Wetland and Waterway Investigation

Fair Oaks Ranch Tract 1
Robson Companies
Wagoner County, Oklahoma

Prepared for: KLH Environmental and Geological Consulting
3309 West Gary Street
Broken Arrow, Oklahoma 74012

June 2020

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Assessment Site:

Approximately 1,200 Acres
Proposed Industrial/Commercial Development Wagoner County, Oklahoma

Sections 3 and 4 Township 19 North Range 15 East

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DISCLAIMER

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1.0 Assessment Area Description

Based on project site information provided by KLH, a wetland/waterway investigation was performed by BEACON Environmental Assistance Corporation (BEACON) personnel for the 1,200-acre (approximate) parcel of land in Wagoner county known as the Fair Oaks Ranch Tract 1. Located in Appendix A are USGS 7.5-minute series topographic map and an aerial map exhibiting the location of the project site area.

The purpose of the investigation was to identify surface water features on the subject property. This investigation was conducted in anticipation that some of the waters identified may be considered jurisdictional under section 404 of the *Clean Water Act (CWA*), and future projects planned for the surject area may impact those waters. If the identified areas are expected to be disturbed, authorization from the U.S. Army Corps of Engineers (USACE) may be required prior to construction.

Field methodologies were executed by a trained BEACON wetlands specialist in accordance with the 1987 USACE Wetlands Delineation Manual (Manual) and the Midwest Regional Supplement. In addition to the visual assessment, this evaluation was completed based on comprehensive data acquired from the following resources:

- Aerial photographs & topographic maps
- National Wetland Inventory (NWI) maps
- Natural Resources Conservation Service (NRCS) website for Hydric Soil Descriptions
- United States Department of Agriculture (USDA) Web Soil Survey
- EPA Waters GeoViewer Mapper

By definition, wetlands are a subset of “waters of the United States” and thus subject to Section 404 of the CWA. The term “waters of the United States” has a broad meaning and incorporates both deep-water aquatic habitats and special aquatic sites, including wetlands (*Federal Register* 1982), as follows:

a. The territorial seas with respect to the discharge of fill material.

b. Coastal and inland waters, lakes, rivers, and streams that are navigable waters of the United States, including their adjacent wetlands.
c. Tributaries to navigable waters of the United States, including adjacent wetlands.
d. Interstate waters and their tributaries, including adjacent wetlands.
e. All other waters of the United States not identified above, such as isolated wetlands and lakes, intermittent streams, prairie potholes, and other waters that are not a part of a tributary system to interstate waters or navigable waters of the United States, the degradation or destruction of which could affect interstate commerce.

Potential "waters of the United States" other than wetlands (hereinafter referred to as "waterways") include, but are not limited to, unvegetated ephemeral pools, lakes, and perennial, intermittent, and ephemeral stream channels that consist of navigable waters, tributaries to navigable waters, or waters that the destruction or degradation of which could affect or impact navigable waters.

1.1 Location of Assessed Area

The area assessed is the majority of two (2) sections of land, Sections 3 and 4 Township 19 North Range 15 East in Wagoner County, Oklahoma. This parcel is bordered on the west by East 11th Street, on the north by Admiral Avenue, and on the East by Midway Road.

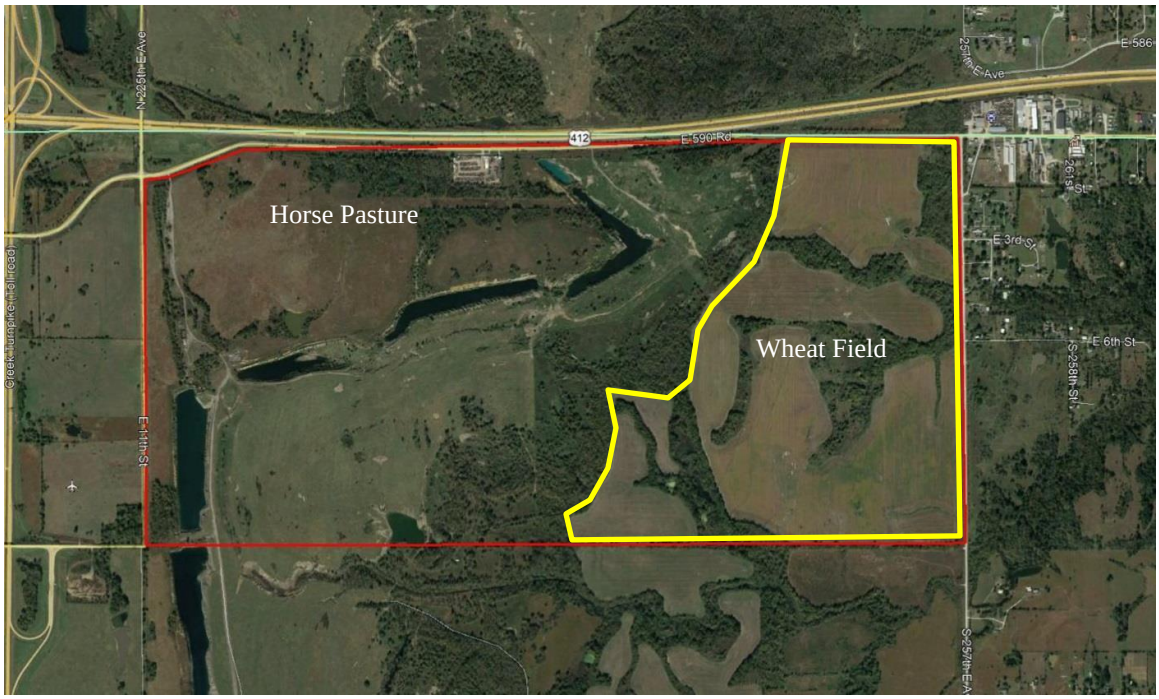
Small portions of Section 4 along the north section line were excluded from this assessment, as they are not contiguous with the rest of the section. These are portions that are on the north side of Admiral Avenue, and the small parcel that is presently occupied by a car scrap yard.

The area would be generally described as located in the northeast quadrant of the Tulsa, Oklahoma metropolitan area. The nearest major intersection would be the intersection of State Highway 412, Interstate 44, and Creek Turnpike. This intersection is near the northwest corner of the assessed area.

1.2 Current Use of Area

No currently in use developments such as homes, barns, buildings, or other structures were noted within the assessed area. Much of the area is used for pasture for housing horses, with what appears to the be about 1/3 of section 3 and the entirety of Section 4 devoted to this purpose. The remaining portion of Section 3 is used for crop production, currently in winter wheat production. Figure 1 depicts the areas of used as described.

Figure 1.



1.3 Past Use of Area

Based on information from KLH regarding past use of the property, and USGS Topographical maps, at least a portion (approximately 1/3) of the assessed area was once used for mining operations. Reportedly, initially the product mined was coal, then at a later time, limestone. Some of the area used in the mining has been reclaimed, by being leveled out and revegetated. A portion also appears to not have been reclaimed after mining, with large piles of tailings creating ridges, pits, and other unnatural features. These areas are largely confined to the wooded area along the center of the assessed

area. It is unclear to BEACON if mining activities involving excavation occurred in the area where wheat is in production currently.

No current mining activities were observed during BEACON's inspection. No equipment, facilities, or other indications of active mining were noted. No recent excavations were apparent on the property.

Figure 2 shows the area that was used for mining activities involving extensive soil disturbance, as BEACON understands the extent to have been, more or less.

Figure 2.

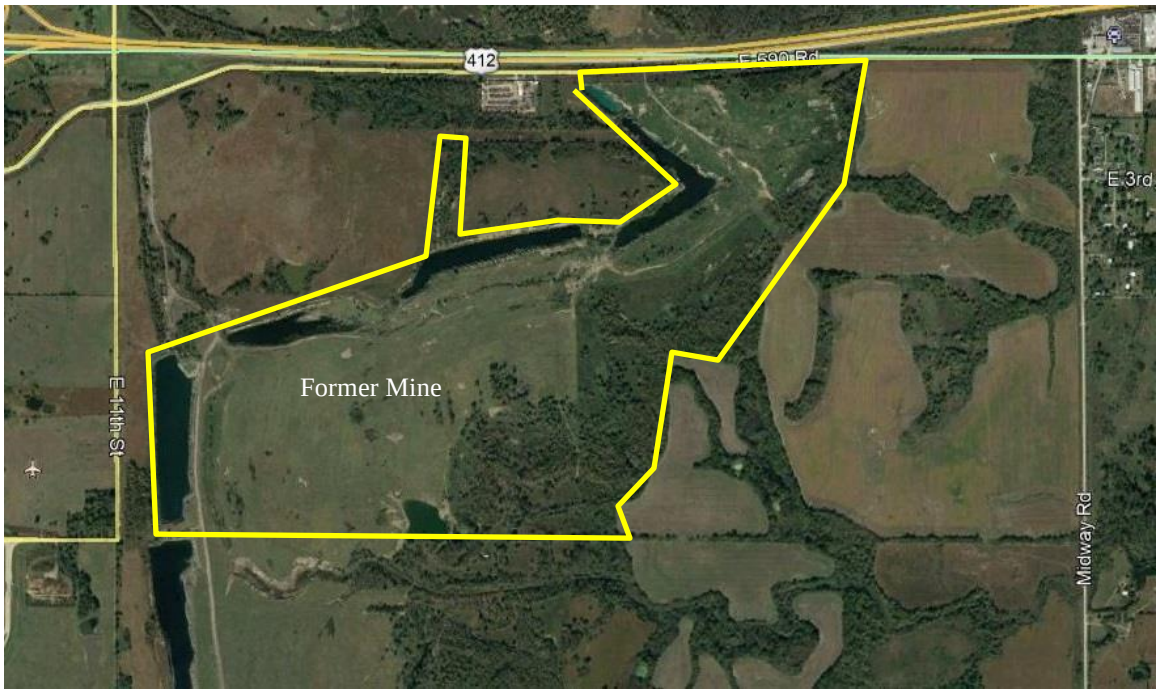
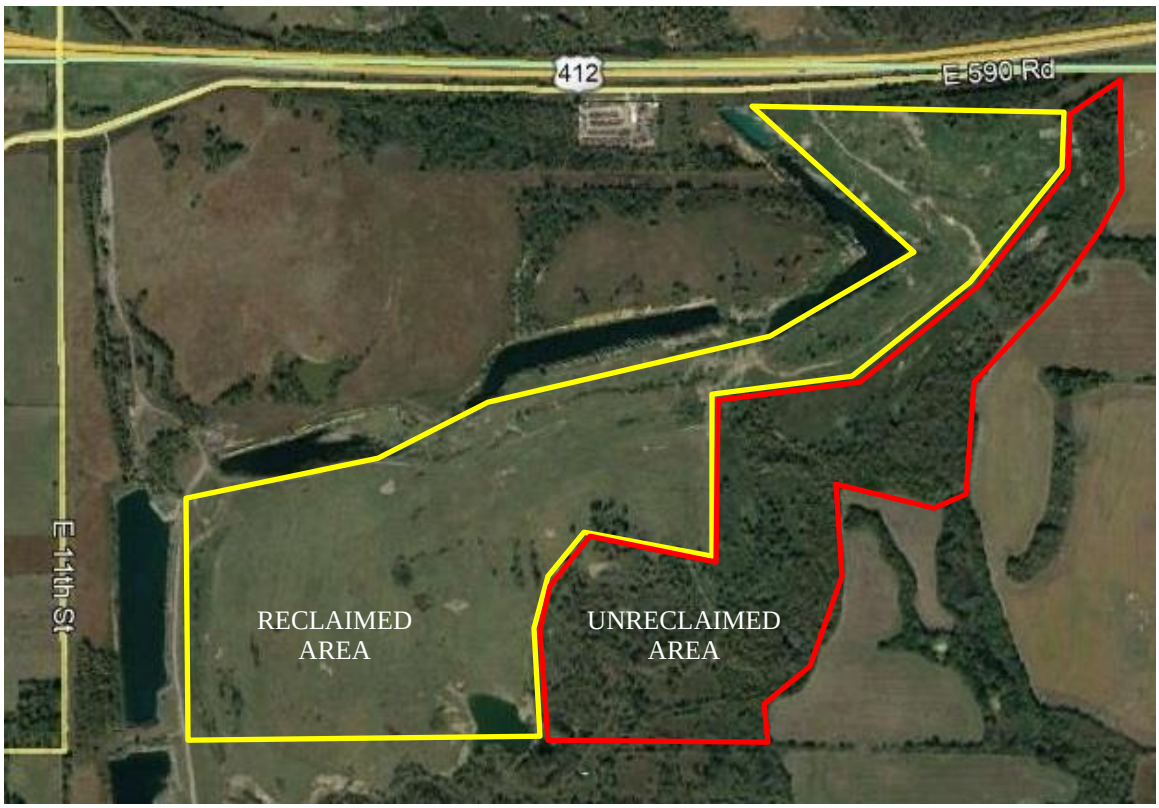


Figure 3 shows the mining areas defined as reclaimed an unreclaimed, as referred to throughout this report.

Figure 3.



Within the areas that were once used for mining but reclaimed, it is assumed that the operations involved digging a strip pit, piling the tailings to the sides, and when fully mined, moving the equipment over, excavating, and piling the tailings in the previous excavation. It also assumed that the general method of reclamation was pushing these tailing piles over to level the landscape, and re-vegetated. It is not known to BEACON if fill dirt from other locales was used to reclaim the property; it is assumed that within the mined areas soils are not in a natural occurring condition.

As shown on the maps included in Appendix A, it appears that several large mine pits (four in total) remain on the property, and have filled with water, creating waterbodies. These mine pits are identified separately from the ponds found on the property.

Two (2) electrical transmission lines traverse the property. One crosses the northern half of both Section 3 and 4 in an east/west fashion, while the other runs generally northwest

to southeast across Section 3. These Rights of Way are maintained as clear and free of heavy vegetation.

2.0 Technical Guidance

The following is technical guidance provided within the Manual:

The interaction of hydrology, vegetation, and soil results in the development of characteristics unique to wetlands. Therefore, the following technical guideline for wetlands is based on these three parameters, and diagnostic environmental characteristics used in applying the technical guideline are represented by various indicators of these parameters.

Because wetlands may be bordered by both wetter areas (aquatic habitats) and by drier areas (nonwetlands), guidelines are presented for wetlands, deepwater aquatic habitats, and nonwetlands. However, procedures for applying the technical guidelines for deepwater aquatic habitats and nonwetlands are not included in the Manual.

Wetlands

The following definition, diagnostic environmental characteristics, and technical approach comprise a guideline for the identification and delineation of wetlands:

A. *Definition*. The USACE (Federal Register 1982) and the EPA (Federal Register 1980) jointly define wetlands as: Those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas.

B. *Diagnostic environmental characteristics*. Wetlands have the following general diagnostic environmental characteristics:

(1) *Vegetation*. The prevalent vegetation consists of macrophytes that are typically adapted to areas having hydrologic and soil conditions described in **A (Definition)** above. Hydrophytic species, due to morphological, physiological, and/or reproductive adaptations), have the ability to grow, effectively compete, reproduce, and/or persist in anaerobic soil conditions.

(2) *Soil*. Soils are present and have been classified as hydric, or they possess characteristics that are associated with reducing soil conditions.

(3) *Hydrology*. The area is inundated either permanently or periodically at mean water depths <6.6 ft, or the soil is saturated to the surface at some time during the growing season of the prevalent vegetation. The period of inundation or soil saturation varies according to the hydrologic/soil moisture regime and occurs in both tidal and nontidal situations.

C. *Technical approach for the identification and delineation of wetlands*. Except in certain situations defined in the Manual, evidence of a minimum of one positive wetland indicator from each parameter (hydrology, soil, and vegetation) must be found in order to make a positive wetland determination.

Deepwater Aquatic Habitats

The following definition, diagnostic environmental characteristics, and technical approach comprise a guideline for deepwater aquatic habitats:

A. *Definition*. Deepwater aquatic habitats are areas that are permanently inundated at mean annual water depths greater than 6.6 ft or permanently inundated areas less than 6.6 ft in depth that do not support rooted-emergent or woody plant species. Areas less than 6.6 ft mean annual depth that support only submergent aquatic plants are vegetated shallows, not wetlands.

B. *Diagnostic environmental characteristics*. Deepwater aquatic habitats have the following diagnostic environmental characteristics:

(1) *Vegetation*. No rooted-emergent or woody plant species are present in-these permanently inundated areas.

(2) *Soil*. The substrate technically is not defined as a soil if the mean water depth is greater than 6.6 ft. or if it will not support rooted emergent or woody plants.

(3) *Hydrology*. The area is permanently inundated at mean water depths greater than 6.6 ft.

C. *Technical approach for the identification and delineation of deepwater aquatic habitats*. When any one of the diagnostic characteristics identified in **B** above is present, the area is a deepwater aquatic habitat.

Nonwetlands

The following definition, diagnostic environmental characteristics, and technical approach comprise a guideline for the identification and delineation of nonwetlands:

A. *Definition*. Nonwetlands include uplands and lowland areas that are neither deepwater aquatic habitats, wetlands, nor other special aquatic sites. They are seldom or never inundated, or if frequently inundated, they have saturated soils for only brief periods during the growing season, and, if vegetated, they normally support a prevalence of vegetation typically adapted for life only in aerobic soil conditions.

B. *Diagnostic environmental characteristics*. Nonwetlands have the following general diagnostic environmental characteristics

(1) *Vegetation*. The prevalent vegetation consists of plant species that are typically adapted for life only in aerobic soils. These mesophytic and/or xerophytic macrophytes cannot persist in predominantly anaerobic soil conditions. Some species, due to their broad ecological tolerances, occur in both wetlands and nonwetlands.

(2) *Soil*. Soils, when present, are not classified as hydric, and possess characteristics associated with aerobic conditions.

(3) *Hydrology*. Although the soil may be inundated or saturated by surface water or ground water periodically during the growing season of the prevalent vegetation, the average annual duration of inundation or soil

saturation does not preclude the occurrence of plant species typically adapted for life in aerobic soil conditions.

C. *Technical approach for the identification and delineation of nonwetlands*. When any one of the diagnostic characteristics identified in **B** above is present, the area is a nonwetland.

In addition to distinguishing characteristics of wetlands versus non wetlands obtained from the Manual, jurisdictional determinations of waterways and their boundaries are largely dependent on the following parameters:

(1) *Ordinary High-Water Marks (OHWM)*. The presence/absence of an OHWM is considered an indication of whether the waterway conveys water for a sufficient duration of the year to have a significant impact to navigable waters of the United States. Section 404 of the CWA defines the landward limit of jurisdiction as the high tide line in tidal waters and the OHWM as the limit in non-tidal waters. When adjacent wetlands are present, the limit of jurisdiction extends to the limit of the wetland.

(2) Topographic Map Classification. Waterways that are illustrated on topographic maps by the U.S. Geological Survey (USGS) typically signify resources that eventually drain into tributary system to interstate waters or navigable waters of the United States.

(3) *Listing under Federal Register and/or other regulatory publications (i.e., water quality standards)*. Direct tributaries (non-isolated) of listed aquatic resources should fall under the jurisdiction of USACE and other applicable agencies from the standpoint of maintaining water quality in conformance with the CWA.

2.0 Field Survey Description

Potential project details, extent, or location on the assessed area have not been provided to BEACON, rather this investigation was to document the surface water features on the property for evaluation. This investigation was intended to provide a tool for evaluation of potential areas for development. Once a specific location for the project is chosen further details of the features may be needed for consultations, depending on the scope and type of impacts planned.

Prior to mobilizing to the site, BEACON reviewed available National Wetland Inventory (NWI) maps and hydric soil ratings available from the Natural Resources Conservation Service (NRCS) Web Soil Survey. Also reviewed were recent and historical (past 20 years) aerial photography and topographical maps.

BEACON personnel conducted a pedestrian survey of the property to verify the preliminary information as well as to investigate for waters not indicated by the available resources.

The NRCS Soil Survey for Wagoner county was compiled in 1976, with fieldwork being reported as conducted from 1964 to 1971. Due to the reported past history of the property, BEACON did not regard the hydric soil reports or data as definitive of the actual soils or conditions to be encountered during field survey due the past use of the property, but they are reported here for reference to complete the report.

A total of twelve (12) soils were listed for the property and are included in Appendix E. All soils listed for the property had a hydric rating of 0.

Few potential wetlands were identified on the NWI maps; however, BEACON identified numerous areas that warranted review for wetlands. NWI maps are only for estimation purposes; field survey with soil investigations is the most definitive process for determining wetland conditions.

During the field investigation, coal tailings, at different amounts, were found in many of the soil investigations. Coal was noted where ground surface was visible in varying amounts,

it was assumed that amounts of coal remnants found in a certain spot or at a certain depth would depend on how the property was reclaimed. None of these observations would have classified coal tailings as the main, or even a significant component of the soils, or as a restrictive layer.

Wetland data points were taken in locations to determine the extent and components of the location in areas that potentially have wetland conditions. The property is within the area of the Midwest Regional Supplement, more specifically, within the subregion Central Feed Grains and Livestock. Copies of the Wetland Determination Data Forms are found in Appendix D.

Aerial photography of the property was used to identify specific locations that need investigation prior to mobilizing for the field survey. Additional features were identified that warranted investigation and documentation during the field survey, and those features are documented in this report.

Features that were identified for investigation were: potential wetlands, impoundments, and waterways.

Available resources such as topographical maps, EPA Waters GeoViewer data, USGS StreamStats data, did not indicate waterways within the property bounds. However, BEACON identified several waterways on the property via aerial photography and during the field investigation.

Data obtained from the EPA Waters GeoViewer online resource showed that the property has two (2) general drainage areas that feed to separate waterbodies. The majority of the property drains generally to the south, towards Salt Creek. A small portion in the northwest quadrant of the property drains via unnamed tributaries to the Verdigris River. The drainages are listed below.

Receiving Water	Receiving Waterbody ID
Salt Creek	OK121500020270_00
Verdigris River	OK121500020260_00

The property is located in the Lower Verdigris River Watershed, Hydrologic Code Unit 11070105.

4.0 Field Results

4.1 Waterways (WW)

The descriptions for all identified areas are described below with their identifier as illustrated on the detail maps in Appendix A-2.

WW-1 is identified as an ephemeral, unnamed tributary to Impoundment 1.

WW-1 began to the south of Impoundment 1, and its total length is approximately 300 feet. An Ordinary High-Water Mark (OHWM) was present, at 4 feet width for most of the length of the waterbody. WW-1 terminated at Impoundment 1.

Waterway 1 occupies approximately 0.03 acres.

This feature is in the drainage area of the Verdigris River.

WW-2 is identified as a drainage pattern to mine pit 3. This feature begins as shown on the maps in Appendix A-2, on the south edge of one of the electrical transmission ROWs, continuing south, ending at mine pit 3. This feature is approximately 1,100 feet in length. The OWHM of the feature varied along the length, from 5 feet at the north end up to 40 feet at the joining with mine pit.

This feature is identified on the topographical maps as being part of the strip mine activity. Upon inspection by BEACON, this feature appeared to be an isolated remnant of strip mining; showing high ridges along the east and west side of the channel, with the channel being straight. The channel in the feature was approximately 35 feet in width.

This feature appears to be ephemeral in nature, only carrying water in response to rainfall events.

Waterway 2 occupies approximately 0.88 acres.

This feature is in the drainage area of Salt Creek.

WW-3 is an ephemeral swale that feeds into Impoundment 2. No OHWM was observed within this feature. This feature, from its origination to Impoundment 2, is approximately 605 feet in length.

This feature is in the drainage area of Salt Creek.

WW-4 is an ephemeral drainage from Impoundment 2 that joins with WW-5 to continue to mine pit 1. This feature has an OHWM width of 8 feet. WW-4 is approximately 1,580 feet in length.

This feature is in the drainage area of Salt Creek.

WW-5 is an ephemeral drainage that originates on the property and joins into WW-4. This feature has an OHWM of 6 feet, and a length of 980 feet.

This feature is in the drainage area of Salt Creek.

WW-6 is a drainage channel on the property that appears to likely be a former strip mine. No OHWM is present within the feature that is within the assessment area. This feature is along the western boundary of the reclaimed strip mine area, with mining tailings found in exposed areas. Approximately 1,580 linear feet of this feature is on the subject property; it does continue on to Section 9 to the south.

WW-6 flows to the south and contributes water flow to Salt Creek.

WW-7 is an ephemeral drainage that follows the contours of the former strip mine activities. This feature originates on the property and is approximately 1,675 feet in length.

This feature travels down a slope in the un-reclaimed strip mine area, and encounters areas along the way that create ponded areas within the un-reclaimed strip mine area, shown as impoundments 8 and 9 on the maps. The drainage of WW-7 continues down the slope, terminating at impoundment 5.

WW-7 has an intermittent OHWM, with an average width of 4 feet.

This feature is in the drainage area of Salt Creek.

WW-8 is a surface water drainage that is the north ditch of an unmaintained roadbed remnant of the mining activities. This feature flows to the southwest, joining into WW-7. WW-8 has an OHWM of approximately 8 feet and is ephemeral in nature. WW-8 is approximately 1,280 feet in length.

This feature is in the drainage area of Salt Creek.

WW-9 is a surface water drainage that is the south ditch of an unmaintained roadbed remnant of the mining activities. This feature flows to the southwest, terminating at what is identified on the maps as impoundment 6. WW-8 has an OHWM of approximately 8 feet and is ephemeral in nature. This feature is approximately 1,000 feet in length.

This feature is in the drainage area of Salt Creek.

WW-10 is an ephemeral drainage originating on the property, terminating at impoundment 10. This feature has an intermittent OHWM, with a width of 5 feet. WW-10 has a length of approximately 570 feet.

This feature is in the drainage area of Salt Creek.

WW-11 is an intermittent waterway originating on the property, on the slope of the un-reclaimed strip mine. This feature drains in a generally southeasterly direction and has a length of approximately 1,700 feet. An OHWM averaging 8 feet was noted.

WW-11 flows into the large wetland mosaic area indicated on the maps, and the wetland area extends to the boundary of the assessed area.

This feature is in the drainage area of Salt Creek.

WW-12 is an ephemeral feature that originates off the assessed property, entering onto the assessed property at the eastern boundary, passing under Midway Avenue. WW-12 flows generally south within the assessed property, for a total length of approximately 1,510 linear feet. WW-12 exhibited an OHWM of 4 feet. WW-14 exits the property approximately 745 feet south of where it entered the property along Midway Avenue, flowing to the east.

This feature is in the drainage area of Salt Creek.

WW-13 is an ephemeral drainage flowing in a generally easterly direction. WW-13 originates at the eastern base of the slope of the un-reclaimed mine area and passes through wetland 2 on the maps. This feature exits the assessed area along the eastern boundary and continues on. WW-13 exhibited an OHWM of approximately 8 feet along its length. WW-13 has a length of approximately 3,960 feet within the property boundary.

This feature is in the drainage area of Salt Creek.

WW-14 is an ephemeral feature that originates on the assessed property and fades out on the property. The distinguishable channel is approximately 1,310 linear feet and shows an inconsistent OHWM of 2 feet width.

This feature is in the drainage area of Salt Creek

WW-15 is an ephemeral drainage flowing in a northeasterly direction. This feature feeds into impoundment 4 and continues on past the impoundment to the eastern boundary of the property. This feature exhibited an OHWM of 6 feet. The total length of WW-15 within the assessed area was approximately 2,305 linear feet.

This feature is in the drainage area of Salt Creek.

4.2 Wetland Data Points and Investigation

A total of nineteen (19) wetland data points were taken in to document the potential wetlands on the property. These wetland data point locations are depicted on maps in Appendix A-3.

Locations of wetland data points were chosen based on review of available resources, mainly aerial photography. NWI map data did not indicate many of the potential wetlands on the property, but numerous areas indicating inundation/saturation were noted on the aerials. Some of these areas, particularly in the forested, unreclaimed mine area, were determined to be ponded areas. Areas noted during the field inspection that warranted investigation that were not identified by the resource review were also documented.

Wetlands were only found to present at three (3) of the points investigated, Data Points 10, 16, and 19. The remaining data points did not meet all three criteria for being defined as wetlands.

Detailed Wetland Determination Data Forms are included in Appendix C documenting the conditions found at each point.

Wetland Data Point #1 concerns a feature located in the reclaimed strip mine area. This point was for an isolated feature of approximately 0.07 acres.

This feature did not meet the criteria to be defined as a wetland.

Wetland Data Point #2 concerns a feature located in the reclaimed strip mine area. This point was for an isolated feature of approximately 0.24 acres.

This feature did not meet the criteria to be defined as a wetland.

Wetland Data Point #4 concerns a feature located in the reclaimed strip mine area. This point was for an isolated feature of approximately 0.15 acres.

This feature did not meet the criteria to be defined as a wetland.

Wetland Data Point #5 concerns a feature located in the reclaimed strip mine area. This point was for an isolated feature of approximately 0.36 acres.

This feature did not meet the criteria to be defined as a wetland.

Wetland Data Point #6 concerns a feature located in the reclaimed strip mine area. This point was for an isolated feature of approximately 0.36 acres.

This feature did not meet the criteria to be defined as a wetland.

Wetland Data Point #7 concerns a feature located in the reclaimed strip mine area. This point was for an isolated feature of approximately 0.53 acres.

This feature did not meet the criteria to be defined as a wetland.

Wetland Data Point #8 concerns a feature located in the reclaimed strip mine area. This point was for an isolated feature of approximately 0.04 acres.

This feature did not meet the criteria to be defined as a wetland.

Wetland Data Point #9 concerns a feature located in a forested area in the wheat field. This point was for an isolated feature of approximately 0.35 acres.

This feature did not meet the criteria to be defined as a wetland.

Wetland Data Point #10 concerns a feature located on the slope of the un-reclaimed portion of the strip mine area. This point was for an isolated feature of approximately 0.24 acres.

This feature met the criteria of hydrology, hydrophytic vegetation, and hydrology to constitute a wetland. This feature is identified on the maps as Wetland 1.

Wetland Data Point #11 was taken for the low-lying area along WW-4 between Impoundment 2 and mine pit 1.

This area did not meet the criteria to be defined as a wetland.

Wetland Data Point #12 concerns a feature located in the reclaimed strip mine area. This point was for an isolated feature of approximately 0.14 acres.

This feature did not meet the criteria to be defined as a wetland.

Wetland Data Point #12 concerns a feature located in the reclaimed strip mine area. This point was for an isolated feature of approximately 0.14 acres.

This feature did not meet the criteria to be defined as a wetland.

Wetland Data Point #13 was conducted to document the investigation of the low-lying area between mine pits 2 and 3.

This area did not meet the criteria to be defined as a wetland.

Wetland Data Point #14 was conducted to document the investigation of the low-lying area between mine pits 3 and 4.

This area did not meet the criteria to be defined as a wetland.

Wetland Data Point #15 concerns a feature located on the slope of the un-reclaimed portion of the strip mine area. This point was for an isolated feature of approximately 0.17 acres.

This feature did not meet the criteria to be defined as a wetland.

Wetland Data Point #16 concerns a feature located in a forested area in the wheat field, located along the path of WW-13. This point was for a feature of approximately 0.10 acres.

This feature met the criteria of hydrology, hydrophytic vegetation, and hydrology to constitute a wetland. This feature is identified on the maps as Wetland 2.

Wetland Data Point #17 was taken as a sample point to describe soil conditions in what appeared to be the least disturbed area within the wheat field portion of the property.

This area did not meet the criteria to be defined as a wetland.

A wetland occupying approximately 15.9 acres of the subject property was identified in the southwest corner of the assessed property. The assessed area is sloped to drain to this area.

Wetland Data Points #18 and #19 was taken to describe the soils within the large mosaic wetland area identified on the maps as mosaic wetland.

The area delineated on the maps is an initial estimation of the wetland. Data points for precise delineation of the actual bounds of the wetland were not conducted, as it is not clear if this area is planned for development. The area marked on the maps was estimated by visual determination of common conditions with the points.

Data point #18 represents the wetland soil conditions, and Data Point #19 represents the upland border around the wetlands. These wetland areas are fed by WW-11.

The southern boundary of this wetland area on the maps is demarcated by the property boundary. The wetland may extend beyond that assessment area.

In the event this area is chosen for project activities, additional work delineating the actual extent of the wetland may be required to satisfy agency consultations; this delineation was only intended to describe the general conditions of the area.

4.3 Impoundments

A total of eleven (11) impoundments were identified on the assessed property. Many of these impoundments are remnants of the mining activities, lying within the unreclaimed mine area, and following the contours of the tailing piles.

The large surface water bodies that resulted from the large pit mines are described separately in this report.

The described impoundments are shown on the maps in Appendix A-5.

Impoundment 1 is fed by WW 1, and occupies approximately 0.21 acres.

This feature is in the drainage area of the Verdigris River.

Impoundment 2 occupies approximately 2.37 acres. This impoundment outlets via WW 4 to mine pit 1.

This feature is in the drainage area of Salt Creek.

Impoundment 3 occupies approximately 4.25 acres. This impoundment outlets to Salt Creek.

This feature is in the drainage area of Salt Creek.

Impoundment 4 occupies approximately 0.67 acres. This feature appears to be a remnant of the mining activities that has been filled with water.

This feature is in the drainage area of Salt Creek.

Impoundment 5 occupies approximately 0.44 acres. This feature appears to be a remnant of the mining activities that has been filled with water.

This feature is in the drainage area of Salt Creek.

Impoundment 6 occupies approximately 0.65 acres. This feature is fed by WW 9, the south ditch of the abandoned roadbed.

This feature is in the drainage area of Salt Creek.

Impoundment 7 occupies approximately 0.21 acres. No definitive inlet or outlet waterway was identified with this feature.

This feature is in the drainage area of Salt Creek.

Impoundment 8 is located along the flow pattern of WW 7, and is part of the un-reclaimed mine area. This feature occupies approximately 0.53 acres.

This waterbody appears to be a result of the mining activities, the extent of the waterbody follows the mining strips and excavations. A distinct boundary was identified for the waterbody, but it is connected to Impoundment 9 by WW 7.

This feature is in the drainage area of Salt Creek.

Impoundment 9 is located along the flow pattern of WW-7, and the outlet continues on to Impoundment 5. This feature appears to be a result of the excavations associated with the mining activities.

This feature is in the drainage area of Salt Creek.

Impoundment 10 is fed by WW 10, and no outlet from Impoundment 10 was found.

This feature appears to be a result of the excavations associated with the mining activities.

This feature is in the drainage area of Salt Creek.

Impoundment 11 is located along the flow pattern of WW 12. This impoundment occupies approximately 0.50 acres.

The outlet from Impoundment 11 continues on and is identified in this report and on the maps as a continuation of WW 12.

This feature is in the drainage area of Salt Creek.

4.4 Mine Pits

The features described as mine pits on the maps and this report are separated from the impoundments. The sides of these features are near vertical; no areas flat enough to suspect adjacent wetlands were identified. The only identified waterways feeding into the mine pits were WW 2 and WW 4; likewise, no outlets from the mine pits to local waterways were identified. These pits are quite deep, with the surface of the water being estimated to be 30 feet below the surrounding land elevations.

It does not appear that these pits connect to one another, save for times of extreme rainfall, if at all.

5.0 Summary

Numerous waterbodies were identified during the investigation, including wetlands, waterways, and impoundments. Depending on project details, location, etc. the identified features may trigger certain regulatory obligations for permitting of impacts to these features.

This report does not attempt to make a determination of the features for eligibility as jurisdictional waters as defined by the Clean Water Act; that determination is to be made by the relevant USACE office, in this case, the Tulsa USACE Regulatory office.

This report is intended to be a resource for initial planning purposes, for identifying potentially jurisdictional waterbodies. Submittal of this data to USACE as part of a jurisdictional determination package would provide definitive guidance as to what features identified would be subject to USACE jurisdiction and permitting for development plans.

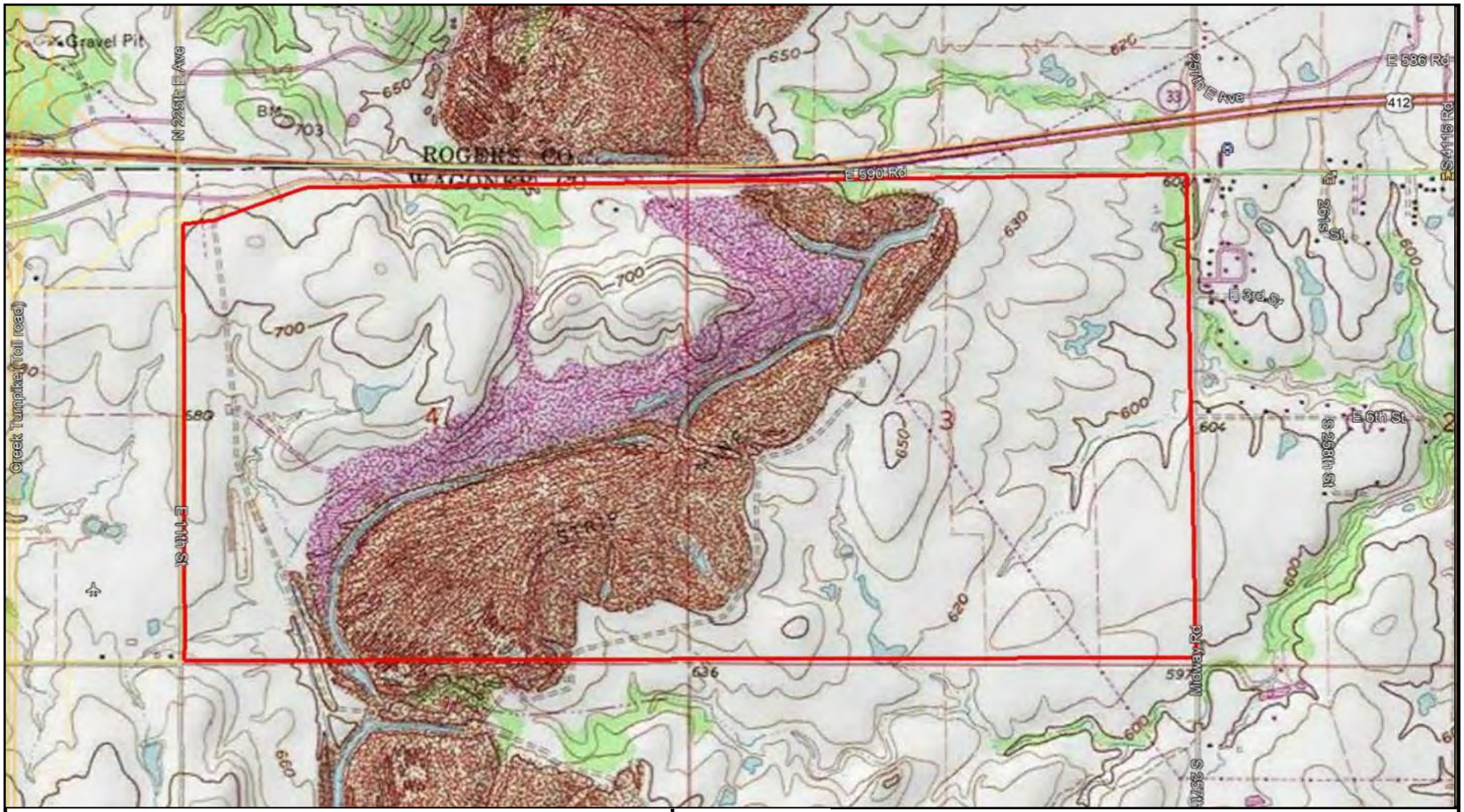
Once project plans are developed, they can be compared to this data, any jurisdictional determinations make by USACE, and needed permits and authorizations can be determined as needed. This report does not provide specific detail data on the waterways regarding area of the waterbody, that data would be calculated once project plans are developed.

Appendix A

Maps

Appendix A-1

Assessment Area



= ASSESSMENT AREA

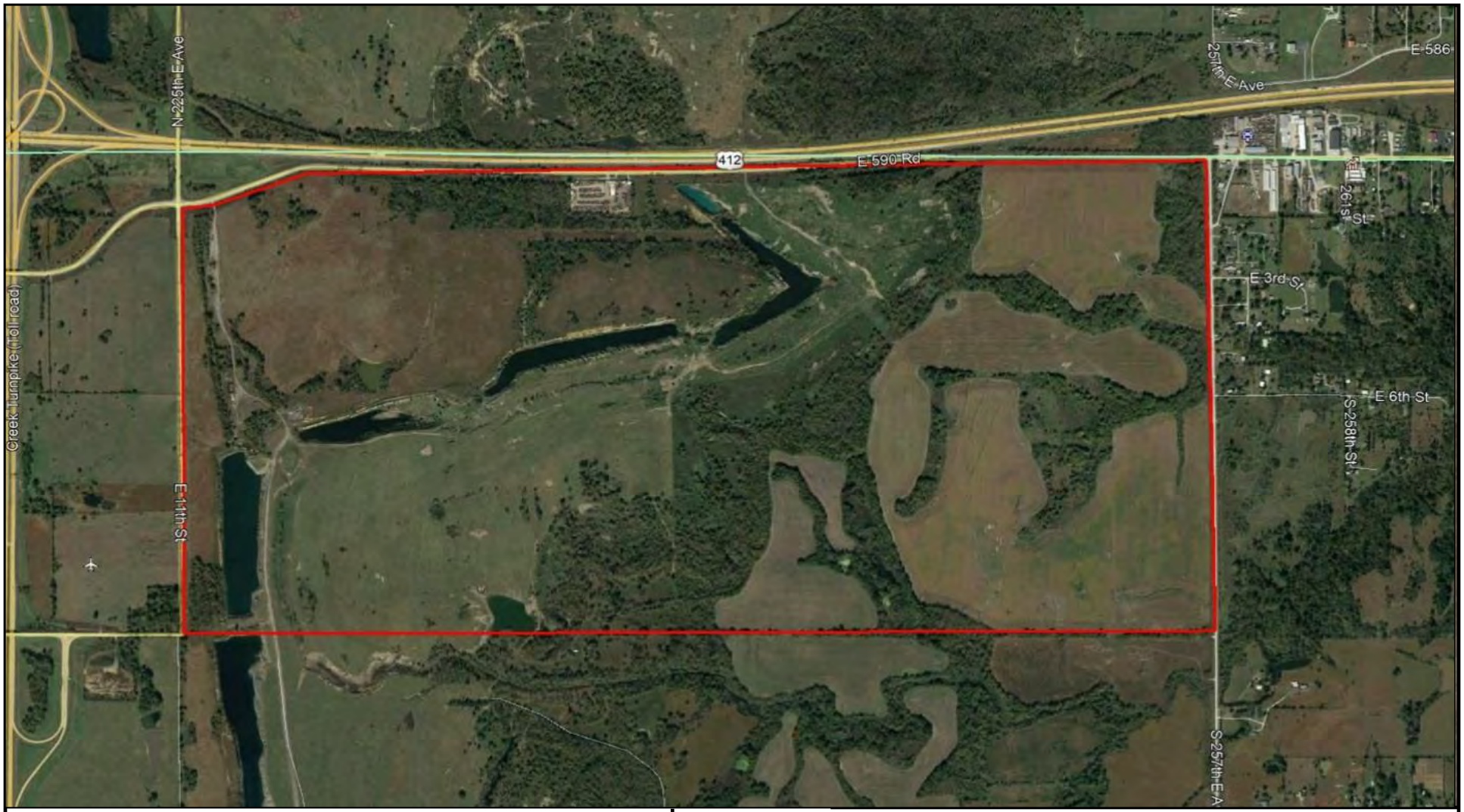
SECTIONS 3 AND 4
TOWNSHIP 19 NORTH
RANGE 15 EAST

-N-

TOPOGRAPHICAL MAP

FAIR OAKS RANCH TRACT 1
ASSESSMENT AREA BOUNDARY
WAGONER COUNTY, OKLAHOMA

Prepared For: KLH		BEACON Environmental Assistance Corporation	
Drawn By: AM	Project # V744	Date: 6/2020	FIGURE 1



= ASSESSMENT AREA

SECTIONS 3 AND 4
TOWNSHIP 19 NORTH
RANGE 15 EAST

-N-

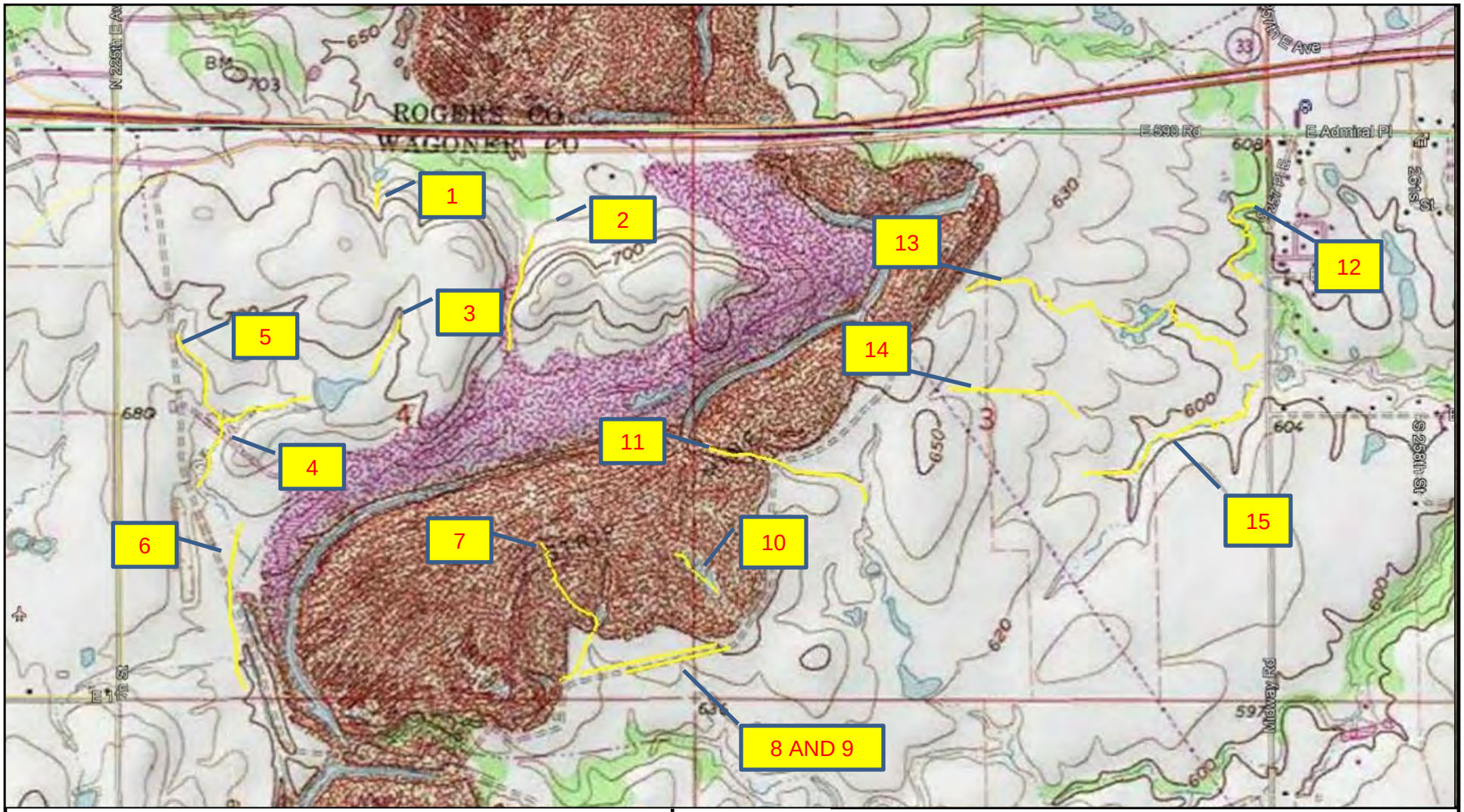
AERIAL PHOTOGRAPH

FAIR OAKS RANCH TRACT 1
ASSESSMENT AREA BOUNDARY
WAGONER COUNTY, OKLAHOMA

Prepared For: KLH		BEACON Environmental Assistance Corporation	
Drawn By: AM	Project # V744	Date: 6/2020	FIGURE 2

Appendix A-2

Waterways



= ASSESSMENT AREA

SECTIONS 3 AND 4
TOWNSHIP 19 NORTH
RANGE 15 EAST

-N-

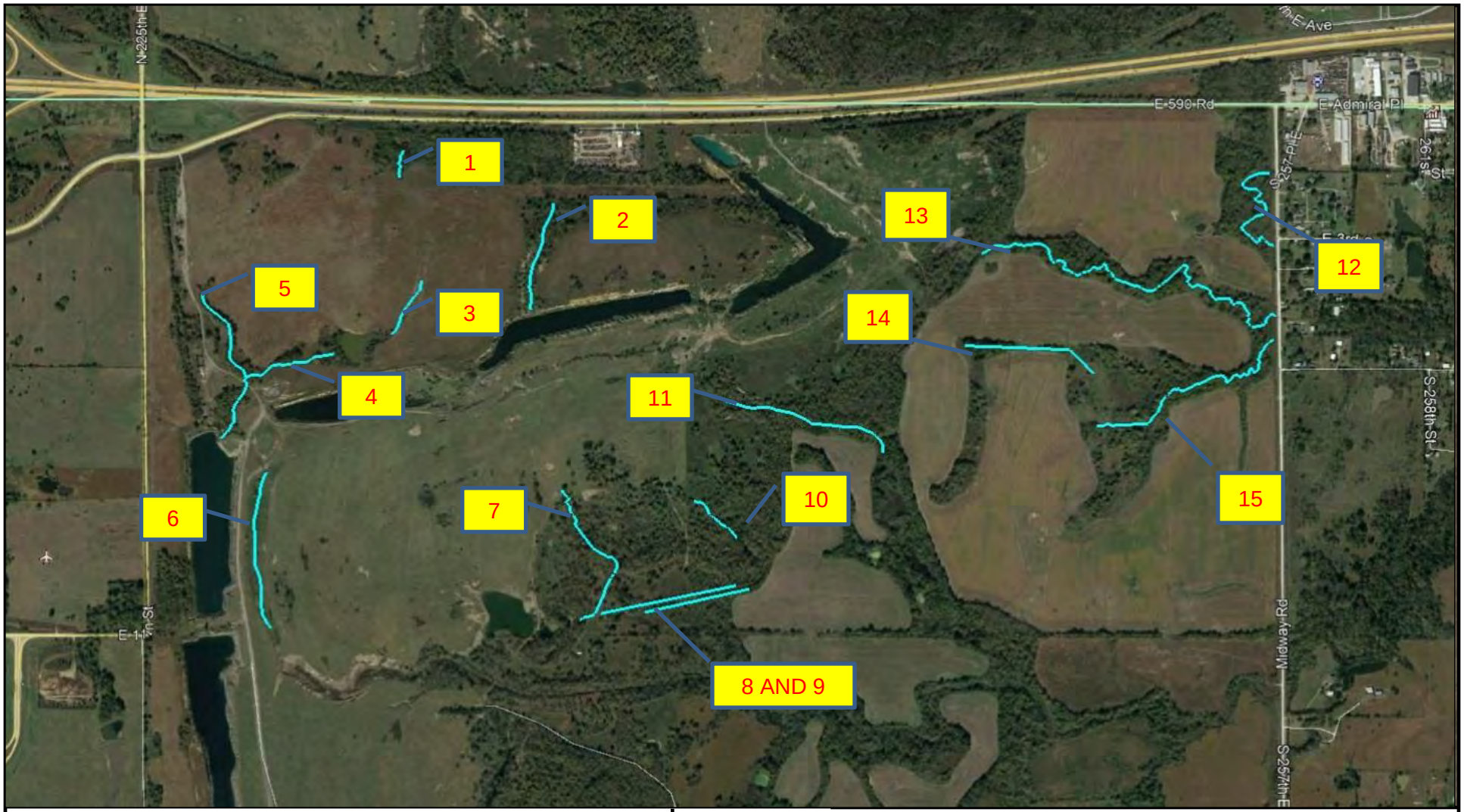
TOPOGRAPHICAL MAP

FAIR OAKS RANCH TRACT 1
WATERWAYS
WAGONER COUNTY, OKLAHOMA

PREPARED FOR:
KLH

BEACON
Environmental Assistance Corporation

Drawn By: AM	Project # V744	Date: 6/2020	FIGURE 1



= ASSESSMENT AREA

SECTIONS 3 AND 4
TOWNSHIP 19 NORTH
RANGE 15 EAST

-N-

AERIAL PHOTOGRAPH

FAIR OAKS RANCH TRACT 1
WATERWAYS
WAGONER COUNTY, OKLAHOMA

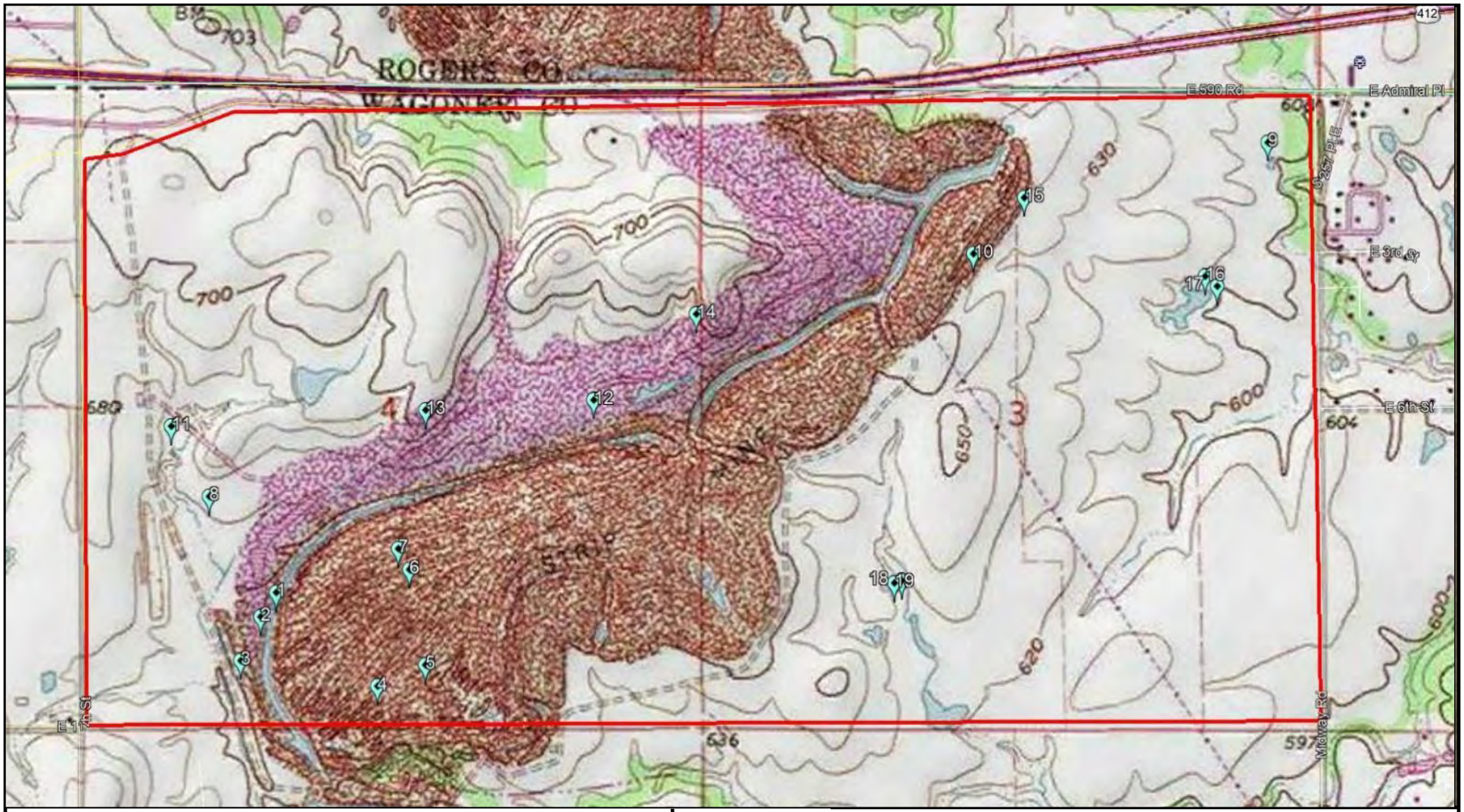
PREPARED FOR:
KLH

BEACON
Environmental Assistance Corporation

Drawn By: AM	Project # V744	Date: 6/2020	FIGURE 2

Appendix A-3

Wetland Data Points



= ASSESSMENT AREA

= WETLAND DATA POINT

SECTIONS 3 AND 4
TOWNSHIP 19 NORTH
RANGE 15 EAST

-N-

TOPOGRAPHICAL MAP

FAIR OAKS RANCH TRACT 1
WETLAND DATA POINTS
WAGONER COUNTY, OKLAHOMA

PREPARED FOR:
KLH

BEACON
Environmental Assistance Corporation

Drawn By: AM	Project # V744	Date: 6/2020	FIGURE 1

= ASSESSMENT AREA

= WETLAND DATA POINT

SECTIONS 3 AND 4
TOWNSHIP 19 NORTH
RANGE 15 EAST

-N-

AERIAL PHOTOGRAPH

FAIR OAKS RANCH TRACT 1
WETLAND DATA POINTS
WAGONER COUNTY, OKLAHOMA

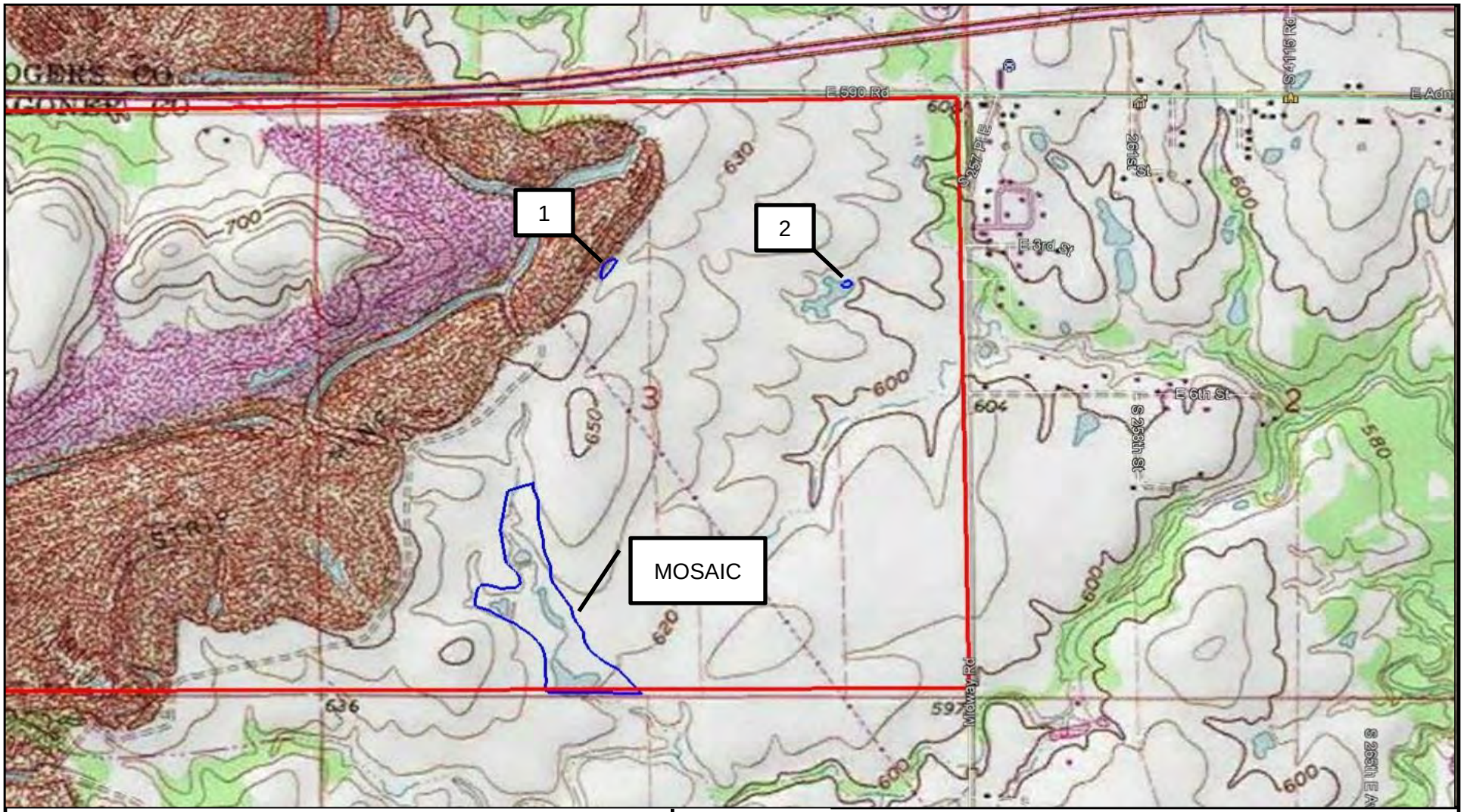
PREPARED FOR:
KLH

BEACON
Environmental Assistance Corporation

Drawn By: AM	Project # V744	Date: 6/2020	FIGURE 2

Appendix A-4

Identified Wetlands



= ASSESSMENT AREA

= WETLANDS

SECTION 3
TOWNSHIP 19 NORTH
RANGE 15 EAST

-N-

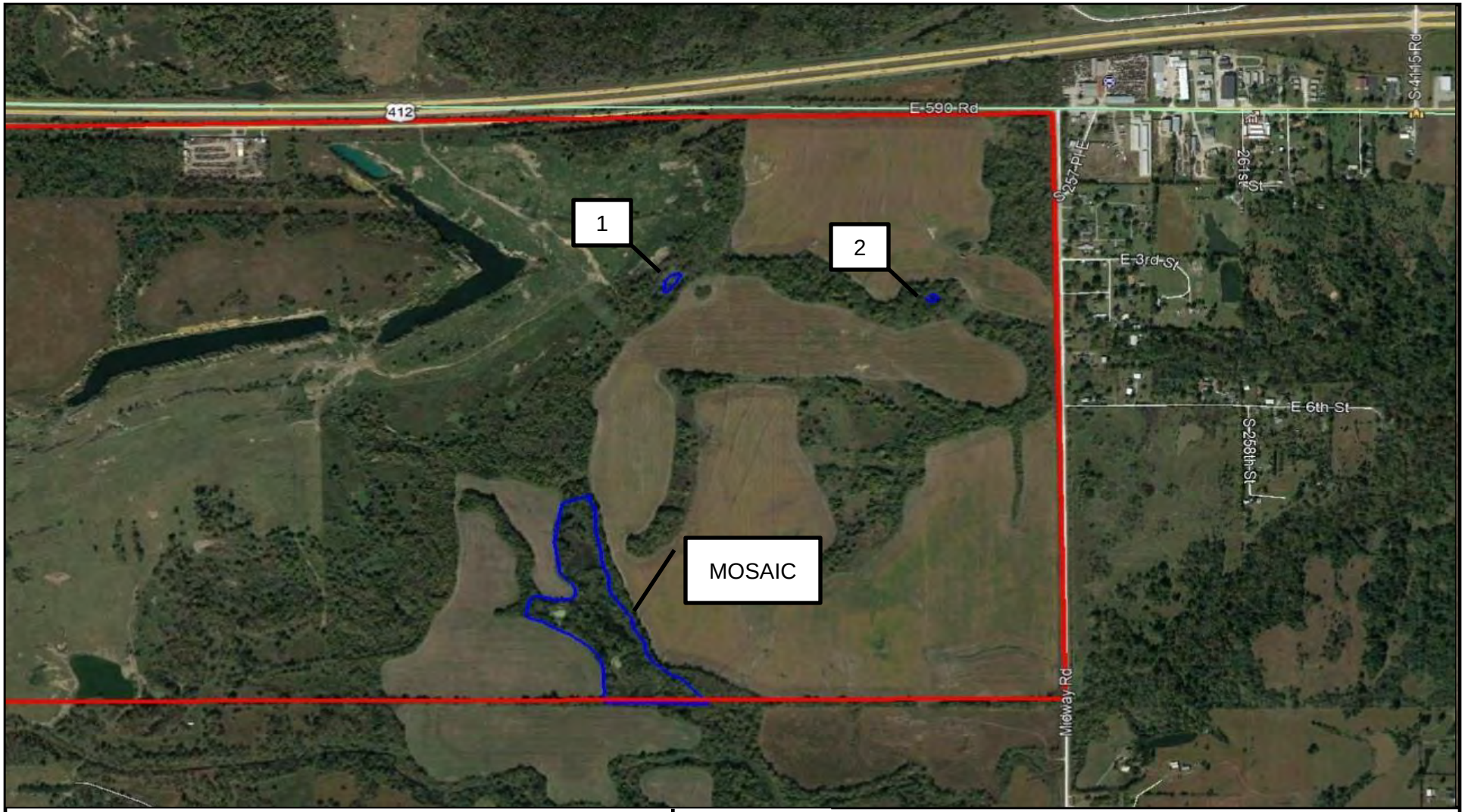
TOPOGRAPHICAL MAP

FAIR OAKS RANCH TRACT 1
IDENTIFIED WETLANDS
WAGONER COUNTY, OKLAHOMA

PREPARED FOR:
KLH

BEACON
Environmental Assistance Corporation

Drawn By: AM	Project # V744	Date: 6/2020	FIGURE 1



= ASSESSMENT AREA

= WETLANDS

SECTION 3
TOWNSHIP 19 NORTH
RANGE 15 EAST

-N-

AERIAL PHOTOGRAPH

FAIR OAKS RANCH TRACT 1
IDENTIFIED WETLANDS
WAGONER COUNTY, OKLAHOMA

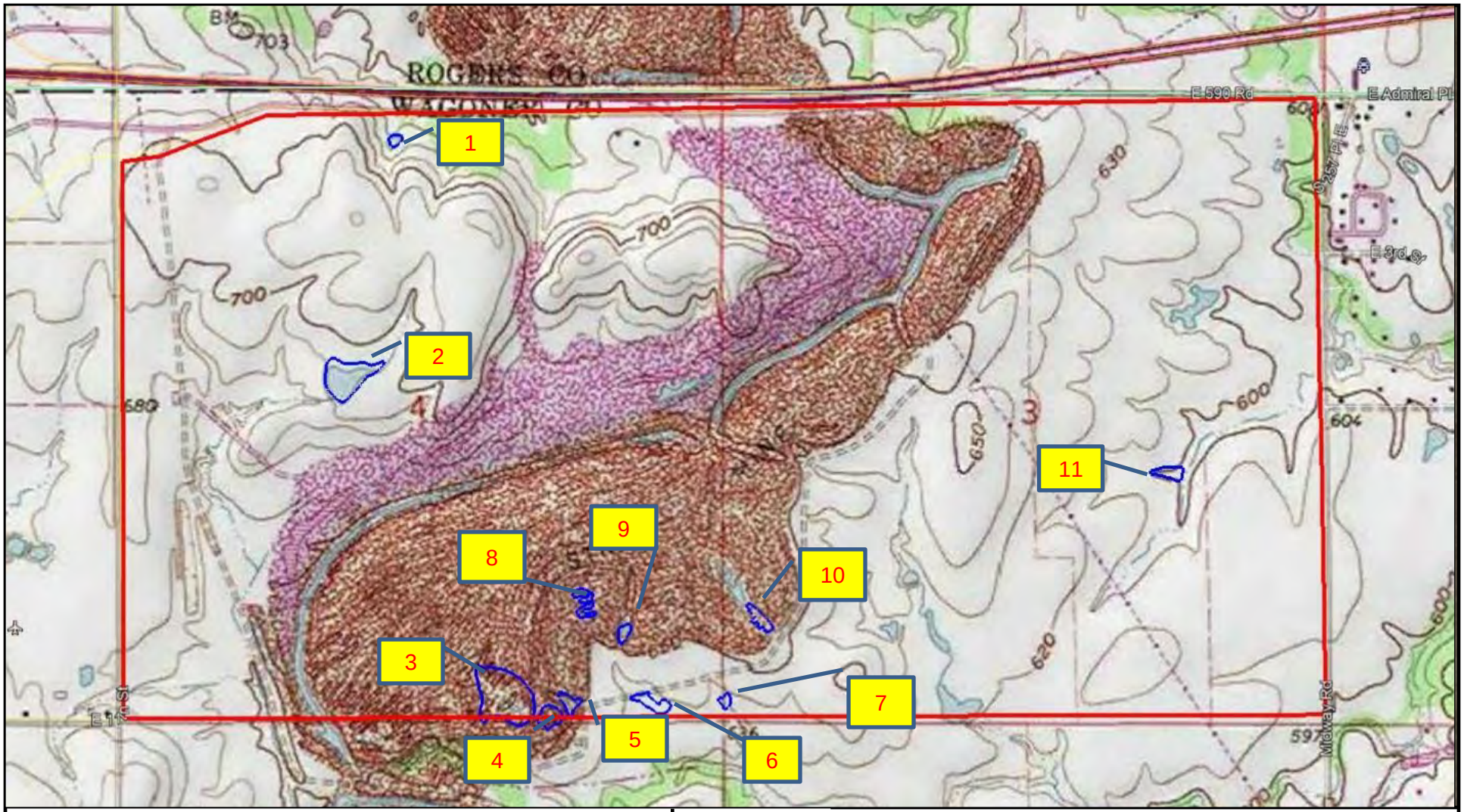
PREPARED FOR:
KLH

BEACON
Environmental Assistance Corporation

Drawn By: AM	Project # V744	Date: 6/2020	FIGURE 2

Appendix A-5

Impoundments



= ASSESSMENT AREA

SECTIONS 3 AND 4
TOWNSHIP 19 NORTH
RANGE 15 EAST

-N-

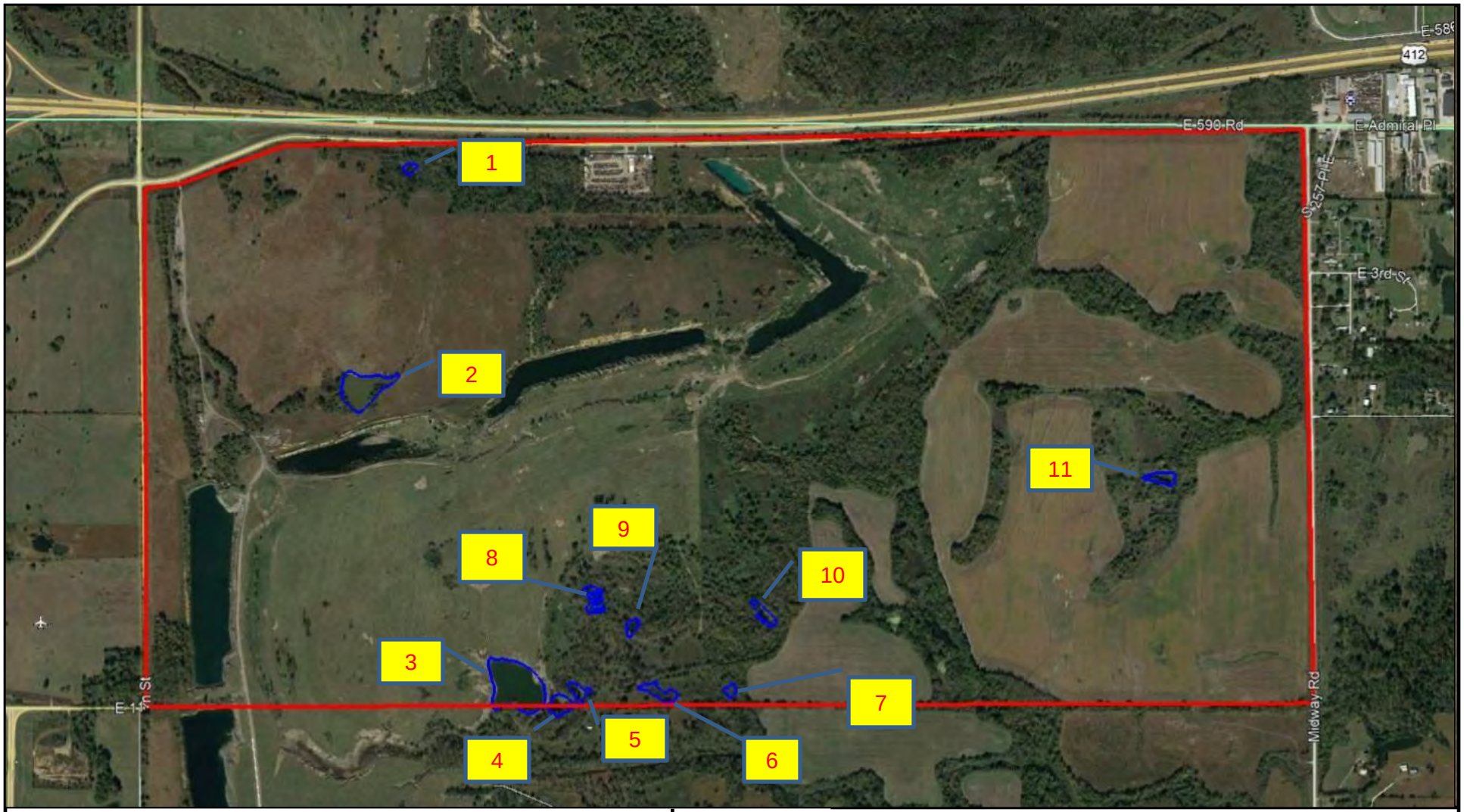
TOPOGRAPHICAL MAP

FAIR OAKS RANCH TRACT 1
IMPOUNDMENTS
WAGONER COUNTY, OKLAHOMA

PREPARED FOR:
KLH

BEACON
Environmental Assistance Corporation

Drawn By: AM	Project # V744	Date: 6/2020	FIGURE 1



= ASSESSMENT AREA

SECTIONS 3 AND 4
TOWNSHIP 19 NORTH
RANGE 15 EAST

-N-

AERIAL PHOTOGRAPH

FAIR OAKS RANCH TRACT 1
IMPOUNDMENTS
WAGONER COUNTY, OKLAHOMA

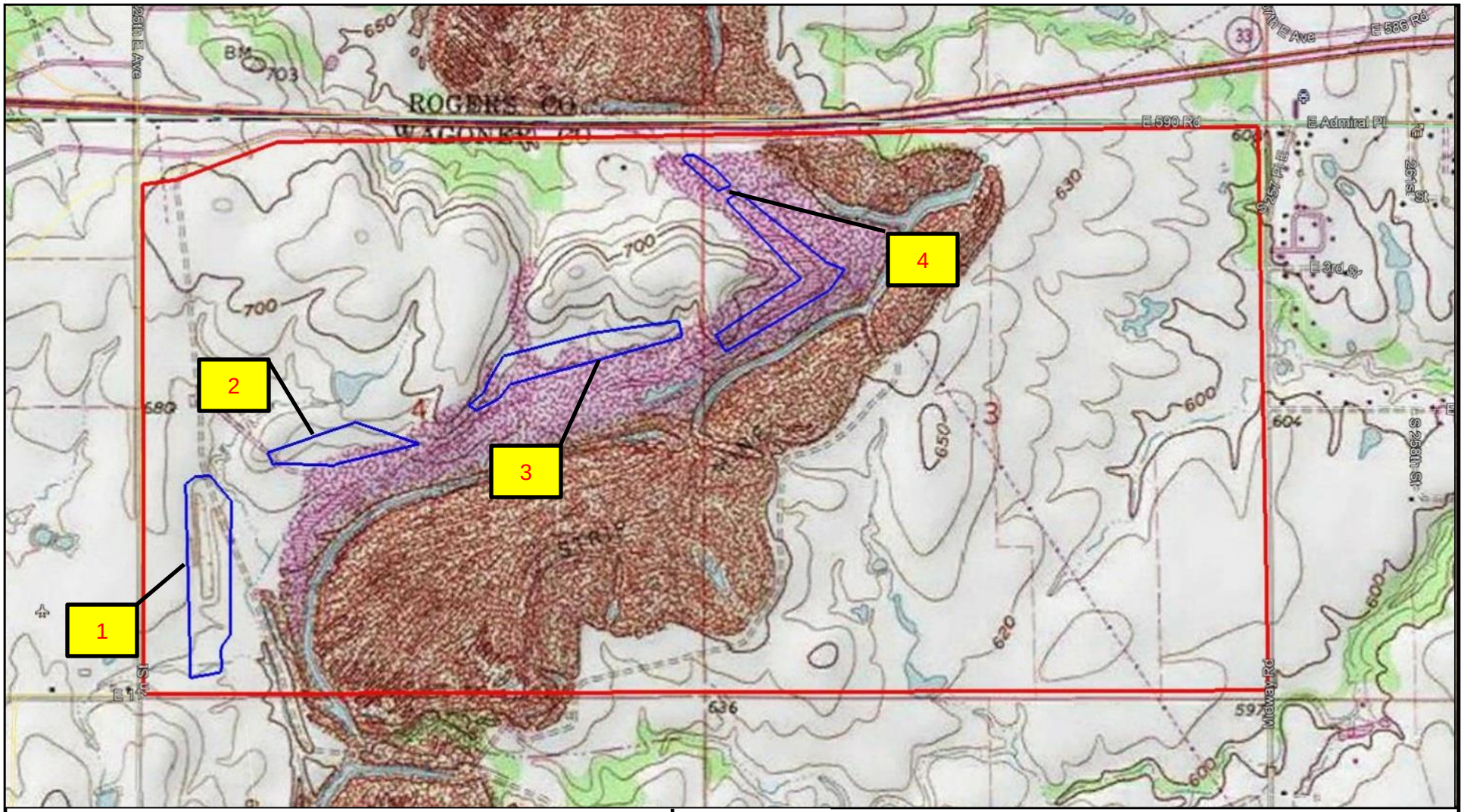
PREPARED FOR:
KLH

BEACON
Environmental Assistance Corporation

Drawn By: AM	Project # V744	Date: 6/2020	FIGURE 2

Appendix A-6

Mine Pits



= MINE PITS

SECTIONS 3 AND 4
TOWNSHIP 19 NORTH
RANGE 15 EAST

-N-

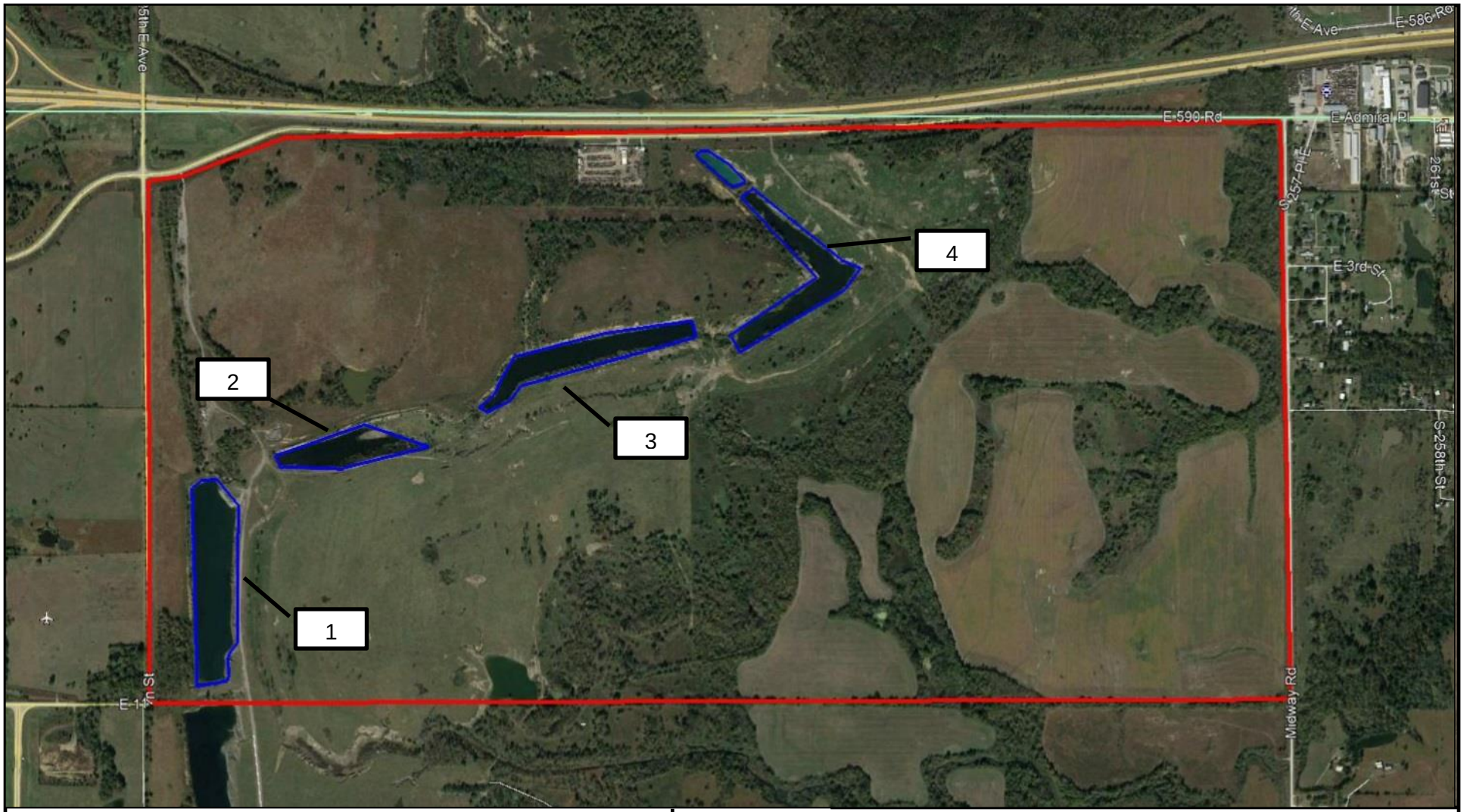
TOPOGRAPHICAL MAP

FAIR OAKS RANCH TRACT 1
MINE PITS
WAGONER COUNTY, OKLAHOMA

PREPARED FOR:
KLH

BEACON
Environmental Assistance Corporation

Drawn By: AM	Project # V744	Date: 6/2020	FIGURE 1



= MINE PITS

SECTIONS 3 AND 4
TOWNSHIP 19 NORTH
RANGE 15 EAST

-N-

AERIAL PHOTOGRAPH

FAIR OAKS RANCH TRACT 1
MINE PITS
WAGONER COUNTY, OKLAHOMA

PREPARED FOR:
KLH

BEACON
Environmental Assistance Corporation

Drawn By: AM	Project # V744	Date: 6/2020	FIGURE 2

Appendix B

Photographic Log

Photo Log
Fair Oaks Ranch Tract 1

WW 1

WW 2

WW 3

WW 4 near Impoundment 2.

WW 4 after confluence with WW 5.

WW 5

Photo Log
Fair Oaks Ranch Tract 1

WW 6 looking south from north end.

WW 7

WW 9

WW 10

WW 11

WW 12

Photo Log
Fair Oaks Ranch Tract 1

WW 13

WW 14

WW 15

Wetland Data Point 1

Wetland Data Point 2

Wetland Data Point 3

Photo Log
Fair Oaks Ranch Tract 1

Wetland Data Point 4

Wetland Data Point 5

Wetland Data Point 6

Wetland Data Point 7

Wetland Data Point 8

Wetland Data Point 9

Photo Log
Fair Oaks Ranch Tract 1

Wetland Data Point 10

Wetland Data Point 11

Wetland Data Point 12

Wetland Data Point 13

Wetland Data Point 14

Wetland Data Point 15

Photo Log
Fair Oaks Ranch Tract 1

Wetland Data Point 16

Wetland Data Point 17

Wetland Data Point 18

Wetland Data Point 19

Impoundment 1

Impoundment 2

Photo Log
Fair Oaks Ranch Tract 1

Impoundment 3

Impoundment 4

Impoundment 5

Impoundment 6

Impoundment 7

Impoundment 8

Photo Log
Fair Oaks Ranch Tract 1

Impoundment 9

Impoundment 10

Impoundment 11

Appendix C

Wetland Data Sheets

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Fair Oaks Ranch | City/County: Wagoner | Sampling Date: 6/17/2020

Applicant/Owner: Fair Oaks Ranch | State: OK | Sampling Point: 1

Investigator(s): Andy Middick | Section, Township, Range: S4 T19N R15E

Landform (hillside, terrace, etc.): hillside | Local relief (concave, convex, none): Concave

Slope (%): 0-5 | Lat: 36.15058 | Long: -95.72077 | Datum: NAD 83 State Plane OK North

Soil Map Unit Name: Foyil and Talala soils, 0 to 12 percent slopes | NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area within a Wetland?** Yes ____ No X
Hydric Soil Present?	Yes ____	No X	
Wetland Hydrology Present?	Yes X	No ____	

Remarks:
This point falls in an area that is a reclaimed strip coal mine.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	=Total Cover		

Sapling/Shrub Stratum (Plot size: 15 FT)			
1.			
2.			
3.			
4.			
5.			
	=Total Cover		

Herb Stratum (Plot size: 5 FT)			
1. *Cynodon dactylon*	35	Yes	FACU
2. *Eleocharis obtusa*	5	No	OBL
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	40	=Total Cover	

Woody Vine Stratum (Plot size: 30 FT)			
1.			
2.			
	=Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	5	x 1 =	5
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	35	x 4 =	140
UPL species	0	x 5 =	0
Column Totals:	40 (A)		145 (B)

Prevalence Index = B/A = 3.63

Hydrophytic Vegetation Indicators:

____ 1 - Rapid Test for Hydrophytic Vegetation

____ 2 - Dominance Test is >50%

____ 3 - Prevalence Index is ≤3.0[1]

____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ____ No X

Remarks: (Include photo numbers here or on a separate sheet.)
General area bare due to livestock traffic

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Fair Oaks Ranch | City/County: Wagoner | Sampling Date: 6/17/2020

Applicant/Owner: Fair Oaks Ranch | State: OK | Sampling Point: 10

Investigator(s): Stephanie Rainwater | Section, Township, Range: S3 T19N R15E

Landform (hillside, terrace, etc.): hillside | Local relief (concave, convex, none): Concave

Slope (%): 0-5 | Lat: 36.158246 | Long: -95.700674 | Datum: NAD 83 State Plane OK North

Soil Map Unit Name: Dennis silt loam, 1 to 3 percent slopes | NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area within a Wetland?** **Yes** X **No** ____
Hydric Soil Present?	Yes X	No ____	
Wetland Hydrology Present?	Yes X	No ____	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4. *toxicodendron radicans*			
5.			
	=Total Cover		
Sapling/Shrub Stratum (Plot size: 15 FT)			
1. *Ulmus americana*	5	Yes	FACW
2. *Carya illinoinensis*	5	Yes	FACW
3. *Celtis occidentalis*	5	Yes	FAC
4.			
5.			
	15 =Total Cover		
Herb Stratum (Plot size: 5 FT)			
1. *Spartina pectinata*	60	Yes	FACW
2. *Typha latifolia*	40	Yes	OBL
3.			
4. *eleocharis acicularis*			
5.			
6.			
7.			
8.			
9.			
10.			
	100 =Total Cover		
Woody Vine Stratum (Plot size: 30 FT)			
1.			
2.			
	=Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	40	x 1 =	40
FACW species	70	x 2 =	140
FAC species	5	x 3 =	15
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	115 (A)		195 (B)

Prevalence Index = B/A = 1.70

Hydrophytic Vegetation Indicators:

____ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** X **No** ____

Remarks: (Include photo numbers here or on a separate sheet.)
General area bare due to livestock traffic

SOIL

Sampling Point: 10

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-2	10YR 2/1	60	2.5YR 3/6	40	RM	M	Mucky Loam/Clay	
2-8	10YR 4/1	100					Mucky Loam/Clay	
8-18	10YR 5/1	60	10YR 5/3	40	RM	M	Mucky Loam/Clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- X Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** ___

Remarks:

This data form is revised from Midwest Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 7.0, 2015 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- X Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- X Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes X	No ___	Depth (inches): 0
Water Table Present?	Yes X	No ___	Depth (inches): 0
Saturation Present? (includes capillary fringe)	Yes X	No ___	Depth (inches): 0

Wetland Hydrology Present? **Yes** X **No** ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Water appears to seep out of hillside

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Fair Oaks Ranch | City/County: Wagoner | Sampling Date: 6/17/2020

Applicant/Owner: Fair Oaks Ranch | State: OK | Sampling Point: 11

Investigator(s): Stephanie Rainwater | Section, Township, Range: S4 T19N R15E

Landform (hillside, terrace, etc.): terrace | Local relief (concave, convex, none): Concave

Slope (%): 0-5 | Lat: 36.154338 | Long: -95.723792 | Datum: NAD 83 State Plane OK North

Soil Map Unit Name: Foyil and Talala soils, 0 to 12 percent slopes | NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area within a Wetland?** **Yes** ____ **No** X
Hydric Soil Present?	Yes ____	No X	
Wetland Hydrology Present?	Yes ____	No X	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Celtis laevigata*	65	Yes	FACW
2. *Celtis occidentalis*	15	No	FAC
3. *Carya illinoinensis*	15	No	FACW
4. *toxicodendron radicans*			
5.			
	95	=Total Cover	
Sapling/Shrub Stratum (Plot size: 15 FT)			
1.			
2.			
3.			
4.			
5.			
		=Total Cover	
Herb Stratum (Plot size: 5 FT)			
1. *Symphoricarpos orbiculatus*	45	Yes	FACU
2. *Phytolacca americana*	5	No	FACU
3. *Toxicodendron radicans*	5	No	FAC
4. *eleocharis acicularis*			
5.			
6.			
7.			
8.			
9.			
10.			
	55	=Total Cover	
Woody Vine Stratum (Plot size: 30 FT)			
1.			
2.			
		=Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	80	x 2 =	160
FAC species	20	x 3 =	60
FACU species	50	x 4 =	200
UPL species	0	x 5 =	0
Column Totals:	150 (A)		420 (B)
Prevalence Index = B/A =			2.80

Hydrophytic Vegetation Indicators:

____ 1 - Rapid Test for Hydrophytic Vegetation

____ 2 - Dominance Test is >50%

____ 3 - Prevalence Index is ≤3.0[1]

____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** ____ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: 11

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR 3/2	100					Loamy/Clayey	
6-18	10YR 3/2	90	10YR 4/6	10	RM	M	Loamy/Clayey	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** X

Remarks:

This data form is revised from Midwest Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 7.0, 2015 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ___	No X	Depth (inches): ___
Water Table Present?	Yes ___	No X	Depth (inches): ___
Saturation Present? (includes capillary fringe)	Yes ___	No X	Depth (inches): ___

Wetland Hydrology Present? **Yes** ___ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Fair Oaks Ranch | City/County: Wagoner | Sampling Date: 6/17/2020

Applicant/Owner: Fair Oaks Ranch | State: OK | Sampling Point: 12

Investigator(s): Stephanie Rainwater | Section, Township, Range: S4 T19N R15E

Landform (hillside, terrace, etc.): terrace | Local relief (concave, convex, none): Concave

Slope (%): 0-5 | Lat: 36.154928 | Long: -95.711618 | Datum: NAD 83 State Plane OK North

Soil Map Unit Name: Foyil and Talala soils, 0 to 12 percent slopes | NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil X, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area within a Wetland?** Yes ____ No X
Hydric Soil Present?	Yes ____	No X	
Wetland Hydrology Present?	Yes X	No ____	

Remarks:
Soil appears to be fill dirt

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4. *toxicodendron radicans*			
5.			
	=Total Cover		
Sapling/Shrub Stratum (Plot size: 15 FT)			
1.			
2.			
3.			
4.			
5.			
	=Total Cover		
Herb Stratum (Plot size: 5 FT)			
1. *Cynodon dactylon*	45	Yes	FACU
2. *Eleocharis obtusa*	10	No	OBL
3.			
4. *eleocharis acicularis*			
5.			
6.			
7.			
8.			
9.			
10.			
	55 =Total Cover		
Woody Vine Stratum (Plot size: 30 FT)			
1.			
2.			
	=Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	10	x 1 =	10
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	45	x 4 =	180
UPL species	0	x 5 =	0
Column Totals:	55 (A)		190 (B)

Prevalence Index = B/A = 3.45

Hydrophytic Vegetation Indicators:

____ 1 - Rapid Test for Hydrophytic Vegetation

____ 2 - Dominance Test is >50%

____ 3 - Prevalence Index is ≤3.0[1]

____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ____ No X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: 12

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-12	10YR 4/1	40	10YR 2/1	40	RM	M	Loamy/Clayey	Soil appears to be fill dirt
12-18	10YR 5/6	50	10YR 5/1	50	RM	M	Loamy/Clayey	Soil appears to be fill dirt

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** X

Remarks:

This data form is revised from Midwest Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 7.0, 2015 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- X Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ___	No X	Depth (inches): ___
Water Table Present?	Yes ___	No X	Depth (inches): ___
Saturation Present? (includes capillary fringe)	Yes ___	No X	Depth (inches): ___

Wetland Hydrology Present? **Yes** X **No** ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Fair Oaks Ranch | City/County: Wagoner | Sampling Date: 6/17/2020

Applicant/Owner: Fair Oaks Ranch | State: OK | Sampling Point: 13

Investigator(s): Stephanie Rainwater | Section, Township, Range: S4 T19N R15E

Landform (hillside, terrace, etc.): terrace | Local relief (concave, convex, none): Concave

Slope (%): 0-5 | Lat: 36.154705 | Long: -95.716478 | Datum: NAD 83 State Plane OK North

Soil Map Unit Name: Foyil and Talala soils, 0 to 12 percent slopes | NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area within a Wetland?** **Yes** ____ **No** X
Hydric Soil Present?	Yes ____	No X	
Wetland Hydrology Present?	Yes ____	No X	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4. *toxicodendron radicans*			
5.			
	=Total Cover		
Sapling/Shrub Stratum (Plot size: 15 FT)			
1. *Celtis occidentalis*	5	Yes	FAC
2.			
3.			
4.			
5.			
	5 =Total Cover		
Herb Stratum (Plot size: 5 FT)			
1. *Cynodon dactylon*	90	Yes	FACU
2. *Rubus oklahomus*	5	No	FACU
3. *Solanum elaeagnifolium*	5	No	UPL
4. *eleocharis acicularis*			
5.			
6.			
7.			
8.			
9.			
10.			
	100 =Total Cover		
Woody Vine Stratum (Plot size: 30 FT)			
1.			
2.			
	=Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	5	x 3 =	15
FACU species	95	x 4 =	380
UPL species	5	x 5 =	25
Column Totals:	105 (A)		420 (B)
Prevalence Index = B/A =			4.00

Hydrophytic Vegetation Indicators:

____ 1 - Rapid Test for Hydrophytic Vegetation

____ 2 - Dominance Test is >50%

____ 3 - Prevalence Index is ≤3.0[1]

____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** ____ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: 13

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8	10YR 5/4	97	5YR 3/4	3	C	PL	Loamy/Clayey	Prominent redox concentrations

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: Hardpan

Depth (inches): 8

Hydric Soil Present? **Yes** ___ **No** X

Remarks:

This data form is revised from Midwest Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 7.0, 2015 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ___	No X	Depth (inches): ___
Water Table Present?	Yes ___	No X	Depth (inches): ___
Saturation Present? (includes capillary fringe)	Yes ___	No X	Depth (inches): ___

Wetland Hydrology Present? **Yes** ___ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

No hydrology present

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Fair Oaks Ranch | City/County: Wagoner | Sampling Date: 6/17/2020

Applicant/Owner: Fair Oaks Ranch | State: OK | Sampling Point: 14

Investigator(s): Stephanie Rainwater | Section, Township, Range: S4 T19N R15E

Landform (hillside, terrace, etc.): terrace | Local relief (concave, convex, none): Concave

Slope (%): 0-5 | Lat: 36.156878 | Long: -95.708673 | Datum: NAD 83 State Plane OK North

Soil Map Unit Name: Foyil and Talala soils, 0 to 12 percent slopes | NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area within a Wetland?** **Yes** ____ **No** X
Hydric Soil Present?	Yes ____	No X	
Wetland Hydrology Present?	Yes ____	No X	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Salix nigra*	10	Yes	OBL
2.			
3.			
4. *toxicodendron radicans*			
5.			
	10	=Total Cover	
Sapling/Shrub Stratum (Plot size: 15 FT)			
1.			
2.			
3.			
4.			
5.			
		=Total Cover	
Herb Stratum (Plot size: 5 FT)			
1. *Cynodon dactylon*	90	Yes	FACU
2. *Xanthium strumarium*	5	No	FAC
3. *Grindelia lanceolata*	5	No	UPL
4. *eleocharis acicularis*			
5.			
6.			
7.			
8.			
9.			
10.			
	100	=Total Cover	
Woody Vine Stratum (Plot size: 30 FT)			
1.			
2.			
		=Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	10	x 1 =	10
FACW species	0	x 2 =	0
FAC species	5	x 3 =	15
FACU species	90	x 4 =	360
UPL species	5	x 5 =	25
Column Totals:	110 (A)		410 (B)

Prevalence Index = B/A = 3.73

Hydrophytic Vegetation Indicators:

____ 1 - Rapid Test for Hydrophytic Vegetation

____ 2 - Dominance Test is >50%

____ 3 - Prevalence Index is ≤3.0[1]

____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** ____ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)
General area bare due to livestock traffic

SOIL

Sampling Point: 14

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-18	10YR 4/1	50	10YR 4/2	50			Loamy/Clayey	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** X

Remarks:

This data form is revised from Midwest Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 7.0, 2015 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ___	No X	Depth (inches): ___
Water Table Present?	Yes ___	No X	Depth (inches): ___
Saturation Present? (includes capillary fringe)	Yes ___	No X	Depth (inches): ___

Wetland Hydrology Present? **Yes** ___ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

No hydrology present

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Fair Oaks Ranch | City/County: Wagoner | Sampling Date: 6/17/2020

Applicant/Owner: Fair Oaks Ranch | State: OK | Sampling Point: 15

Investigator(s): Stephanie Rainwater | Section, Township, Range: S3 T19N R15E

Landform (hillside, terrace, etc.): terrace | Local relief (concave, convex, none): Concave

Slope (%): 0-5 | Lat: 36.159518 | Long: -95.699205 | Datum: NAD 83 State Plane OK North

Soil Map Unit Name: Dennis silt loam, 1 to 3 percent slopes | NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area within a Wetland?** **Yes** ____ **No** X
Hydric Soil Present?	Yes ____	No X	
Wetland Hydrology Present?	Yes ____	No X	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Celtis occidentalis*	50	Yes	FAC
2. *Ulmus americana*	30	Yes	FACW
3. *Celtis laevigata*	15	No	FACW
4.			
5.			
	95	=Total Cover	
Sapling/Shrub Stratum (Plot size: 15 FT)			
1.			
2.			
3.			
4.			
5.			
		=Total Cover	
Herb Stratum (Plot size: 5 FT)			
1. *Symphoricarpos orbiculatus*	25	Yes	FACU
2. *Chasmanthium latifolium*	20	Yes	FACW
3.			
4. *eleocharis acicularis*			
5.			
6.			
7.			
8.			
9.			
10.			
	45	=Total Cover	
Woody Vine Stratum (Plot size: 30 FT)			
1.			
2.			
		=Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 75.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	65	x 2 =	130
FAC species	50	x 3 =	150
FACU species	25	x 4 =	100
UPL species	0	x 5 =	0
Column Totals:	140 (A)		380 (B)

Prevalence Index = B/A = 2.71

Hydrophytic Vegetation Indicators:

____ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

____ 3 - Prevalence Index is ≤3.0[1]

____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** X **No** ____

Remarks: (Include photo numbers here or on a separate sheet.)
General area bare due to livestock traffic

SOIL

Sampling Point: 15

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-18	10YR 4/1	80	10YR 4/4	20			Loamy/Clayey	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** ___ **No** X

Remarks:

This data form is revised from Midwest Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 7.0, 2015 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- X Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ___	No X	Depth (inches): ___
Water Table Present?	Yes ___	No X	Depth (inches): ___
Saturation Present? (includes capillary fringe)	Yes ___	No X	Depth (inches): ___

Wetland Hydrology Present? **Yes** ___ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

No hydrology present

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Fair Oaks Ranch | City/County: Wagoner | Sampling Date: 6/17/2020

Applicant/Owner: Fair Oaks Ranch | State: OK | Sampling Point: 16

Investigator(s): Stephanie Rainwater | Section, Township, Range: S3 T19N R15E

Landform (hillside, terrace, etc.): Depression | Local relief (concave, convex, none): Concave

Slope (%): 0-5 | Lat: 36.157747 | Long: -95.693944 | Datum: NAD 83 State Plane OK North

Soil Map Unit Name: Dennis-Radley complex, 0 to 15 percent slopes | NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area within a Wetland?** **Yes** ____ **No** X
Hydric Soil Present?	Yes X	No ____	
Wetland Hydrology Present?	Yes ____	No X	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Salix nigra*	5	Yes	OBL
2.			
3.			
4.			
5.			
	5	=Total Cover	
Sapling/Shrub Stratum (Plot size: 15 FT)			
1.			
2.			
3.			
4.			
5.			
		=Total Cover	
Herb Stratum (Plot size: 5 FT)			
1. *Justicia americana*	95	Yes	OBL
2.			
3.			
4. *eleocharis acicularis*			
5.			
6.			
7.			
8.			
9.			
10.			
	95	=Total Cover	
Woody Vine Stratum (Plot size: 30 FT)			
1.			
2.			
		=Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	100	x 1 =	100
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		100 (B)

Prevalence Index = B/A = 1.00

Hydrophytic Vegetation Indicators:

____ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** X **No** ____

Remarks: (Include photo numbers here or on a separate sheet.)
General area bare due to livestock traffic

SOIL

Sampling Point: 16

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-2	10YR 2/1	100					Mucky Loam/Clay	
2-6	10YR 3/1	100					Mucky Loam/Clay	
6-18	10YR 4/1	80	10YR 4/6	20	RM	M	Mucky Loam/Clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- X Dark Surface (S7)
- X Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** ___

Remarks:

This data form is revised from Midwest Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 7.0, 2015 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- X Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ___	No X	Depth (inches): ___
Water Table Present?	Yes ___	No X	Depth (inches): ___
Saturation Present? (includes capillary fringe)	Yes X	No ___	Depth (inches): 0

Wetland Hydrology Present? **Yes** X **No** ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Fair Oaks Ranch | City/County: Wagoner | Sampling Date: 6/17/2020

Applicant/Owner: Fair Oaks Ranch | State: OK | Sampling Point: 17

Investigator(s): Stephanie Rainwater | Section, Township, Range: S3 T19N R15E

Landform (hillside, terrace, etc.): terrace | Local relief (concave, convex, none): Concave

Slope (%): 0-5 | Lat: 36.157521 | Long: -95.693594 | Datum: NAD 83 State Plane OK North

Soil Map Unit Name: Dennis-Radley complex, 0 to 15 percent slopes | NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area within a Wetland?** **Yes** ____ **No** X
Hydric Soil Present?	Yes ____	No X	
Wetland Hydrology Present?	Yes ____	No X	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Carya cordiformis*	45	Yes	FACU
2. *Celtis occidentalis*	25	Yes	FAC
3. *Ulmus americana*	15	No	FACW
4.			
5.			
	85	=Total Cover	
Sapling/Shrub Stratum (Plot size: 15 FT)			
1.			
2.			
3.			
4.			
5.			
		=Total Cover	
Herb Stratum (Plot size: 5 FT)			
1. *Symphoricarpos orbiculatus*	80	Yes	FACU
2. *Chasmanthium latifolium*	20	Yes	FACW
3.			
4. *eleocharis acicularis*			
5.			
6.			
7.			
8.			
9.			
10.			
	100	=Total Cover	
Woody Vine Stratum (Plot size: 30 FT)			
1.			
2.			
		=Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	35	x 2 =	70
FAC species	25	x 3 =	75
FACU species	125	x 4 =	500
UPL species	0	x 5 =	0
Column Totals:	185 (A)		645 (B)

Prevalence Index = B/A = 3.49

Hydrophytic Vegetation Indicators:

____ 1 - Rapid Test for Hydrophytic Vegetation

____ 2 - Dominance Test is >50%

____ 3 - Prevalence Index is ≤3.0[1]

____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** ____ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)
General area bare due to livestock traffic

SOIL

Sampling Point: 17

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-18	10YR 3/2	100					Loamy/Clayey	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** X

Remarks:

This data form is revised from Midwest Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 7.0, 2015 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ___	No X	Depth (inches): ___
Water Table Present?	Yes ___	No X	Depth (inches): ___
Saturation Present? (includes capillary fringe)	Yes ___	No X	Depth (inches): ___

Wetland Hydrology Present? **Yes** ___ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Fair Oaks Ranch | City/County: Wagoner | Sampling Date: 6/17/2020

Applicant/Owner: Fair Oaks Ranch | State: OK | Sampling Point: 18

Investigator(s): Stephanie Rainwater | Section, Township, Range: S3 T19N R15E

Landform (hillside, terrace, etc.): terrace | Local relief (concave, convex, none): Concave

Slope (%): 0-5 | Lat: 36.150834 | Long: -95.702734 | Datum: NAD 83 State Plane OK North

Soil Map Unit Name: Dennie-Radley complex, 0 to 15 percent slopes | NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area within a Wetland?** **Yes** X **No** ____
Hydric Soil Present?	Yes X	No ____	
Wetland Hydrology Present?	Yes X	No ____	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	=Total Cover		
Sapling/Shrub Stratum (Plot size: 15 FT)			
1.			
2.			
3.			
4.			
5.			
	=Total Cover		
Herb Stratum (Plot size: 5 FT)			
1. *Justicia americana*	100	Yes	OBL
2.			
3.			
4. *eleocharis acicularis*			
5.			
6.			
7.			
8.			
9.			
10.			
	100 =Total Cover		
Woody Vine Stratum (Plot size: 30 FT)			
1.			
2.			
	=Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	100	x 1 =	100
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		100 (B)

Prevalence Index = B/A = 1.00

Hydrophytic Vegetation Indicators:

____ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** X **No** ____

Remarks: (Include photo numbers here or on a separate sheet.)
General area bare due to livestock traffic

SOIL

Sampling Point: 18

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR 2/1	95	10YR 4/6	5	RM	M	Mucky Loam/Clay	
6-18	10YR 4/1	95	10YR 4/6	5	RM	M	Mucky Loam/Clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- X Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** ___

Remarks:

This data form is revised from Midwest Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 7.0, 2015 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- X Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ___	No X	Depth (inches): ___
Water Table Present?	Yes X	No ___	Depth (inches): 3
Saturation Present? (includes capillary fringe)	Yes X	No ___	Depth (inches): 0

Wetland Hydrology Present? **Yes** X **No** ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Fair Oaks Ranch | City/County: Wagoner | Sampling Date: 6/17/2020

Applicant/Owner: Fair Oaks Ranch | State: OK | Sampling Point: 19

Investigator(s): Stephanie Rainwater | Section, Township, Range: S3 T19N R15E

Landform (hillside, terrace, etc.): terrace | Local relief (concave, convex, none): Concave

Slope (%): 0-5 | Lat: 36.150782 | Long: -95.702952 | Datum: NAD 83 State Plane OK North

Soil Map Unit Name: Dennie-Radley complex, 0 to 15 percent slopes | NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area within a Wetland?** **Yes** ____ **No** X
Hydric Soil Present?	Yes ____	No X	
Wetland Hydrology Present?	Yes ____	No X	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Gleditsia triacanthos*	40	Yes	FACU
2. *Celtis occidentalis*	35	Yes	FAC
3. *Carya cordiformis*	10	No	FACU
4.			
5.			
	85	=Total Cover	
Sapling/Shrub Stratum (Plot size: 15 FT)			
1. *Cornus drummondii*	15	Yes	FAC
2.			
3.			
4.			
5.			
	15	=Total Cover	
Herb Stratum (Plot size: 5 FT)			
1. *Symphoricarpos orbiculatus*	15	Yes	FACU
2. *Chasmanthium latifolium*	5	Yes	FACW
3.			
4. *eleocharis acicularis*			
5.			
6.			
7.			
8.			
9.			
10.			
	20	=Total Cover	
Woody Vine Stratum (Plot size: 30 FT)			
1.			
2.			
		=Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 60.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	5	x 2 =	10
FAC species	50	x 3 =	150
FACU species	65	x 4 =	260
UPL species	0	x 5 =	0
Column Totals:	120 (A)		420 (B)

Prevalence Index = B/A = 3.50

Hydrophytic Vegetation Indicators:

____ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

____ 3 - Prevalence Index is ≤3.0[1]

____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** X **No** ____

Remarks: (Include photo numbers here or on a separate sheet.)
General area bare due to livestock traffic

SOIL

Sampling Point: 19

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-18	10YR 4/2	100					Loamy/Clayey	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** X

Remarks:

This data form is revised from Midwest Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 7.0, 2015 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ___	No X	Depth (inches): ___
Water Table Present?	Yes ___	No X	Depth (inches): ___
Saturation Present? (includes capillary fringe)	Yes ___	No X	Depth (inches): ___

Wetland Hydrology Present? **Yes** ___ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

SOIL

Sampling Point: 1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-3	7.5YR 5/3	100					Loamy/Clayey	
3-6	7.5YR 2.5/2	80	10YR 7/8	20			Loamy/Clayey	
6-16	7.5YR 3/2	80	10YR 7/8	20			Loamy/Clayey	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** X

Remarks:

This data point falls within a reclaimed strip coal mine. Soils are assumed to not be in their natural state.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- X Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- X Inundation Visible on Aerial Imagery (B7)
- X Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- X Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ___	No X	Depth (inches): 0
Water Table Present?	Yes ___	No X	Depth (inches): 0
Saturation Present? (includes capillary fringe)	Yes ___	No X	Depth (inches): 0

Wetland Hydrology Present? **Yes** X **No** ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

No inlet/outlet waterbody connecting this feature to other features.

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Fair Oaks Ranch | City/County: Wagoner | Sampling Date: 6/17/2020

Applicant/Owner: Fair Oaks Ranch | State: OK | Sampling Point: 2

Investigator(s): Andy Middick | Section, Township, Range: S4 T19N R15E

Landform (hillside, terrace, etc.): hillside | Local relief (concave, convex, none): Concave

Slope (%): 0-5 | Lat: 36.15003 | Long: -95.72122 | Datum: NAD 83 State Plane OK North

Soil Map Unit Name: Foyil and Talala soils, 0 to 12 percent slopes | NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area within a Wetland?** **Yes** ____ **No** X
Hydric Soil Present?	Yes ____	No X	
Wetland Hydrology Present?	Yes X	No ____	

Remarks:
This point falls in an area that is a reclaimed strip coal mine.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	____	=Total Cover	
Sapling/Shrub Stratum (Plot size: 15 FT)			
1.			
2.			
3.			
4.			
5.			
	____	=Total Cover	
Herb Stratum (Plot size: 5 FT)			
1. *Xanthium strumarium*	5	Yes	FAC
2. *Eleocharis obtusa*	10	Yes	OBL
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	15	=Total Cover	
Woody Vine Stratum (Plot size: 30 FT)			
1.			
2.			
	____	=Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	10	x 1 =	10
FACW species	0	x 2 =	0
FAC species	5	x 3 =	15
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	15 (A)		25 (B)

Prevalence Index = B/A = 1.67

Hydrophytic Vegetation Indicators:

____ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

____ 3 - Prevalence Index is ≤3.0[1]

____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** X **No** ____

Remarks: (Include photo numbers here or on a separate sheet.)
General area bare due to livestock traffic

SOIL

Sampling Point: 2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4	10YR 3/4	100					Loamy/Clayey	
4-10	10YR 5/3	90	10YR 7/8	10			Loamy/Clayey	
10-16	10YR 4/1	100					Loamy/Clayey	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** ___ **No** X

Remarks:

This data point falls within a reclaimed strip coal mine. Soils are assumed to not be in their natural state.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- X Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- X Inundation Visible on Aerial Imagery (B7)
- X Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- X Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ___	No X	Depth (inches): 0
Water Table Present?	Yes ___	No X	Depth (inches): 0
Saturation Present? (includes capillary fringe)	Yes ___	No X	Depth (inches): 0

Wetland Hydrology Present? **Yes** X **No** ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

No inlet/outlet waterbody connecting this feature to other features.

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Fair Oaks Ranch | City/County: Wagoner | Sampling Date: 6/17/2020

Applicant/Owner: Fair Oaks Ranch | State: OK | Sampling Point: 3

Investigator(s): Andy Middick | Section, Township, Range: S4 T19N R15E

Landform (hillside, terrace, etc.): hillside | Local relief (concave, convex, none): Concave

Slope (%): 0-5 | Lat: 36.14904 | Long: -95.72179 | Datum: NAD 83 State Plane OK North

Soil Map Unit Name: Foyil and Talala soils, 0 to 12 percent slopes | NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area within a Wetland?** **Yes** ____ **No** X
Hydric Soil Present?	Yes ____	No X	
Wetland Hydrology Present?	Yes X	No ____	

Remarks:
This point falls in an area that is a reclaimed strip coal mine.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	____ =Total Cover		
Sapling/Shrub Stratum (Plot size: 15 FT)			
1.			
2.			
3.			
4.			
5.			
	____ =Total Cover		
Herb Stratum (Plot size: 5 FT)			
1. *Justicia americana*	60	Yes	OBL
2. *Eleocharis obtusa*	10	No	OBL
3. *Carex lupulina*	10	No	OBL
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	80 =Total Cover		
Woody Vine Stratum (Plot size: 30 FT)			
1.			
2.			
	____ =Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	80	x 1 =	80
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	80 (A)		80 (B)

Prevalence Index = B/A = 1.00

Hydrophytic Vegetation Indicators:

____ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

____ 3 - Prevalence Index is ≤3.0[1]

____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** X **No** ____

Remarks: (Include photo numbers here or on a separate sheet.)
General area bare due to livestock traffic

SOIL

Sampling Point: 3

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8	7.5YR 2.5/2	100					Loamy/Clayey	
8-14	7.5YR 4/1	100					Loamy/Clayey	
14-16	7.5YR 5/6	100					Loamy/Clayey	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** X

Remarks:

This data point falls within a reclaimed strip coal mine. Soils are assumed to not be in their natural state.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- X Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- X Inundation Visible on Aerial Imagery (B7)
- X Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- X Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ___	No X	Depth (inches): 0
Water Table Present?	Yes ___	No X	Depth (inches): 0
Saturation Present? (includes capillary fringe)	Yes ___	No X	Depth (inches): 0

Wetland Hydrology Present? **Yes** X **No** ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

No inlet/outlet waterbody connecting this feature to other features.

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Fair Oaks Ranch | City/County: Wagoner | Sampling Date: 6/17/2020

Applicant/Owner: Fair Oaks Ranch | State: OK | Sampling Point: 4

Investigator(s): Andy Middick | Section, Township, Range: S4 T19N R15E

Landform (hillside, terrace, etc.): pasture | Local relief (concave, convex, none): Concave

Slope (%): 0-5 | Lat: 36.14846 | Long: -95.71786 | Datum: NAD 83 State Plane OK North

Soil Map Unit Name: Foyil and Talala soils, 0 to 12 percent slopes | NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area within a Wetland?** Yes ____ No X
Hydric Soil Present?	Yes ____	No X	
Wetland Hydrology Present?	Yes X	No ____	

Remarks:
This point falls in an area that is a reclaimed strip coal mine.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	=Total Cover		
Sapling/Shrub Stratum (Plot size: 15 FT)			
1.			
2.			
3.			
4.			
5.			
	=Total Cover		
Herb Stratum (Plot size: 5 FT)			
1. *Cynodon dactylon*	10	Yes	FACU
2. *Eleocharis obtusa*	5	Yes	OBL
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	15 =Total Cover		
Woody Vine Stratum (Plot size: 30 FT)			
1.			
2.			
	=Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	5	x 1 =	5
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	10	x 4 =	40
UPL species	0	x 5 =	0
Column Totals:	15 (A)		45 (B)

Prevalence Index = B/A = 3.00

Hydrophytic Vegetation Indicators:

____ 1 - Rapid Test for Hydrophytic Vegetation

____ 2 - Dominance Test is >50%

____ 3 - Prevalence Index is ≤3.0[1]

____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ____ No X

Remarks: (Include photo numbers here or on a separate sheet.)
General area bare due to livestock traffic

SOIL

Sampling Point: 4

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR 5/2	100					Loamy/Clayey	
6-14	10YR 4/3	100					Loamy/Clayey	
14-16	10YR 5/3	100					Loamy/Clayey	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** ___ **No** X

Remarks:

This data point falls within a reclaimed strip coal mine. Soils are assumed to not be in their natural state.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- X Inundation Visible on Aerial Imagery (B7)
- X Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- X Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- X Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ___	No X	Depth (inches): 0
Water Table Present?	Yes ___	No X	Depth (inches): 0
Saturation Present? (includes capillary fringe)	Yes ___	No X	Depth (inches): 0

Wetland Hydrology Present? **Yes** X **No** ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Water Boatman found dead in depression.

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Fair Oaks Ranch | City/County: Wagoner | Sampling Date: 6/17/2020

Applicant/Owner: Fair Oaks Ranch | State: OK | Sampling Point: 5

Investigator(s): Andy Middick | Section, Township, Range: S4 T19N R15E

Landform (hillside, terrace, etc.): pasture | Local relief (concave, convex, none): Concave

Slope (%): 0-5 | Lat: 36.14894 | Long: -95.71648 | Datum: NAD 83 State Plane OK North

Soil Map Unit Name: Foyil and Talala soils, 0 to 12 percent slopes | NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area within a Wetland?** **Yes** ____ **No** X
Hydric Soil Present?	Yes ____	No X	
Wetland Hydrology Present?	Yes X	No ____	

Remarks:
This point falls in an area that is a reclaimed strip coal mine.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	____	=Total Cover	
Sapling/Shrub Stratum (Plot size: 15 FT)			
1.			
2.			
3.			
4.			
5.			
	____	=Total Cover	
Herb Stratum (Plot size: 5 FT)			
1. *Justicia americana*	40	Yes	OBL
2. *Eleocharis obtusa*	10	Yes	OBL
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	50	=Total Cover	
Woody Vine Stratum (Plot size: 30 FT)			
1.			
2.			
	____	=Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	50	x 1 =	50
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	50 (A)		50 (B)

Prevalence Index = B/A = 1.00

Hydrophytic Vegetation Indicators:

____ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

____ 3 - Prevalence Index is ≤3.0[1]

____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** X **No** ____

Remarks: (Include photo numbers here or on a separate sheet.)
General area bare due to livestock traffic

SOIL

Sampling Point: 5

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-5	7.5YR 3/2	100					Loamy/Clayey	
5-10	10YR 2/2	100					Loamy/Clayey	
10-16	10YR 6/1	100					Loamy/Clayey	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** X

Remarks:

This data point falls within a reclaimed strip coal mine. Soils are assumed to not be in their natural state.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- X Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- X Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- X Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes X	No ___	Depth (inches): 3
Water Table Present?	Yes ___	No X	Depth (inches): 0
Saturation Present? (includes capillary fringe)	Yes ___	No X	Depth (inches): 0

Wetland Hydrology Present? **Yes** X **No** ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Fair Oaks Ranch | City/County: Wagoner | Sampling Date: 6/17/2020

Applicant/Owner: Fair Oaks Ranch | State: OK | Sampling Point: 6

Investigator(s): Andy Middick | Section, Township, Range: S4 T19N R15E

Landform (hillside, terrace, etc.): pasture | Local relief (concave, convex, none): Concave

Slope (%): 0-5 | Lat: 36.15110 | Long: -95.71693 | Datum: NAD 83 State Plane OK North

Soil Map Unit Name: Foyil and Talala soils, 0 to 12 percent slopes | NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area within a Wetland?** **Yes** ____ **No** X
Hydric Soil Present?	Yes ____	No X	
Wetland Hydrology Present?	Yes X	No ____	

Remarks:
This point falls in an area that is a reclaimed strip coal mine.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	____ =Total Cover		
Sapling/Shrub Stratum (Plot size: 15 FT)			
1.			
2.			
3.			
4.			
5.			
	____ =Total Cover		
Herb Stratum (Plot size: 5 FT)			
1. *Justicia americana*	40	Yes	OBL
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	40 =Total Cover		
Woody Vine Stratum (Plot size: 30 FT)			
1.			
2.			
	____ =Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	40	x 1 =	40
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	40 (A)		40 (B)

Prevalence Index = B/A = 1.00

Hydrophytic Vegetation Indicators:

____ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

____ 3 - Prevalence Index is ≤3.0[1]

____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** X **No** ____

Remarks: (Include photo numbers here or on a separate sheet.)
General area bare due to livestock traffic

SOIL

Sampling Point: 6

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4	10YR 5/6	100					Loamy/Clayey	
4-12	10YR 4/2	100					Loamy/Clayey	
12-16	10YR 6/4	100					Loamy/Clayey	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** ___ **No** X

Remarks:

This data point falls within a reclaimed strip coal mine. Soils are assumed to not be in their natural state.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- X Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- X Inundation Visible on Aerial Imagery (B7)
- X Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- X Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- X Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ___	No X	Depth (inches): 0
Water Table Present?	Yes ___	No X	Depth (inches): 0
Saturation Present? (includes capillary fringe)	Yes ___	No X	Depth (inches): 0

Wetland Hydrology Present? **Yes** X **No** ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Fair Oaks Ranch | City/County: Wagoner | Sampling Date: 6/17/2020

Applicant/Owner: Fair Oaks Ranch | State: OK | Sampling Point: 7

Investigator(s): Andy Middick | Section, Township, Range: S4 T19N R15E

Landform (hillside, terrace, etc.): pasture | Local relief (concave, convex, none): Concave

Slope (%): 0-5 | Lat: 36.15157 | Long: -95.71725 | Datum: NAD 83 State Plane OK North

Soil Map Unit Name: Foyil and Talala soils, 0 to 12 percent slopes | NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area within a Wetland?** **Yes** ____ **No** X
Hydric Soil Present?	Yes ____	No X	
Wetland Hydrology Present?	Yes X	No ____	

Remarks:
This point falls in an area that is a reclaimed strip coal mine.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	____ =Total Cover		
Sapling/Shrub Stratum (Plot size: 15 FT)			
1.			
2.			
3.			
4.			
5.			
	____ =Total Cover		
Herb Stratum (Plot size: 5 FT)			
1. *Justicia americana*	25	Yes	OBL
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	25 =Total Cover		
Woody Vine Stratum (Plot size: 30 FT)			
1.			
2.			
	____ =Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	25	x 1 =	25
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	25 (A)		25 (B)

Prevalence Index = B/A = 1.00

Hydrophytic Vegetation Indicators:

____ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

____ 3 - Prevalence Index is ≤3.0[1]

____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** X **No** ____

Remarks: (Include photo numbers here or on a separate sheet.)
General area bare due to livestock traffic

SOIL

Sampling Point: 7

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8	10YR 5/4	100					Loamy/Clayey	
8-16	10YR 7/8	100					Loamy/Clayey	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** ___ **No** X

Remarks:

This data point falls within a reclaimed strip coal mine. Soils are assumed to not be in their natural state.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- X Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- X Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- X Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes X	No ___	Depth (inches): 6
Water Table Present?	Yes ___	No X	Depth (inches): 0
Saturation Present? (includes capillary fringe)	Yes ___	No X	Depth (inches): 0

Wetland Hydrology Present? **Yes** X **No** ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Fair Oaks Ranch | City/County: Wagoner | Sampling Date: 6/19/2020

Applicant/Owner: Fair Oaks Ranch | State: OK | Sampling Point: 8

Investigator(s): Andy Middick | Section, Township, Range: S4 T19N R15E

Landform (hillside, terrace, etc.): pasture | Local relief (concave, convex, none): Concave

Slope (%): 0-5 | Lat: 36.15275 | Long: -95.712272 | Datum: NAD 83 State Plane OK North

Soil Map Unit Name: Foyil and Talala soils, 0 to 12 percent slopes | NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area within a Wetland?** Yes ____ No X
Hydric Soil Present?	Yes ____	No X	
Wetland Hydrology Present?	Yes X	No ____	

Remarks:
This point falls in an area that is a reclaimed strip coal mine.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	=Total Cover		
Sapling/Shrub Stratum (Plot size: 15 FT)			
1.			
2.			
3.			
4.			
5.			
	=Total Cover		
Herb Stratum (Plot size: 5 FT)			
1. *Carex lupulina*	10	Yes	OBL
2. *Eleocharis obtusa*	25	Yes	OBL
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	35 =Total Cover		
Woody Vine Stratum (Plot size: 30 FT)			
1.			
2.			
	=Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	35	x 1 =	35
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	35 (A)		35 (B)

Prevalence Index = B/A = 1.00

Hydrophytic Vegetation Indicators:

____ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

____ 3 - Prevalence Index is ≤3.0[1]

____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No ____

Remarks: (Include photo numbers here or on a separate sheet.)
General area bare due to livestock traffic

SOIL

Sampling Point: 8

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-7	2.5YR 3/1	100					Loamy/Clayey	
7-16	2.5Y 4/1	100					Loamy/Clayey	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** X

Remarks:

This data point falls within a reclaimed strip coal mine. Soils are assumed to not be in their natural state.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- X Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- X Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes X	No ___	Depth (inches): 0
Water Table Present?	Yes X	No ___	Depth (inches): 0
Saturation Present? (includes capillary fringe)	Yes X	No ___	Depth (inches): 0

Wetland Hydrology Present? **Yes** X **No** ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Fair Oaks Ranch | City/County: Wagoner | Sampling Date: 6/19/2020

Applicant/Owner: Fair Oaks Ranch | State: OK | Sampling Point: 9

Investigator(s): Andy Middick | Section, Township, Range: S3 T19N R15E

Landform (hillside, terrace, etc.): woodland | Local relief (concave, convex, none): Concave

Slope (%): 0-5 | Lat: 36.16079 | Long: -95.69212 | Datum: NAD 83 State Plane OK North

Soil Map Unit Name: Dennis-Radley complex, 0 to 15 percent slopes | NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area within a Wetland?** **Yes** ____ **No** X
Hydric Soil Present?	Yes X	No 0	
Wetland Hydrology Present?	Yes X	No ____	

Remarks:
This point falls in an area that is a reclaimed strip coal mine.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Juglans nigra*	80	Yes	FACU
2.			
3.			
4.			
5.			
	80	=Total Cover	

Sapling/Shrub Stratum (Plot size: 15 FT)			
1.			
2.			
3.			
4.			
5.			
		=Total Cover	

Herb Stratum (Plot size: 5 FT)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
		=Total Cover	

Woody Vine Stratum (Plot size: 30 FT)			
1.			
2.			
		=Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	80	x 4 =	320
UPL species	0	x 5 =	0
Column Totals:	80 (A)		320 (B)

Prevalence Index = B/A = 4.00

Hydrophytic Vegetation Indicators:

____ 1 - Rapid Test for Hydrophytic Vegetation

____ 2 - Dominance Test is >50%

____ 3 - Prevalence Index is ≤3.0[1]

____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** ____ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)
General area bare due to livestock traffic

SOIL

Sampling Point: 9

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-16	2.5YR 3/1	90	5YR 5/8	10	RM	PL	Loamy/Clayey	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

This data point falls within a reclaimed strip coal mine. Soils are assumed to not be in their natural state.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- X Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- X Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ___	No X	Depth (inches): 0
Water Table Present?	Yes ___	No X	Depth (inches): 0
Saturation Present? (includes capillary fringe)	Yes ___	No X	Depth (inches): 0

Wetland Hydrology Present? **Yes** X **No** ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

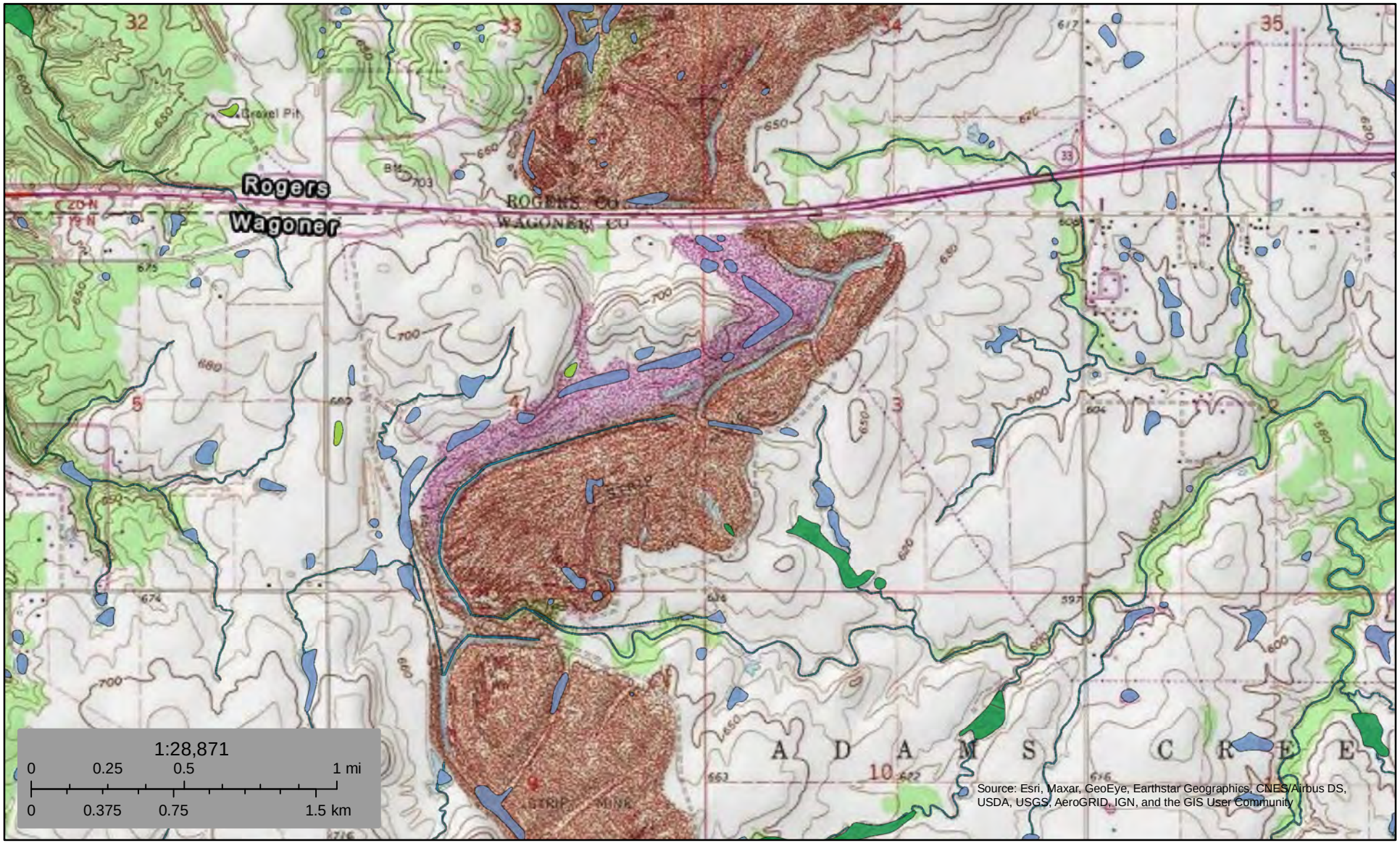
Appendix D

NWI Maps

U.S. Fish and Wildlife Service

National Wetlands Inventory

Fair Oaks Ranch Tract 1



June 30, 2020

Wetlands

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine

U.S. Fish and Wildlife Service

National Wetlands Inventory

Fair Oaks Ranch Tract 1

June 30, 2020

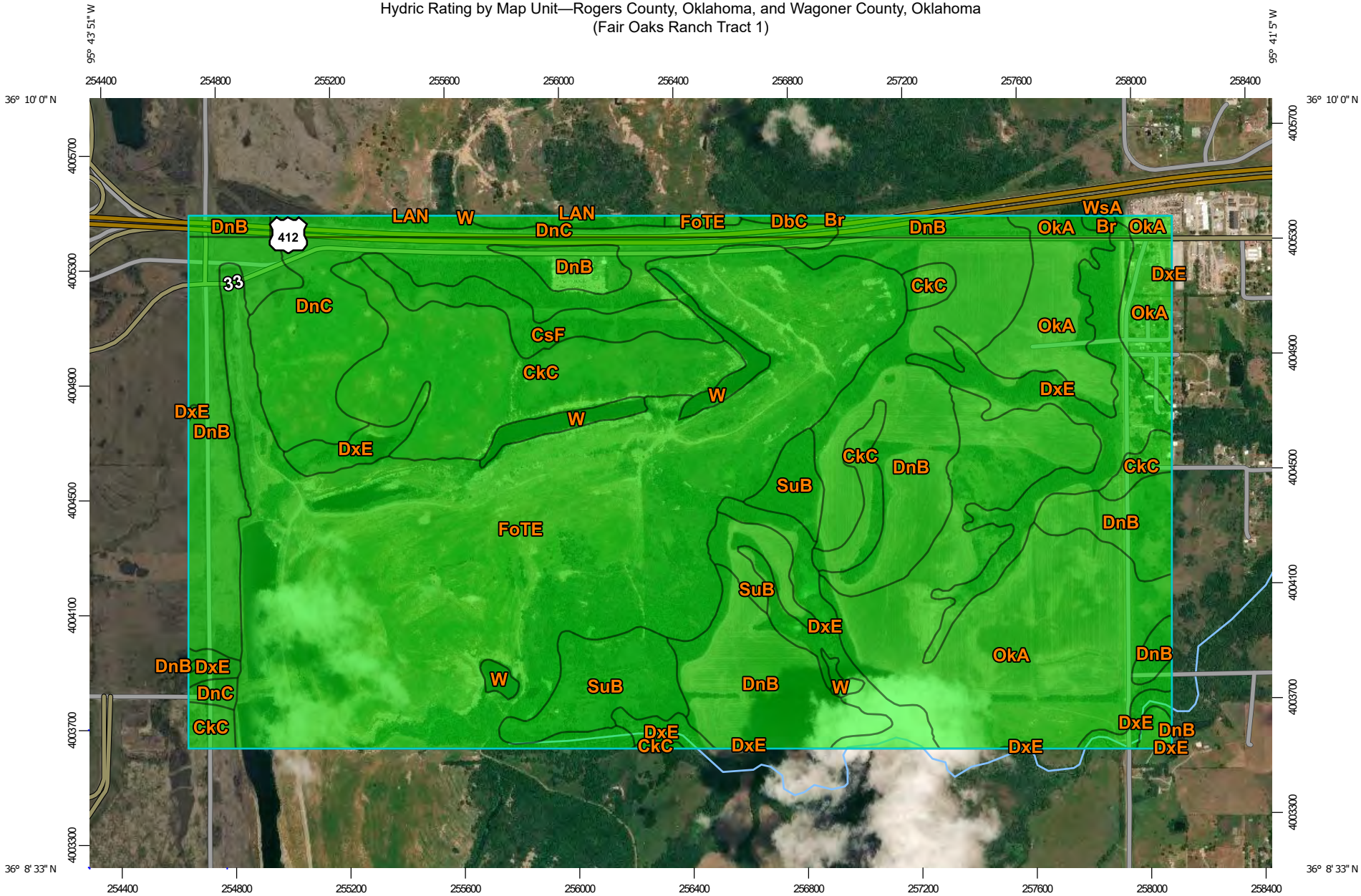
Wetlands

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine

Appendix E

NRCS Hydric Soil Report

Hydric Rating by Map Unit—Rogers County, Oklahoma, and Wagoner County, Oklahoma
(Fair Oaks Ranch Tract 1)



MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils

Soil Rating Polygons
- Hydric (100%)
- Hydric (66 to 99%)
- Hydric (33 to 65%)
- Hydric (1 to 32%)
- Not Hydric (0%)
- Not rated or not available

Soil Rating Lines
- Hydric (100%)
- Hydric (66 to 99%)
- Hydric (33 to 65%)
- Hydric (1 to 32%)
- Not Hydric (0%)
- Not rated or not available

Soil Rating Points
- Hydric (100%)
- Hydric (66 to 99%)
- Hydric (33 to 65%)
- Hydric (1 to 32%)
- Not Hydric (0%)
- Not rated or not available

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Rogers County, Oklahoma
Survey Area Data: Version 14, Sep 16, 2019

Soil Survey Area: Wagoner County, Oklahoma
Survey Area Data: Version 15, Sep 16, 2019

Your area of interest (AOI) includes more than one soil survey area. These survey areas may have been mapped at different scales, with a different land use in mind, at different times, or at different levels of detail. This may result in map unit symbols, soil properties, and interpretations that do not completely agree across soil survey area boundaries.

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Apr 9, 2015—Apr 8, 2019

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Hydric Rating by Map Unit

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
Br	Eram-Verdigris complex, 0 to 12 percent slopes	0	2.4	0.2%
DbC	Dennis-Bates complex, 3 to 5 percent slopes	0	2.0	0.1%
DnB	Dennis silt loam, 1 to 3 percent slopes	0	17.3	1.1%
DnC	Dennis silt loam, 3 to 5 percent slopes	0	25.6	1.6%
FoTE	Foyil and Talala soils, 0 to 12 percent slopes	0	2.3	0.1%
LAN	Landfill	0	6.7	0.4%
OkA	Okemah silty clay loam, 0 to 1 percent slopes	0	8.1	0.5%
W	Water	0	0.1	0.0%
WsA	Woodson and Apperson soils, 0 to 1 percent slopes	0	0.0	0.0%
Subtotals for Soil Survey Area			**64.6**	**4.1%**
Totals for Area of Interest			**1,582.4**	**100.0%**

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
CkC	Coweta-Bates complex, 3 to 5 percent slopes	0	141.0	8.9%
CsF	Coweta stony fine sandy loam, 5 to 30 percent slopes	0	30.5	1.9%
DnB	Dennis silt loam, 1 to 3 percent slopes	0	283.1	17.9%
DnC	Dennis silt loam, 3 to 5 percent slopes	0	103.8	6.6%
DxE	Dennis-Radley complex, 0 to 15 percent slopes	0	125.2	7.9%
FoTE	Foyil and Talala soils, 0 to 12 percent slopes	0	492.9	31.1%
OkA	Okemah silt loam, 0 to 1 percent slopes	0	253.2	16.0%
SuB	Summit silty clay loam, 1 to 3 percent slopes	0	65.2	4.1%
W	Water	0	22.9	1.4%
Subtotals for Soil Survey Area			**1,517.8**	**95.9%**
Totals for Area of Interest			**1,582.4**	**100.0%**

Description

This rating indicates the percentage of map units that meets the criteria for hydric soils. Map units are composed of one or more map unit components or soil types, each of which is rated as hydric soil or not hydric. Map units that are made up dominantly of hydric soils may have small areas of minor nonhydric components in the higher positions on the landform, and map units that are made up dominantly of nonhydric soils may have small areas of minor hydric components in the lower positions on the landform. Each map unit is rated based on its respective components and the percentage of each component within the map unit.

The thematic map is color coded based on the composition of hydric components. The five color classes are separated as 100 percent hydric components, 66 to 99 percent hydric components, 33 to 65 percent hydric components, 1 to 32 percent hydric components, and less than one percent hydric components.

In Web Soil Survey, the Summary by Map Unit table that is displayed below the map pane contains a column named 'Rating'. In this column the percentage of each map unit that is classified as hydric is displayed.

Hydric soils are defined by the National Technical Committee for Hydric Soils (NTCHS) as soils that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part (Federal Register, 1994). Under natural conditions, these soils are either saturated or inundated long enough during the growing season to support the growth and reproduction of hydrophytic vegetation.

The NTCHS definition identifies general soil properties that are associated with wetness. In order to determine whether a specific soil is a hydric soil or nonhydric soil, however, more specific information, such as information about the depth and duration of the water table, is needed. Thus, criteria that identify those estimated soil properties unique to hydric soils have been established (Federal Register, 2002). These criteria are used to identify map unit components that normally are associated with wetlands. The criteria used are selected estimated soil properties that are described in "Soil Taxonomy" (Soil Survey Staff, 1999) and "Keys to Soil Taxonomy" (Soil Survey Staff, 2006) and in the "Soil Survey Manual" (Soil Survey Division Staff, 1993).

If soils are wet enough for a long enough period of time to be considered hydric, they should exhibit certain properties that can be easily observed in the field. These visible properties are indicators of hydric soils. The indicators used to make onsite determinations of hydric soils are specified in "Field Indicators of Hydric Soils in the United States" (Hurt and Vasilas, 2006).

References:

Federal Register. July 13, 1994. Changes in hydric soils of the United States.

Federal Register. September 18, 2002. Hydric soils of the United States.

Hurt, G.W., and L.M. Vasilas, editors. Version 6.0, 2006. Field indicators of hydric soils in the United States.

Soil Survey Division Staff. 1993. Soil survey manual. Soil Conservation Service. U.S. Department of Agriculture Handbook 18.

Soil Survey Staff. 1999. Soil taxonomy: A basic system of soil classification for making and interpreting soil surveys. 2nd edition. Natural Resources Conservation Service. U.S. Department of Agriculture Handbook 436.

Soil Survey Staff. 2006. Keys to soil taxonomy. 10th edition. U.S. Department of Agriculture, Natural Resources Conservation Service.

Rating Options

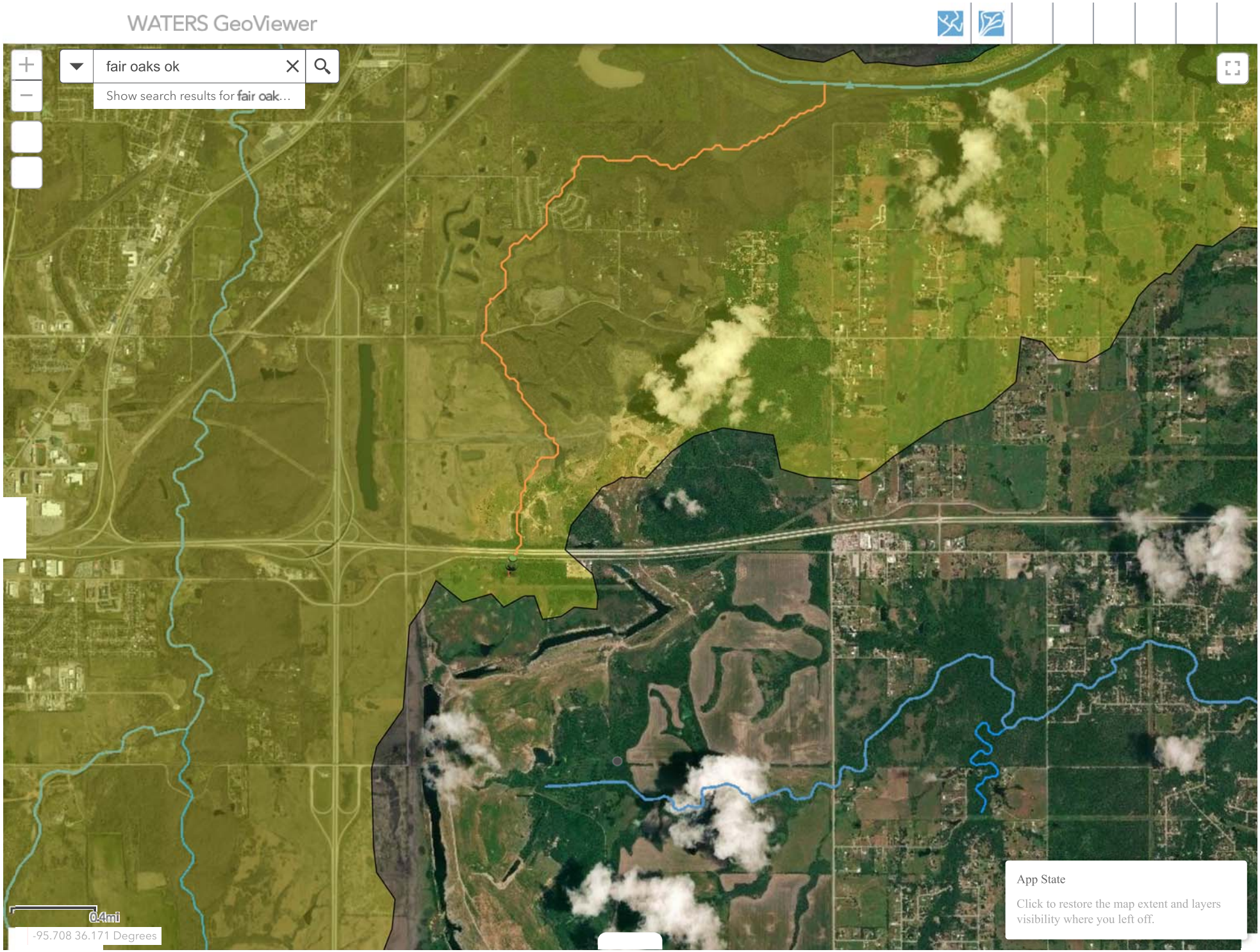
Aggregation Method: Percent Present

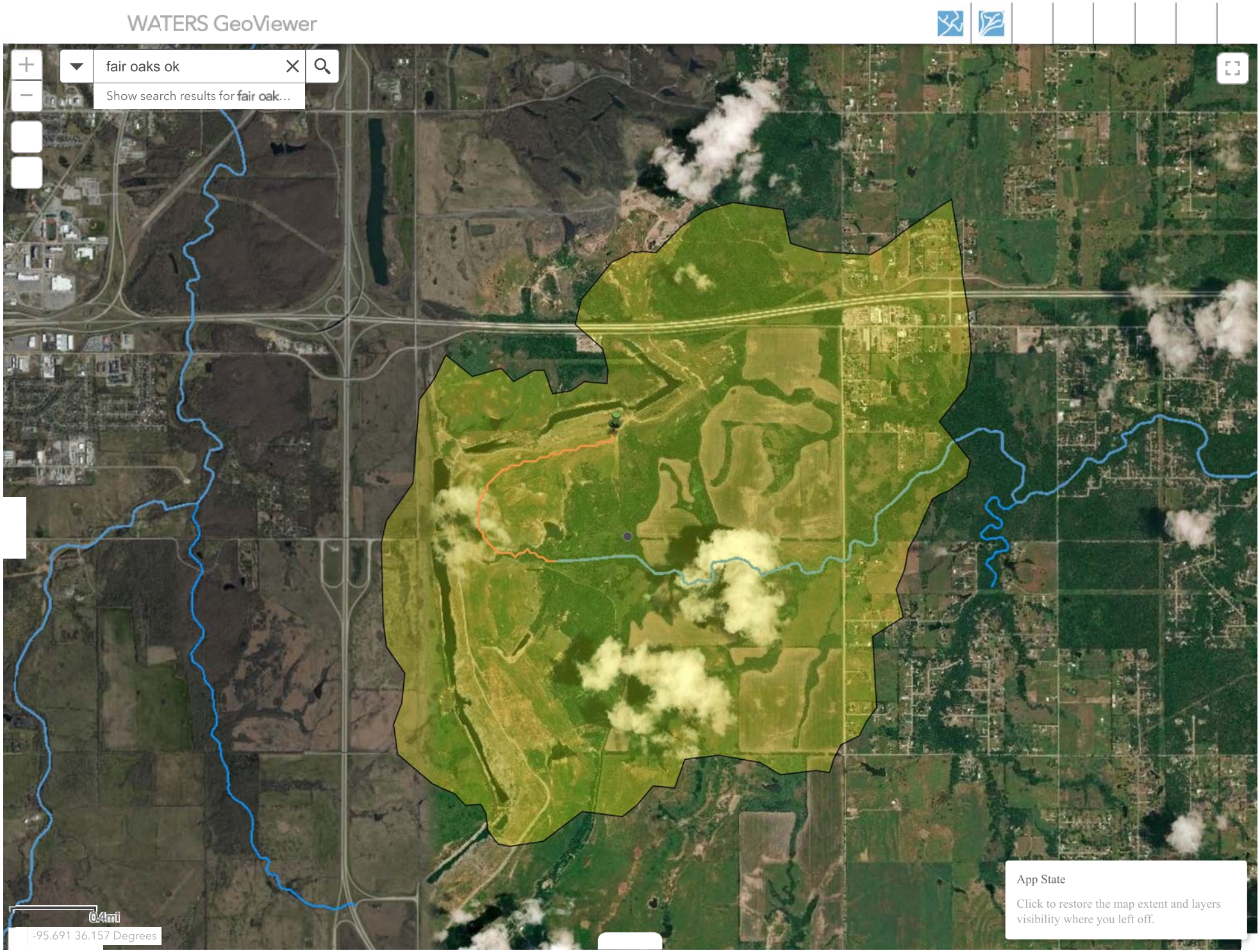
Component Percent Cutoff: None Specified

Tie-break Rule: Lower

Appendix F

EPA Waters GeoViewer Drainage Maps


WATERS GeoViewer
fair oaks ok
Show search results for fair oak...
App State
Click to restore the map extent and layers visibility where you left off.
0.4mi
-95.708 36.171 Degrees


WATERS GeoViewer
fair oaks ok
Show search results for fair oak...
App State
Click to restore the map extent and layers visibility where you left off.
0.4mi
-95.691 36.157 Degrees