations or of environmental interest. The Facility Registry System replaced the Facility Index System or FINDS database.

**HMIRSR06** Hazardous Materials Incident Reporting System

VERSION DATE: 03/27/18

The HMIRS database contains unintentional hazardous materials release information reported to the U.S. Department of Transportation located in EPA Region 6. This region includes the following states: Arkansas, Louisiana, New Mexico, Oklahoma, and Texas.

**ICIS** Integrated Compliance Information System (formerly DOCKETS)

VERSION DATE: 09/23/17

## **Environmental Records Definitions - FEDERAL**

ICIS is a case activity tracking and management system for civil, judicial, and administrative federal Environmental Protection Agency enforcement cases. ICIS contains information on federal administrative and federal judicial cases under the following environmental statutes: the Clean Air Act, the Clean Water Act, the Resource Conservation and Recovery Act, the Emergency Planning and Community Right-to-Know Act - Section 313, the Toxic Substances Control Act, the Federal Insecticide, Fungicide, and Rodenticide Act, the Comprehensive Environmental Response, Compensation, and Liability Act, the Safe Drinking Water Act, and the Marine Protection, Research, and Sanctuaries Act.

**ICISNPDES** Integrated Compliance Information System National Pollutant Discharge Elimination System

VERSION DATE: 07/09/17

Authorized by the Clean Water Act, the National Pollutant Discharge Elimination System (NPDES) permit program controls water pollution by regulating point sources that discharge pollutants into waters of the United States.

**LUCIS** Land Use Control Information System

VERSION DATE: 09/01/06

The LUCIS database is maintained by the U.S. Department of the Navy and contains information for former Base Realignment and Closure (BRAC) properties across the United States.

**MLTS** Material Licensing Tracking System

VERSION DATE: 06/29/17

MLTS is a list of approximately 8,100 sites which have or use radioactive materials subject to the United States Nuclear Regulatory Commission (NRC) licensing requirements.

**NPDESR06** National Pollutant Discharge Elimination System

VERSION DATE: 04/01/07

Authorized by the Clean Water Act, the National Pollutant Discharge Elimination System (NPDES) permit program controls water pollution by regulating point sources that discharge pollutants into waters of the United States. The NPDES database was collected from December 2002 until April 2007. Refer to the PCS and/or ICIS-NPDES database as source of current data. This database includes permitted facilities located in EPA Region 6. This region includes the following states: Arkansas, Louisiana, New Mexico, Oklahoma, and Texas.

**PADS** PCB Activity Database System

VERSION DATE: 07/18/17

PADS Identifies generators, transporters, commercial storers and/or brokers and disposers of PCB's who are required to notify the EPA of such activities.

## **Environmental Records Definitions - FEDERAL**

**PCSR06** Permit Compliance System

VERSION DATE: 08/01/12

The Permit Compliance System is used in tracking enforcement status and permit compliance of facilities controlled by the National Pollutant Discharge Elimination System (NPDES) under the Clean Water Act and is maintained by the United States Environmental Protection Agency's Office of Compliance. PCS is designed to support the NPDES program at the state, regional, and national levels. This database includes permitted facilities located in EPA Region 6. This region includes the following states: Arkansas, Louisiana, New Mexico, Oklahoma, and Texas. PCS has been modernized, and no longer exists. National Pollutant Discharge Elimination System (ICIS-NPDES) data can now be found in Integrated Compliance Information System (ICIS).

**RCRASC** RCRA Sites with Controls

VERSION DATE: 03/21/18

The Resource Conservation and Recovery Act (RCRA) gives EPA the authority to control hazardous waste from the "cradle-to-grave." This includes the generation, transportation, treatment, storage, and disposal of hazardous waste. RCRA also set forth a framework for the management of non-hazardous solid wastes. The 1986 amendments to RCRA enabled EPA to address environmental problems that could result from underground tanks storing petroleum and other hazardous substances. This listing refers to facilities with institutional controls in place.

**SEMSLIENS** SEMS Lien on Property

VERSION DATE: 12/11/17

The U.S. Environmental Protection Agency's (EPA) Office of Solid Waste and Emergency Response, Office of Superfund Remediation and Technology Innovation (OSRTI), has implemented The Superfund Enterprise Management System (SEMS), formerly known as CERCLIS (Comprehensive Environmental Response, Compensation and Liability Information System) to track and report on clean-up and enforcement activities taking place at Superfund sites. SEMS represents a joint development and ongoing collaboration between Superfund's Remedial, Removal, Federal Facilities, Enforcement and Emergency Response programs. This is a listing of SEMS sites with a lien on the property.

**SFLIENS** CERCLIS Liens

VERSION DATE: 06/08/12

A Federal CERCLA ("Superfund") lien can exist by operation of law at any site or property at which United States Environmental Protection Agency has spent Superfund monies. These monies are spent to investigate and address releases and threatened releases of contamination. CERCLIS provides information as to the identity of these sites and properties. This database contains those CERCLIS sites where the Lien on Property action is complete.

## ***Environmental Records Definitions - FEDERAL***

**SSTS** Section Seven Tracking System

VERSION DATE: 02/01/17

The United States Environmental Protection Agency tracks information on pesticide establishments through the Section Seven Tracking System (SSTS). SSTS records the registration of new establishments and records pesticide production at each establishment. The Federal Insecticide, Fungicide and Rodenticide Act (FIFRA) requires that production of pesticides or devices be conducted in a registered pesticide-producing or device-producing establishment. ("Production" includes formulation, packaging, repackaging, and relabeling.)

**TRI** Toxics Release Inventory

VERSION DATE: 12/31/16

The Toxics Release Inventory, provided by the United States Environmental Protection Agency, includes data on toxic chemical releases and waste management activities from certain industries as well as federal and tribal facilities. This inventory contains information about the types and amounts of toxic chemicals that are released each year to the air, water, and land as well as information on the quantities of toxic chemicals sent to other facilities for further waste management.

**TSCA** Toxic Substance Control Act Inventory

VERSION DATE: 12/31/12

The Toxic Substances Control Act (TSCA) was enacted in 1976 to ensure that chemicals manufactured, imported, processed, or distributed in commerce, or used or disposed of in the United States do not pose any unreasonable risks to human health or the environment. TSCA section 8(b) provides the United States Environmental Protection Agency authority to "compile, keep current, and publish a list of each chemical substance that is manufactured or processed in the United States." This TSCA Chemical Substance Inventory contains non-confidential information on the production amount of toxic chemicals from each manufacturer and importer site.

**RCRAGR06** Resource Conservation & Recovery Act - Generator

VERSION DATE: 03/01/18

The Resource Conservation and Recovery Act (RCRA) gives EPA the authority to control hazardous waste from the "cradle-to-grave." This includes the generation, transportation, treatment, storage, and disposal of hazardous waste. RCRA also set forth a framework for the management of non-hazardous solid wastes. The 1986 amendments to RCRA enabled EPA to address environmental problems that could result from underground tanks storing petroleum and other hazardous substances. This listing refers to facilities currently generating hazardous waste. EPA region 6 includes the following states: Arkansas, Louisiana, New Mexico, Oklahoma, and Texas.

## ***Environmental Records Definitions - FEDERAL***

### **RCRANGR06**

Resource Conservation & Recovery Act - Non-Generator

VERSION DATE: 03/01/18

The Resource Conservation and Recovery Act (RCRA) gives EPA the authority to control hazardous waste from the "cradle-to-grave." This includes the generation, transportation, treatment, storage, and disposal of hazardous waste. RCRA also set forth a framework for the management of non-hazardous solid wastes. The 1986 amendments to RCRA enabled EPA to address environmental problems that could result from underground tanks storing petroleum and other hazardous substances. This listing refers to facilities classified as non-generators. Non-Generators do not presently generate hazardous waste. EPA Region 6 includes the following states: Arkansas, Louisiana, New Mexico, Oklahoma, and Texas.

### **ALTFUELS**

Alternative Fueling Stations

VERSION DATE: 01/22/18

Nationwide list of alternative fueling stations made available by the US Department of Energy's Office of Energy Efficiency & Renewable Energy. Includes Biodiesel stations, Ethanol (E85) stations, Liquefied Petroleum Gas (Propane) stations, Ethanol (E85) stations, Natural Gas stations, Hydrogen stations, and Electric Vehicle Supply Equipment (EVSE).

### **FEMAUST**

FEMA Owned Storage Tanks

VERSION DATE: 12/01/16

This is a listing of FEMA owned underground and aboveground storage tank sites. For security reasons, address information is not released to the public according to the U.S. Department of Homeland Security.

### **HISTPST**

Historical Gas Stations

VERSION DATE: NR

This historic directory of service stations is provided by the Cities Service Company. The directory includes Cities Service filling stations that were located throughout the United States in 1930.

### **ICISCLEANERS**

Integrated Compliance Information System Drycleaners

VERSION DATE: 09/23/17

This is a listing of drycleaner facilities from the Integrated Compliance Information System (ICIS). The Environmental Protection Agency (EPA) tracks facilities that possess NAIC and SIC codes that classify businesses as drycleaner establishments.

### **MRDS**

Mineral Resource Data System

VERSION DATE: 03/15/16

## ***Environmental Records Definitions - FEDERAL***

MRDS (Mineral Resource Data System) is a collection of reports describing metallic and nonmetallic mineral resources throughout the world. Included are deposit name, location, commodity, deposit description, geologic characteristics, production, reserves, resources, and references. This database contains the records previously provided in the Mineral Resource Data System (MRDS) of USGS and the Mineral Availability System/Mineral Industry Locator System (MAS/MILS) originated in the U.S. Bureau of Mines, which is now part of USGS.

**MSHA** Mine Safety and Health Administration Master Index File

VERSION DATE: 09/01/17

The Mine dataset lists all Coal and Metal/Non-Metal mines under MSHA's jurisdiction since 1/1/1970. It includes such information as the current status of each mine (Active, Abandoned, NonProducing, etc.), the current owner and operating company, commodity codes and physical attributes of the mine. Mine ID is the unique key for this data. This information is provided by the United States Department of Labor - Mine Safety and Health Administration (MSHA).

**BF** Brownfields Management System

VERSION DATE: 03/26/18

Brownfields are real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant. Cleaning up and reinvesting in these properties takes development pressures off of undeveloped, open land, and both improves and protects the environment. The United States Environmental Protection Agency maintains this database to track activities in the various brown field grant programs including grantee assessment, site cleanup and site redevelopment. This database included tribal brownfield sites.

**DNPL** Delisted National Priorities List

VERSION DATE: 12/11/17

This database includes sites from the United States Environmental Protection Agency's Final National Priorities List (NPL) where remedies have proven to be satisfactory or sites where the original analyses were inaccurate, and the site is no longer appropriate for inclusion on the NPL, and final publication in the Federal Register has occurred.

**NLRRCRAT** No Longer Regulated RCRA Non-CORRACTS TSD Facilities

VERSION DATE: 03/01/18

This database includes RCRA Non-Corrective Action TSD facilities that are no longer regulated by the United States Environmental Protection Agency or do not meet other RCRA reporting requirements. This listing includes facilities that formerly treated, stored or disposed of hazardous waste.

**ODI** Open Dump Inventory

VERSION DATE: 06/01/85

## **Environmental Records Definitions - FEDERAL**

The open dump inventory was published by the United States Environmental Protection Agency. An "open dump" is defined as a facility or site where solid waste is disposed of which is not a sanitary landfill which meets the criteria promulgated under section 4004 of the Solid Waste Disposal Act (42 U.S.C. 6944) and which is not a facility for disposal of hazardous waste. This inventory has not been updated since June 1985.

**RCRAT** Resource Conservation & Recovery Act - Non-CORRACTS Treatment, Storage & Disposal Facilities

VERSION DATE: 03/01/18

The Resource Conservation and Recovery Act (RCRA) gives EPA the authority to control hazardous waste from the "cradle-to-grave." This includes the generation, transportation, treatment, storage, and disposal of hazardous waste. RCRA also set forth a framework for the management of non-hazardous solid wastes. The 1986 amendments to RCRA enabled EPA to address environmental problems that could result from underground tanks storing petroleum and other hazardous substances. This listing refers to facilities recognized as hazardous waste treatment, storage, and disposal sites (TSD).

**SEMS** Superfund Enterprise Management System

VERSION DATE: 12/11/17

The U.S. Environmental Protection Agency's (EPA) Office of Solid Waste and Emergency Response, Office of Superfund Remediation and Technology Innovation (OSRTI), has implemented The Superfund Enterprise Management System (SEMS), formerly known as CERCLIS (Comprehensive Environmental Response, Compensation and Liability Information System) to track and report on clean-up and enforcement activities taking place at Superfund sites. SEMS represents a joint development and ongoing collaboration between Superfund's Remedial, Removal, Federal Facilities, Enforcement and Emergency Response programs.

**SEMSARCH** Superfund Enterprise Management System Archived Site Inventory

VERSION DATE: 12/11/17

The Superfund Enterprise Management System Archive listing (SEMS-ARCHIVE) has replaced the CERCLIS NFRAP reporting system in 2015. This listing reflect sites that have been assessed and no further remediation is planned and is of no further interest under the Superfund program.

**SMCRA** Surface Mining Control and Reclamation Act Sites

VERSION DATE: 08/25/17

An inventory of land and water impacted by past mining (primarily coal mining) is maintained by OSMRE to provide information needed to implement the Surface Mining Control and Reclamation Act of 1977 (SMCRA). The inventory contains information on the location, type, and extent of AML impacts, as well as, information on the cost associated with the reclamation of those problems. The inventory is based upon field surveys by State, Tribal, and OSMRE program officials. It is dynamic to the extent that it is modified as new problems are identified and existing problems are reclaimed.

## ***Environmental Records Definitions - FEDERAL***

**USUMTRCA** Uranium Mill Tailings Radiation Control Act Sites

VERSION DATE: 03/04/17

The Legacy Management Office of the Department of Energy (DOE) manages radioactive and chemical waste, environmental contamination, and hazardous material at over 100 sites across the U.S. The L.M. Office manages this database of sites registered under the Uranium Mill Tailings Control Act (UMTRCA).

**DOD** Department of Defense Sites

VERSION DATE: 12/01/14

This information originates from the National Atlas of the United States Federal Lands data, which includes lands owned or administered by the Federal government. Army DOD, Army Corps of Engineers DOD, Air Force DOD, Navy DOD and Marine DOD areas of 640 acres or more are included.

**FUDS** Formerly Used Defense Sites

VERSION DATE: 06/01/15

The Formerly Used Defense Sites (FUDS) inventory includes properties previously owned by or leased to the United States and under Secretary of Defense Jurisdiction, as well as Munitions Response Areas (MRAs). The remediation of these properties is the responsibility of the Department of Defense. This data is provided by the U.S. Army Corps of Engineers (USACE), the boundaries/polygon data are based on preliminary findings and not all properties currently have polygon data available. **DISCLAIMER:** This data represents the results of data collection/processing for a specific USACE activity and is in no way to be considered comprehensive or to be used in any legal or official capacity as presented on this site. While the USACE has made a reasonable effort to insure the accuracy of the maps and associated data, it should be explicitly noted that USACE makes no warranty, representation or guaranty, either expressed or implied, as to the content, sequence, accuracy, timeliness or completeness of any of the data provided herein. For additional information on Formerly Used Defense Sites please contact the USACE Public Affairs Office at (202) 528-4285.

**FUSRAP** Formerly Utilized Sites Remedial Action Program

VERSION DATE: 03/04/17

The U.S. DOE established the Formerly Utilized Sites Remedial Action Program (FUSRAP) in 1974 to remediate sites where radioactive contamination remained from the Manhattan Project and early U.S. Atomic Energy Commission (AEC) operations. The DOE Office of Legacy Management (LM) established long-term surveillance and maintenance (LTS&M) requirements for remediated FUSRAP sites. DOE evaluates the final site conditions of a remediated site on the basis of risk for different future uses. DOE then confirms that LTS&M requirements will maintain protectiveness.

**NLRRCRAC** No Longer Regulated RCRA Corrective Action Facilities

VERSION DATE: 03/01/18

## ***Environmental Records Definitions - FEDERAL***

This database includes RCRA Corrective Action facilities that are no longer regulated by the United States Environmental Protection Agency or do not meet other RCRA reporting requirements.

**NMS** Former Military Nike Missile Sites

VERSION DATE: 12/01/84

This information was taken from report DRXTH-AS-IA-83A016 (Historical Overview of the Nike Missile System, 12/1984) which was performed by Environmental Science and Engineering, Inc. for the U.S. Army Toxic and Hazardous Materials Agency Assessment Division. The Nike system was deployed between 1954 and the mid-1970's. Among the substances used or stored on Nike sites were liquid missile fuel (JP-4); starter fluids (UDKH, aniline, and furfuryl alcohol); oxidizer (IRFNA); hydrocarbons (motor oil, hydraulic fluid, diesel fuel, gasoline, heating oil); solvents (carbon tetrachloride, trichloroethylene, trichloroethane, stoddard solvent); and battery electrolyte. The quantities of material a disposed of and procedures for disposal are not documented in published reports. Virtually all information concerning the potential for contamination at Nike sites is confined to personnel who were assigned to Nike sites.

During deactivation most hardware was shipped to depot-level supply points. There were reportedly instances where excess materials were disposed of on or near the site itself at closure. There was reportedly no routine site decontamination.

**NPL** National Priorities List

VERSION DATE: 12/11/17

This database includes United States Environmental Protection Agency (EPA) National Priorities List sites that fall under the EPA's Superfund program, established to fund the cleanup of the most serious uncontrolled or abandoned hazardous waste sites identified for possible long-term remedial action.

**PNPL** Proposed National Priorities List

VERSION DATE: 12/11/17

This database contains sites proposed to be included on the National Priorities List (NPL) in the Federal Register. The United States Environmental Protection Agency investigates these sites to determine if they may present long-term threats to public health or the environment.

**RCRAC** Resource Conservation & Recovery Act - Corrective Action Facilities

VERSION DATE: 03/01/18

The Resource Conservation and Recovery Act (RCRA) gives EPA the authority to control hazardous waste from the "cradle-to-grave." This includes the generation, transportation, treatment, storage, and disposal of hazardous waste. RCRA also set forth a framework for the management of non-hazardous solid wastes. The 1986 amendments to RCRA enabled EPA to address environmental problems that could result from underground tanks storing petroleum and other hazardous substances. This listing refers to facilities with corrective action activity.

## ***Environmental Records Definitions - FEDERAL***

### **RCRASUBC**

Resource Conservation & Recovery Act - Subject to Corrective Action Facilities

VERSION DATE: 03/01/18

The Resource Conservation and Recovery Act (RCRA) gives EPA the authority to control hazardous waste from the "cradle-to-grave." This includes the generation, transportation, treatment, storage, and disposal of hazardous waste. RCRA also set forth a framework for the management of non-hazardous solid wastes. The 1986 amendments to RCRA enabled EPA to address environmental problems that could result from underground tanks storing petroleum and other hazardous substances. This listing refers to facilities subject to corrective actions.

### **RODS**

Record of Decision System

VERSION DATE: 12/11/17

These decision documents maintained by the United States Environmental Protection Agency describe the chosen remedy for NPL (Superfund) site remediation. They also include site history, site description, site characteristics, community participation, enforcement activities, past and present activities, contaminated media, the contaminants present, and scope and role of response action.

## ***Environmental Records Definitions - STATE (OK)***

**AIRS** Listing of Permitted AIRS Facilities

VERSION DATE: 03/18/18

The Air Quality Division of the Oklahoma Department of Environmental Quality maintains this listing of operating AIRS permitted facilities.

**IC** Sites with Institutional Controls

VERSION DATE: 01/23/18

Institutional controls (IC) are administrative and/or legal measures in place to safeguard the public and the environment from potential contamination. In certain circumstances, local zoning or ordinances can serve as an IC. The Oklahoma Department of Environmental Quality (DEQ) has a mandatory recordable notice (deed notice) statute in its Environmental Quality Code (27A Oklahoma Statutes § 2-7-123). This database includes all DEQ Brownfields, Voluntary Cleanup, SCAP, and Superfund sites, along with sites from the Oklahoma Corporation Commission's July 2010 Brownfields list, that have had institutional controls placed on the property.

**OKNPDES** National Pollutant Discharge Elimination System Permits

VERSION DATE: 07/14/17

Authorized by the Clean Water Act, the National Pollutant Discharge Elimination System (NPDES) permit program controls water pollution by regulating point sources that discharge pollutants into waters of the United States.

**TIERII** Tier II Hazardous Substance Inventory Reports

VERSION DATE: 05/18/17

The Oklahoma Department of Environmental Quality maintains this listing of Tier II facilities which store hazardous chemicals or materials on-site. The OSHA Hazard Communication Standard defines hazardous chemicals as any substance for which a facility must maintain a Material Safety Data Sheet (MSDS).

**UIC** Underground Injection Control Wells

VERSION DATE: 01/05/18

The Underground Injection Control (UIC) Program is a federal program established under the provision of the Safe Drinking Water Act of 1974. Since groundwater is a major source of drinking water in the United States, the UIC Program requirements were designed to prevent contamination of groundwater resulting from the operation of injection wells. The Underground Injection Well Inventory is provided by the Oklahoma Environmental Protection Agency. This inventory includes Class V Injections Wells which are utilized to inject non-hazardous waste into or above the Underground Source of Drinking Water.

## ***Environmental Records Definitions - STATE (OK)***

**DCR** Registered Dry Cleaning Facilities

VERSION DATE: 03/18/18

This listing of registered dry cleaners is maintained by the Oklahoma Department of Environmental Quality.

**UAST** Underground and Aboveground Storage Tanks

VERSION DATE: 03/02/18

This database includes a listing of registered underground and aboveground storage tanks and is maintained by the Oklahoma Corporation Commission.

**BF** OKDEQ Brownfield Properties

VERSION DATE: 03/02/18

As defined by the Oklahoma Department of Environmental Quality, this program provides a means for private parties and government entities to voluntarily investigate and if warranted, clean up properties that may be contaminated with hazardous wastes. The formal Brownfields Program provides specific state liability relief and protects the property from federal Superfund actions. This listing contains both completed Brownfield properties and those which may complete the Brownfields Program within the next year.

**BFPR** OCC Brownfields Public Record

VERSION DATE: 01/03/18

Any facility or real property where normal use, reuse, expansion or redevelopment is hindered by pollution or suspected pollution of a substance or substances released by activities regulated by Oklahoma Corporation Commission (oil and gas exploration and production, pipelines, and petroleum storage tanks) qualifies as a Brownfield. This listing includes properties currently enrolled in the OCC Brownfield Program, as well as proposed brownfield properties as of April 2008.

**LUAST** Leaking Underground and Aboveground Storage Tanks

VERSION DATE: 03/12/18

This database includes registered leaking underground and aboveground storage tanks and is maintained by the Oklahoma Corporation Commission.

**SWF** Solid Waste Facilities

VERSION DATE: 08/03/17

This database is maintained by the Land Protection Division of the Oklahoma Department of Environmental Quality and contains solid waste disposal sites including storage units, transfer facilities, recycling units and treatment units.

## ***Environmental Records Definitions - STATE (OK)***

**VCP** Voluntary Cleanup Program Sites

VERSION DATE: 11/02/17

The Oklahoma Department of Environmental Quality's Land Protection Division provides this list of sites in the Voluntary Cleanup Program (VCP). The VCP program provides a means for private parties and government entities to voluntarily investigate and if warranted, clean up properties that may be contaminated with hazardous wastes.

**SF** Superfund Listing

VERSION DATE: 03/16/17

The Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA), otherwise referred to as Superfund, is a federal program used to cleanup our nation's uncontrolled hazardous waste sites. Oklahoma Department of Environmental Quality works with EPA to address these sites in Oklahoma.

## ***Environmental Records Definitions - TRIBAL***

**USTR06**                      Underground Storage Tanks On Tribal Lands

VERSION DATE: 10/06/17

This database, provided by the United States Environmental Protection Agency (EPA), contains underground storage tanks on Tribal lands located in EPA Region 6. This region includes the following states: Arkansas, Louisiana, New Mexico, Oklahoma, and Texas.

**LUSTR06**                      Leaking Underground Storage Tanks On Tribal Lands

VERSION DATE: 10/06/17

This database, provided by the United States Environmental Protection Agency (EPA), contains leaking underground storage tanks on Tribal lands located in EPA Region 6. This region includes the following states: Arkansas, Louisiana, New Mexico, Oklahoma, and Texas.

**ODINDIAN**                      Open Dump Inventory on Tribal Lands

VERSION DATE: 11/08/06

This Indian Health Service database contains information about facilities and sites on tribal lands where solid waste is disposed of, which are not sanitary landfills or hazardous waste disposal facilities, and which meet the criteria promulgated under section 4004 of the Solid Waste Disposal Act (42 U.S.C. 6944).

**INDIANRES**                      Indian Reservations

VERSION DATE: 01/01/00

The Department of Interior and Bureau of Indian Affairs maintains this database that includes American Indian Reservations, off-reservation trust lands, public domain allotments, Alaska Native Regional Corporations and Recognized State Reservations.

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## ***GeoPlus Physical Setting Maps***

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[Satellite view](#)

*Target Property:*

***Dirty Creek***

***McIntosh, McIntosh County, Oklahoma 74469***

*Prepared For:*

***Heithaus Engineering & Associates***

***Order #: 106790***

***Job #: 233077***

***Date: 04/17/2018***

---

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## Disclaimer

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## Target Property Summary

### **Target Property Information**

Dirty Creek  
McIntosh, Oklahoma 74469

#### **Coordinates**

Area

#### **USGS Quadrangle**

Oktaha, OK  
Keifton, OK

### **Geographic Coverage Information**

**County/Parish:** McIntosh (OK) , Muskogee (OK)

#### **ZipCode(s):**

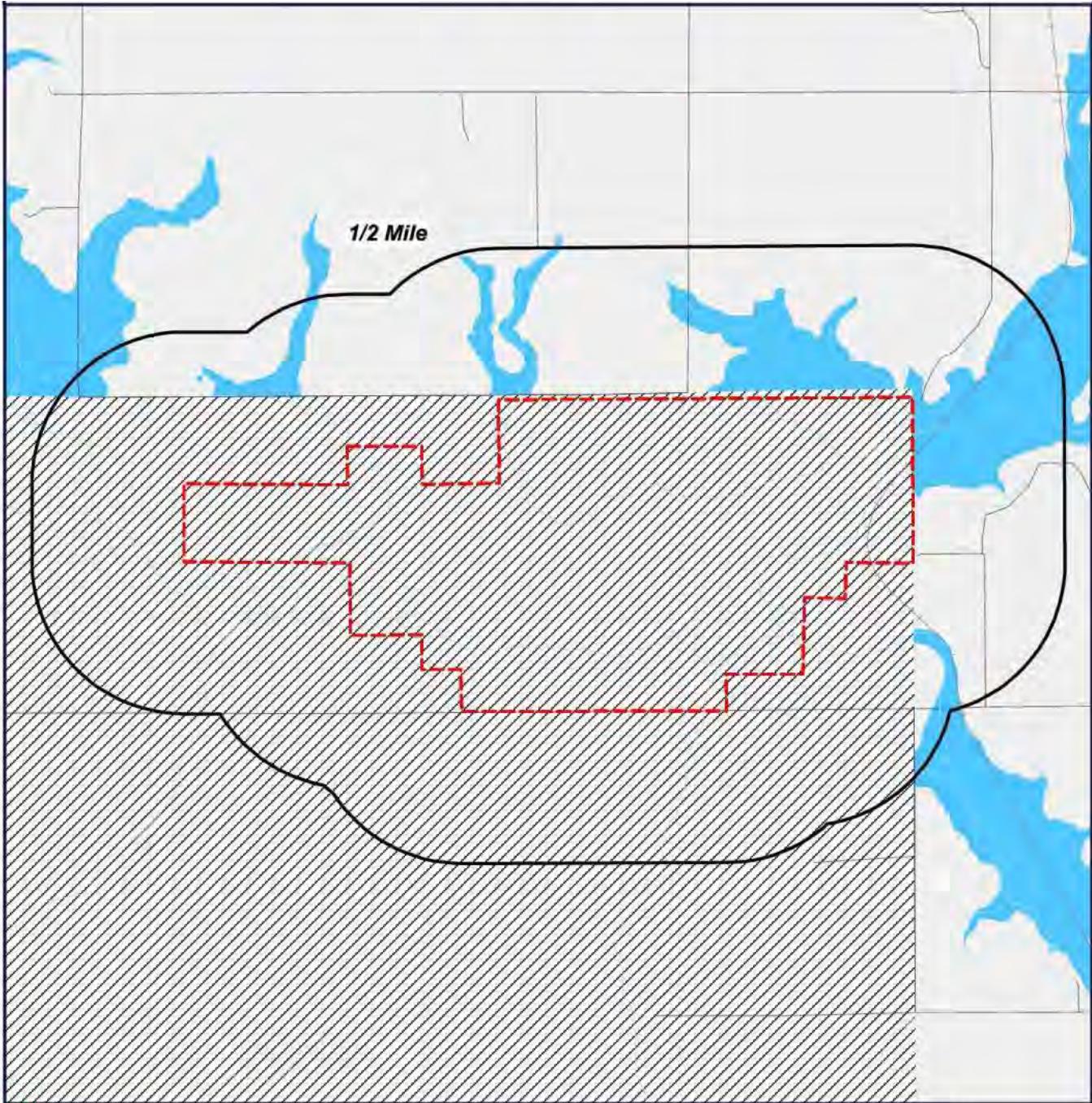
Muskogee OK: 74403  
Checotah OK: 74426  
Oktaha OK: 74450  
Warner OK: 74469

#### **Radon**

\* Target property is located in Radon Zone 3.

Zone 3 areas have a predicted average indoor radon screening level less than 2 pCi/L (picocuries per liter).

# FEMA Map



Target Property (TP)

- |  |         |  |                                  |
|--|---------|--|----------------------------------|
|  | ZONE A  |  | ZONE D                           |
|  | ZONE AE |  | ZONE X                           |
|  | ZONE AH |  | AREA NOT INCLUDED                |
|  | ZONE A0 |  | OPEN WATER                       |
|  | ZONE AR |  | NDA - DIGITAL DATA NOT AVAILABLE |
|  | ZONE V  |  |                                  |
|  | ZONE VE |  |                                  |

**Dirty Creek**  
**McIntosh, Oklahoma**  
**74469**

Letter of map revision date: 12/9/2016  
 Latest study effective date: 9/30/2016  
 Panel #: 40101C0480F



[Click here to access Satellite view](#)

# FEMA Report

## FEMA - Federal Emergency Management Agency

The National Flood Hazard Layer (NFHL) data used in this report is derived from the Federal Emergency Management Agency. The NFHL dataset is a compilation of effective Flood Insurance Rate Map (FIRM) databases (a collection of the digital data that are used in GIS systems for creating new Flood Insurance Rate Maps) and Letters of Map Change (Letters of Map Amendment and Letters of Map Revision only) that create a seamless GIS data layer for United States and its territories. The NFHL is updated as new study or LOMC data becomes effective. Note: Currently, not all areas have modernized FIRM database data available. As a result, users may need to refer to the effective Flood Insurance Rate Map for effective flood hazard information. This data was provided by the Federal Emergency Management Agency's Map Service Center in November of 2013.

## FEMA Flood Zone Definitions within Search Radius

<b>A</b>	Zone A
----------	--------

Areas subject to inundation by the 1-percent-annual-chance flood event. Because detailed hydraulic analyses have not been performed, no Base Flood Elevations (BFEs) or flood depths are shown.

<b>NDA</b>	No Digital Data Available
------------	---------------------------

<b>X</b>	Zone X
----------	--------

An area that is determined to be outside the 100 and 500 year floodplains.



# NWI Report

## NWI - National Wetlands Inventory

The US NWI digital data bundle is a set of records of wetlands location and classification as defined by the U.S. Fish & Wildlife Service. This dataset is one of a series available in 7.5 minute by 7.5 minute blocks containing ground planimetric coordinates of wetlands point, line, and area features and wetlands attributes. When completed, the series will provide coverage for all of the contiguous United States, Hawaii, Alaska, and U.S. protectorates in the Pacific and Caribbean. The digital data as well as the hardcopy maps that were used as the source for the digital data are produced and distributed by the U.S. Fish & Wildlife Service's National Wetlands Inventory project. Currently, this data is only available in select counties throughout the United States.

## NWI Definitions within Search Radius

### PEM1C

SYSTEM: **PALUSTRINE**  
CLASS: **EMERGENT**  
SUBCLASS: **BROAD-LEAVED DECIDUOUS**  
WATER REGIME: **SEASONALLY FLOODED**

### PEM1F

SYSTEM: **PALUSTRINE**  
CLASS: **EMERGENT**  
SUBCLASS: **BROAD-LEAVED DECIDUOUS**  
WATER REGIME: **SEMIPERMANENTLY FLOODED**

### PFO/EM1A

SYSTEM: **PALUSTRINE**  
CLASS: **FORESTED**  
WATER REGIME: **SEASONALLY FLOODED/SATURATED**

### PFO1A

SYSTEM: **PALUSTRINE**  
CLASS: **FORESTED**  
SUBCLASS: **BROAD-LEAVED DECIDUOUS**  
WATER REGIME: **TEMPORARILY FLOODED**

### PFO1C

SYSTEM: **PALUSTRINE**  
CLASS: **FORESTED**  
SUBCLASS: **BROAD-LEAVED DECIDUOUS**  
WATER REGIME: **SEASONALLY FLOODED**

### PFO6F

SYSTEM: **PALUSTRINE**  
CLASS: **FORESTED**  
SUBCLASS: **DECIDUOUS**  
WATER REGIME: **SEMIPERMANENTLY FLOODED**

### PSS/EM1A

## NWI Report

SYSTEM: PALUSTRINE  
CLASS: SCRUB-SHRUB  
WATER REGIME: SEASONALLY FLOODED/SATURATED

### PSS6/UBF

SYSTEM: PALUSTRINE  
CLASS: SCRUB-SHRUB  
SUBCLASS: DECIDUOUS

### PUBF

SYSTEM: PALUSTRINE  
CLASS: UNCONSOLIDATED BOTTOM

### PUBH

SYSTEM: PALUSTRINE  
CLASS: UNCONSOLIDATED BOTTOM

### PUBHh

SYSTEM: PALUSTRINE  
CLASS: UNCONSOLIDATED BOTTOM  
SPECIAL MODIFIER: DIKED/IMPOUNDED

### PUBHx

SYSTEM: PALUSTRINE  
CLASS: UNCONSOLIDATED BOTTOM  
SPECIAL MODIFIER: EXCAVATED

### R2UBH

SYSTEM: RIVERINE  
SUBSYSTEM: LOWER PERENNIAL  
CLASS: UNCONSOLIDATED BOTTOM  
WATER REGIME: PERMANENTLY FLOODED

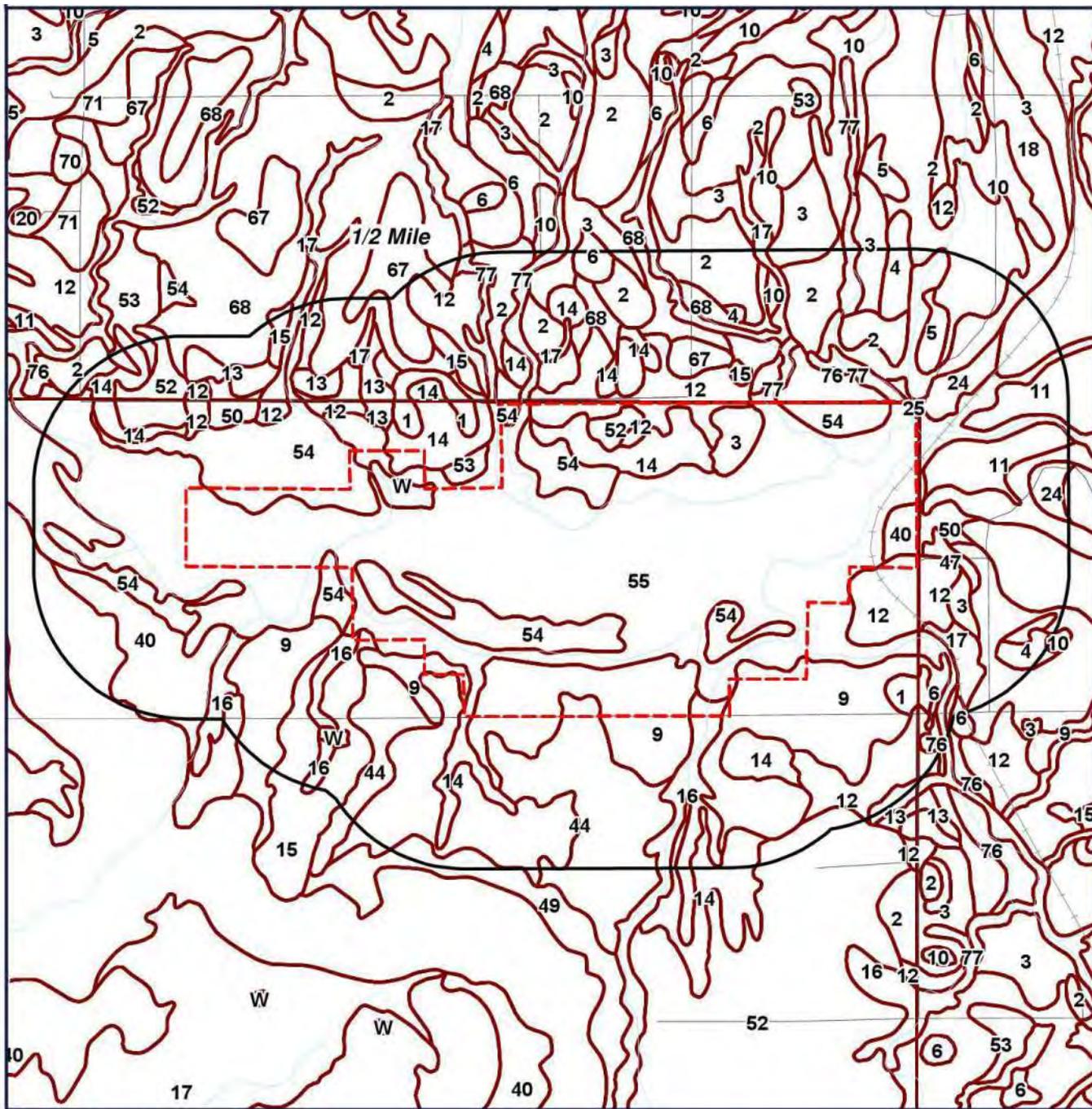
### R4SBC

SYSTEM: RIVERINE  
SUBSYSTEM: INTERMITTENT  
CLASS: STREAMBED  
WATER REGIME: SEASONALLY FLOODED

### R5UBF

SYSTEM: RIVERINE  
SUBSYSTEM: UNKNOWN PERENNIAL  
CLASS: UNCONSOLIDATED BOTTOM  
WATER REGIME: SEMIPERMANENTLY FLOODED

# Soil Map



 Target Property (TP)

 SOIL BOUNDARY

 NOTCOM - DIGITAL DATA NOT AVAILABLE/NOT COMPLETE

**Dirty Creek  
McIntosh, Oklahoma  
74469**



[Click here to access Satellite view](#)

# SOIL Report

## Soil Surveys

The soil data used in this report is obtained from the Natural Resources Conservation Service (NRCS). The NRCS is the primary federal agency that works with private landowners to help them conserve, maintain and improve their natural resources. The soil survey contains information that can be applied in managing farms and ranches; in selecting sites for roads, ponds, buildings and other structures; and in determining the suitability of tracts of land for farming, industry and recreation. This data is available in select counties throughout the United States.

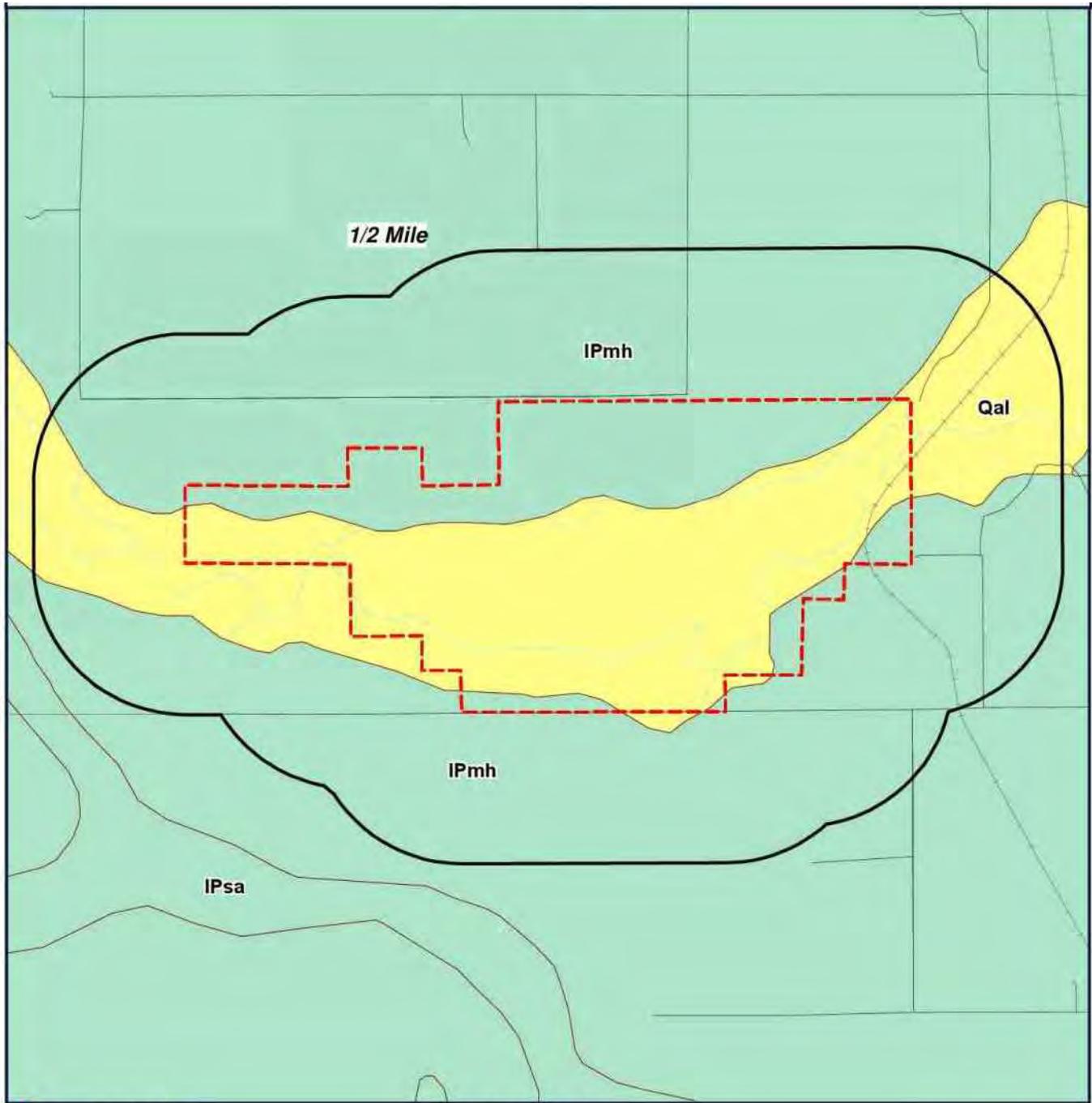
## SOIL Code Definitions within Search Radius

1	Bates loam, 1 to 3 percent slopes
12	Dennis silt loam, 1 to 3 percent slopes
13	Dennis silt loam, 3 to 5 percent slopes
14	Dennis silt loam, 3 to 5 percent slopes, eroded
15	Dennis silt loam, 3 to 5 percent slopes, severely eroded
16	Dennis-Verdigris complex, 0 to 8 percent slopes
18	Endsaw-Hector complex, 12 to 30 percent slopes, very rocky
25	Kamie fine sandy loam, 1 to 3 percent slopes
40	Linker-Hector complex, 3 to 5 percent slopes
44	Parsons silt loam, 0 to 1 percent slopes
49	Shermore loam, 3 to 8 percent slopes
50	Stigler very fine sandy loam, 0 to 1 percent slopes
52	Taloka silt loam, 0 to 1 percent slopes
53	Taloka silt loam, 1 to 3 percent slopes
54	Verdigris silt loam, 0 to 1 percent slopes, occasionally flooded
55	Verdigris silt loam, 0 to 1 percent slopes, frequently flooded
9	Coweta-Bates complex, 3 to 8 percent slopes
W	Water
3	Bates loam, 3 to 5 percent slopes, eroded
3	Bates loam, 3 to 5 percent slopes
4	Bates loam, 3 to 5 percent slopes, eroded
77	Verdigris silt loam, 0 to 1 percent slopes, frequently flooded
76	Verdigris silt loam, 0 to 1 percent slopes, occasionally flooded
68	Stigler silt loam, 1 to 3 percent slopes
67	Stigler silt loam, 0 to 1 percent slopes
6	Bates-Coweta complex, 3 to 5 percent slopes
53	Parsons silt loam, 1 to 3 percent slopes
52	Parsons silt loam, 0 to 1 percent slopes
50	Oktaha-Hector complex, 1 to 5 percent slopes

## SOIL Report

- 5 Bates-Coweta complex, 1 to 3 percent slopes
- 47 Oktaha fine sandy loam, 1 to 3 percent slopes
- 36 Lightning silt loam, 0 to 1 percent slopes, occasionally flooded
- 24 Kamie fine sandy loam, 1 to 3 percent slopes
- 20 Eram-Coweta-Rock outcrop association, 8 to 12 percent slopes
- 2 Bates loam, 1 to 3 percent slopes
- 18 Enders-Linker-Hector association, 5 to 30 percent slopes
- 17 Dennis-Verdigris complex, 0 to 12 percent slopes
- 15 Dennis silt loam, 3 to 5 percent slopes, gullied
- 14 Dennis silt loam, 3 to 5 percent slopes, eroded
- 13 Dennis silt loam, 3 to 5 percent slopes
- 12 Dennis silt loam, 1 to 3 percent slopes
- 11 Cupco silt loam, 0 to 1 percent slopes, occasionally flooded
- 10 Coweta fine sandy loam, 5 to 12 percent slopes

# Geology Map



 Target Property (TP)

**Dirty Creek  
McIntosh, Oklahoma  
74469**



0' 1350' 2700' 4050'  
SCALE: 1" = 2700'

[Click here to access Satellite view](#)

**GeoSearch** [www.geo-search.com](http://www.geo-search.com) 888-396-0042

# GEOLOGY Report

## US GEOLOGY

THE GEOLOGY DATA USED IN THIS REPORT ORIGINATES FROM THE USGS. THE FIRST STAGE IN DEVELOPING STATE DATABASES FOR THE CONTERMINOUS UNITED STATES WAS TO ACQUIRE DIGITAL VERSIONS OF ALL EXISTING STATE GEOLOGIC MAPS. ALTHOUGH A SIGNIFICANT NUMBER OF DIGITAL STATE MAPS ALREADY EXISTED, A NUMBER OF STATES LACKED THEM. FOR THESE STATES NEW DIGITAL COMPILATIONS WERE PREPARED IN COOPERATION WITH STATE GEOLOGIC SURVEYS OR BY THE NSA (NATIONAL SURVEYS AND ANALYSIS) PROJECT. THESE NEW DIGITAL STATE GEOLOGIC MAPS AND DATABASES WERE CREATED BY DIGITIZING ALREADY EXISTING PRINTED MAPS, OR, IN A FEW CASES, BY MERGING EXISTING LARGER SCALE DIGITAL MAPS.

### GEOLOGY Definitions within Search Radius

GEOLOGY SYMBOL: **IPmh**

UNIT NAME: **McAlester and Hartshorne Formations**

UNIT AGE: **Phanerozoic | Paleozoic | Carboniferous Pennsylvanian-Middle**

UNIT DESCRIPTION:

**TULSA- "McAlester and Hartshorne Formations", shale and some sandstone and coal. FORT SMITH- IPmh "McAlester" and "Hartshorne Formations" (undifferentiated), shale, sandstone, and coal.**

ADDITIONAL UNIT INFORMATION:

ROCKTYPE/S: **shale; sandstone; coal**

---

GEOLOGY SYMBOL: **Qal**

UNIT NAME: **Alluvium**

UNIT AGE: **Phanerozoic | Cenozoic | Quaternary | Holocene**

UNIT DESCRIPTION:

**WOODWARD- Lenticular and interfingering deposits of gravel, sand, silt, and clay. Generally light-tan to gray. Thickness along major streams ranges up to 100 feet and probably averages 40 feet; along minor streams the thickness ranges up to 45 feet and p**

ADDITIONAL UNIT INFORMATION:

**unconsolidated clay, silt, sand and gravel**

ROCKTYPE/S: **alluvium**

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## ***Historical Topographic Maps***

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<http://www.geo-search.net/QuickMap/index.htm?DataID=Standard0000161306>

*Click on link above to access the map and satellite view of current property*

*Target Property:*

***Dirty Creek***

***McIntosh, McIntosh County, Oklahoma 74469***

*Prepared For:*

***Heithaus Engineering & Associates***

## TARGET PROPERTY SUMMARY

### **Dirty Creek**

**McIntosh, McIntosh County, Oklahoma 74469**

USGS Quadrangle: **Oktaha, OK**

Target Property Geometry: **Area**

Target Property Longitude(s)/Latitude(s):

**(-95.378092, 35.549503), (-95.378080, 35.547681), (-95.387642, 35.547718), (-95.387644, 35.543992), (-95.377938, 35.543955), (-95.377916, 35.540484), (-95.373745, 35.540526), (-95.373735, 35.538859), (-95.371463, 35.538859), (-95.371413, 35.536860), (-95.355924, 35.536902), (-95.355954, 35.538651), (-95.351451, 35.538642), (-95.351342, 35.542296), (-95.348975, 35.542253), (-95.348906, 35.543968), (-95.345001, 35.543914), (-95.345043, 35.551845), (-95.369242, 35.551702), (-95.369210, 35.547747), (-95.373708, 35.547687), (-95.373733, 35.549499), (-95.378092, 35.549503)**

County/Parish Covered:

**McIntosh (OK), Muskogee (OK)**

Zipcode(s) Covered:

**Checotah OK: 74426**

**Muskogee OK: 74403**

**Oktaha OK: 74450**

**Warner OK: 74469**

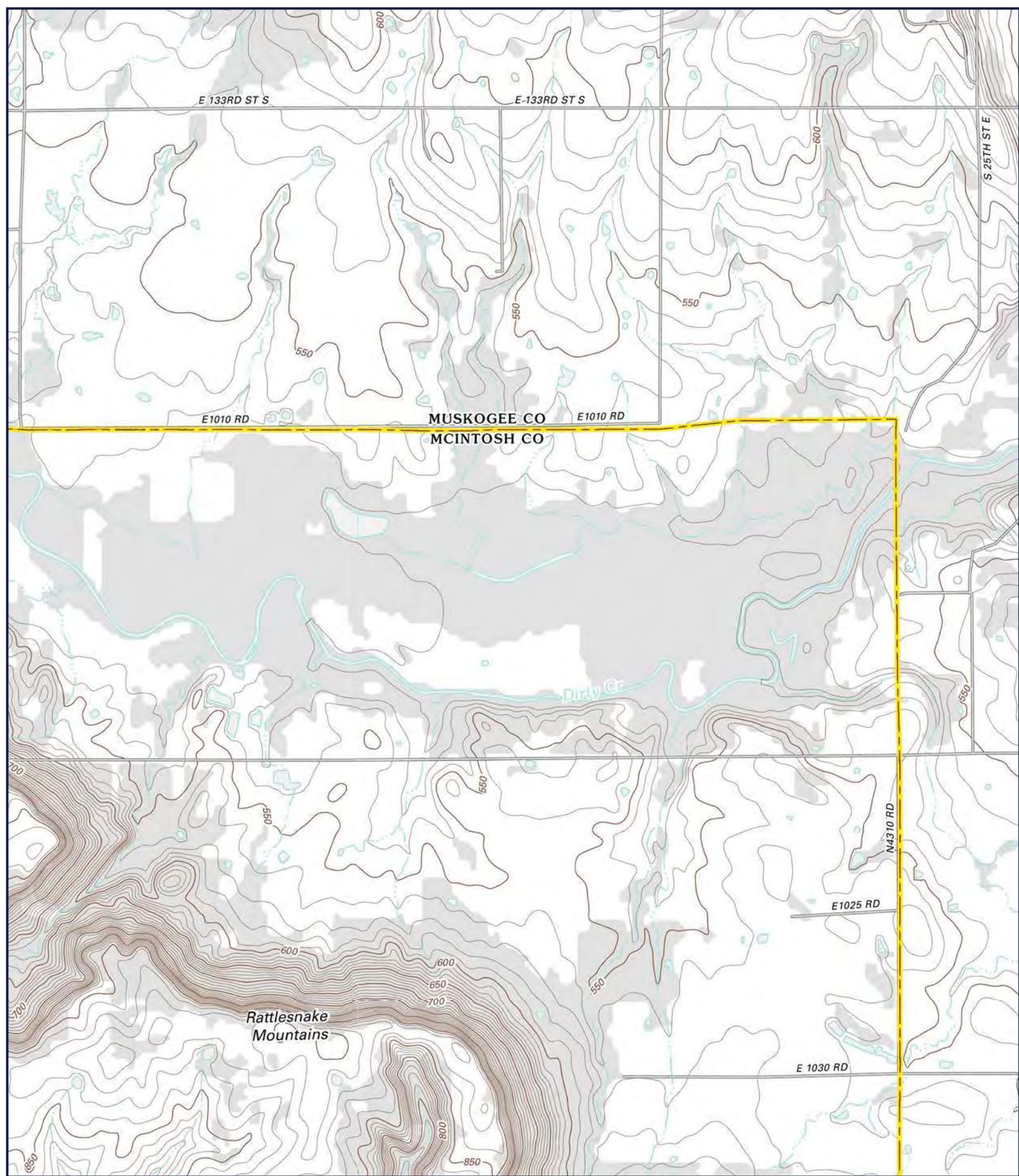
State(s) Covered:

**OK**

**\*Target property is located in Radon Zone 3.**

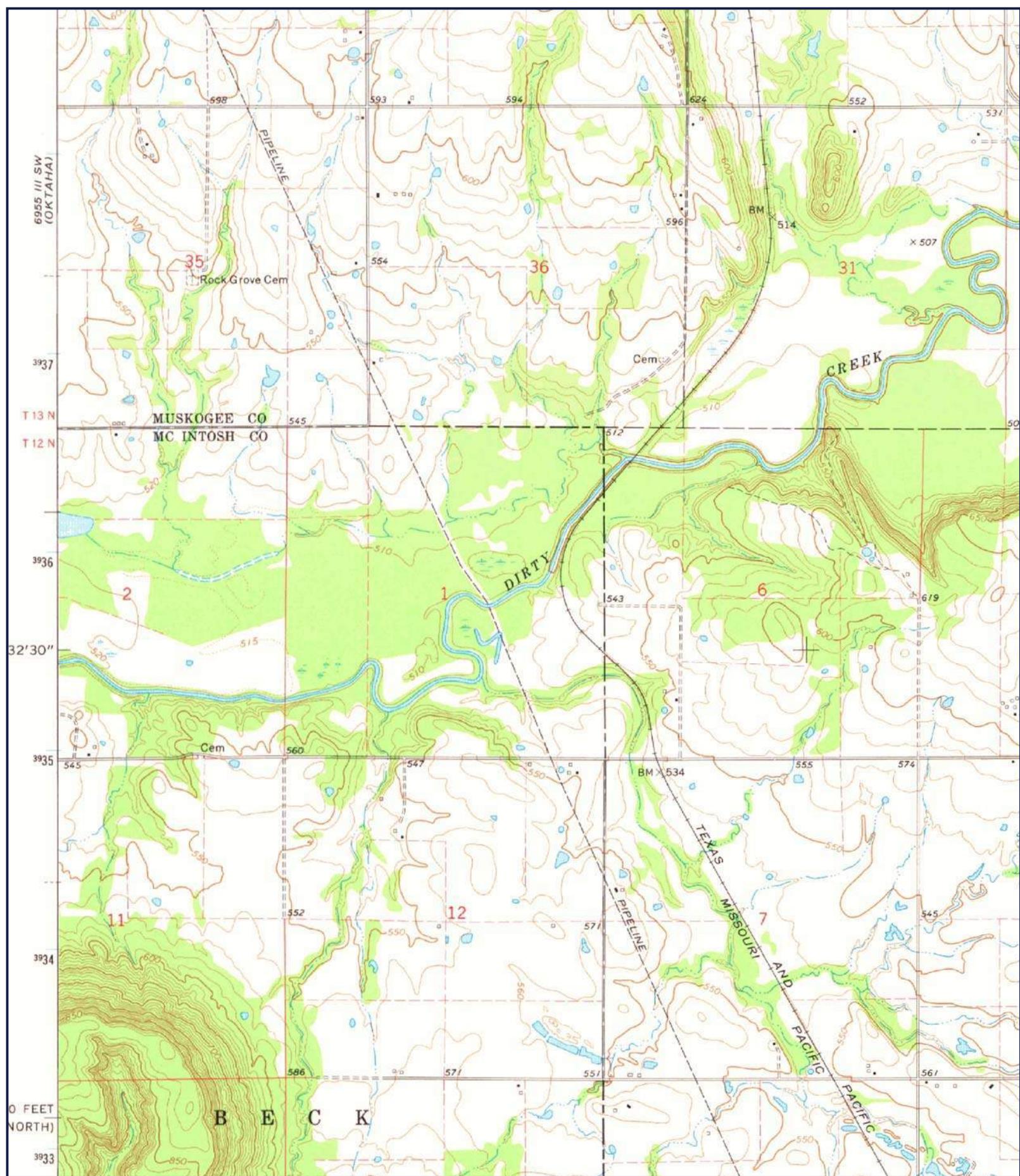
**Zone 3 areas have a predicted average indoor radon screening level less than 2 pCi/L (picocuries per liter).**

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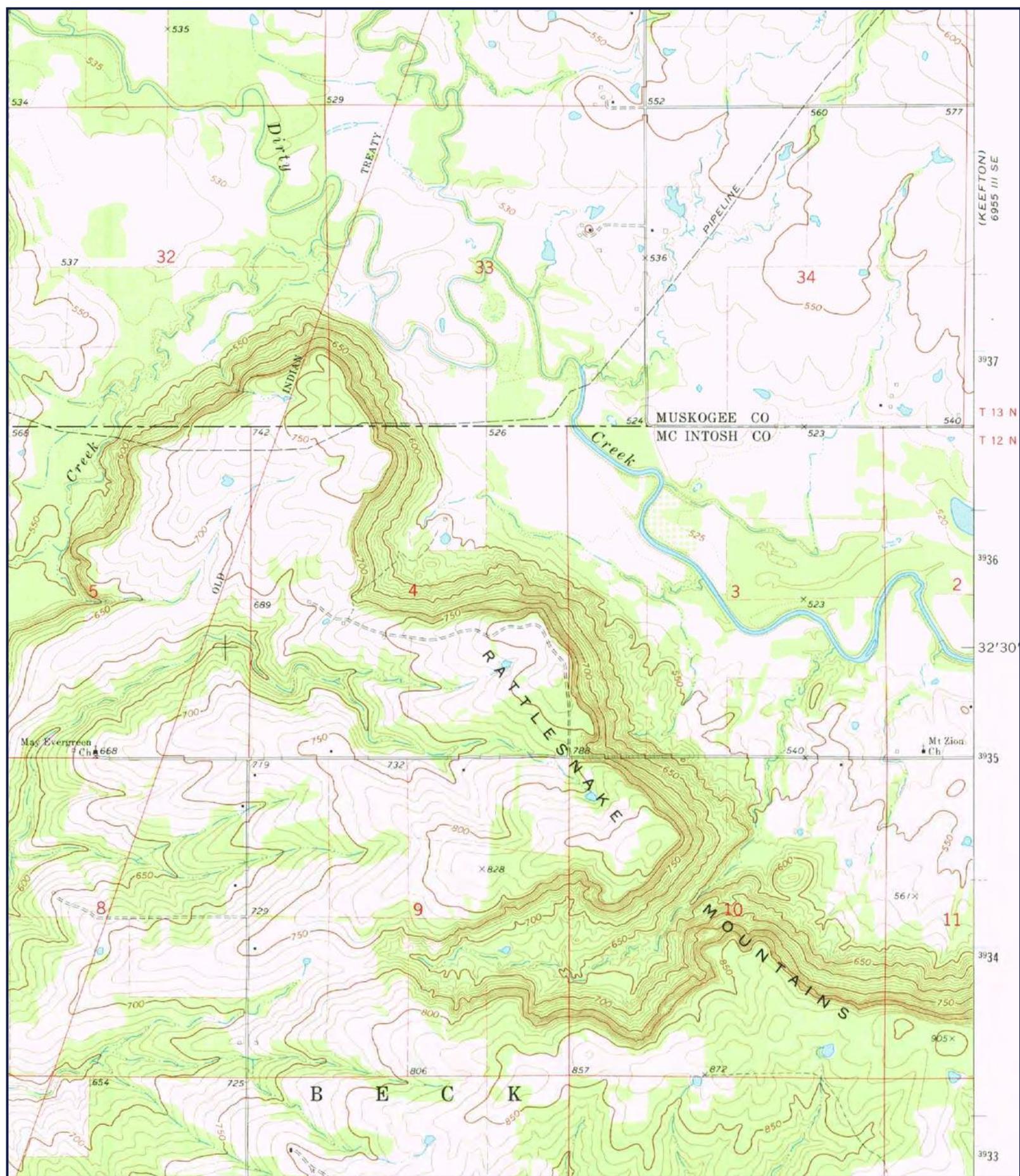
**SITE:** Dirty Creek  
**QUAD:** KEEFTON, OK; OKTAHA, OK  
**DATE:** 2012  
**SCALE:** 1:24,000





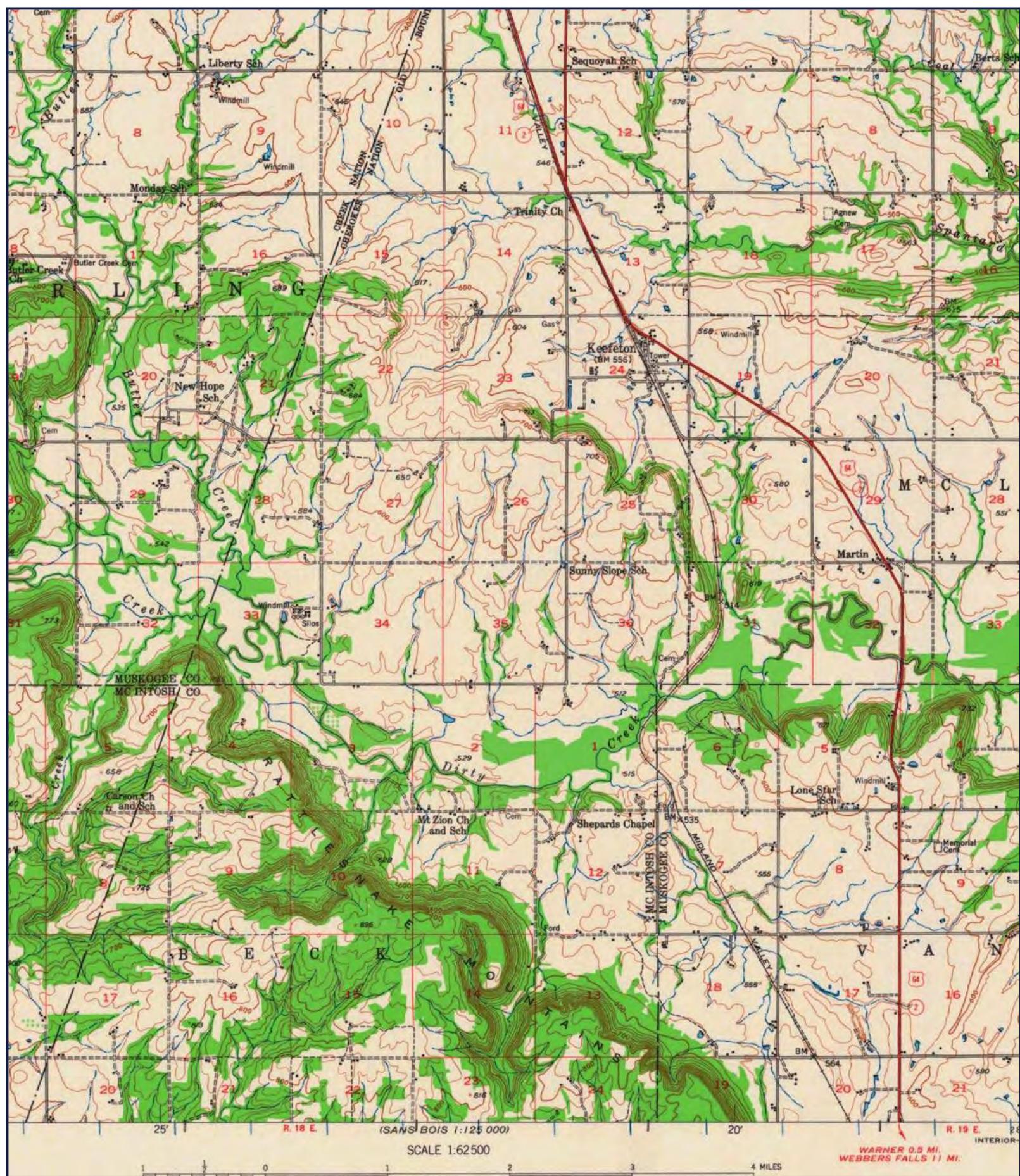
**SITE:** Dirty Creek  
**QUAD:** KEEFTON, OK  
**DATE:** 1974  
**SCALE:** 1:24,000





**SITE:** Dirty Creek  
**QUAD:** OKTAHA, OK  
**DATE:** 1974  
**SCALE:** 1:24,000





**SITE:** Dirty Creek  
**QUAD:** KEEFETON, OK  
**DATE:** 1948  
**SCALE:** 1:62,500





**SITE:** Dirty Creek  
**QUAD:** MUSKOGEE, OK  
**DATE:** 1901  
**SCALE:** 1:125,000



C.H. Fitch, Topographer in charge.  
 Van H. Manning, Topographer, Assistant in charge.

Scale 1:125,000



---

## ***Historical Aerial Photographs***

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<http://www.geo-search.net/QuickMap/index.htm?DataID=Standard0000161307>

*Click on link above to access the map and satellite view of current property*

*Target Property:*

***Dirty Creek***

***McIntosh, McIntosh County, Oklahoma 74469***

*Prepared For:*

***Heithaus Engineering & Associates***

## TARGET PROPERTY SUMMARY

### **Dirty Creek**

**McIntosh, McIntosh County, Oklahoma 74469**

USGS Quadrangle: **Oktaha, OK**

Target Property Geometry: **Area**

Target Property Longitude(s)/Latitude(s):

**(-95.378092, 35.549503), (-95.378080, 35.547681), (-95.387642, 35.547718), (-95.387644, 35.543992), (-95.377938, 35.543955), (-95.377916, 35.540484), (-95.373745, 35.540526), (-95.373735, 35.538859), (-95.371463, 35.538859), (-95.371413, 35.536860), (-95.355924, 35.536902), (-95.355954, 35.538651), (-95.351451, 35.538642), (-95.351342, 35.542296), (-95.348975, 35.542253), (-95.348906, 35.543968), (-95.345001, 35.543914), (-95.345043, 35.551845), (-95.369242, 35.551702), (-95.369210, 35.547747), (-95.373708, 35.547687), (-95.373733, 35.549499), (-95.378092, 35.549503)**

County/Parish Covered:

**McIntosh (OK), Muskogee (OK)**

Zipcode(s) Covered:

**Checotah OK: 74426**

**Muskogee OK: 74403**

**Oktaha OK: 74450**

**Warner OK: 74469**

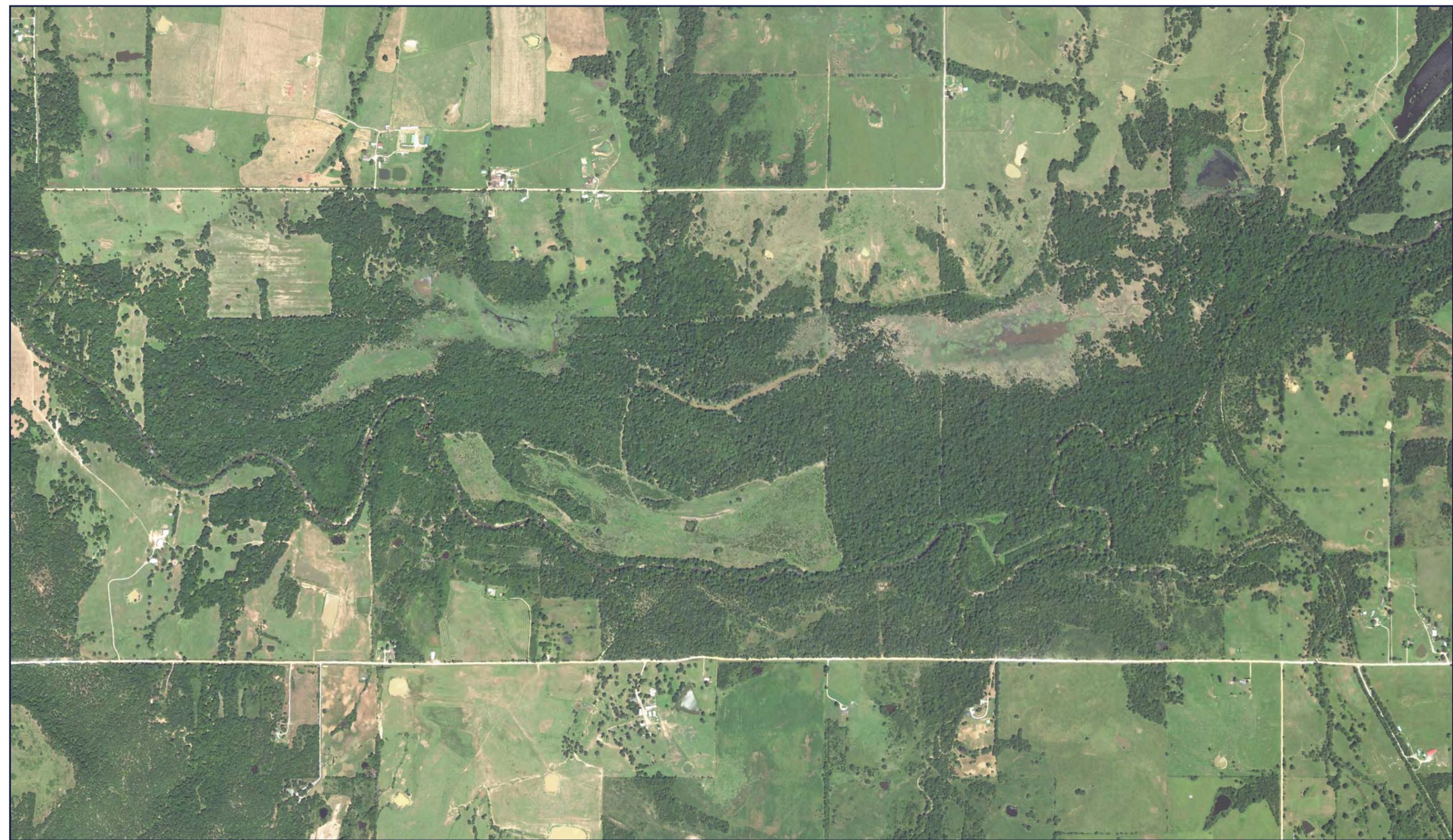
State(s) Covered:

**OK**

**\*Target property is located in Radon Zone 3.**

**Zone 3 areas have a predicted average indoor radon screening level less than 2 pCi/L (picocuries per liter).**

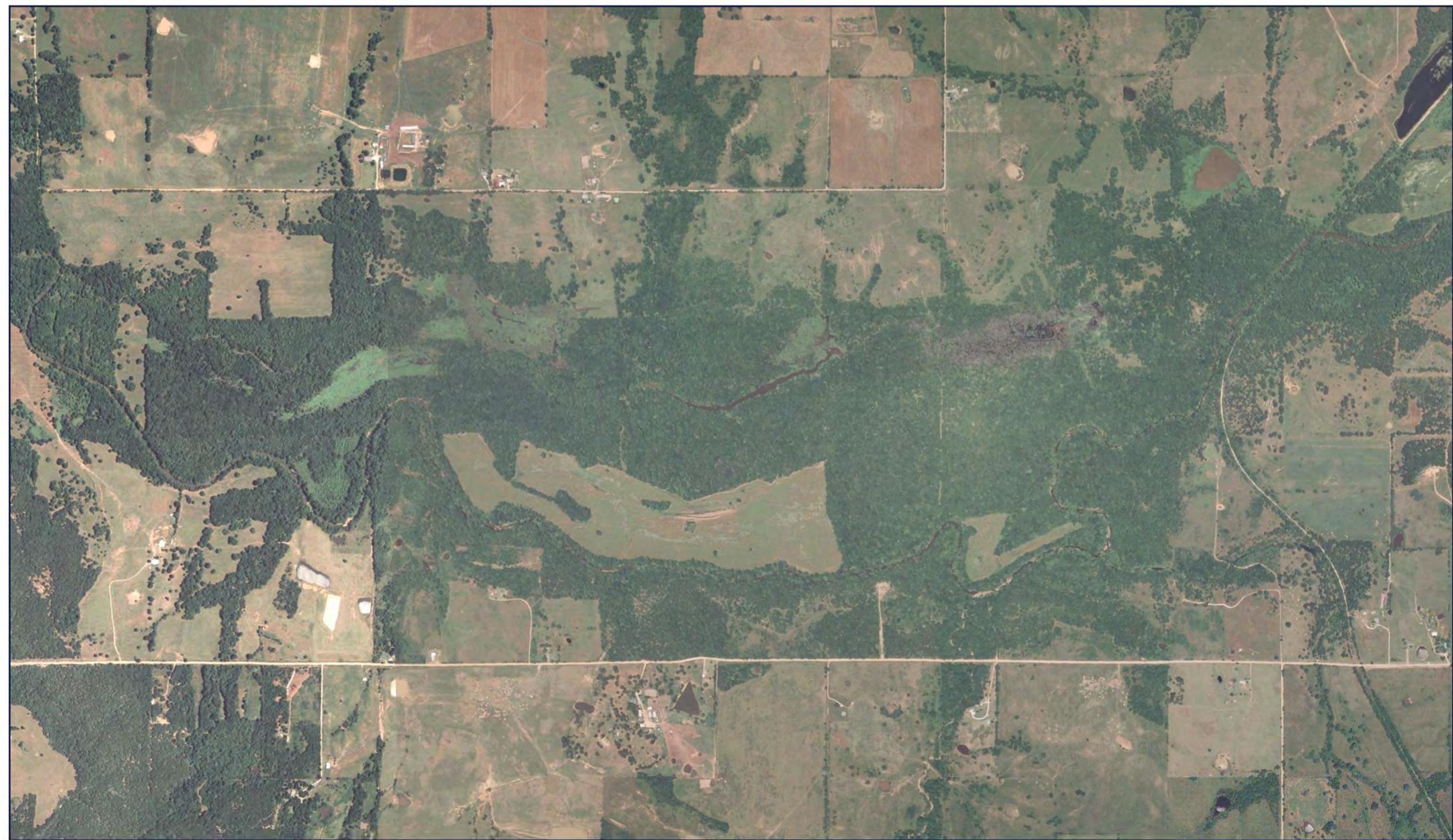
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JOB #: 233074 - 04/17/2018

**SITE:** *Dirty Creek*  
**SOURCE:** *USDA*  
**DATE:** *2015*  
**COUNTY:** *MCINTOSH*  
**SCALE:** *1" = 1,000'*

**GeoSearch**



JOB #: 233074 - 04/17/2018

**SITE:** *Dirty Creek*  
**SOURCE:** USDA  
**DATE:** 2005  
**COUNTY:** MCINTOSH  
**SCALE:** 1" = 1,000'

**GeoSearch**



JOB #: 233074 - 04/17/2018

**SITE:** *Dirty Creek*  
**SOURCE:** USGS  
**DATE:** 03/09/1995  
**COUNTY:** MCINTOSH  
**SCALE:** 1" = 1,000'

**GeoSearch**



JOB #: 233074 - 04/17/2018

**SITE:** *Dirty Creek*  
**SOURCE:** USGS  
**DATE:** 06/20/1984  
**COUNTY:** MCINTOSH  
**SCALE:** 1" = 1,000'

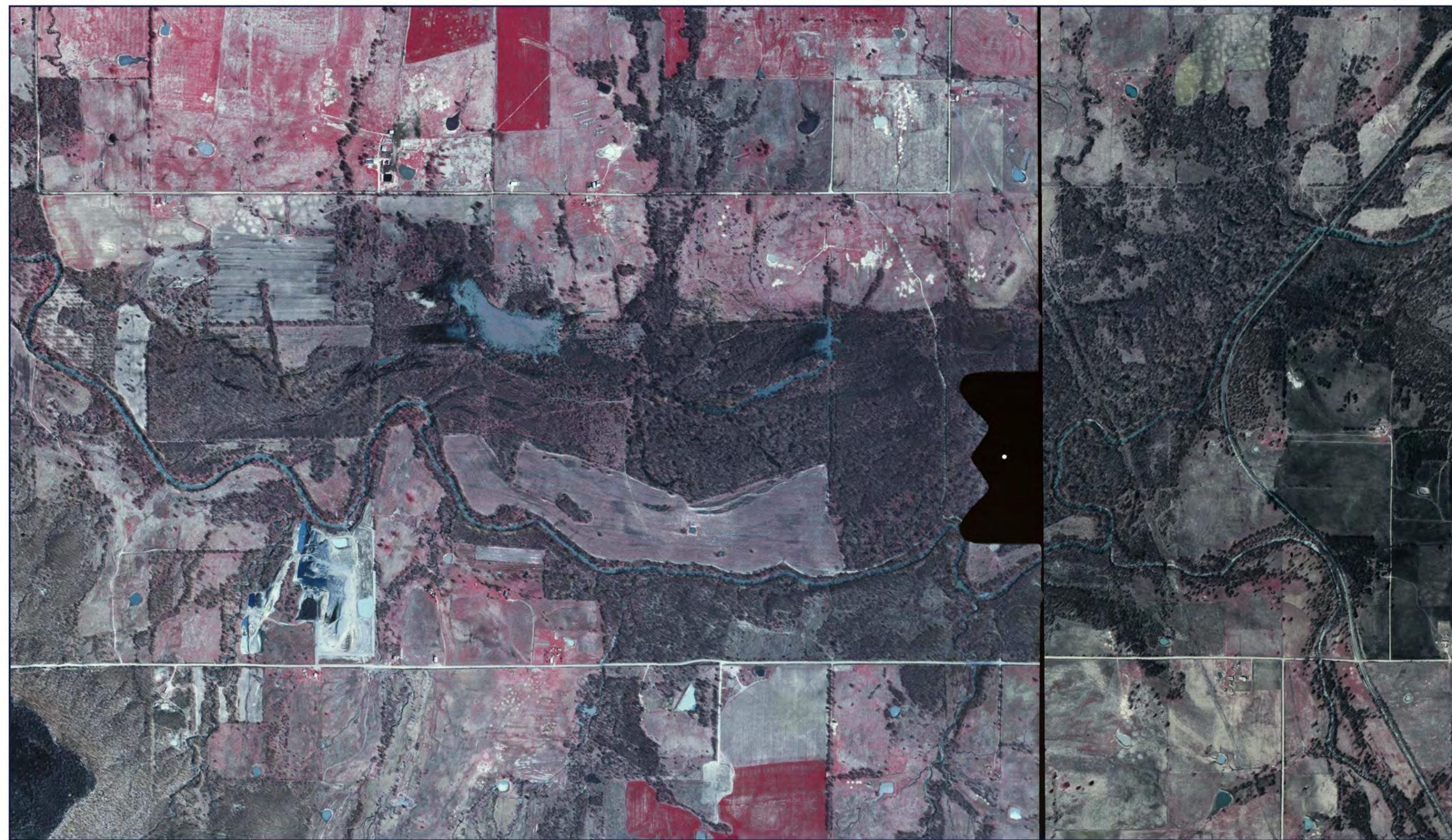
**GeoSearch**



JOB #: 233074 - 04/17/2018

**SITE:** Dirty Creek  
**SOURCE:** USGS  
**DATE:** 03/18/1980  
**COUNTY:** MCINTOSH  
**SCALE:** 1" = 1,000'

**GeoSearch**



JOB #: 233074 - 04/17/2018

**SITE:** *Dirty Creek*  
**SOURCE:** *USGS*  
**DATE:** *03/18/1980*  
**COUNTY:** *MCINTOSH*  
**SCALE:** *1" = 1,000'*

**GeoSearch**



JOB #: 233074 - 04/17/2018

**SITE:** *Dirty Creek*  
**SOURCE:** *USGS*  
**DATE:** *12/22/1972*  
**COUNTY:** *MCINTOSH*  
**SCALE:** *1" = 1,000'*

**GeoSearch**

AWJ-2DD-37

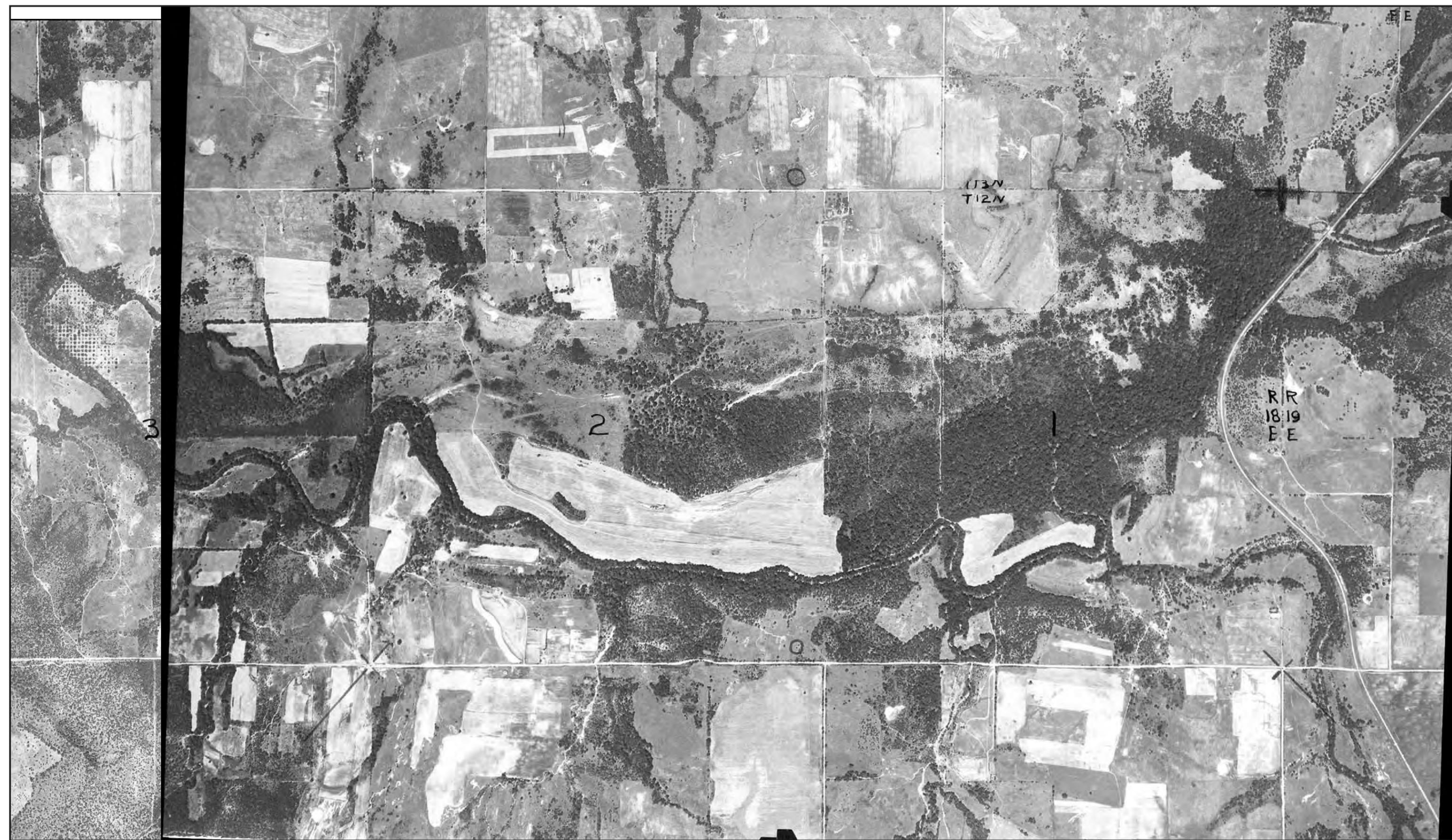
AWJ-2DD

AWJ-2DD-36

AWJ-2DD

**SITE:** *Dirty Creek*  
**SOURCE:** ASCS  
**DATE:** 1963  
**COUNTY:** MCINTOSH  
**SCALE:** 1" = 1,000'





JOB #: 233074 - 04/17/2018

**SITE:** Dirty Creek  
**SOURCE:** ASCS  
**DATE:** 07/01/1956  
**COUNTY:** MCINTOSH  
**SCALE:** 1" = 1,000'

**GeoSearch**

AWJ - 3R - 147

T13N  
T12N

R/R  
18, 19  
E E

E E

3

2

1



**SITE:** Dirty Creek  
**SOURCE:** ASCS  
**DATE:** 07/01/1956  
**COUNTY:** MCINTOSH  
**SCALE:** 1" = 1,000'

**GeoSearch**



JOB #: 233074 - 04/17/2018

**SITE:** *Dirty Creek*  
**SOURCE:** *ASCS*  
**DATE:** *05/21/1949*  
**COUNTY:** *MCINTOSH*  
**SCALE:** *1" = 1,000'*

**GeoSearch**



**SITE:** Dirty Creek  
**SOURCE:** ASCS  
**DATE:** 05/21/1949  
**COUNTY:** MCINTOSH  
**SCALE:** 1" = 1,000'



**SITE:** Dirty Creek  
**SOURCE:** ASCS  
**DATE:** 04/10/1938  
**COUNTY:** MCINTOSH  
**SCALE:** 1" = 1,000'

APR 10 1938

R18E

AWJ-3-64  
R-3



JOB #: 233074 - 04/17/2018

**SITE:** Dirty Creek  
**SOURCE:** ASCS  
**DATE:** 04/10/1938  
**COUNTY:** MCINTOSH  
**SCALE:** 1" = 1,000'

GeoSearch

---

## **GeoPlus Oil & Gas Report**

---

[Satellite view](#)

*Target Property:*

**Dirty Creek**

**McIntosh, McIntosh County, Oklahoma 74469**

*Prepared For:*

**Heithaus Engineering & Associates**

**Order #: 106790**

**Job #: 233076**

**Date: 04/17/2018**

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## Disclaimer

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## Target Property Summary

### **Target Property Information**

Dirty Creek  
McIntosh, Oklahoma 74469

#### **Coordinates**

Area

#### **USGS Quadrangle**

Oktaha, OK  
Keifton, OK

### **Geographic Coverage Information**

**County/Parish:** McIntosh (OK) , Muskogee (OK)

#### **ZipCode(s):**

Muskogee OK: 74403  
Checotah OK: 74426  
Oktaha OK: 74450  
Warner OK: 74469

#### **Radon**

\* Target property is located in Radon Zone 3.

Zone 3 areas have a predicted average indoor radon screening level less than 2 pCi/L (picocuries per liter).

## Database Radius Summary

### STATE (OK) LISTING

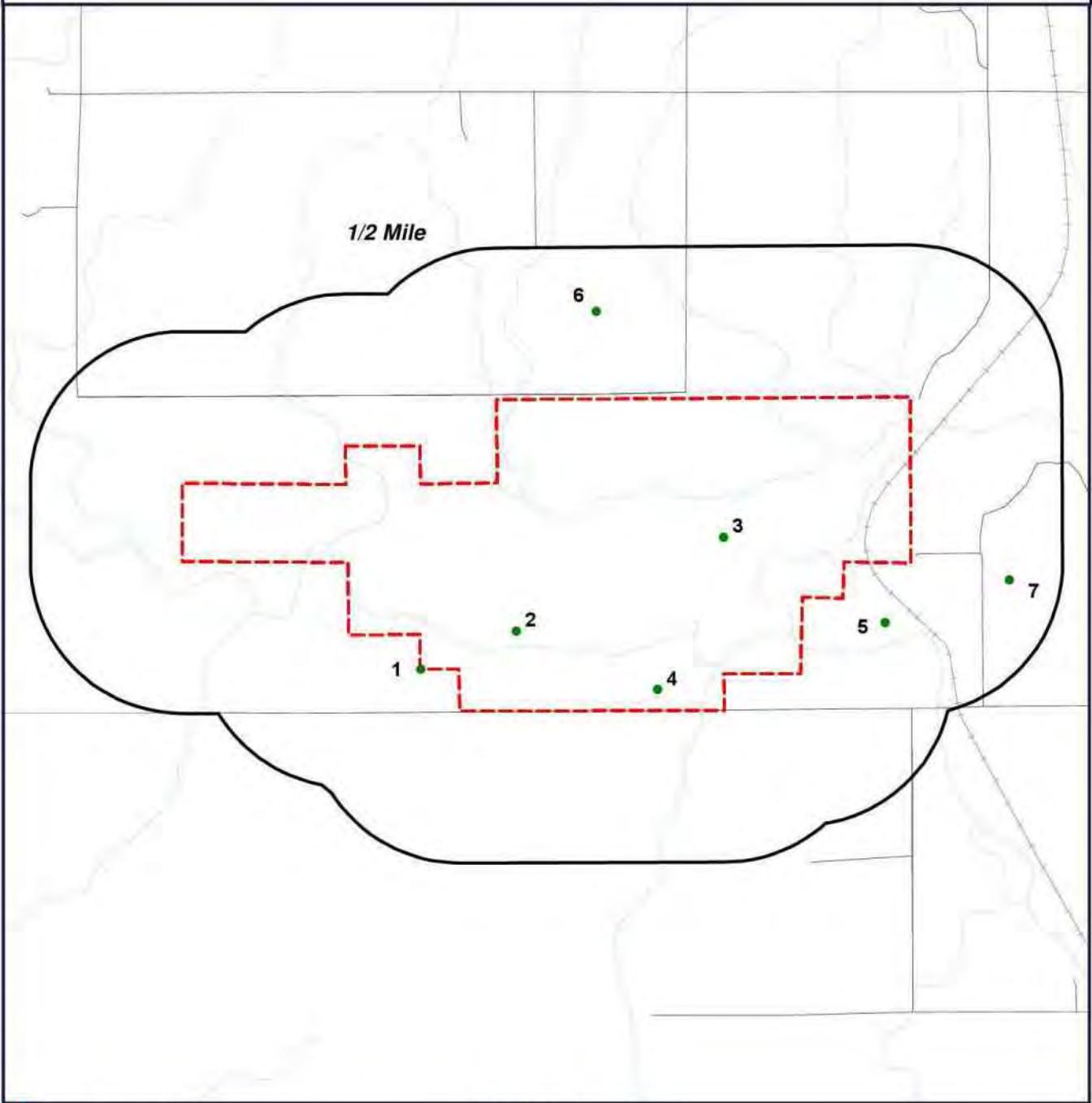
Acronym	Search Radius (miles)	TP/AP (0 - 0.02)	1/8 Mile (> TP/AP)	1/4 Mile (> 1/8)	1/2 Mile (> 1/4)	1 Mile (> 1/2)	> 1 Mile	Total
OG	0.5000	4	0	1	2	NS	NS	7
<b>SUB-TOTAL</b>		4	0	1	2	0	0	7
<b>TOTAL</b>		4	0	1	2	0	0	7

**NOTES:**

**NS = NOT SEARCHED**

**TP/AP = TARGET PROPERTY/ADJACENT PROPERTY**

# OIL & GAS MAP



-  Target Property (TP)
-  Well Location

**Dirty Creek  
McIntosh, Oklahoma  
74469**



[Click here to access Satellite view](#)

## Located Sites Summary

Map ID#	Database Name	Site ID#	Distance From Site	Site Name	Address
1	OG	091-20837	TP		MCINTOSH COUNTY, WARNER, OK 74469
2	OG	091-20506	TP		MCINTOSH COUNTY, WARNER, OK 74469
3	OG	091-20170	TP		MCINTOSH COUNTY, WARNER, OK 74469
4	OG	091-21113	TP		MCINTOSH COUNTY, WARNER, OK 74469
5	OG	091-21182	0.149 mi. ESE (787 ft.)		MCINTOSH COUNTY, WARNER, OK 74469
6	OG	101-20356	0.312 mi. N (1647 ft.)		MUSKOGEE COUNTY, WARNER, OK 74469
7	OG	101-22801	0.327 mi. E (1727 ft.)		MUSKOGEE COUNTY, WARNER, OK 74469

# Oil & Gas Well Report

MAP ID	API #	WELL NAME	WELL #	WELL STATUS	WELL TYPE	COMPLETION	ELEVATION	LATITUDE	LONGITUDE
1	3509120837	CLAYTON	1-2	ACTIVE	GAS	NOT REPORTED	520'	35.5403	-95.3741
2	3509120506	WOOD	1-2	ACTIVE	NOT REPORTED	NOT REPORTED	0'	35.541	-95.3681
3	3509120170	MURIEL WOOD	1	PLUGGED & ABANDONED	DRY	NOT REPORTED	0'	35.5455	-95.356
4	3509121113	WOOD	1-1	ACTIVE	GAS	NOT REPORTED	0'	35.539	-95.3604
5	3509121182	WOOD	1-2	ACTIVE	GAS	NOT REPORTED	0'	35.5417	-95.3471
6	3510120356	FULTON	1-35	PLUGGED & ABANDONED	DRY	NOT REPORTED	0'	35.5563	-95.3634
7	3510122801	EPPL	6-2	ACTIVE	GAS	NOT REPORTED	0'	35.5435	-95.3392

## ***Environmental Records Definitions - STATE (OK)***

**OG** Oil and Gas Wells

VERSION DATE: 03/01/18

This oil and gas well database is provided by the Oklahoma Corporation Commission's Oil and Gas Conservation Division. The data contains identification and location information for wells drilled since 1985 to the present.

---

## ***GeoPlus Water Well Report***

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[Satellite view](#)

*Target Property:*

***Dirty Creek***

***McIntosh, McIntosh County, Oklahoma 74469***

*Prepared For:*

***Heithaus Engineering & Associates***

***Order #: 106790***

***Job #: 233075***

***Date: 04/17/2018***

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## Target Property Summary

### **Target Property Information**

Dirty Creek  
McIntosh, Oklahoma 74469

#### **Coordinates**

Area

#### **USGS Quadrangle**

Oktaha, OK  
Keifton, OK

### **Geographic Coverage Information**

**County/Parish:** McIntosh (OK) , Muskogee (OK)

#### **ZipCode(s):**

Muskogee OK: 74403  
Checotah OK: 74426  
Oktaha OK: 74450  
Warner OK: 74469

#### **Radon**

\* Target property is located in Radon Zone 3.

Zone 3 areas have a predicted average indoor radon screening level less than 2 pCi/L (picocuries per liter).

## Database Radius Summary

### **FEDERAL LISTING**

<b>Acronym</b>	<b>Search Radius (miles)</b>	<b>TP/AP (0 - 0.02)</b>	<b>1/8 Mile (&gt; TP/AP)</b>	<b>1/4 Mile (&gt; 1/8)</b>	<b>1/2 Mile (&gt; 1/4)</b>	<b>1 Mile (&gt; 1/2)</b>	<b>&gt; 1 Mile</b>	<b>Total</b>
NWIS	0.5000	1	1	0	0	NS	NS	2
<b>SUB-TOTAL</b>		1	1	0	0	0	0	2

## Database Radius Summary

### STATE (OK) LISTING

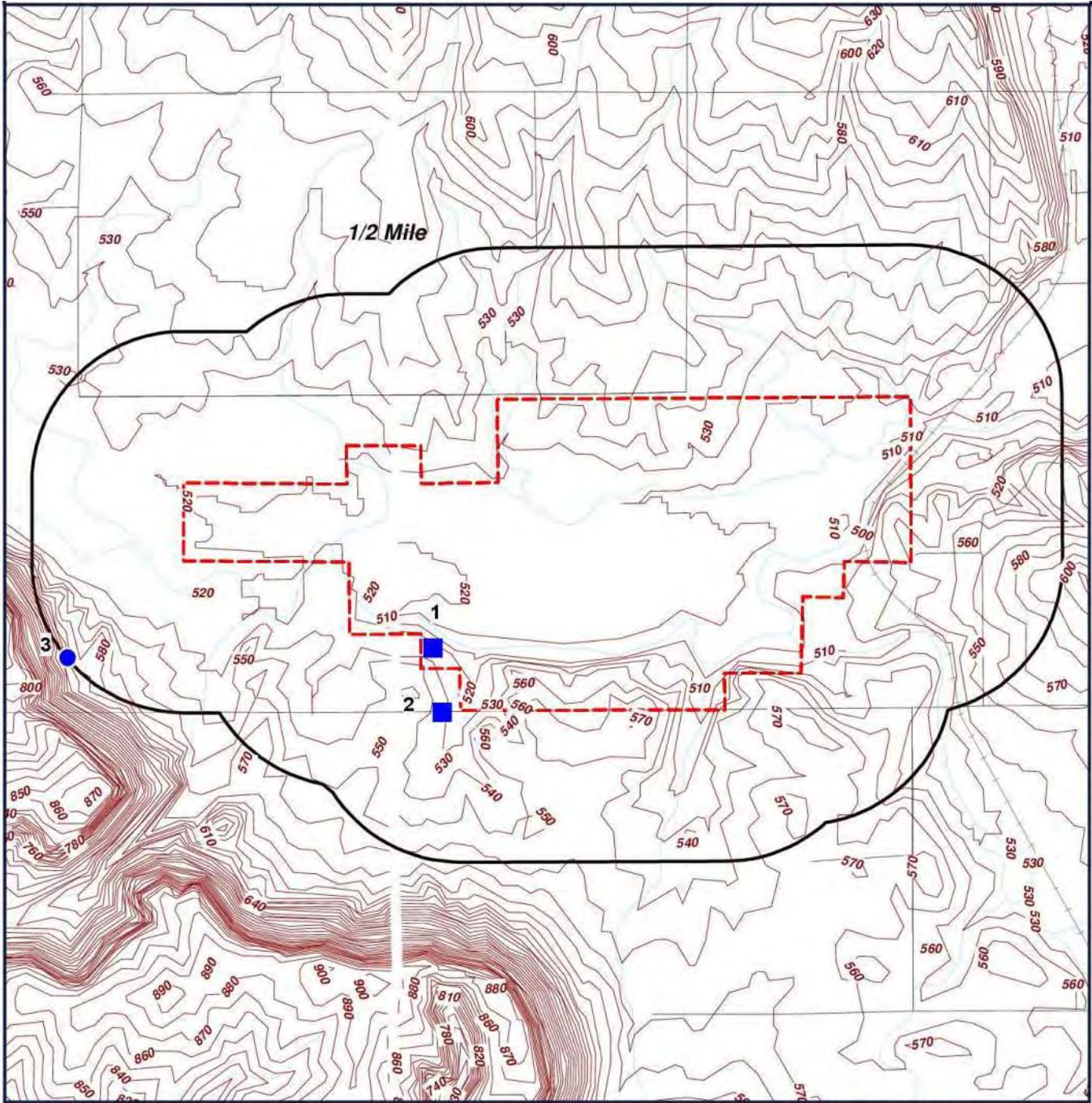
Acronym	Search Radius (miles)	TP/AP (0 - 0.02)	1/8 Mile (> TP/AP)	1/4 Mile (> 1/8)	1/2 Mile (> 1/4)	1 Mile (> 1/2)	> 1 Mile	Total
WRB	0.5000	0	0	0	1	NS	NS	1
SUB-TOTAL		0	0	0	1	0	0	1
TOTAL		1	1	0	1	0	0	3

**NOTES:**

NS = NOT SEARCHED

TP/AP = TARGET PROPERTY/ADJACENT PROPERTY

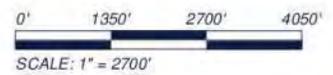
# Waterwell Map



- Target Property (TP)
- NWIS
- WRB

**Dirty Creek**  
**McIntosh, Oklahoma**  
**74469**

CONTOUR LINES REPRESENTED IN FEET



[Click here to access Satellite view](#)

## Located Sites Summary

Map ID#	Database Name	Site ID#	Distance From Site	Site Name	Address	PAGE #
<a href="#">1</a>	NWIS	00683299	TP	12N-18E-02 CCD 1		<a href="#">6</a>
<a href="#">2</a>	NWIS	00683293	0.06 mi. W (317 ft.)	12N-18E-02 CDD 1		<a href="#">8</a>
<a href="#">3</a>	WRB	14350	0.493 mi. SW (2603 ft.)		MCINTOSH COUNTY, CHECOTAH, OK 74426	<a href="#">10</a>

**United States Geological Survey National Water Information System  
(NWIS)**

**MAP ID# 1**

Distance from Property: 0 mi. (0 ft.) X

GEOSEARCH ID: **00683299**  
REPORTING AGENCY: **US GEOLOGICAL SURVEY**  
SITE IDENTIFICATION NUMBER: **353223095222201**  
STATION NAME: **12N-18E-02 CCD 1**  
SITE TYPE: **WELL**  
LATITUDE: **35.539820570**  
LONGITUDE: **-95.373026900**  
DISTRICT CODE: **40**  
STATE CODE: **40**  
COUNTY CODE: **091**  
COUNTRY CODE: **US**  
LAND NET LOCATION DESCRIPTION: **SESWSWS02 T**  
NAME OF LOCATION MAP: **KEEFETON**  
SCALE OF LOCATION MAP: **24000**  
ALTITUDE OF GAGE/LAND SURFACE: **530**  
METHOD OF ALTITUDE DETERMINED: **INTERPOLATED FROM TOPOGRAPHIC MAP**  
ALTITUDE ACCURACY: **5**  
ALTITUDE DATUM: **NGVD29**  
HYDROLOGIC UNIT CODE: **11110102**  
DRAINAGE BASIN CODE: **NOT REPORTED**  
TOPOGRAPHIC SETTING CODE: **NOT REPORTED**  
DATE OF FIRST CONSTRUCTION: **NOT REPORTED**  
DATE SITE ESTABLISHED OR INVENTORIED: **NOT REPORTED**  
DRAINAGE AREA: **NOT REPORTED**  
CONTRIBUTING DRAINAGE AREA: **NOT REPORTED**  
MEAN GREENWICH TIME OFFSET: **CST**  
LOCAL STANDARD TIME FLAG: **Y**  
DATA RELIABILITY: **DATA HAVE BEEN CHECKED BY THE REPORTING AGENCY**  
LOCAL AQUIFER: **MCALESTER SHALE**  
LOCAL AQUIFER TYPE CODE: **NOT REPORTED**  
NATIONAL AQUIFER CODE: **N9999OTHER**  
WELL DEPTH: **36.0 FEET**  
HOLE DEPTH: **NOT REPORTED**  
SOURCE OF DEPTH DATA: **NOT REPORTED**  
PROJECT NUMBER: **NOT REPORTED**  
REAL-TIME DATA FLAG: **0**  
PEAK-STREAMFLOW DATA BEGIN DATE: **--**  
PEAK-STREAMFLOW DATA END DATE: **--**  
PEAK-STREAMFLOW DATA COUNT: **0**  
WATER-QUALITY DATA BEGIN DATE: **--**  
WATER-QUALITY DATA END DATE: **1966-12-01**  
WATER-QUALITY DATA COUNT: **0**  
FIELD WATER-LEVEL MEASUREMENTS BEGIN DATE: **1966-12-01**  
FIELD WATER-LEVEL MEASUREMENTS END DATE: **1966-12-01**

**United States Geological Survey National Water Information System  
(NWIS)**

FIELD WATER-LEVEL MEASUREMENTS COUNT: 1

SITE-VISIT DATA BEGIN DATE: --

SITE-VISIT DATA END DATE: --

SITE-VISIT DATA COUNT: 0

---

[Back to Report Summary](#)

**United States Geological Survey National Water Information System  
(NWIS)**

**MAP ID# 2**

Distance from Property: 0.06 mi. (317 ft.) W

GEOSEARCH ID: **00683293**  
REPORTING AGENCY: **US GEOLOGICAL SURVEY**  
SITE IDENTIFICATION NUMBER: **353212095222001**  
STATION NAME: **12N-18E-02 CDD 1**  
SITE TYPE: **WELL**  
LATITUDE: **35.536765000**  
LONGITUDE: **-95.372471400**  
DISTRICT CODE: **40**  
STATE CODE: **40**  
COUNTY CODE: **091**  
COUNTRY CODE: **US**  
LAND NET LOCATION DESCRIPTION: **SESESWS02 T**  
NAME OF LOCATION MAP: **KEEFETON**  
SCALE OF LOCATION MAP: **62500**  
ALTITUDE OF GAGE/LAND SURFACE: **540**  
METHOD OF ALTITUDE DETERMINED: **INTERPOLATED FROM TOPOGRAPHIC MAP**  
ALTITUDE ACCURACY: **10**  
ALTITUDE DATUM: **NGVD29**  
HYDROLOGIC UNIT CODE: **11110102**  
DRAINAGE BASIN CODE: **NOT REPORTED**  
TOPOGRAPHIC SETTING CODE: **S**  
DATE OF FIRST CONSTRUCTION: **1955**  
DATE SITE ESTABLISHED OR INVENTORIED: **19780718**  
DRAINAGE AREA: **NOT REPORTED**  
CONTRIBUTING DRAINAGE AREA: **NOT REPORTED**  
MEAN GREENWICH TIME OFFSET: **CST**  
LOCAL STANDARD TIME FLAG: **Y**  
DATA RELIABILITY: **DATA HAVE BEEN CHECKED BY THE REPORTING AGENCY**  
LOCAL AQUIFER: **MCALESTER SHALE**  
LOCAL AQUIFER TYPE CODE: **NOT REPORTED**  
NATIONAL AQUIFER CODE: **N9999OTHER**  
WELL DEPTH: **50.0 FEET**  
HOLE DEPTH: **NOT REPORTED**  
SOURCE OF DEPTH DATA: **NOT REPORTED**  
PROJECT NUMBER: **464004200**  
REAL-TIME DATA FLAG: **0**  
PEAK-STREAMFLOW DATA BEGIN DATE: **--**  
PEAK-STREAMFLOW DATA END DATE: **--**  
PEAK-STREAMFLOW DATA COUNT: **0**  
WATER-QUALITY DATA BEGIN DATE: **--**  
WATER-QUALITY DATA END DATE: **1978-07-18**  
WATER-QUALITY DATA COUNT: **0**  
FIELD WATER-LEVEL MEASUREMENTS BEGIN DATE: **1978-07-18**  
FIELD WATER-LEVEL MEASUREMENTS END DATE: **1978-07-18**

**United States Geological Survey National Water Information System  
(NWIS)**

FIELD WATER-LEVEL MEASUREMENTS COUNT: 1

SITE-VISIT DATA BEGIN DATE: --

SITE-VISIT DATA END DATE: --

SITE-VISIT DATA COUNT: 0

---

[Back to Report Summary](#)

## Oklahoma Water Wells (WRB)

**MAP ID# 3**

Distance from Property: 0.493 mi. (2,603 ft.) SW

WELL ID: 14350

OWNER'S NAME: BILL WOODSIDE

WELL LOCATION: MCINTOSH COUNTY

CHECOTAH, OK 74426

WELL\_TYPE: GROUNDWATER WELL

CONSTRUCTION DATE: 08/07/84'

DEPTH DRILLED: 40.000000000

STATIC LEVEL: 16.000000000

WATER USAGE: DOMESTIC

LONGITUDE: -95.394414000

LATITUDE: 35.539462000

COUNTY: MCINTOSH

SITE LINK: [Oklahoma Water Resources Board](#)

---

[Back to Report Summary](#)

## ***Environmental Records Definitions - FEDERAL***

**NWIS**

United States Geological Survey National Water Information System

VERSION DATE: 12/14/16

This USGS National Water Information System database only includes groundwater wells. The USGS defines this well type as: A hole or shaft constructed in the earth intended to be used to locate, sample, or develop groundwater, oil, gas, or some other subsurface material. The diameter of a well is typically much smaller than the depth. Wells are also used to artificially recharge groundwater or to pressurize oil and gas production zones. Additional information about specific kinds of wells should be recorded under the secondary site types or the Use of Site field. Underground waste-disposal wells should be classified as waste-injection wells.

## ***Environmental Records Definitions - STATE (OK)***

**WRB**

Oklahoma Water Wells

VERSION DATE: 02/02/18

The well locations depicted in this GIS dataset are those recorded with the Oklahoma Water Resources Board on the Multi-Purpose Well Completion Reports filed by licensed well drillers for each new well constructed. Most locations have not been field verified; however, in a few cases, the coordinates of the well location were determined by using a global positioning system (GPS), which would provide a more accurate point location.

## 16.5 Interview Documentation

## ASTM E1527-13 USER QUESTIONNAIRE

When the "user" (the party for whom the assessment is being prepared) of the Phase I is required to help the environmental professional identify recognized environmental conditions at the property, a "User Questionnaire" is completed by the user to help gather information that may identify recognized environmental conditions at the property.

We ask that you answer the six questions below to the best of your knowledge. We understand that, in some circumstances, you may have little or no information. Still, we encourage you to complete and return the questionnaire as soon as possible. This will allow us to reflect the fact that the Questionnaire was completed when we issue our report as is required. Completion of the assessment to the new standard, when conducted in connection with the asset purchase of a real property, may entitle the user to certain federal liability protections that result from conducting "All Appropriate Inquiries" into the previous ownership and uses of a property.

On the second page of this form is a list of documentation. The E1527-13 Standard requires that the User will ensure that the consultant is made aware that any of these materials exist for a site, and if so, that these documents be provided for the consultant's review. Please indicate whether any of these documents are available, and ensure that Heithaus Engineering & Assoc. Inc. will either receive copies or be provided an opportunity to review the relevant materials.

We appreciate your assistance. If you have any questions, feel free to contact us.

1. Are you aware of any environmental cleanup liens against the property that are filed or recorded under federal, tribal, state or local law? *No*
2. Are you aware of any Activity and Use Limitations (AULs), such as engineering controls, land use restrictions or institutional controls that are in place at the site and/or have been filed or recorded in a registry under federal, tribal, state or local law? *No*
3. As the user of this ESA do you have any specialized knowledge or experience related to the property or nearby properties? For example, are you involved in the same line of business as the current or former occupants of the property or an adjoining property so that you would have specialized knowledge of the chemicals and processes used by this type of business? *No*
4. Does the purchase price/loan amount for this property reasonably reflect the fair market value of the property? If you conclude that there is a difference, have you considered whether the lower purchase price is because contamination is known or believed to be present at the property?  
*Purchase Price is Consider Fair Market Value*
5. Are you aware of commonly known or reasonably ascertainable information about the property that would help the environmental professional to identify conditions indicative of releases or threatened releases? For example, as user, (a.) Do you know the past uses of the property? (b.) Do you know of specific chemicals that are present or once were present at the property? (c.) Do you know of spills or other chemical releases that have taken place at the property? (d.) Do you know of any environmental cleanups that have taken place at the property?  
*a.) We believe past uses are cattle production. b) No c.) No d.) No*
6. As the user of this ESA, based on your knowledge and experience related to the property are there any obvious indicators that point to the presence or likely presence of contamination at the property?  
*No*

ASTM E1527-13 USER QUESTIONNAIRE

As part of this study, which of the following are you providing?

- 1. Previous environmental site assessment reports  Yes  No
- 2. Environmental compliance audit reports  Yes  No
- 3. Environmental permits (including but not limited to solid waste disposal permits, hazardous waste disposal permits, wastewater permits, NPDES permits, underground injection permits)  Yes  No
- 4. Registrations for underground and aboveground storage tanks  Yes  No
- 5. Registrations for underground injection systems  Yes  No
- 6. Material safety data sheets  Yes  No
- 7. Community Right-to-Know plan  Yes  No
- 8. Safety plans; preparedness and prevention plans; spill prevention, countermeasure, and control plans; etc.  Yes  No
- 9. Reports regarding hydrogeologic conditions on the property or surrounding area  Yes  No
- 10. Notices or other correspondence from any government agency relating to past or current violations of environmental laws with respect to the property or relating to environmental liens encumbering the property  Yes  No
- 11. Hazardous waste generator notices or reports  Yes  No
- 12. Geotechnical studies  Yes  No
- 13. Risk assessments  Yes  No
- 14. Recorded Activity and Use Limitations (AULs).  Yes  No

Please contact us if you have any questions regarding these ASTM requirements.

**Please return the completed document to Heithaus Engineering & Associates, Inc. via fax at (417) 887-1940 or email to hei@heiweb.com.**

Completed by:

Michael D. Bird

Signature:

Michael D. Bird

Title:

Manager

Company:

AE Land & Timber

Relationship to site  
(i.e. lender, purchaser, owner):

owner

Date:

5/4/18



# Heithaus Engineering & Associates, Inc.

Consulting Engineering & Registered Land Surveying – Since 1979

535 W. Battlefield Rd. Springfield, MO 65807  
 (417) 887-3238 Fax (417) 887-1940

E-mail: HEI@heiweb.com  
 www.heiweb.com

## ENVIRONMENTAL SCREENING QUESTIONNAIRE

Dirty Creek Phase 1 ESA -  
 questionnaires from 2016  
 report included for reference.

### 1. GENERAL INFORMATION

- 1.1 Site name: Valley View Lease Property
- 1.2 Site address: West of State Highway 64 and South of County Road E1010N McIntosh County, Oklahoma
- 1.3 Contact person (name, position, telephone, No, years of affiliation): \_\_\_\_\_  
 \* Leon Greb, Jack Kelly, Lawrence Eugene Speck, Judith Kay Wilson (See comments below)  
 Per my conversations with the neighbors noted above, the responses are summarized below:

### 2. SITE HISTORY

- 2.1 Do or did you own the land or lease the subject property?  Own  Lease  N/A
- 2.2 Are you aware of any activities on or near the subject property which may have had a negative environmental impact on said property?  Yes  No  
 If Yes, please explain: \_\_\_\_\_
- 2.3 Are you aware of any nearby surface water bodies (rivers, wetlands)  Yes  No  
 If Yes, please explain: Dirty Creek, Forested Wetlands and marshy wetlands
- 2.4 Describe the previous use(s) of the land. Farming and cattle raising

### 3 STORAGE OF RAW MATERIALS

- 3.1 Have any of the following been stored and/or used on the site either now or in the past:

Item	Yes / No	Item	Yes / No
Petrol, diesel & oils	Unknown	Paints	Unknown
Explosives	Unknown	Solvents	Unknown
Other hazardous chemicals	Unknown	Acids	Unknown

- 3.2 Please list the **major** raw materials and their type of storage location.  
Unknown

- 3.3 Provide details of underground and above ground storage tanks. Unknown

Underground tanks	Tank No.	Tank No.	Tank No.
Location			
Contents			
Volume (ft <sup>3</sup> )			
Tank age			
When last tested			

Above ground tanks	Tank No.	Tank No.	Tank No.
Location			
Contents			
Volume (ft <sup>3</sup> )			
Tank age			
When last tested			

**4. WATER & WASTE MANAGEMENT**

4.1 Describe wastewater sources (including septic tanks, lagoons, lift stations, canteens/toilet blocks, process water, cooling water, stormwater etc) Unknown

4.2 Where does this water discharge to (sewers, surface water, etc)? N/A

4.3 Please list all processes which generate waste (solid, liquid, hazardous, non-hazardous): N/A

Process	Waste type	Volume (ft <sup>3</sup> )	Storage area	Disposal method

4.4 Has waste been disposed of on-site (past or present)?  Yes  No  Unknown  
If Yes, please explain: \_\_\_\_\_

**5. OTHER ENVIRONMENTAL ISSUES**

5.1 Are there any stacks or chimneys?  Yes  No  Unknown  
If Yes, please describe the source and emission point for each. \_\_\_\_\_

5.2 Have asbestos containing materials been used in the construction of site buildings, insulation, tiles etc?  Yes  No  Unknown  
If Yes, please explain: \_\_\_\_\_

**6. PREVIOUS ENVIRONMENTAL ASSESSMENTS**

6.1 Has any previous environmental assessment been carried out at your site?  Yes  No  Unknown  
6.2 If Yes, when and by whom? \_\_\_\_\_

\* Contact Information:

Leon Greb, Route 1 Muskogee, Box 7200, Warren, OK 74469 - lives adjacent to the property for over 40 years and routinely access a well thru the subject property.

Jack Kelly, Route 1, Box 8110, Warren, OK 74469 - lives adjacent to the northeast part of the subject property for over 50 years.

Lawrence Eugene Speck, 3405 Hyde Park, Muskogee, OK 74033 - lives adjacent to the north and northwest portions of the subject property for over 20 years.

Judith Kay Wilson, Pine Hollow Settlement, Rattle Snake Mountain, Muskogee, OK 74033 - lives adjacent the subject property for over 70 years. MS Wilson's father operated the farm when it was in operation.



# Heithaus Engineering & Associates, Inc.

Consulting Engineering & Registered Land Surveying – Since 1979

535 W. Battlefield Rd. Springfield, MO 65807  
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www.heiweb.com

## ENVIRONMENTAL SCREENING QUESTIONNAIRE

Dirty Creek Phase 1 ESA -  
questionnaires from 2016  
report included for reference.

### 1. GENERAL INFORMATION

- 1.1 Site name: Valley View Lease Property
- 1.2 Site address: West of State Highway 64 and South of County Road E1010N McIntosh County, Oklahoma
- 1.3 Contact person (name, position, telephone, No, years of affiliation): Keith Wood for Muriel Wood Family, LLP, (family has owned the property for more than 100 years).

### 2. SITE HISTORY

- 2.1 Do or did you own the land or lease the subject property?  Own  Lease  N/A
- 2.2 Are you aware of any activities on or near the subject property which may have had a negative environmental impact on said property?  Yes  No  
If Yes, please explain: \_\_\_\_\_
- 2.3 Are you aware of any nearby surface water bodies (rivers, wetlands)  Yes  No  
If Yes, please explain: Dirty Creek, Forested Wetlands and marshy wetlands
- 2.4 Describe the previous use(s) of the land. Farming and cattle raising. From the early 1900's until the mid 1970's a farmhouse existed on the northern portion of the property until destroyed by fire.

### 3 STORAGE OF RAW MATERIALS

- 3.1 Have any of the following been stored and/or used on the site either now or in the past:

Item	Yes / No	Item	Yes / No
Petrol, diesel & oils	Yes for farming	Paints	No
Explosives	No	Solvents	No
Other hazardous chemicals	No	Acids	No

- 3.2 Please list the **major** raw materials and their type of storage location.  
Feed and supplies for cattle

- 3.3 Provide details of underground and above ground storage tanks. No

Underground tanks	Tank No.	Tank No.	Tank No.
Location			
Contents			
Volume (ft <sup>3</sup> )			
Tank age			
When last tested			

Above ground tanks	Tank No.	Tank No.	Tank No.
Location			
Contents			
Volume (ft <sup>3</sup> )			
Tank age			
When last tested			

**4. WATER & WASTE MANAGEMENT**

4.1 Describe wastewater sources (including septic tanks, lagoons, lift stations, canteens/toilet blocks, process water, cooling water, stormwater etc) Unknown

4.2 Where does this water discharge to (sewers, surface water, etc)? N/A

4.3 Please list all processes which generate waste (solid, liquid, hazardous, non-hazardous): N/A

Process	Waste type	Volume (ft <sup>3</sup> )	Storage area	Disposal method

4.4 Has waste been disposed of on-site (past or present)?  Yes  No  Unknown  
If Yes, please explain: \_\_\_\_\_

**5. OTHER ENVIRONMENTAL ISSUES**

5.1 Are there any stacks or chimneys?  Yes  No  Unknown  
If Yes, please describe the source and emission point for each. \_\_\_\_\_

5.2 Have asbestos containing materials been used in the construction of site buildings, insulation, tiles etc?  Yes  No  Unknown  
If Yes, please explain: \_\_\_\_\_

**6. PREVIOUS ENVIRONMENTAL ASSESSMENTS**

6.1 Has any previous environmental assessment been carried out at your site?  Yes  No  Unknown  
6.2 If Yes, when and by whom? \_\_\_\_\_

## **16.6 Special Contractual Conditions between User and Environmental Professional**

There were no specific terms or contractual conditions for this assessment.

## 16.7 Qualification(s) of the Environmental Professional

### **Kenneth M. Heithaus, P.E., P.L.S** CEO, Principal Engineer

Mr. Heithaus has over 46 years of experience in the engineering and surveying fields. During the past 39 years he has served as the principal engineer and president of Heithaus Engineering Inc (HEI). Prior to founding HEI he spent 4 years as project engineer for private corporations, 3.5 years as Associate Civil Engineer for the City of Springfield, 1 year as Principal Engineer for a local Springfield Missouri business. While with the City of Springfield in the 1970's he began development of the Public Works detention ordinance as well as upgrading specifications and design criteria.

His expertise includes commercial, industrial, and residential design, project management and project administration of drinking water system and well design, wastewater treatment design, trunk sewer design, street and storm water drainage design. He is also well versed in surveying applications for construction layouts, boundary surveys, construction staking, and construction inspection and supervision.

As the principal engineer and owner, Mr. Heithaus actively participates in the supervision and direction of all company projects. His involvement keeps him abreast of the project's status and engineering needs, while making him available to clients, contractors and government officials.

His early years were spent performing hands-on work in construction and project management. Continuing his career he integrated this experience into the development of Heithaus Engineering & Associates, Inc. In private practice his construction background advanced his natural ability to simplify complex projects reducing project costs. His proficiency in maximizing the value the client can obtain from a project has been noted.

#### **Education**

- B.S. Civil Engineering, University of Missouri, Rolla 1970
- USACE Wetland Delineation Training Program 2011

#### **Registration**

- MO, Professional Engineer
- MO, Professional Land Surveyor
- AR, Professional Engineer
- AR, Professional Land Surveyor
- OK, Professional Engineer
- OK, Professional Land Surveyor
- AZ, Professional Engineer
- FL, Professional Engineer
- KY, Professional Engineer
- IN, Professional Engineer
- NC, Professional Engineer
- OH, Professional Engineer
- TX, Professional Engineer

#### **Professional Memberships**

- American Society of Civil Engineers (ASCE)
- Missouri Society of Professional Engineers (MSPE)
- SAVE Coalition (Structural Assessment & Visual Evaluation)
- Missouri Floodplain & Stormwater Managers Association (MFSMA)
- Missouri Society of Professional Land Surveyors (MSPLS)

## 16.8 Terminology / Definitions

*adjoining properties* - any real property or properties the border of which is contiguous or partially contiguous with that of the property, or that would be contiguous or partially contiguous with that of the property but for a street, road, or other public thoroughfare separating them.

*aerial photographs* - photographs taken from an airplane or helicopter or areas encompassing the property.

*appropriate inquiry* - that inquiry constituting “all appropriate inquiry into the previous ownership and uses of the property consistent with good commercial or customary practice), that will give a party to a commercial real estate transaction the innocent landowner defense to CERCLA liability (42 USC 9601(a) and (B) and 9607(b)(3), assuming compliance with other elements of the defense.

*asbestos* - six naturally occurring fibrous minerals found in certain types of rock formations. Of the six, the minerals chrysotile, amosite and crocidolite have been most commonly used in building products. When mined and processed, asbestos is typically separated into very thin fibers. If inhaled in sufficient quantities, asbestos fibers can cause serious health problems.

*asbestos containing material* - any material or product containing more than 1% asbestos.

*building department records* - those records of the local government in which the property is located indicating permission of the local government to construct, alter, or demolish improvements on the property.

*commercial real estate* - any real property except a dwelling or property with no more than four dwelling units exclusively for residential use (except that a dwelling or property with no more than four dwelling units exclusively for residential use is included in this term when it has a commercial function, as in the building of such dwellings for profit).

*commercial real estate transaction* - a transfer of title to or possession of real property or receipt of a security interest in real property, except that it does not include transfer of title to or possession of real property or the receipt of a security interest in real property with respect to any individual dwelling or building containing fewer than five dwelling units, nor does it include the purchase of a lot or lots to construct a dwelling for occupancy by a purchaser, but a commercial real estate transaction does include real property purchased or leased by persons or entities in the business of building or developing dwelling units.

*Comprehensive Environmental Response, Compensation and Liability Information System* - the list of sites compiled by the EPA that the EPA has investigated or is currently investigating for potential hazardous substance contamination for possible inclusion on the National Priorities List.

*construction debris* - concrete, brick, asphalt, and other such building materials discarded in the construction of a building or other improvement to property.

*contaminated public wells* - public wells used for drinking water that have been designated by a governmental entity as contaminated by toxic substances or as having water unsafe to drink without treatment.

*CORRACTS list* - environmental protection agencies list of treatment, storage, or disposal facilities subject to corrective action under RCRA.

*demolition debris* - concrete, brick, asphalt, and other such building materials discarded in the demolition of a building or other improvement on a property.

*drum* - a container that may be used to store hazardous substances or petroleum products (typically, but not necessarily 55 gal or 208 liters of liquid).

*dry wells* - underground areas where soil has been removed and replaced with pea gravel, coarse sand, or large rocks. Dry wells are used for drainage, to control storm runoff, for collection of spilled liquids, and wastewater disposal.

*due diligence* - process or inquiring into the environmental characteristics of a parcel of commercial real estate or other conditions, usually in connection with a commercial real estate transaction. The degree and kind of due diligence vary for different properties and differing purposes.

*dwelling* - *structure* or portion thereof used for residential habitation.

*environmental audit* - the investigative process to determine if the operations of an existing facility are in compliance with applicable environmental laws and regulations.

*environmental lien* - a charge, security, or encumbrance upon title to a property to secure the payment of a cost, damage, debt, obligation, or duty arising out of response actions, cleanup or other remediation of hazardous or petroleum products upon a property.

*environmental professional* - a person possessing sufficient training and experience necessary to conduct a site reconnaissance, interviews, and other activities in accordance with this practice, and from the information generated by such activities, having the ability to develop opinions and conclusions regarding *recognized environmental conditions* in connection with the *property* in question.

*Environmental site assessment (ESA)* - process by which a person or entity seeks to determine if a particular parcel of real property (including improvements) is subject to recognized environmental conditions.

*ERNS list* - EPA's emergency response notification list of reported CERCLA hazardous substance releases or spills.

*Federal Register* - publication of the United States government published daily containing all proposed and final regulations and some other activities of the federal government.

*fill dirt* - dirt, soil, sand, or other earth, that is obtained off-site, that is used to fill holes or depressions, create mounds, or otherwise artificially change the grade or elevation of real property. It does not include material that is used in limited quantities for normal landscaping activities.

*fire insurance map* - maps produced for private fire insurance companies that indicate uses of properties at specified dates and that encompass the property.

*hazardous substance* - A substance defined as a hazardous substance pursuant to CERCLA 42 USC 9601(14), as interpreted by EPA regulations and the courts.

*hazardous waste* - any hazardous waste having the characteristics identified under or listed pursuant to section 3001 of the solid Waste Disposal Act (42 USC 6921) (but not including any waste the regulation of which under the solid Waste Disposal Act (42 USC 6901 et seq.) has been suspended by Act of Congress).

*hazardous waste/contaminated sites* - sites on which a release has occurred, or is suspected to have occurred, of any hazardous substance, hazardous waste, or petroleum products, and that release or suspected release has been reported to a government entity.

*landfill* - a place, location, tract of land, area, or premises used for the disposal of solid wastes as defined by state solid waste regulations. The term is synonymous with the *solid* waste disposal site and is also known as a garbage dump, trash dump, or similar term.)

*LUST sites* - state lists of leaking underground storage tank sites.

*major occupants* - those tenants, subtenants, or other persons or entities each of which uses at least 40% of the leasable area of the property or any anchor tenant when the property is a shopping center.

*National Priorities List (NPL)* - list compiled by EPA of properties with the highest priority for cleanup, pursuant to EPA's hazard Ranking System.

*obvious* - that which is plain or evident.

*occupants* - those tenants, subtenants, or other persons or entities using the property or a portion of the property.

*other historical sources* - any source or sources that are credible to a reasonable person and that identify past uses of the property.

*owner* - generally the fee owner of record of the property.

*petroleum exclusion* - The exclusion from CERCLA liability provided in 42 USC 9601(14), as interpreted by the courts and EPA: “The term (hazardous substance) does not include petroleum, including crude oil or any fraction thereof which is not otherwise specifically listed or designated as a hazardous substance under subparagraphs (A) through (F) of this paragraph, and the term does not include natural gas, natural gas liquids, liquefied natural gas, or synthetic gas usable for fuel (or mixtures of natural gas and such synthetic gas.)”

*petroleum products* - those substances included within the meaning of the petroleum exclusion to CERCLA, 42 USC 9601(14), as interpreted by the courts and EPA.

*physical setting sources* - sources that provide information about the geologic, hydro geologic, hydrologic, or topographic characteristics of a property.

*pits, ponds, or lagoons*, - man-made or natural depressions in a ground surface that are likely to hold liquids or sludge containing hazardous substances or petroleum products.

*practically reviewable* - information that is practically reviewable means that the information is provided by the source in a manner and in a form that, upon examination, yields information relevant to the property without the need for extraordinary analysis of irrelevant data.

*property* - the real property that is the subject of the environmental site assessment described in this practice. Real property includes buildings and other fixtures and improvements located on the property and affixed to the land.

*property tax files* - the files kept for property tax purposes by the local jurisdiction where the property is located and includes records of past ownership, appraisals, maps, sketches, photos, or other information that is reasonably ascertainable and pertaining to the property.

*publicly available* - information that is publicly available means that the source of the information allows access to the information by anyone upon request.

*RCRA generators* - those persons or entities that generate hazardous wastes, as defined and regulated by RCRA.

*RCRA TSD facilities* - those facilities on which treatment, storage, and/or disposal of hazardous wastes takes place, as defined and regulated by RCRA.

*RCRA TSD facilities list* - list kept by EPA of those facilities on which treatment, storage, and/or disposal of hazardous wastes takes place, as defined and regulated by RCRA.

*reasonably ascertainable* - information that is (1) publicly available, (2) obtainable from its source within reasonable time and cost constraints, and (3) practically review able.

*recognized environmental conditions* - the presence or likely presence of any hazardous substances or petroleum products on a property under conditions that indicate an existing release, a past release, or a material threat of a release of any hazardous substances or petroleum products into structures on the property or into the ground, groundwater, or surface water of the property. The term includes hazardous substances or petroleum products even under conditions in compliance with laws. The term is not intended to include *de minimis* conditions that generally do not present a material risk of harm to public health or the environment and generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies.

*recorded land title records* - records of fee ownership, leases, land contracts, easements, liens, and other encumbrances on or of the property recorded in the place where land title records are, by law or custom, recorded for the local jurisdiction in which the property is located.

*report* - the written report prepared by the environmental professional and constituting part of a "Phase I Environmental Site Assessment," as required by this practice.

*site reconnaissance* - the site reconnaissance includes, but is not limited to, the site visit done in connection with such a Phase I Environmental Site Assessment.

*site visit* - the visit to the property during which observations are made constituting the site reconnaissance

*solid waste disposal site* - (See landfill)

*solvent* - chemical compound that is capable of dissolving another substance and may itself be a hazardous substance.

*state registered USTs* - state lists of underground storage tanks.

*standard historical sources* - those sources of information about the history or uses of property.

*standard physical setting source* - a current USGS 7.5-minute topographic map (if any showing the area on which the property is located).

*sump* - a pit, cistern, cesspool, or similar receptacle where liquids drain, collect, or are stored.

*TSD facility* - treatment, storage, or disposal facility.

*underground storage tank (UST)* - any tank, including underground piping connected to the tank, that is or has been used to contain hazardous substances or petroleum products and the volume of which is 10% or more beneath the surface of the ground.

*USGS 7.5 Minute Topographic Map* - the map available from or produced by the United States Geological Survey, entitled "USGS 7.5 Minute Topographic Map," and showing the property.

*visually and/or physically observed* - during a site visit, this term means observations made by vision while waling through a property and the structures located on it and observations made by the sense of smell, particularly observations made by the sense of smell, particularly observations of noxious or foul odors.

*wastewater* - water that (1) is or has been used in an industrial or manufacturing process, (2) conveys or has conveyed sewage, or (3) is directly related to manufacturing, processing, or raw materials storage areas at an industrial plant. Wastewater does not include water originating on or passing through or adjacent to a site, such as storm water flows, that has not been used in industrial or manufacturing processes, has not been combined with sewage, or is not directly related to manufacturing, processing or raw materials storage areas at an industrial plant.

*zoning/land use records* - those records of the local government in which the property is located indicating uses permitted by the local government in particular zoned within its jurisdiction.