Phase I Environmental Site Assessment Appleton Ranch, Santa Cruz County, Arizona

Prepared for:

RESOLUTION

Resolution Copper 102 Magma Heights – Superior, Arizona 85173-2523

Prepared by:

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WestLand Project Number: 13095



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Table of Contents

EXI	EXECUTIVE SUMMARY						
1.	INTRODUCTION						
	1.1.	Purpose		1			
	1.2.	Scope of	of Services	2			
	1.3.	Limitatio	ons and Exceptions	2			
	1.4.	Special	3				
	1.5.	User Re	User Reliance				
	1.6.	Continu	ed Viability	3			
2.	SITE	4					
	2.1.	4					
	2.2.	4					
	2.3.	Use of the Property	4				
	2.4.	Descrip	tion of Structures, Roads, and Other Improvements on the Site	5			
	2.5.	Current	Uses of Adjoining Properties	5			
3.	USE	R PROV	IDED INFORMATION	5			
	3.1.	3.1. Title Records					
	3.2. Environmental Liens or Activity and Use Limitations						
	3.3. Specialized Knowledge						
	3.4.	6					
	3.5.	6					
	3.6.	6					
	3.7.	Other					
4.	RECORDS REVIEW						
	4.1.	4.1. Environmental Record Sources					
	4.2.	.2. Prior Environmental Reports					
	4.3.	Physica	l Setting	7			
		4.3.1.	Topography	8			
		4.3.2.	Soils	8			
		4.3.3.	Geology	9			
		4.3.4.	Hydrology	9			
		4.3.5.	Hydrogeology	10			
	4.4.	Historical Use Information on the Property and Adjoining Properties		11			
		4.4.1.	Historical Topographic Maps	11			
		4.4.2.	Historical Aerial Photographs	13			
		4.4.3.	Property Tax Files	14			
		4.4.4.	Local Street Directories	15			

		4.4.5.	Sanborn Fire Insurance Maps	15			
		4.4.6.	Other Historical Sources	15			
5.	SITE	SITE RECONNAISSANCE					
	5.1.	. Methodology and Limiting Conditions					
	5.2.	2. Indications of Past Uses of the Property					
	5.3.	Exterior Observations					
		5.3.1.	Hazardous Substances and Petroleum Product Containers in Connection				
			with Identified Uses	17			
		5.3.2.	Hazardous Substance and Petroleum Product Containers not in Connection				
			with Identified Uses	17			
		5.3.3.	Storage Tanks (Aboveground and Underground)	17			
		5.3.4.	Unidentified Substance Containers	17			
		5.3.5.	Drums	17			
		5.3.6.	Odors	17			
		5.3.7.	Pools of Liquid, Pits, Ponds, or Lagoons	17			
		5.3.8.	Wastewater	18			
		5.3.9.	Septic Systems	18			
		5.3.10.	Wells	18			
		5.3.11.	Stained Soil or Pavement	18			
		5.3.12.	Stressed Vegetation	19			
		5.3.13.	Solid Waste Disposal	19			
		5.3.14.	PCB Equipment	19			
	5.4.	. Interior Observations					
6.	INTE	INTERVIEWS					
	6.1.	Interviev	v with Owner	19			
	6.2.	. Interview with Site Manager					
	6.3.	. Interviews with Occupants					
	6.4.	Interview with Local Government Officials					
	6.5.	5. Interviews with Others					
7.	FINE	DINGS AND OPINIONS					
8.	CON	NCLUSION24					
9.	DEV	VIATIONS24					
10.	ADD	DITIONAL SERVICES					
11.	QUA	JALIFICATIONS AND SIGNATURE OF ENVIRONMENTAL PROFESSIONALS20					
40	DEE	EDENIO	-0	27			

Figures

(follow text)

Figure 1. Vicinity Map

Figure 2. Aerial Overview with ADWR Registered Wells

Figure 3. Surface Management

Figure 4. Site Reconnaissance Map with Select Features

Appendices

Appendix A. Site Photographs

Appendix B. Santa Cruz County Assessor's Record Maps

Appendix C. User and Owner Questionnaire

Appendix D. Title Records

Appendix E. Environmental Lien and AUL Report

Appendix F. Partners for Fish and Wildlife Program Landowner Agreement

Appendix G. Area/Corridor Report

Appendix I. Historical Topographic Maps

Appendix I. Historical Aerial Photographs

Appendix J. Appleton-Whittell Research Ranch of the National Audubon Society, A History of the

Lands in the National Audubon Society's Research Ranch Near Elgin, in Santa Cruz County, Arizona by Glendon E. Collins, and Appleton-Whittell Research Ranch of the

National Audubon Society 2023 and 2024 Reports

Appendix K. The BLM H-2000-01 Pre-Acquisition Environmental Site Assessments Checklist

Appendix L. Operator Questionnaire

Appendix M. Local Government Interview (Sonoita-Elgin Fire Department)

Appendix N. Resumes

EXECUTIVE SUMMARY

WestLand Engineering & Environmental Services (WestLand) was contracted by Resolution Copper Mining, LLC (Resolution; a report "User") to perform a Phase I Environmental Site Assessment (ESA) for approximately 956 acres referred to as the Appleton Ranch parcel ("the Property"; **Figure 1**). The Property is presently under non-federal ownership (Resolution) but is proposed as part of a land exchange with the Bureau of Land Management (BLM; a report "User") under the *Southeast Arizona Land Exchange and Conservation Act of 2013* (U.S. Congress 113th). The Property comprises a set of three private land tracts consisting of eight parcels within the larger (8,000 acre) Appleton-Whittell Research Ranch (Research Ranch), which is itself a set of properties used in cooperative partnership between the BLM, U.S. Forest Service (USFS), The Nature Conservancy, National Audubon Society (Audubon), and Resolution. The Property is located within portions of Sections 14, 15, 17, and 28 of Township 21 South, Range 18 East, relative to the Gila and Salt River Meridian, in Santa Cruz County, Arizona. Santa Cruz County Assessor's Parcel numbers (APNs) for the Property are 108-18-012B, 108-18-012H, 108-18-019, 108-18-020, 108-18-012A, 108-18-017C, 108-36-003A, and 108-25-001.

An aerial photograph showing the Property boundaries is included in **Figure 2**. **Figure 3** shows surface management (land ownership) of the Property and vicinity. Photographs depicting the site and vicinity are provided in **Appendix A** at the locations indicated in **Figure 4**.

This Phase I ESA has been completed in accordance with the guidelines provided in the ASTM International (ASTM) Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process for Forestland or Rural Property (ASTM E 2247-23). The purpose of this work was to identify the presence or potential presence of recognized environmental conditions (RECs) resulting from past or present activities. According to ASTM guidelines, a REC is defined as "...(1) the presence of hazardous substances or petroleum products in, on, or at the subject property due to any release to the environment; (2) the likely presence of hazardous substances or petroleum products in, on, or at the subject property due to a release or likely release to the environment; or (3) the presence of hazardous substances or petroleum products in, on, or at the subject property under conditions that pose a material threat of a future release to the environment. A de minimis condition is not a recognized environmental condition."

Findings

Environmental Liens/Activity and Use Limitations

On February 24, 2025, Environmental Data Resources (EDR) was commissioned to conduct a title review for environmental liens and activity and use limitations (AULs) for the Property. This search was conducted

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The Southeast Arizona Land Exchange and Conservation Act of 2013 is section 3003 of the Carl Levin and Howard P. "Buck" McKeon National Defense Authorization Act for Fiscal Year 2015.

for each of the eight parcels comprising the Property. No records of environmental liens or AULs were identified for any of the parcels comprising the Property.

Records Review

Environmental Records—WestLand contracted with EDR to conduct an electronic search of regulatory agency databases for references to the Property and surrounding lands. The database search was completed on February 21, 2025, by conducting a search from the boundaries of the Property to the minimum search distance recommended by the ASTM standard. The Property was not identified in any of the environmental databases searched by EDR and there were no environmental records mapped within the ASTM-prescribed search distances from the Property.

The EDR Orphan Summary list included in the EDR report identifies one record associated with unmappable sites ("orphan" sites) in the vicinity of the Property: Babocomari Ranch Co LTD. This record is for an underground storage tank identified on Research Ranch Road, "Highway 83" (formally, Arizona State Route [SR] 83) under the Facility Index System/Facility Registry System database. The Babocomari Ranch is located northeast of the Property and this record does not indicate a REC for the Property.

Historical Topographic Maps—WestLand reviewed U.S. Geological Survey (USGS) topographic maps of the Property and its vicinity dated from 1904 to 2021. These maps depict the Property as undeveloped with several earthen livestock tanks and canyons. Road development and, in later years (between 1980 and 2002), the ranch house, are the main anthropogenic features shown. The historical topographic maps did not reveal any indication of RECs for the Property.

Historical Aerial Photographs—WestLand reviewed historical aerial photographs depicting the Property and vicinity dating from 1956 to 2019. These photographs show the Property as undeveloped, with fence lines and roads observed throughout the years. The 1992 photograph shows development in the southern tract, including a ranch house and landscaping, and a ranch on adjacent Property. The historical aerial photographs did not reveal any indication of RECs for the Property.

Prior Environmental Reports—Prior Phase I ESAs for the Property were conducted by WestLand in 2004, 2016, 2020, and 2024 (WestLand 2004b, 2016, 2020, 2024). These assessments revealed no evidence of RECs in connection with the Property or on adjoining land. A septic tank associated with the ranch house in the southern parcel was removed in 2020.

Physical Setting

The Property spans the Vaughn Canyon and Turkey Creek surface water basins within the San Pedro River watershed. None of the named drainages within the Property have been identified by the Arizona Department of Environmental Quality (ADEQ) as impaired for any designated uses by that agency's surface water monitoring program (ADEQ 2012, 2015, 2018). The Property is located in the Upper San Pedro groundwater basin. Groundwater on or near the Property is relatively shallow (i.e., generally less than 100

feet; WestLand 2004a). The Arizona Department of Water Resources (ADWR) well registry indicates that two wells at the Property reach groundwater at approximately 70 feet below ground surface (bgs). The wells extend to depths ranging from 100 to 260 feet bgs. Additionally, depth-to-groundwater data from 10 wells monitored near the Research Ranch indicate that groundwater is present between 25 and 175 feet bgs. No water quality data is available from these wells.

Historical Use

The Property is located east of SR 83 and south of SR 82 and consists of private inholdings largely surrounded by public land. The Property has previously been used for ranching, which reportedly ceased in 1968 or 1969 to establish an ecological preserve. A residence was present on the southern parcel of the Property during the Property's use for cattle grazing. The Property was not part of the land transactions in 1968 when the adjoining Research Ranch was originally formed; it remains privately owned but is managed similarly to the Research Ranch ecological study area. Adjoining public land is managed by USFS (as the Coronado National Forest), BLM, Arizona State Land Department (ASLD), and Audubon; other private owners hold some adjoining parcels.

The adjoining Research Ranch has been used for ecosystem conservation, research, and education/outreach. Land use activities include grassland rehabilitation efforts such as controlling erosion, removing non-native invasive species, replanting native grasses, and re-establishing a natural fire regime via planned fires. Non-native plant species removal is currently accomplished by manual removal, but in past years, each plant may have been sprayed with 2-percent Roundup® to minimize disturbance to the ecosystem. Based on prior and recent interviews with Linda Kennedy (the representative for Audubon and a past ranch manager) and the description of land use at the Research Ranch provided by published documents, conservation and research activities at the Research Ranch do not involve the application or use of hazardous materials or petroleum products (with the exception of discrete application of Roundup® in small [de minimis] quantities). It is possible that the storage and use of minor quantities of hazardous material and petroleum products (lubricants, cleaners, etc.) are present at structures on adjoining land (at the larger ranch) such as the laboratory housing units, and offices; however, these products would likely be found in household quantities and any releases would also be of a de minimis nature.

Site Reconnaissance

On March 17, 2025, WestLand environmental specialist Christopher Rife performed a site reconnaissance of the Property to visually assess existing environmental conditions. Developed features and improvements at the Property are limited to windmills, solar power wells, small earthen-bermed stock ponds, electric powerlines, and telegraph/telephone lines/poles. Several dirt roads access these features from the Research Ranch road network. Field observations were consistent with the findings of WestLand's historical review of the Property and vicinity.

Remnants of a ranch house (i.e., foundation only), yard landscaping, and a driveway are present on the southern tract of the Property. This residence, reportedly constructed in the 1980s, burned in 2002 due to a large fire that originated in the San Rafael Valley (Linda Kennedy, Audubon pers. comm. in 2015 to D. Sandoval, WestLand). A septic system associated with the ranch house was removed in 2020. No RECs were identified on the Property or on adjoining land.

Interviews

Individuals and representatives at various agencies were interviewed (or contacted for interview) as part of this and prior assessments:

- The report User and Property owner (Casey McKeon representative for Resolution);
- The BLM; WestLand had not received a response to update this inquiry;
- Steven Prager, Director of the Appleton-Whittell Research Ranch of the National Audubon Society;
- Suzanne Wilcox, representative for the Research Ranch;
- Captain Aaron Sapienza, a representative from the Sonoita-Elgin Fire District;
- Cristina Francois, a previous Property Manager of the Research Ranch;
- Linda Kennedy, Audubon and a prior Property Manager for the Research Ranch;
- Posey Piper, a past occupant at the Research Ranch who lived on adjoining land at the ranch's headquarters while managing cattle for the Appleton family with her husband; and
- The Santa Cruz County Health Department (regarding old septic records).

No information provided through these interviews indicate the potential for a REC in connection to the Property.

Recognized Environmental Conditions

WestLand has performed this Phase I ESA in conformance with the scope and limitation of ASTM E 2247-23 for the Property. This assessment has revealed no evidence of RECs, historical RECs, controlled RECs, or *de minimis* conditions in connection with the Property. *De minimis* conditions may be present on adjoining land.

1. INTRODUCTION

Westland Engineering & Environmental Services (WestLand) was contracted by Resolution Copper Mining, LLC (Resolution; the "User") to perform a Phase I Environmental Site Assessment (ESA) for approximately 956 acres referred to as the Appleton Ranch parcel ("the Property"; **Figure 1**). The Property is presently under non-federal ownership (Resolution) but is proposed as part of a land exchange with the Bureau of Land Management (BLM) under the *Southeast Arizona Land Exchange and Conservation Act of 2013* (U.S. Congress 113th). The Property comprises of a set of three private land tracts consisting of eight parcels within the larger (8,000 acre) Appleton-Whittell Research Ranch (Research Ranch), which is itself a set of properties used in cooperative partnership between the BLM, U.S. Forest Service (USFS), The Nature Conservancy, Audubon, and Resolution. The Property is located within portions of Sections 14, 15, 17, and 28 of Township 21 South, Range 18 East, relative to the Gila and Salt River Meridian, in Santa Cruz County, Arizona. Santa Cruz County Assessor's Parcel Numbers (APNs) for the Property are 108-18-012B, 108-18-012H, 108-18-019, 108-18-020, 108-18-012A, 108-18-017C, 108-36-003A, and 108-25-001.

1.1. PURPOSE

The purpose of this investigation was to assess the Property and surrounding areas to identify the presence or potential presence of recognized environmental conditions (RECs) potentially resulting in environmental impacts to the Property. According to the ASTM International (ASTM) *Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process for Forestland or Rural Property* (ASTM E 2247-23), a REC is defined as: "...(1) the presence of hazardous substances or petroleum products in, on, or at the subject property due to any release to the environment; (2) the likely presence of hazardous substances or petroleum products in, on, or at the subject property due to a release or likely release to the environment; or (3) the presence of hazardous substances or petroleum products in, on, or at the subject property under conditions that pose a material threat of a future release to the environment. A *de minimis* condition is not a recognized environmental condition...". Conditions determined to be *de minimis* are not RECs.

The results of an investigation may be used as part of the due diligence investigation for prospective property owners promulgated pursuant to the *Comprehensive Environmental Response, Compensation, and Liability Act of 1980* (CERCLA, a.k.a. Superfund), the *Superfund Amendments and Reauthorization Act of 1986* (SARA), and the *Small Business Liability Relief and Brownfields Revitalization Act of 2002* (the Brownfield Amendments). This Phase I ESA is intended to assist the User in satisfying the requirements to qualify for the innocent landowner, contiguous property owner, or bona fide prospective purchaser limitations of CERCLA. The Property owner has continuing obligations, if applicable, to receive liability protections in addition to the All Appropriate Inquiry (40 CFR Part 312). The continuing obligations include:

The Southeast Arizona Land Exchange and Conservation Act of 2013 is section 3003 of the Carl Levin and Howard P. "Buck" McKeon National Defense Authorization Act for Fiscal Year 2015.

- (1) compliance with land use restrictions; (2) not impeding the effectiveness or integrity of institutional controls;
- (3) taking reasonable steps to prevent releases; (4) providing assistance and access to the U.S. Environmental Protection Agency (EPA), state, or other parties conducting response or restoration actions; (5) compliance with CERCLA information requests and subpoenas; and (6) providing legally required notices.

1.2. SCOPE OF SERVICES

This Phase I ESA has been completed in accordance with the guidelines provided in ASTM E 2247-23. This standard satisfies the requirements of the EPA All Appropriate Inquiry provisions, which became effective November 1, 2006 (40 CFR Part 312). This protocol requires the review of readily available environmental records, historical and current land use, interviews with persons knowledgeable about the Property, and a field reconnaissance to observe on-site conditions and adjoining properties.

The User of this report has responsibilities for addressing some of the mandatory provisions of the standard. ASTM E 2247-23 Section 6 (User Responsibilities) describes tasks that will help identify the possibility of RECs in connection with the Property that do not require the expertise of an environmental professional, including checking title records for environmental liens and activity and use limitations (AULs). The User provided certain title records to WestLand. WestLand also commissioned a search for environmental liens and AULs by a title professional on the User's behalf.

This Phase I ESA does not assess ASTM non-scope considerations, including asbestos-containing building materials, radon, lead-based paint, lead in drinking water, wetlands, regulatory compliance, cultural and historic resources, industrial hygiene, health and safety, ecological resources, endangered species, indoor air quality (including vapor intrusion), biological agents, mold, or other nuisances.

1.3. LIMITATIONS AND EXCEPTIONS

This Phase I ESA evaluates potential sources of hazardous substances or petroleum products that could be considered a REC and a liability due to their presence in significant concentrations, or the potential for contamination migration through exposure pathways. Unless otherwise noted, this assessment did not include any testing or sampling of materials. Hazardous substances occurring naturally are not typically considered. This report is intended to provide further recommendations regarding potential RECs related to the Property; conclusive identification of hazardous substances and petroleum products can be accomplished only through sampling and laboratory analysis.

Site reconnaissance does not provide information regarding potential sources of contamination below the ground surface. However, in cases of subsurface contamination, aboveground indicators such as obvious stress to plant life or staining are noted. All findings are based on observations, information collected, and conditions during the site visit. A change of those conditions may alter the findings and conclusions of this report.

A Phase I ESA cannot, within its scope of assessment, wholly eliminate uncertainty regarding the potential presence of RECs. WestLand believes that the information in this report is reliable; however, WestLand cannot guarantee that the information provided by all the sources contained in this report is complete and accurate. This report is intended to decrease, but not eliminate, uncertainty regarding the potential for RECs in connection with a property given reasonable limits of cost and time, and in a manner consistent with the customary practices of the environmental consulting industry, under similar circumstances at the time services were performed and in similar localities. It should be noted that the conditions at the Property could change as a result of natural processes or be altered by human activities at the Property and/or nearby sites.

1.4. SPECIAL TERMS AND CONDITIONS

No special terms or conditions are associated with this report.

1.5. USER RELIANCE

This Phase I ESA has been prepared for use by Resolution and the BLM in support of the *Southeast Arizona* Land Exchange and Conservation Act of 2013 (U.S. Congress 113th). This Phase I ESA may not be relied upon by any other person or entity without the written consent of WestLand.

1.6. CONTINUED VIABILITY

The ASTM E 2247-23 guidelines require that certain components of a Phase I ESA be completed less than 180 days prior to the date of acquisition or the intended transaction if no acquisition is involved; therefore, its useful life is limited. The following components of the Phase I ESA are presumed valid only within 180 days after the date on which the component is completed:

- Interviews
- Searches for environmental liens
- Government records review
- Site reconnaissance
- Declaration by the environmental professional

Other components of the Phase I ESA (e.g., historical aerial photograph and topographic map reviews) are valid for 1 year. The above-listed components can be updated separately to eliminate redundant environmental due diligence efforts within 1 year. After 1 year has passed, all Phase I ESA components should be redone. The prior Phase I ESA report may be used as a reference during completion of the new investigation and analysis.

2. SITE DESCRIPTION

This section describes the location, general characteristics, and current uses of the Property. The current uses of adjoining properties are also described. Photographs depicting the Property and vicinity are provided in **Appendix A**. A recent aerial photograph depicting the Property and near vicinity is provided as **Figure 2**. Surface management (land ownership) is depicted in **Figure 3**. The approximate locations of the ground photographs with GPS locations provided in **Appendix A** are shown in **Figure 4**.

2.1. LOCATION AND LEGAL DESCRIPTION

The Property is located south of Elgin in Santa Cruz County, Arizona. The nearest major metropolitan center is Tucson, located approximately 50 miles northwest of the Property. Access to the Property and the larger Research Ranch is from the north via Arizona State Route (SR) 83 from Elgin and then Research Ranch Road. Access within the Property is via Research Ranch Road and other informal dirt roads.

The Property is located within portions of Sections 14, 15, 17, and 28 of Township 21 South, Range 18 East, relative to the Gila and Salt River Meridian, in Santa Cruz County, Arizona (**Figure 1**). The Santa Cruz County APNs for the Property are 108-18-012B, 108-18-012H, 108-8-019, 108-18-020, 108-18-012A, 108-18-017C, 108-36-003A, and 108-25-001. A Santa Cruz County Assessor's Record Map is provided as **Appendix B**.

The Property is composed of three discrete areas, described as follows and depicted in Figure 3:

- Tract 1 is the northwestern tract, a rectangular shape that occupies the eastern half of Section 17.
- Tract 2 is the northeastern tract, irregularly shaped and occupying a portion of Sections 14 and 15.
- Tract 3 is the southernmost tract. It is an irregularly shaped tract in the northeastern quarter of Section 28.

2.2. SITE AND VICINITY GENERAL CHARACTERISTICS

The Property is located in the gently rolling Canelo Hills, on the western flanks of the Huachuca Mountains in southeastern Arizona. The Property is situated along the streambeds and adjacent upland areas of Vaughn, O'Donnell, and Post canyons. Topography, soils, geology, hydrology, and hydrogeology of the Property are described in **Section 4.3**.

2.3. CURRENT USE OF THE PROPERTY

The Property is currently unoccupied. The larger Appleton Ranch was originally used for cattle grazing, which reportedly ceased in 1968 or 1969 as a result of the decision by the Appleton family to establish an ecological preserve, the Research Ranch. The Property was not part of the land transactions in 1968 when the Research Ranch was formed; it remains privately owned but is managed similarly to the adjacent Research Ranch ecological study area.

2.4. DESCRIPTION OF STRUCTURES, ROADS, AND OTHER IMPROVEMENTS ON THE SITE

Developed features and improvements at the Property are minimal. Windmills, solar powered wells (**Appendix A, Photographs 1 and 7**, respectively), and numerous small earthen-bermed stock ponds are present in or adjacent to the drainages onsite. Remnants of a former residence is present in Tract 3; the majority of the structure was consumed by fire in 2002, and only the foundation was observed during site reconnaissance. Several dirt roads (**Appendix A, Photo 5**) access these features from the Research Ranch's primitive road network.

2.5. CURRENT USES OF ADJOINING PROPERTIES

Adjoining public land is managed by USFS (as the Coronado National Forest), BLM, Arizona State Land Department (ASLD), and Audubon; other private owners hold adjoining parcels. As previously mentioned, the Property is largely surrounded by the Research Ranch (described further in **Section 4.4.6**), which includes lands managed by USFS, BLM, and Audubon.

3. USER PROVIDED INFORMATION

The report User and landowner is Resolution who provided relevant information about the Property on March 18, 2025. The Resolution representative is Casey McKeon. A copy of the User and Owner Questionnaire is provided as **Appendix C**. Information provided by the User is summarized in the following subsections.

3.1. TITLE RECORDS

WestLand was provided with copies of title information in connection to the Property including an ALTA Standard Owners 1992 policy of insurance, dated February 2, 2004 (**Appendix D**). This policy appears to have been issued when Swift Current Land & Cattle, LLC was considering purchase of the Property from the Lee Appleton Trust. The title documents include a list of Schedule B requirements and Exceptions which typically list known land encumbrances (i.e., taxes, deed restrictions, easements, liens) and may provide an indication of the potential for contamination at the Property. Based on WestLand's review of the listed standard and specific encumbrances, none readily indicate the release, or threat of a release, of a hazardous material or petroleum product at the Property.

Further information regarding current title information was provided through the search of available land title records for environmental liens and AULs on the Property conducted on behalf of the User (Section 3.2).

3.2. ENVIRONMENTAL LIENS OR ACTIVITY AND USE LIMITATIONS

Resolution is not aware of any environmental liens or AULs for the Property.

WestLand engaged Environmental Data Resources (EDR) to conduct a search of available land title records for environmental liens and AULs on the Property. A search for environmental liens and AULs was completed for each of the eight parcels comprising the Property. No records of environmental liens or AULs were identified in the search. The current deed for the Property was executed and recorded on April 8, 2020, conveying ownership from Swift Current Land & Cattle, LLC to Resolution. Copies of the environmental lien and AUL search with the relevant deeds for the Property are provided as **Appendix E**. This review did not identify the presence of any RECs associated with the Property.

3.3. SPECIALIZED KNOWLEDGE

Resolution reported that small, aboveground storage tanks for petroleum products are located on the adjoining property and used for maintenance at the Research Ranch. No spills or releases from these tanks were known to have occurred. The Appleton family purchased the Property in the 1950s and owned it until 2005.

3.4. COMMONLY KNOWN OR REASONABLY ASCERTAINABLE INFORMATION

Resolution reported that the Property and vicinity are rolling grasslands formerly used for cattle grazing (until 1968) and are largely devoid of development such as buildings or major earthwork. Currently, the Property is managed similarly to adjacent ecological research lands where cattle grazing is restricted.

3.5. VALUATION REDUCTION FOR ENVIRONMENTAL ISSUES

Resolution reported that there is no information indicating the value of the Property has been reduced as a result of environmental issues.

3.6. REASON FOR PERFORMING A PHASE I ESA

Resolution stated that the Phase I ESA was being performed to identify RECs requiring additional investigation relating to a land exchange property transaction with the BLM under the *Southeast Arizona Land Exchange and Conservation Act of 2013* (U.S. Congress 113th).

3.7. OTHER

Resolution also provided the Partners Fish And Wildlife Program Landowner Agreement (**Appendix F**) dated August 1, 2017, between the National Audubon Society, Inc., Swift Current Land and Cattle LLC, and the U.S. Fish and Wildlife Service. This agreement outlines the funding award to help restore habitat for species on the Property, particularly for the installation of solar panels to provide reliable water for the ponds to enhance pollinator habitat at McDaniel Tanks.

Based on Resolution's knowledge of, and experience related to the Property, no obvious indicators point to the presence or likely presence of contamination on the Property of which Resolution is aware. No other information relevant to potential RECs was provided by Resolution.

4. RECORDS REVIEW

WestLand reviewed a variety of regulatory records to determine if any past uses of the Property or uses within adjoining areas may have led to RECs on the Property.

4.1. ENVIRONMENTAL RECORD SOURCES

WestLand contracted with EDR to conduct an electronic search of regulatory agency databases for references to the Property and surrounding lands. The database search was conducted on February 21, 2025, and included standard and additional federal, tribal, state, local, and supplemental database records, as well as EDR proprietary database records. The regulatory agency databases were queried by conducting a search from the boundaries of the Property to the minimum search distance recommended by the ASTM standard. A copy of the EDR Area/Corridor report that describes the databases searched, search distances, record details for the search results, and the dates the databases were last updated is provided in **Appendix G**.

The Property was not identified in any of the environmental databases searched by EDR and there were no environmental records mapped within the ASTM prescribed search distances from the Property.

The EDR Orphan Summary list included in the EDR report identifies one record associated with unmappable sites ("orphan" sites) in the vicinity of the Property: Babocomari Ranch Co LTD. This record is for an underground storage tank identified on Research Ranch Road, Highway 83 (formally, SR 83) under the Facility Index System/Facility Registry System database. The Babocomari Ranch is located northeast of the Property and this record does not indicate a REC for the Property.

4.2. PRIOR ENVIRONMENTAL REPORTS

Prior Phase I ESAs for the Property were conducted by WestLand in 2004, 2016, 2020, and 2024 (WestLand 2004b, 2016, 2020, 2024). Those reports were relied upon and referenced, as appropriate, throughout the course of this inquiry. The prior assessments revealed no evidence of RECs in connection with the Property

4.3. PHYSICAL SETTING

The Property's physical setting was reviewed by WestLand to gain an understanding of the Property's geophysical characteristics. These geophysical characteristics, including surface topography, soils, geology, hydrology, and hydrogeology may relate to the potential migration of hazardous substances and petroleum products to or from the Property.

4.3.1. Topography

The Appleton Ranch parcels are located in the southern Basin and Range physiographic province. The province is characterized by elongated mountain ranges trending northwest-southeast, separated by broad alluvial valleys. The Property is located within the southeastern portion of the Sonoita Basin. There are several ranges surrounding the basin including Canelo Hills (on the western flank of the Huachuca Mountains) to the south, Empire Mountains to the north, Mustang Mountains to the east, and Santa Rita Mountains to the west.

The Property is located in the Canelo Hills (WestLand 2004a), which are low and rolling hills ranging in elevation from about 4,635 to 5,051 feet above mean sea level (amsl). Bald Hill, centrally located on the Research Ranch (and near the midpoint of the three Property tracts), represents the high point of this elevational range. The Canelo Hills reach their peak elevation at Lookout Knob, 6,175 feet amsl, approximately 7 miles south-southeast of the Property. The Property is along the ephemeral drainages and adjacent upland areas of Post, Vaughn, and O'Donnell Canyons, all of which flow north-to northeast towards the Babocomari River, approximately 1.5 miles north of the closest Property boundary.

4.3.2. Soils

Soil data provided by the National Cooperative Soil Survey through Web Soil Survey(Soil Survey Staff 2025)³ indicate that the Property soils include the Bernardino Hathaway association, White House gravelly loam, Hathaway gravelly sandy loam, and Pima soils. The soil complexes in the Property are well-drained and occur on fan terraces.

The Bernardino-Hathaway association is composed of 55 percent Bernardino soils and approximately 25-percent Hathaway soils. The Bernardino series consists of very deep, well-drained soils that formed in fan alluvium from igneous and sedimentary rock. Bernardino soils are on fan terraces and have slopes of 0 to 30 percent. Permeability of this soil series is moderately low to moderately high.

The Hathaway series consists of very deep, well-drained soils that formed in fan alluvium from mixed sources. Hathaway soils are gravelly sandy loam on fan remnants and have dominant slopes of 10 to 50 percent. Permeability is moderately high to high.

White House gravelly loam is mapped as a separate soil unit where it occurs on slopes of 10 to 35 percent. It is a well-drained soil that formed in fan alluvium with moderately high permeability. White House gravelly loam consists of very deep, well-drained soils formed in stream alluvium.

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³ Accessed online 2/26/2025.

Pima soils consist of recent mixed alluvium that formed in floodplains. It is considered well-drained and has high water storage capacity. This soil series has slopes of 0 to 3 percent.

4.3.3. Geology

The Canelo Hills are cut by northwest-striking steep faults that are splays of the Sawmill Canyon-Kino Springs fault system (Bultman 1999). A thin to moderately thick veneer of soil overlies the bedrock of the upland areas; eroded material has accumulated in canyon bottoms as alluvium. Farther north, approaching the Babocomari River, basin-fill sediment has accumulated to a degree identifiable as a geologic unit. Regionally, the "lower basin fill unit is probably lower- and middle-Miocene in age and is poorly to moderately well consolidated. In the Santa Cruz basin [in which the Property lies] this unit is the Nogales Formation. The upper basin fill unit is upper-Miocene to lower-Pleistocene and is unconsolidated to poorly consolidated. These basin fill units are overlain by Holocene surficial deposits, including alluvium of stream channels, flood plains, and terraces which are unconsolidated overall but locally indurated" (Bultman 1999, Houser 1999).

The surface geology on Tract 2 is mapped as predominately Early Pleistocene to Late Pliocene Surficial Deposits, with the western portion of that tract mapped as Pliocene to Middle Miocene Deposits, and the southeastern corner mapped as Middle Miocene to Oligocene Sedimentary Rocks (Richard et al. 2000). The other two tracts are mapped entirely as Pliocene to Middle Miocene Deposits (Richard et al. 2000).

4.3.4. Hydrology

The Property spans the Vaughn Canyon and Turkey Creek surface water basins within the San Pedro River watershed. Named drainages associated with the Property include Vaughn Canyon, Post Canyon, and O'Donnell Canyon. Surface water in O'Donnell Canyon flows northeast into the Babocomari River, which then flows east and discharges into the San Pedro River approximately 24 river miles downstream of the Property. The closest stream gauge (U.S. Geological Survey (U.S. Geological Survey National Gap Analysis Program) Gauge No. 009471380) is on the Babocomari River, near Huachuca City approximately 7 miles downstream of the Property. The short record for this gauge (August 2000 to September 2002) indicates annual (to a limited extent) and seasonal variability in stream flow for the area (WestLand 2004a). Changes in stream flows are delayed by approximately 2 to 3 months from precipitation events, which usually peak in July (WestLand 2004a). The extreme variability in monthly mean flows exhibited in Babocomari River at this gauge are likely reflected in the three smaller on-site watersheds.

Perennial surface water is present on the Property in the form of three earthen stock ponds (Finley, Telles, and Vaughn tanks) that are supported by groundwater from nearby wells. Each of these tanks is relatively small (less than 1 acre) and shallow (less than 10 feet deep). These tanks are filled using on-site wells fitted with wind-powered pumps.

The map of perennial streams in Arizona compiled by Brown et al. (1978) indicates an approximately 1.2-mile stretch of perennial flow (less than 10 cfs base flow) in O'Donnell Canyon within the Research Ranch area (WestLand 2004a). It should be noted that the scale of the map (Brown 1978), 1 inch = 25 kilometers, does not permit precise location of small segments, and it is not possible to determine if the perennial flow segment depicted in this 1978 map includes a portion of the Property. However, a segment of base flow (10 to 50 cubic feet per second [cfs]) is indicated in Turkey Creek, a tributary to O'Donnell Canyon, farther upstream, near the Canelo Hills. Segments of this stream, upstream and downstream of the mapped perennial flow section of O'Donnell Canyon, are depicted on the map as exhibiting ephemeral or intermittent flow. Additionally, a short segment of an unnamed stream immediately west of the Turkey Creek segment near the Canelo Hills is depicted with 10 to 50 cfs perennial baseflow. Although depicted as isolated (i.e., not connected to any other waterway even by ephemeral flow), this unnamed stream is likely the upper reach of O'Donnell Canyon.

Comparing WestLand's observations from prior site visits to the 1978 map, it is likely that stream flow in the segment of O'Donnell Canyon on the Research Ranch varies from ephemeral to intermittent to perennial based on long-term precipitation patterns (WestLand 2004a). Although the stream may have been perennial in 1978, and in preceding years, the lack of flow observed during site reconnaissance for each of the assessments completed by WestLand indicates that flow in the on-site segment of the streams is currently ephemeral, flowing only in response to storm events. Protracted wet seasons or years may temporarily elevate the stream to intermittent status, while droughts and/or excessive nearby or regional groundwater pumping may change perennial streams to intermittent or ephemeral flow.

None of the named drainages within the Property have been identified by the Arizona Department of Environmental Quality (ADEQ) as impaired for any designated uses by that agency's surface water monitoring program (ADEQ 2012, 2015, 2018).

The majority of Research Ranch is identified by Federal Emergency Management Agency (FEMA) as Zone A, areas with 1-percent annual chance flood hazard, with a small area denoted Zone X (minimal flood hazard). The National Wetland Inventory map for the Property identified no wetlands within the Property.

4.3.5. Hydrogeology

The Property is in the Sierra Vista sub-basin within the larger Upper San Pedro groundwater basin (Hydrologic Unit Code [HUC] 15050202). In general, groundwater flow direction is from the mountain fronts toward the central valley and to the north (ADWR 2015). A zone of depression that has formed in the Sierra Vista area as a result of groundwater pumping has altered local groundwater flow direction (ADWR 2015); it is not known if this cone of depression extends to the Property.

The major aquifers in the basin consist of younger basin fill, older basin fill, basal conglomerate, and recent alluvium. The primary recharge in the area is mountain-front recharge and streambed infiltration (ADWR 2015).

Groundwater on or near the Property is present at relatively shallow depths (i.e., generally less than 100 feet; WestLand 2004a). Four groundwater wells are present on the Research Ranch (i.e., on or in the vicinity of Appleton Ranch), originally used to provide water for livestock, using shallow impoundments for storage (stock tanks). The pumps in these wells are powered by windmills and solar power. The solar powered well is used for habitat enhancement within the Property. The ADWR well registry indicates that these wells reach water levels at approximately 70 feet bgs. The wells range in depth from 100 to 260 feet bgs (WestLand 2004a). Additionally, depth-to-groundwater data obtained from Audubon for 10 wells monitored near the Research Ranch indicate groundwater present between 25 and 175 feet bgs.

The ADWR well registry database contained data for 25 wells within a 1-mile radius of the parcels (ADWR 2020).⁴ The groundwater level trends in these wells showed that the groundwater depth ranges from 100 to 400 feet bgs. The median well yield for the basin is 600 gallons per minute.

No water quality data is available for these wells. However, groundwater in the Upper San Pedro Basin is suitable for most uses, with arsenic and fluoride being the parameters that most frequently exceed drinking water standards in sampled wells (ADWR 2015).

4.4. HISTORICAL USE INFORMATION ON THE PROPERTY AND ADJOINING PROPERTIES

The purpose of reviewing historical sources is to develop a history of the previous uses of a property and surrounding area to help identify past uses that may have led to RECs in connection with the Property. According to the ASTM standard, obvious uses of a property shall be identified from the present back to the property's first developed use, or back to 1940, whichever is earlier. This requires reviewing only as many standard historical sources as are reasonably ascertainable and likely to be useful.

4.4.1. Historical Topographic Maps

WestLand reviewed USGS topographic maps of the Property and its vicinity dated 1904, 1905, 1915, 1947, 1948, 1958, 1983, 1988, 1996, 2014, 2018, and 2021 (**Appendix H**). USGS topographic map coverage for the Property is provided on the Pyeatt Ranch 7.5-minute quadrangles, O'Donnell Canyon 7.5-minute quadrangles, Fort Huachuca SW 7.5-minute quadrangles, Elgin 15-minute quadrangles, Benson 30-minute quadrangles, and Patagonia 30-minute quadrangles. The 7.5-minute quadrangles are provided at a 1:24,000 scale, the 15-minute quadrangles at a 1:62,500 scale, and the 30-minute quadrangles at a 1:125,000 scale. Topographic maps depict both natural and developed features, including wells, structures, and other indications of historical use. The following summary presents WestLand's review of the identified mapped features on or near the Property in chronological sequence.

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⁴ Accessed online July 29, 2020.

The 1904 Patagonia 30-minute quadrangle (1:125,000 scale) provides coverage for the entirety of Tract 1 (northwestern) and Tract 3 (southern) and the western portion of Tract 2 (northeastern). This map depicts much of the Property as undeveloped land. Natural topography and drainages appear to be similar to existing conditions. There are no developed features depicted on the Property with the exception of an unimproved road crossing through Tract 2. A road is also depicted just south of Tract 3 on adjoining land.

The 1905 Patagonia 30-minute quadrangle (1:125,000 scale) provides the same area of coverage as the 1904 map. This map depicts the Property in the same undeveloped condition as 1904 with the exception that the road in the western portion of Tract 2 is not depicted.

The 1915 Benson 30-minute quadrangle (1:125,000 scale) provides coverage for Tract 2. This map depicts much of the Property as undeveloped land. Natural topography and drainages appear to be similar to existing conditions. There are no developed features depicted on the Property with the exception of an unimproved road crossing through Tract 2.

The 1947 Elgin 15-minute (1:62,500 scale) and 1948 Fort Huachuca 15-minute (1:62,500 scale) quadrangles were combined and provide coverage of all of the Property with the exception of the very eastern portion of Tract 2. This map provides additional coverage of the Property and the surrounding area. The only improvement depicted on the Property is an improved road in Tract 2, located on an alignment east of the unimproved road that was shown on the 1904 map. The road splits to travel southwest and southeast and continues off the Property toward Brophy Ranch and Clark Ranch, respectively. Several structures are depicted at these ranches on adjoining land. The Coronado National Forest boundary is depicted along the north boundary of Tract 3.

The 1948 Fort Huachuca SW 7.5-minute (1:24,000 scale), Elgin 7.5-minute (1:24,000 scale), Pyeatt Ranch 7.5-minute (1:24,000 scale), Mustang Mountains 7.5-minute (1:24,000 scale), and O'Donnell Canyon 7.5-minute (1:24,000 scale) quadrangles are combined in several maps and cover all of the Property. These maps depict the Property and surrounding area in similar conditions to the previous quadrangles and show a larger expanse of informal roadways on land around the Property. Babocomari River and several windmills are depicted north of the Property.

The 1958 O'Donnell Canyon 7.5-minute (1:24,000 scale), and Pyeatt Ranch 7.5-minute (1:24,000 scale) quadrangles are combined and cover the Property in several maps. These maps are the same as the 1948 map with the exception of two additional road spurs, one toward land north of the Property and the other to Finley Tank, a stock pond located on Tract 2. Two windmills are depicted at the Property, on Tracts 1 and 3. An informal road is depicted to the windmill on the northwestern parcel. Other changes on the 1958 maps compared to prior maps occur on land surrounding the Property. A trail has been improved to a dirt roadway west of Clark Ranch (previously owned by the Clark family), and Brophy Ranch has been renamed Swinging H Ranch. A water tank is depicted on the hillside east of Swinging H Ranch. A new roadway provides access to a new windmill on land between Tracts 1 and 2.

The 1983 O'Donnell Canyon 7.5-minute (1:24,000 scale), and Pyeatt Ranch 7.5-minute (1:24,000 scale) quadrangles are combined and cover all of the Property. These maps portray the Property in the same condition as the prior maps, with the exception of the absence of one of the informal roads on Tract 2. Other changes appear to have occurred on land surrounding the Property. New roadways are present and additional buildings are depicted at Clark Ranch (previously owned by the Clark family). The windmill between Tracts 1 and 2 is no longer depicted.

1988 Fort Huachuca 15-minute (1:62,500 scale) quadrangle shows only a portion of the Property. This map does not show any development from the 1983 map.

The 1996 O'Donnell Canyon 7.5-minute (1:24,000 scale), Pyeatt Ranch 7.5-minute (1:24,000 scale), Fort Huachuca 15-minute (1:62,500 scale) quadrangles are combined in several maps and cover all of the Property. These maps show the additional development at Tract 3 including a new road and structures. New roadways and water tanks are present on land surrounding the Property.

The 2014 O'Donnell Canyon 7.5-minute (1:24,000 scale), and Pyeatt Ranch 7.5-minute (1:24,000 scale) quadrangles are combined in several maps and cover all of the Property. These quadrangles depict the Property and the surrounding area with less detail than the previous maps, identifying only the main roads, canyons, and tanks.

The 2018 O'Donnell Canyon 7.5-minute (1:24,000 scale), and Pyeatt Ranch 7.5-minute (1:24,000 scale) quadrangles are combined in several maps and cover all of the Property. These quadrangles depict the Property and the surrounding area in the same condition as the 2014 quadrangles.

The 2021 O'Donnell Canyon 7.5-minute (1:24,000 scale), and Pyeatt Ranch 7.5-minute (1:24,000 scale) quadrangles are combined in several maps and cover all of the Property. These quadrangles depict the Property and the surrounding area in the same condition as the 2014 and 2018 quadrangles.

4.4.2. Historical Aerial Photographs

WestLand obtained historical aerial photographs depicting the Property and vicinity dating from 1956, 1970, 1983, 1992, 2003, 2007, 2010, 2015, and 2019 (**Appendix I**). WestLand reviewed the photographs for evidence of anthropogenic disturbance and to identify any historical land uses that might have involved the use, treatment, storage, disposal, or generation of hazardous substances, or petroleum products. WestLand also used Google Earth and enlarged selected areas to observe features at and in the near vicinity of the Property.

The 1956 aerial photographs do not show any developed features at the Property with the exception of a linear feature on Tract 2 suspected to be a fence line. Other surface disturbance appears to be roadways and small, cleared areas west of Tract 1 and between Tracts 2 and 3 on adjoining land.

The 1970 aerial photographs show the Property in similar conditions to the prior photograph with the exception of impoundments on the east portion of Tract 2. A ranch appears on adjoining Property between Tracts 2 and 3.

The 1983 aerial photographs clearly show roads on Tract 2. The eastern-most road appears to provide access to a structure, likely a ranch house or water tank. Additional development of roadways is apparent on land surrounding the Property.

The 1992 aerial photographs are at a higher quality resolution than the prior photographs. Dirt roads are apparent on all of the tracts. A ranch house and possibly guest house, outbuilding or other structure and landscaped grounds are present on Tract 3. The ranches on surrounding lands include several small structures.

The 1996 aerial photographs depict the Property in the same condition as the 1992 aerial photographs.

The 2003 aerial photographs show a roadway from the south on Tract 1 and remnants of the ranch area on Tract 3; surrounding land use appears to be similar to that observed for prior years. However, vegetation is visibly diminished in density, likely the result of a 2002 fire.

The 2007 aerial photographs depict the Property and the surrounding areas in a similar condition as the 2003 aerial photographs.

The 2010 aerial photographs depict the Property and the surrounding areas in a similar condition as the 2007 aerial photographs. Roads are shown throughout the Property and the surrounding area. Several cleared areas, which are likely for windmills or tanks, are shown.

The 2015 aerial photographs are provided in high quality resolution and in color. At Tract 1, roadways provide access to an earthen stock pond and an area of land has been disturbed adjacent to a wash near the roadway. Roadways and stock ponds are present on Tract 2. The central portion of the tract appears to have been graded/contoured. Tract 3 has remnants of the ranch house (i.e., a foundation). Surrounding land use appears to be similar to that observed for prior years.

The 2019 aerial photographs show the Property and the surrounding area in a similar condition as the 2015 aerial photographs.

4.4.3. Property Tax Files

WestLand obtained the property tax maps for the Property and adjoining areas from the Santa Cruz County Assessor. The Property assessor map is provided as **Appendix B**. The approximate boundary of the Property and associated land designation was also overlaid on the assessor's map.

This map shows certain roadways at and in the vicinity of the Property. The majority of the land in the vicinity appears to be undeveloped open space. The Property is considered vacant land with no assessed buildings.

4.4.4. Local Street Directories

Based on the lack of development in the immediate vicinity of the Property, WestLand did not conduct a city directory search.

4.4.5. Sanborn Fire Insurance Maps

Sanborn Fire Insurance Maps typically cover development in the first half of the 20th century. Considering the lack of development at the Property, WestLand did not commission a search for these maps.

4.4.6. Other Historical Sources

WestLand reviewed multiple historical sources on the Property published by Audubon. Provided as **Appendix J**, these include Research Ranch information, a frequently-asked-questions fact sheet, a copy of *A History of the Lands in National Audubon Society's Research Ranch near Elgin, in Santa Cruz County, Arizona* by Glendon E. Collins, and the *Appleton-Whittell Research Ranch of the National Audubon Society 2023 Report and the Appleton-Whittell Research Ranch of the National Audubon Society 2023 and 2024 <i>Report*. This information states that the ranch was originally part of the San Ignacio del Babocomari land grant. In the early 1900s, the grasslands of the area were used to graze cattle and homesteads were patented. The Appleton family purchased a part of the original land grant, retired the lands from cattle grazing in 1968, and in 1969 established the Research Ranch on the lands they own. Between 1960 and 1990, there was a series of land transactions that occurred between federal, state, and private owners. Audubon assumed management of the Research Ranch in 1980. Public access to the ranch has been limited and the ranch is used for conservation, land management, research, and education.

The known history of the Property and surrounding lands suggests that land use has been limited to ranching, then conservation and research. The Research Ranch website (National Audubon Society 2020) reports that since cattle were removed more than 30 years ago, rehabilitation efforts have included controlling erosion, removing non-native invasive species, replanting native grasses, and re-establishing a natural fire regime via planned fires. Exotic species removal has been accomplished by spraying each plant individually with 2-percent Roundup® (Glyphosate) to minimize disturbance to the ecosystem. Facilities for the Research Ranch, on adjoining land, include offices, housing, classrooms, and a laboratory (National Audubon Society 2020, Conservation and Research webpages). Research at the Research Ranch includes ecological and biological surveys, groundwater measurements, mapping exercises, vegetation monitoring, precipitation measurements, trail cameras, and more (National Audubon Society 2017). Based on the past interview with Linda Kennedy (a representative for Audubon and past ranch manager), and description of land use at the Research Ranch, conservation and research activities at the Research Ranch do not involve

the application or use of hazardous materials or petroleum products (with the exception of discrete application of Roundup® in small [de minimis] quantities).

No other historical sources were reviewed during this Phase I ESA.

5. SITE RECONNAISSANCE

On March 17, 2025, WestLand environmental specialist Christopher Rife performed a site reconnaissance to visually assess existing environmental conditions for the Property. Photographs documenting pertinent features are provided in **Appendix A.** The approximate photograph locations are shown in **Figure 4**. The BLM H-2000-01 *Pre-Acquisition Environmental Site Assessments Checklist* documenting site observations is provided in **Appendix K**.

5.1. METHODOLOGY AND LIMITING CONDITIONS

Prior to conducting the site reconnaissance, WestLand reviewed prior reports, current and historical aerial photographs, and topographic maps (described in **Section 4**) to identify the location of any areas of potential contamination, including roadways, cleared areas, disturbed soils, and structures. Areas of known concentrated human activity were assessed in greater detail because these areas presented the greatest potential for impacts by hazardous materials and petroleum products.

WestLand evaluated the identified areas of site disturbance through pedestrian and vehicular surveys, which included the Property as well as observations of the adjoining properties from publicly accessible areas. Field observations were consistent with the findings of WestLand's prior reports and historical records review of the Property and surrounding properties.

Site reconnaissance does not provide information regarding potential sources of contamination below the ground surface. However, in cases of subsurface contamination, aboveground indicators such as obvious stress to plant life or staining are noted. All findings are based on observations, information collected, and conditions during the site visit. A change of those conditions may alter the findings and conclusions of this report.

Access to the Property was provided via public roadways and interior roads of Research Ranch, accessed from the north via SR 83 from Elgin. The Property is enclosed by locked gates and fencing to prevent illegal entrance. There was no evidence of recreational off-road vehicle use or camping observed during the site reconnaissance.

5.2. INDICATIONS OF PAST USES OF THE PROPERTY

The Appleton Ranch parcels have historically been used for cattle grazing (excluded since 1969). On- and off-site human impacts are limited to residences and buildings for former ranching activities and current conservation and research activities—windmills and wells for groundwater supply, small earthen-bermed surface water impoundments originally for stock watering, and dirt roads for accessing these facilities.

A portion of Tract 3 was used as a residence from the 1980s until the early 2000s; the structure was consumed by fire in 2002 and only the foundation remains. Fire debris was removed from the Property for off-site disposal.

5.3. EXTERIOR OBSERVATIONS

5.3.1. Hazardous Substances and Petroleum Product Containers in Connection with Identified Uses

No hazardous substances and petroleum product containers in connection with identified uses were observed at the Property or adjoining properties.

5.3.2. Hazardous Substance and Petroleum Product Containers not in Connection with Identified Uses

No hazardous substances and petroleum product containers not in connection with identified uses were observed at the Property or on adjoining properties.

5.3.3. Storage Tanks (Aboveground and Underground)

No indications of above- or underground storage tanks potentially used for hazardous substances or petroleum products were observed on the Property or on adjoining properties. Aboveground concrete storage tanks formerly used for water storage were observed on the Property.

5.3.4. Unidentified Substance Containers

No unidentified substance containers were observed on the Property or on adjoining properties.

5.3.5. Drums

No drums were observed on the Property or on adjoining properties.

5.3.6. Odors

No strong, pungent, or noxious odors were detected on the Property or on adjoining properties.

5.3.7. Pools of Liquid, Pits, Ponds, or Lagoons

Stock ponds, both abandoned and in use, were observed on the Property. Typically located near wells, the ponds were previously used to store water for cattle ranching. One of the ponds is likely designated for wildlife use, as a wildlife camera was observed nearby, powered by solar pumping. One small pond, approximately 6 meters in diameter, is present in one drainage; water for this pond is supplied by a nearby well with a windmill-powered pump.

Several moderately sized ephemeral drainages pass through the Property, generally flowing to the northeast; all of the drainages were dry at the time of the site visit. Several small cattle tanks with earthen berms are situated in some of these drainages; most were dry.

No pools of liquid, pits, ponds, or lagoons in connection with waste disposal or treatment were observed on the Property or on adjoining properties.

5.3.8. Wastewater

No features associated with wastewater storage and disposal were observed.

5.3.9. Septic Systems

A septic tank was previously located at the former house foundation in Tract 3. In December 2020, Resolution hired Oddonetto Construction, Inc. (Oddonetto) to decommission the septic system. The septic system location was identified by metal vent pipes extending above the ground surface; no other physical aboveground evidence existed.

Oddonetto excavated the identified septic system location to a depth of approximately 10 feet, where bedrock was encountered. A metal tank was not found at the site; only remnants of a septic system consisting of pieces of masonry, pipes, and a leach line. The septic system had apparently collapsed and silted in some time prior to the decommissioning project. After removal of the septic system materials, the excavated area was backfilled. The remnant materials were collected and hauled away for offsite disposal.

No soil stains were observed in the excavation. No evidence of hazardous substances or petroleum products was observed at the site where the remnants of the septic system were removed. The decommissioned septic system does not represent a REC for the Property.

5.3.10. Wells

Three wells were observed at the Property. Two of the wells were served by solar power and one was served by windmills (as confirmed by Linda Kennedy, see **Section 6.5**). A well was located on each tract at the Property, though only two were observed (**Appendix A**, **Photos 7 and 9**) and only two are recorded with ADWR (**Figure 2**).

Given the lack of government records identified in the EDR database search, there are no wells on the Property or adjoining properties that would likely be associated with known groundwater remediation concerns.

5.3.11. Stained Soil or Pavement

No stained soil or pavement was observed on or adjacent to the Property.

5.3.12. Stressed Vegetation

Vegetation across the Property appeared to be in good health. No stressed vegetation likely attributed to any cause beyond natural causes was observed on the Property or adjacent to the Property. There was no indication of stressed vegetation on the Property or adjoining properties likely attributed to hazardous substances or petroleum products.

5.3.13. Solid Waste Disposal

The Resource Conservation Recovery Act (RCRA) was enacted by Congress in 1976 and amended in 1984. RCRA's primary goal is to protect human health and the environment from the potential hazards of waste disposal. Unauthorized solid waste disposal provides the potential for hazardous and regulated substances to impact a property in the absence of waste-generating activities. The Property appears to be generally clean of solid waste.

5.3.14. PCB Equipment

Concern over the toxicity and persistence in the environment of polychlorinated biphenyls (PCBs) led Congress in 1976 to enact §6(e) of the Toxic Substances Control Act (TSCA), which included prohibitions on the manufacture, processing, and distribution in commerce of PCBs. Historically, electrical transformers contained a cooling liquid that had PCBs. If present, electrical transformers or hydraulic equipment could provide the potential for release of PCBs onto the Property. In 1984, manufacturers began producing non-PCB transformers that contain less than 50 parts per million PCBs.

No PCB equipment was observed at the Property.

5.4. INTERIOR OBSERVATIONS

Not applicable; there are no structures on the Property.

6. INTERVIEWS

6.1. INTERVIEW WITH OWNER

The Property is currently owned by Resolution. The principal report User is Resolution who provided relevant information about the Property. See interview with report User in **Section 3.**

6.2. INTERVIEW WITH SITE MANAGER

On March 21, 2025, Steven Prager, Director of the Appleton-Whittell Research Ranch of the National Audubon Society, Audubon Southwest responded to WestLand's inquiry for information on the Property (**Appendix L**). Mr. Prager indicated that the current use of the Property includes research, conservation and community education, and was historically used for conservation, cattle grazing, and limited residential

use. He indicated that T. B. Titus, Wm. Roth, James L. Finley, Juan Telles, Francis Cuthbert Fenderson, Willard T. Roath, and John D. Riggs as well as the most recent ranching family, the Appletons of the Research Ranch Foundation, were current and previous owners and occupants of the Property. Mr. Prager indicated that the surrounding areas are currently and previously used for cattle ranching and grazing, limited residential development, conservation, research, and education. He indicated that to his knowledge there has not been any use of hazardous substances or petroleum products on the Property in recent years, and there have not been any known spills of hazardous materials or petroleum products. These responses are consistent with responses from a 2023 interview with Suzanne Wilcox, Program Manager Operations Manager for the National Audubon Society.

6.3. INTERVIEWS WITH OCCUPANTS

There are currently no occupants on the Property; however, Audubon manages the larger Research Ranch. The Property is managed as part of the Research Ranch (see Manager interview, **Section 6.2**). Occupants of the Research Ranch were interviewed to gain an understanding of their knowledge of the Property.

As part of the previous 2016 Phase I ESA inquiry (WestLand 2016), Diana Sandoval spoke with Posey Piper. Posey Piper and her family lived at the ranch headquarters (on adjoining land) from 1959 until 1967, where they raised cattle, and her husband served as cattle manager for the Appleton family. She reported that the Clark family owned much of the land in the vicinity before the Appleton family.

Posey Piper reported that the only known use of the Property she was aware of is for ranching. She does not recall there ever being a spill or large release of any chemicals, hazardous materials, or petroleum products at the ranch headquarters or on land in the larger ranch. She stated that her family and the owners managed the land with special attention given to conservation and protection of the natural environment. They preserved rainwater and worked to prevent erosion and sedimentation at the ranch.

She suggested the old ranch house that has since burned down on the Property belonged to the Appleton family. There should have been a septic system as there is no sewer in the vicinity. She stated that trash was typically burned and not buried.

When asked about parasitic prevention practices, Posey Piper reported cattle dipping practices were never conducted while they managed cattle. Sprays were used to apply pesticides to the cattle. She was not aware of what practices the Clarks or others in the area used.

6.4. INTERVIEW WITH LOCAL GOVERNMENT OFFICIALS

Fire Department

WestLand contacted the Sonoita-Elgin Fire District to confirm their service area and inquire about any responses to the Property or adjoining properties with regard to fuel/chemical spills or if they were aware of any chemical or petroleum product storage at the Property. A copy of this interview is provided as

Appendix M. On April 21, 2025, Captain Aaron Sapienza reviewed his records and reported that the District has no knowledge of any such spills or storage. This is consistent with the response from Ron Orona (fireman and paramedic) in 2023.

Santa Cruz County Health Department

For a previous Phase I ESA inquiry (WestLand 2016), the Santa Cruz County Health Department was interviewed by telephone regarding a septic records request. WestLand provided the legal description and parcel number (108-36-003A) for Tract 3, which formerly included a ranch house. According to the Health Department, Santa Cruz County records are not entirely inclusive as many people have not provided records to the county or ADEQ; however, they have records as far back as 1968. The query for this tract indicated only vacant land and no septic records were identified.

6.5. INTERVIEWS WITH OTHERS

As part of the 2020 Phase I ESA (WestLand 2020), Cristina Francois, the director of the Research Ranch with Audubon at that time, was interviewed. Cristina Francois was the acting director since January 2018. Linda Kennedy was the former director and was previously interviewed by WestLand for prior Phase I ESA reports. These two interviews are summarized in the following paragraphs.

Cristina Francois indicated that to her knowledge there has not been any use of hazardous substances or petroleum products on the Property in recent years. There have not been any known spills of hazardous materials or petroleum products. Even herbicide use has been curtailed in recent years as a management goal. Removal of non-native weed species is done by hand. There have been no new storage tanks installed on the Property but there was a new septic tank installed recently (since 2016) at the ranch headquarters on adjoining land. There is a proposal to use heavy equipment at the Property as part of a wetland installation project, but this has not been scheduled and would not indicate a potential release of hazardous materials or petroleum products to the Property.

Linda Kennedy reviewed field maps with WestLand staff prior to the past site visit and provided responses to several questions intended to provide relevant data regarding use of the Property and potential for environmental liabilities. She also provided historic information on the Research Ranch (**Appendix J**). Ms. Kennedy reported the current and past use of the Property as conservation and grazing land with limited residential (i.e., a ranch house at Tract 3). That house burned down in the Ryan Fire of 2002; only the foundation remains. She reported that the Appleton family bought the Property in the 1950s. Grazing at the Property occurred until 1968 or 1969. She reported that surrounding land use has been similar to land use at the Property.

Linda Kennedy indicated that she was not aware of any chemical or petroleum products being stored on the Property. The wells located on the Property are powered by wind and solar power. She also stated that she was not aware of any spills or other chemical releases that had taken place on the Property. She is not aware of any environmental liens, deed restrictions, restrictive covenants, or other land controls related to contamination of the Property or surrounding land. It is not known to Ms. Kennedy if an underground septic was located at the ranch house at the Property, or if septic tanks were closed. There are no transformers at the Property, only on adjoining land. Linda Kennedy has not observed indications of petroleum or chemical spills, and she has not observed wastewater treatment facilities. The Property was not used for a landfill or dump and there is no fill material at the Property from an unknown origin. There are no drains that are stained or emit odors.

On March 21, 2025, WestLand contacted representatives for the BLM, and requested that the User Questionnaire be completed for the Property in support of the *Southeast Arizona Land Exchange and Conservation Act of 2013* (U.S. Congress 113th). As of the date of this report, a returned questionnaire has not been received from the BLM. If the User Questionnaire is received from the BLM after this report is finalized, it may be incorporated into the Phase I ESA report as an addendum.

No other individuals were interviewed as part of this investigation.

7. FINDINGS AND OPINIONS

Based on the findings of the environmental records search, historical review, physical setting of the Property, field reconnaissance of the Property, prior reports, and interviews, WestLand provides the following findings and opinions pertaining to the Property:

- EDR was commissioned to conduct a title review for environmental liens and AULs for the Property.
 No records of environmental liens or AULs were identified for any of the assessor parcels comprising the Property.
- Federal, tribal, state, local, and supplemental database searches for environmental records of concern were conducted by EDR on February 21, 2025. The Property was not identified in any of the environmental databases searched by EDR and there were no environmental records mapped within the ASTM prescribed search distances from the Property. The EDR Orphan Summary list included in the EDR report identifies one record associated with unmappable sites ("orphan" sites) in the vicinity of the Property: Babocomari Ranch Co LTD. This record is for an underground storage tank identified on Research Ranch Road, "Highway 83" (formally, SR 83) under the Facility Index System/Facility Registry System database. The Babocomari Ranch is located northeast of the Property and this record does not indicate a REC for the Property.
- WestLand reviewed USGS topographic maps of the Property and vicinity dated from 1904 to 2021.
 These maps depict the Property as undeveloped with several earthen livestock tanks and canyons.
 Road development and, in later years (between 1980 and 2002), the ranch house, are the main anthropogenic features shown. The historical topographic maps did not reveal any indication of RECs for the Property.

- WestLand reviewed aerial photographs depicting the Property and vicinity dating from 1956 to 2019. These photographs show the Property as generally undeveloped, with fence lines and roads observed throughout the years. The 1992 photograph shows development in Tract 3, including a ranch house and landscaping, and a ranch on adjacent Property is also depicted in the 1992 photograph. The historical aerial photos did not reveal any indication of RECs for the Property.
- None of the named drainages within the Property have been identified by ADEQ as impaired for any designated uses by that agency's surface water monitoring program (ADEQ 2012, 2015, 2018).
 There are no RECs identified with surface water on the Property.
- Prior Phase I ESAs for the Property were conducted by WestLand in 2004, 2016, 2020, and 2024.
 The 2004, 2016, 2020 and 2024 assessments revealed no evidence of RECs in connection with the Property on adjoining land. A septic tank associated with the ranch house in Tract 3 was removed in 2020.
- On March 17, 2025, WestLand environmental specialist Christopher Rife performed site
 reconnaissance to visually assess existing environmental conditions for the Property. Developed
 features and improvements at the Property are limited to windmills, solar power wells, small
 earthen-bermed stock ponds, electric powerlines, and telegraph/telephone lines/poles. Several dirt
 roads access these features from the Research Ranch road network. Field observations were
 consistent with the findings of WestLand's historical review of the Property and vicinity.
- Remnants of a ranch house (i.e., foundation only), yard landscaping and a driveway are present on Tract 3. This residence, reportedly constructed in the 1980s, was burned down in 2002 due to a large fire that originated in the San Rafael Valley (Linda Kennedy, Audubon pers. comm. in 2015 to D. Sandoval). A septic system associated with the ranch house was removed in 2020. No RECs were identified on the Property or on adjoining land.
- The Property was previously used for ranching, including a residence and cattle grazing. In 1969, the ecological preserve was established, now the Research Ranch. The Research Ranch has been used for ecosystem conservation, research, and education/outreach. Grassland rehabilitation efforts include controlling erosion control, removing non-native invasive species, replanting native grasses, and re-establishing a natural fire regime via planned fires. Non-native plant species removal is currently accomplished by manual removal but in past years, each plant may have been sprayed with 2-percent Roundup® to minimize disturbance to the ecosystem. Based on WestLand's interview with the representative for Audubon and the past ranch manager, and descriptions of land use at the Research Ranch provided by published documents, conservation and research activities do not involve the application or use of hazardous materials or petroleum products, with the exception of discrete application of Roundup® in small [de minimis] quantities. It is possible that the storage and use of minor quantities of hazardous material and petroleum products (lubricants, cleaners, etc.) are present at structures on adjoining land (at the larger ranch) such as the laboratory, housing units and offices; however, these products would likely be found in

household quantities and any releases would be of a *de minimis* nature. The historic use does not indicate a REC for the Property.

- Individuals and representatives at various agencies were interviewed (or contacted for interview) as part of this and prior assessments:
 - The report User and Property owner (Casey McKeon representative for Resolution);
 - The BLM; WestLand had not received a response to update this inquiry;
 - Steven Prager, Director of the Appleton-Whittell Research Ranch of the National Audubon Society;
 - Suzanne Wilcox, representative for the Research Ranch;
 - Captain Aaron Sapienza, a representative from the Sonoita-Elgin Fire District;
 - Cristina Francois, a previous Property Manager of the Research Ranch;
 - Linda Kennedy, Audubon and a prior Property Manager for the Research Ranch;
 - Posey Piper, a past occupant at the Research Ranch who lived on adjoining land at the ranch's headquarters while managing cattle for the Appleton family with her husband; and
 - The Santa Cruz County Health Department (regarding old septic records).

No information provided through these interviews indicate the potential for a REC in connection to the Property.

8. CONCLUSION

WestLand has performed a Phase I ESA in conformance with the scope and limitations of ASTM E 2247-23 for the Property (**Figure 1**). Any exceptions to, or deletions from, this practice are described in **Section 9** of this report.

This assessment has revealed no evidence of RECs, controlled RECs, historical RECs, or *de minimis* conditions in connection with the Property. *De minimis* conditions may be present on adjoining land.

9. DEVIATIONS

Considering that developed use of the Property is limited to cattle grazing and prior residential uses and that there is no other documented or suspected use of the Property potentially indicating a REC, WestLand did not conduct a city directory search, Sanborn Fire Insurance Map search, building department record search, or other historic record searches. There were no data failures or limitations potentially affecting conclusions regarding the identification of RECs for the Property (site access limitations, physical obstructions to observations, outstanding information requests, historical data failure, etc.). Considering the known history of the site, the results of the site reconnaissance, and other completed research, this assessment is considered complete.

On March 21, 2025, WestLand contacted representatives for the BLM and requested that the User Questionnaire be completed for the Property in support of the *Southeast Arizona Land Exchange and Conservation Act of 2013* (U.S. Congress 113th). As of the date of this report, a returned questionnaire has not been received. If the User Questionnaire is received after this report is finalized, it may be incorporated into the Phase I ESA report as an addendum.

10. ADDITIONAL SERVICES

No additional services beyond the standard ASTM scope were considered as part of this assessment.

11. QUALIFICATIONS AND SIGNATURE OF ENVIRONMENTAL PROFESSIONALS

Mark F. Taylor, P.E., affirms that, to the best of his professional knowledge and belief, he meets the definition of "environmental professional" as defined in §312.10 of 40 CFR 312. Mr. Taylor possesses the specific qualifications based on education, training, and experience to assess a property of the nature, history, and setting of the subject Property. He has developed and performed all the appropriate inquiries in conformance with the standards and practices set forth in 40 CFR Part 312.

Mr. Taylor is the leading environmental professional assigned to perform project oversight for this Phase I ESA. Christopher Rife conducted the site reconnaissance. Diana Sandoval conducted the interviews, Samantha Blonder conducted the regulatory inquiries and historical research, Christopher Rife reviewed the findings in this report. Their work was conducted under the supervision of the above-named environmental professional. Mr. Taylor reviewed, interpreted, and declared the information included in this report as complete. Resumes for the key individuals participating in the preparation of this report are provided in **Appendix N**.

Md F. Tyla	May 15, 2025
Mark F Taylor P F	Date

12. REFERENCES

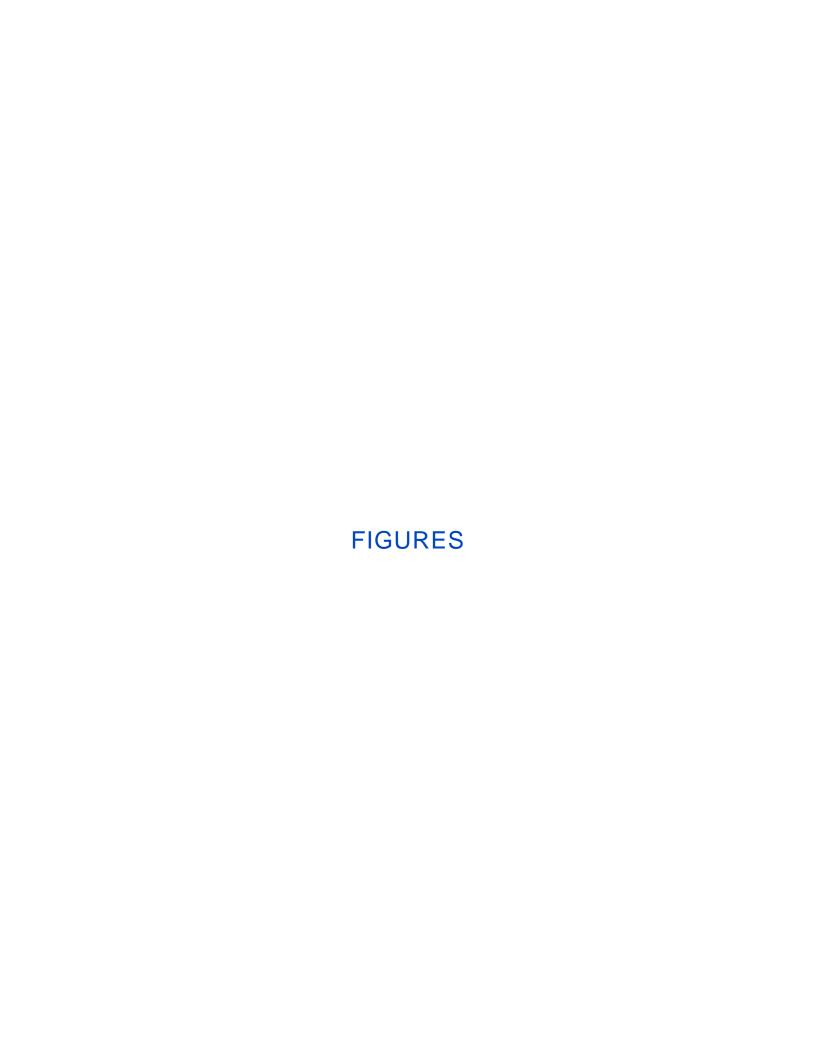
- Arizona Department of Environmental Quality. 2012. 2010 Status of Water Quality Arizona's Integrated 305(b) Assessment and 303(d) Listing Report. June 2012. . 2015. 2012/14 Status of Water Quality Arizona's Integrated 305(b) Assessment and 303(d) Listing Report. August 2015. . 2018. Arizona's 2018 303(d) List of Impaired Waters. Surface Water Monitoring and Assessment. 2018. Arizona Department of Water Resources. 2015. Groundwater Conditions in the Upper San Pedro Basin. March 2015. 2020. "Registry of Wells in Arizona (Wells 55) Interactive Map & Data." https://azwatermaps.azwater.gov/wellreg. Brown, David E. 1978. "The Vegetation and Occurrence of Chaparral and Woodland Flora on Isolated Mountains within the Sonoran and Mojave Deserts in Arizona." Journal of the Arizona-Nevada Academy of Science 13 (1):7-12. Bultman, Mark W. 1999. Geometry, Structure, and Concealed Lithology of the San Rafael Basin, Southeastern Arizona. Open-File Report 99-399: U.S. Geological Survey. Houser, Gettings and 1999. Depth to bedrock in the Upper San Pedro Valley, Cochise County, southeastern Arizona. U.S. Geological Survey, U.S. Department of the Interior. Tucson, Arizona. National Audubon Society, 2017. Appleton-Whittell Research Ranch of the National Audubon Society, Annual Report – 2017. Elgin, Arizona: National Audubon Society.
- National Audubon Society. https://researchranch.audubon.org/.

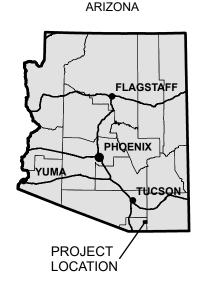
. 2020. "Appleton-Whittell Research Ranch of Audubon." Appleton-Whittell Research Ranch of the

- Richard, S.M., S.J. Reynolds, J.E. Spencer, and P.A Pearthree. 2000. Geologic Map of Arizona: Arizona Geological Survey, Map 35, scale 1:1,000,000. National Geologic Map Database.
- Soil Survey Staff, Natural Resources Conservation Service. 2025. "Web Soil Survey." U.S. Department of Agriculture. https://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx.
- U.S. Congress 113th. 2014. Carl Levin and Howard P. 'Buck' McKeon National Defense Authorization Act for Fiscal Year 2015'. December 19, 2014. *Public Law 113–291*,

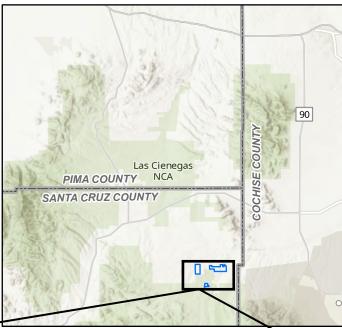
U.S. Geological Survey National Gap Analysis Program. 2005. Southwest Regional GAP Analysis Project					
- Land Cover Descriptions. RS/GIS Laboratory, College of Natural Resources, Utah State					
University.					
WestLand. 2004a. Ecological Overview: Appleton Ranch Parcel Santa Cruz County, Arizona. Prepared for					
Resolution Copper Mining. Tucson, Arizona: WestLand Resources, Inc. May 26, 2004.					
2004b. Phase I Environmental Site Assessment: Appleton Ranch Site Santa Cruz County, Arizona.					
Prepared for Swift Current Land & Cattle Company, LLC. Tucson, Arizona: WestLand Resources,					
Inc. March 22, 2004.					
2016. Phase I Environmental Site Assessment Non-Federal Parcel, Appleton Ranch Santa Cruz					
County, Arizona. Prepared for Resolution Copper. Tucson, Arizona: WestLand Resources, Inc.					
September 2016.					
2020. Phase I Environmental Site Assessment Appleton Ranch, Santa Cruz County, Arizona,					
Resolution Copper. Prepared for Resolution Copper. Tucson, Arizona: WestLand Resources, Inc.					
September 4, 2020.					
. 2024. Draft Phase I Environmental Site Assessment Appleton Ranch, Santa Cruz County, Arizona.					
Resolution Copper. Prepared for Resolution Copper. Tucson, Arizona: WestLand Engineering &					
Environmental Services. March 6, 2024.					

https://api.box.com/wopi/files/1855603508900/WOPIServiceId_TP_BOX_2/WOPIUserId_35843946711/20250515_13095_Phase_I_ESA_Appleton_Rch.docx

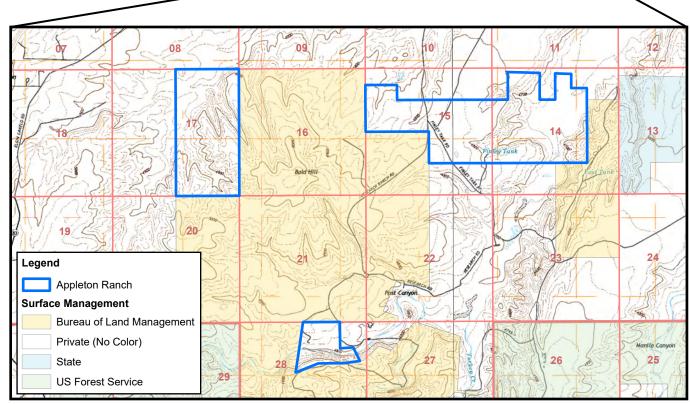




PROJECT VICINITY



Approximate Scale 1 inch equals 10 miles



Appleton Ranch

T21S, R18E, Portions of Sections 14, 15, 17, and 28,

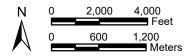
Santa Cruz County, Arizona

O'Donnell Canyon and Pyeatt Ranch USGS 7.5' Quadrangles (2018)

Projection: NAD 1983 UTM Zone 12N Surface Management: BLM SMA ArcGIS service accessed 04/02/2025

Image Source: ArcGIS Online, World Topographic Map

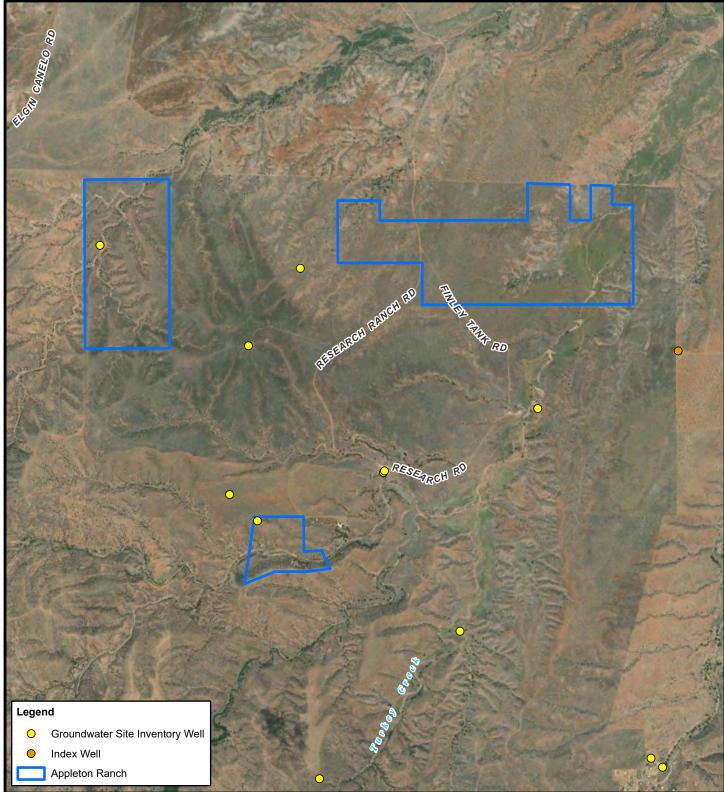




RESOLUTION COPPER Phase I ESA for Appleton Ranch

> **VICINITY MAP** Figure 1





Appleton Ranch T21S, R18E, Portions of Sections 14, 15, 17, and 28,

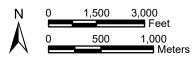
Santa Cruz County, Arizona Projection: NAD 1983 UTM Zone 12N

Data Source: ADWR Groundwater Site Inventory

ArcGIS Service accessed on 04/02/2025

Image Source: Maxar 06/29/2023



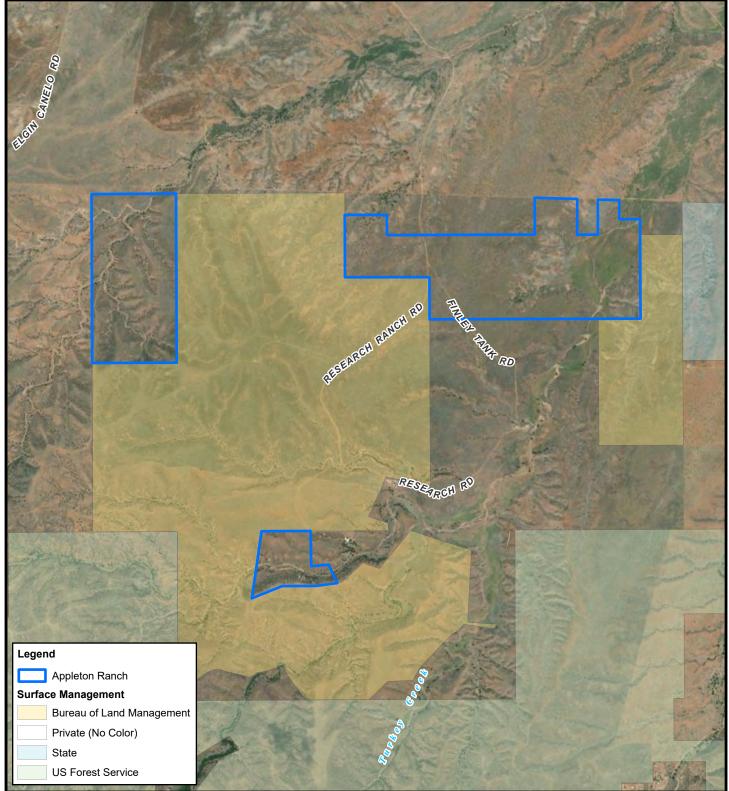


RESOLUTION COPPER Phase I ESA for Appleton Ranch

AERIAL OVERVIEW WITH ADWR REGISTERED WELLS Figure 2

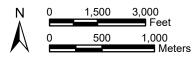






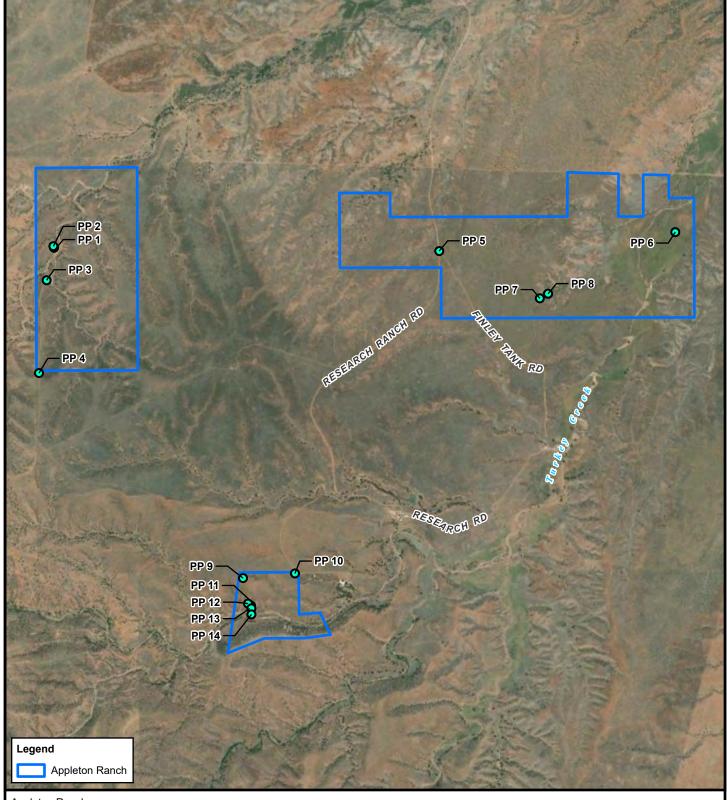
Appleton Ranch T21S, R18E, Portions of Sections 14, 15, 17, and 28, Santa Cruz County, Arizona Projection: NAD 1983 UTM Zone 12N Surface Management: BLM 2022, WRI Modified 2023 Image Source: Maxar 06/29/2023





RESOLUTION COPPER Phase I ESA for Appleton Ranch

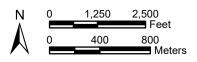
SURFACE MANAGEMENT Figure 3



Appleton Ranch T21S, R18E, Portions of Sections 14, 15, 17, and 28, Santa Cruz County, Arizona Projection: NAD 1983 UTM Zone 12N

Image Source: Maxar 06/29/2023





RESOLUTION COPPER Phase I ESA for Appleton Ranch

SITE RECONNAISSANCE MAP WITH SELECTED FEATURES Figure 4

APPENDIX A Site Photographs



Photo 1.

Windmill and tank. Located in Tract 1.



Photo 2.

Pipeline from windmill and well to trough and overflow for the cattle pond. Located in Tract 1.



Appleton Ranch Phase I ESA Site Photographs
Appendix A
Photopage 1



Photo 3.

Overview of the northwestern portion of the Property. Located in Tract 1.



Photo 4.

Overview of the northwestern portion of the Property. Located in Tract 1.





Photo 5.

Overview of the largest parcel including the Research Ranch Road running south through the parcel. Located in Tract 2.



Photo 6.

Overview of the Powerlines that cross the Property. Located in Tract 2.





Photo 7.

Solar powered well site, in the southeastern part of the northern parcel. Located in Tract 2.

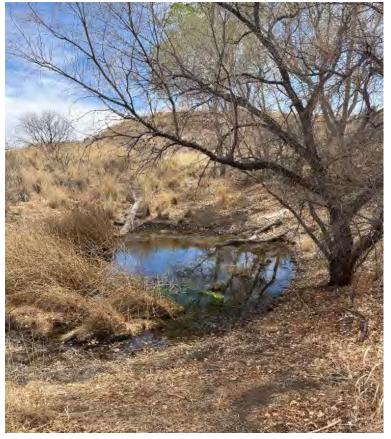


Photo 8.

Solar pumping to stock pond. Active pumping, water in pond. Located in Tract 2.



Appleton Ranch Phase I ESA Site Photographs
Appendix A
Photopage 4



Photo 9.

Well with solar and cisterns. Two wildlife drinkers, no water currently in any feature. Located in Tract 3.



Photo 10.

Overview of the southern parcel. Located in Tract 3.





Photo 11.

Foundation of former ranch house. Located in Tract 3.



Photo 12.

Overview of the remnants of the former ranch house. Located in Tract 3.



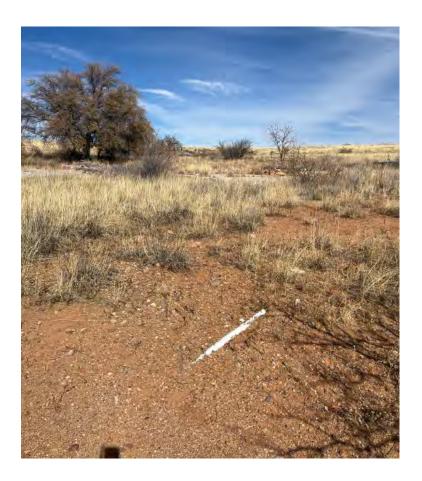


Photo 13.

Inactive water pipeline from old ranch house. Located in Tract 3.



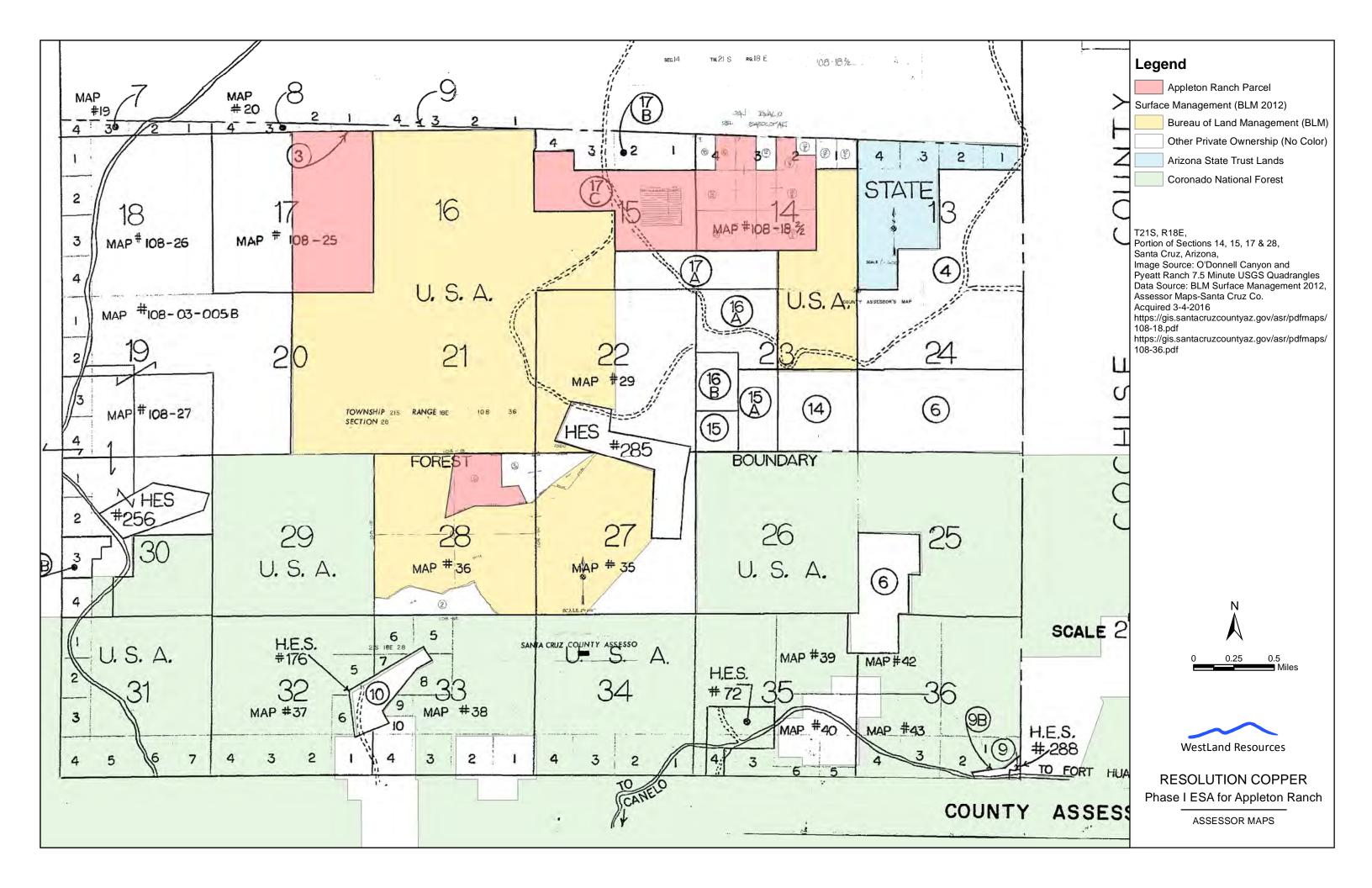
Photo 14.

Overview of the Property. Located in Tract 3.



Appleton Ranch Phase I ESA Site Photographs
Appendix A
Photopage 7

APPENDIX B Santa Cruz County Assessor Property Tax Map



APPENDIX C User and Owner Questionnaire

PHASE I ENVIRONMENTAL SITE ASSESSMENT (ASTM E 1527-21 & 2247-16)

USER QUESTIONNAIRE

To qualify for one of the *Landowner Liability Protections (LLPs)* offered by the Small Business Liability Relief and Brownfields Revitalization Act of 2001 (the "*Brownfields Amendments*"), the *user* must conduct the following inquiries required by 40 CFR §§ 312.25, 312.28, 312.29, 312.30, and 312.31. These inquiries must also be conducted by EPA Brownfield Assessment and Characterization grantees. The *user* should provide the following information to the *environmental professional*. Failure to conduct these inquiries could result in a determination that "*all appropriate inquiries*" is not complete.

Name, Title, and Organization of person interviewed (report *user*): <u>Casey McKeon, Resolution Copper Mining LLC</u>

Interview Medium (phone, email, in-person):

<u>Email</u>

Date of interview: 3/18/2025

(1). Environmental liens that are filed or recorded against the property (40 CFR 312.25).

Did a search of land title records/judicial records identify any environmental cleanup liens against the *property* under federal, tribal, state or local law?

No.

(2). Activity and use limitations that are in place on the *property* or that have been filed or recorded against the *subject property* (40 CFR 312.26).

Did a search of land title records/judicial records identify any AULs, such as engineering controls, land use restrictions or institutional controls that are in place at the site and/or have been filed or recorded in a registry under federal, tribal, state or local law?

No.

(3). Specialized knowledge or experience of the person seeking to qualify for the LLP (40 CFR 312.28).

Do you have any specialized knowledge or experience related to the *property* or nearby properties? For example, are you involved in the same line of business as the current or former occupants of the *property* or an adjoining property so that you would have specialized knowledge of the chemicals and processes used by this type of business?

Yes.

(4). Relationship of the purchase price to the fair market value of the *property* if it were not contaminated (40 CFR 312.29). Does the purchase price/lease being paid for this *property* reasonably reflect the fair market value of the *property*? If you conclude that there is a difference, have you considered whether the lower purchase price is because contamination is known or believed to be present at the *property*?

No indication from price paid that there were any environmental issues.

(5). Commonly known or reasonably ascertainable information about the property (40 CFR 312.30).

Are you aware of commonly known or reasonably ascertainable information about the property that would help the environmental professional to identify conditions indicative of releases or threatened releases? For example, as user:

- (a.) Do you know the past uses of the *property*?
 - The Property and surrounding grasslands formerly used for cattle grazing and largely devoid of development including buildings and major earthworks. The Property is managed similarly to adjacent ecological research lands where cattle grazing is restricted, and grassland ecology is studied.
- (b.) Do you know of specific chemicals that are present or once were present at the *property*?

 No hazardous substance containers or unidentified substance containers were identified on the property. Small above ground storage tanks for petroleum products are present on adjoining Audubon property and used for site maintenance.
- (c.) Do you know of spills or other chemical releases that have taken place at the *property*? No.
- (d.) Do you know of any environmental cleanups that have taken place at the *property*? No.

(6). The degree of obviousness of the presence of likely presence of contamination at the *property*, and the ability to detect the contamination by appropriate investigation (40 CFR 312.31).

As the user of this *ESA*, based on your knowledge and experience related to the *property* are there any obvious indicators that point to the presence or likely presence of contamination at the *property*? None.

In addition, certain information should be collected, if available, and provided to the environmental professional selected to conduct the Phase I. This information is intended to assist the environmental professional but is not necessarily required to qualify for one of the LLPs. The information includes:

- (a) The reason why the Phase I is being conducted. Land Exchange with Federal Government.
- (b) The type of *property* and type of *property* transaction, for example, sale, purchase, exchange, etc. <u>Land Exchange.</u>
- (c) The complete and correct address for the *property* (a map or other documentation showing *property* location and boundaries is helpful).

 Not required see map below.
- (d) The scope of services desired for the Phase I (including whether any parties to the *property* transaction may have a required standard scope of services on whether any considerations beyond the requirements of Practice E 1527/2247 are to be considered). Standard.
- (e) Identification of all parties who will rely on the Phase I report.

 Resolution Copper, US Forest Service, Bureau of Land Management.
- (f) Identification of the site contact and how the contact can be reached. Are there previous site contacts that should be interviewed?

Current site contacts: Suzanne Wilcox Suzanne.wilcox@audubon.org;
Benjamin Beal Benjamin.Beal@audubon.org
Steven Prager steven.prager@audubon.org 602.468.6470 x122

- (g) Any special terms and conditions which must be agreed upon by the environmental professional. No.
- (h) Any other knowledge or experience with the *property* that may be pertinent to the environmental professional (for example, copies of any available prior environmental site assessment reports, documents, correspondence, etc., concerning the *property* and its environmental condition).

<u>Phase I ESA 2020 & 2023 by Westland Resources. Conditions during Property's use as a homestead is unknown.</u>

OWNER/ OPERATOR/OCCUPANT OUESTIONNAIRE

Please respond to the questions provided below and expand your responses as appropriate:

- (1). Please describe the current uses of the *property*, if known. Conservation and research.
- (2). Name any past owners or occupants of the *property*, if known. Current: Resolution Copper Mining LLC: Past: Appleton family 1950's until RCML purchase 2005.
- (3). Please describe the past and/or current uses of adjoining properties, if known. Residential and grazing.
- (4). Please describe the general past and/or current uses of the surrounding area, if known. (i.e. residential, commercial, agricultural, industrial etc.)
 Surrounding land uses has largely been conservation, similar to the Property.
- (5). Are you aware of any chemicals/petroleum products in individual containers greater than 5-gallons that are present or once were present at the *property* (including used automotive/industrial batteries, pesticides, paints, solvents acids, bases, antifreeze, gasoline, diesel, fuel oil, kerosene, lubricating oil, benzene, etc)? This includes industrial drums (typically 55-gallons).

Yes No_X Unknown
(6). Do you know of spills or other chemical releases that have taken place at the <i>property</i> ?
Yes No_X Unknown
(7). Do you know of any environmental cleanups that have taken place at the <i>property</i> ?
Yes No X Unknown The 70-acre parcel had a house at one point which burnt
in the Ryan Fire in 2002. Only the house pad remains.

(8). Are you aware	of any enviro	inmental cleanup liens against the property?
Yes	No_X	Unknown
restrictions or instit	utional contro	gineering controls (capping, slurry walls or water treatment), land use ols (deed restriction, restrictive covenants, easements or zoning) intended as substance or petroleum product at the <i>property</i> ?
Yes	No_X	Unknown
(10). Are there any indicating storage to	_	nd storage tanks, underground storage tanks, vent pipes or access ways roperty?
		UnknownXnnot be located out by the house. It is not known if these tanks would have
(11). Are there any	PCBs (transf	formers, hydraulic equipment) at the <i>property</i> ?
Yes	NoX	Unknown only at the ranch headquarters and on adjoining land
(12). Have you ob petroleum or chemi-		ed soil/pavement, corrosion, or stressed vegetation that may indicate a e property?
Yes	No_X	Unknown
(13). Have you obsproperty?	served pits, j	ponds, or lagoons associated with wastewater treatment/disposal at the
Yes	No_X	Unknown Stock tanks only; See prev Phase I or records review
(14). Are you awa washes)?	re of any w	astewater/stormwater facilities at the property (drains, sumps, ditches,
Yes	No_X	Unknown
(15). Are you aware	e of any wells	s located at the <i>property</i> (dry, irrigation, injection, or abandoned)?
Yes_X_ (Finley Tank), one a		Unknown Two served by windmill and another by solar power 3 Property areas.
(16). Are you aware	e of any seption	c systems at the <i>property</i> ?
Yesfunctional.	No	UnknownX Possibly by old ranch house remains but would not be
(17). Has the <i>proper</i>	rty been used	for landfill, dump, battery storage, junkyard, or other disposal purposes?
Yes	NoX	Unknown

	Appleton 1 4 1	Ranch	: mats	attachea	l.
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(18). Has dirt fill been brought to the <i>property</i> that originated from a site of unknown origin or from a contaminated site?
Yes NoX_ Unknown
(19). Are there or has there ever been any flooring, drains, or walls located within the facility that are stained by substances other than water or emitting odors?
Yes No_X Unknown
Map page

APPENDIX D Title Records **Corporation Service Company**

2711 Centerville Road Suite 400, Wilmington, DE, 19808 (888) 690-2882 sop@escinfo.com

United States Corporation Company

NOGALES, AZ 85621 NONE STATED

Form Prepared By: Shanna Brewer

The Prentice-Hall Corporation System, Inc.

NOTICE OF SERVICE OF PROCESS Date Processed: 01-MAR-04 Transmittal #: AZ2020736C ALL. To: MS. SHANNON CROMPTON Redirect sent to: RIO TINTO SERVICES, INC. 1343 SOUTH 1800 EAST SALT LAKE CITY UT 84108 TYPE OF REPRESENTATION: Statutory We enclose the following documents which were served upon: Corporation Service Company for as registered agent in Arizona SWIFT CURRENT LAND & CATTLE, LLC (ID#: 2166382) Documents were served on 01-MAR-04 via Regular Mail (First Class) ID#: N/A Title of Action: LANDAMERICA LAWYERS TITLE Case #: FILE NO. 01320924 vs. SWIFT CURRENT LAND & CATTLE, LLC Court: NONE STATED Nature of Case: RE: INSURANCE AND REQUIREMENTS A self-addressed stamped Summons Notice of Mechanic's Lien envelope enclosed Notice of Attorney's Lien Complaint Notice of Default Judgment Duplicate copies of the Notice Garnishment and Acknowledgement enclosed Subpoena Other: LETTER; ETC. Answer Due: SEE DOCUMENT Documents Sent: Federal Express ID#: Spoke to: N/A Call Placed: No call placed Comments: NONE Attorney for Claimant: ALEXA RAMIREZ LAWYERS TITLE OF ARIZONA 1780 N. MASTICK WAY, SUITE F

Original Client Copy - for your records

The information on this transmittal is provided for use in forwarding the attached documents. This information does not constitute a legal opinion as to the facts or details of this action. These should be obtained from the documents themselves. The receiver of this transmittal is responsible for interpreting the documents and for taking appropriate action. If you have received only a copy of the transmittal, you should be aware that the documents have been sent to the original addressee. You should contact that addressee for details or interpretations of the content of those documents.

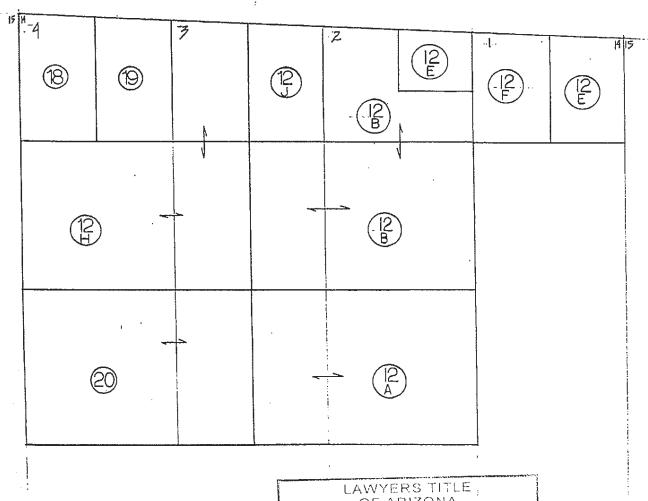
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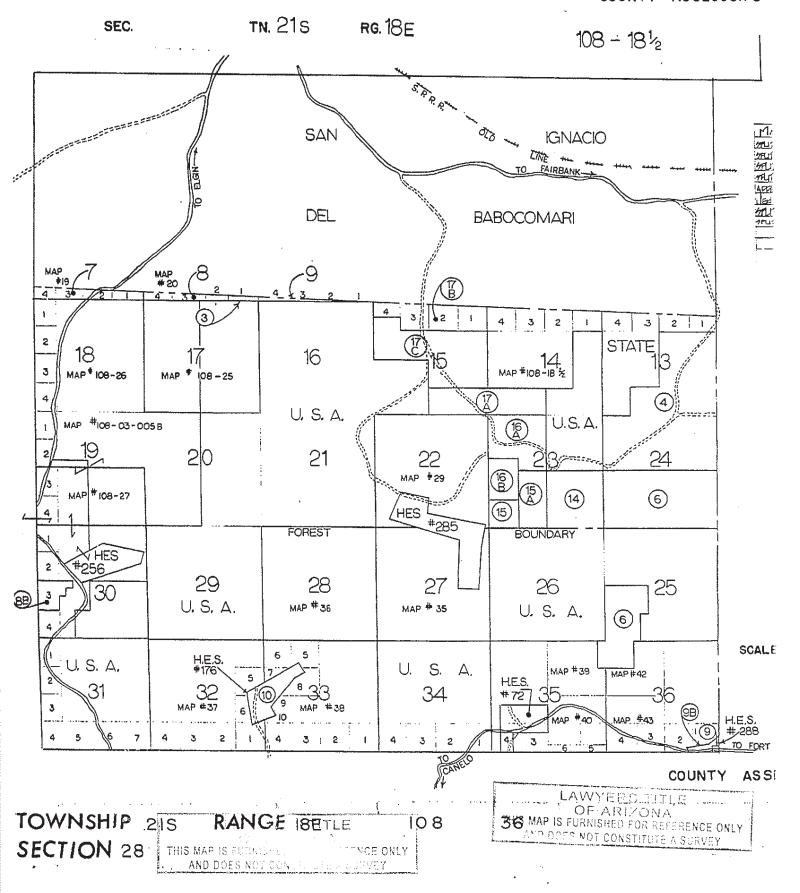
LAWYERS TITLE;
OF ARIZONA
THIS MAP IS FURNISHED FOR REPERENCE ONLY
AND DOES NOT CONSTITUTE A SURVEY

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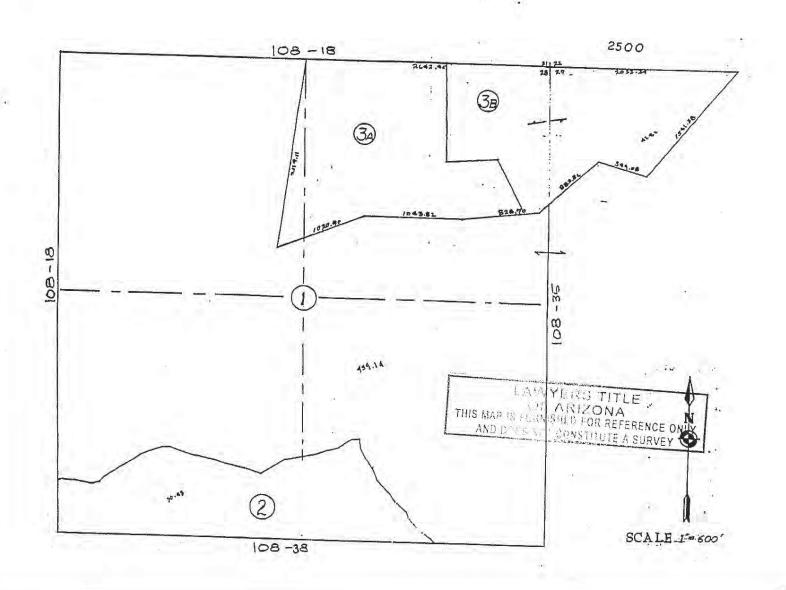
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LAWYERS TITLE OF ARIZONA THIS MAP IS FURN'S YED FOR REFERENCE ONLY AND DOES NOT CONSTITUTE A SURVEY 108-18

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LAWYERS TITLE INSURANCE CORPORATION, a Virginia corporation, herein called the Company, for valuable consideration, hereby commits to issue its policy or policies of title insurance, as identified in Schedule A, in favor of the proposed Insured named in Schedule A, as owner or mortgagee of the estate or interest covered hereby in the land described or referred to in Schedule A, upon payment of the premiums and charges therefor; all subject to the provisions of Schedules A and B and to the Conditions and Stipulations hereof.

This Commitment shall be effective only when the identity of the proposed Insured and the amount of the policy or policies committed for have been inserted in Schedule A hereof by the Company, either at the time of the issuance of this Commitment or by subsequent endorsement.

This Commitment is preliminary to the issuance of such policy or policies of title insurance and all liability and obligations hereunder shall cease and terminate six (6) months after the effective date hereof or when the policy or policies committed for shall issue, whichever first occurs, provided that the failure to issue such policy or policies is not the fault of the Company.

IN WITNESS WHEREOF, LAWYERS TITLE INSURANCE CORPORATION has caused its corporate name and seal to be hereunto affixed by its duly authorized officers, the Commitment to become valid when countersigned by an authorized officer or agent of the Company.

LAWYERS TITLE INSURANCE CORPORATION

Janet a. algort

Attest:

Secretary

JAD. Web

SEAL 1925

By:

President

DISCLOSURE NOTICES

Good Funds Law

Arizona Revised Statutes Section 6-843 regulates the disbursement of escrow funds by an escrow agent. The law requires that funds be deposited in the escrow agent's escrow account and available for withdrawal prior to disbursement. Funds deposited with the Company by wire transfer may be disbursed upon receipt. Funds deposited with the Company in the form of cashier's checks, certified checks or teller's checks, or checks which are made by an affiliate of a state or federally regulated depository institution when the check is drawn on that institution, may be disbursed the same day as deposited. If funds are deposited with the Company by other methods, recording and/or disbursement may be delayed.

Privacy Notice (15 U.S.C. 6801 and 16 CFR Part 313):

We collect nonpublic personal information about you from information you provide on forms and documents and from other people such as your lender, real estate agent, attorney, escrow, etc. We do not disclose any nonpublic personal information about our customers or former customers to anyone, except as permitted by law. We restrict access to nonpublic personal information about you to those employees who need to know that information in order to provide products or services to you. We maintain physical, electronic and procedural safeguards that comply with federal regulations to guard your nonpublic personal information.

PURCHASER DWELLING ACTIONS NOTICE

Pursuant to Arizona Revised Statutes Section 12-1363.N, notice is hereby provided to the purchaser of a dwelling of the provisions of Arizona Revised Statutes Sections 12-1361, 1362 and 1363. These statutory sections set forth the requirements to be met by a purchaser prior to bringing an action against the seller of a dwelling arising out of or related to the design, construction, condition or sale of the dwelling. "Dwelling" means a single or multifamily unit designed for residential use and common areas and improvements owned or maintained by an association or its members. "Seller" means any person, firm, partnership, corporation, association or other organization engaged in the business of designing, constructing or selling dwellings. The complete statutory sections can be viewed on the Arizona State Legislature's web site: www.azleq.state.az.us/ars/ars.htm.

NOTICE:

Pursuant to Arizona Revised Statutes 11-480, effective January 1, 1991, the County Recorder may not accept documents for recording that do not comply with the following:

- a Print must be ten-point type (pica) or larger.
- b Margins of at least one-half inch along the left and right sides one-half inch across the bottom and at least two inches on top for recording and return address information.
- c Each instrument shall be no larger than 8 ½ inches in width and 14 inches in length.

Escrow Officer: Alexa Ramirez Lawyers Title of Arizona 1780 N. Mastick Way Suite F Nogales, Az 85621

COMMITMENT FOR TITLE INSURANCE

Issued by

Lawyers Title Insurance Corporation

SCHEDULE A

1. Effective Date: February 2, 2004 at 7:30 a.m. File No.: 01320924

2. Policy or Policies to be issued: ALTA Std. Owners Policy 10-17-92

Proposed Insured:

Swift Current Land & Cattle LLC, an Arizona limited

liability company

Liability:

\$3,400,000.00

Policy or Policies to be issued: None

Proposed Insured:

Liability:

\$

Policy or Policies to be issued: None

Proposed Insured:

Liability:

\$

- 3. The estate or interest in the land described or referred to in the Commitment and covered herein is A FEE.
- 4. Title to the said estate or interest in said land is at the effective date hereof vested in:

See Exhibit B attached hereto and made a part hereof.

5. The land referred to in this Commitment is situated in the County of Santa Cruz, State of ARIZONA, and is described as follows:

As fully set forth on "Exhibit A" attached hereto and by this reference incorporated herein

Title Officer: /P17

Typist: c18

Amended: February 20, 2004 No.

Page 3 of 27

EXHIBIT "A"

Parcel 1:

The Northwest quarter of the Southeast quarter and the East half of the Northeast quarter of the Southwest quarter of Section 14, Township 21 South, Range 18 East, Gila and Salt River Base and Meridian, Santa Cruz County, Arizona.

APN 108-18-012A

Parcel 2:

Lot 2;

The Southwest quarter of the Northeast quarter and the East half of the Southeast quarter of the Northwest quarter of Section 14, Township 21 South, Range 18 East, Gila and Salt River Base and Meridian, Santa Cruz County, Arizona;

EXCEPT the Northeast quarter of said Lot 2 conveyed by Deed recorded in Docket 416 at page 491.

APN 108-18-012B

Parcel 3:

Lot 3:

The Southwest quarter of the Northwest quarter and the West half of the Southeast quarter of the Northwest quarter of Section 14, Township 21 South, Range 18 East, Gila and Salt River Base and Meridian, Santa Cruz County, Arizona;

EXCEPT that portion of said Lot 3 conveyed by Deeds recorded in Docket 633 at page 134 and Docket 633 at page 135.

APN 108-18-012H

Parcel 4:

Lot 4;

The Northwest quarter of the Southwest quarter and the West half of the Northeast quarter of the Southwest quarter all in Section 14, Township 21 South, Range 18 East, Gila and Salt River Base and Meridian, Santa Cruz County, Arizona

EXCEPT that portion of said Lot 4 conveyed by Deed recorded in Docket 545 at page 610;

EXCEPT all coal and other minerals as reserved in the Patent from the United States of America.

APN 108-18-019 and 108-18-020

EXHIBIT "A" (Continued)

Parcel 5:

The south half of Lot 4, the south half of the North half and the Northwest quarter of the Southeast quarter of Section 15, Township 21 South, Range 18 East, Gila and Salt River Base and Meridian, Santa Cruz County, Arizona.

Portion of APN 108-18-017C

Parcel 6:

The Northeast quarter of the Southeast quarter of Section 15, Township 21 South, Range 18 East, Gila and Salt River Base and Meridian, Santa Cruz County, Arizona;

EXCEPT all coal and other minerals as reserved in the Patent from the United States of America.

Portion of APN 108-18-017C

Parcel 7:

The East half of Section 17, Township 21 South, Range 18 East, Gila and Salt River Base and Meridian, Santa Cruz County, Arizona.

Parcel 8:

A tract or parcel of land being a portion of Sections 27 and 28, Township 21 South, Range 18 East, Gila and Salt River Base and Meridian, Santa Cruz County, Arizona, more particularly described as follows:

BEGINNING at the corner common to Sections 21, 22, 27 and 28 of said Township and Range, a G.L.O. brass cap firmly set and properly marked;

THENCE North 89 degrees 58 minutes East, 2022.24 feet along and upon the North line of said Section 27 to a point thereon, being also corner No. 4 of H.E.S. No. 285;

THENCE South 39 degrees 40 minutes 30 seconds West, 1541.38 feet to an angle point;

THENCE North 72 degrees 44 minutes 30 seconds West, 549.08 feet to an angle point;

THENCE South 48 degrees 83 minutes West, 883.86 feet to an angle point;

THENCE South 82 degrees 36 minutes West, 828.70 feet to an angle point;

THENCE North 89 degrees 58 minutes 15 seconds West, 1043.82 feet to an angle point;

THENCE South 68 degrees 16 minutes 45 seconds West, 1020.90 feet to an angle point;

THENCE North 8 degrees 32 minutes 15 seconds East, 2119.11 feet to the quarter corner common to said Sections 21 and 28;

EXHIBIT "A" (Continued)

THENCE North 89 degrees 58 minutes East, 2642.95 feet to the place of beginning, all according to a transit survey made in June, 1974, by Robert Lenon, P.E. of Patagonia, Arizona, from the results of which this description was prepared by him at that time, with bearings referred to the meridian as determined from the average of 4 direct solar observations made at said Section corner;

EXCEPT any portion lying within the property conveyed by Deed recorded in Docket 468 at page 642 described as follows:

BEGINNING at the corner common to Sections 21, 22, 27 and 28 of said Township and Range, being a G.L.O. brass cap pipe firmly set and properly marked;

THENCE North 89 degrees 58 minutes 00 seconds East, 2020.03 feet along and upon the North line of said Section 27, to a point thereof, also being corner No. 4 of H.E.S. No. 285;

THENCE South 39 degrees 37 minutes 20 seconds West, 1539.65 feet;

THENCE North 72 degrees 45 minutes 04 seconds West, 549.09 feet;

THENCE South 48 degrees 01 minutes 54 seconds West, 883.94 feet;

THENCE South 82 degrees 34 minutes 49 seconds West, 186.35 feet;

THENCE North 26 degrees 42 minutes 49 seconds West, 643.82 feet;

THENCE South 85 degrees 45 minutes 02 seconds West, 549.80 feet;

THENCE North 01 degrees 29 minutes 22 seconds West, 1102.46 feet to a point on the North line of said Section 28;

THENCE North 89 degrees 58 minutes 00 seconds East along said North section line 1194.62 feet to the point of beginning.

SCHEDULE B - SECTION I REQUIREMENTS

The following are the requirements to be complied with prior to the issuance of said policy or policies. Any other instrument recorded subsequent to the date hereof may appear as an exception under Schedule B of the policy to be issued. Unless otherwise noted, all documents must be recorded in the office of the Recorder of the County in which said property is located.

- 1. TAXES for the year 2003 are shown paid in the amount of \$28.44. (State Tax Parcel No. 108-18-012A) (Parcel 1)
- 2. TAXES for the year 2003 are shown paid in the amount of \$27.58. (State Tax Parcel No. 108-18-012B) (Parcel 2)
- 3. TAXES for the year 2003 are shown paid in the amount of \$24.84. (State Tax Parcel No. 108-18-012H) (Parcel 3)
- 4. TAXES for the year 2003 are shown paid in the amount of \$5.52. (State Tax Parcel No. 108-18-019) (portion of Parcel 4)
- 5. TAXES for the year 2003 are shown paid in the amount of \$19.46. (State Tax Parcel No. 108-18-020) (portion of Parcel 4)
- 6. TAXES for the year 2003 are shown paid in the amount of \$120.72. (State Tax Parcel No. 108-18-017C) (Parcels 5 and 6)
- 7. TAXES for the year 2003 are shown paid in the amount of \$104.04. (State Tax Parcel No. 108-25-001) (Parcel 7)
- 8. TAXES for the year 2003 are shown paid in the amount of \$847.02. (State Tax Parcel No. 108-36-003A) (Parcel 8)
- 9. RECORD Deed from Lynne Appleton, Trustee of the Lynne Appleton Trust under Agreement dated June 16, 1969 to Marc Francis Appleton, Trustee of the Marc Francis Appleton Trust under Agreement dated April 15, 1966 and as amended and restated by First Amendment dated January 25, 1969.

This Deed necessary to correct the Grantor in the Deed dated December 23, 1985, recorded January 09, 1986 in Docket 416 at page 478. On this date Lynne Appleton held title as Lynne Appleton, Trustee of the Lynne Appleton Trust under Agreement dated June 16, 1969 by Deed dated January 27, 1970, recorded February 09, 1970 in Docket 110 at page 391. If it is the intent of Marc Francis Appleton to hold title as Marc Francis Appleton, Trustee of the Marc Francis Appleton Trust under Agreement dated April 15, 1966 and as amended and restated by First Amendment dated January 25, 1969, the name of the Grantee must also be corrected. The legal description for this Deed should be only for Parcel 1 of paragraph 5 of Schedule A, tax parcel No. 108-18-012A.

NOTE:

Disclosure of beneficiaries for Lynne Appleton Trust under Agreement dated June 16, 1969 in compliance with A.R.S. 33-404 is recorded in:

Docket

213

Page

SCHEDULE B - SECTION I REQUIREMENTS (Continued)

NOTE:

Disclosure of beneficiaries for Marc Francis Appleton Trust under Agreement dated April 15, 1966 in compliance with A.R.S. 33-404 is recorded in:

Docket

212

Page

273

10. RECORD Deed from Lee Appleton, Trustee of the Lee Appleton Trust under Agreement dated January 14, 1972 to Marc Francis Appleton, Trustee of the Marc Francis Appleton Trust under Agreement dated April 15, 1966 and as amended and restated by First Amendment dated January 25, 1969.

This Deed necessary to correct the Grantor in the Deed dated December 24, 1985, recorded January 09, 1986 in Docket 416 at page 482. On this date Lee Appleton held title as Lee Appleton, Trustee of the Lee Appleton Trust under Agreement dated January 14, 1972 by Deed dated February 19, 1976, recorded March 01, 1976 in Docket 203 at page 51. If it is the intent of Marc Francis Appleton to hold title as Marc Francis Appleton, Trustee of the Marc Francis Appleton Trust under Agreement dated April 15, 1966 and as amended and restated by First Amendment dated January 25, 1969, the name of the Grantee must also be corrected. The legal description for this Deed should be only for Parcel 1 of paragraph 5 of Schedule A, tax parcel No. 108-18-012A.

NOTE

Disclosure of beneficiaries for Lee Appleton Trust under Agreement dated January 14, 1972 in compliance with A.R.S. 33-404 is recorded in:

Docket

212

Page

145

NOTE:

Disclosure of beneficiaries for Marc Francis Appleton Trust under Agreement dated April 15, 1966 in compliance with A.R.S. 33-404 is recorded in:

Docket

212

Page

273

11. RECORD Quit Claim Deed from Marc Francis Appleton, a married man as his sole and separate property to Marc Francis Appleton, Trustee of the Marc Francis Appleton Trust under Agreement dated April 15, 1966 and as amended and restated by First Amendment dated January 25, 1969.

This Deed necessary to convey the interest he may have acquired individually by Deed dated December 26, 1985, recorded January 09, 1986 in Docket 416 at page 474. The legal description for this Deed should be only for Parcel 1 of paragraph 5 of Schedule A, tax parcel No. 108-18-012A.

NOTE:

Disclosure of beneficiaries for Marc Francis Appleton Trust under Agreement dated April 15, 1966 in compliance with A.R.S. 33-404 is recorded in:

Docket

212

Page

SCHEDULE B - SECTION I REQUIREMENTS (Continued)

12. RECORD Deed from Marc Francis Appleton, Trustee of the Marc Francis Appleton Trust under Agreement dated April 15, 1966 and as amended and restated by First Amendment dated
 January 25, 1969 to Lee Appleton, Trustee of the Lee Appleton Trust under Agreement dated January 14, 1972

This Deed necessary to correct the Grantor in the Deed dated December 26, 1985, recorded January 09, 1986 in Docket 416 at page 479. On this date, Mark Francis Appleton held title as Marc Francis Appleton, Trustee of the Marc Francis Appleton Trust under Agreement dated April 15, 1966 and as amended and restated by First Amendment dated January 25, 1969 in Docket 110 at page 393. If it is the intent of Lee Appleton to hold title as Lee Appleton, Trustee of the Lee Apleton Trust under Agreement dated January 14, 1972 the name of the Grantee must also be corrected. The legal description for this Deed should be only for Parcel 2 of paragraph 5 of Schedule A, tax parcel No. 108-18-012B.

NOTE:

Disclosure of beneficiaries for Marc Francis Appleton Trust under Agreement dated April 15, 1966 in compliance with A.R.S. 33-404 is recorded in:

Docket

212

Page

273

NOTE:

Disclosure of beneficiaries for Lee Appleton Trust under Agreement dated January 14, 1972 in compliance with A.R.S. 33-404 is recorded in:

Docket

212

Page

145

13. RECORD Deed from Lynne Appleton, Trustee of the Lynne Appleton Trust under agreement dated June 16, 1969 to Lee Appleton, Trustee of the Lee Appleton Trust under Agreement dated January 14, 1972.

This Deed necessary to correct the Grantor in the Deed dated December 23, 1985, recorded January 09, 1986 in Docket 416 at page 483. On this date Lynne Appleton held title as Lynne Appleton, Trustee of the Lynne Appleton Trust under Agreement dated June 16, 1969 by Deed dated January 27, 1970, recorded February 09, 1970 in Docket 110 at page 391. If it is the intent of Lee Appleton to hold title as Lee Appleton, Trustee of the Lee Appleton Trust under Agreement dated January 14, 1972, the name of the Grantee must also be corrected. The legal description for this Deed should be only for Parcel 2 of paragraph 5 of Schedule A, tax parcel No. 108-18-012B.

NOTE:

Disclosure of beneficiaries for Lynne Appleton Trust under Agreement dated June 16, 1969 in compliance with A.R.S. 33-404 is recorded in:

Docket

213

Page

359

NOTE:

Disclosure of beneficiaries for Lee Appleton Trust under Agreement dated January 14, 1972 in compliance with A.R.S. 33-404 is recorded in:

Docket

212

Page

SCHEDULE B - SECTION I REQUIREMENTS (Continued)

14. RECORD Deed from Lee Appleton, a single woman to Lee Appleton, Trustee of the Lee Appleton Trust under Agreement dated January 14, 1972.

This Deed necessary to convey any interest she may have acquired individually by Deed dated December 26, 1985, recorded January 09, 1986 in Docket 416 at page 475. The legal description for this Deed should be only for Parcel 2 of paragraph 5 of Schedule A, tax parcel No. 108-18-012B.

NOTE:

Disclosure of beneficiaries for Lee Appleton Trust under Agreement dated January 14, 1972 in compliance with A.R.S. 33-404 is recorded in:

Docket

212

Page

145

15. RECORD Deed from Marc Francis Appleton, Trustee of the Marc Francis Appleton Trust under Agreement dated April 15, 1966 and as amended and restated by First Amendment dated January 25, 1969 to Lynne Appleton, Trustee of the Lynne Appleton Trust under Agreement dated June 16, 1969.

This Deed necessary to correct the Grantor in the Deed dated December 26, 1985 recorded January 09, 1986 in Docket 416 at page 480. On this dated Marc Francis Appleton held title as Marc Francis Appleton, Trustee of the Marc Francis Appleton Trust under Agreement dated April 15, 1966 and as amended and restated by First Amendment dated January 25, 1969 in Docket 110 at page 393. If it is the intent of Lynne Appleton to hold title as Lynne Appleton, Trustee of the Lynne Appleton Trust under Agreement dated June 16, 1969, the name of the Grantee must also be corrected. The legal description for this Deed should be only for Parcel 3 of paragraph 5 of Schedule A, tax parcel No. 108-18-012H.

NOTE:

Disclosure of beneficiaries for Marc Francis Appleton Trust under Agreement dated April 15, 1966 in compliance with A.R.S. 33-404 is recorded in:

Docket

212

Page

273

NOTE:

Disclosure of beneficiaries for Lynne Appleton Trust under Agreement dated June 16, 1969 in compliance with A.R.S. 33-404 is recorded in:

Docket

213

Page

359

16. RECORD Deed from Lee Appleton, Trustee of the Lee Appleton Trust under Agreement dated January 14, 1972 to Lynne Appleton, Trustee of the Lynne Appleton Trust under Agreement dated June 16, 1969.

This Deed necessary to correct the Grantor in the Deed dated December 24, 1985 recorded January 09, 1986 in Docket 416 at page 484. On this date Lee Appleton held title as Lee Appleton, Trustee of the Lee Appleton Trust under Agreement dated January 14, 1972 by Deed dated 021976 recorded March 01, 1976 in Docket 203 at page 51. If it is the intent of Lynne Appleton to hold title as Lynne Appleton, Trustee of the Lynne Appleton Trust under Agreement dated June 16, 1969, the name of the Grantee must also be corrected. The legal description for this Deed should be only for Parcel 3 of paragraph 5 of Schedule A, tax parcel No. 108-18-012H.

SCHEDULE B - SECTION I REQUIREMENTS (Continued)

NOTE:

Disclosure of beneficiaries for Lee Appleton Trust under Agreement dated January 14, 1972 in compliance with A.R.S. 33-404 is recorded in:

Docket

212

Page 145

NOTE:

Disclosure of beneficiaries for Lynne Appleton Trust under Agreement dated June 16, 1969 in compliance with A.R.S. 33-404 is recorded in:

Docket

213 359

Page

17. RECORD Deed from Lynne Appleton, a married woman as her sole and separate property to Lynne Appleton, Trustee of the Lynne Appleton Trust under Agreement dated June 16, 1969.

This Deed necessary to convey any interest she may have acquired individually by Deed dated December 26, 1985 recorded January 09, 1986 in Docket 416 at page 476. The legal description for this Deed should be only for Parcel 3 of paragraph 5 of Schedule A, tax parcel No. 108-18-012H.

NOTE:

Disclosure of beneficiaries for Lynne Appleton Trust under Agreement dated June 16, 1969 in compliance with A.R.S. 33-404 is recorded in:

Docket

213

Page

359

18. RECORD Deed from Marc Francis Appleton, Trustee of the Marc Francis Appleton Trust under Agreement dated April 15, 1966 and as amended and restated by First Amendment dated January 25, 1969 to Peter Bryce Appleton, as Trustee under Agreement dated September 18, 1964.

This Deed necessary to correct the Grantor in the Deed dated December 26, 1985 recorded January 09, 1986 in Docket 416 at page 477. On this date title was held by Marc Francis Appleton, Trustee of the Marc Francis Appleton Trust under Agreement dated April 15, 1966 and as amended and restated by First Amendment dated January 25, 1969 by Deed dated January 24, 1970 recorded February 09, 1970 in Docket 110 at page 393.

As of September 01, 1989 Peter Bryce Appleton holds title as Peter Bryce Appleton, as Trustee under Agreement dated September 18, 1964 by Deed dated September 01, 1989 recorded September 11, 1989 in Docket 508 at page 804. The legal description for this Deed should be only for Parcel 4 of paragraph 5 of Schedule A, tax parcel No. 108-18-019 and 108-18-020.

19. RECORD Deed from Lynne Appleton, Trustee of the Lynne Appleton Trust under Agreement dated June 16, 1969 to Peter Bryce Appleton, Trustee of Peter Bryce Appleton, Trust under Agreement dated September 18, 1964.

This Deed necessary to correct the Grantor in the Deed dated December 23, 1985 recorded January 09, 1986 in Docket 416 at page 481. On this date title was held by Lynne Appleton, Trustee of the Lynne Appleton Trust under Agreement dated June 16, 1969 by Deed dated January 27, 1970 recorded February 09, 1970 in Docket 110 at page 391.

As of September 01, 1989 Peter Bryce Appleton holds title as Peter Bryce Appleton, as Trustee under Agreement dated September 18, 1964 by Deed dated September 01, 1989 recorded September 11, 1989 in Docket 508 at page 804. The legal description for this Deed should be only for Parcel 4 of paragraph 5 of Schedule A, tax parcel No. 108-18-019 and 108-18-020.

SCHEDULE B - SECTION I REQUIREMENTS (Continued)

 RECORD Deed from Lee Appleton, Trustee of the Lee Appleton Trust under Agreement dated January 14, 1972 to Peter Bryce Appleton, as Trustee under Agreement dated September 18, 1964.

This Deed necessary to correct the Grantor in the Deed dated December 24, 1985 recorded January 09, 1986 recorded in Docket 416 at page 485. On this date title was held by Lee Appleton, Trustee of the Lee Appleton Trust under Agreement dated January 14, 1972 by Deed dated February 19, 1976 recorded March 01, 1976 in Docket 203 at page 51.

As of September 01, 1989 Peter Bryce Appleton holds title as Peter Bryce Appleton, as Trustee under Agreement dated September 18, 1964 by Deed dated September 01, 1989 recorded September 11, 1989 in Docket 508 at page 804. The legal description for this Deed should be only for Parcel 4 of paragraph 5 of Schedule A, tax parcel No. 108-18-019 and 108-18-020.

21. RECORD Mutual Cancellation of Lease:

Lessor Francis Henry Appleton III, Ariel Bryce Appleton, Peter Bryce Appleton,

Marc Francis Appleton, Lynne Appleton and Lee Appleton

Lessee The Research Ranch Foundation, an Arizona non-profit corporation,

formerly The Research Ranch, an Arizona non-profit corporation

Dated September 01, 1972

Recorded December 11, 1972

Docket 151 Page 491

22. RECORD Quit Claim Deed from National Audubon Society, Inc., a New York non-profit corporation to Swift Current Land & Cattle LLC, an Arizona limited liability company.

This Deed necessary to assign any interest they may have by reason of the Agreement shown in Exhibit A attached to the Deed recorded in Docket 374 at page 46..

23. RECORD corrective instrument correcting the instrument referred to below for the reason stated:

Docket 753

Page 236 and Docket 899 at page 703

Reason for correction to correct the legal description of said Deeds to read as described in Parcel 8 shown in paragraph 4 of Schedule A.

24. FURNISH copy of filed Articles of organization of the limited liability company named below which states whether said limited liability company is member managed or manager managed:

Bolson Holdings, LLC, a Delaware limited liability company

25. SUBMIT fully executed copy of the Operating Agreement (and all amendments) of the limited liability company named below for examination. The right is reserved to make additional requirements upon said examination.

Bolson Holdings, LLC, a Delaware limited liability company

SCHEDULE B - SECTION I REQUIREMENTS (Continued)

26. FURNISH copy of Certificate of Registration of the foreign limited liability company named below filed with the Arizona Corporation Commission.

Bolson Holdings, LLC, a Delaware limited liability company

-or-

Proper showing that said limited liability company is in good standing in its domiciliary jurisdiction.

The right is reserved to make additional requirements upon examination of said certificate.

27. FURNISH the Company a copy of the Articles of Organization, stamped "filed" by the Arizona Corporation Commission and a fully executed copy of the Operating Agreement and all amendments thereto for the following named Limited Liability Company:

Swift Current Land & Cattle, LLC, an Arizona limited liability company

28. SUBMIT fully executed copy of the Trust Agreement and all amendments showing that the Trustee has the authority to consummate this transaction.

Name of Trust: Peter Bryce Appleton Irrevocable Trust dated December 12, 1983 f/b/o Amy Appleton

29. SUBMIT fully executed copy of the Trust Agreement and all amendments showing that the Trustee has the authority to consummate this transaction.

Name of Trust: Peter Bryce Appleton Irrevocable Trust dated December 12, 1983 f/b/o Sarah Appleton

30. SUBMIT fully executed copy of the Trust Agreement and all amendments showing that the Trustee has the authority to consummate this transaction.

Name of Trust: Peter Bryce Appleton Irrevocable Trust dated December 12, 1983 f/b/o Nathan Cooper Appleton

31. RECORD Deed from Peter Bryce Appleton, Trustee of the Peter Bryce Appleton Trust under Agreement dated September 18, 1964 to Swift Current Land & Cattle LLC, an Arizona limited liability company.

NOTE:

Disclosure of beneficiaries in compliance with A.R.S. 33-404 is recorded in:

Docket

211

Page

441

NOTE: ARS 11:1133 may require the completion and filing of an Affidavit of Value.

32. RECORD Deed from Marc Francis Appleton, Trustee of the Marc Francis Appleton Trust under Agreement dated April 15, 1966 toSwift Current Land & Cattle LLC, an Arizona limited liability company.

NOTE:

Disclosure of beneficiaries in compliance with A.R.S. 33-404 is recorded in:

Docket

212

Page

274

NOTE: ARS 11:1133 may require the completion and filing of an Affidavit of Value.

SCHEDULE B - SECTION I REQUIREMENTS (Continued)

33.		ppleton, Trustee of the Lee Appleton Trust under Agreement dated Current Land & Cattle LLC, an Arizona limited liability company.	
	NOTE: Disclosure of beneficiaries Docket 21 Page 14		
	NOTE: ARS 11:1133 may	require the completion and filing of an Affidavit of Value.	
34.	RECORD Deed from Lynne Apleton, Trustee of the Lynne Appleton Trust under Agreement dated June 16, 1969 to Swift Current Land & Cattle LLC, an Arizona limited liability company.		
	NOTE: ARS 11:1133 may require the completion and filing of an Affidavit of Value.		
	NOTE: Disclosure of beneficiaries Docket 21 Page 36		
35.	instrument recorded in Do spouse, if married.	e marital status of Amy Appleton on August 31, 1992 by reason of ocket 594 at page 432 and the proper divesting of the interest of the ake additional exceptions or requirements based upon information	
36.	PROPER showing as to the marital status of Nathan Cooper Appleton on July 16, 1997 by reason of instrument recorded in Docket 729 at page 656 and the proper divesting of the interest of the spouse, if married. The right is reserved to make additional exceptions or requirements based upon information furnished.		
37.	RECORD corrective instru stated: Recorded Docket Page Reason for correction	July 23, 2003 990 271 to show marital status of Grantee and to comply with ARS33-404 disclosing beneficiary of Trust	
38.		Appleton, a woman, Nathan Cooper Appleton, a ah Appleton, a woman to Swift Current Land & Cattle bility company.	

NOTE: ARS 11:1133 may require the completion and filing of an Affidavit of Value.

SCHEDULE B - SECTION I REQUIREMENTS (Continued)

39. RECORD Deed from Bolson Holdings, LLC, a Delaware limited liability company to Swift Current Land & Cattle LLC, an Arizona limited liability company.

NOTE: ARS 11:1133 may require the completion and filing of an Affidavit of Value.

40. Approval by the parties to this transaction of the description used in this report.

END OF SCHEDULE B - SECTION I

SCHEDULE B - SECTION II EXCEPTIONS

hedule B of policy or policies to be issued will contain exceptions to the following matters unless the same are disposed of the satisfaction of the Company:

Defects, liens, encumbrances, adverse claims or other matters, if any, created, first appearing in the public records or attaching subsequent to the effective date hereof but prior to the date the proposed Insured acquires for value of record the estate or interest or mortgage thereon covered by this commitment.

RESERVATIONS contained in the Patent from the United States of America, reading as follows: SUBJECT to any vested and accrued water rights for mining, agricultural, manufacturing or other purposes, and rights to ditches and reservoirs used in connection with such water rights as may be recognized and acknowledged by the local customs, laws and decisions of courts; and there is reserved from the lands hereby granted, a right of way thereon for ditches or canals constructed by the authority of the United States of America recorded in Book 12 of Deeds at page 22.

Affects the south half of Lot 4 and the south half of the North half of Section 15.

RESERVATIONS contained in the Patent from the United States of America, reading as follows: SUBJECT to any vested and accrued water rights for mining, agricultural, manufacturing or other purposes, and rights to ditches and reservoirs used in connection with such water rights as may be recognized and acknowledged by the local customs, laws and decisions of courts; and there is reserved from the lands hereby granted, a right of way thereon for ditches or canals constructed by the authority of the United States of America in Book 13 of Miscellaneous Records at page 606.

Affects Lots 2 and 3, Southwest quarter of Northeast quarter; south half of Northwest quarter; North half of Southwest quarter and Northwest quarter of Southeast quarter of Section 14.

RESERVATIONS contained in the Patent from the United States of America, reading as follows: SUBJECT to any vested and accrued water rights for mining, agricultural, manufacturing or other purposes, and rights to ditches and reservoirs used in connection with such water rights as may be recognized and acknowledged by the local customs, laws and decisions of courts; and there is reserved from the lands hereby granted, a right of way thereon for ditches or canals constructed by the authority of the United States of America in Book 13 of Miscellaneous Records at page 607.

Affects Northeast guarter of the Southeast guarter of Section 15 and Lot 4 of Section 14.

RESERVATIONS contained in the Patent from the United States of America, reading as follows: SUBJECT to any vested and accrued water rights for mining, agricultural, manufacturing or other purposes, and rights to ditches and reservoirs used in connection with such water rights as may be recognized and acknowledged by the local customs, laws and decisions of courts; and there is reserved from the lands hereby granted, a right of way thereon for ditches or canals constructed by the authority of the United States of America in Book 15 of Deeds at page 124.

Affects Northwest quarter of Southeast quarter of Section 15.

RESERVATIONS contained in the Patent from the United States of America, reading as follows: SUBJECT to any vested and accrued water rights for mining, agricultural, manufacturing or other purposes, and rights to ditches and reservoirs used in connection with such water rights as may be recognized and acknowledged by the local customs, laws and decisions of courts; and there is reserved from the lands hereby granted, a right of way thereon for ditches or canals constructed by the authority of the United States of America in Book 15 of Deeds at page 196.

Affects North half of Northeast quarter of Section 28.

RESERVATIONS contained in the Patent from the State of Arizona, reading as follows:

- a) Excepting and reserving unto the United States rights of way for ditches and canals constructed by their authority.
- b) This Patent is issued subject to any and all easements or rights of way heretofore legally obtained and now in full force and effect in Book 26 of Deeds at page 208.

Affects East half of Section 17.

RESERVATIONS contained in the Patent from the United States of America, reading as follows:

SUBJECT to any vested and accrued water rights for mining, agricultural, manufacturing or other purposes, and rights to ditches and reservoirs used in connection with such water rights as may be recognized and acknowledged by the local customs, laws and decisions of courts; and there is reserved from the lands hereby granted, a right of way thereon for ditches or canals constructed by the authority of the United States of America in Docket 37 at page 501.

Affects south half of Northeast quarter and the Northwest quarter of Section 28.

TAXES for the year 2004, a lien not yet due and payable.

RIGHT OF ENTRY to prospect for, mine and remove the minerals in said land as reserved in Patent to said land. Affects Parcels 4 and 6

- Reservation of all oil, coal and other minerals as set forth in Deed recorded in Book 16 of Deeds at page 372.
- . Reservation of one half of all mineral rights as set forth in Deed recorded in Docket 16 at page 383.
- Reservation of a 55% interest in all oil, gas, coal and other minerals as set forth in Deed recorded in Book 33 of Deeds at page 178.
- Reservation of oil, gas, mineral, water and other subsurface rights as set forth in the following Deeds recorded in Docket 416 at page 474, Docket 416 at page 475, Docket 416 at page 476, Docket 416 at page 477, Docket 416 at page 478, Docket 416 at page 479, Docket 416 at page 480, Docket 416 at page 481, Docket 416 at page 482, Docket 416 at page 483, Docket 416 at page 484, Docket 416 at page 485, Docket 416 at page 486, Docket 416 at page 488.
- All oil, gas, mineral, water and other subsurface rights conveyed by Deed recorded in Docket 508 at page 804.
 - EASEMENT and rights incident thereto, as set forth in instrument:

Recorded in Book 22 of Miscellaneous Records

Page 157

Purpose electric transmission lines and related facilities

(affects the Northeast quarter of the Northwest quarter and the West half of the Northeast quarter of Section 14)

EASEMENT and rights incident thereto, as set forth in instrument:

Recorded in Docket 27 Page 281

Purpose telephone and telegraph lines

(affects the East 10 feet of Section 15)

- '. Terms and conditions as set forth in that certain Agreement attached to the deed recorded in docket 374 at page 46.
- 3. EASEMENT and rights incident thereto, as set forth in instrument:

Recorded in Docket 427 Page 338

Purpose ingress and egress

(affects an undefined portion of Section 14)

EASEMENT and rights incident thereto, as set forth in instrument:

Recorded in Docket 468 Page 651

Purpose ingress and egress

(affects Section 15)

). EASEMENT and rights incident thereto, as set forth in instrument:

Recorded in Docket 517 Page 155

Purpose electric transmission or distribution line

(affects Section 28)

EASEMENT and rights incident thereto, as set forth in instrument:

Recorded in Docket

559 680

Page

telecommunication facilities

Purpose (affects Section 15)

END OF SCHEDULE B - SECTION II

EXHIBIT "B"

arc Francis Appleton, Trustee of the Marc Francis Appleton Trust under Agreement dated April 15, 1966 and as nended and restated by First Amendment dated January 25, 1969, as to Parcel 1;

e Appleton, Trustee of the Lee Appleton Trust under Agreement dated January 14, 1972, as to Parcel 2;

nne Appleton, Trustee of the Lynne Appleton Trust under Agreement dated June 16, 1969, as to Parcel 3;

eter Bryce Appleton, Trustee of the Peter Bryce Appleton Trust under Agreement dated September 18, 1964, as Parcel 4;

olson Holdings, L.L.C., a Delaware limited liability company, as to Parcels 5, 6 and 8;

arc Francis Appleton, Trustee of the Marc Francis Appleton Trust under Agreement dated April 15, 1966 as to an idivided ¼ interest;

nne Appleton, Trustee of the Lynne Appleton Trust under Agreement dated June 16, 1969 as to an undivided ¼ terest;

e Appleton, Trustee of the Lee Appleton Trust under Agreement dated January 14, 1972 as to an undivided ¼ terest;

eter Bryce Appleton, Trustee of the Peter Bryce Appleton Trust under Agreement dated September 18, 1964 as an undivided 1/16 interest;

ny Appleton, a	woman, as to an undivided 1/16 interest;
athan Cooper Appleton, a _	man, as to an undivided 1/16 interest;
arah Appleton, a	_ woman, as to an undivided 1/16 interest.

MMITMENT CONDITIONS AND STIPULATIONS

The term mortgage, when used herein, shall include deed of trust, trust deed, or other security instrument

If the proposed mutred has or acquires actual knowledge of any defect, lien, encumbrance, adverse claim or other matter affecting the estate or interest or mortgage thereon covered by this Commitment other than those shown in Schedule B hereof, and shall fail to disclose such knowledge to the Company in writing, the Company shall be releved from hability for any loss or damage resulting from any act or rehance hereon to the extent the Company is prejudiced by failure to so disclose such knowledge. If the proposed Insured shall disclose such knowledge to the Company, or if the Company, or if the Company otherwise acquires actual knowledge of any such defect, lien, encumbrance, adverse claim or other matter, the Company at its option may amend Schedule B of this Commitment accordingly, but such amendment shall not relieve the Company from liability previously incurred pursuant to paragraph 3 of these Conditions and

Liability of the Company under this Commitment shall be only to the named proposed insured and such parties included under the definition of insured in the form of policy or policies committed for and only for actual loss incurred in reliance hereon in undertaking in good faith, (a) to comply with the requirements hereof, or (b) to eliminate exceptions shown in Schedule B, or (c) to acquire or create the estate or interest or mortgage thereon covered by this Commitment. In no event shall such liability exceed the amount stated in Schedule A for the policy or policies committed for and such liability is subject to the insuring provisions, the Conditions and Stipulations, and the Exclusions

from Coverage of the form of policy or policies committed for in favor of the proposed insured which are hereby incorporated by reference and are made a part of this Commitment except as expressly modified herein.

Any action or actions or rights of action that the proposed insured may have or may bring against the Company arising out of the status of the title to the estate or interest or the status of the mortgage thereon covered by this Commitment must be based on and are subject to the provisions of this Commitment

AMERICAN LAND TITLE ASSOCIATION LOAN POLICY (10-17-92) WITH ALTA ENDORSEMENT-FORM I COVERAGE

and

AMERICAN LAND TITLE ASSOCIATION LEASEHOLD LOAN POLICY (10-17-92) WITH ALTA ENDORSEMENT-FORM I COVERAGE **EXCLUSIONS FROM COVERAGE**

following matters are expressly excluded from the coverage of this policy and the Company will not pay loss or damage, costs, attorney's fees or expenses which arise by reason of

- Any law, ordinance or governmental regulation (including but not limited to building and zoning laws, ordinances, or regulations) restricting, regulating, prohibiting or relating to (i) the occupancy, use, or enjoyment of the land, (ii) the character, dimensions or location of any improvement now or hereafter erected on the land, (iii) a separation in ownership or a change in the dimensions or location of any improvement now or hereafter erected on the land, (iii) a separation in ownership or a change in the dimensions or location of any improvement now or hereafter erected on the land, (iii) a separation in ownership or a change in the dimensions or location of any improvement now or hereafter erected on the land, (iii) a separation in ownership or a change in the dimensions or location of any improvement now or hereafter erected on the land, (iii) a separation in ownership or a change in the dimensions or location of any improvement now or hereafter erected on the land, (iii) a separation in ownership or a change in the dimensions or location of any improvement now or hereafter erected on the land. (iv) environmental protection, or the effect of any violation of these laws, ordinances or governmental regulations, except to the extent that a notice of the enforcement thereof or a notice of a defect, lien or encumbrance resulting from a violation or alleged violation affecting the land has been recorded in the public records at Date of Policy.
- Any governmental police power not excluded by (a) above, except to the extent that a notice of the exercise thereof or a notice of a defect, lien or encumbrance resulting from a violation or alleged violation effecting the land has been recorded in the public records at Date of Policy

Rights of eminent domain unless notice of the exercise thereof has been recorded in the public records at Date of Policy, but not excluding from coverage any taking which has occurred prior to Date of Policy which would be binding on the rights of a purchaser for value without knowledge

Defects, liens, encumbrances, adverse claims or other matters

- created, suffered, assumed or agreed to by the insured claimant'
 not known to the Company, not recorded in the public records at Date of Policy, but known to the insured claimant and not disclosed in writing to the Company by the insured claimant prior to the date the insured claimant became an insured under this policy,
- resulting in no loss or damage to the insured claimant.
- attaching or created subsequent to Date of Policy; (except to the extent that this policy insures the priority of the lien of the insured mortgage over any statutory lien for services, labor or material) or
- resulting in loss or damage which would not have been sustained if the insured claimant had paid value for the estate or interest insured by this policy

Unenforceability of the lien of the insured mortgage because of the inability or failure of the insured at Date of Policy, or the inability or failure of any subsequent owner of the indebtedness, to comply with applicable doing business laws of the state in which the land is situated.

Invalidity or unenforceability of the lien of the insured mortgage, or claim thereof, which arises out of the transaction evidenced by the insured mortgage and is based upon usury or any consumer credit protection or truth in lending law.

Any statutory lien for services, labor or materials (or the claim of priority of any statutory lien for services, labor or materials over the lien of the insured mortgage) arising from an improvement or work related to the land which is contracted for and commenced subsequent to Date of Policy and is not financed in whole or in part by proceeds of the indebtedness secured by the insured mortgage, which at Date of Policy the insured has advanced or is obligated to

Any claim which arises out of the transaction creating the interest of the mortgagee insured by this Policy, by reason of the operation of federal bankruptcy, state insolvency, or similar creditors' rights laws, that is based on

- the transaction creating the interest of the insured mortgagee being deemed a fraudulent conveyance or fraudulent transfer, or
- the subordination of the interest of the insured mortgagee as a result of the application of the doctrine of equitable subordination; or
- the transaction creating the interest of the insured mortgagee being deemed a preferential transfer except where the preferential transfer results from the failure:
- to timely record the instrument of transfer; or
- (ii) of such recordation to impart notice to a purchaser for value or a judgment or lien creditor.

above policy forms may be issued to afford either Standard Coverage or Extended Coverage. In addition to the above Exclusions from Coverage, the Exceptions from Coverage in a Standard Coverage policy will also include the wing General Exceptions:

EXCEPTIONS FROM COVERAGE

policy does not insure against loss or damage (and the Company will not pay costs, attorneys' fees or expenses) which arise by reason of

Taxes or assessments which are not shown as existing liens by the records of any taxing authority that levies taxes or assessments on real property or by the public records. Proceedings by a public agency which may result in taxes or assessments, or notices of such proceedings, whether or not shown by the records of such agency or by the public records.

Any facts, rights, interests or claim which are not shown by the public records but which could be ascertained by an inspection of the land or by making inquiry of persons in possession thereof.

Easements, liens or encumbrances, or claims thereof, which are not shown by the public records.

Discrepancies, conflicts in boundary lines, shortage in area, encroachments, or any other facts which a correct survey would disclose, and which are not shown by the public records.

(a) Unpatented mining claims; (b) reservations or exceptions in patents or in Acts authorizing the issuance thereof, (c) water rights, claims or title to water, whether or not the matters excepted under (a), (b) or (c) are shown by the public

AMERICAN LAND TITLE ASSOCIATION OWNER'S POLICY (10-17-92)

And

AMERICAN LAND TITLE ASSOCIATION LEASEHOLD OWNER'S POLICY (10-17-92) EXCLUSIONS FROM COVERAGE

following matters are expressly excluded from the coverage of this policy and the Company will not pay loss or damage, costs, attorneys' fees or expenses which arise by reason of

- Any law, ordinance or governmental regulation (including but not limited to building and zoning laws, ordinances, or regulations) restricting, regulating, prohibiting or relating to (i) the occupancy, use, or enjoyment of the land, (ii) the character, dimensions or location of any improvement now or hereafter erected on the land, (iii) a separation in ownership or a change in the dimensions or area of the land or any parcel of which the land is or was a part; or (iv) environmental protection, or the effect of any violation of these laws, ordinances or governmental regulations, except to the extent that a notice of the enforcement thereof or a notice of a defect, lien or encumbrance resulting from a violation or alleged violating affecting the land has been recorded in the public records at Date of Policy.
- Any governmental policy power not excluded by (a) above, except to the extent that a notice of the exercise thereof or a notice of a defect, lien or encumbrance resulting from a violation or alleged violation affecting the land has been recorded in the public records at Date of Policy.

Rights of eminent domain unless notice of the exercise thereof has been recorded in the public records at Date of Policy, but not excluding from coverage any taking which has occurred prior to Date of Policy which would be binding on the rights of a purchaser for value without knowledge

Defects, liens, encumbrances, adverse claims or other matters:

- created, suffered, assumed or agreed to by the insured claimant'
- not known to the Company, not recorded in the public records at Date of Policy, but known to the insured claimant and not disclosed in writing to the Company by the insured claimant prior to the date the insured claimant became an insured under this policy;
- resulting in no loss or damage to the insured claimant:
- attaching or created subsequent to Date of Policy, (except to the extent that this policy insures the priority of the lien of the insured mortgage over any statutory lien for services, labor or material) or (e) resulting in loss or damage which would not have been sustained if the insured claimant had paid value for the estate or interest insured by this policy.

 Any claim, which arises out of the transaction vesting in the insured the estate or interest insured by the policy, by reason of the operation of federal bankruptcy, state insolvency, or similar creditors' rights laws, that is based on:
- the transaction creating the estate or interest insured by this policy being deemed a fraudulent conveyance or fraudulent transfer; or the transaction creating the estate or interest insured by the policy being deemed a preferential transfer except where the preferential transfer results from the failure: (b)
 - to timely record the instrument of transfer; or
 - (ii) of such recordation to impart notice to a purchaser for value or a judgment or lien creditor.

above policy forms may be issued to afford either Standard Coverage or Extended Coverage. In addition to the above Exclusions from Coverage, the Exceptions from Coverage in a Standard Coverage Policy will also include the owing General Exceptions

EXCEPTIONS FROM COVERAGE

3 policy does not insure against loss or damage (and the Company will not pay costs, attorneys' fees or expenses) which arise by reason of.

Taxes or assessments which are not shown as existing liens by the records of any taxing authority that levies taxes or assessments on real property or by the public records.

Proceedings by a public agency which may result in taxes or assessments, or notices of such proceedings, whether or not shown by the records of such agency or by the public records.

Any facts, rights, interests or claim which are not shown by the public records but which could be ascertained by an inspection of the land or by making inquiry of persons in possession thereof.

Easements, liens or encumbrances, or claims thereof, which are not shown by the public records.

Discrepancies, conflicts in boundary lines, shortage in area, encroachments, or any other facts which a correct survey would disclose, and which are not shown by the public records.

(a) Unpatented mining claims; (b) reservations or exceptions in patents or in Acts authorizing the issuance thereof, (c) water rights, claims or title to water, whether or not the matters excepted under (a), (b) or (c) are shown by the public records

AMERICAN LAND TITLE ASSOCIATION HOMEOWNER'S POLICY OF TITLE INSURANCE (10/17/98) **EXCLUSIONS**

Idition to the Exceptions in Schedule B, You are not insured against loss, costs, attorneys' fees, and expenses resulting from

Governmental police power, and the existence or violation of any law or government regulation. This includes ordinances, laws and regulations concerning

- building zoning
- land use
- improvements on the Land
- land division
- environmental protection

This Exclusion does not apply to violations or the enforcement of these matters if notice of the violation or enforcement appears in the Public Records at the Policy Date. This Exclusion does not limit the coverage described in Covered Risk 14, 15, 16, 17 or 24

The failure of Your existing structures, or any part of them, to be constructed in accordance with applicable building codes. This Exclusion does not apply to violations of building codes if notice of the violation appears in the Public Records at the Policy Date.

The right to take the Land by condemning it, unless

- ight to take the Land by Consenting It, unless a notice of exercising the right appears in the Public Records at the Policy Date, or the taking happened before the Policy date and is binding on You if You bought the Land without knowing of the taking. Risks

- that are created, allowed, or agreed to by You, whether or not they appear in the Public Records;
- that are known to You at the Policy Date, but not to Us, unless they appear in the Public Records at the Policy Date; that result in no loss to You, or
- that first occur after the Policy Date this does not limit the coverage described in Covered Risk 7, 8d, 22, 23, 24 or 25.

Failure to pay value for Your Title. Lack of a right:

- to any land outside the area specifically described and referred to in paragraph 3 of Schedule A; and

b. in streets, alleys, or waterways that touch the land.
This Exclusion does not limit the coverage described in Covered Risk 11 or 18

AMERICAN LAND TITLE ASSOCIATION RESIDENTIAL TITLE INSURANCE POLICY (6-2-87) EXCLUSIONS

idition to the Exceptions in Schedule B, you are not insured against loss, costs, attorneys' fees, and expenses resulting from

Governmental police power, and the existence or violation of any law or government regulation. This includes building and zoning ordinances and also laws and regulations concerning:

- Land use
- Improvements on the land
- Land division
- Environmental protection

This exclusion does not apply to violations or the enforcement of these matters which appear in the public records at Policy Date. This exclusion does not limit the zoning coverage described in items 12 and 13 of Covered Title Risks.

The right to take the land by condemning it, unless;

- A notice of exercising the right appears in the public records on the Policy Date
- The taking happened prior to the Policy Date and is binding on you if you bought the land without knowing of the taking

- Title Risks:
- That are created, allowed, or agreed to by you That are known to you, but not to us, on the Policy Date - unless they appeared in the Public Records
- That result in no loss to you
- That first affect your title after the Policy Date this does not limit the labor and material lien coverage in Item B of Covered Title Risks

Failure to pay value for your title.

- To any land outside the area specifically described and referred to in Item 3 of Schedule A
- In streets, alleys, or waterways that touch your land

exclusion does not limit the access coverage in Item 5 of Covered Title Risks

APPENDIX E Environmental Lien and AUL Report

Appleton Ranch

Research Ranch Rd Elgin, AZ 85611

Inquiry Number: 7905038.7

February 24, 2025

EDR Environmental Lien and AUL Search



EDR Environmental Lien and AUL Search

The EDR Environmental Lien Search Report provides results from a search of available current land title records for environmental cleanup liens and other activity and use limitations (AULs), such as engineering controls and institutional controls.

Anetwork of professional, trained researchers, following established procedures, uses client supplied address information to:

- search for parcel number and/or legal description
- search for ownership information
- research official land title documents recorded at jurisdictional agencies such as recorders' offices, registries of deeds, county clerks' offices, etc.
- search for publicly available environmental encumbering instrument(s) filed on or after the recording
 of the current deed; between the recording of the current deed and the most current publicly available
 date
- provide a copy of any environmental encumbrance(s)
- provide a copy of the current deed when available

Thank you for your business.

Please contact EDR at 1-800-352-0050 with any questions or comments.

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EDR Environmental Lien and AUL Search

TARGET PROPERTY INFORMATION

ADDRESS

Research Ranch Rd Appleton Ranch Elgin, AZ 85611

ENVIRONMENTAL LIEN Environmental Lien:	Found □	Not Found	×
		Notiound	~
OTHER ACTIVITY AND USE LIMI	TATIONS (AULs)		
AULs:	Found	Not Found	×

RESEARCH SOURCE

Source 1:

Santa Cruz Recorder Santa Cruz, AZ

PROPERTY INFORMATION

Deed 1:

Type of Deed: Quit Claim Deed

Title is vested in: Resolution Copper Mining LLC
Title received from: Bridget Valenciano et al

Title received from: Bridget Valenciano
Deed Dated 3/16/2022

Deed Recorded: 6/28/2022
Book: NA
Page: NA
Volume: NA

Instrument 2022-05769

Docket NA

Land Record Comments: see exhibit

Miscellaneous Comments: NA

Legal Description: see exhibit

Legal Current Owner: Resolution Copper Mining ∐C

Parcel # / Property Identifier: 108-18-012B, 108-18-012H

Comments: see exhibit

Deed 2:

Type of Deed: Warranty Deed

Title is vested in: Resolution Copper Mining LLC
Title received from: Swift Current Land & Cattle LLC

 Deed Dated
 3/24/2020

 Deed Recorded:
 4/8/2020

 Book:
 NA

 Page:
 NA

 Volume:
 NA

Instrument 2020-02105

Docket NA

Land Record Comments: see exhibit

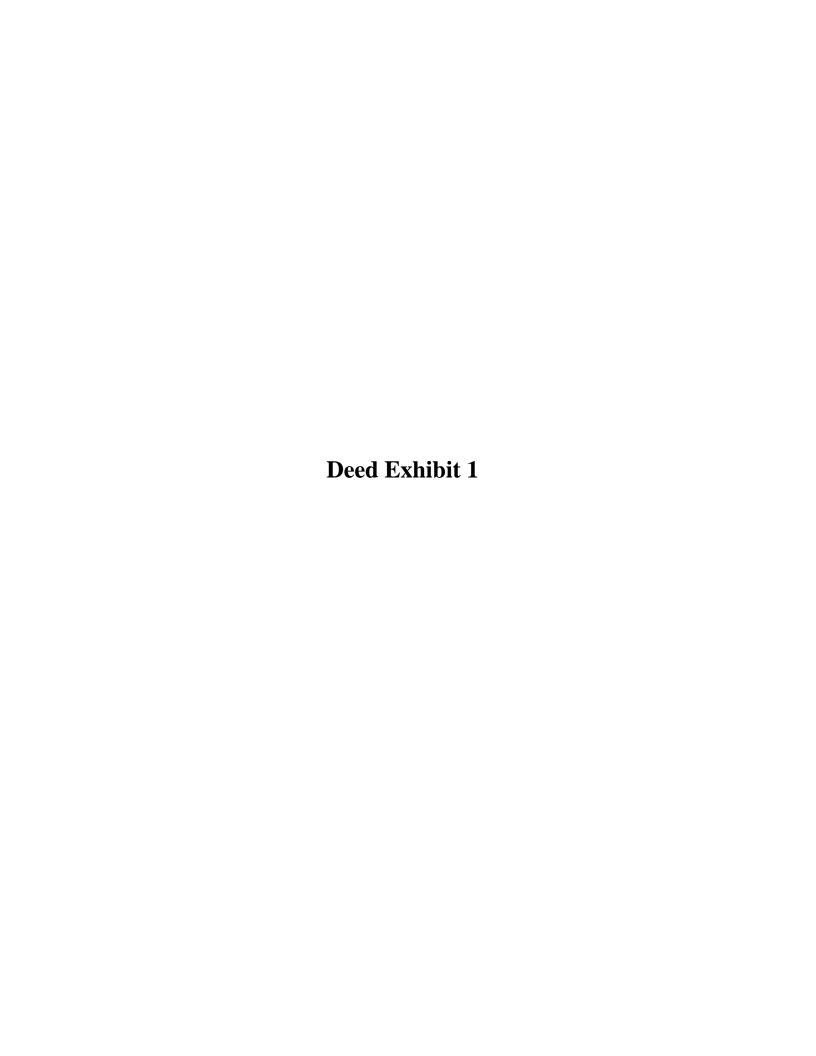
Miscellaneous Comments: NA

Legal Description: see exhibit

Legal Current Owner: Resolution Copper Mining ∐C

Parcel # / Property Identifier: 108-18-019, 108-18-012A, 108-36-003A, 108-25-001, 108-18-020, 108-18-017C

Comments: see exhibit



2022-05769

Page 1 of 7
Requested By: DeConcini McDonald Yetwin & Lacy
SUZANNE SAINZ, RECORDER
SANTA CRUZ COUNTY, ARIZONA
06-28-2022 10:08 AM Recording Fee \$30:00

After recording, please return to:

Resolution Copper Mining, LLC Attn: Legal Department 102 Magma Heights, Box 1944 Superior, AZ 85173

QUIT CLAIM DEED

BRIDGET VALENCIANO and JENNIFER HAZELWOOD, as Co-Trustees of the MIKE FINLEY FAMILY TRUST, originally dated November 16, 2000, and as amended on September 25, 2009, and restated on September 26, 2019, BRIDGET VALENCIANO, individually as her sole and separate property and as Beneficiary of the Mike Finley Family Trust, originally dated November 16, 2000, and as amended on September 25, 2009, and restated on September 26, 2019, and JENNIFER HAZELWOOD, individually as her sole and separate property and as a Beneficiary of the Mike Finley Family Trust, originally dated November 16, 2000, and as amended on September 25, 2009, and restated on September 26, 2019, ("Grantors"), for and in consideration of Five Dollars (\$5.00) and other valuable consideration, does hereby quitclaim to RESOLUTION COPPER MINING, LLC, a Delaware limited liability company, whose address is 102 Magma Heights, Box 1944, Superior, AZ 85713 ("Grantee") all of its right, title and interest, together with any and all rights in and to minerals, mineral rights royalty interests, and any after acquired title of the Grantors, in and to the following described property situated in the County of Santa Cruz, State of Arizona:

Lots 2 and 3, and the South Half of the Northwest Quarter of Section 14, Township 21 South, Range 18 East, G&SRM, Santa Cruz County Arizona.

Except the Northeast Quarter of Lot 2 as conveyed by Deed recorded in Docket 416 at page 491 and the Northeast Quarter and the Southeast Quarter of Lot 3, as conveyed by Deeds recorded in Docket 633 at page 134 and Docket 633 at page 135.

Pursuant to A.R.S. § 33-404, the present beneficiaries of the Grantor Trust are: Bridget Valenciano, whose address is 3324 E. Irwin Ave, Mesa, AZ 85204 and Jennifer Hazelwood whose address is 2230 W. Rockwell Dr., Chandler, AZ 85225.

Valeru

DATED this 16 day of November, 2021. PN

GRANTOR

Bridget Valenciano

Co-Trustee

Michael Finley Family Trust, originally dated November 16, 2000, and as amended and restated.

State of Mrine) ss.
County of Moringe)

The foregoing instrument was acknowledged before me, the undersigned Notary Public, this 16 day of November, 2021, by Bridget Valenciano, as Co-Trustee of the Michael Finley Family Trust, originally dated November 16, 2000, and as amended and restated.

My commission expires:

Notary Public

Jonathan Bedoe Notary Public Marcopa County, Arizona My Comm. Expires 08-29-2022 Commission No. 549972 **GRANTOR**

Jenhifer Hazel Wood

Michael Finley Family Trust, originally dated November 16, 2000, and as amended and restated.

State of Ari Zona

) ss.

County of Markelle)

The foregoing instrument was acknowledged before me, the undersigned Notary Public, this 24" day of November, 2024, by Jennifer Hazelwood, as Co-Trustee of the Michael Finley Family Trust, originally dated November 16, 2000, and as amended and restated.

Notary Public

My commission expires: 2/1/2025

JOSE NIDO
Notery Public - State of Arizone
MARICOPA COUNTY
Commission # 698135
Expires February 1, 2025

GRANTOR

Bridget Valuero
Bridget Valuero

Individually and as Beneficiary of the Mike Finley Family Trust, originally dated November 16, 2000, and as amended and restated.

State of _______) ss.

County of _______)

The foregoing instrument was acknowledged before me, the undersigned Notary Public, this \(\t \) day of November, 2021, by Bridget Valenciano.

Notary Public

My commission expires:

Jonathan Bedoe Notary Public Maricopa County, Arizona My Comm. Expires 08-29-2022 Commission No. 549972

SPOUSAL DISCLAIMER
The undersigned states that he is the spouse of Grantor, Bridget Valenciano, and affirm that he claims no right, title, or interest in the property transferred hereby by right of community property or otherwise.
property of otherwise.
Signature
Date
STATE OF) ss.
County of) ss.
The foregoing document was acknowledged before me, the undersigned Notary Publithis day of November, 2021, by
Notary Public /

My commission expires:

GRANTUR

Jennifer Hazelwood

Individually and as Beneficiary of the Mike Finley Family Trust, originally dated November 16, 2000,

and as amended and restated.

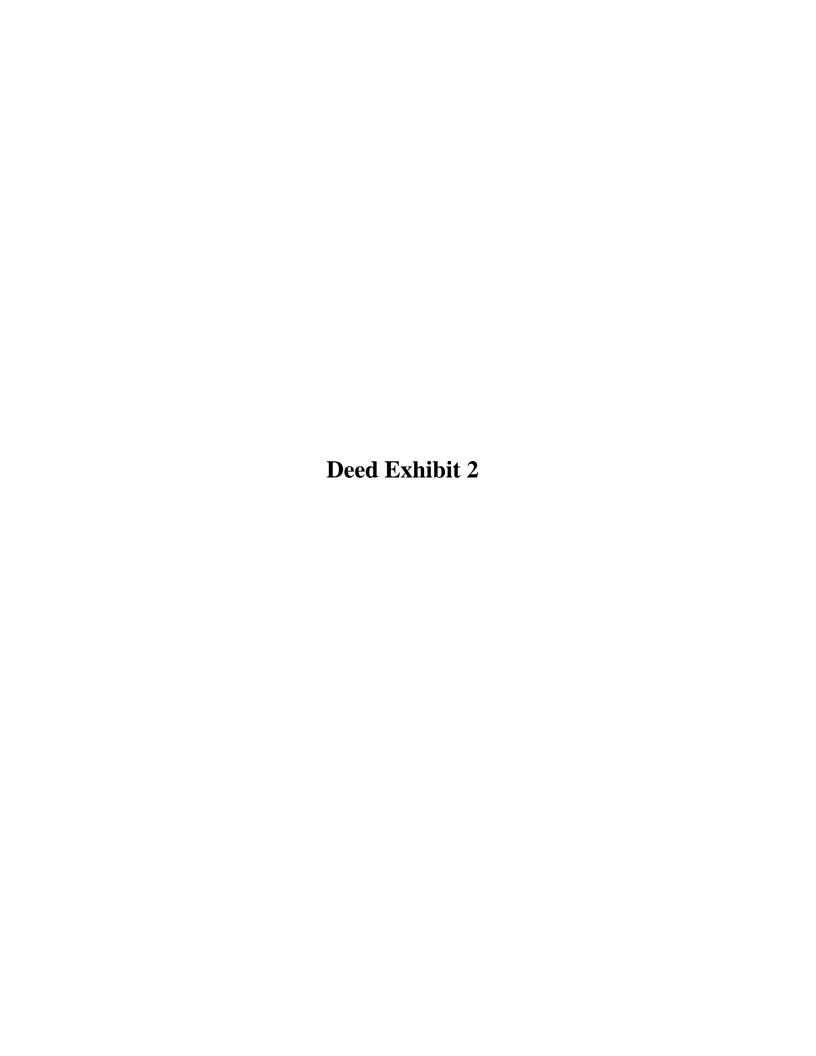
County of [Uarico]a)

The foregoing instrument was acknowledged before me, the undersigned Notary Public, this 79 day of November, 2021, by Jennifer Hazelwood.

My commission expires:

JOSE NIDO Notary Public - State of Artzona MARICOPA COUNTY Commission # 598135 Expires Pebruary 1, 2026

SPOUSAL DISCLAIMER



2020-02105
Page 1 of 6
Requested By: FIRST AMERICAN TITLE INSURANCE COMPA
SUZANNE SAINZ, RECORDER
SANTA CRUZ COUNTY, ARIZONA
04-08-2020 04:15 PM Recording Fee \$30.00

After recording return to:

Resolution Copper Mining LLC Attn: Legal Department 102 Magma Heights, Box 1944 Superior, AZ 85173

Exempt pursuant to A.R.S. § 11-1134.B.7(b)

WARRANTY DEED

FOR THE CONSIDERATION of Ten Dollars (\$10.00) and other valuable considerations, **SWIFT CURRENT LAND & CATTLE LLC**, whose address is 102 Magma Heights, Box 1944, Superior, AZ 85173, ("Grantor") does hereby convey to **RESOLUTION COPPER MINING LLC**, a Delaware limited liability company, whose address is 102 Magma Heights, Box 1944, Superior, AZ 85173 ("Grantee"); that certain real property situated in Santa Cruz County, Arizona, more particularly described in Exhibit A (the "Property"), together with the water rights and claims described in Exhibit B, attached hereto and by this reference incorporated herein;

TOGETHER WITH all associated rights, water rights, tenements, hereditaments and appurtenances thereto belonging, or otherwise appertaining thereto;

SUBJECT TO:

- 1. Current taxes;
- 2. All matters of record in the official records of Santa Cruz County, or would be apparent by an inspection of the property conveyed hereby;
- 3. Reservations in patents from the United States of America or the State of Arizona.

TO HAVE AND TO HOLD the same, together with the appurtenances and privileges thereunto incident, unto the Grantee, its successors and assigns forever.

GRANTOR WARRANTS title to the Property against all persons whomsoever, subject only to those matters described above.

Presented for recording without liability for acceptability or sufficiency by FIRST AMERICAN TITLE

DATED this 24th day of March, 2020.

GRANTOR:

SWIFT CURRENT LAND & CATTLE LLC

By: Sterling Hundley

Its: Controller

STATE OF ARIZONA

) ss.

County of Pinal

The foregoing instrument was acknowledged before me this 24th day of March, 2020, by Sterling Hundley, its Controller.

My commission expires:

May 31, 20 22

JESSICA D CASTILLO Notary Public, State of Arizona Pinal County My Commission Expires May 31, 2022

EXHIBIT A

PARCEL NO. 1:

The Northwest quarter of the Southeast quarter and the East half of the Northeast quarter of the Southwest quarter of Section 14, Township 21 South, Range 18 East, Gila and Salt River Base and Meridian, Santa Cruz County, Arizona.

PARCEL NO. 2:

Lot 2 and the Southwest quarter of the Northeast quarter and the East half of the Southeast quarter of the Northwest quarter of Section 14, Township 21 South, Range 18 East, Gila and Salt River Base and Meridian, Santa Cruz County, Arizona;

EXCEPT the Northeast quarter of said Lot 2, as conveyed by Deed recorded in Docket 416 at page 491.

PARCEL NO. 3:

Lot 3 and the Southwest quarter of the Northwest quarter and the West half of the Southeast quarter of the Northwest quarter of Section 14, Township 21 South, Range 18 East, Gila and Salt River Base and Meridian, Santa Cruz County, Arizona.

EXCEPT the Northeast quarter and the Southeast quarter of Lot 3, as conveyed by Deeds recorded in Docket 633 at pg. 134 and Docket 633 at page 135.

PARCEL NO. 4:

Lot 4 and the Northwest quarter of the Southwest quarter and the West half of the Northeast quarter of the Southwest quarter of Section 14, Township 21 South, Range 18 East, Gila and Salt River Base and Meridian, Santa Cruz County, Arizona;

EXCEPT the West half of Lot 4, as conveyed by Deed recorded in Docket 545 at page 610;

EXCEPT all coal and other minerals as reserved in Patent No. 803175 from the United States of America, recorded at book 13, page 607, in the records of the Santa Cruz County Recorder.

PARCEL NO. 5:

The South half of Lot 4, the South half of the North half and the North half of the Southeast quarter of Section 15, Township 21 South, Range 18 East, Gila and Salt River Base and Meridian, Santa Cruz County, Arizona;

EXCEPT all coal and other minerals as reserved in Patent No. 803175 from the United States of America, recorded at book 13, page 607, in the records of the Santa Cruz County Recorder.

PARCEL NO. 6:

The East half of Section 17, Township 21 South, Range 18 East, Gila and Salt River Base and Meridian, Santa Cruz County, Arizona.

PARCEL NO. 7:

All that portion of Section 28, Township 21 South, Range 18 East, Gila and Salt River Base and Meridian, Santa Cruz County, Arizona, more particularly described as follows:

BEGINNING at the corner common to Sections 21, 22, 27 and 28 of said Township and Range, a G.L.O. brass cap firmly set and properly marked;

THENCE South 89 degrees 58 minutes 00 Seconds West, 1,194.62 feet along and upon the North line of said Section 28;

THENCE South 01 degrees 29 minutes 22 seconds East, 1,102.46 feet;

THENCE North 85 degrees 45 minutes 02 seconds East 549.81 feet;

THENCE South 26 degrees 42 minutes 49 Seconds East, 643.82 feet;

THENCE South 82 degrees 34 minutes 49 Seconds West, 642.26 feet;

THENCE North 89 degrees 59 minutes 20 seconds West, 1,043.72 feet;

THENCE South 68 degrees 15 minutes 26 seconds West, 1,020.59 feet;

THENCE North 08 degrees 35 minutes 36 seconds East, 2,119.11 feet to the North Quarter corner of said Section 28;

THENCE North 89 degrees 58 minutes 00 Seconds East, 1,445.41 feet along and upon the North line of Section 28 to the Point of Beginning.

Exhibit B

Water Rights

All of the water rights and claims appurtenant to the Property as described in the table below:

Reg. No.	Location	<u>Use</u>
38-94410	NE ¹ / ₄ SW ¹ / ₄ Sec. 14, T21S, R18E	Wildlife Conservation
38-94411	NE ¹ / ₄ SW ¹ / ₄ Sec. 14, T21S, R18E	Wildlife Conservation
38-94412	NW ¹ / ₄ SE ¹ / ₄ Sec. 14, T21S, R18E	Wildlife Conservation
38-94418	NW ¹ / ₄ SW ¹ / ₄ Sec. 14, T21S, R18E	Stockwatering
38-94394	NE ¹ / ₄ SE ¹ / ₄ Sec. 15, T21S, R18E	Wildlife Conservation
3A-1830; WR#2564	NW ¹ / ₄ SW ¹ / ₄ Sec. 14, T21S, R18E	Stockwatering
4A-4333; WR#2569; A-2640	NW ¹ / ₄ SW ¹ / ₄ Sec. 14, T21S, R18E	Stockwatering
38-94398	SW¼ NW¼ Sec. 15, T21S, R18E	Wildlife Conservation
38-94399	SW¼ NW¼ Sec. 15, T21S, R18E	Wildlife Conservation
38-94400	SW ¹ / ₄ NW ¹ / ₄ Sec. 15, T21S, R18E	Wildlife Conservation
38-94401	SW¼ NW¼ Sec. 15, T21S, R18E	Wildlife Conservation
38-94402	SW¼ NW¼ Sec. 15, T21S, R18E	Wildlife Conservation
38-94396	NW ¹ / ₄ NW ¹ / ₄ Sec. 15, T21S, R18E	Wildlife Conservation
38-94397	NW ¹ / ₄ NW ¹ / ₄ Sec. 15, T21S, R18E	Wildlife Conservation
38-94393	NW¼ NW¼ Sec. 15, T21S, R18E	Wildlife Conservation
38-94403	NW ¹ / ₄ NW ¹ / ₄ Sec. 15, T21S, R18E	Wildlife Conservation
38-94404	SE¼ NW¼ Sec. 15, T21S, R18E	Wildlife Conservation
38-94405	SE¼ NW¼ Sec. 15, T21S, R18E	Wildlife Conservation
38-94419	SW1/4 NE1/4 Sec. 17, T21S, R18E	Wildlife Conservation
38-94420	SE ¹ / ₄ SE ¹ / ₄ Sec. 17, T21S, R18E	Wildlife Conservation

All of the rights to the following wells to the extent located on the Property:

Registration #	Location	Use
55-650978	T21S,R18E,S28	Stockwatering/Wildlife
55-648930	T21S,R18E,S17	Stockwatering/Wildlife
55-566294	T21S,R18E,S15	Stockwatering/Wildlife

I:\FILES\DOCS\RESO03\160579\RE\I1G4368.DOC

APPENDIX F Partners for Fish and Wildlife Program Landowner Agreement

*	A	Mar	
Landowner	Agreement.	NO:	

PARTNERS FOR FISH AND WILDLIFE PROGRAM LANDOWNER AGREEMENT

This Landowner Agreement (Agreement), dated August 1, 2017, between National Audubon Society, Inc., dba Appleton-Whittell Research Ranch (Landowner), Swift Current Land and Cattle LLC (Landowner), and the U.S. Fish and Wildlife Service (USFWS) is entered into pursuant to authority contained in the Partners for Fish and Wildlife Act (P.L. 109-294), the Fish and Wildlife Coordination Act (16 U.S.C. 661 et seq.) and the Fish and Wildlife Act of 1956 (16 U.S.C. 742a-j), as amended. This project was selected for funding because the Landowners share a common objective with the USFWS to restore habitat for the benefit of Federal trust species on private lands, and the project supports priority actions identified in the Regional Partners for Fish and Wildlife (Partners) Program Strategic Plan.

Swift Land and Cattle LLC, located at 2338 W. Royal Palm Road, Ste J., Phoenix, Arizona, 85021 and National Audubon Society Inc, located at 225 Varick Street, 7th Floor, New York, NY 10014, hereby agree to participate with the USFWS in conducting certain wildlife management practices on lands owned or managed in Santa Cruz County, State of Arizona. McDaniel Tank on National Audubon Society lands within, Section 27, Township 21 S., Range 18 E. The approximate tank location is North Latitude 31.576469° and West Longitude -110.499181°. Finley Tank is located on Swift Current Land and Cattle LLC lands within Section 14, Township 21 S., Range 18 E. The approximate tank location is North Latitude 31.60437° and West Longitude -110.498803°.

In signing this Agreement and receiving the Notice of Award Letter, the Landowners join as participants in a wildlife habitat improvement program and grants to the USFWS authority to complete the habitat improvement project or the Landowners may personally carry out management activities with financial or material support as described in attached Exhibit A. Any donation of supplies, equipment, or direct payment from the USFWS to the Landowners for carrying out the habitat improvements is included in Exhibit A. The activities conducted pursuant to this agreement are not to replace, supplement or otherwise contribute to any mitigation or compensation that may be required of the Landowners, or other parties, as a result of any mandated requirements.

The term of this Agreement (also referred to as the habitat retention period) will be completed on August 1, 2027. This Agreement may be modified at any time by mutual written consent of the parties. It may be terminated by either party upon 30 days advance written notice to the other parties. However, if the Landowners terminate the Agreement before its expiration, or if the Landowners should materially default on these commitments, then the Landowners agree to reimburse the USFWS prior to final termination for the prorated costs of all habitat improvements placed on the land through this Agreement. For these purposes, the total cost of the habitat improvements to the United States is agreed to be \$8,200.00

Landowner:

The Landowners or their land manager, with legal authority over land management decisions, guarantees ownership of the above-described land and warrants that there are no outstanding rights

information that can be shared is payment information that is authorized by law. T Landowner consent is requested to allow for sharing of spatial information about the solely with conservation cooperators providing technical or financial assistance wire restoration, enhancement or management of fish and wildlife habitat.	nis project
I/We, the Landowner (s), consent to having spatial information about this p shared with other conservation cooperators.	project
I/We, the Landowner(s), do NOT wish to have any spatial information about shared with other conservation cooperators.	ut this project
Signatures:	
Mary Beth Henson V. P., Chief Financial Officer, National Audubon Society	
Sterling Hundley Swift Current Land and Cattle LLC	7/3/17 Date
Kris Randall Project Officer, USFWS Partners for Fish and Wildlife Program	Date
Steven L. Spangle Field Supervisor, USFWS	Date

Spatial Information Sharing: In accordance with the Privacy Act of 1974, permission must be

obtained from the Landowner before any personal information can be released. The only

used to maximize the use of these wetlands by pollinators. Existing potted plants will be transplanted to the wetlands from available stock.

USFWS will:

USFWS will review in a timely manner project plans, including redirecting the work effort if the plans do not address critical programmatic issue. The USFWS will conduct periodic project review meetings to ensure adequate progress and that the work is accomplishing the project goals and objectives. The USFWS will help redirect work or shift work if needed. The USFWS will serve as a scientific/technical liaison between the landowner and other programs.

The Landowner(s) will: organize and direct all volunteer labor and material donations; supervise installation of the solar panels and pumps; manage budget and other fiscal responsibilities in a legal and transparent manner; keep records of expense reports and receipts, and billing requirements; and monitor the success of the work for the term of the agreement.

Additional information as required for the project:

Project Summary Upland Acres	Restoration	Enhancement	Establishment	Total
Wetland Acres Stream Channel Miles Shoreline Miles Other Structures			2.12	2.12

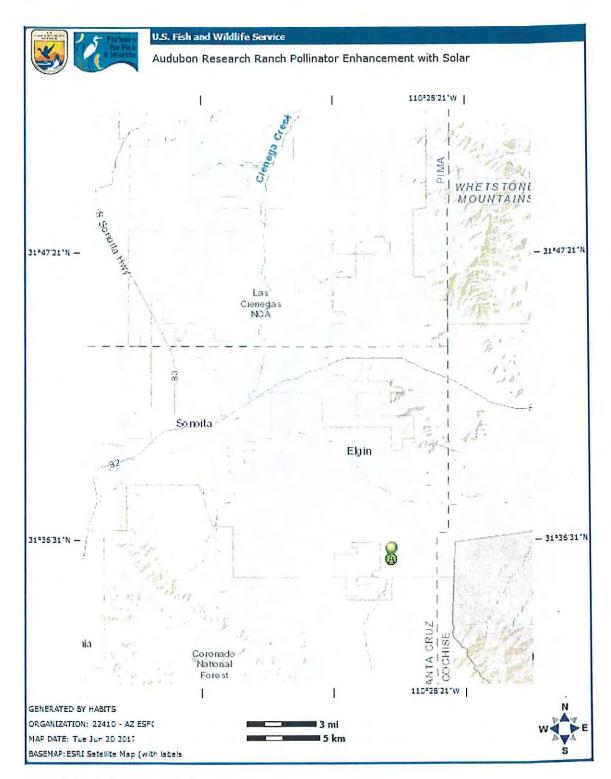


Figure 1: Overview of project location.

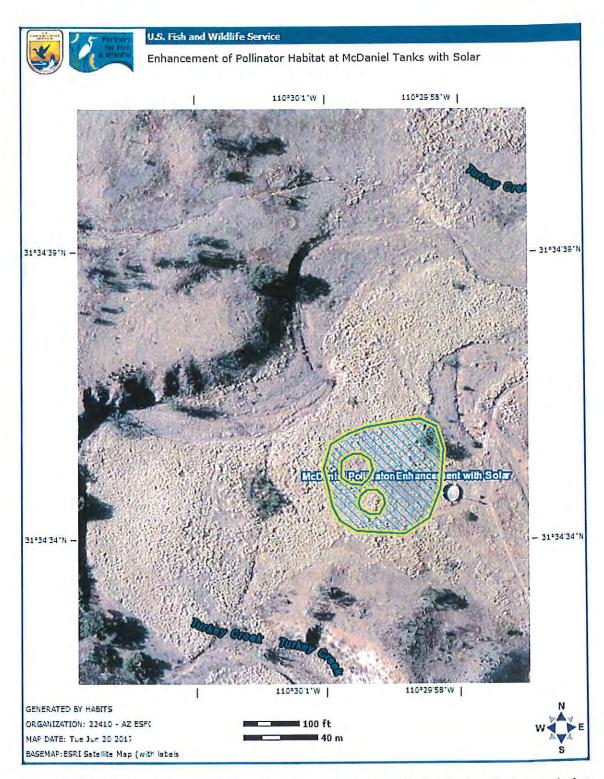


Figure 3: Habitat enhancement at McDaniel Tank for pollinators through installation of solar panels that will provide reliable water for the ponds and native pollinator plants.

APPENDIX G Area/Corridor Report **Appleton Ranch** Research Ranch Rd Elgin, AZ 85611

Inquiry Number: 7905038.2s

February 21, 2025

EDR Area / Corridor Report



TABLE OF CONTENTS

SECTION	PAGE
Executive Summary	ES1
Mapped Sites Summary	2
Key Map	2
Map Findings Summary.	3
Focus Maps	 7
Map Findings	29
Orphan Summary	OR-1
Government Records Searched/Data Currency Tracking.	GR-1

Thank you for your business.Please contact EDR at 1-800-352-0050 with any questions or comments.

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EXECUTIVE SUMMARY

A search of available environmental records was conducted by Environmental Data Resources, Inc (EDR). The report was designed to assist parties seeking to meet the search requirements of EPA's Standards and Practices for All Appropriate Inquiries (40 CFR Part 312), the ASTM Standard Practice for Environmental Site Assessments (E1527 - 21), the ASTM Standard Practice for Environmental Site Assessments for Forestland or Rural Property (E2247 - 16), the ASTM Standard Practice for Limited Environmental Due Diligence: Transaction Screen Process (E1528 - 22) or custom requirements developed for the evaluation of environmental risk associated with a parcel of real estate.

SUBJECT PROPERTY INFORMATION

ADDRESS

RESEARCH RANCH RD ELGIN, AZ 85611

TARGET PROPERTY SEARCH RESULTS

The Target Property was identified in the following databases.

Page Numbers and Map Identifications refer to the EDR Area/Corridor Report where detailed data on individual sites can be reviewed.

Sites listed in **bold italics** are in multiple databases.

SURROUNDING SITES: SEARCH RESULTS

Surrounding sites were not identified.

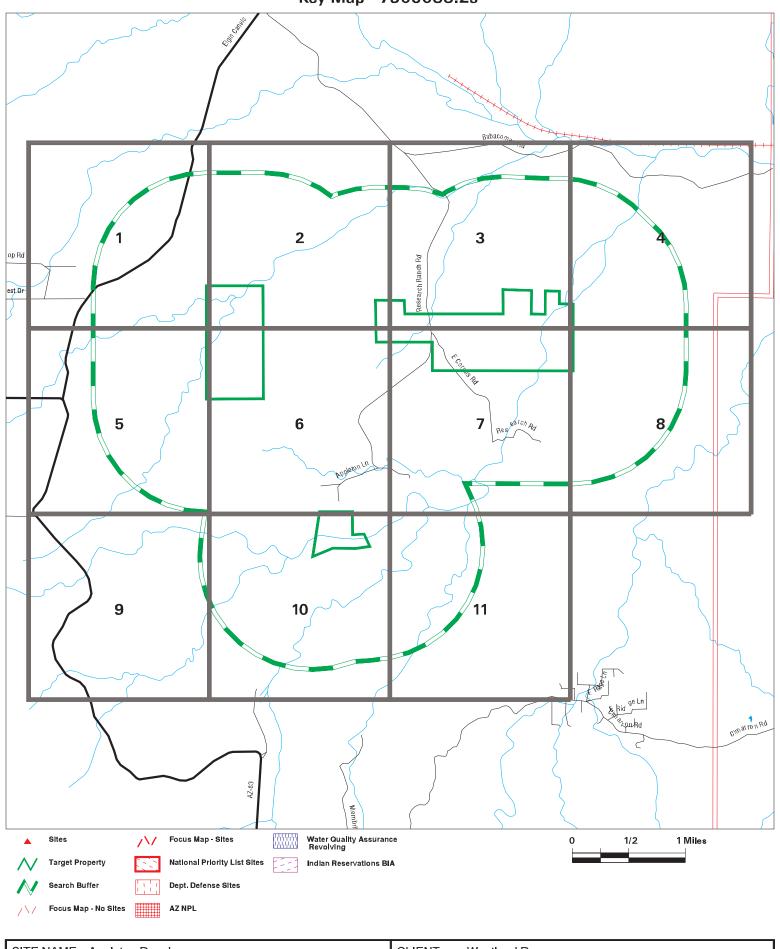
Unmappable (orphan) sites are not considered in the foregoing analysis.

MAPPED SITES SUMMARY

Target Property: RESEARCH RANCH RD ELGIN, AZ 85611

MAP ID / DIST (ft. & mi.) FOCUS MAP SITE NAME ADDRESS DATABASE ACRONYMS DIRECTION

Key Map - 7905038.2s



SITE NAME: Appleton Ranch ADDRESS: Research Ranch Research Ranch Rd

CITY/STATE: Elgin AZ 85611

CLIENT: Westland Resource CONTACT: Samantha Blonder Westland Resources INQUIRY#: 7905038.2s

DATE:

02/21/25 8:46 AM

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
STANDARD ENVIRONME	NTAL RECORD	<u>s</u>						
Lists of Federal NPL (Su	perfund) site	s						
NPL Proposed NPL NPL LIENS	1.000 1.000 1.000		0 0 0	0 0 0	0 0 0	0 0 0	NR NR NR	0 0 0
Lists of Federal Delisted	NPL sites							
Delisted NPL	1.000		0	0	0	0	NR	0
Lists of Federal sites su CERCLA removals and		rs						
FEDERAL FACILITY SEMS	0.500 0.500		0 0	0 0	0 0	NR NR	NR NR	0 0
Lists of Federal CERCL	A sites with N	FRAP						
SEMS-ARCHIVE	0.500		0	0	0	NR	NR	0
Lists of Federal RCRA facilities undergoing Corrective Action								
CORRACTS	1.000		0	0	0	0	NR	0
Lists of Federal RCRA T	SD facilities							
RCRA-TSDF	0.500		0	0	0	NR	NR	0
Lists of Federal RCRA g	enerators							
RCRA-LQG RCRA-SQG RCRA-VSQG	0.250 0.250 0.250		0 0 0	0 0 0	NR NR NR	NR NR NR	NR NR NR	0 0 0
Federal institutional cor engineering controls reg								
LUCIS US ENG CONTROLS US INST CONTROLS	0.500 0.500 0.500		0 0 0	0 0 0	0 0 0	NR NR NR	NR NR NR	0 0 0
Federal ERNS list								
ERNS	TP		NR	NR	NR	NR	NR	0
Lists of state- and tribal (Superfund) equivalent sites								
AZ NPL AZ WQARF	1.000 1.000		0 0	0 0	0 0	0 0	NR NR	0 0
Lists of state- and tribal hazardous waste facilitie								
SPL SHWS	1.000 1.000		0 0	0 0	0 0	0 0	NR NR	0 0
Lists of state and tribal and solid waste disposa								
SWF/LF	0.500		0	0	0	NR	NR	0

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
Lists of state and tribal leaking storage tanks								
LUST INDIAN LUST	0.500 0.500		0 0	0 0	0 0	NR NR	NR NR	0 0
Lists of state and tribal	registered sto	rage tanks						
FEMA UST UST AST INDIAN UST	0.250 0.250 0.250 0.250		0 0 0 0	0 0 0	NR NR NR NR	NR NR NR NR	NR NR NR NR	0 0 0
State and tribal institution		es						
AZURITE AUL	0.500 0.500		0 0	0 0	0 0	NR NR	NR NR	0 0
Lists of state and tribal	voluntary clea	anup sites						
VCP INDIAN VCP	0.500 0.500		0 0	0 0	0 0	NR NR	NR NR	0 0
Lists of state and tribal	brownfield sit	tes						
BROWNFIELDS	0.500		0	0	0	NR	NR	0
ADDITIONAL ENVIRONM	ENTAL RECORI	<u>os</u>						
Local Brownfield lists								
US BROWNFIELDS	0.500		0	0	0	NR	NR	0
Local Lists of Landfill / Waste Disposal Sites	Solid							
SWTIRE	0.500		0	0	0	NR	NR	0
INDIAN ODI DEBRIS REGION 9	0.500 0.500		0 0	0 0	0 0	NR NR	NR NR	0 0
ODI IHS OPEN DUMPS	0.500 0.500		0 0	0 0	0	NR NR	NR NR	0 0
Local Lists of Hazardou Contaminated Sites			J	Ü	Ü			J
US HIST CDL CDL US CDL	TP TP TP		NR NR	NR NR	NR NR	NR NR	NR NR	0
Local Land Records	IF		NR	NR	NR	NR	NR	0
LIENS 2	TP		NR	NR	NR	NR	NR	0
Records of Emergency		rts	. ***	1414	. 41.	. •. •	. 41.	Ü
HMIRS SPILLS SPILLS 90	TP TP TP		NR NR NR	NR NR NR	NR NR NR	NR NR NR	NR NR NR	0 0 0
Other Ascertainable Re								
RCRA NonGen / NLR	0.250		0	0	NR	NR	NR	0

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
FUDS	1.000		0	0	0	0	NR	0
DOD	1.000		Ö	Ö	Ö	Ö	NR	ő
SCRD DRYCLEANERS	0.500		0	Ō	Ō	NR	NR	0
US FIN ASSUR	TP		NR	NR	NR	NR	NR	0
EPA WATCH LIST	TP		NR	NR	NR	NR	NR	0
2020 COR ACTION	0.250		0	0	NR	NR	NR	0
TSCA	TP		NR	NR	NR	NR	NR	0
TRIS	TP		NR	NR	NR	NR	NR	0
SSTS	TP		NR	NR	NR	NR	NR	0
ROD	1.000		0	0	0	0	NR	0
RMP	TP		NR	NR	NR	NR	NR	0
RAATS	TP		NR	NR	NR	NR	NR	0
PRP	TP		NR	NR	NR	NR	NR	0
PADS	TP		NR	NR	NR	NR	NR	0
ICIS	TP		NR	NR	NR	NR	NR	0
FTTS MLTS	TP TP		NR NR	NR NR	NR NR	NR NR	NR NR	0 0
COAL ASH DOE	TP		NR	NR	NR	NR	NR	0
COAL ASH EPA	0.500		0	0	0	NR	NR	0
PCB TRANSFORMER	TP		NR	NR	NR	NR	NR	0
RADINFO	TP		NR	NR	NR	NR	NR	0
HIST FTTS	TP		NR	NR	NR	NR	NR	0
DOT OPS	TP		NR	NR	NR	NR	NR	ő
CONSENT	1.000		0	0	0	0	NR	Ö
INDIAN RESERV	1.000		Ö	Ö	Ö	Ö	NR	Ö
FUSRAP	1.000		Ö	Ō	Ō	Ö	NR	Ō
UMTRA	0.500		0	0	0	NR	NR	0
LEAD SMELTERS	TP		NR	NR	NR	NR	NR	0
US AIRS	TP		NR	NR	NR	NR	NR	0
US MINES	0.250		0	0	NR	NR	NR	0
ABANDONED MINES	0.250		0	0	NR	NR	NR	0
MINES MRDS	0.250		0	0	NR	NR	NR	0
FINDS	TP		NR	NR	NR	NR	NR	0
DOCKET HWC	TP		NR	NR	NR	NR	NR	0
ECHO	TP		NR	NR	NR	NR	NR	0
UXO	1.000		0	0	0	0	NR	0
FUELS PROGRAM	0.250		0	0	NR	NR	NR	0
PFAS NPL	0.250		0	0	NR	NR	NR	0
PFAS FEDERAL SITES PFAS TRIS	0.250 0.250		0 0	0 0	NR NR	NR NR	NR NR	0 0
DE 4 0 TO 0 4	0.250		0	0	NR NR			0
PFAS ISCA PFAS RCRA MANIFEST	0.250		0	0	NR	NR NR	NR NR	0
PFAS ATSDR	0.250		0	0	NR	NR	NR	0
PFAS WQP	0.250		0	0	NR	NR	NR	ő
PFAS NPDES	0.250		Ö	Ö	NR	NR	NR	Ö
PFAS PROJECT	0.250		Ő	Ö	NR	NR	NR	Ö
PFAS ECHO	0.250		Ö	Ö	NR	NR	NR	Ö
PFAS ECHO FIRE TRAIN	0.250		0	0	NR	NR	NR	0
PFAS PT 139 AIRPORT	0.250		0	0	NR	NR	NR	0
AQUEOUS FOAM NRC	0.250		0	0	NR	NR	NR	0
BIOSOLIDS	TP		NR	NR	NR	NR	NR	0

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
UST FINDER RELEASE UST FINDER E MANIFEST PFAS AQUEOUS FOAM AIRS Aquifer AZ DOD Dry Wells DRYCLEANERS EMAP Enforcement	0.250 0.250 0.250 0.250 TP TP 0.500 TP 0.250 TP		0 0 0 0 0 NR NR 0 NR	0 0 0 0 NR NR 0 NR 0 NR	O NR NR NR NR NR NR NR NR	NR NR NR NR NR NR NR NR NR	NR NR NR NR NR NR NR NR NR NR	0 0 0 0 0 0
Financial Assurance MANIFEST SPDES VAPOR UIC WWFAC DRYWELLS HIST EDR HIGH RISK HISTOR			NR 0 NR 0 NR 0 NR	NR 0 NR 0 NR 0 NR	NR NR NR O NR O NR	NR NR NR NR NR NR	NR NR NR NR NR NR	0 0 0 0 0 0
EDR MGP EDR Hist Auto EDR Hist Cleaner EDR RECOVERED GOVE	1.000 0.125 0.125 ERNMENT ARCH	IVES	0 0 0	0 NR NR	0 NR NR	0 NR NR	NR NR NR	0 0 0
Exclusive Recovered 0	Govt. Archives							
RGA HWS RGA LF RGA LUST	TP TP TP		NR NR NR	NR NR NR	NR NR NR	NR NR NR	NR NR NR	0 0 0
- Totals		0	0	0	0	0	0	0

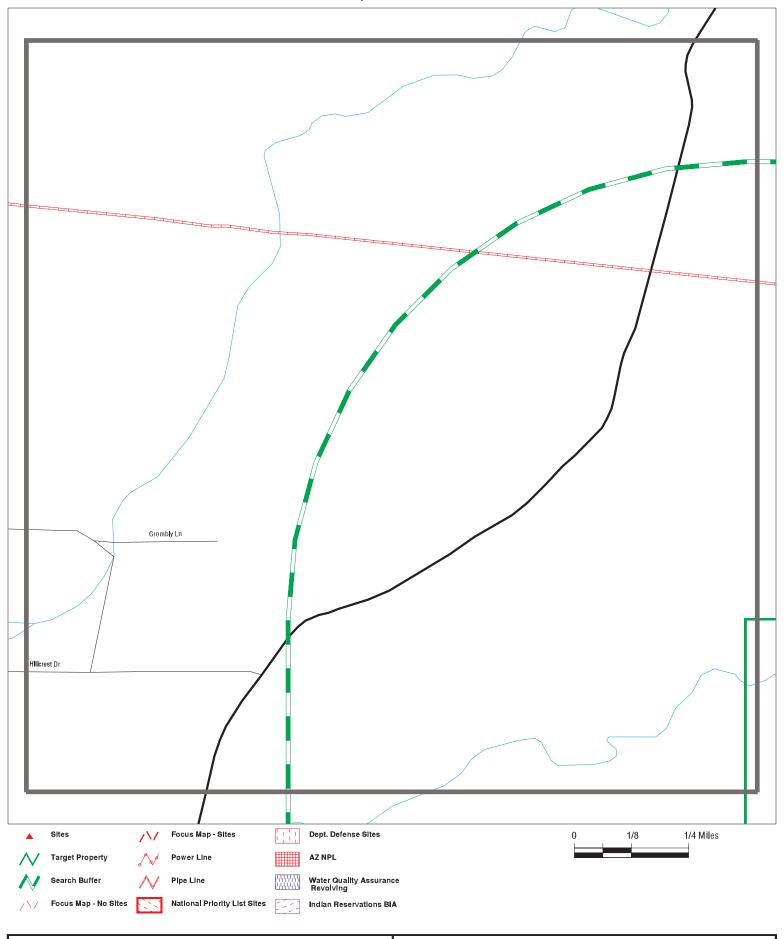
NOTES:

TP = Target Property

NR = Not Requested at this Search Distance

Sites may be listed in more than one database

Focus Map - 1 - 7905038.2s

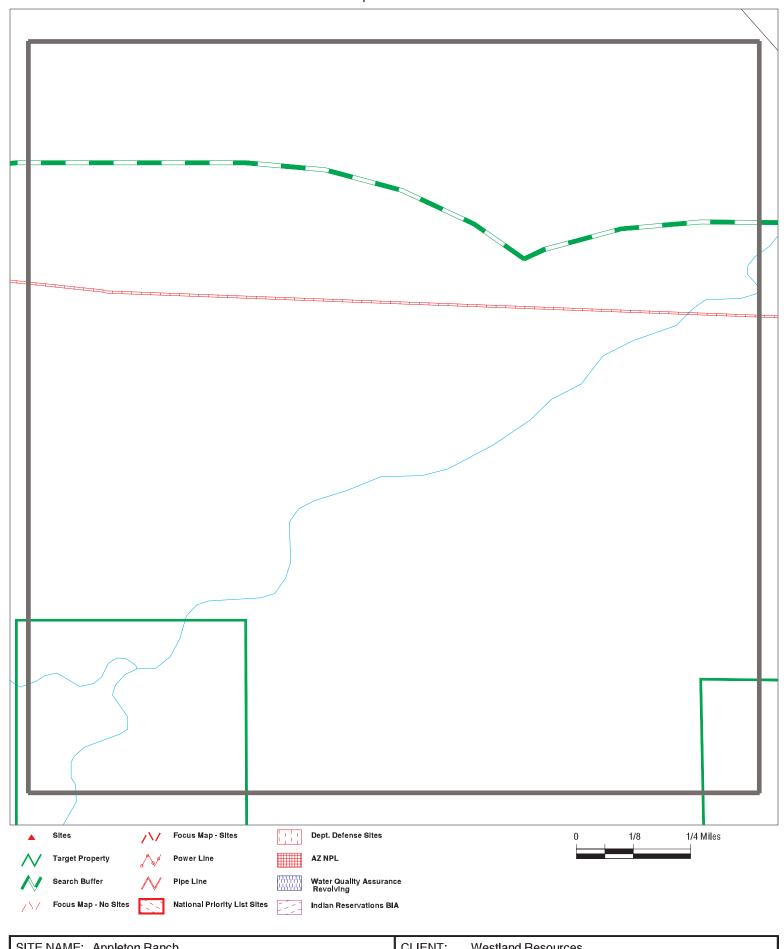


SITE NAME: Appleton Ranch ADDRESS: Research Ranch Rd CITY/STATE: Elgin AZ

ZIP: 85611 CLIENT: Westland Resource CONTACT: Samantha Blonder Westland Resources INQUIRY#: 7905038.2s 02/21/25 DATE:

Target Property: RESEARCH RANCH RD ELGIN, AZ 85611

MAP ID / DIST (ft. & mi.) FOCUS MAP SITE NAME ADDRESS DATABASE ACRONYMS DIRECTION



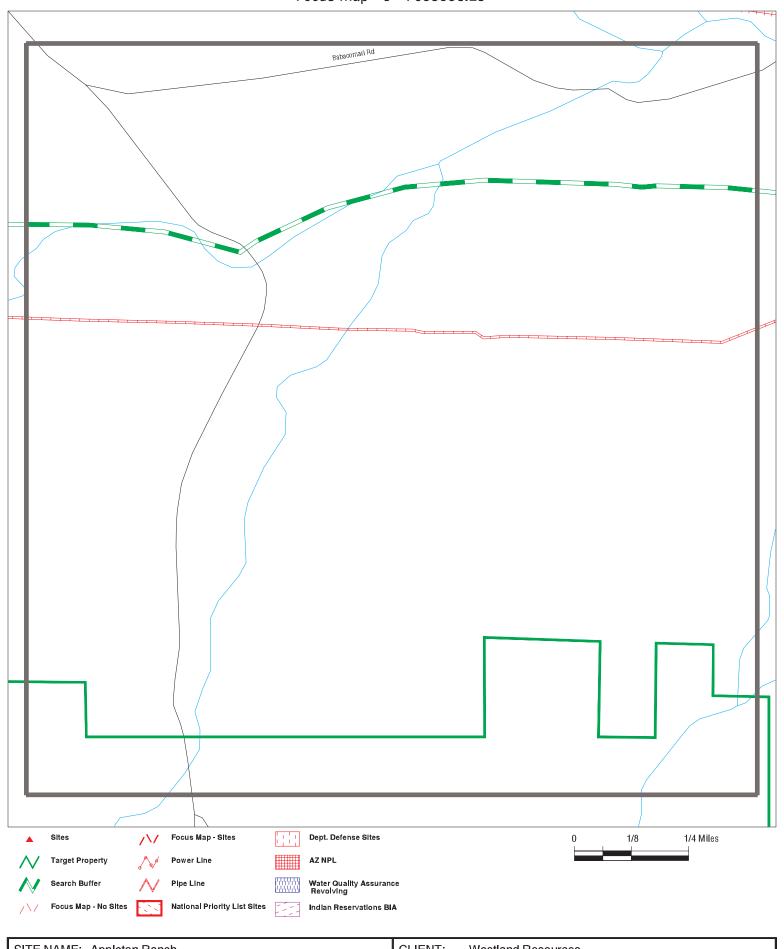
SITE NAME: Appleton Ranch ADDRESS: Research Ranch Research Ranch Rd CITY/STATE: Elgin AZ

ZIP: 85611 CLIENT: Westland Resource CONTACT: Samantha Blonder Westland Resources INQUIRY#: 7905038.2s DATE: 02/21/25

Target Property: RESEARCH RANCH RD ELGIN, AZ 85611

MAP ID / DIST (ft. & mi.) FOCUS MAP SITE NAME ADDRESS DATABASE ACRONYMS DIRECTION

Focus Map - 3 - 7905038.2s



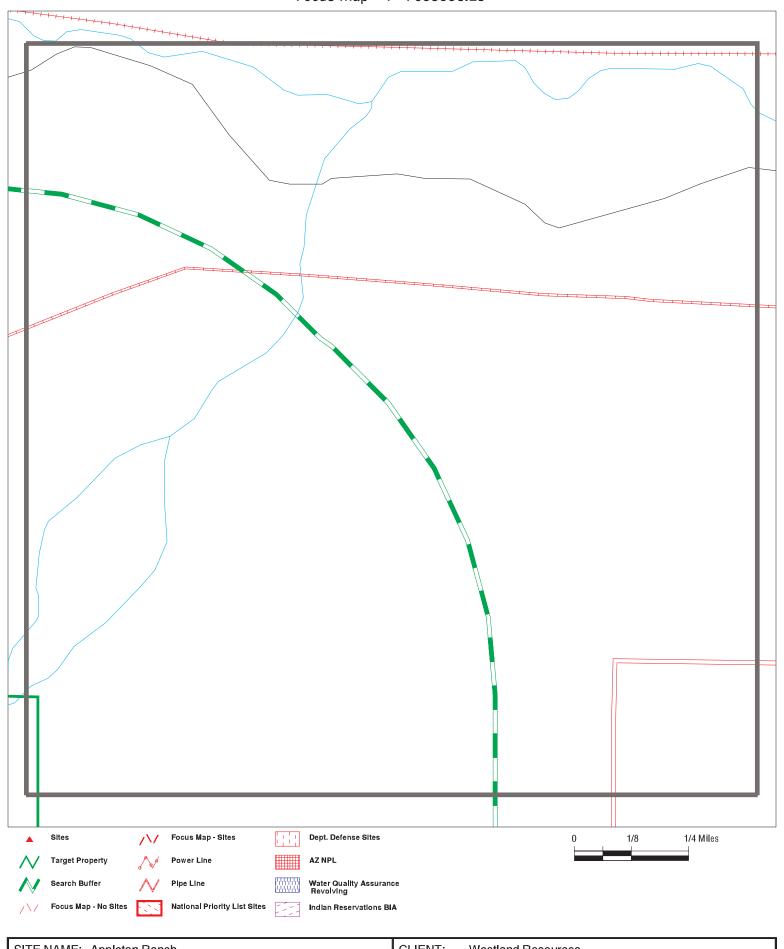
SITE NAME: Appleton Ranch ADDRESS: Research Ranch Rd

CITY/STATE: Elgin AZ ZIP: 85611 CLIENT: Westland Resources CONTACT: Samantha Blonder INQUIRY #: 7905038.2s DATE: 02/21/25

Target Property: RESEARCH RANCH RD ELGIN, AZ 85611

MAP ID / DIST (ft. & mi.) FOCUS MAP SITE NAME ADDRESS DATABASE ACRONYMS DIRECTION

Focus Map - 4 - 7905038.2s



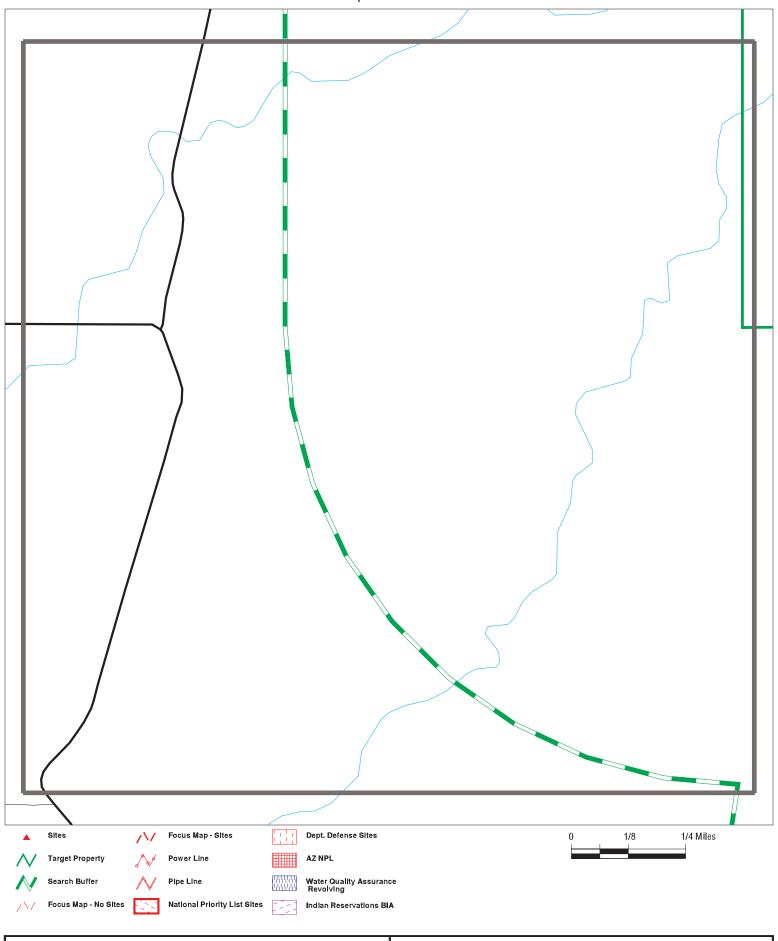
SITE NAME: Appleton Ranch ADDRESS: Research Ranch ADDRESS: Research Ranch Rd CITY/STATE: Elgin AZ

ZIP: 85611 CLIENT: Westland Resource CONTACT: Samantha Blonder Westland Resources INQUIRY#: 7905038.2s DATE: 02/21/25

Target Property: RESEARCH RANCH RD ELGIN, AZ 85611

MAP ID / DIST (ft. & mi.) FOCUS MAP SITE NAME ADDRESS DATABASE ACRONYMS DIRECTION

Focus Map - 5 - 7905038.2s



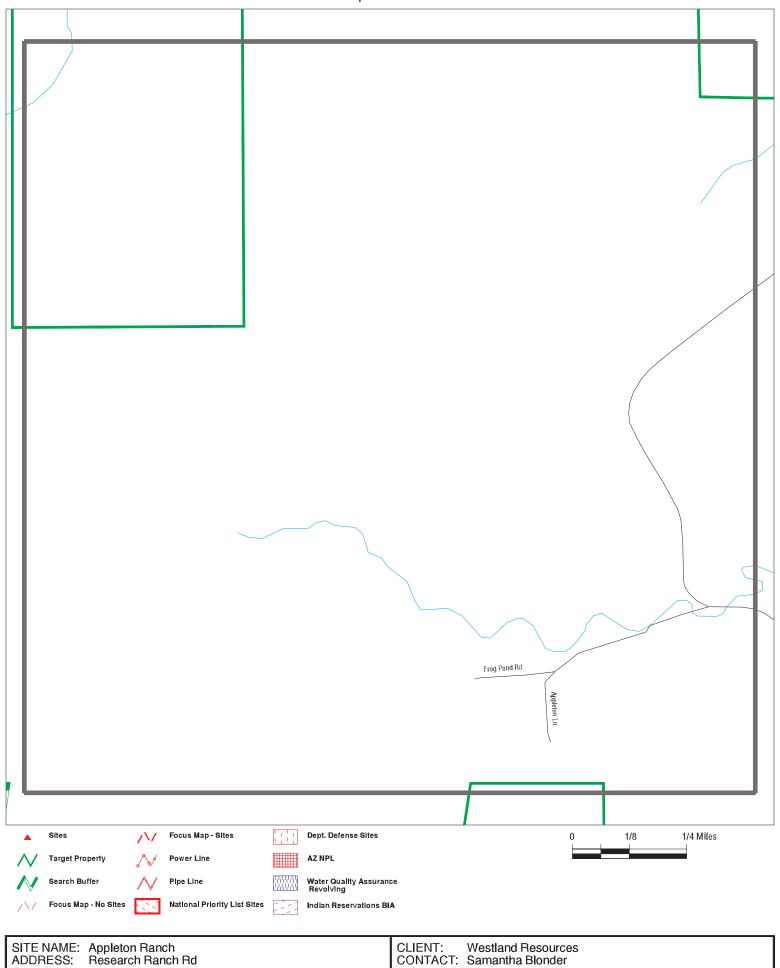
SITE NAME: Appleton Ranch ADDRESS: Research Ranch Rd CITY/STATE: Elgin AZ

ZIP: 85611 CLIENT: Westland Resource CONTACT: Samantha Blonder Westland Resources INQUIRY#: 7905038.2s 02/21/25 DATE:

Target Property: RESEARCH RANCH RD ELGIN, AZ 85611

MAP ID / DIST (ft. & mi.) FOCUS MAP SITE NAME ADDRESS DATABASE ACRONYMS DIRECTION

Focus Map - 6 - 7905038.2s



ADDRESS: Research Ranch Rd CITY/STATE: Elgin AZ ZIP: 85611

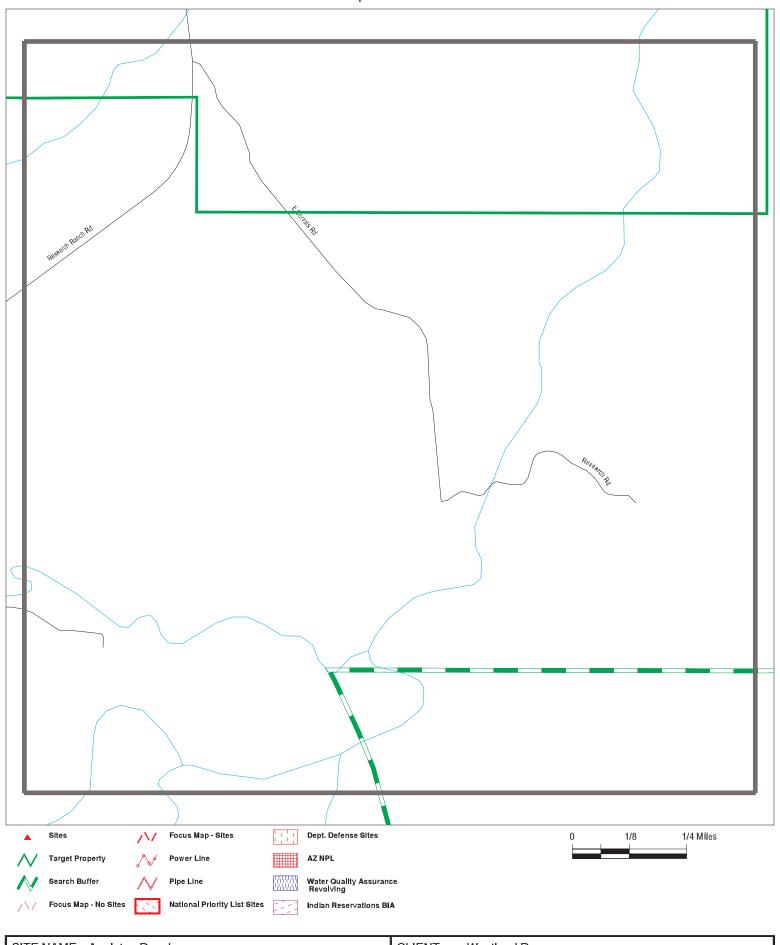
CLIENT: Westland Resource CONTACT: Samantha Blonder INQUIRY#: 7905038.2s DATE: 02/21/25

Copyright © 2025 EDR, Inc. © 2015 TomTom Rel. 2015.

Target Property: RESEARCH RANCH RD ELGIN, AZ 85611

MAP ID / DIST (ft. & mi.) FOCUS MAP SITE NAME ADDRESS DATABASE ACRONYMS DIRECTION

Focus Map - 7 - 7905038.2s



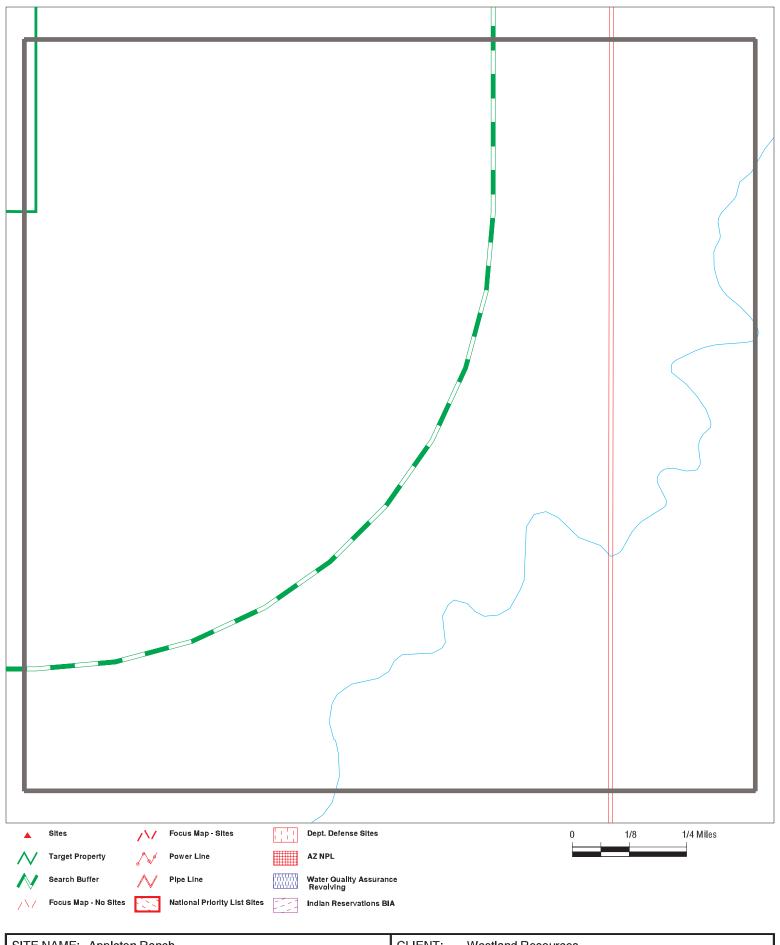
SITE NAME: Appleton Ranch ADDRESS: Research Ranch Rd CITY/STATE: Floin AZ

CITY/STATE: Elgin AZ ZIP: 85611 CLIENT: Westland Resources CONTACT: Samantha Blonder INQUIRY #: 7905038.2s DATE: 02/21/25

Target Property: RESEARCH RANCH RD ELGIN, AZ 85611

MAP ID / DIST (ft. & mi.) FOCUS MAP SITE NAME ADDRESS DATABASE ACRONYMS DIRECTION

Focus Map - 8 - 7905038.2s



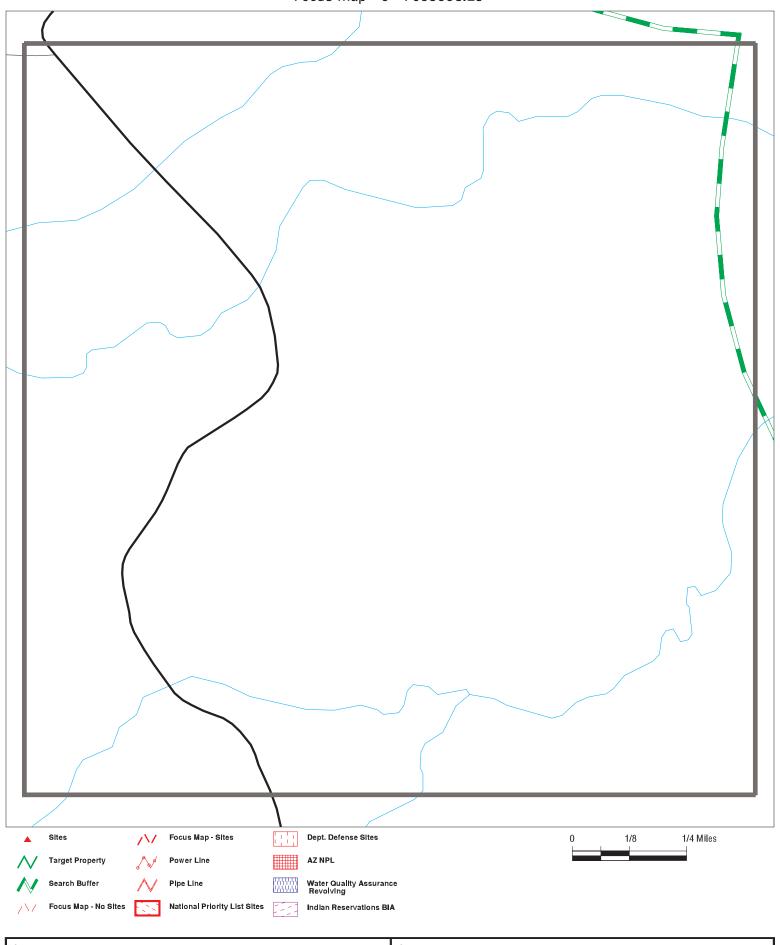
SITE NAME: Appleton Ranch ADDRESS: Research Ranch Rd CITY/STATE: Elgin AZ

ZIP: 85611 CLIENT: Westland Resource CONTACT: Samantha Blonder Westland Resources INQUIRY#: 7905038.2s 02/21/25 DATE:

Target Property: RESEARCH RANCH RD ELGIN, AZ 85611

MAP ID / DIST (ft. & mi.) FOCUS MAP SITE NAME ADDRESS DATABASE ACRONYMS DIRECTION

Focus Map - 9 - 7905038.2s

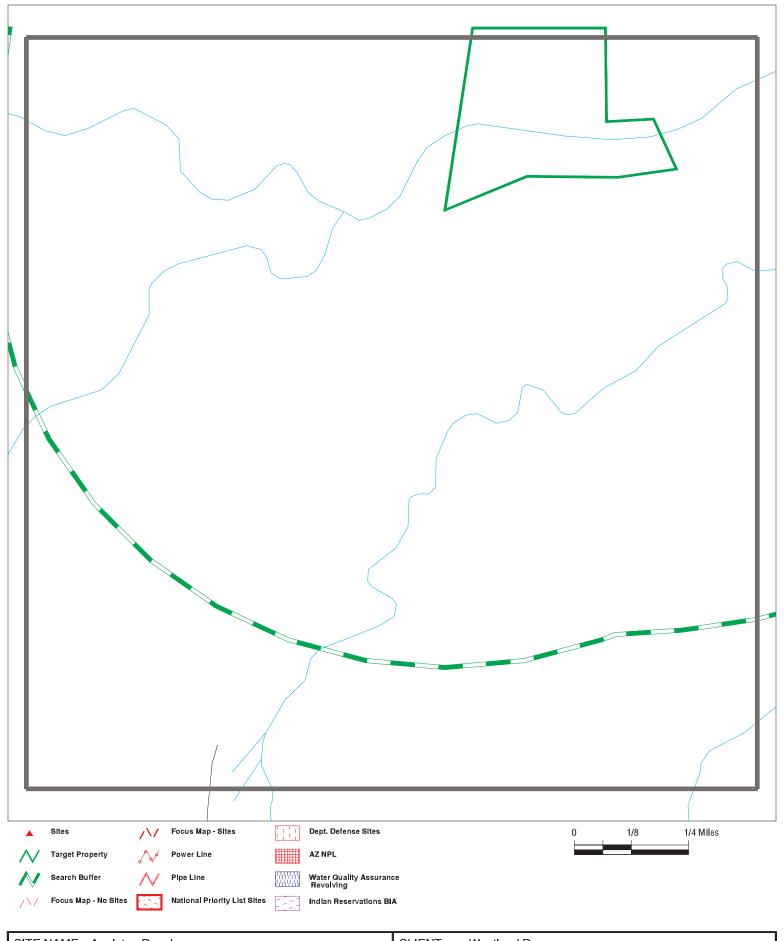


SITE NAME: Appleton Ranch ADDRESS: Research Ranch Rd CITY/STATE: Elgin AZ

ZIP: 85611 CLIENT: Westland Resource CONTACT: Samantha Blonder Westland Resources INQUIRY#: 7905038.2s 02/21/25 DATE:

Target Property: RESEARCH RANCH RD ELGIN, AZ 85611

MAP ID / DIST (ft. & mi.) FOCUS MAP SITE NAME ADDRESS DATABASE ACRONYMS DIRECTION

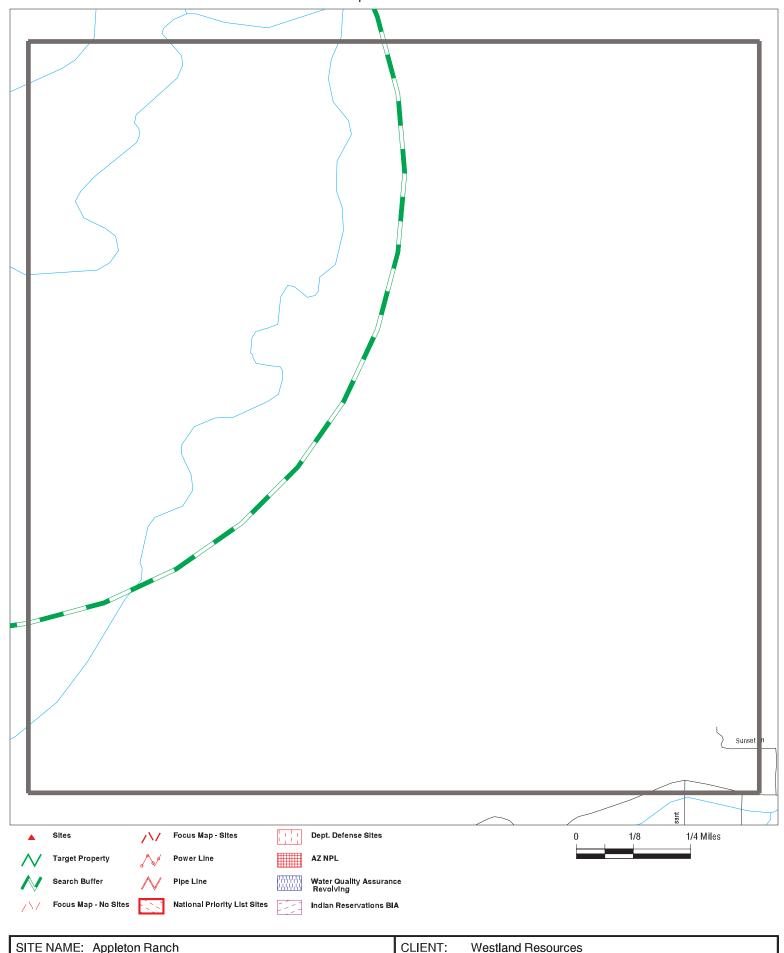


SITE NAME: Appleton Ranch ADDRESS: Research Ranch ADDRESS: Research Ranch Rd CITY/STATE: Elgin AZ

ZIP: 85611 CLIENT: Westland Resource CONTACT: Samantha Blonder Westland Resources INQUIRY#: 7905038.2s 02/21/25 DATE:

Target Property: RESEARCH RANCH RD ELGIN, AZ 85611

MAP ID / DIST (ft. & mi.) FOCUS MAP SITE NAME ADDRESS DATABASE ACRONYMS DIRECTION



SITE NAME: Appleton Ranch ADDRESS: Research Ranch ADDRESS: Research Ranch Rd CITY/STATE: Elgin AZ

ZIP: 85611 CLIENT: Westland Resource CONTACT: Samantha Blonder Westland Resources INQUIRY#: 7905038.2s 02/21/25 DATE:

Target Property: RESEARCH RANCH RD ELGIN, AZ 85611

MAP ID / DIST (ft. & mi.) FOCUS MAP SITE NAME ADDRESS DATABASE ACRONYMS DIRECTION

Map ID		MAP FINDINGS		
Direction			ı	EDD 10 11 1
Distance				EDR ID Number
Elevation	Site		Database(s)	EPA ID Number

NO SITES FOUND

Count: 1 records ORPHAN SUMMARY

City	EDR ID	Site Name	Site Address	Zip	Database(s)
ELGIN	1026690355	BABOCOMARI RANCH CO LTD	RESEARCH RANCH RD HWY 83	85611	FINDS

To maintain currency of the following federal and state databases, EDR contacts the appropriate governmental agency on a monthly or quarterly basis, as required.

Number of Days to Update: Provides confirmation that EDR is reporting records that have been updated within 90 days from the date the government agency made the information available to the public.

STANDARD ENVIRONMENTAL RECORDS

Lists of Federal NPL (Superfund) sites

NPL: National Priority List

National Priorities List (Superfund). The NPL is a subset of CERCLIS and identifies over 1,200 sites for priority cleanup under the Superfund Program. NPL sites may encompass relatively large areas. As such, EDR provides polygon coverage for over 1,000 NPL site boundaries produced by EPA's Environmental Photographic Interpretation Center (EPIC) and regional EPA offices.

Date of Government Version: 12/19/2024 Source: EPA
Date Data Arrived at EDR: 01/02/2025 Telephone: N/A

Date Made Active in Reports: 01/21/2025 Last EDR Contact: 02/03/2025

Number of Days to Update: 19 Next Scheduled EDR Contact: 04/07/2025
Data Release Frequency: Quarterly

NPL Site Boundaries

Sources

EPA's Environmental Photographic Interpretation Center (EPIC)

Telephone: 202-564-7333

EPA Region 1 EPA Region 6

Telephone 617-918-1143 Telephone: 214-655-6659

EPA Region 3 EPA Region 7

Telephone 215-814-5418 Telephone: 913-551-7247

EPA Region 4 EPA Region 8

Telephone 404-562-8033 Telephone: 303-312-6774

EPA Region 5 EPA Region 9

Telephone 312-886-6686 Telephone: 415-947-4246

EPA Region 10

Telephone 206-553-8665

Proposed NPL: Proposed National Priority List Sites

A site that has been proposed for listing on the National Priorities List through the issuance of a proposed rule in the Federal Register. EPA then accepts public comments on the site, responds to the comments, and places on the NPL those sites that continue to meet the requirements for listing.

Date of Government Version: 12/19/2024 Source: EPA
Date Data Arrived at EDR: 01/02/2025 Telephone: N/A

Date Made Active in Reports: 01/21/2025 Last EDR Contact: 02/03/2025

Number of Days to Update: 19 Next Scheduled EDR Contact:

Next Scheduled EDR Contact: 04/07/2025
Data Release Frequency: Quarterly

NPL LIENS: Federal Superfund Liens

Federal Superfund Liens. Under the authority granted the USEPA by CERCLA of 1980, the USEPA has the authority to file liens against real property in order to recover remedial action expenditures or when the property owner received notification of potential liability. USEPA compiles a listing of filed notices of Superfund Liens.

Date of Government Version: 10/15/1991 Date Data Arrived at EDR: 02/02/1994 Date Made Active in Reports: 03/30/1994

Number of Days to Update: 56

Source: EPA

Telephone: 202-564-4267 Last EDR Contact: 08/15/2011

Next Scheduled EDR Contact: 11/28/2011 Data Release Frequency: No Update Planned

Lists of Federal Delisted NPL sites

Delisted NPL: National Priority List Deletions

The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425.(e), sites may be deleted from the NPL where no further response is appropriate.

Date of Government Version: 12/19/2024 Date Data Arrived at EDR: 01/02/2025 Date Made Active in Reports: 01/21/2025

Number of Days to Update: 19

Source: EPA Telephone: N/A

Last EDR Contact: 02/04/2025

Next Scheduled EDR Contact: 04/07/2025 Data Release Frequency: Quarterly

Lists of Federal sites subject to CERCLA removals and CERCLA orders

FEDERAL FACILITY: Federal Facility Site Information listing

A listing of National Priority List (NPL) and Base Realignment and Closure (BRAC) sites found in the Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS) Database where EPA Federal Facilities Restoration and Reuse Office is involved in cleanup activities.

Date of Government Version: 11/20/2024 Date Data Arrived at EDR: 12/18/2024 Date Made Active in Reports: 12/20/2024

Number of Days to Update: 2

Source: Environmental Protection Agency Telephone: 703-603-8704

Last EDR Contact: 12/18/2024

Next Scheduled EDR Contact: 04/07/2025 Data Release Frequency: Varies

SEMS: Superfund Enterprise Management System

SEMS (Superfund Enterprise Management System) tracks hazardous waste sites, potentially hazardous waste sites, and remedial activities performed in support of EPA's Superfund Program across the United States. The list was formerly know as CERCLIS, renamed to SEMS by the EPA in 2015. The list contains data on potentially hazardous waste sites that have been reported to the USEPA by states, municipalities, private companies and private persons, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). This dataset also contains sites which are either proposed to or on the National Priorities List (NPL) and the sites which are in the screening and assessment phase for possible inclusion on the NPL.

Date of Government Version: 12/19/2024 Date Data Arrived at EDR: 01/02/2025 Date Made Active in Reports: 01/21/2025

Number of Days to Update: 19

Source: EPA

Telephone: 800-424-9346 Last EDR Contact: 02/03/2025

Next Scheduled EDR Contact: 04/21/2025 Data Release Frequency: Quarterly

Lists of Federal CERCLA sites with NFRAP

SEMS-ARCHIVE: Superfund Enterprise Management System Archive

SEMS-ARCHIVE (Superfund Enterprise Management System Archive) tracks sites that have no further interest under the Federal Superfund Program based on available information. The list was formerly known as the CERCLIS-NFRAP, renamed to SEMS ARCHIVE by the EPA in 2015. EPA may perform a minimal level of assessment work at a site while it is archived if site conditions change and/or new information becomes available. Archived sites have been removed and archived from the inventory of SEMS sites. Archived status indicates that, to the best of EPA's knowledge, assessment at a site has been completed and that EPA has determined no further steps will be taken to list the site on the National Priorities List (NPL), unless information indicates this decision was not appropriate or other considerations require a recommendation for listing at a later time. The decision does not necessarily mean that there is no hazard associated with a given site; it only means that based upon available information, the location is not judged to be potential NPL site.

Date of Government Version: 12/19/2024 Date Data Arrived at EDR: 01/02/2025 Date Made Active in Reports: 01/21/2025

Number of Days to Update: 19

Source: EPA

Telephone: 800-424-9346 Last EDR Contact: 02/03/2025

Next Scheduled EDR Contact: 04/21/2025 Data Release Frequency: Quarterly

Lists of Federal RCRA facilities undergoing Corrective Action

CORRACTS: Corrective Action Report

CORRACTS identifies hazardous waste handlers with RCRA corrective action activity.

Date of Government Version: 09/16/2024 Date Data Arrived at EDR: 09/17/2024 Date Made Active in Reports: 12/06/2024

Number of Days to Update: 80

Source: EPA

Telephone: 800-424-9346 Last EDR Contact: 02/19/2025

Next Scheduled EDR Contact: 03/31/2025 Data Release Frequency: Quarterly

Lists of Federal RCRA TSD facilities

RCRA-TSDF: RCRA - Treatment, Storage and Disposal

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Transporters are individuals or entities that move hazardous waste from the generator offsite to a facility that can recycle, treat, store, or dispose of the waste. TSDFs treat, store, or dispose of the waste.

Date of Government Version: 09/16/2024 Date Data Arrived at EDR: 09/17/2024 Date Made Active in Reports: 12/06/2024

Number of Days to Update: 80

Source: Environmental Protection Agency

Telephone: (415) 495-8895 Last EDR Contact: 02/19/2025

Next Scheduled EDR Contact: 03/31/2025 Data Release Frequency: Quarterly

Lists of Federal RCRA generators

RCRA-LQG: RCRA - Large Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Large quantity generators (LQGs) generate over 1,000 kilograms (kg) of hazardous waste, or over 1 kg of acutely hazardous waste per month.

Date of Government Version: 09/16/2024 Date Data Arrived at EDR: 09/17/2024 Date Made Active in Reports: 12/06/2024

Number of Days to Update: 80

Source: Environmental Protection Agency

Telephone: (415) 495-8895 Last EDR Contact: 02/19/2025

Next Scheduled EDR Contact: 03/31/2025 Data Release Frequency: Quarterly

RCRA-SQG: RCRA - Small Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Small quantity generators (SQGs) generate between 100 kg and 1,000 kg of hazardous waste per month.

Date of Government Version: 09/16/2024 Date Data Arrived at EDR: 09/17/2024 Date Made Active in Reports: 12/06/2024

Number of Days to Update: 80

Source: Environmental Protection Agency

Telephone: (415) 495-8895 Last EDR Contact: 02/19/2025

Next Scheduled EDR Contact: 03/31/2025 Data Release Frequency: Quarterly

RCRA-VSQG: RCRA - Very Small Quantity Generators (Formerly Conditionally Exempt Small Quantity Generators)
RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation
and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database
includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste
as defined by the Resource Conservation and Recovery Act (RCRA). Very small quantity generators (VSQGs) generate
less than 100 kg of hazardous waste, or less than 1 kg of acutely hazardous waste per month.

Date of Government Version: 09/16/2024 Date Data Arrived at EDR: 09/17/2024 Date Made Active in Reports: 12/06/2024

Number of Days to Update: 80

Source: Environmental Protection Agency

Telephone: (415) 495-8895 Last EDR Contact: 02/19/2025

Next Scheduled EDR Contact: 03/31/2025 Data Release Frequency: Quarterly

Federal institutional controls / engineering controls registries

LUCIS: Land Use Control Information System

LUCIS contains records of land use control information pertaining to the former Navy Base Realignment and Closure properties.

Date of Government Version: 11/11/2024 Date Data Arrived at EDR: 11/25/2024 Date Made Active in Reports: 02/18/2025

Number of Days to Update: 85

Source: Department of the Navy Telephone: 843-820-7326 Last EDR Contact: 02/20/2025

Next Scheduled EDR Contact: 05/19/2025 Data Release Frequency: Varies

US ENG CONTROLS: Engineering Controls Sites List

A listing of sites with engineering controls in place. Engineering controls include various forms of caps, building foundations, liners, and treatment methods to create pathway elimination for regulated substances to enter environmental media or effect human health.

Date of Government Version: 11/04/2024 Date Data Arrived at EDR: 11/15/2024 Date Made Active in Reports: 02/11/2025

Number of Days to Update: 88

Source: Environmental Protection Agency

Telephone: 703-603-0695 Last EDR Contact: 02/18/2025

Next Scheduled EDR Contact: 12/02/2024 Data Release Frequency: Varies

US INST CONTROLS: Institutional Controls Sites List

A listing of sites with institutional controls in place. Institutional controls include administrative measures, such as groundwater use restrictions, construction restrictions, property use restrictions, and post remediation care requirements intended to prevent exposure to contaminants remaining on site. Deed restrictions are generally required as part of the institutional controls.

Date of Government Version: 11/04/2024 Date Data Arrived at EDR: 11/15/2024 Date Made Active in Reports: 02/11/2025

Number of Days to Update: 88

Source: Environmental Protection Agency

Telephone: 703-603-0695 Last EDR Contact: 02/18/2025

Next Scheduled EDR Contact: 06/02/2025

Federal ERNS list

ERNS: Emergency Response Notification System

Emergency Response Notification System. ERNS records and stores information on reported releases of oil and hazardous

substances.

Date of Government Version: 12/03/2024 Date Data Arrived at EDR: 12/11/2024 Date Made Active in Reports: 02/18/2025

Number of Days to Update: 69

Source: National Response Center, United States Coast Guard

Telephone: 202-267-2180 Last EDR Contact: 12/11/2024

Next Scheduled EDR Contact: 03/31/2025 Data Release Frequency: Quarterly

Lists of state- and tribal (Superfund) equivalent sites

AZ NPL: NPL Detail Listing

Detailed site information for NPL sites from the Arizona Department of Environmental Quality.

Date of Government Version: 03/31/2023 Date Data Arrived at EDR: 05/25/2023 Date Made Active in Reports: 08/14/2023

Number of Days to Update: 81

Source: Department of Environmental Quality

Telephone: 602-771-4609 Last EDR Contact: 02/05/2025

Next Scheduled EDR Contact: 05/26/2025 Data Release Frequency: Varies

WQARF: Water Quality Assurance Revolving Fund Sites

Sites which may have an actual or potential impact upon the waters of the state, cause by hazardous substances. The WQARF program provides matching funds to political subdivisions and other state agencies for clean-up activities.

Date of Government Version: 04/03/2024 Date Data Arrived at EDR: 05/02/2024 Date Made Active in Reports: 07/24/2024

Number of Days to Update: 83

Source: Department of Environmental Quality

Telephone: 602-771-4360 Last EDR Contact: 02/05/2025

Next Scheduled EDR Contact: 05/26/2025 Data Release Frequency: Annually

Lists of state- and tribal hazardous waste facilities

SPL: Superfund Program List

The list is representative of the sites and potential sites within the jurisdiction of the Superfund Program Section. It is comprised of the following elements: 1) Water Quality Assurance Revolving Fund Registry Sites; 2) Potential WQARF Registry sites; 3) NPL sites; and 4) Department of Defense sites requiring SPS oversight.

Date of Government Version: 08/25/2004 Date Data Arrived at EDR: 04/04/2018 Date Made Active in Reports: 05/17/2018

Number of Days to Update: 43

Source: Department of Environmental Quality

Telephone: 602-771-4360 Last EDR Contact: 01/15/2025

Next Scheduled EDR Contact: 05/05/2025 Data Release Frequency: No Update Planned

SHWS: ZipAcids List

The ACIDS list consists of more than 750 locations subject to investigation under the State Water Quality Assurance Revolving Fund (WQARF) and Federal CERCLA programs. The list is no longer updated by the state.

Date of Government Version: 01/03/2000 Date Data Arrived at EDR: 04/11/2000 Date Made Active in Reports: 05/16/2000

Number of Days to Update: 35

Source: Department of Environmental Quality

Telephone: 602-771-4360 Last EDR Contact: 12/04/2024

Next Scheduled EDR Contact: 03/24/2025 Data Release Frequency: No Update Planned

Lists of state and tribal landfills and solid waste disposal facilities

SWF/LF: Directory of Solid Waste Facilities

Solid Waste Facilities/Landfill Sites. SWF/LF type records typically contain an inventory of solid waste disposal facilities or landfills in a particular state. Depending on the state, these may be active or inactive facilities or open dumps that failed to meet RCRA Subtitle D Section 4004 criteria for solid waste landfills or disposal sites.

Date of Government Version: 09/12/2024 Date Data Arrived at EDR: 09/26/2024 Date Made Active in Reports: 12/11/2024

Number of Days to Update: 76

Source: Department of Environmental Quality

Telephone: 602-771-2300 Last EDR Contact: 12/23/2024

Next Scheduled EDR Contact: 04/14/2025 Data Release Frequency: Varies

Lists of state and tribal leaking storage tanks

LUST: Leaking Underground Storage Tank Listing

Leaking Underground Storage Tank Incident Reports. LUST records contain an inventory of reported leaking underground storage tank incidents. Not all states maintain these records, and the information stored varies by state.

Date of Government Version: 09/20/2024 Date Data Arrived at EDR: 10/01/2024 Date Made Active in Reports: 12/11/2024

Number of Days to Update: 71

Source: Department of Environmental Quality

Telephone: 602-771-4345 Last EDR Contact: 12/27/2024

Next Scheduled EDR Contact: 04/14/2025 Data Release Frequency: Semi-Annually

INDIAN LUST R4: Leaking Underground Storage Tanks on Indian Land LUSTs on Indian land in Florida, Mississippi and North Carolina.

Date of Government Version: 05/07/2024 Date Data Arrived at EDR: 05/30/2024 Date Made Active in Reports: 08/28/2024

Number of Days to Update: 90

Source: EPA Region 4 Telephone: 404-562-8677 Last EDR Contact: 01/16/2025

Next Scheduled EDR Contact: 04/28/2025 Data Release Frequency: Varies

INDIAN LUST R1: Leaking Underground Storage Tanks on Indian Land
A listing of leaking underground storage tank locations on Indian Land.

Date of Government Version: 05/07/2024 Date Data Arrived at EDR: 05/30/2024 Date Made Active in Reports: 08/28/2024

Number of Days to Update: 90

Source: EPA Region 1 Telephone: 617-918-1313 Last EDR Contact: 01/16/2025

Next Scheduled EDR Contact: 04/28/2025 Data Release Frequency: Varies

INDIAN LUST R10: Leaking Underground Storage Tanks on Indian Land LUSTs on Indian land in Alaska, Idaho, Oregon and Washington.

Date of Government Version: 05/07/2024 Date Data Arrived at EDR: 05/30/2024 Date Made Active in Reports: 08/28/2024

Number of Days to Update: 90

Source: EPA Region 10 Telephone: 206-553-2857 Last EDR Contact: 01/16/2025

Next Scheduled EDR Contact: 04/28/2025 Data Release Frequency: Varies

INDIAN LUST R6: Leaking Underground Storage Tanks on Indian Land LUSTs on Indian land in New Mexico and Oklahoma.

Date of Government Version: 05/07/2024 Date Data Arrived at EDR: 05/30/2024 Date Made Active in Reports: 08/28/2024

Number of Days to Update: 90

Source: EPA Region 6 Telephone: 214-665-6597 Last EDR Contact: 01/16/2025

Next Scheduled EDR Contact: 04/28/2025 Data Release Frequency: Varies

INDIAN LUST R5: Leaking Underground Storage Tanks on Indian Land

Leaking underground storage tanks located on Indian Land in Michigan, Minnesota and Wisconsin.

Date of Government Version: 04/11/2024 Date Data Arrived at EDR: 05/30/2024 Date Made Active in Reports: 08/28/2024

Number of Days to Update: 90

Source: EPA, Region 5 Telephone: 312-886-7439 Last EDR Contact: 01/16/2025

Next Scheduled EDR Contact: 04/28/2025 Data Release Frequency: Varies

INDIAN LUST R9: Leaking Underground Storage Tanks on Indian Land LUSTs on Indian land in Arizona, California, New Mexico and Nevada

Date of Government Version: 05/07/2024 Date Data Arrived at EDR: 05/30/2024 Date Made Active in Reports: 08/28/2024

Number of Days to Update: 90

Source: Environmental Protection Agency

Telephone: 415-972-3372 Last EDR Contact: 01/16/2025

Next Scheduled EDR Contact: 04/28/2025 Data Release Frequency: Varies

INDIAN LUST R8: Leaking Underground Storage Tanks on Indian Land

LUSTs on Indian land in Colorado, Montana, North Dakota, South Dakota, Utah and Wyoming.

Date of Government Version: 05/07/2024 Date Data Arrived at EDR: 05/30/2024 Date Made Active in Reports: 08/28/2024

Number of Days to Update: 90

Source: EPA Region 8 Telephone: 303-312-6271 Last EDR Contact: 01/16/2025

Next Scheduled EDR Contact: 04/28/2025

Data Release Frequency: Varies

INDIAN LUST R7: Leaking Underground Storage Tanks on Indian Land

LUSTs on Indian land in Iowa, Kansas, and Nebraska

Date of Government Version: 05/07/2024 Date Data Arrived at EDR: 05/30/2024 Date Made Active in Reports: 08/28/2024

Number of Days to Update: 90

Source: EPA Region 7 Telephone: 913-551-7003 Last EDR Contact: 01/16/2025

Next Scheduled EDR Contact: 04/28/2025 Data Release Frequency: Varies

Lists of state and tribal registered storage tanks

FEMA UST: Underground Storage Tank Listing

A listing of all FEMA owned underground storage tanks.

Date of Government Version: 08/12/2024 Date Data Arrived at EDR: 10/30/2024 Date Made Active in Reports: 01/14/2025

Number of Days to Update: 76

Source: FEMA

Telephone: 202-646-5797 Last EDR Contact: 12/23/2024

Next Scheduled EDR Contact: 04/14/2025

Data Release Frequency: Varies

UST: Underground Storage Tank Listing

Registered Underground Storage Tanks. UST's are regulated under Subtitle I of the Resource Conservation and Recovery Act (RCRA) and must be registered with the state department responsible for administering the UST program. Available information varies by state program.

Date of Government Version: 09/20/2024 Date Data Arrived at EDR: 10/01/2024 Date Made Active in Reports: 12/11/2024

Number of Days to Update: 71

Source: Department of Environmental Quality

Telephone: 602-771-4345 Last EDR Contact: 12/27/2024

Next Scheduled EDR Contact: 04/14/2025 Data Release Frequency: Annually

AST: List of Aboveground Storage Tanks

Aboveground storage tanks that the Dept. of Building & Fire Safety have permitted.

Date of Government Version: 12/05/2019 Date Data Arrived at EDR: 12/06/2019 Date Made Active in Reports: 01/31/2020

Number of Days to Update: 56

Source: Department of Building & Fire Safety

Telephone: 602-364-1003 Last EDR Contact: 11/26/2024

Next Scheduled EDR Contact: 03/17/2025 Data Release Frequency: No Update Planned

AST 2: Aboveground Storage Tank Listing

A listing of aboveground storage tank site locations.

Date of Government Version: 11/12/2024 Date Data Arrived at EDR: 12/04/2024 Date Made Active in Reports: 02/19/2025

Number of Days to Update: 77

Source: Department of Environmental Quality

Telephone: 602-771-4380 Last EDR Contact: 11/26/2024

Next Scheduled EDR Contact: 03/17/2025 Data Release Frequency: Varies

INDIAN UST R5: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 5 (Michigan, Minnesota and Wisconsin and Tribal Nations).

Date of Government Version: 04/11/2024 Date Data Arrived at EDR: 05/30/2024 Date Made Active in Reports: 08/28/2024

Number of Days to Update: 90

Source: EPA Region 5 Telephone: 312-886-6136 Last EDR Contact: 01/16/2025

Next Scheduled EDR Contact: 04/28/2025

Data Release Frequency: Varies

INDIAN UST R6: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 6 (Louisiana, Arkansas, Oklahoma, New Mexico, Texas and 65 Tribes).

Date of Government Version: 05/14/2024 Date Data Arrived at EDR: 05/30/2024 Date Made Active in Reports: 08/28/2024

Number of Days to Update: 90

Source: EPA Region 6 Telephone: 214-665-7591 Last EDR Contact: 01/16/2025

Next Scheduled EDR Contact: 04/28/2025 Data Release Frequency: Varies

INDIAN UST R10: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 10 (Alaska, Idaho, Oregon, Washington, and Tribal Nations).

Date of Government Version: 05/14/2024 Date Data Arrived at EDR: 05/30/2024 Date Made Active in Reports: 08/28/2024

Number of Days to Update: 90

Source: EPA Region 10 Telephone: 206-553-2857 Last EDR Contact: 01/16/2025

Next Scheduled EDR Contact: 04/28/2025 Data Release Frequency: Varies

INDIAN UST R4: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 4 (Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee and Tribal Nations)

Date of Government Version: 05/14/2024 Date Data Arrived at EDR: 05/30/2024 Date Made Active in Reports: 08/28/2024

Number of Days to Update: 90

Source: EPA Region 4 Telephone: 404-562-9424 Last EDR Contact: 01/16/2025

Next Scheduled EDR Contact: 07/29/2024 Data Release Frequency: Varies

INDIAN UST R9: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 9 (Arizona, California, Hawaii, Nevada, the Pacific Islands, and Tribal Nations).

Date of Government Version: 05/14/2024 Date Data Arrived at EDR: 05/30/2024 Date Made Active in Reports: 08/28/2024

Number of Days to Update: 90

Source: EPA Region 9 Telephone: 415-972-3368 Last EDR Contact: 01/16/2025

Next Scheduled EDR Contact: 04/28/2025 Data Release Frequency: Varies

INDIAN UST R8: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 8 (Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming and 27 Tribal Nations).

Date of Government Version: 05/14/2024 Date Data Arrived at EDR: 05/30/2024 Date Made Active in Reports: 08/28/2024

Number of Days to Update: 90

Source: EPA Region 8 Telephone: 303-312-6137 Last EDR Contact: 01/16/2025

Next Scheduled EDR Contact: 04/28/2025 Data Release Frequency: Varies

INDIAN UST R1: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 1 (Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont and ten Tribal Nations).

Date of Government Version: 05/14/2024 Date Data Arrived at EDR: 05/30/2024 Date Made Active in Reports: 08/28/2024

Number of Days to Update: 90

Source: EPA, Region 1 Telephone: 617-918-1313 Last EDR Contact: 01/16/2025

Next Scheduled EDR Contact: 04/28/2025 Data Release Frequency: Varies

INDIAN UST R7: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 7 (Iowa, Kansas, Missouri, Nebraska, and 9 Tribal Nations).

Date of Government Version: 05/14/2024 Date Data Arrived at EDR: 05/30/2024 Date Made Active in Reports: 08/28/2024

Number of Days to Update: 90

Source: EPA Region 7 Telephone: 913-551-7003 Last EDR Contact: 01/16/2025

Next Scheduled EDR Contact: 04/28/2025 Data Release Frequency: Varies

State and tribal institutional control / engineering control registries

AZURITE: Remediation and DEUR/VEMUR Tracking System

ADEQ maintains a repository listing sites remediated under programs administered by the department.

Date of Government Version: 03/12/2024 Date Data Arrived at EDR: 03/14/2024 Date Made Active in Reports: 06/04/2024

Number of Days to Update: 82

Source: Department of Environmental Quality Telephone: 602-771-4397 Last EDR Contact: 12/04/2024

Next Scheduled EDR Contact: 03/24/2025

Data Release Frequency: Varies

AUL: DEUR Database

Activity and use limitations include both engineering controls and institutional controls. DEUR and VEMUR sites. DEUR: Declaration of Environmental Use Restriction. A restrictive land use covenant that is required when a property owner elects to use an institutional (i.e., administrative) control or engineering (i.e., physical) control as a means to meet remediation goals. The DEUR runs with and burdens the land, and requires maintenance of any institutional or engineering controls. VEMUR: Voluntary Environmental Mitigation Use Restriction. A restrictive land use covenant that, prior to July 18, 2000, was required when a property owner elected to remediate the property to non-residential uses. Effective July 18, 2000, the DEUR replaced the VEMUR as a restrictive use covenant.

Date of Government Version: 03/12/2024 Date Data Arrived at EDR: 03/14/2024 Date Made Active in Reports: 06/04/2024

Number of Days to Update: 82

Source: Department of Environmental Quality

Telephone: 602-771-4397 Last EDR Contact: 12/04/2024

Next Scheduled EDR Contact: 03/24/2025 Data Release Frequency: Varies

Lists of state and tribal voluntary cleanup sites

INDIAN VCP R1: Voluntary Cleanup Priority Listing

A listing of voluntary cleanup priority sites located on Indian Land located in Region 1.

Date of Government Version: 07/27/2015 Date Data Arrived at EDR: 09/29/2015 Date Made Active in Reports: 02/18/2016

Number of Days to Update: 142

Source: EPA, Region 1 Telephone: 617-918-1102 Last EDR Contact: 12/10/2024

Next Scheduled EDR Contact: 03/31/2025

VCP: Voluntary Remediation Program Sites

Sites involved in the Voluntary Remediation Program.

Date of Government Version: 04/02/2024 Date Data Arrived at EDR: 04/05/2024 Date Made Active in Reports: 06/26/2024

Number of Days to Update: 82

Source: Department of Environmental Quality

Telephone: 602-771-4411 Last EDR Contact: 12/16/2024

Next Scheduled EDR Contact: 04/07/2025 Data Release Frequency: Varies

INDIAN VCP R7: Voluntary Cleanup Priority Lisitng

A listing of voluntary cleanup priority sites located on Indian Land located in Region 7.

Date of Government Version: 03/20/2008 Date Data Arrived at EDR: 04/22/2008 Date Made Active in Reports: 05/19/2008

Number of Days to Update: 27

Source: EPA, Region 7 Telephone: 913-551-7365 Last EDR Contact: 07/08/2021

Next Scheduled EDR Contact: 07/20/2009

Data Release Frequency: Varies

Lists of state and tribal brownfield sites

BROWNFIELDS: Brownfields Tracking System

Information relating to Brownfields sites in Arizona.

Date of Government Version: 09/08/2022 Date Data Arrived at EDR: 09/09/2022 Date Made Active in Reports: 12/08/2022

Number of Days to Update: 90

Source: Department of Environmental Quality

Telephone: 602-771-4401 Last EDR Contact: 02/05/2025

Next Scheduled EDR Contact: 04/07/2025

Data Release Frequency: Varies

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS: A Listing of Brownfields Sites

Brownfields are real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant. Cleaning up and reinvesting in these properties takes development pressures off of undeveloped, open land, and both improves and protects the environment. Assessment, Cleanup and Redevelopment Exchange System (ACRES) stores information reported by EPA Brownfields grant recipients on brownfields properties assessed or cleaned up with grant funding as well as information on Targeted Brownfields Assessments performed by EPA Regions. A listing of ACRES Brownfield sites is obtained from Cleanups in My Community. Cleanups in My Community provides information on Brownfields properties for which information is reported back to EPA, as well as areas served by Brownfields grant programs.

Date of Government Version: 09/09/2024 Date Data Arrived at EDR: 09/11/2024 Date Made Active in Reports: 12/06/2024

Number of Days to Update: 86

Source: Environmental Protection Agency

Telephone: 202-566-2777 Last EDR Contact: 12/12/2024

Next Scheduled EDR Contact: 03/24/2025 Data Release Frequency: Semi-Annually

Local Lists of Landfill / Solid Waste Disposal Sites

SWTIRE: Solid Waste Tire Facilities

A waste tire "facility" means a solid waste facility at which waste tires are stored outdoors on any day.

Date of Government Version: 11/20/2024 Date Data Arrived at EDR: 11/22/2024 Date Made Active in Reports: 02/14/2025

Number of Days to Update: 84

Source: Department of Environmental Quality

Telephone: 602-771-4132 Last EDR Contact: 02/12/2025

Next Scheduled EDR Contact: 06/02/2025

INDIAN ODI: Report on the Status of Open Dumps on Indian Lands

Location of open dumps on Indian land.

Date of Government Version: 12/31/1998 Date Data Arrived at EDR: 12/03/2007 Date Made Active in Reports: 01/24/2008

Number of Days to Update: 52

Source: Environmental Protection Agency

Telephone: 703-308-8245 Last EDR Contact: 01/16/2025

Next Scheduled EDR Contact: 05/05/2025 Data Release Frequency: Varies

ODI: Open Dump Inventory

An open dump is defined as a disposal facility that does not comply with one or more of the Part 257 or Part 258

Subtitle D Criteria.

Date of Government Version: 06/30/1985 Date Data Arrived at EDR: 08/09/2004 Date Made Active in Reports: 09/17/2004

Number of Days to Update: 39

Source: Environmental Protection Agency

Telephone: 800-424-9346 Last EDR Contact: 06/09/2004 Next Scheduled EDR Contact: N/A

Data Release Frequency: No Update Planned

DEBRIS REGION 9: Torres Martinez Reservation Illegal Dump Site Locations

A listing of illegal dump sites location on the Torres Martinez Indian Reservation located in eastern Riverside

County and northern Imperial County, California.

Date of Government Version: 01/12/2009 Date Data Arrived at EDR: 05/07/2009 Date Made Active in Reports: 09/21/2009

Number of Days to Update: 137

Source: EPA, Region 9 Telephone: 415-947-4219 Last EDR Contact: 01/23/2025

Next Scheduled EDR Contact: 04/28/2025 Data Release Frequency: No Update Planned

IHS OPEN DUMPS: Open Dumps on Indian Land

A listing of all open dumps located on Indian Land in the United States.

Date of Government Version: 02/07/2024 Date Data Arrived at EDR: 11/13/2024 Date Made Active in Reports: 11/19/2024

Number of Days to Update: 6

Source: Department of Health & Human Serivces, Indian Health Service

Telephone: 301-443-1452 Last EDR Contact: 12/09/2024

Next Scheduled EDR Contact: 05/05/2025

Data Release Frequency: Varies

Local Lists of Hazardous waste / Contaminated Sites

US HIST CDL: National Clandestine Laboratory Register

A listing of clandestine drug lab locations that have been removed from the DEAs National Clandestine Laboratory Register.

Date of Government Version: 05/20/2024 Date Data Arrived at EDR: 08/19/2024 Date Made Active in Reports: 10/09/2024

Number of Days to Update: 51

Source: Drug Enforcement Administration

Telephone: 202-307-1000 Last EDR Contact: 02/20/2025

Next Scheduled EDR Contact: 06/02/2025 Data Release Frequency: No Update Planned

CDL: Clandestine Drug Labs

A listing of drug lab seizures in Arizona.

Date of Government Version: 10/28/2019 Date Data Arrived at EDR: 10/30/2019 Date Made Active in Reports: 12/12/2019

Number of Days to Update: 43

Source: Board of Technical Registration

Telephone: 602-364-4931 Last EDR Contact: 12/10/2024

Next Scheduled EDR Contact: 03/31/2025

US CDL: Clandestine Drug Labs

A listing of clandestine drug lab locations. The U.S. Department of Justice ("the Department") provides this web site as a public service. It contains addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the Department, and the Department has not verified the entry and does not guarantee its accuracy. Members of the public must verify the accuracy of all entries by, for example, contacting local law enforcement and local health departments.

Date of Government Version: 05/20/2024 Date Data Arrived at EDR: 08/19/2024 Date Made Active in Reports: 10/09/2024

Number of Days to Update: 51

Source: Drug Enforcement Administration

Telephone: 202-307-1000 Last EDR Contact: 02/20/2025

Next Scheduled EDR Contact: 06/02/2025 Data Release Frequency: Quarterly

Local Land Records

LIENS 2: CERCLA Lien Information

A Federal CERCLA ('Superfund') lien can exist by operation of law at any site or property at which EPA has spent Superfund monies. These monies are spent to investigate and address releases and threatened releases of contamination. CERCLIS provides information as to the identity of these sites and properties.

Date of Government Version: 12/19/2024
Date Data Arrived at EDR: 01/02/2025
Date Made Active in Reports: 01/21/2025

Number of Days to Update: 19

Source: Environmental Protection Agency

Telephone: 202-564-6023 Last EDR Contact: 02/03/2025

Next Scheduled EDR Contact: 04/07/2025 Data Release Frequency: Semi-Annually

Records of Emergency Release Reports

HMIRS: Hazardous Materials Information Reporting System

Hazardous Materials Incident Report System. HMIRS contains hazardous material spill incidents reported to DOT.

Date of Government Version: 06/14/2024 Date Data Arrived at EDR: 06/17/2024 Date Made Active in Reports: 06/24/2024

Number of Days to Update: 7

Source: U.S. Department of Transportation

Telephone: 202-366-4555 Last EDR Contact: 12/11/2024

Next Scheduled EDR Contact: 03/31/2025 Data Release Frequency: Quarterly

SPILLS: Hazardous Material Logbook

Chemical spills and incidents referred to the Emergency Response Unit.

Date of Government Version: 11/15/2024 Date Data Arrived at EDR: 12/03/2024 Date Made Active in Reports: 02/19/2025

Number of Days to Update: 78

Source: Department of Environmental Quality

Telephone: 602-771-4153 Last EDR Contact: 02/18/2025

Next Scheduled EDR Contact: 06/02/2025 Data Release Frequency: No Update Planned

SPILLS 90: SPILLS90 data from FirstSearch

Spills 90 includes those spill and release records available exclusively from FirstSearch databases. Typically, they may include chemical, oil and/or hazardous substance spills recorded after 1990. Duplicate records that are already included in EDR incident and release records are not included in Spills 90.

Date of Government Version: 12/11/2001 Date Data Arrived at EDR: 01/03/2013 Date Made Active in Reports: 02/11/2013

Number of Days to Update: 39

Source: FirstSearch Telephone: N/A

Last EDR Contact: 01/03/2013 Next Scheduled EDR Contact: N/A

Data Release Frequency: No Update Planned

Other Ascertainable Records

RCRA NonGen / NLR: RCRA - Non Generators / No Longer Regulated

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Non-Generators do not presently generate hazardous waste.

Date of Government Version: 09/16/2024 Date Data Arrived at EDR: 09/17/2024 Date Made Active in Reports: 12/06/2024

Number of Days to Update: 80

Source: Environmental Protection Agency

Telephone: (415) 495-8895 Last EDR Contact: 02/19/2025

Next Scheduled EDR Contact: 03/31/2025 Data Release Frequency: Quarterly

FUDS: Formerly Used Defense Sites

The listing includes locations of Formerly Used Defense Sites properties where the US Army Corps of Engineers is actively working or will take necessary cleanup actions.

Date of Government Version: 10/01/2024 Date Data Arrived at EDR: 11/12/2024 Date Made Active in Reports: 01/21/2025

Number of Days to Update: 70

Source: U.S. Army Corps of Engineers

Telephone: 202-528-4285 Last EDR Contact: 02/11/2025

Next Scheduled EDR Contact: 05/26/2025 Data Release Frequency: Varies

DOD: Department of Defense Sites

This data set consists of federally owned or administered lands, administered by the Department of Defense, that have any area equal to or greater than 640 acres of the United States, Puerto Rico, and the U.S. Virgin Islands.

Date of Government Version: 06/07/2021 Date Data Arrived at EDR: 07/13/2021 Date Made Active in Reports: 03/09/2022

Number of Days to Update: 239

Source: USGS

Telephone: 888-275-8747 Last EDR Contact: 01/07/2025

Next Scheduled EDR Contact: 04/21/2025

Data Release Frequency: Varies

FEDLAND: Federal and Indian Lands

Federally and Indian administrated lands of the United States. Lands included are administrated by: Army Corps of Engineers, Bureau of Reclamation, National Wild and Scenic River, National Wildlife Refuge, Public Domain Land, Wilderness, Wilderness Study Area, Wildlife Management Area, Bureau of Indian Affairs, Bureau of Land Management, Department of Justice, Forest Service, Fish and Wildlife Service, National Park Service.

Date of Government Version: 04/02/2018 Date Data Arrived at EDR: 04/11/2018 Date Made Active in Reports: 11/06/2019

Number of Days to Update: 574

Source: U.S. Geological Survey Telephone: 888-275-8747 Last EDR Contact: 12/30/2024

Next Scheduled EDR Contact: 04/14/2025

Data Release Frequency: N/A

SCRD DRYCLEANERS: State Coalition for Remediation of Drycleaners Listing

The State Coalition for Remediation of Drycleaners was established in 1998, with support from the U.S. EPA Office of Superfund Remediation and Technology Innovation. It is comprised of representatives of states with established drycleaner remediation programs. Currently the member states are Alabama, Connecticut, Florida, Illinois, Kansas, Minnesota, Missouri, North Carolina, Oregon, South Carolina, Tennessee, Texas, and Wisconsin.

Date of Government Version: 07/30/2021 Date Data Arrived at EDR: 02/03/2023 Date Made Active in Reports: 02/10/2023

Number of Days to Update: 7

Source: Environmental Protection Agency

Telephone: 615-532-8599 Last EDR Contact: 02/03/2025

Next Scheduled EDR Contact: 05/19/2025

Data Release Frequency: Varies

US FIN ASSUR: Financial Assurance Information

All owners and operators of facilities that treat, store, or dispose of hazardous waste are required to provide proof that they will have sufficient funds to pay for the clean up, closure, and post-closure care of their facilities.

Date of Government Version: 09/16/2024 Date Data Arrived at EDR: 09/17/2024 Date Made Active in Reports: 12/20/2024

Number of Days to Update: 94

Source: Environmental Protection Agency

Telephone: 202-566-1917 Last EDR Contact: 02/19/2025

Next Scheduled EDR Contact: 03/31/2025 Data Release Frequency: Quarterly

EPA WATCH LIST: EPA Watch List

EPA maintains a "Watch List" to facilitate dialogue between EPA, state and local environmental agencies on enforcement matters relating to facilities with alleged violations identified as either significant or high priority. Being on the Watch List does not mean that the facility has actually violated the law only that an investigation by EPA or a state or local environmental agency has led those organizations to allege that an unproven violation has in fact occurred. Being on the Watch List does not represent a higher level of concern regarding the alleged violations that were detected, but instead indicates cases requiring additional dialogue between EPA, state and local agencies - primarily because of the length of time the alleged violation has gone unaddressed or unresolved.

Date of Government Version: 08/30/2013 Date Data Arrived at EDR: 03/21/2014 Date Made Active in Reports: 06/17/2014

Number of Days to Update: 88

Source: Environmental Protection Agency

Telephone: 617-520-3000 Last EDR Contact: 01/27/2025

Next Scheduled EDR Contact: 05/12/2025 Data Release Frequency: No Update Planned

2020 COR ACTION: 2020 Corrective Action Program List

The EPA has set ambitious goals for the RCRA Corrective Action program by creating the 2020 Corrective Action Universe. This RCRA cleanup baseline includes facilities expected to need corrective action. The 2020 universe contains a wide variety of sites. Some properties are heavily contaminated while others were contaminated but have since been cleaned up. Still others have not been fully investigated yet, and may require little or no remediation. Inclusion in the 2020 Universe does not necessarily imply failure on the part of a facility to meet its RCRA obligations.

Date of Government Version: 09/30/2017 Date Data Arrived at EDR: 05/08/2018 Date Made Active in Reports: 07/20/2018

Number of Days to Update: 73

Source: Environmental Protection Agency

Telephone: 703-308-4044 Last EDR Contact: 01/30/2025

Next Scheduled EDR Contact: 05/12/2025 Data Release Frequency: Varies

TSCA: Toxic Substances Control Act

Toxic Substances Control Act. TSCA identifies manufacturers and importers of chemical substances included on the TSCA Chemical Substance Inventory list. It includes data on the production volume of these substances by plant site.

Date of Government Version: 12/31/2020 Date Data Arrived at EDR: 06/14/2022 Date Made Active in Reports: 03/24/2023

Number of Days to Update: 283

Source: EPA

Telephone: 202-260-5521 Last EDR Contact: 12/12/2024

Next Scheduled EDR Contact: 03/24/2025 Data Release Frequency: Every 4 Years

TRIS: Toxic Chemical Release Inventory System

Toxic Release Inventory System. TRIS identifies facilities which release toxic chemicals to the air, water and land in reportable quantities under SARA Title III Section 313.

Date of Government Version: 12/31/2023 Date Data Arrived at EDR: 02/11/2025 Date Made Active in Reports: 02/18/2025

Number of Days to Update: 7

Source: EPA

Telephone: 202-566-0250 Last EDR Contact: 02/11/2025

Next Scheduled EDR Contact: 05/26/2025 Data Release Frequency: Annually

SSTS: Section 7 Tracking Systems

Section 7 of the Federal Insecticide, Fungicide and Rodenticide Act, as amended (92 Stat. 829) requires all registered pesticide-producing establishments to submit a report to the Environmental Protection Agency by March 1st each year. Each establishment must report the types and amounts of pesticides, active ingredients and devices being produced, and those having been produced and sold or distributed in the past year.

Date of Government Version: 10/15/2024 Date Data Arrived at EDR: 10/16/2024 Date Made Active in Reports: 01/14/2025

Number of Days to Update: 90

Source: EPA

Telephone: 202-564-4203 Last EDR Contact: 01/15/2025

Next Scheduled EDR Contact: 04/28/2025 Data Release Frequency: Annually

ROD: Records Of Decision

Record of Decision. ROD documents mandate a permanent remedy at an NPL (Superfund) site containing technical

and health information to aid in the cleanup.

Date of Government Version: 10/24/2024 Date Data Arrived at EDR: 11/01/2024 Date Made Active in Reports: 11/19/2024

Number of Days to Update: 18

Source: EPA

Telephone: 703-416-0223 Last EDR Contact: 02/03/2025

Next Scheduled EDR Contact: 03/10/2025 Data Release Frequency: Annually

RMP: Risk Management Plans

When Congress passed the Clean Air Act Amendments of 1990, it required EPA to publish regulations and guidance for chemical accident prevention at facilities using extremely hazardous substances. The Risk Management Program Rule (RMP Rule) was written to implement Section 112(r) of these amendments. The rule, which built upon existing industry codes and standards, requires companies of all sizes that use certain flammable and toxic substances to develop a Risk Management Program, which includes a(n): Hazard assessment that details the potential effects of an accidental release, an accident history of the last five years, and an evaluation of worst-case and alternative accidental releases; Prevention program that includes safety precautions and maintenance, monitoring, and employee training measures; and Emergency response program that spells out emergency health care, employee training measures and procedures for informing the public and response agencies (e.g the fire department) should an accident occur.

Date of Government Version: 10/01/2024 Date Data Arrived at EDR: 10/23/2024 Date Made Active in Reports: 01/14/2025

Number of Days to Update: 83

Source: Environmental Protection Agency

Telephone: 202-564-8600 Last EDR Contact: 01/09/2025

Next Scheduled EDR Contact: 04/28/2025

Data Release Frequency: Varies

RAATS: RCRA Administrative Action Tracking System

RCRA Administration Action Tracking System. RAATS contains records based on enforcement actions issued under RCRA pertaining to major violators and includes administrative and civil actions brought by the EPA. For administration actions after September 30, 1995, data entry in the RAATS database was discontinued. EPA will retain a copy of the database for historical records. It was necessary to terminate RAATS because a decrease in agency resources made it impossible to continue to update the information contained in the database.

Date of Government Version: 04/17/1995 Date Data Arrived at EDR: 07/03/1995 Date Made Active in Reports: 08/07/1995

Number of Days to Update: 35

Source: EPA

Telephone: 202-564-4104 Last EDR Contact: 06/02/2008

Next Scheduled EDR Contact: 09/01/2008

Data Release Frequency: No Update Planned

PRP: Potentially Responsible Parties

A listing of verified Potentially Responsible Parties

Date of Government Version: 09/19/2023 Date Data Arrived at EDR: 10/03/2023 Date Made Active in Reports: 10/19/2023

Number of Days to Update: 16

Source: EPA

Telephone: 202-564-6023 Last EDR Contact: 02/03/2025

Next Scheduled EDR Contact: 05/12/2025 Data Release Frequency: Quarterly

PADS: PCB Activity Database System

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

Date of Government Version: 07/01/2024
Date Data Arrived at EDR: 10/02/2024
Date Made Active in Reports: 01/10/2025

Number of Days to Update: 100

Source: EPA

Telephone: 202-566-0500 Last EDR Contact: 01/02/2025

Next Scheduled EDR Contact: 04/14/2025 Data Release Frequency: Annually

ICIS: Integrated Compliance Information System

The Integrated Compliance Information System (ICIS) supports the information needs of the national enforcement and compliance program as well as the unique needs of the National Pollutant Discharge Elimination System (NPDES) program.

Date of Government Version: 11/18/2016 Date Data Arrived at EDR: 11/23/2016 Date Made Active in Reports: 02/10/2017

Number of Days to Update: 79

Source: Environmental Protection Agency

Telephone: 202-564-2501 Last EDR Contact: 12/23/2024

Next Scheduled EDR Contact: 04/14/2025 Data Release Frequency: Quarterly

FTTS: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)

FTTS tracks administrative cases and pesticide enforcement actions and compliance activities related to FIFRA, TSCA and EPCRA (Emergency Planning and Community Right-to-Know Act). To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 04/09/2009 Date Data Arrived at EDR: 04/16/2009 Date Made Active in Reports: 05/11/2009

Number of Days to Update: 25

Source: EPA/Office of Prevention, Pesticides and Toxic Substances

Telephone: 202-566-1667 Last EDR Contact: 08/18/2017

Next Scheduled EDR Contact: 12/04/2017
Data Release Frequency: No Update Planned

FTTS INSP: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
A listing of FIFRA/TSCA Tracking System (FTTS) inspections and enforcements.

Date of Government Version: 04/09/2009 Date Data Arrived at EDR: 04/16/2009 Date Made Active in Reports: 05/11/2009

Number of Days to Update: 25

Source: EPA

Telephone: 202-566-1667 Last EDR Contact: 08/18/2017

Next Scheduled EDR Contact: 12/04/2017 Data Release Frequency: No Update Planned

MLTS: Material Licensing Tracking System

MLTS is maintained by the Nuclear Regulatory Commission and contains a list of approximately 8,100 sites which possess or use radioactive materials and which are subject to NRC licensing requirements. To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 10/12/2024 Date Data Arrived at EDR: 10/17/2024 Date Made Active in Reports: 11/19/2024

Number of Days to Update: 33

Source: Nuclear Regulatory Commission

Telephone: 301-415-0717 Last EDR Contact: 01/09/2025

Next Scheduled EDR Contact: 04/28/2025 Data Release Frequency: Quarterly

COAL ASH DOE: Steam-Electric Plant Operation Data

A listing of power plants that store ash in surface ponds.

Date of Government Version: 12/31/2023 Date Data Arrived at EDR: 10/16/2024 Date Made Active in Reports: 01/14/2025

Number of Days to Update: 90

Source: Department of Energy Telephone: 202-586-8719 Last EDR Contact: 11/20/2024

Next Scheduled EDR Contact: 03/10/2025 Data Release Frequency: Varies

COAL ASH EPA: Coal Combustion Residues Surface Impoundments List

A listing of coal combustion residues surface impoundments with high hazard potential ratings.

Date of Government Version: 01/12/2017 Date Data Arrived at EDR: 03/05/2019 Date Made Active in Reports: 11/11/2019

Number of Days to Update: 251

Source: Environmental Protection Agency

Telephone: N/A

Last EDR Contact: 11/20/2024

Next Scheduled EDR Contact: 03/10/2025 Data Release Frequency: Varies

PCB TRANSFORMER: PCB Transformer Registration Database

The database of PCB transformer registrations that includes all PCB registration submittals.

Date of Government Version: 09/13/2019 Date Data Arrived at EDR: 11/06/2019 Date Made Active in Reports: 02/10/2020

Number of Days to Update: 96

Source: Environmental Protection Agency

Telephone: 202-566-0517 Last EDR Contact: 01/30/2025

Next Scheduled EDR Contact: 05/12/2025 Data Release Frequency: Varies

RADINFO: Radiation Information Database

The Radiation Information Database (RADINFO) contains information about facilities that are regulated by U.S.

Environmental Protection Agency (EPA) regulations for radiation and radioactivity.

Date of Government Version: 07/01/2019 Date Data Arrived at EDR: 07/01/2019 Date Made Active in Reports: 09/23/2019

Number of Days to Update: 84

Source: Environmental Protection Agency

Telephone: 202-343-9775 Last EDR Contact: 12/17/2024

Next Scheduled EDR Contact: 04/07/2025 Data Release Frequency: Quarterly

HIST FTTS: FIFRA/TSCA Tracking System Administrative Case Listing

A complete administrative case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006 Date Data Arrived at EDR: 03/01/2007 Date Made Active in Reports: 04/10/2007

Number of Days to Update: 40

Source: Environmental Protection Agency

Telephone: 202-564-2501 Last EDR Contact: 12/17/2007

Next Scheduled EDR Contact: 03/17/2008 Data Release Frequency: No Update Planned

HIST FTTS INSP: FIFRA/TSCA Tracking System Inspection & Enforcement Case Listing

A complete inspection and enforcement case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006 Date Data Arrived at EDR: 03/01/2007 Date Made Active in Reports: 04/10/2007

Number of Days to Update: 40

Source: Environmental Protection Agency

Telephone: 202-564-2501 Last EDR Contact: 12/17/2008

Next Scheduled EDR Contact: 03/17/2008 Data Release Frequency: No Update Planned

DOT OPS: Incident and Accident Data

Department of Transporation, Office of Pipeline Safety Incident and Accident data.

Date of Government Version: 10/04/2024 Date Data Arrived at EDR: 10/16/2024 Date Made Active in Reports: 12/06/2024

Number of Days to Update: 51

Source: Department of Transporation, Office of Pipeline Safety

Telephone: 202-366-4595 Last EDR Contact: 01/22/2025

Next Scheduled EDR Contact: 05/05/2025 Data Release Frequency: Quarterly

CONSENT: Superfund (CERCLA) Consent Decrees

Major legal settlements that establish responsibility and standards for cleanup at NPL (Superfund) sites. Released periodically by United States District Courts after settlement by parties to litigation matters.

Date of Government Version: 09/30/2024 Date Data Arrived at EDR: 10/09/2024 Date Made Active in Reports: 01/10/2025

Number of Days to Update: 93

Source: Department of Justice, Consent Decree Library

Telephone: Varies

Last EDR Contact: 12/30/2024

Next Scheduled EDR Contact: 04/14/2025 Data Release Frequency: Varies

BRS: Biennial Reporting System

The Biennial Reporting System is a national system administered by the EPA that collects data on the generation and management of hazardous waste. BRS captures detailed data from two groups: Large Quantity Generators (LQG) and Treatment, Storage, and Disposal Facilities.

Date of Government Version: 12/31/2021 Date Data Arrived at EDR: 03/09/2023 Date Made Active in Reports: 03/20/2023

Number of Days to Update: 11

Source: EPA/NTIS Telephone: 800-424-9346 Last EDR Contact: 12/12/2024

Next Scheduled EDR Contact: 03/31/2025 Data Release Frequency: Biennially

INDIAN RESERV: Indian Reservations

This map layer portrays Indian administered lands of the United States that have any area equal to or greater

than 640 acres.

Date of Government Version: 12/31/2014
Date Data Arrived at EDR: 07/14/2015
Date Made Active in Reports: 01/10/2017

Number of Days to Update: 546

Source: USGS

Telephone: 202-208-3710 Last EDR Contact: 12/30/2024

Next Scheduled EDR Contact: 04/14/2025 Data Release Frequency: Semi-Annually

FUSRAP: Formerly Utilized Sites Remedial Action Program

DOE established the Formerly Utilized Sites Remedial Action Program (FUSRAP) in 1974 to remediate sites where radioactive contamination remained from Manhattan Project and early U.S. Atomic Energy Commission (AEC) operations.

Date of Government Version: 03/03/2023 Date Data Arrived at EDR: 03/03/2023 Date Made Active in Reports: 06/09/2023

Number of Days to Update: 98

Source: Department of Energy Telephone: 202-586-3559 Last EDR Contact: 01/23/2025

Next Scheduled EDR Contact: 05/12/2025

Data Release Frequency: Varies

UMTRA: Uranium Mill Tailings Sites

Uranium ore was mined by private companies for federal government use in national defense programs. When the mills shut down, large piles of the sand-like material (mill tailings) remain after uranium has been extracted from the ore. Levels of human exposure to radioactive materials from the piles are low; however, in some cases tailings were used as construction materials before the potential health hazards of the tailings were recognized.

Date of Government Version: 05/08/2024 Date Data Arrived at EDR: 08/14/2024 Date Made Active in Reports: 08/28/2024

Number of Days to Update: 14

Source: Department of Energy Telephone: 505-845-0011 Last EDR Contact: 02/06/2025

Next Scheduled EDR Contact: 05/26/2025 Data Release Frequency: Varies

LEAD SMELTER 1: Lead Smelter Sites

A listing of former lead smelter site locations.

Date of Government Version: 12/19/2024 Date Data Arrived at EDR: 01/02/2025 Date Made Active in Reports: 01/21/2025

Number of Days to Update: 19

Source: Environmental Protection Agency

Telephone: 703-603-8787 Last EDR Contact: 02/03/2025

Next Scheduled EDR Contact: 04/07/2025

LEAD SMELTER 2: Lead Smelter Sites

A list of several hundred sites in the U.S. where secondary lead smelting was done from 1931and 1964. These sites may pose a threat to public health through ingestion or inhalation of contaminated soil or dust

Date of Government Version: 04/05/2001 Date Data Arrived at EDR: 10/27/2010 Date Made Active in Reports: 12/02/2010

Number of Days to Update: 36

Source: American Journal of Public Health

Telephone: 703-305-6451 Last EDR Contact: 12/02/2009 Next Scheduled EDR Contact: N/A

Data Release Frequency: No Update Planned

US AIRS (AFS): Aerometric Information Retrieval System Facility Subsystem (AFS)

The database is a sub-system of Aerometric Information Retrieval System (AIRS). AFS contains compliance data on air pollution point sources regulated by the U.S. EPA and/or state and local air regulatory agencies. This information comes from source reports by various stationary sources of air pollution, such as electric power plants, steel mills, factories, and universities, and provides information about the air pollutants they produce. Action, air program, air program pollutant, and general level plant data. It is used to track emissions and compliance data from industrial plants.

Date of Government Version: 10/12/2016 Date Data Arrived at EDR: 10/26/2016 Date Made Active in Reports: 02/03/2017

Number of Days to Update: 100

Source: EPA

Telephone: 202-564-2496 Last EDR Contact: 09/26/2017

Next Scheduled EDR Contact: 01/08/2018 Data Release Frequency: Annually

US AIRS MINOR: Air Facility System Data A listing of minor source facilities.

Date of Government Version: 10/12/2016 Date Data Arrived at EDR: 10/26/2016 Date Made Active in Reports: 02/03/2017

Number of Days to Update: 100

Source: EPA

Telephone: 202-564-2496 Last EDR Contact: 09/26/2017

Next Scheduled EDR Contact: 01/08/2018 Data Release Frequency: Annually

MINES VIOLATIONS: MSHA Violation Assessment Data

Mines violation and assessment information. Department of Labor, Mine Safety & Health Administration.

Date of Government Version: 10/01/2024 Date Data Arrived at EDR: 10/02/2024 Date Made Active in Reports: 10/09/2024

Number of Days to Update: 7

Source: DOL, Mine Safety & Health Admi

Telephone: 202-693-9424 Last EDR Contact: 02/19/2025

Next Scheduled EDR Contact: 06/02/2025 Data Release Frequency: Quarterly

US MINES: Mines Master Index File

Contains all mine identification numbers issued for mines active or opened since 1971. The data also includes violation information.

Date of Government Version: 11/01/2024 Date Data Arrived at EDR: 11/18/2024 Date Made Active in Reports: 02/11/2025

Number of Days to Update: 85

Source: Department of Labor, Mine Safety and Health Administration

Telephone: 303-231-5959 Last EDR Contact: 02/18/2025

Next Scheduled EDR Contact: 06/02/2025 Data Release Frequency: Semi-Annually

US MINES 2: Ferrous and Nonferrous Metal Mines Database Listing

This map layer includes ferrous (ferrous metal mines are facilities that extract ferrous metals, such as iron ore or molybdenum) and nonferrous (Nonferrous metal mines are facilities that extract nonferrous metals, such as gold, silver, copper, zinc, and lead) metal mines in the United States.

Date of Government Version: 05/02/2024 Date Data Arrived at EDR: 08/20/2024 Date Made Active in Reports: 10/09/2024

Number of Days to Update: 50

Source: USGS Telephone: 703-648-7709 Last EDR Contact: 02/20/2025

Next Scheduled EDR Contact: 06/02/2025 Data Release Frequency: Varies

US MINES 3: Active Mines & Mineral Plants Database Listing

Active Mines and Mineral Processing Plant operations for commodities monitored by the Minerals Information Team of the USGS.

Date of Government Version: 04/14/2011 Date Data Arrived at EDR: 06/08/2011 Date Made Active in Reports: 09/13/2011

Number of Days to Update: 97

Source: USGS

Telephone: 703-648-7709 Last EDR Contact: 02/20/2025

Next Scheduled EDR Contact: 06/02/2025 Data Release Frequency: Varies

ABANDONED MINES: Abandoned Mines

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

Date of Government Version: 12/10/2024 Date Data Arrived at EDR: 12/11/2024 Date Made Active in Reports: 02/18/2025

Number of Days to Update: 69

Source: Department of Interior Telephone: 202-208-2609 Last EDR Contact: 12/10/2024

Next Scheduled EDR Contact: 03/17/2025 Data Release Frequency: Quarterly

MINES MRDS: Mineral Resources Data System Mineral Resources Data System

> Date of Government Version: 06/04/2024 Date Data Arrived at EDR: 11/22/2024 Date Made Active in Reports: 02/18/2025

Number of Days to Update: 88

Source: USGS

Telephone: 703-648-6533 Last EDR Contact: 02/20/2025

Next Scheduled EDR Contact: 06/02/2025 Data Release Frequency: Varies

FINDS: Facility Index System/Facility Registry System

Facility Index System. FINDS contains both facility information and 'pointers' to other sources that contain more detail. EDR includes the following FINDS databases in this report: PCS (Permit Compliance System), AIRS (Aerometric Information Retrieval System), DOCKET (Enforcement Docket used to manage and track information on civil judicial enforcement cases for all environmental statutes), FURS (Federal Underground Injection Control), C-DOCKET (Criminal Docket System used to track criminal enforcement actions for all environmental statutes), FFIS (Federal Facilities Information System), STATE (State Environmental Laws and Statutes), and PADS (PCB Activity Data System).

Date of Government Version: 11/11/2024 Date Data Arrived at EDR: 11/20/2024 Date Made Active in Reports: 02/18/2025

Number of Days to Update: 90

Source: EPA

Telephone: (415) 947-8000 Last EDR Contact: 11/20/2024

Next Scheduled EDR Contact: 03/10/2025 Data Release Frequency: Quarterly

UXO: Unexploded Ordnance Sites

A listing of unexploded ordnance site locations

Date of Government Version: 09/06/2023 Date Data Arrived at EDR: 09/13/2023 Date Made Active in Reports: 12/11/2023

Number of Days to Update: 89

Source: Department of Defense Telephone: 703-704-1564 Last EDR Contact: 01/06/2025

Next Scheduled EDR Contact: 04/21/2025 Data Release Frequency: Varies

DOCKET HWC: Hazardous Waste Compliance Docket Listing

A complete list of the Federal Agency Hazardous Waste Compliance Docket Facilities.

Date of Government Version: 05/06/2021 Date Data Arrived at EDR: 05/21/2021 Date Made Active in Reports: 08/11/2021

Number of Days to Update: 82

Source: Environmental Protection Agency

Telephone: 202-564-0527 Last EDR Contact: 02/12/2025

Next Scheduled EDR Contact: 06/02/2025

Data Release Frequency: Varies

ECHO: Enforcement & Compliance History Information

ECHO provides integrated compliance and enforcement information for about 800,000 regulated facilities nationwide.

Date of Government Version: 12/21/2024 Date Data Arrived at EDR: 12/27/2024 Date Made Active in Reports: 01/10/2025

Number of Days to Update: 14

Source: Environmental Protection Agency

Telephone: 202-564-2280 Last EDR Contact: 12/27/2024

Next Scheduled EDR Contact: 04/14/2025 Data Release Frequency: Quarterly

FUELS PROGRAM: EPA Fuels Program Registered Listing

This listing includes facilities that are registered under the Part 80 (Code of Federal Regulations) EPA Fuels Programs. All companies now are required to submit new and updated registrations.

Date of Government Version: 11/08/2024 Date Data Arrived at EDR: 11/08/2024 Date Made Active in Reports: 01/14/2025

Number of Days to Update: 67

Source: EPA

Telephone: 800-385-6164 Last EDR Contact: 02/13/2025

Next Scheduled EDR Contact: 05/26/2025 Data Release Frequency: Quarterly

PFAS NPL: Superfund Sites with PFAS Detections Information

EPA's Office of Land and Emergency Management and EPA Regional Offices maintain data describing what is known about site investigations, contamination, and remedial actions under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) where PFAS is present in the environment.

Date of Government Version: 12/30/2024 Date Data Arrived at EDR: 01/02/2025 Date Made Active in Reports: 01/10/2025

Number of Days to Update: 8

Source: Environmental Protection Agency

Telephone: 703-603-8895 Last EDR Contact: 02/20/2025

Next Scheduled EDR Contact: 04/14/2025 Data Release Frequency: Varies

PFAS FEDERAL SITES: Federal Sites PFAS Information

Several federal entities, such as the federal Superfund program, Department of Defense, National Aeronautics and Space Administration, Department of Transportation, and Department of Energy provided information for sites with known or suspected detections at federal facilities.

Date of Government Version: 12/30/2024 Date Data Arrived at EDR: 01/02/2025 Date Made Active in Reports: 01/10/2025

Number of Days to Update: 8

Source: Environmental Protection Agency

Telephone: 202-272-0167 Last EDR Contact: 02/20/2025

Next Scheduled EDR Contact: 04/14/2025 Data Release Frequency: Varies

PFAS TRIS: List of PFAS Added to the TRI

Section 7321 of the National Defense Authorization Act for Fiscal Year 2020 (NDAA) immediately added certain per- and polyfluoroalkyl substances (PFAS) to the list of chemicals covered by the Toxics Release Inventory (TRI) under Section 313 of the Emergency Planning and Community Right-to-Know Act (EPCRA) and provided a framework for additional PFAS to be added to TRI on an annual basis.

Date of Government Version: 12/30/2024 Date Data Arrived at EDR: 01/02/2025 Date Made Active in Reports: 01/10/2025

Number of Days to Update: 8

Source: Environmental Protection Agency

Telephone: 202-566-0250 Last EDR Contact: 02/20/2025

Next Scheduled EDR Contact: 04/14/2025

PFAS TSCA: PFAS Manufacture and Imports Information

EPA issued the Chemical Data Reporting (CDR) Rule under the Toxic Substances Control Act (TSCA) and requires chemical manufacturers and facilities that manufacture or import chemical substances to report data to EPA. EPA publishes non-confidential business information (non-CBI) and includes descriptive information about each site, corporate parent, production volume, other manufacturing information, and processing and use information.

Date of Government Version: 12/30/2024 Date Data Arrived at EDR: 01/02/2025 Date Made Active in Reports: 01/10/2025

Number of Days to Update: 8

Source: Environmental Protection Agency

Telephone: 202-272-0167 Last EDR Contact: 02/20/2025

Next Scheduled EDR Contact: 04/14/2025 Data Release Frequency: Varies

PFAS RCRA MANIFEST: PFAS Transfers Identified In the RCRA Database Listing

To work around the lack of PFAS waste codes in the RCRA database, EPA developed the PFAS Transfers dataset by mining e-Manifest records containing at least one of these common PFAS keywords: PFAS, PFOA, PFOS, PERFL, AFFF, GENX, GEN-X (plus the VT waste codes). These keywords were searched for in the following text fields: Manifest handling instructions (MANIFEST_HANDLING_INSTR), Non-hazardous waste description (NON_HAZ_WASTE_DESCRIPTION), DOT printed information (DOT_PRINTED_INFORMATION), Waste line handling instructions (WASTE_LINE_HANDLING_INSTR), Waste residue comments (WASTE_RESIDUE_COMMENTS).

Date of Government Version: 12/30/2024 Date Data Arrived at EDR: 01/02/2025 Date Made Active in Reports: 01/10/2025

Number of Days to Update: 8

Source: Environmental Protection Agency

Telephone: 202-272-0167 Last EDR Contact: 02/20/2025

Next Scheduled EDR Contact: 04/14/2025 Data Release Frequency: Varies

PFAS ATSDR: PFAS Contamination Site Location Listing

PFAS contamination site locations from the Department of Health & Human Services, Center for Disease Control & Prevention, ATSDR is involved at a number of PFAS-related sites, either directly or through assisting state and federal partners. As of now, most sites are related to drinking water contamination connected with PFAS production facilities or fire training areas where aqueous film-forming firefighting foam (AFFF) was regularly used.

Date of Government Version: 06/24/2020 Date Data Arrived at EDR: 03/17/2021 Date Made Active in Reports: 11/08/2022

Number of Days to Update: 601

Source: Department of Health & Human Services

Telephone: 202-741-5770 Last EDR Contact: 01/16/2025

Next Scheduled EDR Contact: 05/05/2025 Data Release Frequency: Varies

PFAS WQP: Ambient Environmental Sampling for PFAS

The Water Quality Portal (WQP) is a part of a modernized repository storing ambient sampling data for all environmental media and tissue samples. A wide range of federal, state, tribal and local governments, academic and non-governmental organizations and individuals submit project details and sampling results to this public repository. The information is commonly used for research and assessments of environmental quality.

Date of Government Version: 12/13/2024 Date Data Arrived at EDR: 01/02/2025 Date Made Active in Reports: 01/10/2025

Number of Days to Update: 8

Source: Environmental Protection Agency

Telephone: 202-272-0167 Last EDR Contact: 02/20/2025

Next Scheduled EDR Contact: 04/14/2025 Data Release Frequency: Varies

PFAS NPDES: Clean Water Act Discharge Monitoring Information

Any discharger of pollutants to waters of the United States from a point source must have a National Pollutant Discharge Elimination System (NPDES) permit. The process for obtaining limits involves the regulated entity (permittee) disclosing releases in a NPDES permit application and the permitting authority (typically the state but sometimes EPA) deciding whether to require monitoring or monitoring with limits. Caveats and Limitations: Less than half of states have required PFAS monitoring for at least one of their permittees and fewer states have established PFAS effluent limits for permittees. New rulemakings have been initiated that may increase the number of facilities monitoring for PFAS in the future.

Date of Government Version: 12/30/2024 Date Data Arrived at EDR: 01/02/2025 Date Made Active in Reports: 01/14/2025

Number of Days to Update: 12

Source: Environmental Protection Agency

Telephone: 202-272-0167 Last EDR Contact: 01/02/2025

Next Scheduled EDR Contact: 04/14/2025 Data Release Frequency: Varies

PFAS PROJECT: NORTHEASTERN UNIVERSITY PFAS PROJECT

The PFAS Contamination Site Tracker records qualitative and quantitative data from each site in a chart, specifically examining discovery, contamination levels, government response, litigation, health impacts, media coverage, and community characteristics. All data presented in the chart were extracted from government websites, such as state health departments or the Environmental Protection Agency, and news articles.

Date of Government Version: 05/19/2023 Date Data Arrived at EDR: 04/05/2024 Date Made Active in Reports: 06/06/2024

Number of Days to Update: 62

Source: Social Science Environmental Health Research Institute

Telephone: N/A

Last EDR Contact: 12/05/2024

Next Scheduled EDR Contact: 03/17/2025

Data Release Frequency: Varies

PFAS ECHO: Facilities in Industries that May Be Handling PFAS Listing

Regulators and the public have expressed interest in knowing which regulated entities may be using PFAS. EPA has developed a dataset from various sources that show which industries may be handling PFAS. Approximately 120,000 facilities subject to federal environmental programs have operated or currently operate in industry sectors with processes that may involve handling and/or release of PFAS.

Date of Government Version: 12/30/2024 Date Data Arrived at EDR: 01/02/2025 Date Made Active in Reports: 01/10/2025

Number of Days to Update: 8

Source: Environmental Protection Agency

Telephone: 202-272-0167 Last EDR Contact: 02/20/2025

Next Scheduled EDR Contact: 04/14/2025 Data Release Frequency: Varies

PFAS ECHO FIRE TRAIN: Facilities in Industries that May Be Handling PFAS Listing

A list of fire training sites was added to the Industry Sectors dataset using a keyword search on the permitted facilitys name to identify sites where fire-fighting foam may have been used in training exercises. Additionally, you may view an example spreadsheet of the subset of fire training facility data, as well as the keywords used in selecting or deselecting a facility for the subset. as well as the keywords used in selecting or deselecting a facility for the subset. These keywords were tested to maximize accuracy in selecting facilities that may use fire-fighting foam in training exercises, however, due to the lack of a required reporting field in the data systems for designating fire training sites, this methodology may not identify all fire training sites or may potentially misidentify them.

Date of Government Version: 12/30/2024 Date Data Arrived at EDR: 01/02/2025 Date Made Active in Reports: 01/10/2025

Number of Days to Update: 8

Source: Environmental Protection Agency

Telephone: 202-272-0167 Last EDR Contact: 02/20/2025

Next Scheduled EDR Contact: 04/14/2025

Data Release Frequency: Varies

PFAS PT 139 AIRPORT: All Certified Part 139 Airports PFAS Information Listing

Since July 1, 2006, all certified part 139 airports are required to have fire-fighting foam onsite that meet military specifications (MIL-F-24385) (14 CFR 139.317). To date, these military specification fire-fighting foams are fluorinated and have been historically used for training and extinguishing. The 2018 FAA Reauthorization Act has a provision stating that no later than October 2021, FAA shall not require the use of fluorinated AFFF. This provision does not prohibit the use of fluorinated AFFF at Part 139 civilian airports; it only prohibits FAA from mandating its use. The Federal Aviation Administration?s document AC 150/5210-6D - Aircraft Fire Extinguishing Agents provides guidance on Aircraft Fire Extinguishing Agents, which includes Aqueous Film Forming Foam (AFFF).

Date of Government Version: 12/30/2024 Date Data Arrived at EDR: 01/02/2025 Date Made Active in Reports: 01/10/2025

Number of Days to Update: 8

Source: Environmental Protection Agency

Telephone: 202-272-0167 Last EDR Contact: 02/20/2025

Next Scheduled EDR Contact: 04/14/2025

AQUEOUS FOAM NRC: Aqueous Foam Related Incidents Listing

The National Response Center (NRC) serves as an emergency call center that fields initial reports for pollution and railroad incidents and forwards that information to appropriate federal/state agencies for response. The spreadsheets posted to the NRC website contain initial incident data that has not been validated or investigated by a federal/state response agency. Response center calls from 1990 to the most recent complete calendar year where there was indication of Aqueous Film Forming Foam (AFFF) usage are included in this dataset. NRC calls may reference AFFF usage in the ?Material Involved? or ?Incident Description? fields.

Date of Government Version: 12/30/2024 Date Data Arrived at EDR: 01/02/2025 Date Made Active in Reports: 01/10/2025

Number of Days to Update: 8

Source: Environmental Protection Agency

Telephone: 202-267-2675 Last EDR Contact: 02/20/2025

Next Scheduled EDR Contact: 04/14/2025 Data Release Frequency: Varies

PCS ENF: Enforcement data

No description is available for this data

Date of Government Version: 12/31/2014 Date Data Arrived at EDR: 02/05/2015 Date Made Active in Reports: 03/06/2015

Number of Days to Update: 29

Source: EPA

Telephone: 202-564-2497 Last EDR Contact: 12/23/2024

Next Scheduled EDR Contact: 04/14/2025 Data Release Frequency: Varies

PCS: Permit Compliance System

PCS is a computerized management information system that contains data on National Pollutant Discharge Elimination System (NPDES) permit holding facilities. PCS tracks the permit, compliance, and enforcement status of NPDES facilities.

Date of Government Version: 12/16/2016 Date Data Arrived at EDR: 01/06/2017 Date Made Active in Reports: 03/10/2017

Number of Days to Update: 63

Source: EPA, Office of Water Telephone: 202-564-2496 Last EDR Contact: 12/23/2024

Next Scheduled EDR Contact: 04/14/2025 Data Release Frequency: No Update Planned

BIOSOLIDS: ICIS-NPDES Biosolids Facility Data

The data reflects compliance information about facilities in the biosolids program.

Date of Government Version: 10/13/2024 Date Data Arrived at EDR: 10/16/2024 Date Made Active in Reports: 10/23/2024

Number of Days to Update: 7

Source: Environmental Protection Agency

Telephone: 202-564-4700 Last EDR Contact: 01/14/2025

Next Scheduled EDR Contact: 04/28/2025 Data Release Frequency: Varies

UST FINDER RELEASE: UST Finder Releases Database

US EPA's UST Finder data is a national composite of leaking underground storage tanks. This data contains information about, and locations of, leaking underground storage tanks. Data was collected from state sources and standardized into a national profile by EPA's Office of Underground Storage Tanks, Office of Research and Development, and the Association of State and Territorial Solid Waste Management Officials.

Date of Government Version: 06/08/2023 Date Data Arrived at EDR: 10/31/2023 Date Made Active in Reports: 01/18/2024

Number of Days to Update: 79

Source: Environmental Protecton Agency

Telephone: 202-564-0394 Last EDR Contact: 02/06/2025

Next Scheduled EDR Contact: 05/19/2025 Data Release Frequency: Semi-Annually

UST FINDER: UST Finder Database

EPA developed UST Finder, a web map application containing a comprehensive, state-sourced national map of underground storage tank (UST) and leaking UST (LUST) data. It provides the attributes and locations of active and closed USTs, UST facilities, and LUST sites from states and from Tribal lands and US territories. UST Finder contains information about proximity of UST facilities and LUST sites to: surface and groundwater public drinking water protection areas; estimated number of private domestic wells and number of people living nearby; and flooding and wildfires.

Date of Government Version: 06/08/2023 Date Data Arrived at EDR: 10/04/2023 Date Made Active in Reports: 01/18/2024

Number of Days to Update: 106

Source: Environmental Protection Agency

Telephone: 202-564-0394 Last EDR Contact: 02/06/2025

Next Scheduled EDR Contact: 05/19/2025 Data Release Frequency: Varies

E MANIFEST: Hazardous Waste Electronic Manifest System

EPA established a national system for tracking hazardous waste shipments electronically. This system, known as ?e-Manifest,? will modernize the nation?s cradle-to-grave hazardous waste tracking process while saving valuable time, resources, and dollars for industry and states.

Date of Government Version: 09/16/2024 Date Data Arrived at EDR: 09/17/2024 Date Made Active in Reports: 12/20/2024

Number of Days to Update: 94

Source: Environmental Protection Agency

Telephone: 833-501-6826 Last EDR Contact: 02/19/2025

Next Scheduled EDR Contact: 03/31/2025 Data Release Frequency: Varies

PFAS: PFAS Contamination Site Listing

Arizona?s Public Water System Screening for Perfluorooctanoic Acid (PFOA) and Perfluorooctane Sulfonate (PFOS) Final Report. The purpose of the grant was to screen Public Water System (PWS) drinking water wells in Arizona potentially impacted by perfluorooctanoic acid (PFOA) and/or perfluorooctane sulfonate (PFOS) contamination.

Date of Government Version: 09/22/2021 Date Data Arrived at EDR: 05/03/2022 Date Made Active in Reports: 07/20/2022

Number of Days to Update: 78

Source: Department of Environmental Quality

Telephone: 602-364-3118 Last EDR Contact: 01/22/2025

Next Scheduled EDR Contact: 05/12/2025

Data Release Frequency: Varies

AQUEOUS FOAM: Aqueous Film Forming Foam Listing

When AFFF is used, discharged or released to the environment, containment and cleanup may be required to prevent future adverse health or environmental impacts.

Date of Government Version: 11/14/2020 Date Data Arrived at EDR: 03/22/2022 Date Made Active in Reports: 04/26/2022

Number of Days to Update: 35

Source: Department of Environmenatl Quality

Telephone: 602-771-6145 Last EDR Contact: 01/22/2025

Next Scheduled EDR Contact: 05/12/2025

Data Release Frequency: Varies

AIRS: Arizona Airs Database

Arizona major (has the potential to emit over 100 tons of criteria pollutant) and minor (below 100 tons) sources.

Date of Government Version: 10/03/2024 Date Data Arrived at EDR: 10/04/2024 Date Made Active in Reports: 12/19/2024

Number of Days to Update: 76

Source: Department of Environmental Quality

Telephone: 602-771-2344 Last EDR Contact: 12/16/2024

Next Scheduled EDR Contact: 04/07/2025 Data Release Frequency: Semi-Annually

AQUIFER: Aquifer Protection Permits List

Facilities with an Aquifer Protection permit (APP), that discharges either directly to an aquifer or to the land surface or the vadose zone in such a manner that there is a reasonable probability that the pollutant will reach an aquifer.

Date of Government Version: 11/04/2024 Date Data Arrived at EDR: 11/06/2024 Date Made Active in Reports: 01/28/2025

Number of Days to Update: 83

Source: Department of Environmental Quality

Telephone: 602-771-4623 Last EDR Contact: 01/30/2025

Next Scheduled EDR Contact: 05/19/2025 Data Release Frequency: Semi-Annually

DOD: Department of Defense Sites

These sites are federal facilities that are either being assessed for potential contamination, or have active remediation taking place on them.

Date of Government Version: 03/31/2023 Date Data Arrived at EDR: 05/17/2023 Date Made Active in Reports: 08/04/2023

Number of Days to Update: 79

Source: Department of Environmental Quality

Telephone: 602-771-4360 Last EDR Contact: 02/05/2025

Next Scheduled EDR Contact: 05/26/2025 Data Release Frequency: Annually

DRY WELLS: Drywell Registration

A drywell is a bored, drilled, or driven shaft or hole whose depth is greater than its width and is designed and constructed specifically for the disposal of storm water.

Date of Government Version: 09/12/2024 Date Data Arrived at EDR: 09/26/2024 Date Made Active in Reports: 10/15/2024

Number of Days to Update: 19

Source: Department of Environmental Quality

Telephone: 602-771-4686 Last EDR Contact: 02/05/2025

Next Scheduled EDR Contact: 05/26/2025 Data Release Frequency: Semi-Annually

DRYCLEANERS: Drycleaner Facility Listing
A listing of drycleaner facilities in Arizona.

Date of Government Version: 06/17/2019 Date Data Arrived at EDR: 07/20/2020 Date Made Active in Reports: 10/07/2020

Number of Days to Update: 79

Source: Department of Environmental Quality

Telephone: 602-771-4335 Last EDR Contact: 12/04/2024

Next Scheduled EDR Contact: 03/24/2025 Data Release Frequency: No Update Planned

EMAP: All Places of Interest Listing

A listing of all places of interest to the Department of Environmental Quality, including air, waste and water

Date of Government Version: 11/22/2024 Date Data Arrived at EDR: 11/22/2024 Date Made Active in Reports: 02/14/2025

Number of Days to Update: 84

Source: Department of Environmental Quality

Telephone: 602-771-4380 Last EDR Contact: 02/19/2025

Next Scheduled EDR Contact: 06/09/2025 Data Release Frequency: Varies

ENF: Enforcement and Violation Listing

A listing of enforcement and violation cases in the state of Arizona.

Date of Government Version: 10/21/2024 Date Data Arrived at EDR: 10/23/2024 Date Made Active in Reports: 01/13/2025

Number of Days to Update: 82

Source: Department of Environmental Quality

Telephone: 602-771-4424 Last EDR Contact: 01/15/2025

Next Scheduled EDR Contact: 05/05/2025 Data Release Frequency: Varies

FIN ASSURANCE 1: Financial Assurance Information Listing

Financial assurance information for ust sites.

Date of Government Version: 09/12/2024 Date Data Arrived at EDR: 09/18/2024 Date Made Active in Reports: 09/25/2024

Number of Days to Update: 7

Source: Department of Environmental Quality

Telephone: 602-771-4258 Last EDR Contact: 12/10/2024

Next Scheduled EDR Contact: 03/31/2025

Data Release Frequency: Varies

AZ MANIFEST: Manifest Information

Hazardous waste manifest information

Date of Government Version: 12/31/2018
Date Data Arrived at EDR: 06/15/2021
Date Made Active in Reports: 09/09/2021

Number of Days to Update: 86

Source: Department of Environmental Quality

Telephone: N/A

Last EDR Contact: 12/04/2024

Next Scheduled EDR Contact: 03/24/2025 Data Release Frequency: Annually

NPDES: Notice of Intent Construction Stormwater General Permits Database NPDES permit sites

Date of Government Version: 09/26/2024 Date Data Arrived at EDR: 10/03/2024 Date Made Active in Reports: 10/15/2024

Number of Days to Update: 12

Source: Department of Environmental Quality

Telephone: 602-771-4424 Last EDR Contact: 12/23/2024

Next Scheduled EDR Contact: 04/14/2025

Data Release Frequency: Varies

VAPOR: Vapor Intrusion

A listing of vapor intrusion site locations

Date of Government Version: 04/21/2021 Date Data Arrived at EDR: 04/22/2021 Date Made Active in Reports: 07/09/2021

Number of Days to Update: 78

Source: Department of Environmental Quality

Telephone: 602-771-4197 Last EDR Contact: 12/16/2024

Next Scheduled EDR Contact: 04/07/2025

Data Release Frequency: Varies

UIC: Underground Injection Control Wells Underground injection control wells.

> Date of Government Version: 09/30/2015 Date Data Arrived at EDR: 02/05/2016 Date Made Active in Reports: 04/05/2016

Number of Days to Update: 60

Source: Arizona Geological Survey Telephone: 520-770-3500 Last EDR Contact: 01/15/2025

Next Scheduled EDR Contact: 05/05/2025 Data Release Frequency: Varies

WWFAC: Waste Water Treatment Facilities

Statewide list of waste water treatment facilities.

Date of Government Version: 07/09/2012 Date Data Arrived at EDR: 07/23/2012 Date Made Active in Reports: 09/06/2012

Number of Days to Update: 45

Source: Department of Environmental Quality

Telephone: 602-771-4623 Last EDR Contact: 01/08/2025

Next Scheduled EDR Contact: 04/28/2025

Data Release Frequency: Varies

DRYWELLS HIST: Historical Drywells Listing

Historical listing of registered drywells once maintained and made available by the Arizona Department of Environmental Quality (ADEQ) Water Quality Division. In April 2018, ADEQ stopped accepting paper forms and will no longer be updating this list.

Date of Government Version: 04/30/2018 Date Data Arrived at EDR: 09/26/2024 Date Made Active in Reports: 10/15/2024

Number of Days to Update: 19

Source: Department of Environmental Quality

Telephone: 602-771-4686 Last EDR Contact: 02/05/2025

Next Scheduled EDR Contact: 05/26/2025 Data Release Frequency: No Update Planned

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP: EDR Proprietary Manufactured Gas Plants

The EDR Proprietary Manufactured Gas Plant Database includes records of coal gas plants (manufactured gas plants) compiled by EDR's researchers. Manufactured gas sites were used in the United States from the 1800's to 1950's to produce a gas that could be distributed and used as fuel. These plants used whale oil, rosin, coal, or a mixture of coal, oil, and water that also produced a significant amount of waste. Many of the byproducts of the gas production, such as coal tar (oily waste containing volatile and non-volatile chemicals), sludges, oils and other compounds are potentially hazardous to human health and the environment. The byproduct from this process was frequently disposed of directly at the plant site and can remain or spread slowly, serving as a continuous source of soil and groundwater contamination.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A

Next Scheduled EDR Contact: N/A

Data Release Frequency: No Update Planned

EDR Hist Auto: EDR Exclusive Historical Auto Stations

EDR has searched selected national collections of business directories and has collected listings of potential gas station/filling station/service station sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include gas station/filling station/service station establishments. The categories reviewed included, but were not limited to gas, gas station, gasoline station, filling station, auto, automobile repair, auto service station, service station, etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: N/A Date Data Arrived at EDR: N/A Date Made Active in Reports: N/A Number of Days to Update: N/A Source: EDR, Inc. Telephone: N/A Last EDR Contact: N/A

Next Scheduled EDR Contact: N/A Data Release Frequency: Varies

EDR Hist Cleaner: EDR Exclusive Historical Cleaners

EDR has searched selected national collections of business directories and has collected listings of potential dry cleaner sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include dry cleaning establishments. The categories reviewed included, but were not limited to dry cleaners, cleaners, laundry, laundromat, cleaning/laundry, wash & dry etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: N/A Date Data Arrived at EDR: N/A Date Made Active in Reports: N/A Number of Days to Update: N/A Source: EDR, Inc. Telephone: N/A Last EDR Contact: N/A

Next Scheduled EDR Contact: N/A Data Release Frequency: Varies

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives

RGA HWS: Recovered Government Archive State Hazardous Waste Facilities List

The EDR Recovered Government Archive State Hazardous Waste database provides a list of SHWS incidents derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the Department of Environmental Quality in Arizona.

Date of Government Version: N/A
Date Data Arrived at EDR: 07/01/2013
Date Made Active in Reports: 01/02/2014
Number of Days to Update: 185

Source: Department of Environmental Quality

Telephone: N/A

Last EDR Contact: 06/01/2012 Next Scheduled EDR Contact: N/A Data Release Frequency: Varies

RGA LF: Recovered Government Archive Solid Waste Facilities List

The EDR Recovered Government Archive Landfill database provides a list of landfills derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the Department of Environmental Quality in Arizona.

Date of Government Version: N/A
Date Data Arrived at EDR: 07/01/2013
Date Made Active in Reports: 01/15/2014
Number of Days to Update: 198

Source: Department of Environmental Quality

Telephone: N/A

Last EDR Contact: 06/01/2012 Next Scheduled EDR Contact: N/A Data Release Frequency: Varies

RGA LUST: Recovered Government Archive Leaking Underground Storage Tank

The EDR Recovered Government Archive Leaking Underground Storage Tank database provides a list of LUST incidents derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the Department of Environmental Quality in Arizona.

Date of Government Version: N/A Date Data Arrived at EDR: 07/01/2013 Date Made Active in Reports: 01/02/2014 Number of Days to Update: 185

Telephone: N/A
Last EDR Contact: 06/01/2012
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

Source: Department of Environmental Quality

COUNTY RECORDS

PIMA COUNTY:

LF TUCSON: City of Tucson Landfills Listing

Location and area of landfills owned by the City of Tucson.

Date of Government Version: 02/12/2024 Date Data Arrived at EDR: 04/04/2024 Date Made Active in Reports: 06/24/2024

Number of Days to Update: 81

Source: Tucson Department of Environmental and General Services

Telephone: 520-791-3171 Last EDR Contact: 12/23/2024

Next Scheduled EDR Contact: 07/15/2024

Data Release Frequency: Varies

OTHER DATABASE(S)

Depending on the geographic area covered by this report, the data provided in these specialty databases may or may not be complete. For example, the existence of wetlands information data in a specific report does not mean that all wetlands in the area covered by the report are included. Moreover, the absence of any reported wetlands information does not necessarily mean that wetlands do not exist in the area covered by the report.

CT MANIFEST: Hazardous Waste Manifest Data

Facility and manifest data. Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a tsd facility.

Date of Government Version: 11/04/2024 Date Data Arrived at EDR: 11/05/2024 Date Made Active in Reports: 01/27/2025

Number of Days to Update: 83

Source: Department of Energy & Environmental Protection

Telephone: 860-424-3375 Last EDR Contact: 02/04/2025

Next Scheduled EDR Contact: 05/19/2025 Data Release Frequency: No Update Planned

NY MANIFEST: Facility and Manifest Data

Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a TSD facility.

Date of Government Version: 12/31/2019 Date Data Arrived at EDR: 11/30/2023 Date Made Active in Reports: 12/01/2023

Number of Days to Update: 1

Source: Department of Environmental Conservation

Telephone: 518-402-8651 Last EDR Contact: 01/23/2025

Next Scheduled EDR Contact: 05/05/2025 Data Release Frequency: Quarterly

RI MANIFEST: Manifest information Hazardous waste manifest information

> Date of Government Version: 12/31/2020 Date Data Arrived at EDR: 11/30/2021 Date Made Active in Reports: 02/18/2022

Number of Days to Update: 80

Source: Department of Environmental Management

Telephone: 401-222-2797 Last EDR Contact: 02/06/2025

Next Scheduled EDR Contact: 05/26/2025 Data Release Frequency: Annually

WI MANIFEST: Manifest Information

Hazardous waste manifest information.

Date of Government Version: 05/31/2018 Date Data Arrived at EDR: 06/19/2019 Date Made Active in Reports: 09/03/2019

Number of Days to Update: 76

Source: Department of Natural Resources

Telephone: N/A

Last EDR Contact: 11/27/2024

Next Scheduled EDR Contact: 03/17/2025 Data Release Frequency: Annually

Oil/Gas Pipelines

Source: Endeavor Business Media

Petroleum Bundle (Crude Oil, Refined Products, Petrochemicals, Gas Liquids (LPG/NGL), and Specialty Gases (Miscellaneous)) N = Natural Gas Bundle (Natural Gas, Gas Liquids (LPG/NGL), and Specialty Gases (Miscellaneous)). This map includes information copyrighted by Endeavor Business Media. This information is provided on a best effort basis and Endeavor Business Media does not guarantee its accuracy nor warrant its fitness for any particular purpose. Such information has been reprinted with the permission of Endeavor Business Media.

Electric Power Transmission Line Data

Source: Endeavor Business Media

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Sensitive Receptors: There are individuals deemed sensitive receptors due to their fragile immune systems and special sensitivity to environmental discharges. These sensitive receptors typically include the elderly, the sick, and children. While the location of all sensitive receptors cannot be determined, EDR indicates those buildings and facilities - schools, daycares, hospitals, medical centers, and nursing homes - where individuals who are sensitive receptors are likely to be located.

AHA Hospitals:

Source: American Hospital Association, Inc.

Telephone: 312-280-5991

The database includes a listing of hospitals based on the American Hospital Association's annual survey of hospitals.

Medical Centers: Provider of Services Listing

Source: Centers for Medicare & Medicaid Services

Telephone: 410-786-3000

A listing of hospitals with Medicare provider number, produced by Centers of Medicare & Medicaid Services,

a federal agency within the U.S. Department of Health and Human Services.

Nursing Homes

Source: National Institutes of Health

Telephone: 301-594-6248

Information on Medicare and Medicaid certified nursing homes in the United States.

Public Schools

Source: National Center for Education Statistics

Telephone: 202-502-7300

The National Center for Education Statistics' primary database on elementary

and secondary public education in the United States. It is a comprehensive, annual, national statistical database of all public elementary and secondary schools and school districts, which contains data that are comparable across all states.

Private Schools

Source: National Center for Education Statistics

Telephone: 202-502-7300

The National Center for Education Statistics' primary database on private school locations in the United States.

Daycare Centers: Child Care Facilities & Group Homes

Source: Department of Health Services

Telephone: 602-674-4220

Flood Zone Data: This data was obtained from the Federal Emergency Management Agency (FEMA). It depicts 100-year and 500-year flood zones as defined by FEMA. It includes the National Flood Hazard Layer (NFHL) which incorporates Flood Insurance Rate Map (FIRM) data and Q3 data from FEMA in areas not covered by NFHL.

Source: FEMA

Telephone: 877-336-2627

Date of Government Version: 2003, 2015

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002, 2005, 2010 and 2015 from the U.S. Fish and Wildlife Service.

State Wetlands Data: Riparian Vegetation Associated with Perennial Waters Source: State Land Department

Telephone: 602-542-4094

STREET AND ADDRESS INFORMATION

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APPENDIX H Historical Topographic Photographs

Appleton Ranch Research Ranch Rd Elgin, AZ 85611

Inquiry Number: 7905038.5

February 21, 2025

EDR Historical Topo Map Report

with QuadMatch™



EDR Historical Topo Map Report

02/21/25

Site Name: Client Name:

Appleton Ranch Westland Resources

Research Ranch Rd 4001 E. Paradise Falls Drive

Elgin, AZ 85611 Tucson, AZ 85712

EDR Inquiry # 7905038.5 Contact: Samantha Blonder



EDR Topographic Map Library has been searched by EDR and maps covering the target property location as provided by Westland Resources were identified for the years listed below. EDR's Historical Topo Map Report is designed to assist professionals in evaluating potential liability on a target property resulting from past activities. EDRs Historical Topo Map Report includes a search of a collection of public and private color historical topographic maps, dating back to the late 1800s.

ults:	Coordinates:		
NA	Latitude:	31.609182 31° 36' 33" North	
13095	Longitude:	-110.5093 -110° 30' 33" West	
	UTM Zone:	Zone 12 North	
	UTM X Meters:	546545.02	
	UTM Y Meters:	3497222.27	
	Elevation:	4837.80' above sea level	
		NA Latitude: 13095 Longitude: UTM Zone: UTM X Meters: UTM Y Meters:	

Maps Provided:

2021	1947
2018	1947, 1948
2014	1915
1996	1905
1988	1904
1983	
1958	
1948	

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Topo Sheet Key

This EDR Topo Map Report is based upon the following USGS topographic map sheets.

2021 Source Sheets



O Donnell Canyon 2021 7.5-minute, 24000



Pyeatt Ranch 2021 7.5-minute, 24000

2018 Source Sheets



Pyeatt Ranch 2018 7.5-minute, 24000



O Donnell Canyon 2018 7.5-minute, 24000

2014 Source Sheets



O'Donnell Canyon 2014 7.5-minute, 24000



Pyeatt Ranch 2014 7.5-minute, 24000

1996 Source Sheets



O'Donnell Canyon 1996 7.5-minute, 24000 Aerial Photo Revised 1996



Pyeatt Ranch 1996 7.5-minute, 24000 Aerial Photo Revised 1996

Topo Sheet Key

This EDR Topo Map Report is based upon the following USGS topographic map sheets.

1988 Source Sheets



FORT HUACHUCA 1988 15-minute, 50000

1983 Source Sheets



O'Donnell Canyon 1983 7.5-minute, 24000 Aerial Photo Revised 1982



Pyeatt Ranch 1983 7.5-minute, 24000 Aerial Photo Revised 1982

1958 Source Sheets



O'Donnell Canyon 1958 7.5-minute, 24000 Aerial Photo Revised 1946



Pyeatt Ranch 1958 7.5-minute, 24000 Aerial Photo Revised 1946

1948 Source Sheets



Fort Huachuca SW 1948 7.5-minute, 24000 Aerial Photo Revised 1946



O'Donnell Canyon 1948 7.5-minute, 24000 Aerial Photo Revised 1946



PYEATT RANCH 1948 7.5-minute, 24000

Topo Sheet Key

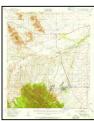
This EDR Topo Map Report is based upon the following USGS topographic map sheets.

1947 Source Sheets



Elgin 1947 15-minute, 62500 Aerial Photo Revised 1946

1947, 1948 Source Sheets



Fort Huachuca 1948 15-minute, 62500 Aerial Photo Revised 1946

1915 Source Sheets



Benson 1915 30-minute, 125000

1905 Source Sheets



Patagonia 1905 30-minute, 125000

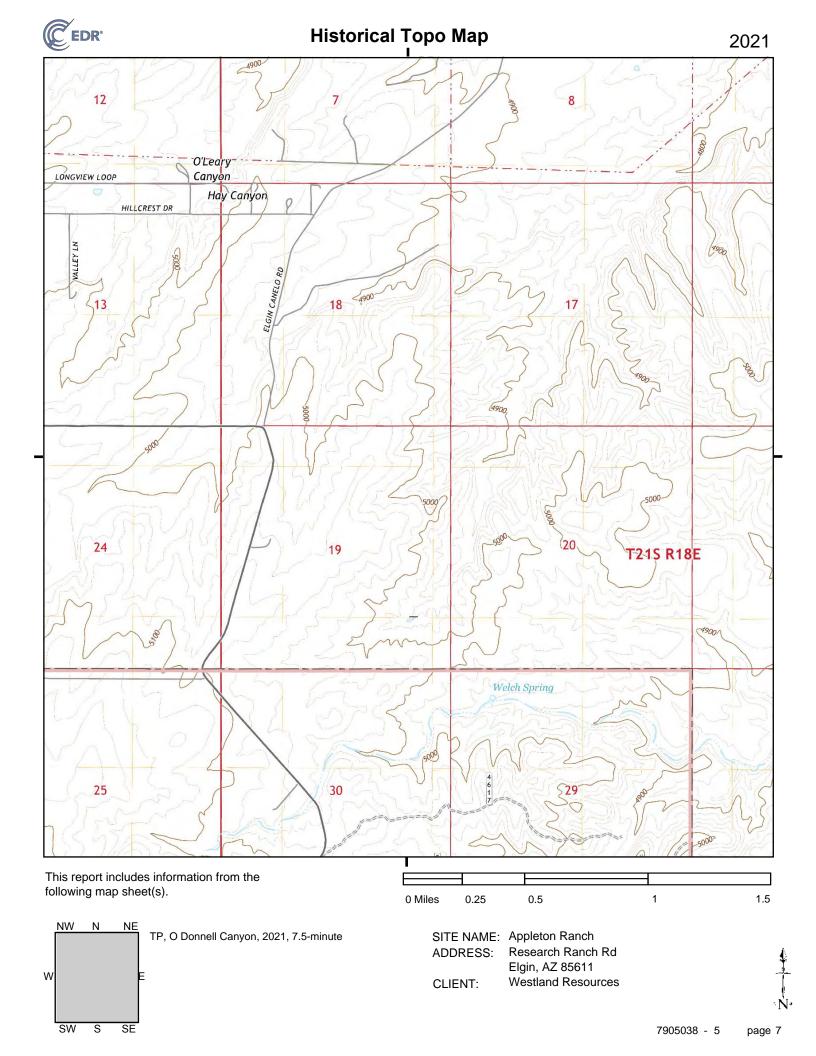
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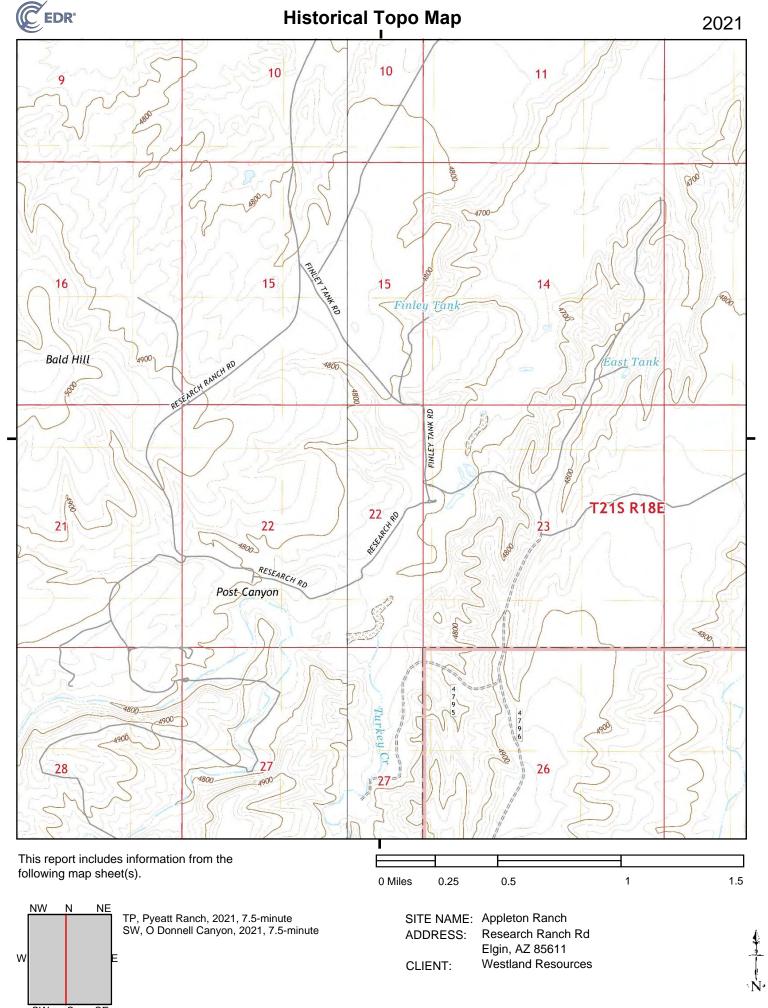
This EDR Topo Map Report is based upon the following USGS topographic map sheets.

1904 Source Sheets



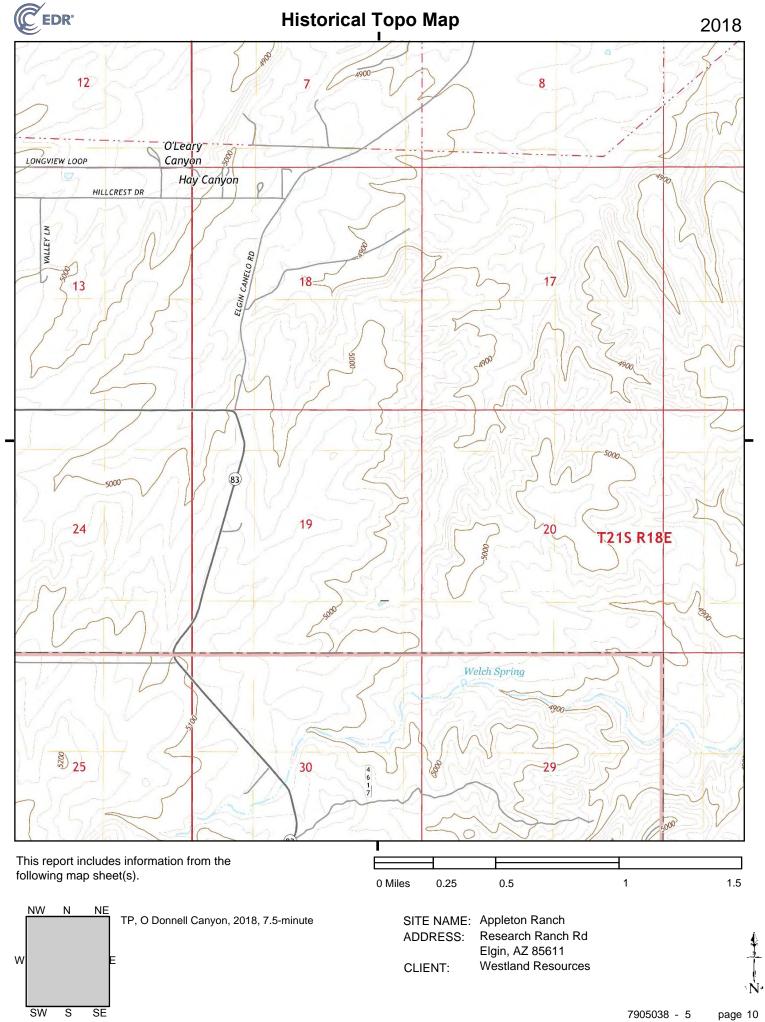
Patagonia 1904 30-minute, 125000

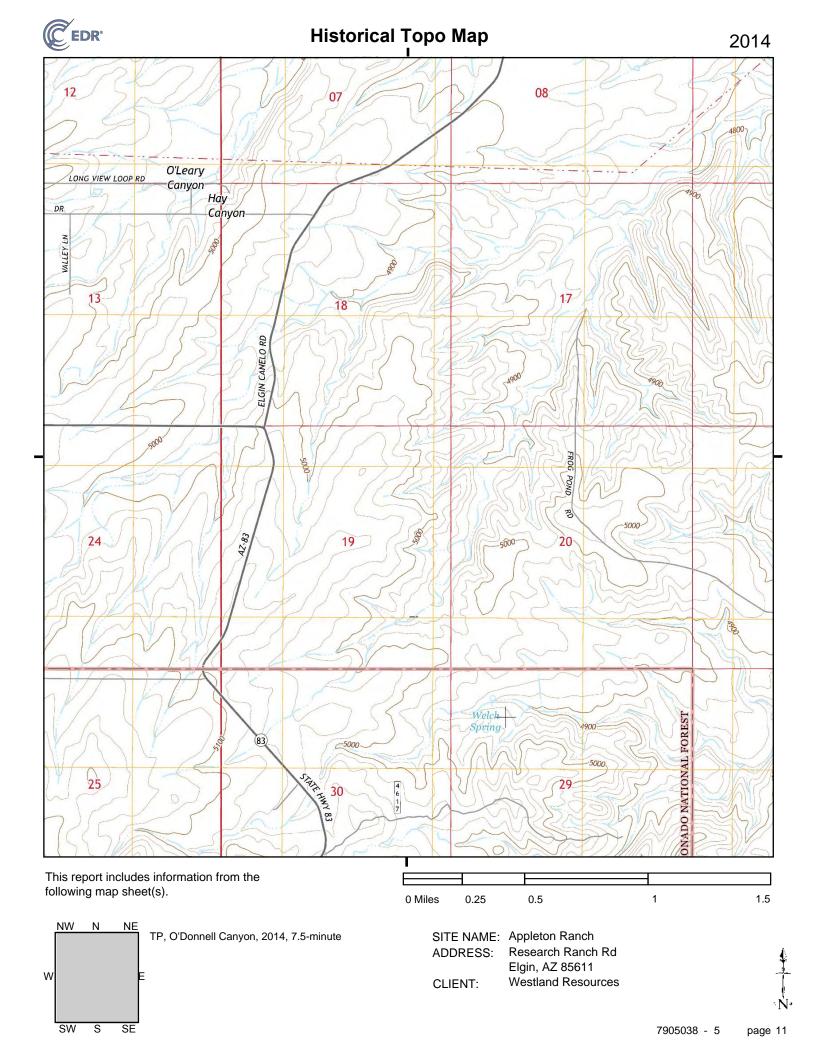


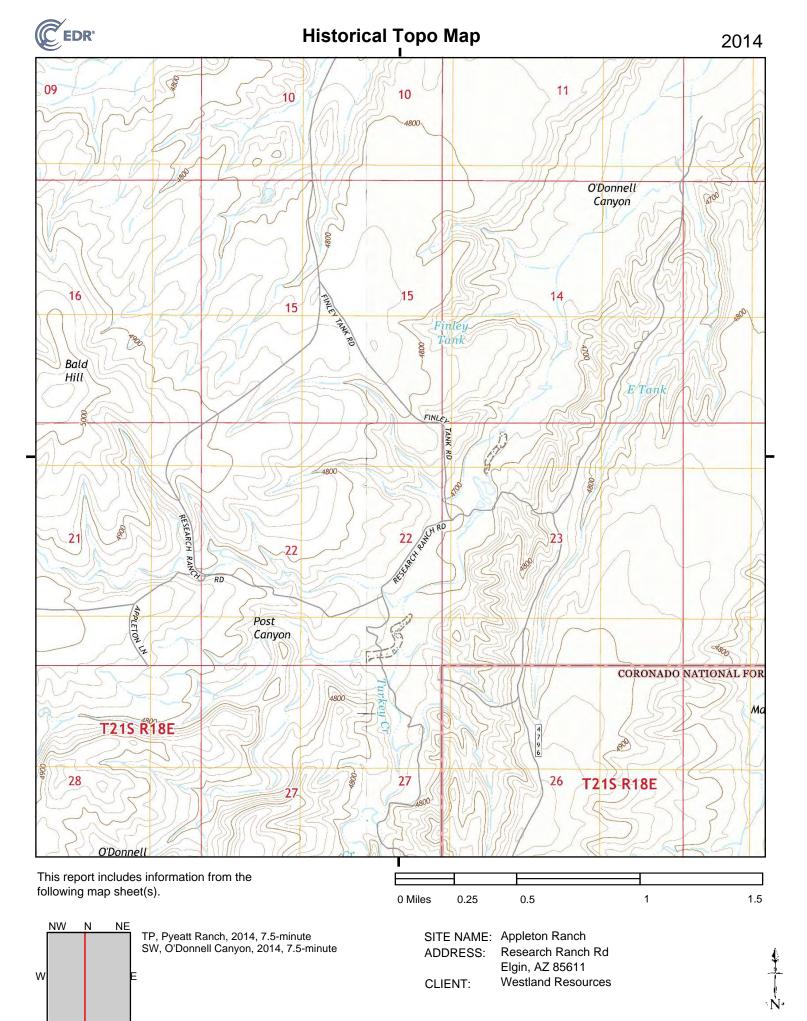


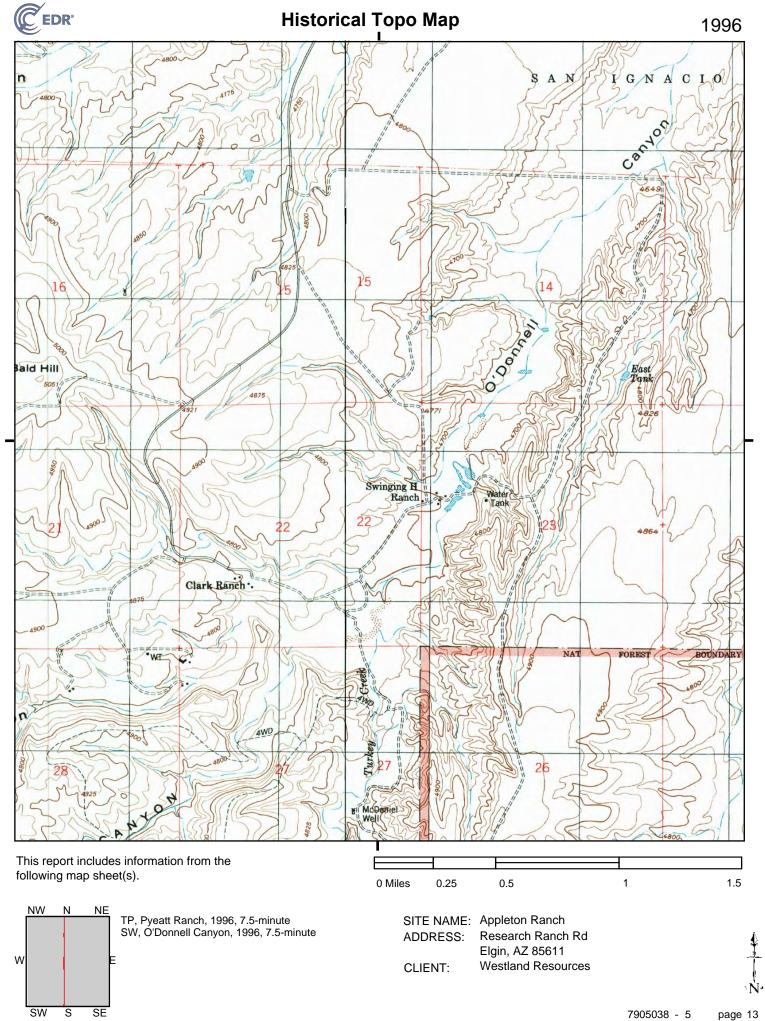
Elgin, AZ 85611 Westland Resources

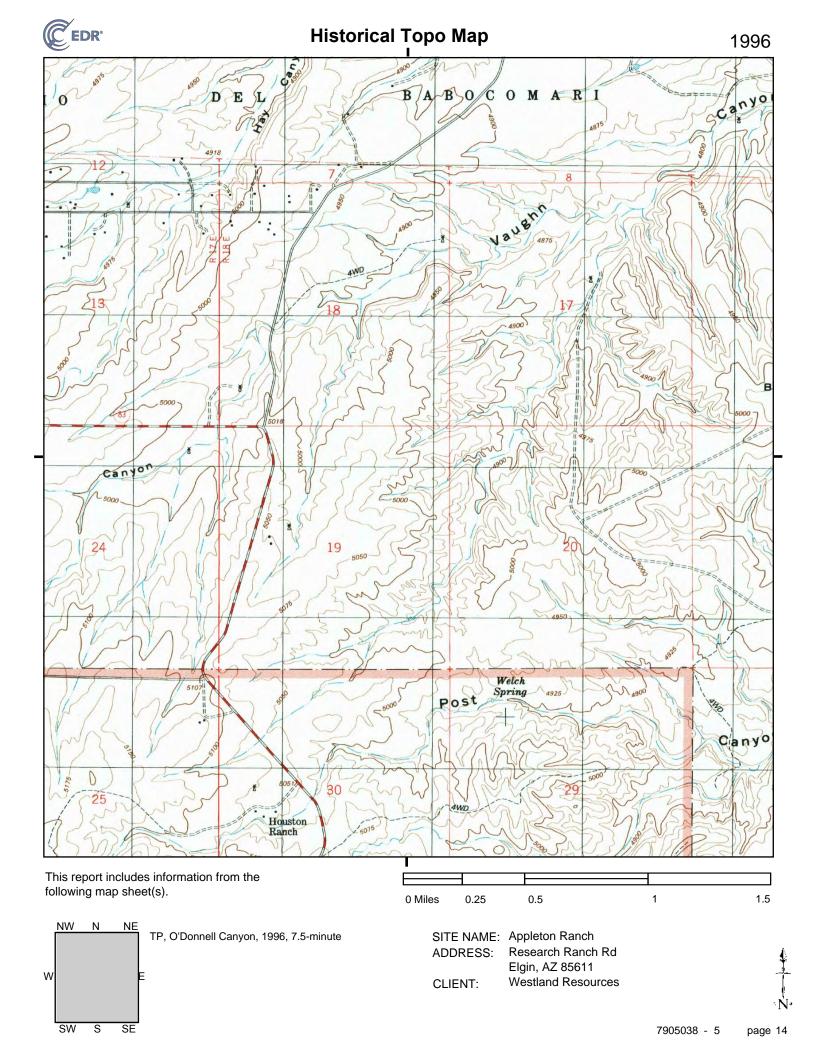
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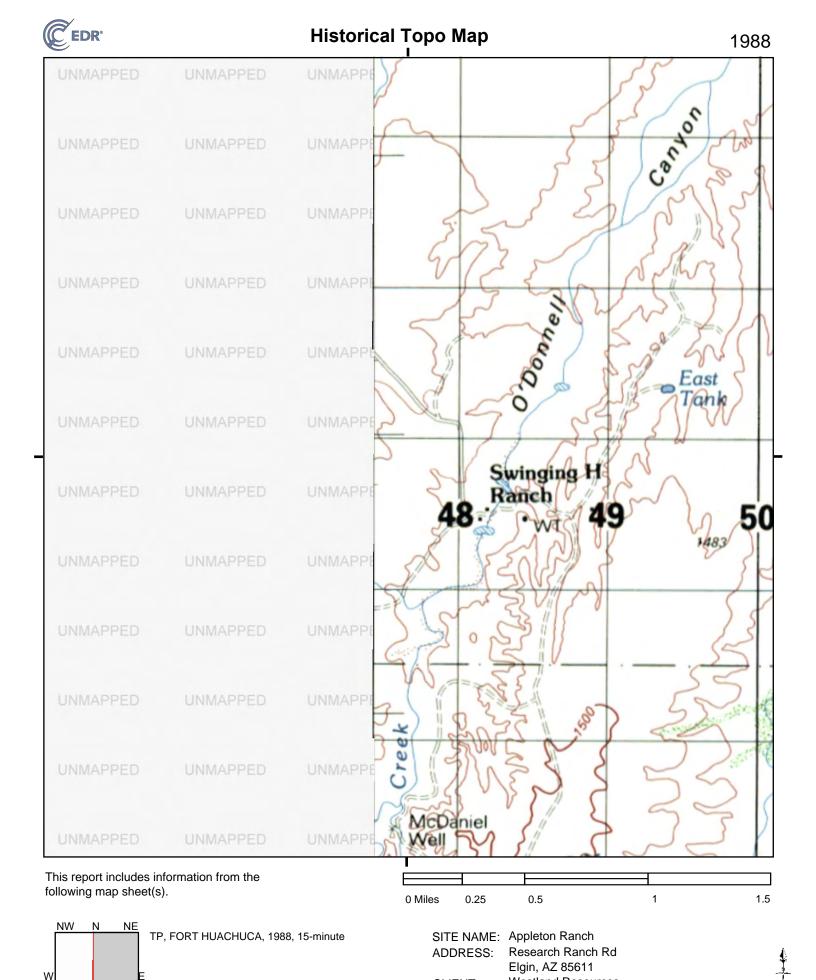








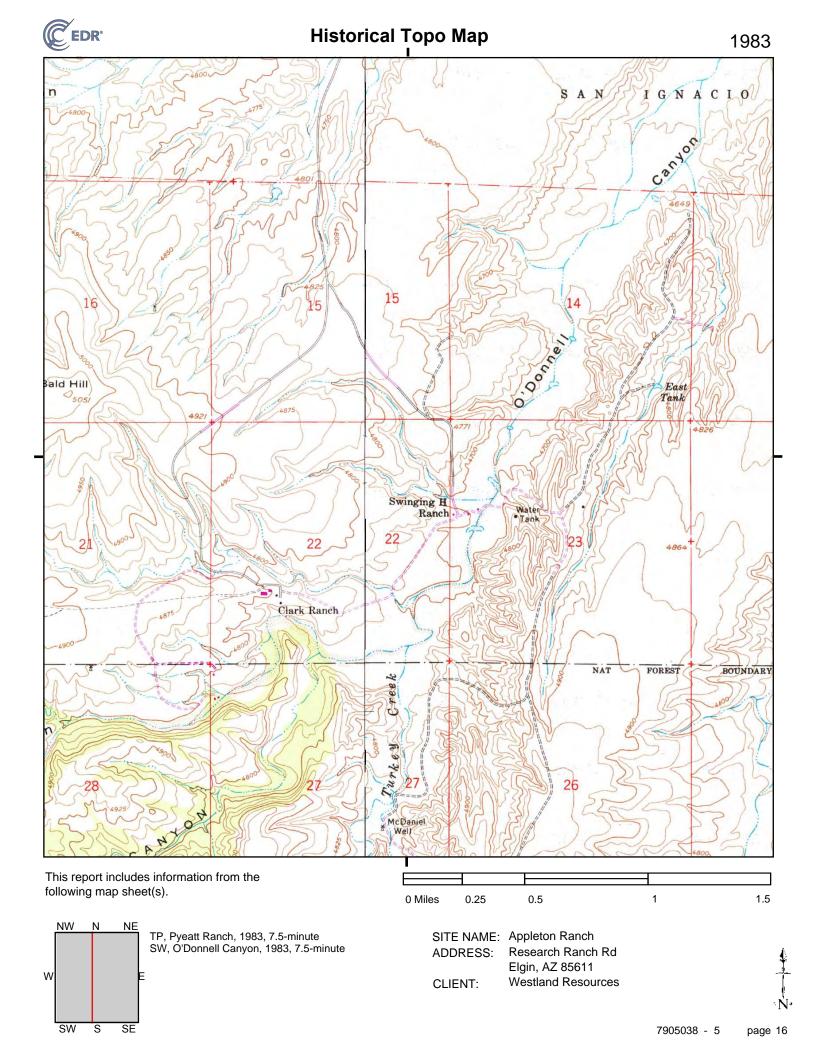


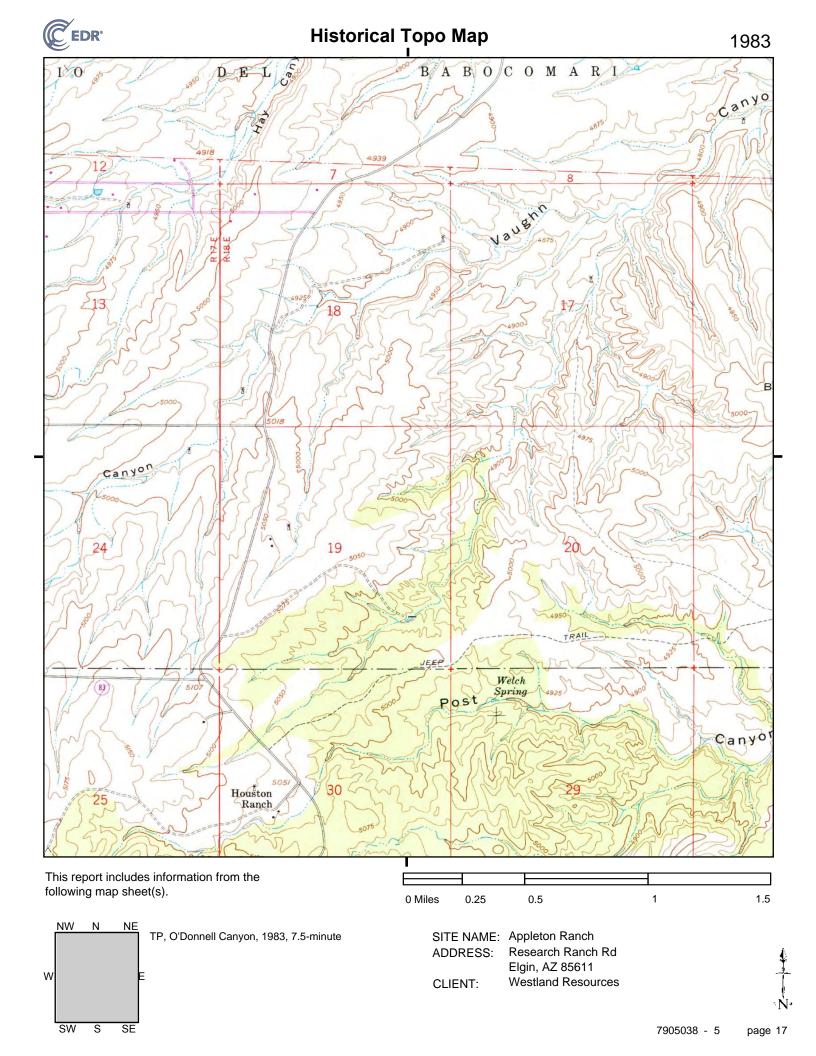


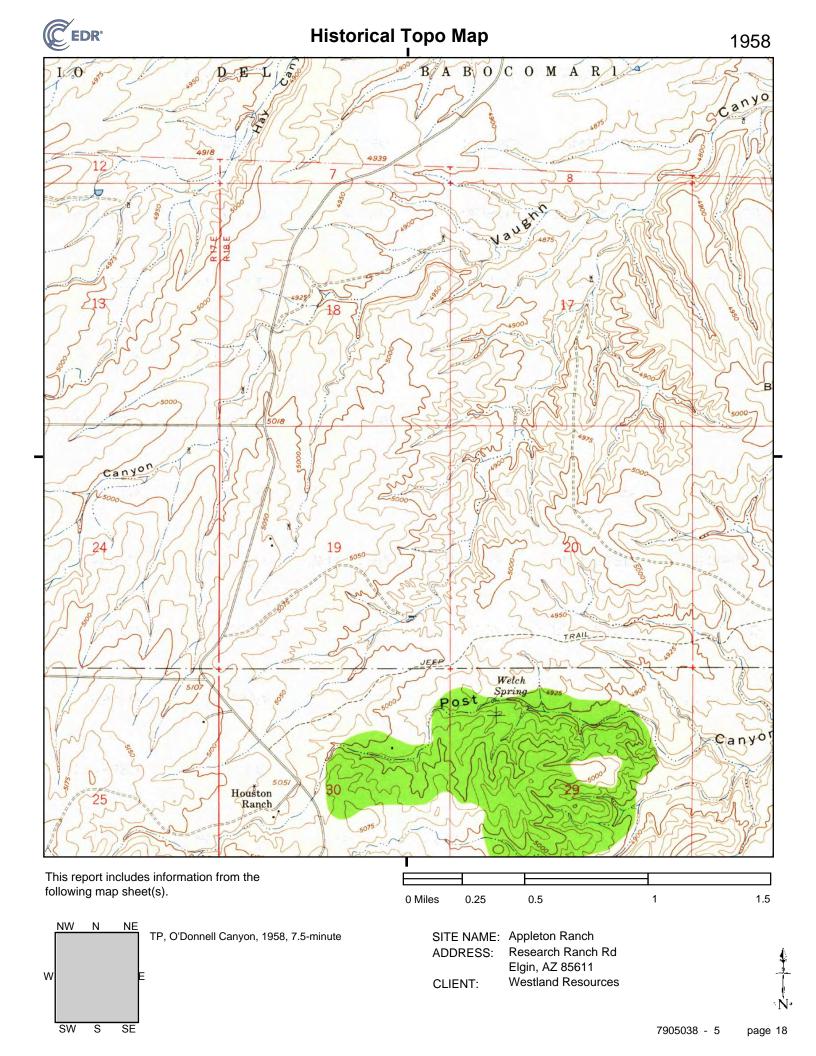
Westland Resources

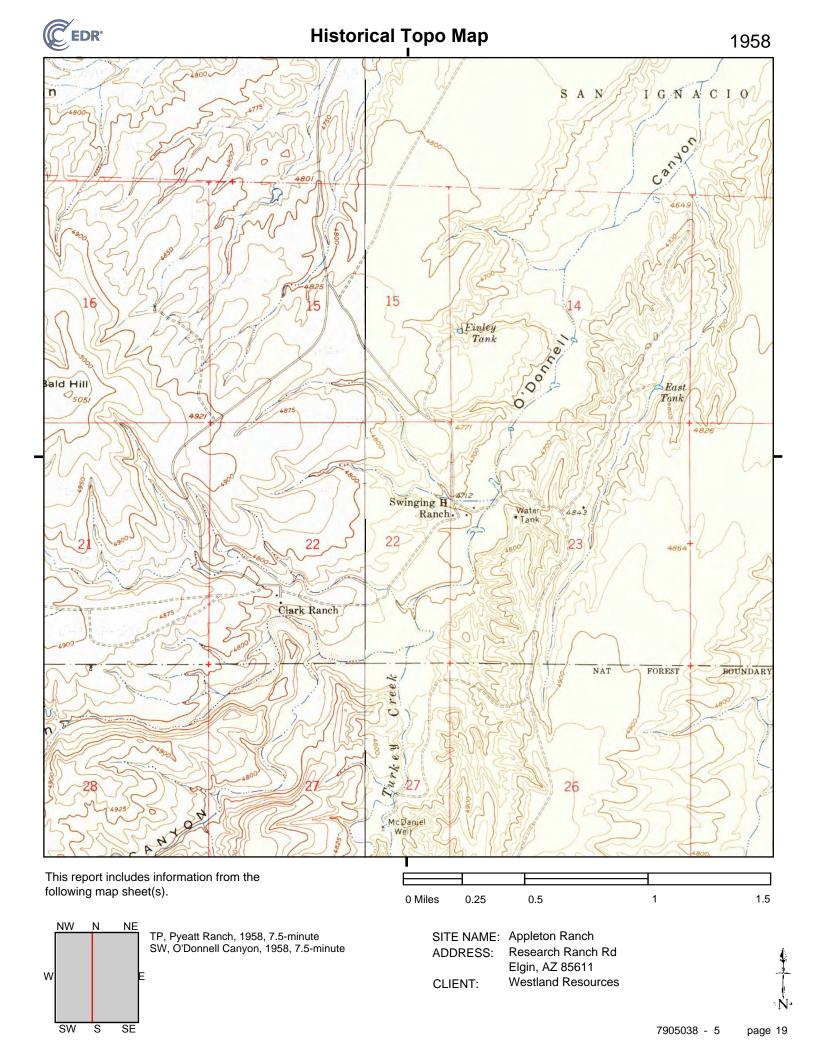
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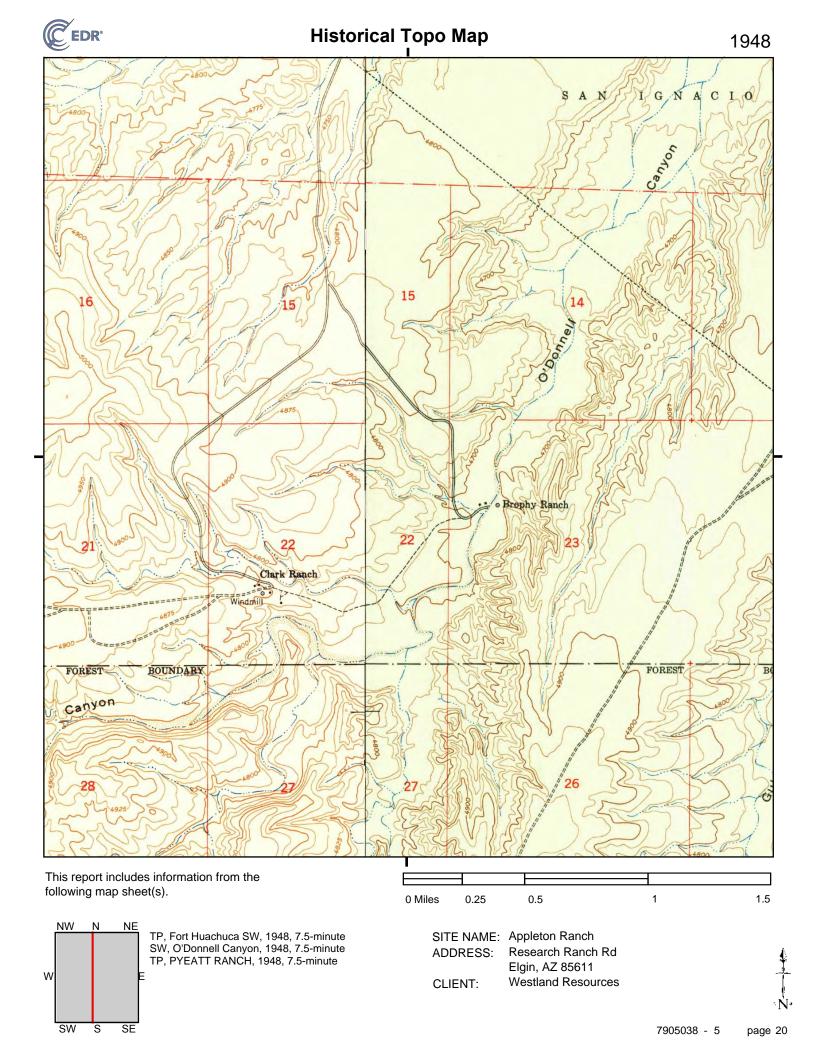
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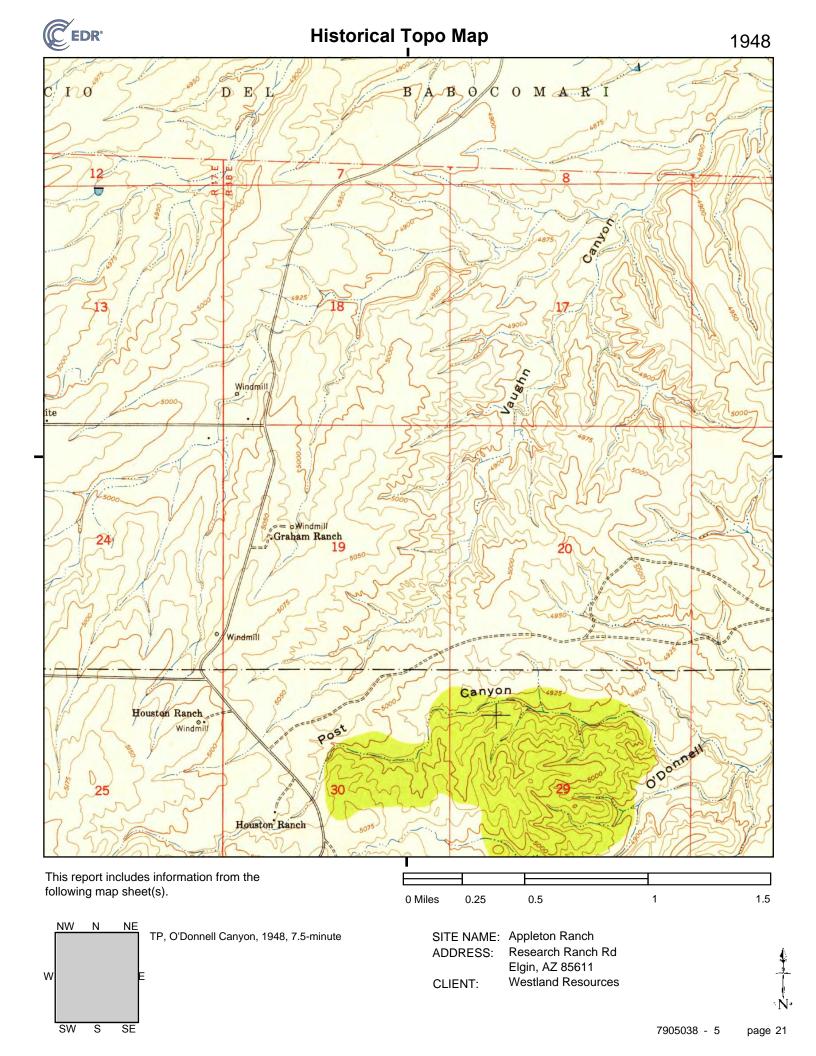


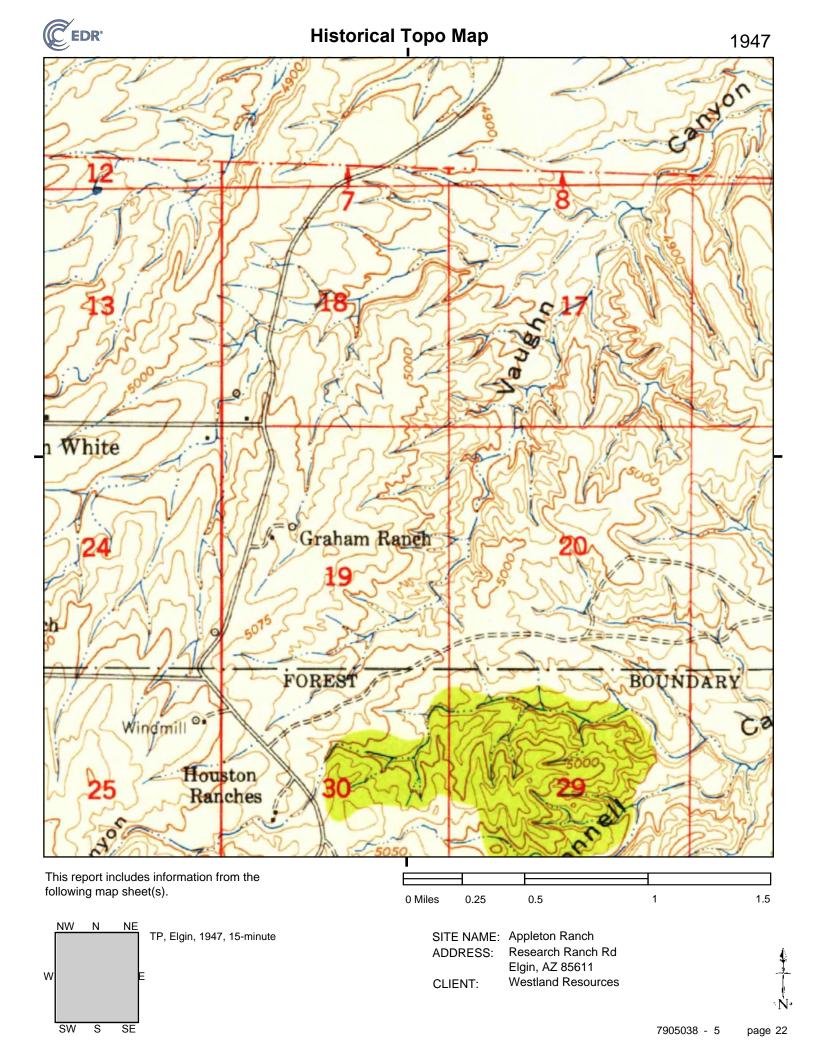


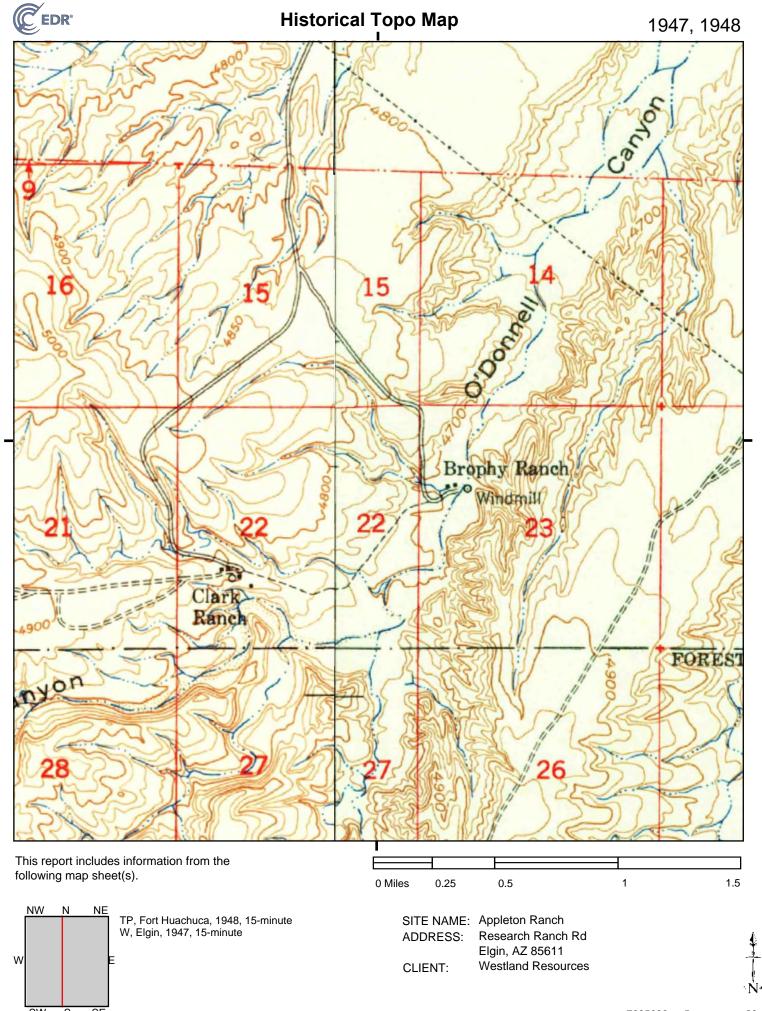




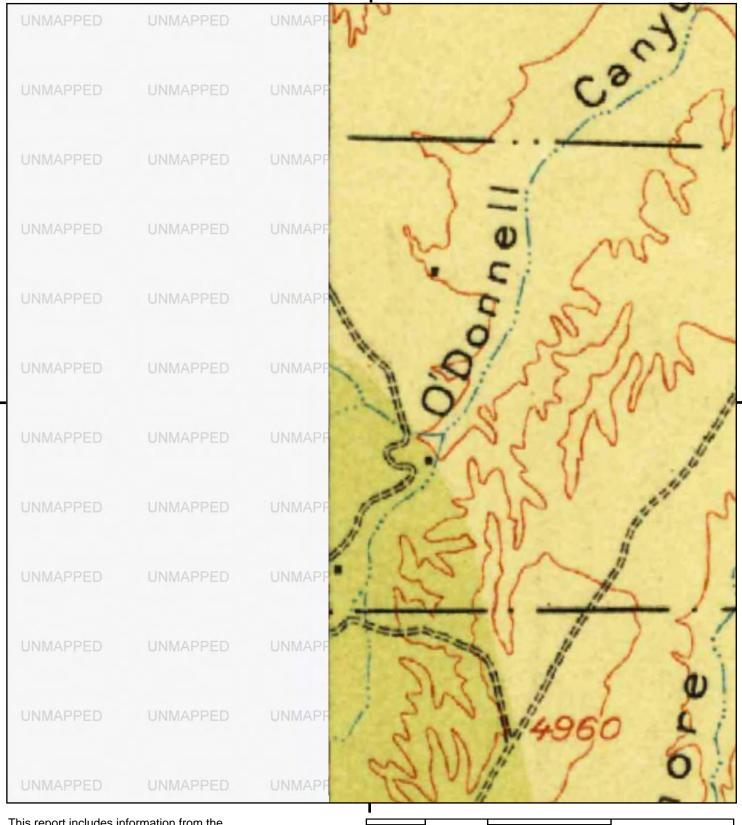




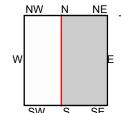








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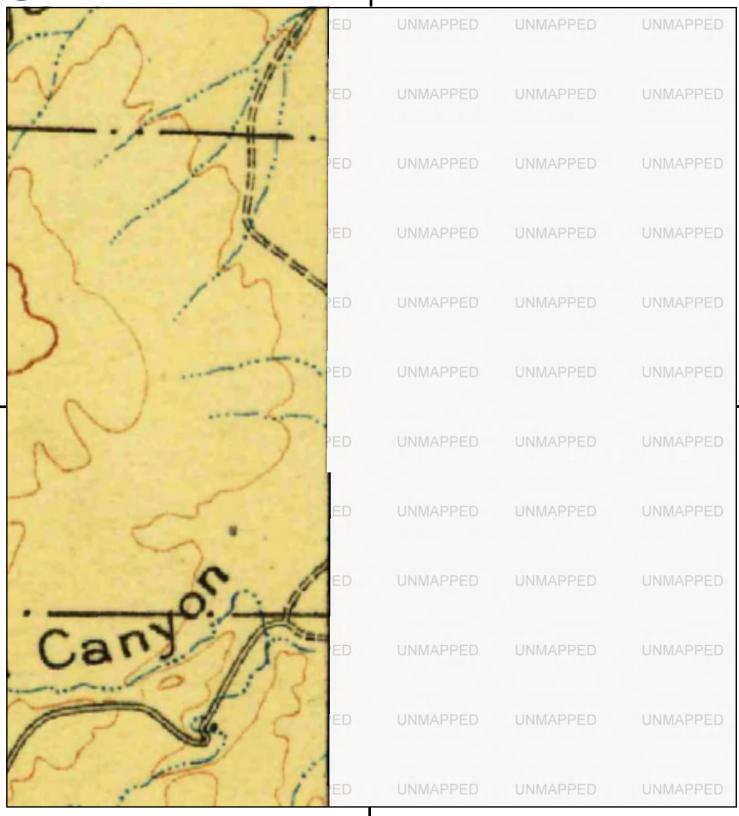
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Elgin, AZ 85611

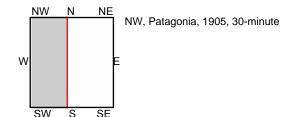
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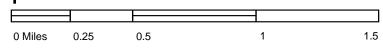






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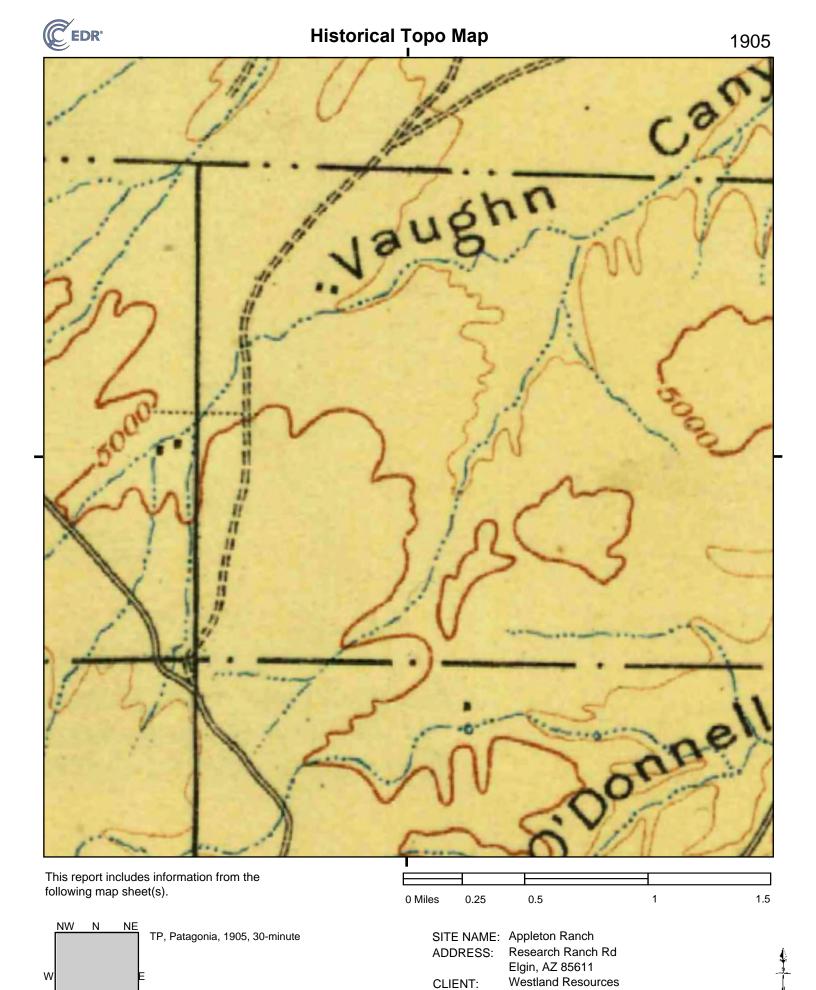


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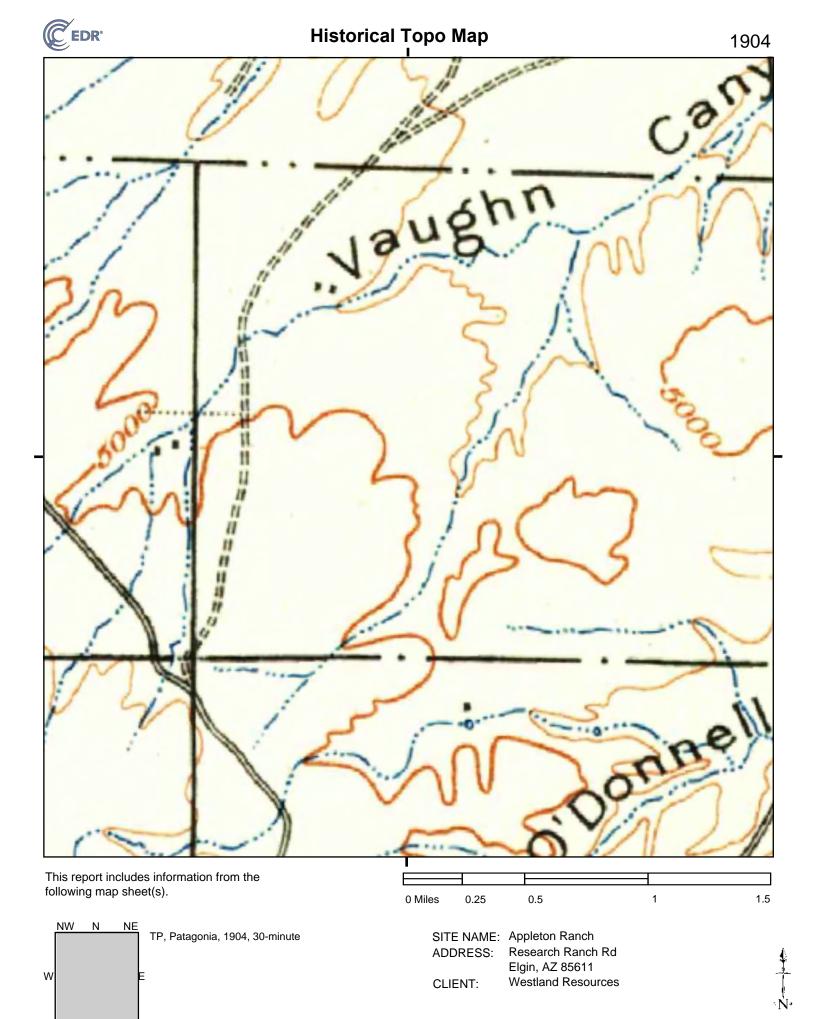
Elgin, AZ 85611

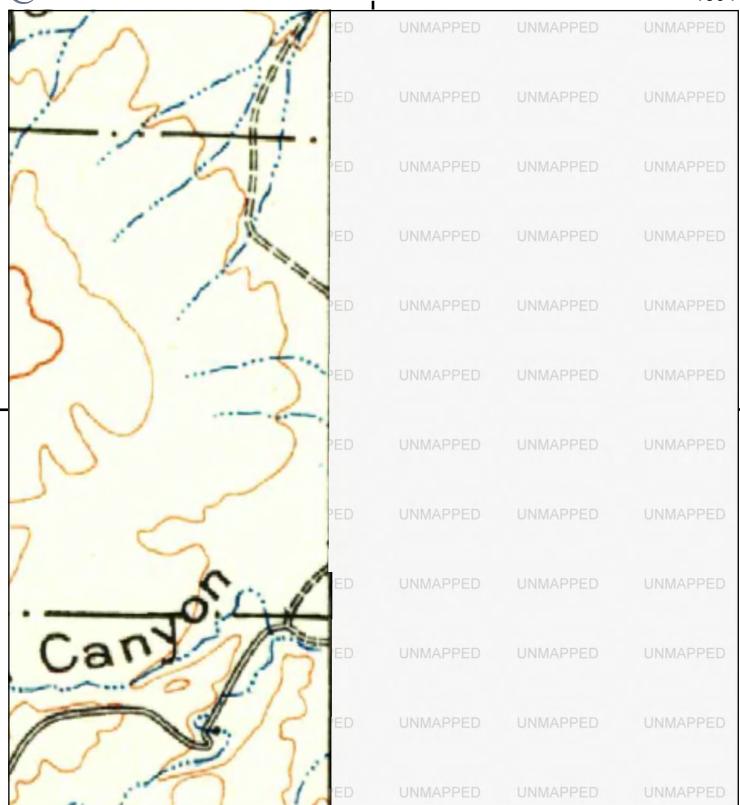
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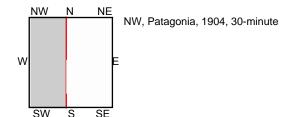


7905038 - 5 page 26





This report includes information from the following map sheet(s).



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SITE NAME: Appleton Ranch ADDRESS: Research Ranch Rd

CLIENT:

Elgin, AZ 85611 Westland Resources



APPENDIX I Historical Aerial Photographs

Appleton Ranch

Research Ranch Rd Elgin, AZ 85611

Inquiry Number: 7905038.6

February 26, 2025

The EDR Aerial Photo Decade Package



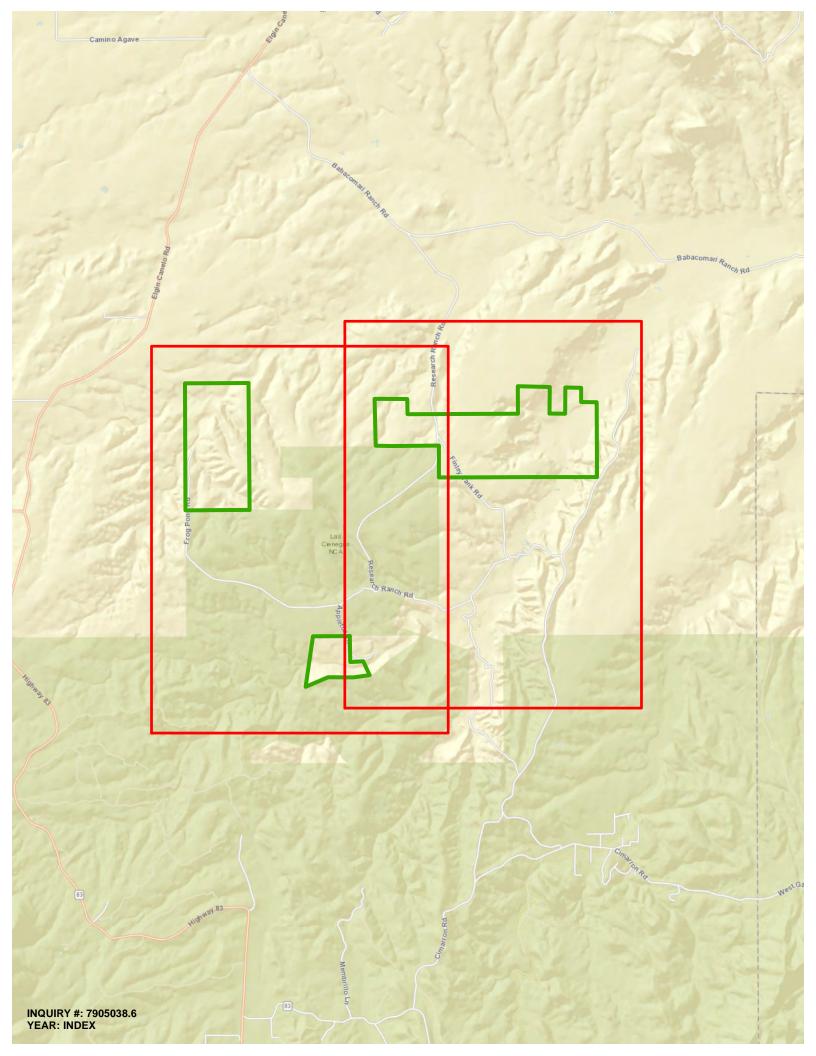
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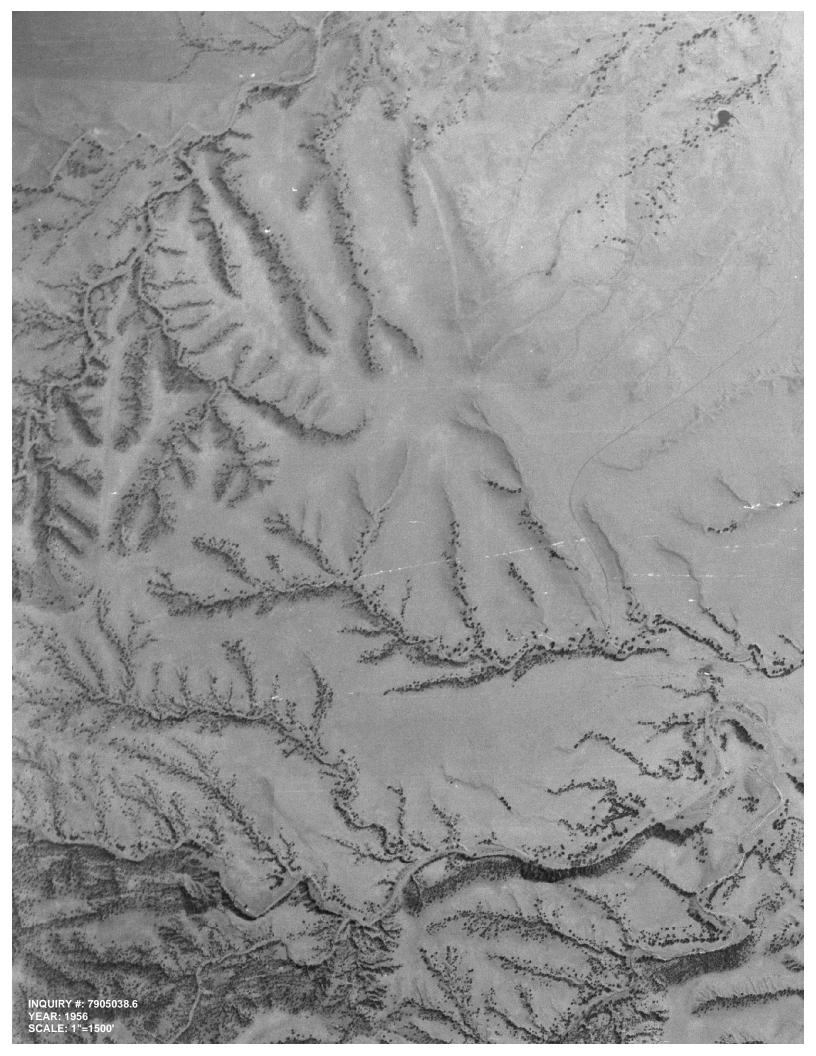
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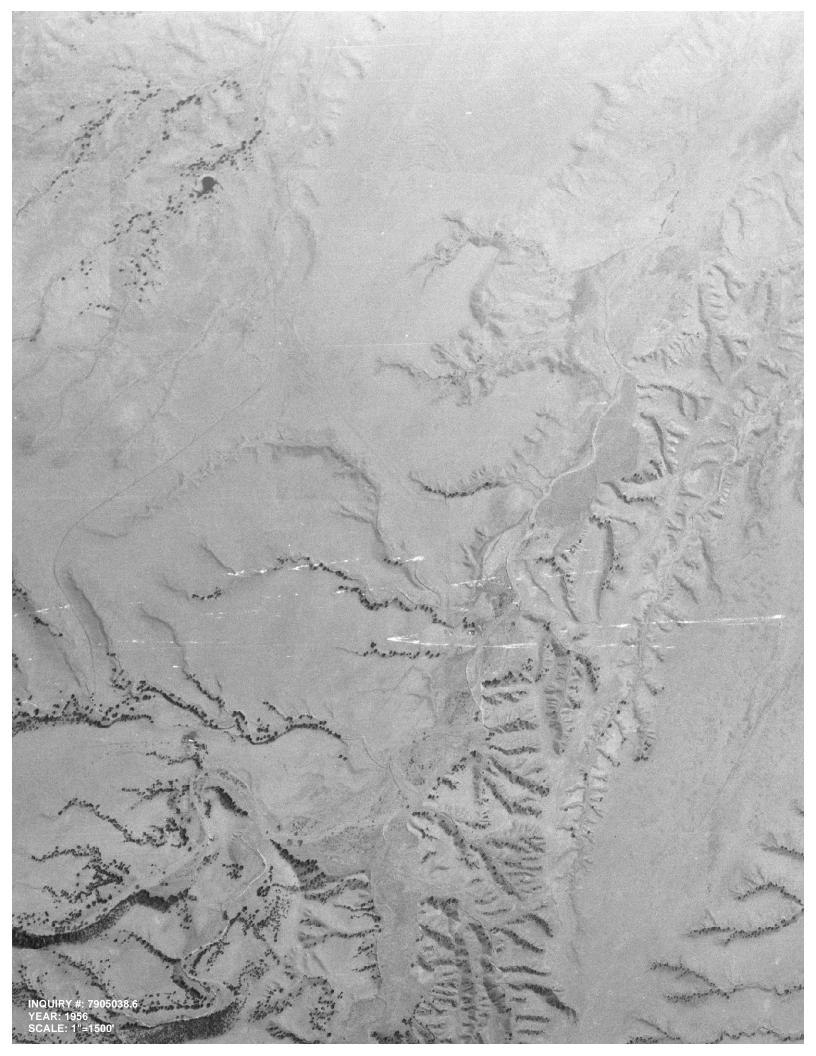
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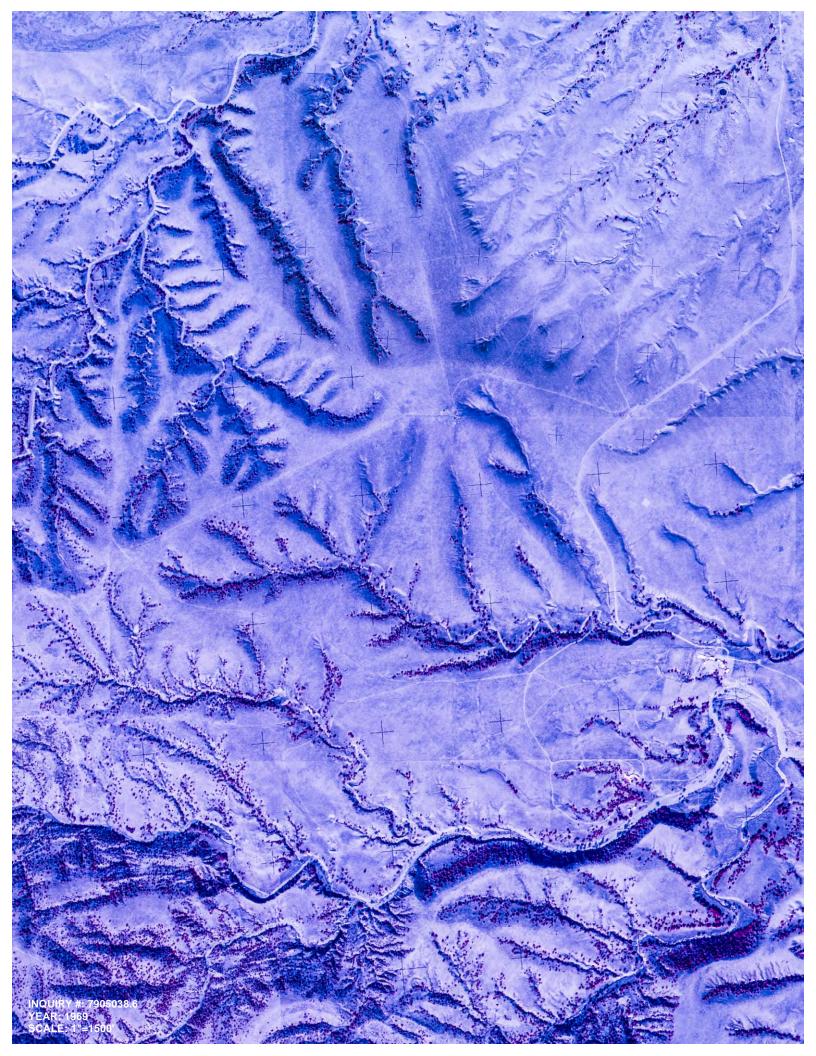
Elgin, AZ 85611

<u>Year</u> 1956	Scale Aerial Photograph. Scale: 1" = 1500'	<u>Details</u> Flight Year: 1956	<u>Source</u> USDA
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1971	Aerial Photograph. Scale: 1" = 1500'	Flight Year: 1971	USDA
1978	Aerial Photograph. Scale: 1" = 1500'	Flight Year: 1978	USGS
1983	Aerial Photograph. Scale: 1" = 1500'	Flight Year: 1983	USGS
1988 (Partial)	Aerial Photograph. Scale: 1" = 1500'	Flight Year: 1988	USGS
1992	Aerial Photograph. Scale: 1" = 1500'	Flight Year: 1992	USGS/DOQQ
1996	Aerial Photograph. Scale: 1" = 1500'	Flight Year: 1996	USGS/DOQQ
2003	Aerial Photograph. Scale: 1" = 1500'	Flight Year: 2003	USGS/DOQQ
2007	Aerial Photograph. Scale: 1" = 1500'	Flight Year: 2007	USGS
2010	Aerial Photograph. Scale: 1" = 1500'	Flight Year: 2010	USGS
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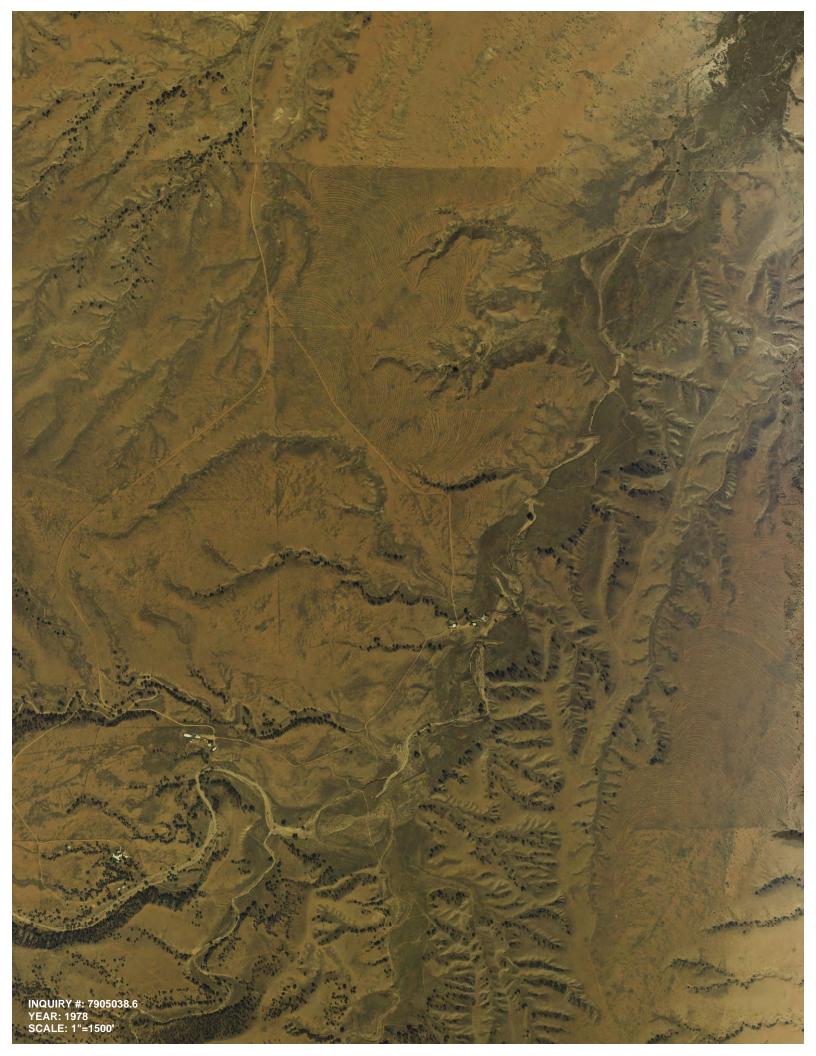




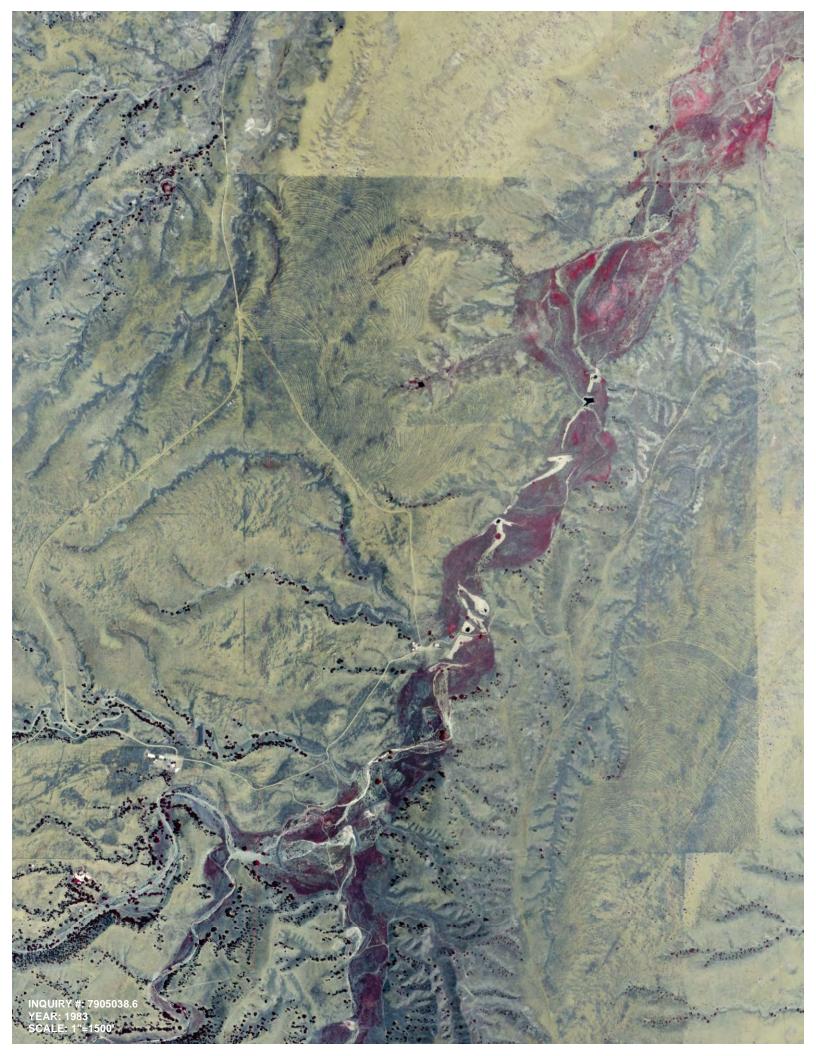




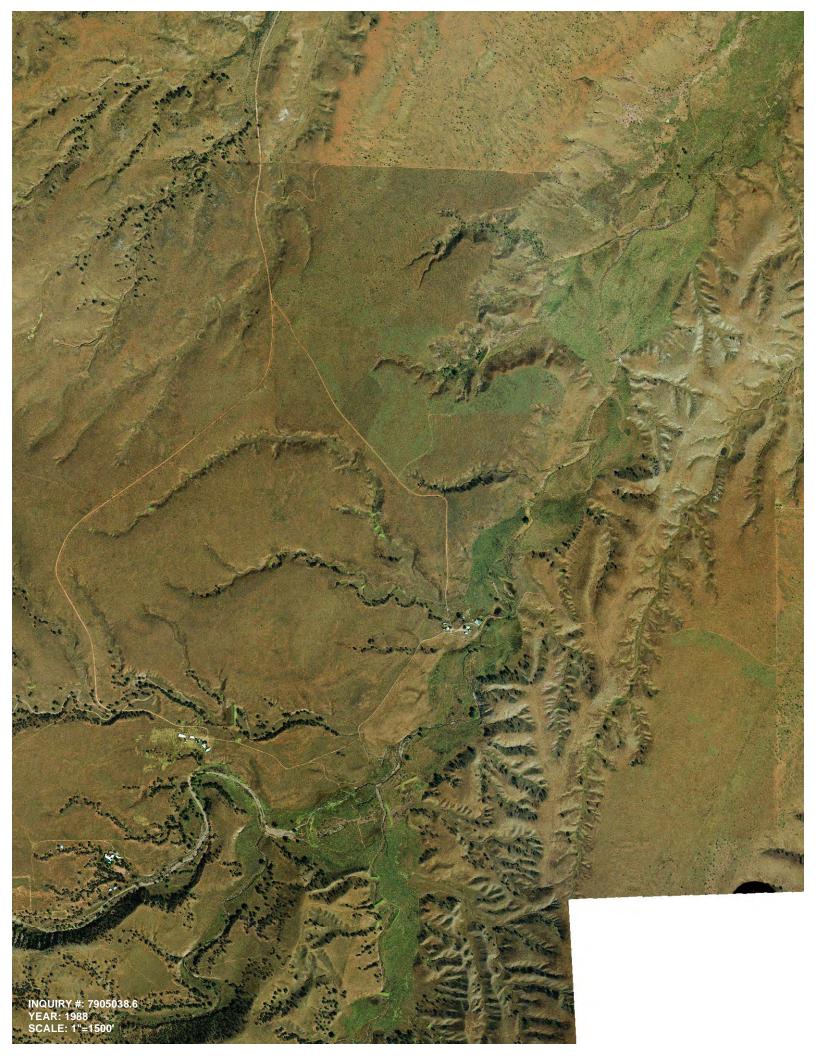




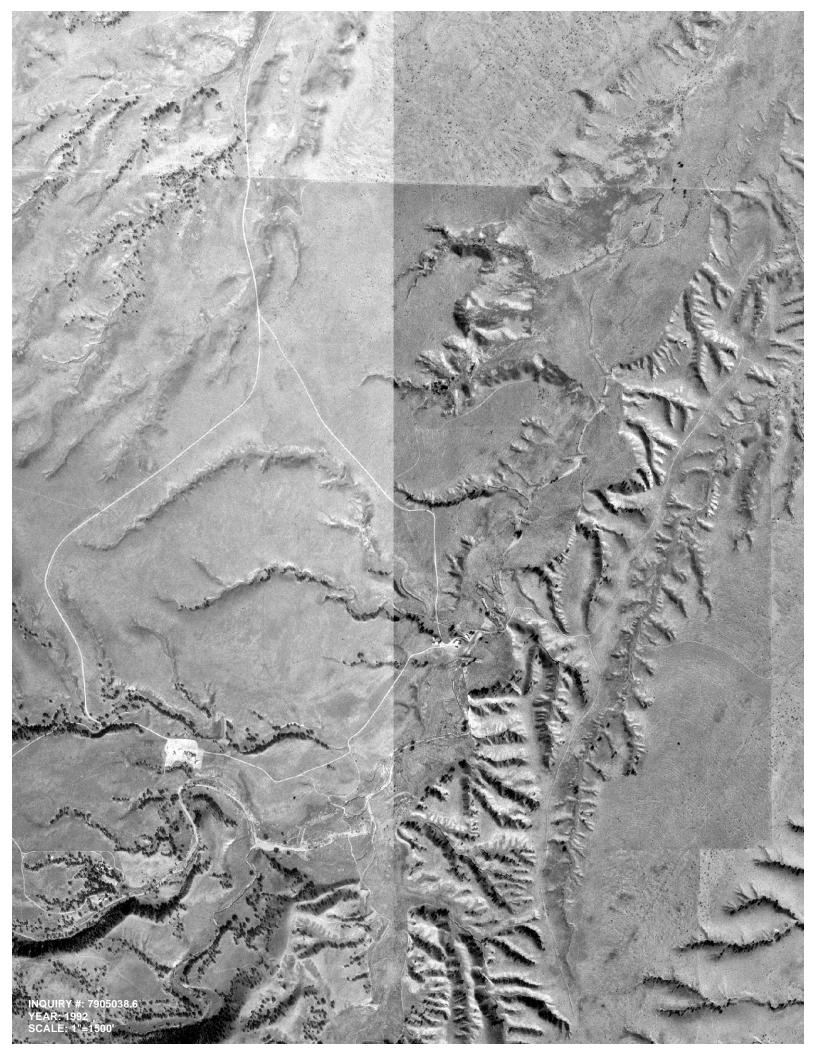




































APPENDIX J

Appleton-Whittell Research Ranch of the National Audubon Society, A History of the Lands in the National Audubon Society's Research Ranch Near Elgin, in Santa Cruz County, Arizona by Glendon E. Collins, and Appleton-Whittell Research Ranch of the National Audubon Society 2023 and 2024 Reports

APPLETON-WHITTELL RESEARCH RANCH OF THE NATIONAL AUDUBON SOCIETY

The San Ignacio del Babocomari land grant was established shortly after the Mexican war of independence in 1821, which introduced large scale cattle ranching to the region. Drought decimated the herds in the late 1800's. The combination of overgrazing and drought caused severe soil erosion, which led to changes in the soils, hydrology, and biotic communities in the region. The Appleton family purchased part of the original land grant and, in 1969, established the Research Ranch. The National Audubon Society assumed management in 1980. Audubon's partners include the Bureau of Land Management, U.S. Forest Service, The Nature Conservancy, The Research Ranch Foundation, and Swift Current Land & Cattle LLC.

For more than 30 years, the Research Ranch has protected grassland ecosystems through conservation, research, and education. The mission of the Research Ranch is to formulate, test, and demonstrate methods to restore and safeguard the bioregion, and provide assistance to citizens and policy-makers in the protection and stewardship of our native ecosystems, natural resources and quality of life.

<u>Conservation and Land Management</u>: Cattle were removed from the Research Ranch more than 30 years ago, and efforts are being made to rehabilitate an ecosystem that was not adapted to large grazing herbivores. Erosion control, eradication of exotic species, reseeding of native grasses, and reestablishment of fire are all ongoing processes on the Ranch.

<u>Research</u>: Birds and other animals, plants, soil, microorganisms, and even the air is studied here. All projects have a common goal – how do we preserve and protect grassland ecosystems in the southwest?

<u>Education</u>: Workshops, seminars, field trips, and a website are all designed to help humans coexist with the rest of nature. Experts in geology, plant identification, zoology, hydrology, astronomy, landscape design, Firewise principles, and other topics share their expertise in various programs. Audubon staff members also present programs to civic groups, clubs, and in classrooms.

To protect wildlife habitat and ongoing research projects on the Research Ranch, public access must be restricted. Roads and trails are accessible with permission only. Please do not walk or drive off existing roads or trails, and do not collect any plants, animals, rocks, or artifacts.

Be a part of the Research Ranch Team! We need your help! Your donations are needed to support conservation and research activities at ARR. Please consider a tax-deductible donation to support our efforts to save native grassland ecosystems.

Please reduce waste by sending materials in this packet that you no longer wish to keep back to us in the self-addressed envelope provided. Please consider sending along a donation as well. Please make your check payable to Audubon, and we will send you a receipt.

Thank you!

It costs us about \$2 to provide these materials for you. Your donation of at least this amount would be appreciated.

Audubon's Appleton-Whittell Research Ranch 366 Research Ranch Road Elgin, AZ, 85611 Researchranch@audubon.org 520-455-5522 http://researchranch.audubon.org



Frequently Asked Questions

about the

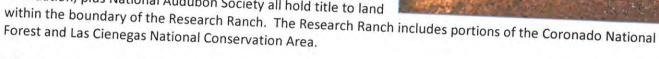
Appleton-Whittell Research Ranch of the National Audubon Society

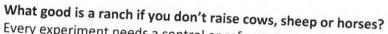
Why does it have such a long name?

The Appletons, Frank, Ariel and their children, turned their cattle ranch into the Research Ranch in 1968 and donated over 1,000 acres of their deeded land to Audubon when Audubon took over management in 1980. At that time, an endowment was established for the Research Ranch with funding from the Whittell Foundation. So the facility became the Appleton-Whittell Research Ranch of the National Audubon Society!

How big is the Research Ranch?

Audubon manages nearly 8,000 acres. The Bureau of Land Management, the U.S. Forest Service, Resolution Copper Company, The Nature Conservancy, and The Research Ranch Foundation, plus National Audubon Society all hold title to land





Every experiment needs a control or reference area. The Research Ranch plays this role so that the effects of domestic species (which are not native to the area) can be determined. The Research Ranch has also been the control/reference area for studies that examine the effects of exurbanization and viticulture plus other studies that need a large, relatively undisturbed area.

Why don't you post a map or directions to the Research Ranch on your website?

In order to protect the conservation and research values for which the Research Ranch was established most of our land-owning partners have stipulated that Audubon restrict and control public access.



What kinds of research are done there?

We're an Audubon facility, so of course lots of scientists study birds here, but that's not all, or even the most common type of research! Climate, soils, hydrology, insects, mammals, reptiles, amphibians, and especially plants are some of the research subjects that draw scientists to the Research Ranch.

Who does research on the Research Ranch?

Qualified scientists from colleges, universities, agencies, non-profit organizations and individuals submit applications to conduct research here. If their project is consonant with our mission, goals and research guidelines they are welcomed.



I know what a desert is and what a forest is, but what is the Research Ranch?

The Research Ranch is part of the Basin and Range province in an area often called the Sky Islands - vast valleys of grass with "islands" of mountains. Early on, most of the Research Ranch was thought to be a Short-grass Prairie, but after the cattle were removed we learned that most of the Ranch is a Madrean-Mixed Grass Prairie with some areas that are Madrean Oak Woodlands. We even have some beautiful riparian areas!



What is the Research Ranch's mission?

The Research Ranch is a living laboratory that determines and demonstrates methods to safeguard and rehabilitate southwestern grasslands, and assists policy makers and other citizens in the care and protection of our native ecosystems, natural resources, and quality of life.



What are the goals of the Research Ranch?

Conservation – to be a premier semi-arid grassland that fosters a natural diversity of native species.

Research – to understand how grasslands and related ecosystems function, and to recognize the key elements that safeguard these ecosystems. Outreach and Education— to advocate for grassland ecosystems by encouraging citizens and policy makers to safeguard and rehabilitate native ecosystems throughout the region.

How many kinds of birds are there on the Research Ranch?

260 species of birds have been documented here. The list includes yearround residents, summer or winter residents and migrants. Biodiversity of the Research Ranch is very rich - almost 600 species of plants, 28 reptile species, 8 species of amphibians, 46 native mammal species, 42 kinds of grasshopper - and that just scratches the surface!



Yes and No! The Forest Service portion of the Research Ranch is open to the public, but access to the remainder is restricted. Please call or e-mail (see below) to make arrangements to visit. Or better yet, ask to be placed on our e-list for announcements about workshops and events in our Living Gently on the Land educational program and collaborative efforts such as the annual Science on the Sonoita Plain symposiums.

How can I learn more about the Research Ranch? You can visit our website and check us out on FaceBook (see below), or read a wonderful book called "View from Bald Hill" by Carl and Jane Bock.

Contact us to see about opportunities to volunteer and remember – we're a charity (501(c)3) – the Research Ranch depends on the generosity of people like you! Your tax deductible donations can be mailed to 366 Research Ranch Road, Elgin, AZ 85611 or made on-line at our website (address below).

A HISTORY OF THE LANDS IN THE NATIONAL AUDUBON SOCIETY'S RESEARCH RANCH NEAR ELGIN, IN SANTA CRUZ COUNTY, ARIZONA

Ву

GLENDON E. COLLINS

June 2008

A HISTORY OF THE LANDS IN THE NATIONAL AUDUBON SOCIETY'S RESEARCH RANCH NEAR ELGIN, IN SANTA CRUZ COUNTY, ARIZONA

ntroduction Page	3
Settlement of the Research Ranch Area	3
Federal Land Surveys and Land Records	4
The National Forest is Established (1905 - 1910)	6
Homesteaders Get Federal Lands for Homes and Ranches (1915 - 1925)	6
Federal Land Patents to Settlers	9
The State Selects the Federal Grazing Lands (1916 - 1923)	9
Land Sales by the State Land Department and the BLM	11
The Forest Service Trades National Forest Land (1962) to Frank Appleton (1962)	12
The Forest Service Withdraws Lands For Research Purposes (1975)	13
The State Trades its Trust Lands to BLM (1986)	13
Frank Appleton "Sells" Land to BLM (1987)	14
National Audubon Society Agreements With Federal Agencies (1982, 1986)	15
BLM Establishes Appleton-Whittell Area of Critical Environmental Concern (1988)	15
Congress Establishes Las Cienegas National Conservation Area (2000)	15
BLM's Las Cienegas Resource Management Plan (2003) A HISTORY OF THE LANDS IN THE NATIONAL AUDUBO SOCIETY'S	16 N
RESEARCH RANCH	

RESEARCH RANCH NEAR ELGIN, IN SANTA CRUZ COUNTY, ARIZONA

Introduction

The Research Ranch, near Elgin in Santa Cruz County, Arizona, is administered by the National Audubon Society. It consists of about 8000 acres of federal and private lands, that are managed for ecosystem research projects by the National Audubon Society, which has cooperative agreements with the federal land management agencies.

This summary of the early history of land settlement of the Research Ranch area and some of the subsequent land transactions is taken primarily from information in the land records of the U. S. Bureau of Land Management (BLM) and the Arizona State Land Department.

This report has been prepared for Research Ranch Director Linda Kennedy by Glendon E. Collins, a retired BLM and Arizona State Land Department employee, and member of the Arizona BLM Resource Advisory Council.

Settlement of the Research Ranch Area

The area that was to become the Research Ranch was first occupied by Native Americans who were gradually displaced in the 1700s and early 1800s by explorers from Mexico who were seeking new lands, riches, and converts to Christianity. The first official record of land ownership in what is now eastern Santa Cruz County is the San Ignacio del Babocomari Grant. This Spanish land grant lies along the Babocomari River valley south of the present day community of Elgin. The land grant was issued by authorities in Spain in 1821, to help solidify Spanish and Mexican claims to the area.

In the Gadsden Purchase of 1853, the United States acquired a large block of land from Mexico to provide a non-mountainous route for a railroad to connect the California coast with the eastern half of the country. The Gadsden Purchase added all of the lands south of the Gila River to what was then the New Mexico Territory.

In 1863, Congress divided the New Mexico Territory by creating a separate Arizona Territory. In 1864, the first Arizona Territorial Legislature created four original Counties, with Pima County covering all of southeastern Arizona. Santa Cruz County was carved out of Pima County in 1899, by the Arizona Legislature.

After the Civil War, the U. S. Army was sent to southern Arizona Territory to help resolve the conflicts between the Apaches and the white settlers that were moving into the area. When the Apache wars ended in the 1880's, ranchers from Texas began bringing herds of cattle to feed on the good grasslands in southern Arizona. The ranchers stayed, and built homes and ranches on the federal public domain lands. However, they couldn't get title to "their" lands, because the federal lands had not yet been surveyed. The federal government could not issue land patents (deeds) until land surveys were made to describe the land parcels to put into the land patents.

The federal land surveys in this area were finally done in the early 1900s. This enabled the ranchers and farmers who were living along the O'Donnell and Turkey Creek drainages to get homestead patents during the 1912 - 1925 period. During that same period, the Arizona State Land Department used its State Trust Land entitlements to select the federal grazing lands that surrounded the homesteads.

By 1960, the Appleton family had purchased some of the homesteaded lands in the O'Donnell and Turkey Creek area. The Appleton family established the Research Ranch in 1969. The National Audubon Society assumed management of the Research Ranch in 1980.

During the 1960 - 1990 period, there were a series of land transactions involving the private land owners, the U. S. Bureau of Land Management, the U. S. Forest Service, and the Arizona State Land Department. These actions rearranged the private and public land ownerships in the area and took other measures to facilitate the purposes of the Research Ranch. In 2000, Congress included the BLM lands in the Research Ranch area in the Las Cienegas National Conservation Area that was established by Public Law 106-538.

Federal Land Surveys and Federal Land Records

The first federal land survey in the Research Ranch area was done in June 1902, to establish the boundaries of the San Ignacio del Babocomari Grant. This "Spanish Land Grant" was recognized as pre-existing private land when Congress established the Arizona Territory in 1863. The federal land survey was done to identify the boundaries of these private lands which were not available for homesteading by the settlers who were moving into the Arizona Territory. The survey was done by cadastral land surveyors working for the federal General Land Office, which was the predecessor of the U. S. Bureau of Land Management.

Ten years later, in 1912, the federal cadastral land surveyors returned to the area to survey the federal public domain lands located south of the San Ignacio del Babocomari Grant. Their job was to survey the federal lands into townships and sections so that the federal lands could be homesteaded and patented to citizens, many of whom were already living on these federal lands.

This cadastral land survey produced Fractional Township 21 South, Range 18 East (T 21 S, R 18 E). **Attachment 1** is a copy of this township survey which was approved on November 14, 1914. It is called a "Fractional Township" because most of the 12 sections in the northern third of T 21 S, R 18 E were not surveyed since they were private lands in the San Ignacio del Babocomari Grant. Only a tiny sliver of federal land in Sections 7, 8, 9 and 10 still exists along the southern boundary of the Grant.

The boundaries of the Appleton-Whittell Research Ranch, as shown on **Attachment 2**, encompass all or parts of Sections 14,15,16, 17, 20, 21, 22, 23, 26, 27, 28, 34, and 35 of T 21 S, R 18 E, along with parts of Sections 2 and 3 of the adjacent Township 22 South, Range 18 East.

The General Land Office, an agency in the Department of the Interior, administered the system for recording homestead and other entries, land patents, withdrawals, designations, and dispositions of the federal lands described in the cadastral surveys. The General Land Office was merged with the federal Grazing Service in 1946 to form a new agency, the U. S. Bureau of Land Management.

These federal land records are represented today by the Master Title Plats and accompanying Historical Indexes that are on file in each of the BLM Offices. **Attachment 3** is a copy of the BLM's Master Title Plat (MTP) for T 21 S, R 18 E. **Attachment 4** is a copy of the Supplemental MTP which was prepared for Section 27 in the Township.

The information on the Master Title Plat and Historical Index of T 21 S, R 18 E shows the historical record of the land transactions and events that have occurred over the past 96 years to transfer lands in this area from federal to State and private ownership and then, in some cases, back to federal ownership. The number listed at the bottom of each land parcel on the MTPs is the key to the land patent and reconveyance documents.

It is important to understand that these federal Master Title Plats show the homestead, public sale and land exchange transactions which transferred the public domain lands out of federal ownership. Once the land has been transferred out of federal ownership, the chain of title information is recorded and is available in the Santa Cruz County Records. This report does not include information on these subsequent transactions.

The National Forest is Established (1905 - 1910)

The National Forest System in Arizona was initiated in the early 1900's with the establishment of "Forest Reserves" on the large blocks of forested federal lands. In southern Arizona, most of the federal lands at the higher elevations were withdrawn into Forest Reserves. Originally, all of the federal lands in T 21 S, R 18 E were included in the first Forest Reserve in this area.

The first notation on the Historical Index records of T 21 S, R 18 E occurred in 1905, when all of the federal lands in this Township were reserved by Public Land Order for the "Huachuca Forest Reserve." (Public Land Orders are documents issued by the Secretary of the Interior to make withdrawals, reservations or other designations of federal public lands)

In 1907, the Huachuca Forest Reserve was renamed the "Huachuca National

Forest" by another Public Land Order.

In 1908, another Public Land Order made two more changes:

- the Huachuca National Forest was renamed the Garces National Forest, and
- the northern boundary of the newly named Garces National Forest was moved two miles southward to release two tiers of sections (Sections 13 - 24) in T 21 S, R 18 E for entry and settlement under the Homestead Act and other federal public land disposal laws.

In 1910, another Public Land Order renamed the Garces National Forest as the Coronado National Forest, the name that continues to this day.

Homesteaders Get Federal Lands for Homes and Ranches (1915 - 1925)

The release of Sections 13 - 24 from the National Forest in 1908, and the approval of the survey of fractional T 21 S, R 18 E in 1914, opened the door for the filing of homestead "claims" by private citizens and "selections" of Trust lands by the State of Arizona. Most of the land which is now in the Research Ranch was transferred out of federal ownership during the 1915 - 1925 period.

Many of the homesteaders were already there when the federal lands were surveyed in 1912. The township survey plat, Attachment 1, shows the locations of the "T. B. Titus House" and the "Fenderson House" in Section 22, and the "Wm. Roth House" in Section 23.

Congress had passed the Homestead Act of 1862 to encourage the settlement and agricultural development of the West. The Act enabled citizens to acquire the federal public domain lands through a process of creating farms and building homes on the federal public domain lands. In order to obtain a patent, the homesteader was required to:

- settle on federal public domain land,
- file papers in the General Land Office to record their "entry" onto the land,
- cultivate at least one-eighth of their homesteaded area,
- live on the land for five years,
- file their "Final Proof" papers with the General Land Office, and
- pay \$1.25 per acre for the land.

A homesteader could acquire up to 320 acres under the Homestead Act. The settlers in T 21 S, R 18 E filed their homestead papers with the General Land Office located in Tucson.

In most cases, the homesteaders selected square or rectangular parcels of land in the sections that conformed to the surveys that had been established by the cadastral surveys. However, there were exceptions where settlers claimed irregular shaped parcels that conformed to the local topography. This usually happened when the settler had moved onto the federal land and staked out his boundaries before the land was surveyed by the federal government.

This was the case in sections 22 and 27 where T. B. Titus was already living on the land when the federal surveyors arrived in 1912. Later when he filed his homestead claim with the General Land Office, a special homestead entry survey had to be made to describe the lands he had "homesteaded". His Homestead Entry Survey 285, **Attachment 5**, approved on July 12, 1917, included portions of Sections 22 and 27 in the creek bottoms near the junction of O'Donnell and Turkey Creeks. Today, the Headquarters of the Research Ranch is located at the site of the T. B. Titus house as shown on the Fractional Township Plat (Attachment 1) and in the northwest corner of Homestead Entry Survey 285 (Attachment 5).

Unfortunately, back in 1917, there may have been a land ownership dispute between neighbors here. The HES 285 survey was made in December 1914, but the survey was not approved by the U. S. Surveyor General's Office until July 12, 1917. At that time it was discovered that HES 285 overlaid the south end of the East 1/2 of Section 22, which was occupied by, and patented to, Mr. Titus's neighbor, Frances Cuthbert Fenderson.

Mr. Fenderson was the first homesteader in the area to file a Homestead application with the General Land Office, and his patent to the 320 acres in the East Half of Section 22 was issued in 1916. A year later, when Mr. Titus's Homestead Entry Survey 285 was approved, it included about 20 acres at the southern end of Section 22 which had already been patented to Mr. Fenderson.

Mr. Titus' homestead claim prevailed. The General Land Office canceled Mr. Fenderson's patent to the 320 acres in the E ½ of Section 22, and issued a corrective patent, **Attachment 6**, to Mr. Fenderson on July 8, 1921, for the remaining 297.82 acres in the E ½ of Section 22. On March 20, 1922, Mr. Titus received his patent, **Attachment 7**, for the entire 159.96 acres in HES 285.

Most of the private lands in Sections 14, 15, 22 and 23 (in the center of the Research Ranch area) were settled and acquired under the provisions of the Homestead Act during the 1915 - 1925 era. These Homestead Patents conveyed both the surface and mineral estates to the homesteader. The federal government retained only the right to build ditches and canals across the land if and when needed for conveying irrigation waters to other properties in the area. This "ditches and canals" reservation is indicated by the "D/C" notation on the parcels shown on the MTP, Attachment 2.

In 1916, Congress passed an amendment to the Homestead Act that was entitled the Stock Raising Homestead Act. It was designed to enable ranchers to acquire land for barns, corrals and other ranch headquarters facilities without having to put the land into cultivation as was required by the original Homestead Act of 1862.

Since Congress did not want to interfere with mineral development in the West, and since ranching and mining were considered to be usually compatible uses, the Stock Raising Homestead Act of 1916 provided that only the surface estate would be conveyed in a Stock Raising Homestead Act patent. The federal mineral estate would remain in federal ownership and would continue to be available for mineral exploration and development under the Mining Law of 1872 and the various federal mineral leasing laws. To help resolve potential conflicts, the Stock Raising Homestead Act spelled out the procedures for how the "miner" would compensate the surface owner for damages to crops and improvements.

Several Stock Raising Homestead patents were issued in the Research Ranch area. The south half of Section 23 of T 21 S, R 18 E was patented in 1924 under the Stock Raising Homestead Act. The "All Min" on the MTP means that the mineral estate on this private land is owned by the federal government. This half section of private land remained open and available for the filing of mining claims and mineral development under the 1872 Mining Law for 76 years until December 6, 2000. On that date, the Congress passed the law that established the Las Cienegas National Conservation Area and closed this federally owned subsurface estate to mineral entry.

Two other 40 acre parcels within the Research Ranch boundary - Lot 4 of Section 14, and the NE¼SE¼ of Section 15 - were also patented under the Stock Raising Homestead Act.

Most of the private lands in the Research Ranch area were patented under the Homestead Acts. Several other private land parcels were patented by land exchanges and public sales as described later in this report.

Federal Land Patents to Settlers

The following is a list of the federal land patents granted to settlers in T 21 S, R 18 E,. The locations of the land parcels are indicated by the patent numbers on the Master Title Plats, Attachments 3 and 4.

Section 14

Homestead Patent No. 803174 to James L. Finley on April 14, 1921.

Stock Raising Homestead Patent No. 803175 to James L. Finley on April 14, 1921.

Section 15

Homestead Patent No. 684794 to Juan Telles on March 20, 1922, also includes lands in Sections 14 and 23.

Section 22

Corrective Homestead Patent No. 813897 to Francis Cuthbert Fenderson on July

18, 1921.

Homestead Patent No. 855360 to Thaddeus B. Titus on March 20, 1922 also includes land in Section 27.

Public Sale Patent No. 1215504 to Francis Henry Appleton on December 19, 1960 which conveyed two tiny parcels of land (Lots 4 and 5) adjacent to Homestead Patent No 855360.

Section 23

Stock Raising Homestead Patent No. 931438 to Willard T. Roath on February 9, 1924.

Sections 27 and 28

Land Exchange Patent 02-62-0119 to Frank Appleton on June 12, 1962.

Section 28

Homestead Patent No. 922250 to John D. Riggs on October 1, 1923.

The State Selects the Federal Grazing Lands (1912 - 1923)

During the first 10 years after Statehood, the Arizona State Land Department acquired about 3000 acres of land in T 21 S, R 18 E for the State School and County Bond Trusts.

The Arizona Statehood Act of February 14, 1912, gave the State of Arizona title to all "unreserved" Sections 2, 16, 32, and 36 in each township for "school sections" which were to be held in Trust by the State and leased or sold to raise funds for support of a public school system in the State. Therefore, title to Section 16, in the northwest corner of the Research Ranch area, automatically passed to the State on November 14, 1914, the date that the cadastral survey of Fractional Township T 21 S, R 18 E, was approved.

Section 2 in T 22 S, R 18 E at the south end of the Research Ranch did not pass to the State as a "school section" because it was "reserved" in the Coronado National Forest. The State was later able to select another 640 acres of public domain lands elsewhere in Arizona "in lieu" of this "school section".

In addition to the "school sections", the Statehood Act also gave the State the right to select over 2 million acres of federal public domain lands for the benefit of fourteen Institutional Grants for universities, penal institutions, hospitals and other public institutions and to pay off County Bonds. The lands in these Institutional Grants were also to be held in Trust and leased or sold to raise funds for the named institutional beneficiaries.

The school sections were "in place" grants of designated sections and the School Trust lands in 2, 16, 32 and 36 are located where the land surveys placed them.

The Institutional Grants were "acreage grants" that the State used to select the best available public domain land.

An excerpt from the 1988-1989 Annual Report of the Arizona State Land Department is included as **Attachment 8**. It describes, in more detail, the ways that the State Land Department acquired its State Trust lands.

During the 1917 - 1923 period the Arizona State Land Department made a series of "selections" of public domain lands in T 21 S, R 18 E for part of its County Bond Grant. The homesteaders had already taken the federal lands with the greatest agricultural potential, so the State focused on selecting the best grazing lands available with the intention of leasing them to the homesteaders and ranchers in the area. The State selected about 2300 acres in Sections 14, 15, 17, 20, 21, 22 and 23 for the County Bond Grant and leased them for livestock grazing purposes.

The homesteaders/ranchers had probably requested the Arizona State Land Department to make these Trust land "selections", because they wanted to get State grazing leases on these lands. Prior to 1934, the General Land Office had no authority to lease the federal public domain lands for livestock grazing, thus ranchers and homesteaders competed in "range wars" over grazing on the federal lands. Ranchers throughout Arizona were begging the State Land Department to use its Trust Land selection rights to select "their" federal grazing areas, so they could have the security of a State Grazing Lease for their ranching operations.

The chaos associated with livestock grazing on the federal public domain land lasted until Congress passed the Taylor Grazing Act (TGA) in 1934. The TGA authorized federal grazing leases, and established Advisory Boards composed of ranchers to designate grazing allotments and allocate livestock grazing use of the public domain lands. However, by 1934, the Arizona State Land Department had selected most of the best public domain grazing lands in Arizona, including those in the T 21 S, R 18 E.

The State Land Department was a major land owner in T 21 S, R 18 E for over 60 years. In 1986, the State's County Bond Trust lands, along with the School Trust lands in Section 16, were re-conveyed back to the BLM in a land exchange that is described later in this report

Land Sales by the State Land Department and the BLM

On February 17, 1943, the State Land Department sold two parcels of their County Bond Trust lands in T 21 S, R 18 E - a 40 acre parcel, the SE $\frac{1}{4}$ NW $\frac{1}{4}$ of Section 23, and a 320 acre parcel, the E $\frac{1}{2}$ of Section 17.

The 40 acre parcel was sold to Willard T. Roath. Attachment 9 is a copy of the State's patent to Mr. Roath. The U. S. Geological Survey topographic map of

this area shows a "water tank" on the SE¼NW¼ of Section 23, so presumably Mr. Roath wanted a more secure title to this 40 acre parcel than was provided by the State Grazing lease which he probably had on the land.

The "Willard T. Roath" who received both this State Land Department patent and the federal General Land Office Homestead Patent in 1924, probably was the "Wm. Roth" whose house was noted in Section 23 on the 1914 cadastral survey plat. The federal cadastral surveyors usually did a remarkable job of recording a huge amount of data and information under difficult field circumstances. They probably met homesteader "Bill" Roath" during the survey, and recorded it as "Wm. Roth" on the survey plat.

In 1960, the BLM sold two tiny slivers of federal land totaling 3.29 acres (Lots 4 and 5 in Section 22) to Francis Henry Appleton. These two small Lots were "isolated parcels" of federal land along the borders of patented Homestead Entry Survey 285. The federal public sale regulations in the 1960s gave an "adjacent land owner" a preference right to purchase isolated parcels of public domain lands. Both the BLM and Mr. Appleton were probably pleased to have these two tiny "islands" of federal land added to Mr. Appleton's adjacent private land.

The Forest Service Trades National Forest Lands to Frank Appleton (1962) In 1962, Frank Appleton made a land exchange with the Forest Service to acquire 1,076 acres of Coronado National Forest lands in Sections 27 and 28.

The Forest Service has a special land exchange law that gives the agency the authority to make land exchanges for the benefit of National Forest management programs. In most cases the Forest Service trades federal National Forest lands on the boundaries of National Forests for private land parcels located in the interior areas of the National Forests. During the 1960 - 1980 era, the Forest Service conducted an active land exchange program in Arizona to "block up" the National Forest lands.

Many of these land exchanges were so-called "third party exchanges". They involved three parties - a party who owned private land which the Forest Service wanted to acquire, a party who wanted a piece of National Forest Land which the Forest Service was willing to give up, and the Forest Service. The Forest Service would bring the other two parties together to make the land exchange happen. The "third party" who wanted to acquire National Forest lands would buy the private land that the Forest Service wanted to acquire, and then that "third party" would trade his newly purchased land to the Forest Service for the National Forest land he wanted to acquire. The land exchanges were based on private and federal lands of equal value.

Frank Appleton was a "third party" in 1962, who purchased some private land in the Kaibab National Forest in northern Arizona and traded it for 1,076 acres of Coronado National Forest land in Sections 27and 28, T 21 S, R 18 E.

Attachment 10 is a copy of Patent No. 02-62-0119 dated June 12, 1962. It states that "Frank Appleton, being the owner of a certain tract of land situated and included within the limits of the Kaibab National Forest, Arizona, hasreconveyed and relinquished the said tract to the United States.... and has selected in lieu thereof the following described land:".... in Sections 27 and 28.

These lands in Sections 27 and 28, along with Mr. Appleton's other lands in the area, became a part of the "Research Ranch" which he established in 1969. In 1980, the National Audubon Society assumed management of the Research Ranch.

In 1987, the "third party" exchange process was used again to convey about 800 acres of the land in Sections 27 and 28 back to the federal government. This time the land was transferred to the Bureau of Land Management. The Talley Realty Development, Inc. was the "third party" which facilitated the land exchange between Mr. Appleton and the BLM.

The Forest Service Withdraws Lands for Research Purposes (1975)

The federal lands in the Coronado National Forest are not subject to settlement or sale, but National Forest lands are open to mineral exploration and development under the authorities granted by the Mining Law of 1872. However, most of the National Forest lands within the Research Ranch boundaries have been closed to mining claim location since 1975.

Public Land Order 5835, issued on October 28, 1975, withdrew 355 acres of National Forest lands in Section 26 for a "Research Natural Area" and closed the lands to mining claim location. The outline of this withdrawn area is shown on Attachment 3, the Master Title Plat of T 21 S, R 18 E.

A second Public Land Order 7031, issued February 28, 1994, expanded the withdrawal to cover 2,442 acres of National Forest Lands on the east and south borders of the Research Ranch area. The boundaries of the expanded PLO 7031 withdrawal are also shown on the MTP of T 21 S, R 18 E. This Public Land Order also included other Coronado National Forest Lands in the Parker Canyon Lake Recreation Complex and the Carr Barn Administrative Site. **Attachment 11** is a copy of the March 10, 1994, Federal Register Notice of this withdrawal.

Public Land Order 7031 said that the withdrawal would expire in 20 years, unless extended. The BLM public land records indicate that an extension was approved in 2006.

The State Trades its Trust Lands to the BLM (1986)

In the 1980s, the BLM began an aggressive program of managing environmentally sensitive federal public lands in Arizona. This included making

land exchanges to acquire non-federal lands with environmental or other public values that should be protected in public ownership. In southern Arizona, the BLM took special measures to protect the federal lands in places like Aravaipa Canyon, Baboquavari Peak, and the Muleshoe Ranch. BLM also made land exchanges to acquire private lands in Las Cienegas Ranch near Sonoita, and State Trust lands in the Research Ranch area.

In 1984, the Arizona State Legislature funded a statewide State-Federal Land Exchange Program. The objective was to rearrange intermingled State Trust lands and federal BLM lands to:

- facilitate land management activities of both the State Land Department and the BLM:
- -to relocate state Trust lands nearer to urban areas to increase their income potential; and
- to move State Trust lands with environmental values into federal public ownership.

The "Research Ranch" exchange was one of the first exchanges made in this Federal - State Land Exchange Program. The State traded 2342 acres of County Bond and School Trust lands in T 21 S, R 18 E to the BLM in exchange for BLM lands located in the San Pedro Valley between Benson and Winkelman.

Attachment 12 is a copy of the August 11, 1986 letter and Deed of Reconveyance from the State Land Department which explains that the 2342 acres were being relinquished to the BLM so that they "could be managed by the Bureau of Land Management and the National Audubon Society in a manner to protect and utilize their public values."

Basically, in 1986, the State Land Department returned to the BLM all of the State School Trust and County Bond lands that the State had acquired from the federal government in the 1912 - 1923 period. The only lands not returned to federal ownership were the 40 acre parcel in Section 23 which the State Land Department had sold to Willard T. Roath in 1943, and the 320 acres which the State had sold in the E½ of Section 17.

Frank Appleton "Sells" Land to the BLM (1987)

Shortly after the BLM "reacquired" the State Trust land in the Research Ranch area, Frank Appelton decided to sell his private land in Sections 27 and 28. These were the lands that he had acquired in the 1962 "third party" land exchange with the Forest Service. In 1962, Mr. Appleton had been the "third party" who put up the money to buy the private lands in the Kaibab National Forest that he used to trade to the Forest Service for the National Forest lands in Sections 27 and 28.

When Mr. Appleton wanted to sell these lands in 1987, the BLM found another "third party" to purchase the lands Mr. Appleton wanted to sell. That "third party",

the Talley Realty Development, Inc, then traded these Research Ranch area lands to BLM in exchange for BLM lands in Maricopa County north of Phoenix. **Attachment 13** is a copy of the December 2, 1987 Warranty Deed from Talley Realty Development, Inc. to the United States of America, which transferred the former Appleton lands to the BLM.

In this exchange, BLM acquired about 800 acres in Sections 27 and 28. These 800 acres are designated as "(see remarks)" on the MTP, Attachment 2. The Appletons retained two triangular parcels in Section 28 that are designated by the "02-62-0119" number of the original 1962 National Forest land exchange patent.

National Audubon Society Agreements with Federal Agencies (1982 and 1986)

In 1982, the National Audubon Society and the U. S. Forest Service signed a Memorandum of Agreement "to cooperate in studies to encourage research on factors related to maintaining and improving management of Southwestern desert grasslands and to maintain the established Elgin Research Natural Area". That Memorandum of Agreement is included with this report as **Attachment 14**.

In 1986, the National Audubon Society and the U. S. Bureau of Land Management signed a Cooperative Agreement "to provide for cooperative management between the Bureau of Land Management and the National Audubon Society for the management of public lands within the Appleton-Whittell Biological Research Sanctuary (The Research Ranch)". That Cooperative Agreement is included with this report as **Attachment 15**.

BLM Establishes the Appleton-Whittell Area of Critical Environmental Concern (1988)

The BLM has the authority to designate and name sites and areas which have special environmental or cultural values that need to be protected. Giving sites and area an identity is a powerful tool to use in generating support for protection of the public values on the designated lands. One of the designations that BLM has commonly used is "Area of Critical Environmental Concern".

In 1988, shortly after BLM had acquired the State Trust lands and the Appleton lands in the Research Ranch complex, the BLM administratively designated these newly acquired 3141 acres of public land as the "Appleton-Whittell Area of Critical Environmental Concern". The objective was to help protect the public land portion of the National Audubon Society's 8000 acre Appleton-Whittell Biological Research Sanctuary (Research Ranch).

Congress Establishes the Las Cienegas National Conservation Area (2000) On December 8, 2000, Congress passed Public Law 106-538 which established the Las Cienegas National Conservation Area on the BLM administered lands that the BLM had acquired through land exchanges in the Las Cienegas Ranch and Research Ranch areas.

Public Law 106-538 states that the Las Cienegas National Conservation Area is established "In order to conserve, protect and enhance for the benefit and enjoyment of present and future generations the unique and nationally important aquatic, wildlife, vegetative, archeological, paleontological, scientific, cave, cultural, historical, recreational, educational, scenic, rangeland, and riparian resources and values of the public lands described in subsection (b) while allowing livestock grazing and recreation to continue in appropriate areas,..."

Subsection B says that the Conservation Area "shall consist of approximately 42,000 acres of public lands in Pima and Santa Cruz Counties as generally depicted on the October 2, 2000 maps of the Sonoita Valley Acquisition Planning District and Las Cienegas National Conservation Area".

BLM's Las Cienegas Resource Management Plan (2003)

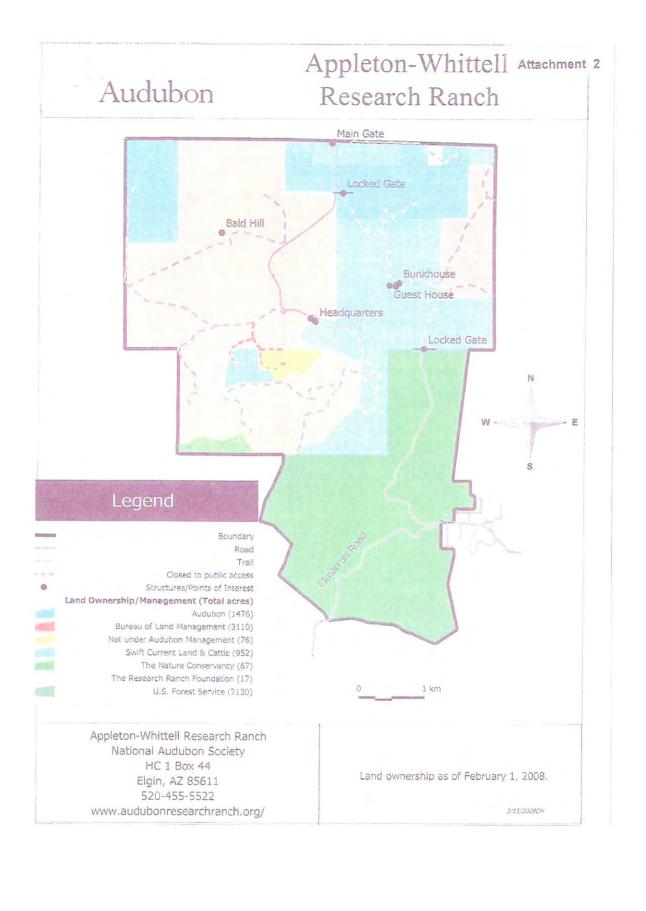
In the BLM's "Las Cienegas Resource Management Plan and Record of Decision" that was issued July 2003, the Appleton-Whittell ACEC was renamed the Appleton-Whittell Research Area of Critical Environmental Concern. It is described as a being "part of a unique laboratory for studying the effects of nongrazing on a desert grassland". The BLM's management objectives for the BLM public land portion of the "Research Ranch" are stated as:

- Designate an ACEC
- Limit motorized vehicles to designated roads and trails
- Prohibit land use action except as authorized by Research Ranch
- Do not open to mineral location, leases or sales
- Implement the 1986 BLM National Audubon Society MOU
- Prohibit surface occupancy for oil/gas lease development

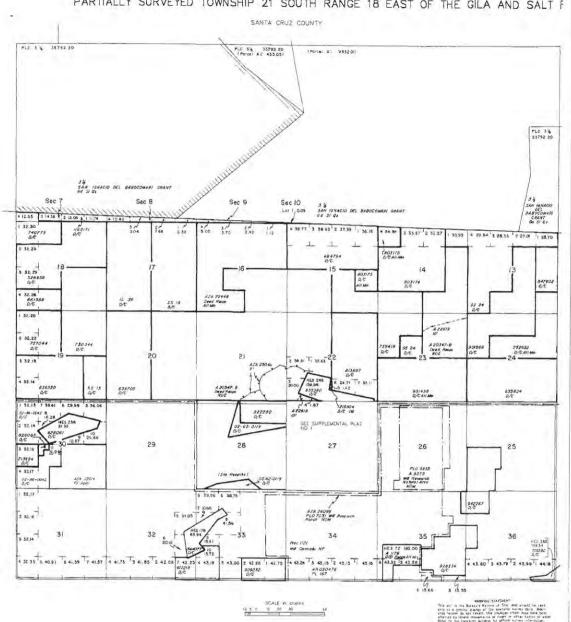
The Research Ranch provides a valuable ecosystem research component to the management of Las Cienegas National Conservation Area (NCA). The Research Ranch has nearly 40 years of research data and analyses of the impacts of livestock grazing on a 8000 acre block of private, BLM and National Forest lands in this "corner" of the Las Cienegas National Conservation Area. **Attachment 16** is a list of the "science projects" being worked on at the Appleton-Whittell Research Ranch, and publications associated with the Research Ranch during 2006/2007. The National Audubon Society's cooperative rangeland research program at the "Research Ranch" continues to be a major asset to the programs of the Las Cienegas National Conservation Area.

List of Attachments

		The state of the s					
Attachment	1	Survey Plat of Fractional Township 21 South, Range 18 East					
Attachment		Map Showing the Boundaries of the Appleton-Whittell earch Ranch					
Attachment	3	BLM Master Title Plat (MTP) of T 21 S, R 18 E					
Attachment	4	BLM Master Title Plat of Section 27 in T 21 S, R 18 E					
Attachment	5	Plat of Homestead Entry Survey 285					
Attachment	6	Federal Land Patent to Frances C. Fenderson					
Attachment	7	Federal Land Patent to T. B. Titus					
Attachment	8	Description of State Trust Lands and Beneficiaries					
Attachment	9	State Land Patent to Willard T. Roath					
Attachment	10	National Forest Land Exchange Patent to Frank Appleton					
Attachment	11	Public Land Order Withdrawing National Forest Lands for Research Purposes					
Attachment	12	State Deed Which Relinquished the Trust Lands to BLM					
Attachment	13	Warrenty Deed Transferring the "Appleton" Lands to BLM					
Attachment	14	Forest Service - National Audubon Society Memorandum of Agreement					
Attachment	15	BLM - National Audubon Society Cooperative Agreement					
Attachment :	16	Science Projects and Publications on Appleton-Whittell Research Ranch in 2006/2007					



Attachment 3 PARTIALLY SURVEYED TOWNSHIP 21 SOUTH RANGE 18 EAST OF THE GILA AND SALT F



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Phoenix 028542

4-1003-R

The United States of America.

Es all to whom these presents shall come, Greeting:

WHEREAS, a Certificate of the Register of the Land Office at Phoenix, Arizona,

has been deposited in the General Land Office, whereby it appears that, pursuant to the Art of Congress of May 20, 1862, "To Secure Homesteads to Actual Settlers on the Public Domain," and the acts supplemental thereto, the claim of Francis Cuthbert Fenderson

has been established and duly consummated, in conformity to law, for the Lots six and seven, the north half of the southeast quarter, and the northeast quarter of Section twenty-two in Township twenty-one south of Range eighteen east of the Gila and Salt River Meridian, Arisona, containing two hundred ninety-seven and eightytwo-hundreiths acres,

according to the Official Plat of the Survey of the said Land, returned to the GENERAL LAND OFFICE by the Surveyor-Seneral:

NOW KNOW YE, That there is, therefore, granted by the UNITED STATES unto the said claimant the tract of Land above described; TO HAVE AND TO HOLD the said tract of Land, with the appurtnances thereof, and the said claimant and to the beins and assigns of the said claimant forecer; subject to any vested and accrued water rights for mining, agricultural, measurementing, or other purposes, and rights to differs and reservais said in connection with such water rights, as may be recognized and acknowledged by the local customs, items, and decisions of courts; and there is reserved from the lands hereby granted a right of may threen for differs or canals constructed by the such controlled to the said claimant.

This patent is issued in lieu of Patent No. 529791, dated May 19, 1916, which has been canceled.

IN TESTIMONY WHEREOF, I. Marren G. Harding.

President of the United States of America, have caused these letters to be made

Patent, and the seal of the General Land Office to be hereunto affixed.

GIVEN under my hand, in the District of Columbia, the EIGHTH

(SEAL.)

day of JULY

in the year of our Lord one thousand

nine hundred and TWENTY-ONE and of the Independence of the

United States the one hundred and FORTY-SIXTH.

By the President: Elemen G. I barding By M. P. Lekny, superfy, Schlesambar,

RECORD OF PATENTS: Patent Number 813897

Phoenix 0279 and 014798

4-1017-R.

The United States of America,

To all to whom these presents shall come, Greeting:

will S. a Cartificate of the Register of the Land Office at Phoenix, Arizons, has been dejosited in the General Land Office, whereby it appears that, pursuant to the Act of Congress of May 20, 1862. "To Secure comesteads to Actual Settlers on the Public Domain," and the acts supplemental thereto, the claim of Thaddeous B. Titus, has been established and duly consummated, in conformity to law, for the H. R. Survey No. 285, embracing a nortion of, Sections twenty-two and twentyseven in Township twenty-one south of Range eighteen east of the Gila and calt River Meridian, Arisons, more particularly bounder and described as follows: Beginning at corner No. 1, from which the north corner to Sections two and three in Township twenty-two south of Range eighteen east of the Gila and Salt River Meridian, bears south three degrees thirty-six minutes east one hundred seventeen and thirteen-hundredths chains distant; thence, north eighty-five degrees forty-three minutes west fifteen and four-hundredths chains to corner No.2; thence, north three degrees thirteen minutes cast thirty-four and sixteen-hundredths chains to corner No. 3; thence, north seventy-one degrees fortyone minutes west thirty and twenty-nine-hundredths chains to corner No. 4; thence, north seventy-one degrees forty-one minutes west twenty-one and eight-hundredths chains to corner No. 5; thence, north twenty-three degrees fifty-eight minutes east twenty and forty-six-hundredths chains to corner No. 6; thence, south seventy-nine degrees night minutes east twenty-one and twenty-three-hundredths chains to corner No. 7: thenco. south ten degrees forty-two minutes west eleven and forty-three-hundreaths chains to corner No. 8; thence, south seventy-eight degrees fortyfive minutes east forty-one and two-hundredths chains to corner No. 9; thence, south eleven degrees three minutes west two and fourteen-hundredths chains to corner No. 10; thence, south eleven degrees three minutes west fourteen and twenty-six-hundredths chains to corner No.11:

RECORD OF PATENTS: Patent Number 855360

thence, south four degrees nineteen minutes west thirty and seventyeight-hundredths chains to corner No. 1, the place of beginning, containing one hundred fifty-nine and ninety-six-hundredths acres, according to the Official Mat of the Survey of the said Land, returned to the General Land Office by the Surveyor General:

NOT KNOW YE, That there is therefore, granted by the UNITED To TES, unto the said claimant the tract of Land above described; TO MAVE AND TO HOLD the said tract of Land, with the appartenances thereof, unto the said claimant and to the beirs and assigns of the said claimant forever; subject to any vested and accrued water rights for mining, agricultural, manufacturing or other purposes, and rights to ditches and reservoirs used in connection with such water rights as may be recognized and acknowledged by the local customs, laws and decisions of courts; and there is reserved from the lands hereby granted a right of way thereon for ditches or canals constructed by the authority of the United States.

IN TESTIMONY WHEREOF, I. Marren G. Harding.

President of the United States of America, have counted these letters to be made

Patent, and the Scal of the General Land Diffice to be hereunto officed.

GIVEN under my hand, in the District of Columbia, the TWENTIETH

in the year of our Lord one thousand

nine hundred and TWENTY-TWO

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United States the one sundred and FORTY-SIXTH

By the President Darrewy F. Harding.

By the President Darrewy F. Harding.

By Wisland Ough Secretary.

John D. Commile

Acting source of the Secretary Lind Office.

HECORD OF PATENTS: Patent Number 855366

(SEAL)

BENEFICIARY SUMMARY - DETERMINATION OF STATE TRUST LAND LOCATION

Determination of Beneficiaries and Acres

At the time of Statehood, Arizona was granted nearly 10.75 million acres to be held in Trust for lease and sale to produce revenues for support of public schools and other public institutions. These Trust land grants are:

Acres in Millions*

Common School Trust	8,400,000
University Trust	200,000
Legislative, Executive and	22,197,73
Judicial Building Trust	100,000
Penitentiary Trust	100,000
State Hospital Trust	100,000
School for Deaf and Blind	
Trust	100,000
Miners Hospital for	,
Disabled Miners Trust	100,000
Normal Schools Trust	50,000
Charitable, Penal and	
Reformatory Institutions Trust	200,000
Agricultural & Mechanical	
Coileges Trust	150,000
School for Mines Trust	150,000
Military Institute Trust	100,000
County Bond Trust	1,000,000
Total	10,750,000
*Approximate	

A 1929 act authorized an additional 50,000 for the Miners Hospital Trust.

An 1881 act had already granted the Territory of Arizona about 60,000 acres for the University of Arizona Trust.

This brings the total Trust grants to over 10.8 million acres.

Methods of Acquisition

Arizona has acquired these lands in four types of transactions.

 School Sections in Place -As land surveys were completed by the Federal government, title to four "school sections" in each township - Sections 2, 16, 32 and 36 - automatically passed to the State.

- 2. Indemnity Lieu Selections When school section lands were not available to the State because they had been previously claimed by homesteaders or miners or fell within a Federal reservation for a National Forest, Park or Indian Reservation, the State was given the right to select an equal acreage of Federal public domain land as indemnity in lieu of the school sections the State should have received.
- Quantity Grant Selections The State selected the specified acreage of Federal lands for the County bond and each of the individual institutional Trusts.
- Land Exchanges After acquiring title to the Trust lands, the State has traded many of the lands for other Federal lands of equal value in order to relocate and block-up Trust land holdings.

The State acquired its "School Sections in Place" wherever the land surveys placed them. The State chose the lands acquired in the indemnity lieu selection, quantity grant selection and land exchange processes. These choices were made by the State Selection Board consisting of the Governor, State Attorney General and State Land Commissioner. The Land Commissioner in recent years has been replaced on the Board by the State Treasurer. Most of the selections were made in the 1915-1960 era with the selection program being finally completed in 1982. Since the State was precluded by Federal laws from acquiring mineral lands, and since the home-steaders had already acquired most of the potential agricultural lands, the State focused on choosing the best grazing lands. Most of the acreage chosen during the 1915-1960 era was in central and southeastern Arizona, and in the checkerboard land area along the railroad across north central Arizona. As agriculture developed in Arizona, later selections were made in irrigated areas in the Harquahala Valley and the Gila River Valley. The final selections concentrated on commercial and agricultural lands along the Colorado River.

Land exchanges in the 1935-1985 era relocated most of the school selection lands out of the western deserts and into areas close to Phoenix and Tucson and onto better grazing lands in such areas as western Yavapai County.

BENEFICIARY SUMMARY - DETERMINATION OF STATE TRUST LAND LOCATION

Today the original school section pattern exists only in a few locations such as the remote Arizona Strip. About three quarters of the school section acreage has been relocated through selections and exchanges which have consolidated the Trust lands into large blocks in Pinal, Pima, Graham, Greenlee and Cochise Counties in central and southeastern Arizona; north and northwest of Phoenix in Maricopa and Yavapai Counties, and in the checkerboard railroad grant zone across Mohave, Yavapai, Coconino, Navajo and Apache Counties.

Location of State Trust Land

Most of Arizona Trust lands are currently usable only for livestock grazing purposes. Fortunately, several hundred thousand acres of these "grazing lands" have become "urban lands" as Phoenix, Tucson and other cities and towns have expanded. The State's Urban Lands Act passed in 1981 has enabled the Trust to capitalize on the large increase that planning and zoning adds to raw land values, and today the Land Department's urban lands lease and sale program is the largest revenue producer for the Trust.

Nearly all of the most valuable urban Trust lands around the northern border of the Phoenix metropolitan area and north and west of Tucson are Common School Trust lands. The large block of Trust lands on the south and southeast sides of the Tucson metropolitan area is divided amongst the various institutional Trusts. The University of Arizona Trust owns large acreages of timbered lands in the Flagstaff area and agricultural lands near Yuma. However, the majority of the acreage in the other individual institutional Trusts are rural grazing lands with some agricultural potential located primarily in Cochise County, the Altar Valley of Pima County; the Picacho/Red Rock, Oracle Junction and Florence areas of Pinal County, the St. Johns/ Springerville area of Apache County, and the checkerboard areas of western Coconino and Yavapai Counties.

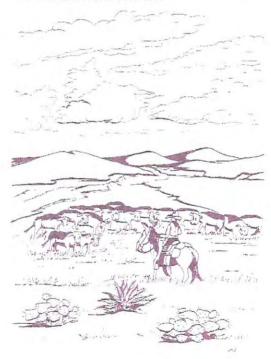
In the 78 years since Statehood, about 1.2 million acres of Trust lands have been disposed of, but a total Trust land acreage of 9,471,207 acres remain. Almost all of the lands are under one or more leases for natural resources uses and commercial

development purposes. About 87 percent of the Trust lands are in the Common School Trust, and over 80 percent of the Trust revenues go to that Trust.

Description of Individual Grants

Descriptions of the Trust lands in the individual institutional grants follow. The acreage cited in the different land areas are only approximate, but the data will give some indication of the resource and income potential of the individual Trust resources. The total acreage of the lease categories listed for each grant is greater than the acreage in each grant, because in many cases there is more than one lease on the same parcel of land.

No description is given of the County Bond grant lands because now that the bonds have been paid for, the revenues from these grant lands go into the Common School Trust fund.



Esperie Land

State of Arizona

ATENT NO. 2668	For Lands (School, Institutional or University)
TO ALL IDATO WHOM	THESE PRESENTS SHALL COME, GREETING:
Whereas	viilage 5 20178 (a mirred man) of the
accordance with the provisions the time of the purchase of the lecution of this conveyance, has and Department of the State of A d situate in the County of	of the laws of the State of Arizona, approved and in force land herein designated and described, and at the time of the made full payment as appears from the records of the State Arizona of and for the following described real estate, lying Arizona of and for the following described real estate, lying Arizona of the Theorem and State of Arizona, to-wit: THE ST CHART OF THE PROPERTY OF MARKET 18 L. S. E. R. J. E. W. ELECTRIC AND RESERVING THE THE STATE PUBLIC OF MAY FOR BUILDING THE ARIZON OF THE STAN PUBLICATES THE ARIZON OF THE STAN PUBLICATES ARE THE STAN PUBLICATES OF THE PUBLICATES
thased by the said (a merit of the little of Arizona of all purchase m	acres, more or less, which said described land has been pur- by K. NOLTH has been pur- common and such interest as may have been due therefor, the of Arizona in consideration of the premises, and in conformity
with the laws of the State of Arizon, into the said, the said land above described. TO Havith all the rights, privileges, in belonging unto the said.	a, has sold and granted, and by these presents does sen and grant o R. ROAE and assigns the AVE AND TO HOLD the same as above specified, together nomunities and appurtenances of whatsoever nature hereunto KILLAD T. ROLD (* EMPIRE SEA.) and to
This patent is issued subject tained and now in full force	ssigns forever. to any and all easements or rights of way heretofore legally ob- te and effect.
In Testimony Whereof, I,	SIDNET P. CSECRE Governor of the State
	of Arizona, have caused these letters to be made patent, and the Great Seal of the State of Arizona to be here unto attached. Given under my hand at the City of Phoenix, Arizona, this 27th day of FERGRAT A. D. 19 43

4-1040 (October 1955)

The United States of America.

To all to whom these presents shall come, Greeting:

WERRAS, Frank Appleton, being the owner of a certain tract of land situated and included within the limits of the Raibab Bational Forest, Arisons, has, under the provisions of the Act approved March 20, 1922 (42 Stat. 465), entitled "An Act te consolidate national forest lands", as amended by the Act of February 28, 1925 (43 Stat. 1090), as supplemented by the Act of June 11, 1960 (74 Stat. 205) reconveyed and relinquished the said tract to the United States, and has, under the provisions of the said Act, selected in linu thereof the following described tract of land:

Gila and Salt River Meridian, Arizona.

T. 21 8., R. 18 R.,

Sec. 27, Lots 1, 2, 3, 4, 5, and 6, \$\frac{1}{2}NW\frac{1}{2}, SW\frac{1}{2}, S\frac{1}{2}SE\frac{1}{2};

Sec. 28, SANEL, NWE, St.

The area described contains 1,076.60 acres, according to the Official Plat of the Survey of the said Land, on file in the Bureau of Land Management:

MOW KNOW YE, That the UNITED STATES OF AMERICA, in consideration of the premises, HAS GIVEN AND GRANTED; and by these presents DOES GIVE AND GRANT, unto the said Frank Appleton, and to his heira, the tract above deacribed; TO HANK AND TO HOLD the same, together with all the rights, privileges, immunities, and appurtenences, of whatsoever nature, thereunto belonging, unto the said Frank appleton, and to his heirs and assigns forever. Subject to any vested and accrued water rights for mining, agricultural, manufacturing, or other purposes, and rights to ditches and reservoirs used in connection with such water rights, as may be recognized and acknowledged by the local customs, laws, and decisions of courts; and there is reserved from the lands hereby granted, a right-of-way thereon for ditches or canals constructed by the authority of the United States.

In Testimony Whereof, the undersigned authorized officer of the Bureau of Land Management, in accordance with the provisions of the Act of June 17, 1948 (62 Stat., 476), has, in the name of the United States, caused these letters to be made Patent, and the Seal of the Bureau to be hereunto affixed.

GIVEN under my hand, in The limit of the series of the Lord one thousand nine hundred and SIXIV-TWO and of the Independence of the United States the one hundred and BIGHTY-SIXIE.

(SEAL)

For the Director, Bureau of Land Management.

Manager, Arisens Land Office

Patent Number 02-62-0119

revision to the SIP processing review tables was approved by the Acting Assistant Administrator for Office of Air and Radiation on October 4, 1993 (Michael Shapiro's memorandum to Regional Administrators). A future notice will inform the general public of these tables. Under the revised tables this action remains classified as a table 2. On January 6, 1989, the Office of Management and Budget (OMB) waived table 2 and table 3 SIP revisions (54 FR table 2 and table 3 SIP revisions (54 FK 2222) from the requirement of section 3 of Executive Order 12291 for two years. EPA has submitted a request for a permanent waiver for table 2 and table 3 SIP revisions. OMB has agreed to continue the waiver until such time as a submitted to the waiver until such time as a submitted to the waiver until such time as a submitted to the waiver until such time as a submitted to the waiver until such time as submitted to the waiver until such time as a submitted to the waiver until such time as submitted to the submitted to t it rules on EPA's request. This request continues in effect under Executive Order 12886 which expenseded Executive Order 12201 on Septe 33 1003

Nothing in this action should be construed as permitting, or allowing or

establishing, a precedent for any future request for revision to any SIP. Each request for revision to the SIP shall be considered separately in light of specific technical, economic, and environmental factors, and in relation to relevant statutory and regulatory requirements.

Under section 307(b)(1) of the Act. petitions for judicial review of this action must be filed in the United States Court of Appeals for the appropriate circuit by May 9, 1994. Filing a patition for reconsideration by the Administrator of this final rule does not affect the finality of this rule for the purposes of judicial review, ner does it extend the time within which a petition for judicial review may be filed, and shall not postpone the effectiveness of such rule postpone the electron may not be or action. This action may not be challenged leter in process onforce its requireme mts. (See section 307(b)(2).1

List of Subjects in 40 CFR Part 81

Environmental protection. Air pollution control, National parks, Wilderness areas.

Dated: March 1, 1994.

Dennis Grane

Regional Administrator.

Part 81, chapter I, title 40 of the Code of Federal Regulations is amended as follows:

PART 81-[AMPROEDS

1. The authority citation for part 61 continues to read as follows:

Authority: 42 U.S.C. 7401-757:a

2. Section 81.316 is amended by revising the "fows—\$0₂" table to read as follows:

601.316 town.

IONA-SO

Designated area	Does not many times	Does not most too- ondary standards	Cannot be classified	Botter then national standards
Muncethro County: Are: within T 77 N, R 2 W, sections 26, 27, 34, 35: and T 76 N, R 2 W, sections 2, 3, 10, 11, 14, 15, 22, 27, 26, 33, 34 Remainder of county Remainder of state				

IFR Doc. 94-5626 Filed 3-0-94; # 15 aml BILLING CODE 0000-00-P

DEPARTMENT OF THE INTERIOR

Dureau of Land Management

43 CFR Public Land Order 7031

[AZ-039-0210-00; AZA-20000, AZA-2000 AZA-20000

Withdramal of National Forest Sys Lands for a Recreation Complex. o Site, and a Research Rench; AZ

ACCRECY: Bureau of Land Management, Interior

ACTION: Public land order.

summery: This order withdraws 3.117.77 acres of National Forest System lands from mining for 20 years to protect significant capital improvements protest significant captes improvements and recreational and research values associated with the Parker Canyon Lake Recreation Complex, the Cerr Rern. Administrative Site and the Research

Ranch. The lands have been and will remain open to mineral lessing and surface uses authorized by the Forest

EFFECTIVE DATE: March 10, 1994.

FOR FURTHER INFORMATION CONTACT: John Meses, BLM Arisons State Office, P.O. Box 16563, Phoenix, Arizone 85011, 602-650-0509

By virtue of the authority vested in the Secretary of the Interior by section 204 of the Federal Land Policy and Management Act of 1976, 43 U.S.C. 1714 (1988), it is ordered as follows:

 Subject to velid existing rights, the following described National Porest System lands are hereby withdrawn from location and entry under the United States mining laws (30 U.S.C. Ch. 2 (1988)), but not from leasing und the mineral leasing laws, to protect the capital investments and the recreational and research values of the Parker Canyon Lake Recreation Complex, the Carr Barn Administrative Site, and the Research Runch:

Gile and Salt River Maridian

Coronado National Forest

Research Ronch

1. 21 S. R. 10 E. Sec. 28, WVs. and WVsEVs: Sec. 33, EVsNEW, and NEVsSEVs: Sec. 34; Sec. 35, let 6, WH. WHINEY.

NWW.SEWNEW WW.SWILSEWNEW. NWSWYST WSEY T. 22 S. IL 10 E.

Sec 2 lots 2, 3, and 4, NV2SWV. NWW.SEK, SWYLNEW, and SYLNWY Sec. 1. lots 1 to 4. inclusive, SVaNVa. NVINVISEN, and NVINENSWY... Sec. 4, lot 5, and SENNEY, NEW.

The areas described aggregate 2,442.04 acres in Sente Cruz County.

Parker Canyon Lake Recreation Complex

T. 23 S. R. 19 E.

Sec. 18, lots 1, 2, and lots 4 to 7, inclusive and lot 9, SWANEY, EVANWY, WANEYASEY, WARY-NEWSEY, and that portion Iving within Homester Entry Survey 291;

Sec. 19, lots 1, 2, and 1, NEWNEW, and that portion lying within Homestead Entry Survey 291.

The area described contains 655.73 acres in Cochine County.

11196

Carr Barn Administrative Site T. 23 S., R. 21 E.

Sec. 7. SEV-NEV-NWV.

The area described contains 10 acres in Cochise County.

2. The withdrawal made by this order does not alter the applicability of those land laws governing the use of the National Forest System lands under lease, license, or permit, or governing the disposal of their mineral or vegetative resources other than under the mining laws.

3. This withdrawal will expire 20 years from the effective date of this order unless, as a result of a review conducted before the expiration date pursuant to section 204(f) of the Federal Lend Policy and Management Act of 1976, 43 U.S.C. 1714(f) (1988), the Secretary determines that the withdrawal shall be extended.

Dated: February 28, 1994.

3ob Armstrong.
Assistant Secretary of the Interior.

[FR Doc. 94-5467 Filed 3-9-94; 8:45 am]
BLUNG CODE 494-48-5

43 CFR Public Land Order 7032 [AK-332-4210-06; F-60576]

Withdrawal of Public Land for Protection of the Paleoindlen Site Known as Mess Site; AK

AGENCY: Bureau of Land Management, Interior.

ACTION: Public land order.

SUMMARY: This order withdraws approximately 2,560 acres of public land from settlement, sale, location, or entry under the general land laws, and from location and entry under the United States mining laws, but not from mineral leasing, for a period of 20 years for the Bureau of Land Management to protect the archaeological, historical, and caltural resource integrity of the Paleoindian site known as Meas Site.

EFFECTIVE DATE: March 10, 1994.

FOR PURTNERS REPORTATION CONTACT: Sue A. Wolf, BLM Alaska State Office, 222 W. 7th Avenue, No. 13, Anchorage, Alaska 99513-7560, 807-271-5477.

By virtue of the authority vested in the Secretary of the Interior by section 204 of the Federal Lend Policy and Management Act of 1978, 43 U.S.C. 1714 (1988). It is ordered as follower.

1714 (1908), it is ordered as follows:

1. Subject to valid entering rights, the following described public land is hereby withdrawn from settlement, sale, location, or entry under the general land level, including the United States mining lews (30 U.S.C. Ch. 2 (1988)).

but not from leasing under the mineral leasing laws, to protect a Paleoindian site:

Umint Meridian

T. 12 S., R. 17 W., (Unsurveyed) Secs. 11 to 14, inclusive.

The area described contains approximately 2,560 acres.

2. The withdrawal made by this order does not after the applicability of those public land laws governing the use of the land inder lesse, license, or permit, or governing the disposal of their mineral or vegetative resources other than under the mining laws.

3. This withdrawal will expire 20 years from the effective date of this order unless, as a result of a review conducted before the expiration date pursuant to section 204(f) of the Federal Land Policy and Management Act of 1976, 43 U.S.C. 2714(f) (1988), the Secretary determines that the withdrawal shall be extended.

Detod: February 28, 1994.
Beb Armstreag,
Assistant Secretary of the Interior.
[FR Doc. 94-5468 Filed 3-9-94; 8.45 am]
BILING COOR 410-34-38

43 CFR Public Land Order 7033 [AK-832-4218-86; F-939474]

Partial Revocation of Powersite Classification No. 443, as Modified, for Selection of Land by the State of Alaske; AK

AGENCY: Bureau of Land Management, Interior.

ACTION: Public land order.

simmany: This order revokes a Powersite Cleasification, insofar as it effects approximately 25,834 acres of land withdrawn for power purposes at Teklanika River. The land is no longer needed for the purpose for which it was withdrawn. This action also opens approximately 19,734 acres of land for selection by the State of Alaska, if such land is otherwise available. Any land described herein that is not conveyed to the State will be subject to the terms and conditions of any withdrawal of record. The remaining approximate 5,900 acres of land will continue to be withdrawn as part of the Denail National Park and Pressave pursuant to the Alaska. National interest Lands Conservation.

SPECTIVE DATE: March 10, 1994.
FOR FURTHER INFORMATION CONTACT:
Sup A. Wolf, BLM Aleaks State Office,
222 W. 7th Avenue, No. 13, Anchorage
Alaska 99513-7599, 907-17-5477.

By virtue of the authority vested in the Secretary of the Interior by Section 204 of the Federal Land Policy and Management Act of 1976, 43 U.S.C. 1714 (1988), and by section 17(d)(1) of the Alaska Native Claims Settlement At 43 U.S.C. 1616(d)(1)(1988), it is ordered as follows:

 Powersite Classification No. 443, a modified, which withdrew land for power purposes in the Teklanika River area, is hereby revoked insofar as it affects the following described land:

Fairbanks Maridian

Beginning at a point on the Teklanika Rive latitude 63°58'08" N., longitude 149°31'48" W. All lands upstream from this point below the 2,000 foot contour located in:

a. Those portions of Tps. 12 and 13 S., Rs. 9 and 10 W., (surveyed), which he outside of the Denali National Park and Preserve. The area described contains approximately 19.734 acres.

b. Those portions of Tps. 11 S., Rs. 9, 10, and 11 W.; and Tp. 13 S. R. 10 W., (partially surveyed), which lie within the Denali National Park and Preserve.

The area described contains approximately 5,900 acres.

The total area described contains approximately 25,634 acres.

- 2. Subject to valid existing rights, the land described in section 1(a) above is hereby opened for selection by the State of Alaska under the Alaska Statehood Act of July 7, 1938, 48 U.S.C. note prec. 21 (1988) or section 906(b) of the Alaska National Interest Lands Conservation Act, 43 U.S.C. 1633(b)(1988).
- 3. The State of Aleska applications for selection made under section 206(e) of the Aleska National Interest Lands Conservation Act, 43 U.S.C. 1633(e)(1988), for the land described in 1(a) above, become effective without further action by the State upon publication of the public land order in the Federal Register, if such land is otherwise available. Land not conveyed to the State will be subject to the terms and conditions of any withdrawal of record.
- 4. The land described in paragraph 1(b) shove will remain withdrawn as part of the Denali National Park and Preserve, pursuant to Section 206 of the Alaska National Interest Lands Conservation Act, 16 U.S.C. 410(hh-5)(1988).

Dated: March 2, 1994.
Beb Assestings.
Assistant Secretary of the Interior:
IPR Doc. 94-8606 Piled 3-0-94; 8:46 amj
stume coor eyo-se-se



Arizona

State Land Bepartment



BRUCE BABBITT

1624 WEST ADAMS
PHOENIX, ARIZONA 85007

August 11, 1986

Dr. Mark R. Stromberg Resident Director/Manager - Research Ranch National Audubon Society P. O. Box 44 Elgin, Arizona 85611

Dear Dr. Stromberg:

I am pleased to inform you that on July 31st we conveyed to the Bureau of Land Management the title to the 2,342.44 acres of State Trust lands in the National Audubon Society's Research Ranch.

The land was transferred to BLM as part of our ongoing land exchange program with that agency. The transaction was part of a larger, environmentally-oriented exchange package that also included two other blocks of State Trust lands, one surrounding the Aravaipa Canyon Wilderness Area and a second within the Nature Conservancy's Mule Shoe Ranch.

In return the State Trust Fund has received BLM land parcels along the San Pedro Valley between Benson and Winkleman that have equal or better income potential from livestock grazing and development.

We are pleased to have been able to complete this exchange that has placed in public ownership, the Research Ranch lands that now can be managed by the Bureau of Land Management and the National Audubon Society in a manner to protect and utilize their public values. We appreciate the cooperation of both the National Audubon Society and the Bureau of Land Management in this effort.

Sincerely,

Robert K. Lane

State Land Commissioner

RKL:GEC:cb

ec: Governor Bruce Babbitt
Dean Bibles, BLM State Director
Les Rosenkrance, BLM Safford District Manager



DEED OF RECONVEYANCE

96-93821

For and in consideration of the granting of certain lands as authorized by the Federal Land Policy and Management Act of 1976 (43 U.S.C. 1201 et. seq.) THE STATE OF ARIZONA does herewith remise; release, quitclaim, grant, convey and relinquish to the UNITED STATES OF AMERICA its interest in the lands described as follows:

TWP.	RGE.	SEC.	SUBDIVISION	ACRES
215	18E	14	SENE; NESE; S2SE	160.00
		15	SW	160,00
		16	ATT	640.00
		20	E2	320.00
		21	ATT	640.00
		22	Lots 1-3; NW	252.44
		23	NE	160.00

The above described parcels contain a total of 2,342.44 acres, more or less.

Subject to existing reservations, easements, or rights-of-way heretofore legally obtained and now in full force and effect.

IN WITNESS WHEREOF, I, Bruce Babbitt, Governor of the State of Arizona, have caused this DEED OF RECONVEYANCE to be executed and the GREAT SEAL of the State of Arizona to be attached hereto this 31st day of July, 1986.

GOVERNOR OF THE STATE OF ARIZON.

ECRETARY OF STATE

CERTIFICATE OF NONENCUMBRANCE

I, Robert K. Lane, State Land Commissioner, of the Arizona State Land Department do hereby certify that I am the official custodian of the records of the State of Arizona pertaining to the care and disposal of School, Grant and State lands in said State in accordance with Sections 37-102 and 37-132, Arizona Revised Statutes and that I have caused an examination of the records for which I am custodian with reference to instruments affecting the title of the State of Arizona to the land described in:

Deed of Reconveyance 96-93821

and that no instrument purporting to convey or in any way encumber the title of the State of Arizona to said land, or any portion thereof, nor any lien for taxes, costs, interest or judgements is on file or of record in the public record system of the Arizona State Land Department except for the stated encumbrances:

Right of Way 18-93087

Witness my hand and the official seal of the Arizona State Land Department this 31st day of July, 1986.

ROBERT K. LANE STATE LAND COMMISSIONER

Attachment 13

#40 - ·

When recorded return to: UNITED STATES OF AMERICA c/o William J. Ruddick United States of the Interior Bureau of Land Management 2015 W. Deer Valley Rd. Phoenix, Az.85027 75005746

Policy #287-00-010531

DOCK 462 PAGE 579

WARRANTY DEED

KNOW ALL MEN BY THESE PRESENTS: that Talley Realty Development, Inc., a Delaware corporation, Grantor herein, for and in consideration of the exchange of certain land and interests as authorized by the Federal Land Policy and Management Act of 1976 (43 U.S.C. 1701 et seq.), the receipt and sufficiency of which are hereby acknowledged, does hereby convey to the UNITED STATES OF AMERICA, its successors and assigns forever, Grantee herein, that certain real property located in the County of Santa Cruz, State of Arizona, described in Exhibit "A" attached hereto and incorporated herein by this reference together with all rights and privileges appurtenant thereto.

TO HAVE AND TO HOLD the same unto the Grantee, its successors and assigns to warrant and defend the title as against all persons whomsoever.

SUBJECT TO those items set forth in Exhibit "B" attached hereto and made a part hereof.

IN WITNESS WHEREOF, this Warranty Deed has been executed this day of Tomples. 1987 day of Documber, 1987.

> TALLEY REALTY DEVELOPMENT, INC., a Delaware corporation

EXEMPT PER ARS 42-1614 A3

STATE OF ARIZONA

County of Maricopa

This instrument was acknowledged before me this ZMD day of the LICE 1987, by YOU H CONNER , the VICE FREE IN A Of Talley Realty Development, Inc., a Delaware corporation.

Atal li Notary Public

My Commission Expires:

3

DEFICIAL DEAL LINDA S. LEROY Notary . "In — State of Angered MARIGOPA COUNTY My Comm. Expires May 19, 1991

Title Accepted:

EXHIBIT "A"

DOCK 462 PAGE 580

Township 21 S, Range 18 L, ALL of Section 27, EXCEPT those parcels described in Docket 122, Page 53, Docket 184, Page 98 and Docket 200, Page 110. Santa Cruz County, Arizona.

Township 21S, Range 18E, ALL of Section 28, EXCEPT those parcels described in Docket 55, Page 89 and Docket 184, page 98. Santa Cruz County, Arizona.

A-22792 Title Accepted: 03-25-88

EXHIBIT "B"

- DOCK 462 PAGE 581

Second installment of 1987 taxes a lien payable on or before March 1, 1988 and delinquent May 1, 1988.

Reservations contained in the Patent to said land as set forth in Clause No.
this page.

1 C shown on the reverse side of

2. Any loss, claim or damage by virtue of the failure of the public records to disclose that said land has any appurtenant means of ingress and egress or any frontage to and from a public highway or dedicated street.

3. Established and/or existing roads, roadways and highways.



INSTRUMENT # 877253 OFFICIAL RECORDS OF SANTA CRUZ COUNTY A MARY LOU G. SAINZ

REQUEST OF

FIRST AMERICAN TITLE DATE: 12/04/87 TIME: 11.00 FEE: 10.00

462 PAGE 579 PAGES: 3

16-22-52-0110

MEMORANDUM OF UNDERSTANDING AMONG
THE NATIONAL AUDUBON SOCIETY,
THE REGIONAL FORESTER: SOUTHWESTERN REGION,
AND THE
DIRECTOR, ROCKY MOUNTAIN FOREST AND RANGE EXPERIMENT STATION

This Memorandum of Understanding, made and entered into by and among the National Audubon Society Research Ranch, a monprofit, tax-exempt, charitable and scientific organization established as an Arizona corporation for ecological and environmental research, education and conservation, hereafter referred to as the SOCIETY; acting in behalf of and by agreement with the Research Ranch foundation, hereafter referred to as the FOUNDATION: and the Forest Service, United States Department of Agriculture, through the Director of the Rocky Mountain Forest and Range Experiment Station, hereafter referred to as the STATION, and the Southwestern Region, which includes the Coronado National Forest, hereafter referred to as the REGION, acting under the authority established by the Agricultural Organic Act of May 15, 1862, and the Forest and Rangeland Resources Research Act of 1978, PL 95-307, 16 USC 1643.

The parties hareto are mutually interested and desire to cooperate in studies to encourage research on factors related to maintaining and improving management of Southwestern desert grasslands and to maintain the established Elgin Research Natural Area. This agreement supersedes the previous agreement with Research mange of December 16, 1970, covering management of National Forest System lands by the parties involved. In accordance with this Memorandum of Understanding, the parties hereto agree as follows:

A. That the SOCIETY SHALL:

- Submit project proposals and study plans affecting National Forest System (NFS) lands included in The Research Ranch for review and approval of the Forest Supervisor, Coronado National Forest.
- Acknowledge use of locations on the Coronado National Forest in publications resulting from studies conducted on The Research Rench, and provide copies of studies/research and resulting publications to REGION and \$14710A.
- 3. Provide for the protection, and use of an established Research Natural Area in 1, 21 5., R. 18 E., Santa Cruz County, Arizona. The Eigin Research Natural Area includes: about 140 acres of land belonging to the Floridate of Arizona' (NE2, Section 23), about 180 acres of land belonging to the Research Ranch (SE4, Section 23) and about 280 acres of NFS land (mainly in E4, Section 23). The area is bounded on the north by the north line of Section 23; on the south by the south line of Section 26; on the west by an undeveloped road, and on the east bire of Section 23 and (2) the existing allotment boundary fence in Section 26, as outlined on the attached map. Exhibit A.

- 4. Recognize and use in accord with Research Natural Area purposes land belonging to the SOLIETY that lies within the Elgin Research Natural Area during the corporate life of the Audubon Society Research Ranch, Inc., as limited by Arizona Statutes. Also, any land belonging to the State-of-Ranch Arizona that is dedicated by the Clate-to be included in the Elgin Research Natural Area will be administered in the same manner as SOLIETY lands within the Elgin Research Natural Area so long as the State-lands are controlled by or leased to the SOLIETY.
- 5. Initiate no experiments or demonstrations that involve grazing of adjacent lands unless the Elgin Research Natural Area is fenced to protect it from grazing. The expense of such fencing will be borne by the organization or individual responsible for the experiment.
- Assure that all research cooperators are provided with a copy of this agreement and that they comply with all provisions that apply to their activities.
- $\gamma_{\rm c}$. Maintain range improvements specified in map Exhibit D and identified on the following inventory:

Range Improvement Inventory and Meintenance Responsibility Research Ranch Coronaco National Poress

DAME	*: 1x=	IMP. NO.	UNITS	ASSIGNMENT
MESA TARM CARELO CHUREY FER FOREST TARM CHUREY SPR ROADSJDE WELL SOUTH WELL SOUTH WELL SOUTH FER DIN FER DIN FER CHUREY MANILA Z TRIANGLE CHUREY MESA TARM FER FOREST TARK FER CHUREY-Z TRIANGLE HARREY CHUREY HARREY CHUREY	DAN B/OR RESVOR ALCT SPAN FENCE DAN B/OR RESVOR BELVELOPED SFRING WELL, KINDMILL M.F. SDRY FENCE ALCT ENTR FENCE ALCT ENTR FENCE ALCT ENTR FENCE ALCT ENTR FENCE ALCT BRY FENCE	050001 R50001 050002 050015 000003 000004 005005 900006 005007 000010 000011 000012 000014 R00033	13 17 21 1.0 2.0 1.7 1.0 2.0 1.5	Research Ranch Canelo Fermittee Research Ranch Sawtelle Permittee

B. That the REGION shall:

 Include a portion of the Sierra Vista Ranger District, Coronado National Forest, known as the Chuney grazing allotment consisting of 2,275 acres. Inclusion of NFS lands will be subject to all provisions of this agreement.

3

- Designate indefinitely the NFS land within the Elgin Research Natural Area and maintain the withdrawal of the affected lands from mineral
- 3. With delegated authority, assume responsibility for protection and management of the NFS lands involved.
- Review and take approval action as merited on project proposals and study plans affecting the NFS portion of The Research Ranch.
- Identify The Research Ranch and Elgin Research Natural Area as management units in the Coronado National Forest Land Management Plan and provide management emphasis on the overall research program of the SOCIETY.
- 6. Place public information signs on NFS land involved and do whatever alse may be deemed appropriate for interpretation of the area and its purposes to the public.
- 7. Authorize grazing of domestic livestock in connection with research projects on the NFS portion of The Research Ranch exclusive of the Eigin Research Natural Area in accordance with applicable Forest Service regulations and policies.
- $\ensuremath{\mathsf{E}}.$ Have complete responsibility for fire prevention and suppression of fires on or threatening NFS lands.

C. That the STATION shall:

- Submit Research proposals affecting the private and State portions
 of The Research Ranch for review and approval of the Board of Trustees.
 Retain authority to conduct research on the NFS portion of The Research Ranch.
- Provide copies of study plans and resulting publications from research activities on the Research Ranch to the SOCIETY and the REGION.
- 3. Lead the effort to provide a basic acological characterization of the Figin Research Natural Area.

D. The REGION, STATION, and SOCIETY, acting on behalf of the FOUNDATION, mutually agree to the following:

- 1. National Forest System status and public use of the Federal land will not be affected or altered by participation in the programs of the SOCIETY Research Ranch. The Forest Service will retain authority and responsibility for protection and management of the National Forest area involved.
- The agreement between The Research Ranch Foundation and the National Audubon Society executed on February 2, 1980, which authorizes the SOCIETY to act on behalf of the FOUNDATION, is attached hereto and hereby made a part of this agreement as Exhibit B.

- 3. A map (1½" = 1 mile scale) showing location and lands status of The Research Ranch and the Elgin Research Natural Area is attached and made part of this agreement. See Exhibit A.
- 4. The REGION and STATION will be represented on the FOUNDATION Board of Trustees by the Forest Supervisor, Coronado National Forest, and the STATION. Through its trusteeship, the REGION and STATION will approve or disapprove all projects and studies involving use of any NFS lands by The SOCIETY Research Ranch.
- 5. Public access to and use of the NFS lands within the Eigin Research Natural Area shall not be more restrictive than set forth in guidelines contained in the Forest Service Manual (copies of pertinent sections attached as Exhibit C), and that legitimate users will not be denied access to the area by agents of either the REGION or the SOCIETY.
- 6. Project proposals involving wildlife or introduction of wildlife species not now present will be coordinated with and approved by the REGION and the Arizona Department of Geme and Fish. Introduction of exotic wild animal species will not be undertaken or authorized on NFS lands without the approval of the Fish and Wildlife Service, United States Department of the Interior.
- 7. No Number of, or Delegate to, Congress or Resident Commissioner shall be admitted to any share or part of this agreement, or to any benefit that may arise therefrom, but this provision shall not be construed to extend to this agreement if made with a componation for its general benefit.
- E. Abthing in this agreement shall be construed as obligating the STATION or REGIO. In any contract or other obligation for the future payment of money in excess of appropriation authorized by law and administratively allocated for this work.
- 9. No agreements merein provided for shall entitle the SOCIETY to any share or interest in the land other than the right to use the same under the regulations of the Forest Service.
- 10. The extension of benefits under the provisions of the Memorandum of Understanding Shall be without discrimination as to race, color, creed, sex, or national origin.
- 11. This Memorandum of Understanding may be terminated at any time by mutual consent of all parties involved or within 90 days following written notice from either the SOCIETY, the STATION, or the REGION. Unless so terminated, this Memorandum of Understanding shall remain in force indefinitely.

IN WITNESS WHEREOF, the parties hereto have executed this Memorandum of Understanding as of the last date written below.

The Audybon Society Research Ranch
Case E. Bozz

By Janu & Rock

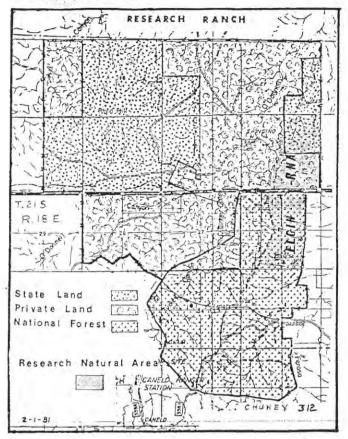
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Regional Forester, Southwestern Region

11/1/harsell Date 7/25/82-

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4063.3

SERIES 4000 - RESEARCH

4053.3 - Projection and Management. A research natural area must be projected against activities which directly or indirectly modify acological processes. If the area is to be of value for observation and research on plant and animal succession, habital requirements of species. Insect and fungus depredations, soil microbiology, phenology and related phenomena. Logging activities are not perstitled, and grazing by livestock is restricted to those areas where their until a casental for the maintenance of a specific vegicative type. Discourage recreational uses. The criterion for management of research natural areas is fur protection against inappropriate encouchements on existing condutions.

Special plasures of research natural areas may be necessary to protect such areas from actural or potential harm resulting from public use. Closures must be done by an order issued under the provisions of 36 CFR 251.50. Such orders incorporate the special closure provisions of 36 CFR 261.53 which allow for criminal clisations to be issued whenever one or more of the listed resources are endangered (FSO:5353).

deed 13 of 53531.

Identification. Identify research natural areas in the administrative records as to location, purpose, and objectives. Mask their boundaries in the field, when appropriate, to ensure integrity of the area. As a minimum, all contacts or turning points should be monumented and the monumentation documented and recorded in the establishment report. Avoid signs that stend to without arghitects, recreationates, and casual visitors. However, if roads or trails pass along the boundary or through a research natural area, limited posting may be needed to protect the area (FSM 5351). An area may be closed pursuant to 36 CFR 251.50 and criminal action taken for windstined of 36 CFR 261.53 (FSM 5353).

40(3, 12 - Fences. Research usural area boundaries should not be fenced unless necessary for protection against livestick or excessive human use. When fencing is necessary to protect an area, however, it should be budgeted and constructed in management of the area.

40(3, 33 - Publicity. Publicity, generally to professional groups at titler National, State, or university levels, is mainly to inform scientists and educators of the location, natural features, and administering agency in order to make the fullest proper use of research natural areas. A news release upon initial designation of an area may be appropriate. Publication of research natural areas directories, including detailed descriptions of features within each area, is encouraged.

601.34 - Physical Improvements. As a general guide, physical improvements such as roads, fences, or buildings should not be permitted within a research satural area. However, in many instances, limited temporary improvements may be needed if these tracts are to fulfill their scientific potential.

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7

4063, 39

SERIES 4000 - RESEARCH

Normally, however, a copperative agreement will be prepared that outlines the planned research represent will be prepared that outlines the planned research removed the limitation therefore with the research research the scientist specific that the second of the limitation with the review and approval of the Forest specific within wildernease must be submitted to the Regional Forester for approval (FSM 2)23, 00c). Forest Service actentists should cooperate in the research whenever possible to derive the greatest benefit from the work. Copies of all deta, reports, etc., resulting from research on an RNA shall be filed with the Station, Region, Forest, and Washington Office.

Collection of endangered, threatened, or rare plants must be carefully controlled. Permits must be issued by the U.S. Fish and Wildlife Service (50 CFR 17, 221. If permits are issued, a woncher sample should be deposited in the Forest Service Ferbarium at Fort Collins, Colorado. Collection of doplicate material of rare, endangered, or threatened species should be prevented once adequate material have been deposited in appropriate herbaria.

adequate material have been deposited in appropriate herbaria.

4061.18 - Verestion Management. The Station Director, with the approval of the Forest Supervisor, may authorize management practices, except within wildernesses, necessary to preserve the vegestion for which the research natural areas was created. These practices may include grazing, control of excessive animal population, or prescribed burning. Only tried and reliable techniques will be used, and then only where the vegetative type would other wise be less without management. The criterion here is that the management practice must provide a closer approximation of the vegetation and the processars, powering the vegetation than wool of vegetation management on the reliability of the techniques, then nothing should be done. Generally, planned practices for vegetation management should be surgeried in the establishment report and documented in the management plan after establishment report and documented in the management plan after establishment report and documented in the management plan after establishment species.

wacumented in the management plan after establishment.

4961.39 - Mineral Enry.

Research matural areas should be withclean from mineral entity after establishment in conformance to

Sectice 20s of the Federal Land Folley and Management Act of

1976 (2P. 49-579). However, the difficulty or resistance to establishment material entry should not be a deterrent to selection and

catablishment of desirable areas. It is better to develop a network

of research natural areas and lose a few to mineral development

than oot establish sufficient areas because of resistance to with
drawals.

- FSM 3/79 AMEND 11-

4063.15

SERIES 4000 - RESEARCH

*- Trails frequently are needed for access to conduct research and lor educational purposes. They actually may protect an area by concentrating impacts of human use. Roads often form good boundaries and may not be detirmental even if they go through a proposed area. Once an area is eastablished, construction of roads should not be permitted unless they contribute to the research natural area objectives. In rare instances, it may be desirable to establish temporary spain estaions and instrument shelters. Submit plans for improvements and/or temporary facilities the Sistion Director for approval and to the Forest Supervisor for concursence. These plans will apectifically fix the tenure of the improvement or facility and list actions to be taken, time limits for completion, and parties responsible for returning disturbed areas to a natural condition.

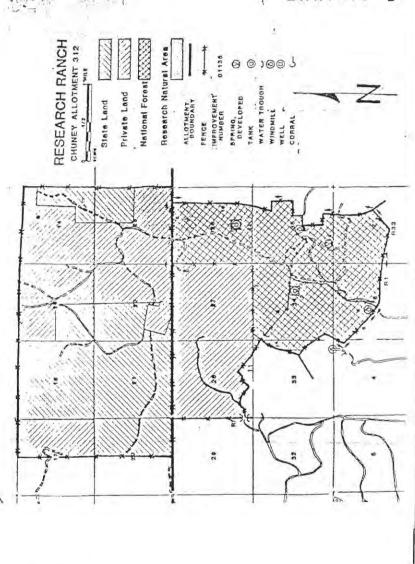
responsible for returning disturbed areas to a natural condition.

4583.35 - Protection. Specific management direction for each natural area will include protection from fires, insects, diseases, and animals. Maintenance of the natural processes within each area will be the prime consideration. Where cultural resources on, or eligible for, the National Register are likely to be involved, a memorandom of understanding or an interagency agreement with the Advisory Committee on Historic Preservation should be prepared 179A 1810. FSH 1904.111. As a general guide, three sodauger-includes the status areas about the extinguished as quickly as unless they for the process or property over the boundary of the RNA. Debts resulting from fires should not be cleaned up nor should any fire hazard reduction or reforestation be understand. Cenerally, he action should be taken against endertic innects, diseases, or wild a nimals. However, protection measures for research natural areas within Congressionally designated areas must be in accord with the management plan for this testignated area.

405.36 - Public Use. Picnicking, camping, collecting plants, Isthering nuts and berbs, picking berries, hunting, lishing, trapping, and other public uses which contribute to modification of a research natural area should be discouraged or expressly prohibited if such uses threaten serious impairment of research or educational values. Public use or access may be limited or prohibited under 36 CFR 261, 51 (FSM 5353).

4053.37 - Scientific and Educational Use. The Forest Service encourages use of natural areas by responsible scientists and educators. Generally, educational use should be at the college upper classman or graduate level. However, lower levels of educational institutions are not excluded. Any scientist interested in using a research natural area should contact the appropriate Station Director and outline the activity planned. In some instances, -*

-FSM 3/79 AMEND 31-



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COOPERATIVE AGREEMENT
between the
Bureau of Land Management
and the

National Audubon Society

Scanned on 3/17/08

1

I. PURPOSE

This agreement is designed to provide for cooperative the provide Sureau of Land Management, and the National Audubon Smith of public lands within the Appleton-Whittell Biologica. Terrail of the Research Ranch).

II. AUTHORITY

The Federal Land Policy and Management Act of 1976 (Public Lee approvides for cooperative agreements for the management of the management of the management of the second second

III. DEFINITIONS

- A. BLM means the Bureau of Land Management, an agency if the state States Department of the Interior.
- NAS means the National Audubon Society, a mations. series : organization.
- C. Public lands means Federally-owned lands administrate: 52:

IV. BACKGROUND

Research and conservation on The Research Ranch goes back to the second family and their desire to protect the natural aspects of the sets the Appletons stopped livestock grazing and began encouraging their research. Active cooperation from the Forest Service and the allowed are search. Active cooperation from the Forest Service and the allowed Land Department has resulted in the current sanctuary being entering serve as a place for biological investigations. In 1980 the Value Society assumed management of the sanctuary through funds from the Value Society assumed management of the sanctuary through funds from the Value Society assumed management of the sanctuary through funds from the Value Society assumed management of the sanctuary through funds from the Value Society assumed management for surface of Land Management became in 1986 the Burezu of Land Management became in 1986 the Surface Society acquired the state land in the sanctuary acquisition came about due to BLM's greater flexibility and activity resource management to provide for long-term research than that if its land Land Department and their sole goal of revenue production.

A biological research station, The Research Ranch has been primately like in ecological studies. With the cessation of grazing in 1969, distinguished to study and describe the land and its life forms without the initial agrazing. An exclosure of this size offers an opportunity for inverse plant and animal life to be studied. The increase in diversity the first been significant and the long-term impacts of such an exclosure tests continued long-range study. Two Federally-endangered species could be sanctuary and two others are under consideration for such status. In addition, the sanctuary hosts over 300 species of plants, 225 first 103 butterflies and 74 mammals. Since 1980, over 40 scientific papers and documented past research. Over 20 research projects are currently status.

. OBJECTIVES

The BIM and NAS are in agreement on the following objectives relating to the management of public lands in the Appleton-Whittell Biological Research

- the continuation of on-going research the encouragement of future research the derivation of mutual benefits from the research the protection of the land and its ecological communities from disturbance

VI. CONDITIONS OF AGRE_MENT

- A. The Bureau of Land Management will:
 - 1. Furnish the public land for research projects authorized by the National Audubon Society.
 - 2. Develop a Resource Management Plan (RMP) in coordination with NAS within two years after the signing of this agreement. The RMP will determine actions permissible and those not allowed on the lands and will follow the BIM policy and regulations specified for resource management planning. Following completion of the RMP, this agreement may need to be modified for consistency.
 - 3. Proceed through the planning process to designate the public land as a resusrch natural area (RNA) or other designation consistent with the objectives of this agreement.
- Close all roads and trails to vehicle traffic except as needed for administration of research projects and property management. BIM will provide appropriate off-road vehicle signs to NAS.
- 5. Provide law enforcement as necessary to carry out the objectives of this agreement.
- 6. Provide fencing material as appropriate to construct exterior boundary fences along the public land boundaries.
- 7. To ensure successful continuation of the research program, grazing will not be permitted.
- 8. Restrict mineral exploration and development.
- B. The National Audubon Society will:
- Be responsible for day-to-day management of the area within the guidelines provided by BLM.
- 2. Maintain personnel on the area on a year-round basis.
- 3. Meintain all facilities currently on public lands.
- 4. Direct and coordinate research projects authorized on the public lands.

- Provide signs necessary to mark the private property and control
 public use of the area.
- Furnish BLM with copies of research papers completed on the pub-
- Credit BLM in published research papers where public lands are used in the research.
- C. BLM and NAS will:
 - Jointly develop and install major signs identifying the Appleton-Whittell Biological Research Sanctuary.
 - 2. Jointly coordinate land management practices with the Coronado National Porest.

VII. COORDINATION

Formal and informal mentings between the designces of BLM and NAS shall be held as necessary or desirable to exchange information, coordinate activities and facilitate achieving the purpose and objectives of this agreement. As a minimum, en annual meeting will be held to discuss current and proposed research and any management problems requiring cooperative efforts.

VIII. EFFECTIVE DATE, TERMINATION AND AMENDMENTS

This cooperative agreement shall become effective when signed by the Fresident of the National Audubon Society and the Arizona State Director, Bureau of Land Management, and shall remain in effect until terminated by mutual agreement. This agreement may be terminated by either party after giving 90 day notice to the other party. Amendments or modifications to this agreement can be addressed at any time and must be approved by the designated representatives of ELM and NAS. The development and implementation of this cooperative agreement is contingent upon the availability of funding and personnel.

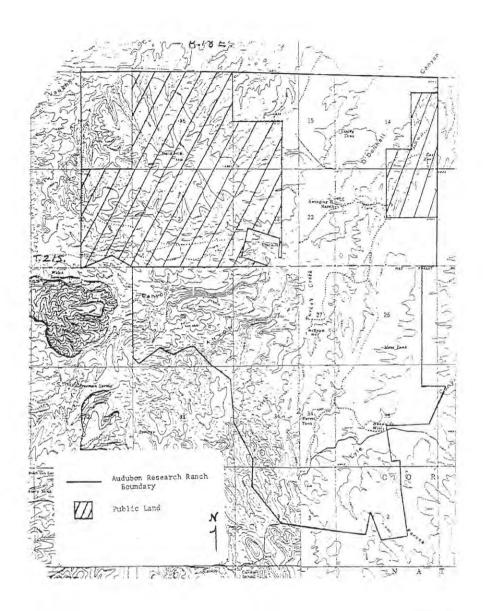
We hereby agree to the terms and conditions of this cooperative management agreement.

State Director Sureau of Land Management

President National Audubon Society

Aug 8, 1986

Ger 5, 1986



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STATE OF ARIZONA

DEED OF RECONVEYANCE

96-93821

For and in consideration of the granting of certain lands as authorized to the Federal Land Policy and Management Act of 1976 (43 U.S.C. 1201 et. set. The STATE OF ARIZONA does herewith remise; release, outclaim, grant, consequently relinquish to the UNITED STATES OF AMERICA its interest in the lands described as follows:

TWP.	RGE.	SEC.	SUBDIVISION	20155
215	18E	14	SENE; NESE; SESE	341.55
		15	SW	250.00
		7.6	AUI	542,30
		20	E2	222,00
		21	ATI	540,50
		22	Lots 1-2; NW	252.44
		23	NE	150.00

The above described parcels contain a total of 2,342.44 acres, more or less.

Subject to existing reservations, easements, or rights-of-way heretofore legally obtained and now in full force and effect.

IN WITNESS WHEREOF, I. Bruce Babbitt, Governor of the State of Arizona, have caused this BSED OF RECONVEYANCE to be executed and the GREAT SEAL of the State of Arizona to be attached hereto this dist day of July, 1986.

GOVERNOR OF THE STATE OF AREZONA

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CERTIFICATE OF NONENCUMBRANCE

I, Robert K, Lane, State Land Commissioner, of the Arizona State Land Department do hereby certify that I am the official custodian of the records of the State of Arizona pertaining to the care and disposal of School, Grant and State lands in said State in accordance with Sections 37-102 and 37-132, Arizona Revised Statutes and that I have caused an examination of the records for which I am custodian with reference to instruments affecting the title of the State of Arizona to the land described in:

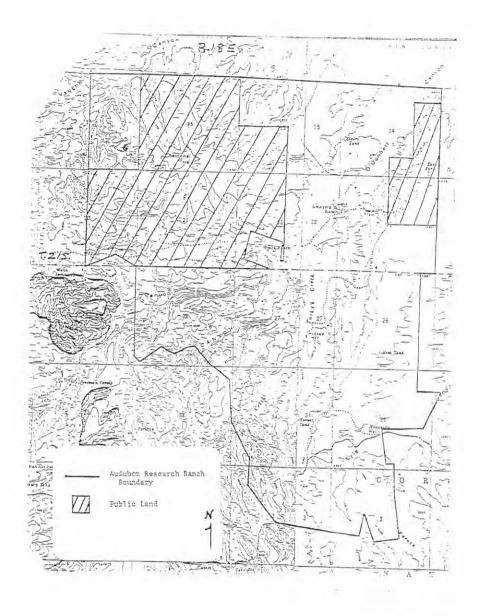
Deed of Reconveyance 95-93821

and that no instrument purporting to convey or in any way encumber the title of the State of Arizona to said land, or any portion thereof, nor any lien for taxes, costs, interest or judgements is on file or of record in the public encumbrances:

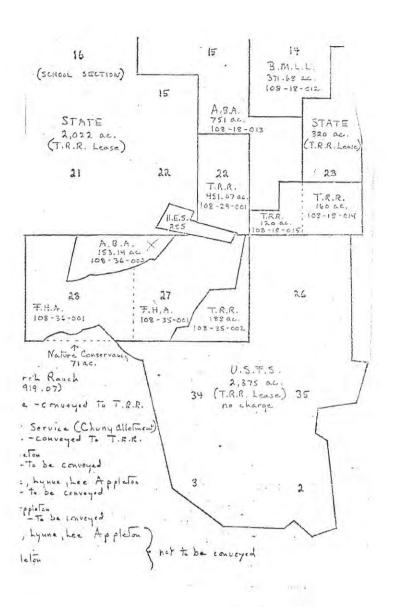
Right of Way 18-92087

Witness my hand and the official seal of the Arizona State Land Department this 31sr $\,$ day of July, 1985.

LEINE STATE LAND COMMISSIONER



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Summary of Science Projects on Appleton-Whittell Research Ranch National Audubon Society Oct 1, 2006 - Sept 30, 2007*

Survey results for mule deer, javelina and whitetail deer on the Research Ranch

Arizona Game & Fish Department; John Millican

Project: Estimate populations

Application: Analyze impacts of hunting, climate on populations

Status: Ongoing, annual.

Endangered Pupfish in Finley Tank

Arizona Game & Fish Dept.

Subject: Monitor and protect population of pupfish introduced into ranch stockpond

Application. Conserve native species

Status: Tank reported dry in June 2006. Confirmed via fly-over, May 2007. See also Eschelle.

Survey of Gould's Turkeys near Huachuca Mountains

Arizona Game & Fish Department; John Millican;

Project: Estimate populations

Application: Track success of re-introduction effort

Status: Ongoing. Most recent survey - May, 2007. None seen. See also "Wild Turkeys at ARR, ARR staff projects."

Avian Monitoring for ARR IBA

Audubon staff: Tice Supplee, Aud AZ Director of Bird Conservation, L Kennedy, Director, C. Hass, Assistant

Director.

Project: Establish transects to monitor bird species on ARR Application: Support IBA nomination, examine longterm trends Status: Established transect on East Mesa, conducted survey 3X

Christmas Bird Count - Appleton-Whittell Circle

Audubon staff and volunteers

Subject: Conduct bird count as per Audubon standards.

Application: Pooled data yield important information re avian populations, movement and trends.

Status: First Sanctioned CBC on 12 23 2006 - 129 species.

Depth to Groundwater

Audubon staff and volunteers

Project: Monitor the depth to groundwater of the wells on ARR.

Application: This study helps establish a water consumption baseline for the Sonoita Valley.

Status: Ongoing, 10 wells monitored quarterly by volunteers,

Ecological Site Monitoring (ESM)

Audubon Staff: Linda Kennedy, Director

Project: Establish permanent points to monitor vegetation change. Based on Ecological Site Map (Robinett &

Breckenfeld)

Application: Identify trends in vegetation change

Status: 10 transects sampled in fall 2006. Currently ongoing for 2007.

Gould's Turkeys at ARR

Audubon Staff: Linda Kennedy, Director

Project: Record sightings of wild turkeys on AWRR.

Application: Document spread of sub-species reintroduced in Huachuca Mtsn.

Status: Ongoing. Two toms, at least 3 hens - late May, 2007. Participated in AZG&F field survey.

Inventory of Small Mammals on AWRR

Audubon Staff: Christine Hass, Assistant Director and volunteers.

Project: Document species of small mammals on AWRR

Application: Determine presence/absence of rodents, photos as vouchers.

Status: Periodic live-trapping, summer and fall, 2007.

Photo-herbarium

Audubon Staff: Linda Kennedy, Director

Project: Document life stages of plant species found on the Research Ranch. Application: Baseline information for future research; Aids identification.

Status: Ongoing, Potential to expand project into related area via outside funding source.

MAPS (Mapping Avian Productivity and Survivorship)

Audubon Staff: Christine Hass, Assistant Director

Project: MAPS station established under guidelines of continent-wide program to provide critical conservation and management information for populations of landbirds breeding within the United States and Canada. Post Canyon is one of over 500 stations. Birds are mist-netted, recorded, banded and released.

Application: Increases knowledge of landbirds breeding within the US and Canada

Status: Started fieldwork in May, 2007.

Tracking Carnivores with Remote Sensing Cameras

Audubon Staff: Christine Hass, Assistant Director Project: Detect and document species on Research Ranch.

Application: Determine patterns of movement, presence, identify individuals

Status: 2007: Camerus on site in O'Donnell, Clark (2), Post. Documented Ringtails for first time on ARR!

Do Exotic Invasive Plants Have Higher Productivity Than Natives?

Baker, Priscilla (Field leader), Alan Knapp (PI). Colorado State University. Project: Elucidate trends in relationship of native and invasive NPP and litter quality over range of herbaceous communities and ecosystems in West & Mid-west US.

Application: Predict which habitat types at risk of invasion.

Status: Ongoing. Plots established in July/August 2005. Conducted research in summer & fall 2006.

Response of rodents, birds, and vegetation to the Ryan Fire, Sonoita Valley, AZ -a unique opportunity to examine the ecological consequences of fire in grassland/savannas of the Arizona Borderlands

Bock, Carl, E., (University of Colorado), Linda J. Kennedy (Audubon)

Keywords: wildfire, Mearn's quail, grazing, biodiversity, exotic grasses

Application: Help land managers predict response of species to large scale rangeland fire

Status: 2007: Field work complete as per grant agreement, but Jones/Kennedy continuing to trap small mammals as populations have not stabilized (Fall 2006, Summer 2007). Several publications in print.

Distribution and Genetic Status of Slevin's Bunchgrass Lizard at the Appleton-Whittell Research Ranch

Bridgers, Nakiesha; Dr. Christian d'Orgeix. Virginia State University.

Project: Resurvey census area of Scoloporus slevini to determine rate of population recover at ARR. Obtain S. slevini tail tips to examine genetic material.

Application: Determine current status of bunchgrass lizards on Research Ranch. Status: Field work June-July 2007.

Assessing indicators of rangeland health with remote sensing

Buono, Jared L., Dr. Phil Heilman; USDA-ARS

Project: Quantify Lehmanns (Eragrostis lehmanniana) cover with remote sensing.

Application: "use remote sensing to perform landscape scale assessments of rangeland health with minimum amount of field data collection"

Keywords: Soil and site stability, hydrologic function, biotic integrity

Status: Field trip 4 15 2007 Using Sandy Loam Upland as reference area.

Using soil moisture to assess ecosystem function following exotic lovegrass invasion in semiarid grasslands of southeastern Arizona

Cross Anne F., Ph.D.; Alexander G. Fernald, Ph.D.

Project: Measure soil moisture under Plains lovegrass (Eragrostis intermedia), a native species, and Lehmann lovegrass (E. lehmanniana), an exotic species.

Application: Determine whether a semiarid grassland retains its functional integrity following the invasion of an introduced, exotic grass.

Status: Fernald has taken charge of project. Field work ongoing - Fall 2006.

Current Distribution and Status of Slevin's Bunchgrass Lizard, Sceloporus slevini, in southeastern Arizona d'Orgeix, Christian, Ph.D.; Virginia State University; Nakiesha D. Bridgers, Virginia State University

Project: Survey for bunchgrass lizard. Collect tissue for DNA analysis (tip of tail - no take) to compare intrapopulation and interpopulation genetic variance.

Application: foundation for determining genetic relatedness of different populations and effects of bottlenecks on populatio

Status: Field work June-July, 2007.

Survey of Appleton-Whittell Research Ranch Drainages and Ponds for the Mexican Garter Snake

d'Orgeix, Christian, Ph.D., Virginia State University

Project: Survey for presence of Mexican garter snakes on ARR (Telles tank, O'Donnell Canyon, Post Canyon), and conduct long-term study of population at Finley tank.

Application: Management implications for species of special concern (AZGF)

Status: Field work commenced, June-July 2007.

Microsatellite DNA survey of desert pupfish

Echelle, Anthony A., Oklahoma State University

Project: Assess genetic status of desert pupfish refugium populations and develop management protocols for exchange of genetic material among populations.

Application: A conservation genetics protocol will be developed for long-term maintenance of desert pupfish populations.

Status: Report/publications to come. Verbal communication from USFWS (April 2007): 1.D.d as Quitobaquito.

Finding effective strategies for adding native diversity into heavily invaded grasslands

Fehmi, J.S., Ph.D., University of Arizona

Project: Re-introduce native plants into areas dominated by naturalized, non-native plants

Application: Increase proportion of palatable native plants Status: Research ongoing. Periodic field assessments.

Introduction of Species Diversity into Boer Lovegrass Monocultures

Hershdorfer, Mary and Ramona Gardner, Ph.D., USDA-NRCS

Project: Determine effectiveness of various methods to increase native biodiversity into monoculture created by non-native loveerass.

Application: Protect native grasslands

Status: Established summer 2006, results monitored regularly.

Native Fish Restoration at O'Donnell Creek

Jakle, Marty, U.S. Fish and Wildlife Service

Project: Remove non-native, aggressive green sunfish from O'Donnell Creek to protect native species: Gila chub, Sonora (Gila) sucker, long-fin dace and Chiricahua leopard frog.

Application: Protect native species (listed, or of special concern)

Status: Reports from AZGF indicate a successful effort. Periodic Site surveys.

Meteorological Station

Keefer Tim, Hydrologist, USDA-ARS

Project: Station jointly owned by ARR & USDA

Application: Baseline information on climate available to researchers and land managers of reion

Status: Radio-linked to USDA computer in Tucson (see also Cross/Fernald).

DOE-Ameriflux QA/QC Site Comparison

Loescher, Oregon State University

Project: Enhance data quality and assurange of site instrumentation. Provide national standard toward existing measurements.

Application: Enhance long-term monitoring of climate and abiotic variables that may affect future populations. Status: On site, summer of 2007. Publication will be submitted to Nature.

RANGES

Marsett Robin, Dr. Sharon Biedenbender, Dr. Phil Heilman; USDA-ARS; Dr. Jaiguo Qi, Michigan State University.

Project: Developing the means to use remote sensing products using the Landsat TM imagery to assess production and degradation issues on rangeland.

Application: Land management, promotes pro-active measures to sustain rangeland health

Status: Initial project completed; Marsett continues to collect field data, as does Heilmann and Jerod Buono.

Species richness of southeastern Arizona grasslands and oak savannas at different scales

McLaughlin Steven P., Ph.D., University of Arizona, Janice E. Bowers.

Keywords: grassland, savanna, spatial scale, species richness

Project: Describe and evaluate patterns of species richness in grassland and oak savanna in southeastern Arizona

Application: Baseline information. comparison to other habitats

Status: Field trip, fall 2006. Report (AZ G & F) on file. Publication (Western North American Naturalist received) 2006.

Long-term meteorological, evaporation and carbon flux measurements

National Oceanic & Atmospheric Administration (NOAA); Tilden P. Meyers. Ph.D.,; John Hughes.

Subject: "Establish a Climate Reference Network site – to characterize the water and carbon balance for typical ecosystem for arid southwest grasslands.

Application: These data will be used to improve the current land use models for climate change."

Status: Site commissioned in 2004 and active. Data available at: http://www.ncdc.noaa.gov/oa/climate/uscrn (data/observation)

Pre-monsoon post-fire sediment survey

Nichols Mary, Ph.D., Hydraulic Engineer, USDA-ARS,

Subject: Survey several stock tanks on ARR to determine level of sediment movement after monsoon. Ground cover lost due to Ryan Wildfire.

Application: Predict one factor in rangeland health post fires.

Status: Surveyed, summer 2007.

Long-term wildlife monitoring using trained volunteers and track transects

Sky Island Alliance. Skroch Matt, Janice Przbyl;

Project: Identify at-risk landscape linkages and conduct long-term wildlife monitoring and data collection. Application: Guide local and international management decisions for linkage, core area, and species protection. Status: Field trips w/volunteers.

Long-term effects of fire on Cacti

Thomas, Peter, Keele University.

Project: Monitor the effect of fire on long-term population dynamics of small species of cacti.

Application: Explain irregular distribution of cacti in Arizona

Status: Resurveyed sites, October 2006.

Research and reintroduction effort for Huachuca Water Umbel Titus, Jonathan H., Ph.D., SUNY-Fredonia, Priscilla Titus.

Project: Transplant plugs and monitor success

Application: Protect listed species, aid in development of recovery plan for species.

Status: Monitored in 2006. Publication accepted. Expanded survey to include Babacomari Ranch.

Inventory of Native Plant-Feeding Insects that have Colonized Introduced African Lovegrasses (Eragrostis spp.) in Arizona

Wheeler, Alfred G, Ph.D., Clemson University, Clemson.

Project: Collect insects that feed on Eragrostis spp. and other grasses to identify species, and compare species composition with collections from NM, OK and TX.

Application: Baseline information on species occurrence and host plants

Status: Project expanded to cover additional plant taxa. Publications received & in prep; 3-4 species new to science. Plans annual trips. May & August 2007.

^{*} Does not include long-term or repeat projects unless field work was conducted within this time frame.

Publications Received Oct 1 2006 through Sept 30, 2007 Associated with the Appleton-Whittell Research Ranch National Audubon Society

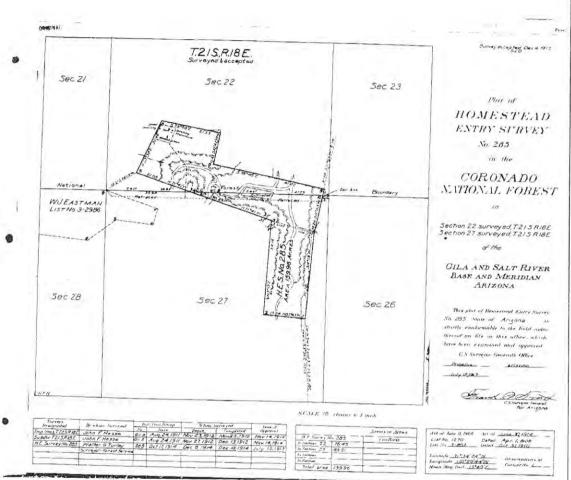
2006

- Bock, C. E., Z.F. Jones, and J.H. Bock (2006). "Grasshopper Abundance in an Arizona Rangeland Undergoing Exurban Development." Rangeland Ecology & Management 59(6): 640-647.
- Bock, C. E., Z.F. Jones and J.H. Bock (2006). "Abundance of Cottontails (Sylvilagus) in an Exurbanizing Southwestern Savanna." The Southwestern Naturalist 51(3): 352-357. Bock, C. E., R. A. Bailowitz, D.W. Danforth, Z.F. Jones; J.H. Bock (2006). "Butterflies and
- exurban development in southeastern Arizona." Landscape and Urban Planning (1377):
- Bock, C. E. Z. F. Jones and J. H. Bock. (2006). "Rodent Communities in an Exurbanizing Southwestern Landscape (U.S.A.)," Conservation Biology 20 (4): 1242-1250.
- DeBano, S. J. (2006). "Effects of livestock grazing on aboveground insect communities in semiarid grasslands of southeastern Arizona." Biodiversity and Conservation (2006) 15 (Spring): 2547-2564.
- Dreiling, L. (2006). "Grasslands aren't just for raising cattle, researcher says." High Plains Journal 123 (44): 2B-3B.
- Hass, C.C. and J.W. Dragoo. (2006). Rabies in hooded and striped skunks in Arizona. Journal of Wildlife Disease 42(4):825-829.
- Marsett, R. C., J. Qi, P. Heilman, S.H. Biedenbender, M.C. Watson, S. Amer, M. Weltz, D. Goodrich, and R. Marsett (2006). "Remote Sensing for Grassland Management in the Arid Southwest." Rangeland Ecology & Management 59(5): 530-540.
- McLaughlin, S. P. and J. E. Bowers (2006). "Plant Species Richness at Different Scales in Native and Exotic Grasslands in Southeastern Arizona." Western North American Naturalist 66(2): 209-221.
- Ruth, J. M. (2006). Abstract & Presentation: Abundance and Distribution of Arizona Grasshopper Sparrow (Animodramus savannarum ammolegus): current and historical surveys. NOAC Conference. Vera Cruz, Mexico
- Supplee, T. (2006). Identifying Arizona's Important Bird Areas. Arizona Wildlife News; 29-31. Thomas, P. A. (2006). "Mortality over 16 years of cacti in a burnt desert grassland." Plant
- Ecology 183: 9-17. Titus, P. (2006). "Umbeling Onward." Clintonia 21(2): 10-11.
- Wheeler, J., A.G. (2006). "Prairiana Orizaba Ball and Reeves (Hemiptera: Cicadomorpha: Cicadellidae), Colonist of the Introduced African Bunchgrass Eragrostis curvula (Poaceae), with notes on the use of Little Bluestern, Schizachyrium scoparium (Poaceae), By P. Kansana (Ball)." Proceedings of the Entomological Society of Washington 108(4): 868-877.

2007

- Bock, C. E., Z.F. Jones, and J.H. Bock (2007). "Relationships between species richness, evenness, and abundance in a Southwestern Savanna." Ecology 88 (5): 1322-1327.
- Bock, C. E., L. Kennedy, J.H. Bock, and Z.F. Jones (2007). "Effects of fire frequency and intensity on velvet mesquite in an Arizona grassland." Rangeland Ecology and Management 60: 508-514.

- Bock, C. E., L. Kennedy, J.H. Bock, and Z.F. Jones (2007). "Spread of non-native grasses into
 - grazed vs ungrazed desert grasslands. <u>Journal of Arid Environments</u> 71: 229-235. Bock, C. E., J. H. Bock, L. Kennedy, and Z.F. Jones (2007). "Response of summer birds to wildfire in grazed vs ungrazed grasslands in southeastern Arizona." Abstract & Presentation. Annual Meeting of the American Ornithologists Meeting. Laramie, WY. August.
 - Hass, C. C. and J. W. Dragoo. (2007). Abstract & Poster: "Distribution and habitat affiliations of 4 species of skunks (Mephitidae) in Arizona and New Mexico." 87th meeting of the American Society of Mammalogists, Albuquerque, NM., Albuquerque, NM.
 - McGee, R. (2007). Abstract & Poster for the 60th Annual Meeting of the Society for Range Management: Validating Three Monitoring Methods as Indicators of Runoff and Erosion. Society for Range Management Managed Rangelands: Traditions & Transitions. Reno/Sparks, NV, SRM: #282 (Pg 53).
 - McLaughlin, S.P. and J. E. Bowers. (2007). Effects of exotic grasses on soil seed banks in southeastern Arizona grasslands. Western North American Naturalist. 67:2006-218.
 - Ruth, J.M., C.E. Gordon and T.R. Stanley (2007). Abstract & Presentation: "Wintering birdhabitat associations and responses to grazing in Arizona semidesert grasslands." American Ornithologists' Union annual meeting, Laramie, WY, 11 August 2007.



Appleton-Whittell Research Ranch of the National Audubon Society

2023 Annual Report



A living laboratory focused on research, conservation, and engagement, the Appleton-Whittell Research Ranch of the National Audubon Society facilitates the science and organizes the community needed to protect and enhance the grasslands of southeastern Arizona and beyond.

We are pleased to provide you with this report highlighting important accomplishments including:

- Stewarding 8,000 acres of grasslands, oak woodlands, and riparian corridors
- Implementing new and innovative programs that engage the public in hands-on conservation and relaunching classic Research Ranch programming not seen since before the Covid-19 pandemic
- Developing new partnerships with neighboring landowners, conservation organizations, and communities of practice
- Hosting yet another successful season of on-site research

Audubon

Appleton-Whittel Research Ranch

Northern Harrier. Photo: Deborah Roy/Audubon Photography Awards.



The Huachuca Mountains viewed from the Research Ranch.
Photo: Steven Prager/Audubon Southwest.

Stewarding the Appleton-Whittell Research Ranch

Safeguarding a Critical Landscape

The Research Ranch is a rare example of still intact southeastern Arizona grasslands. With nearly 8,000 acres of this vastly diminished habitat type in our care and with Audubon priority birds like American Kestrel, Cassin's and Grasshopper sparrows, and Chihuahuan Meadowlark relying on its continued protection, preserving the ecological and research values of the Research Ranch is core to our mission.

A Little Water Goes a Long Way

Heavy winter rain in late 2022 was met with jubilation despite the management challenges it brought our way. Leaky roofs and deteriorated roads demanded our attention, but it was the response of the Ranch's most famous amphibian, the federally threatened Chiricahua leopard frog, that really stole the show. With ample water on the landscape, these frogs were able to expand beyond their original release locations and for the first time are being observed elsewhere on the Research Ranch. Unfortunately, American bullfrogs, an invasive species that poses a serious threat to our native

amphibians, were also able to take advantage of the situation. An immense effort by Research Ranch staff and collaborators was necessary to eradicate these invaders, but we were ultimately successful – underlining the unpredictable nature of managing the Research Ranch and our team's ability to conquer every challenge.

Saving Seeds for an Uncertain Future

Invasive plants are ubiquitous across western grasslands, often forming monocultures that exclude native species. Such monocultures are prone to blights and die-offs (i.e. bananas), and a common concern among grassland ecologists is that if such a scourge were to ever wipe out these monocultures, we'd be left without a native seed stock with which to facilitate restoration. That is why for 20 years we have worked to maintain a 350-acre almost entirely native patch near Research Ranch headquarters. While the work is extremely laborious, this patch may one day prove critical to the future of southeastern Arizona's grasslands, and maintaining that potential is well worth the effort.



Arizona State University herpetology field trip. Photo: Adam Stein/Arizona State University.

Engaging the Community in Conservation

A Center for Conservation Action

The Research Ranch may be remote, but we depend on community. This year was marked by the return of programming that was put on hold during the Covid-19 pandemic as well as the beginnings of new offerings that give people a chance to engage hands-on with our conservation efforts. With nearly 900 volunteer-hours contributed this year and packed rooms for every event, we are forever grateful to those who brave our long, bumpy road to contribute to our mission.

The Return of Potluck Presentations

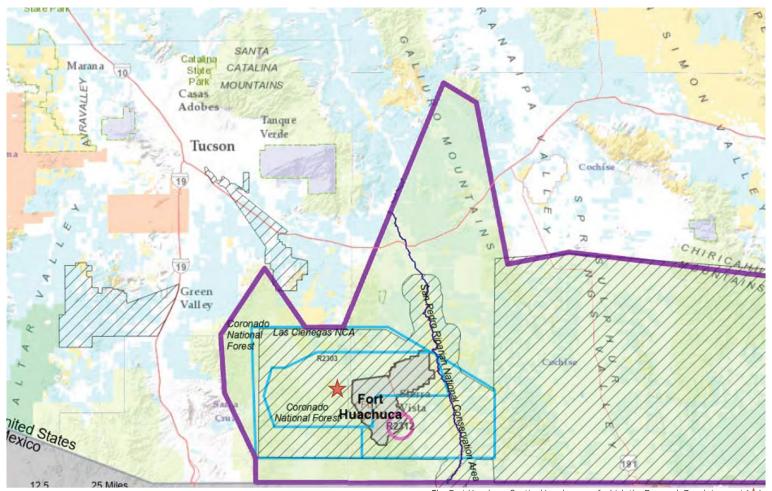
Once a month from January through May, we invite our followers to join us for a session of *Living Gently on The Land*, a combination between a community potluck and a conservation presentation focused on ways we can all be better to our non-human neighbors. The program had to be put on hold during the Covid shutdowns, but it only made our audience more excited to participate when the program returned this year. Presentation topics ranged from our tiniest desert springsnails to towering Emory oaks, and not one of our participants

ever left hungry. Keep an eye out for an announcement about next year's events.

Bringing Regional Programming to the Ranch

Audubon Southwest's Conservation Workdays are well known in the Phoenix area, but this year was the first in which the program made its way this far south. Putting a very Research Ranch twist on this familiar offering, we put volunteers to work transforming a management conundrum into promising conservation science.

Workday volunteers helped us and Phoenix-based Rattlesnake Solutions install two artificial rattlesnake overwintering dens, allowing us to seal off problematic dens under the foundations of our staff and researcher housing units without worrying about leaving animals out in the cold. From here, we will be capturing snakes returning to these now-closed dens and relocating them to their new volunteer-built winter homes, and Rattlesnake Solutions will be working to monitor the moved animals. If successful, this work could serve to inform rattlesnake conservation efforts well beyond the boundaries of the Research Ranch.



The Fort Huachuca Sentinel Landscape, of which the Research Ranch is a part (★).

Photo: Fort Huachuca Sentinel Landscape/Department of Defense.

Collaborating Around Shared Goals

Conservation Beyond Our Fences

8,000 acres may sound like a huge area, and in many ways, it is. Our Sacaton plains rival most in the region, even the biggest herds of javelina can vanish into the grassy hills, and it is a long, long walk for anyone checking our most distant precipitation gauges. However, for the resident and migratory birds we seek to protect, it is not enough. To be successful, we must think beyond the borders of the Research Ranch. Fortunately, we are not alone in our collaborative thinking.

Collaborating at Scale

The Research Ranch sits within the jurisdictions of several watershed and landscape-scale conservation coalitions, and we have made it a priority to participate. Currently, Research Ranch staff are active members of several collaborative efforts including the Las Cienegas National Conservation Area Bio-Planning Team, the Upper San Pedro Watershed Partnership, and the Fort Huachuca's Conservation Planning Committee and Sentinel Landscape Restoration Partnership.

Priority Birds Tell the Story

In, March of 2022, the Research Ranch became the home of the first Motus (Latin for "movement") station in Arizona. This station, a small radio receiver capable of detecting passing birds wearing tiny radio transmitting tags, was born out of collaboration. Installed by the Bird Conservancy of the Rockies, it was put in place to serve as one of the westernmost stations in their ongoing studies of wintering Chihuahuan grassland birds. Science is always full of surprises though, and this year the station told an unexpected story.

On August 10th, a Western Yellow-billed Cuckoo, tagged and affectionately named "Hummus" by biologists with the Southern Sierra Research Station at Audubon's Kern River Preserve in California, <u>was detected on the Research Ranch</u> as it travelled south to its wintering grounds. Along the way, Hummus passed through at least six protected areas including restoration sites along the Colorado River. Thank you, Hummus – you have shown the value of collaborating across the landscape better than we ever could have without you!



Researchers from Phoenix-based Rattlesnake Solutions mark a western diamondback rattlesnake prior to relocation.

Photo: Bryan Hughes/Rattlesnake Solutions.

Enabling Conservation Research

We're Not Only About the Birds

What do hawkmoth caterpillars, Slevin's bunchgrass and ornate tree lizards, kissing bugs, Chihuahuan grassland birds, American bullfrogs, Chiricahua leopard frogs, Azure Bluebirds, Western Yellow-billed Cuckoos, Emory oaks, rare and endangered plants, groundwater, and soil eDNA all have in common? They were all the subject of study on the Appleton-Whittell Research Ranch in 2023! While we cannot take credit for the science facilitated by our visiting researchers, we can (and do) celebrate it loudly.

A Common Thread

The questions investigated on the Research Ranch are always diverse, but themes begin to develop in the face of high-level conservation challenges. With research questions asked this year including "how are rising temperatures and increased aridity affecting our native lizards?" and "what factors are behind observed declines in Emory oak recruitment?", the theme in 2023 was clear – climate change. As efforts are undertaken to mitigate the worst impacts of these global shifts, we are thrilled

to be able to help facilitate the science that will inform the work.

The Next Generation of Conservation Scientists

Each year, the Research Ranch offers three fellowship opportunities to students hoping to conduct on-site, conservation related research. This year, we were excited to award fellowships to Adriana Garcia Rivera and Mia Brann of Northern Arizona University and Matt Jenkins of the University of Arizona. Learn more about the work of our 2023 Research Ranch Fellows here.

These fellowships are not just a tool for us to use in furthering conservation science, but they are also an opportunity to support and elevate young scientists of identities historically excluded from science and conservation. We look forward to expanding upon this effort in 2024, and we are already excited to celebrate our next round of student fellows.

2023 Research Summary

While we work hard to create education and hands-on-conservation opportunities for those looking to become involved with the work of the Research Ranch, research will always be our primary focus. As a controlled field research station, we are able to facilitate the work of the next generation of scientists and encourage the investigations needed to inform future conservation. Read on to learn more about this year's efforts and to dig into publications resulting from past work.

2023 Projects on the Research Ranch

(Did you conduct research on the Research Ranch in 2023 that is not represented below? Let us know by reaching out to researchranch@audubon.org.)

• Audubon Southwest: Western Yellow-billed Cuckoo Survey

The Western Yellow-billed Cuckoo was listed as a threatened species under the Endangered Species Act in 2014, and since 2015 we've been surveying for this imperiled bird within the riparian areas and oak woodlands of the Research Ranch. This year's effort was limited with only Post and Lyle Canyon transects surveyed, but we are looking forward to expanding the effort in 2023. Reports were provided to the Arizona Game and Fish Department and U.S. Fish and Wildlife Service and are available upon request.

• Audubon Southwest/Arizona Important Bird Area Program: Grassland Sparrow Surveys

The Research Ranch's designation as an Important Bird Area (IBA) is in part because of a suite of breeding grassland sparrows – Botteri's, Cassin's, Grasshopper, Rufous-winged, and others. To monitor these priority birds and to track differences between the Ranch and adjacent working lands, we survey each year three point-count transects, two on the Research Ranch and one on the adjacent Babacomari Ranch. Data and our most recent (2016) ten-year summary are available upon request.

• Audubon Southwest: Appleton-Whittell Christmas Bird Count

Each year in early January, the Research Ranch contributes to the annual Christmas Bird Count, North America's longest-running community science project, by coordinating and facilitating the Appleton-Whittell count. The effort takes the form of a 15-mile diameter circle with groups of volunteers recording all birds heard and seen within their preassigned area, and the results serve both to track trends in southeastern Arizona's wintering bird populations and to inform our conservation efforts. Check out this year's and past years' results here.

• Christian D'Orgeix – Virginia State University: Testing Hypotheses of Genetic Variance, Metabolism, and Lizard Extinction Patterns Based on Elevation

Global climate change is predicted to cause a worldwide 39% extinction rate of local lizard populations, and extinction rates of Mexican and southeastern Arizona *Sceloporus*, or spiny lizard, species may reach as high as 58% by 2080. Additionally, it is hypothesized that high elevation species will become extinct more rapidly because of their inability to move uphill to escape rising temperatures. Through the study of *Sceloporus* lizards including Slevin's bunchgrass, Yarrow's spiny, and striped-plateau lizards, this investigation hopes to look into questions surrounding these hypotheses such as if climate change is influencing the size of these animals, whether or not high and low elevation populations of the same species are adapted to their particular environments morphologically and physiologically or if these factors are genetically fixed, and if sympatric species react similarly to environmental disturbances such as fires, drought, and climate change.

• Renee Duckworth - University of Arizona: Characterizing Variation of Azure Bluebirds

The Azure Bluebird (*Sialia sialis fulva*) is a subspecies of the Eastern Bluebird, and this study seeks to better understand the extent of divergence between it and its eastern counterparts. By assessing genetic, morphological, and behavioral traits and comparing findings to prior studies of other subspecies in this group, Dr. Renee Duckworth and her students hope to determine whether Azure Bluebirds are sufficiently unique to warrant higher-level taxonomic status and to understand the mechanisms underlying their divergence from other *Sialia* populations.

• Bryan Hughes - Rattlesnake Solutions: Experimental Relocation of Rattlesnake Overwintering Dens
To assess the usefulness of the two artificial rattlesnake overwintering dens installed on the Research Ranch this

year, Rattlesnake Solutions and Research Ranch staff are now actively capturing, photographing, relocating, and monitoring snakes observed returning to the now-closed historic den sites beneath buildings on the Research Ranch. Future efforts will include both more rigorous mark/recapture methodology and more in depth monitoring of conditions at and snake usage of the artificial dens.

• Linda Kennedy and Dan Robinett: Upland (Ecological Site) Vegetation Monitoring

Starting in 2003, twenty-three vegetation transects have been established throughout the Research Ranch, based largely on Ecological Sites mapped by USDA-Natural Resource Conservation Service. These transects are positioned on all major ecological sites, at least one is on land administered or owned by each partner of our landowning partners, and at least one is within our invasive grass treatment area. Ranch staff and volunteers read the transects in the fall to capture the status post monsoon. These transects identify trends in vegetation and ground cover, provide support for research projects, are used by agencies as reference areas, serve as training venues, and yield information for education and outreach efforts. Most recently, Linda Kennedy and Dan Robinett incorporated results from several transects into an invited presentation on grasslands for the Tucson Chapter of the Arizona Native Plant Society, available on their YouTube channel.

Richard F. Lance – U.S. Army Engineer Research and Development Center: eDNA Bioindicators of Soil Provenance

There is likely a wealth of environmental information that can be obtained from soil environmental DNA (eDNA). However, for eukaryotic taxa, the reservoir of environmental information represented by soil eDNA is largely undescribed. This project is focused on understanding patterns in eukaryotic eDNA in soil and the degree to which these patterns can be used as bioindicators for soil ecological affiliations and points of origin. Soil collected on the Research Ranch this year will be used as test samples for evaluating developing soil classification models, and results may contribute to eventual soil eDNA capabilities useful in natural resource management and conservation.

Matthew Lattanzio - Christopher Newport University: Evolutionary and Ecological Responses of Lizard Populations to Natural and Human Induced Changes in Environmental Conditions

Through field and lab-based study of several southwestern lizards, this work aims to further our understanding of how species interact with their environments, how key evolutionary and ecological processes contribute to those interactions, and how they have responded to natural and human-caused changes in environmental conditions such as those resulting from grazing, prescribed fire, urbanization, and climate change. Results from these studies will provide valuable information to land managers and conservationists interested in the consequences of environmental changes for biodiversity.

Andrew Salywon – Desert Botanical Gardens & Ron Tiller/Arizona Department of Environmental Quality: Groundwater Monitoring

This project monitors three shallow groundwater wells installed in the late-1990's. These wells are located in the bottomlands of Post and O'Donnell canyons, two of the Research Ranch's primary drainages, and were initially installed to understand the water requirements of the bunchgrass big sacaton (*Sporobolus wrightii*) and its namesake floodplain grasslands. Now, however, these wells are helping to understand how groundwater levels respond to precipitation, stormflows, drought, and extreme temperatures. In June 2015, all three wells were outfitted with transducers to measure water levels at 30-minute intervals. Since then, the project has accumulated an almost continuous record of water levels.

Arthur Woods - University of Montana and Jon Harrison - Arizona State University: The Causes and Consequences of Color Polyphenism in Manduca Caterpillars

Manduca sexta caterpillars exhibit remarkable color polyphenism: while most caterpillars remain green in color throughout their development, some turn dark brown to black. Through the study of these caterpillars across varied sites and habitats, this investigation hopes to reveal what about their environments the caterpillars are perceiving, how they perceive it, how the information is transduced into morphological, physiological, and/or behavioral change, and what the consequences of these changes are to individuals in their particular habitat.

• Louisa Messenger - University of Nevada: Kissing Bugs

In parts of Latin America, Chagas disease, a parasitic infection transmitted by triatomine bugs (Hemiptera;

Reduviidae; Triatominae - AKA "Kissing Bugs"), affects as many as six to eight million individuals and kills as many as 50,000 people annually. The etiological agent, Trypanosoa cruzi, is distributed from the Southern United States to Argentinean Patagonia, but not all kissing bugs are made equal in their likeliness to transmit the disease. Through the collection of these bugs by community scientists and investigations of T. cruzi infection prevalence and genetic diversity and triatomine bug genetic diversity, bloodmeal preferences, and microbiome composition, researchers hope to learn more about the risk posed by Chagas disease in the southwest United States.

Meryl Mims - Virginia Tech: Simulating Metapopulations and Removal Tactics for Strategic Invasives
 Management (SMARTSIM): a Data-Driven, Multi-Species Simulation Framework for Effective Management of
 Aquatic Invasive Species in the United States.

Managing invasive species is complex, and tools with which to address spatial and multi-species challenges are limited. Through collaboration with the U.S. Forest Service and with a focus on American bullfrogs and Chiricahua leopard Frogs, this project aims to test and transfer efficient and effective management strategies that optimize the control of invasives while promoting the persistence of at-risk species. By developing strategies and tools to inform efficient management decisions, this research has the potential to benefit land managers, conservationists, and priority species across the southwest.

• Sara Souther - Northern Arizona University: Projecting Socio-Ecological Impacts of Drought in Southwestern Ecosystems to Prioritize Restoration

For Indigenous communities, culture and ecology are intertwined and local species are often used for practical and/or ceremonial purposes. In Arizona and New Mexico, several tree species important to local Tribes are facing declines resulting from unprecedented ecological change, putting habitats and traditions at risk. As part of a broader, regional effort focused on several species, study plots on the Research Ranch are focused on identifying abiotic and biotic drivers of decline and resiliency in populations of Emory oak and, using these monitoring data, researchers hope to inform the development of effective, science-based management strategies to sustain the species long-term.

- Sara Souther Northern Arizona University: Conservation of the Endangered Species *Pectis imberbis*Pectis imberbis, known by its common name "beardless chinchweed", is a relative of the sunflower that was listed as an endangered species by the U.S. Fish and Wildlife Service in 2021 in the United States is known only from the Coronado National Memorial, portions of the Coronado National Forest, and the Research Ranch. Study of Pectis imberbis on the Research Ranch is aimed at better understanding how this recently listed and often overlooked plant responds to grazing, competition with invasive species, fire, and human disturbance. Data from this work will serve to inform ongoing recovery efforts.
- Matt Webb Bird Conservancy of the Rockies: Chihuahuan Birds Motus

Chihuahuan desert grasslands are disproportionately valuable to North America's breeding grassland birds (of the 34 grassland obligate species nesting in the Great Plains, 85% overwinter in the Chihuahuan desert). Unfortunately, this habitat type is in steep decline and data describing Chihuahuan desert grasslands bird distribution, abundance, and habitat requirements are limited. Using the Motus station they installed during a collaborative workshop on the Research Ranch in 2022 as one of the westernmost outposts in their monitoring network, the Bird Conservancy of the Rockies is seeking to fill these data gaps and, through partnerships in both the United States and Mexico, develop a platform for Chihuahuan desert grassland bird conservation.

Publications Received Since the Last Research Ranch Annual Report*

(We are working on building a digital bibliography for the Research Ranch website! If you have published work between 2017-2023 and do not see it listed below, please send information to researchranch@audubon.org.)

- Ahumada-Hernández, Rosa Isela, et al. "Evaluation of fine-scale environmental heterogeneity and its effect on terrestrial mammal diversity in a grassland in the Chihuahuan Desert." *Journal of Arid Environments* 205 (2022): 104815.
- Almalki, Yasser Mohammed. Woody Plant and Invasive Grass Interactions with Understory Biomass and Soil-Plant Water Dynamics on Three Different Rangelands. Diss. New Mexico State University, 2022.
- Andersen, Erik M., Marion N. Cambrelin, and Robert J. Steidl. "Responses of grassland arthropods to an invasion by nonnative grasses." *Biological Invasions* 21 (2019): 405-416.
- Andersen, Erik Michael. *Effects of plant invasions on birds breeding in desert grasslands*. Diss. The University of Arizona, 2019.
- Andersen, Erik M., and Robert J. Steidl. "Plant invasions alter settlement patterns of breeding grassland birds." *Ecosphere* 11.1 (2020): e03012.
- Andersen, Erik M., and Scott L. Freeman. "Use of thermal data loggers to evaluate nest survival in a grassland songbird." *The Wilson Journal of Ornithology* 134.3 (2022): 390-397.
- Andersen, Erik M., and Robert J. Steidl. "Woody plant encroachment reduces density of most grassland specialists in a desert grassland but has limited influence on nest survival." *Ornithological Applications* 125.1 (2023): duac049.
- Andersen, Erik M., and Robert J. Steidl. "Woody plant encroachment restructures bird communities in semiarid grasslands." *Biological Conservation* 240 (2019): 108276.
- Boyarski, Valerie L., Mason J. Ryan, and Taylor B. Cotten. "Population Ecology of Northern Mexican Garternsakes (Thamnophis eques megalops) at Bubbling Ponds Hatchery Complex." Arizona Game and Fish Department, (2019).
- Buerdsell, Sherri L., Brook G. Milligan, and Erik A. Lehnhoff. "Invasive plant benefits a native plant through plant-soil feedback but remains the superior competitor." *NeoBiota* 64 (2021): 119-136.
- Buerdsell, Sherri Lynn. *Invasion Ecology of Lehmann Lovegrass (Eragrostis lehmanniana) in Grama (Bouteloua) Plant Communities.* Diss. New Mexico State University, 2021.
- Bujan, Jelena, et al. "Thermal diversity of North American ant communities: Cold tolerance but not heat tolerance tracks ecosystem temperature." *Global Ecology and Biogeography* 29.9 (2020): 1486-1494.
- Chen, Catherine. *The Role of Hybridization in Shaping Male and Female Mating Behaviors*. Diss. The University of North Carolina at Chapel Hill, 2022.
- Cooney, Kathryn A. *Investigation of environmental correlates of Ambystoma tigrinum Ranavirus in two Arizona amphibian species*. Diss. Northern Arizona University, 2021.
- Francois, C. L., and G. Davidowitz. "Phenotypic plasticity of cuticular melanin in larval, Hyles lineata (Lepidoptera: Sphingidae) induced by a temperature-photoperiod interaction." *Copyright© Cristina L. Francois 2020* (2020): 43.
- Francois, C. L., and G. Davidowitz. "Genetic color polymorphism of the whitelined sphinx moth larva (Lepidoptera: Sphingidae)." *Journal of Insect Science* 20.4 (2020): 19.
- Francois, C. L., J. K. Wilson, and G. Davidowitz. "Cuticular melanin determination and quantification methodologies as practiced on the Lepidopteran larva, H. lineata." *Copyright© Cristina L. Francois 2020* (2020): 58.
- Franco, Kathlyn Diana. Constructing Ephemeral Wetlands for Amphibians in the Pacific Southwest. California State University, Los Angeles, 2018.

- Fryer, Janet L. "Chilopsis linearis, desert-willow." Fire Effects Information System, [Online]. US Department of Agriculture, Forest Service, Rocky Mountain Research Station, Missoula Fire Sciences Laboratory (Producer). Available: www. fs. fed. us/database/feis/plants/tree/chilin/all. html (2022).
- Fryer, Janet L. "Juglans major, Arizona walnut." Fire Effects Information System,[Online]. US Department of Agriculture, Forest Service, Rocky Mountain Research Station, Missoula Fire Sciences Laboratory (Producer). Available: www. fs. usda. gov/database/feis/plants/tree/jugmag/all. html (2022).
- Fryer, Janet L. "Platanus wrightii, Arizona sycamore." Fire Effects Information System, [Online]. US Department of Agriculture, Forest Service, Rocky Mountain Research Station, Missoula Fire Sciences Laboratory (Producer). Available: www. fs. fed. us/database/feis/plants/tree/plawri/all. html (2022).
- Goerge, Tyler M. Behavioral Responses to Thermal Variation in a Color Polymorphic Lizard. Diss. Ohio University, 2023.
- Goerge, Tyler M., and Donald B. Miles. "Habitat use and body temperature influence push-up display rate in the tree lizard, Urosaurus ornatus." *Behaviour* 160.2 (2022): 145-168.
- Goerge, Tyler M., and Donald B. Miles. "Testing the Pace-of-Life Syndrome in the Tree Lizard, Urosaurus ornatus." (2022).
- Gilbert, Anthony L., and Donald B. Miles. "Antagonistic responses of exposure to sublethal temperatures: adaptive phenotypic plasticity coincides with a reduction in organismal performance." *The American Naturalist* 194.3 (2019): 344-355.
- Gilbert, Anthony L., and Donald B. Miles. "Spatiotemporal variation in thermal niches suggests lability rather than conservatism of thermal physiology along an environmental gradient." *Biological Journal of the Linnean Society* 128.2 (2019): 263-277.
- Gilbert, Anthony L., Olivia L. Brooks, and Matthew S. Lattanzio. "Multiple behavioral contexts of a melanized tail display in a desert lizard." *Ethology* 126.3 (2020): 333-343.
- Gilbert, Anthony L. Selection and Plasticity: Novel Phenotypic Trajectories in the Era of Climate Change. Ohio University, 2020.
- Glover, Jenell A., and Matthew S. Lattanzio. "Female preferences for discrete and continuous male colour expression may help reinforce colour polymorphism in a desert lizard." *Behaviour* 158.3-4 (2021): 315-339.
- Kaspari, Michael, et al. "Species energy and Thermal Performance Theory predict 20-yr changes in ant community abundance and richness." (2019): e02888.
- Krohmaly, Kylie I., Zachary W. Martin, and Matthew S. Lattanzio. "Male mate choice and the potential for complex mating dynamics in the tree lizard (Urosaurus ornatus)." *Ethology* 124.4 (2018): 236-244.
- Lattanzio, Matthew S. "Climate mediates color morph turnover in a species exhibiting alternative reproductive strategies." Scientific Reports 12.1 (2022): 8474.
- Latella, Ian M., Davidson, Kathryn L., and Owens, Audrey K. "Chiricahua Leopard Frog Recovery in Arizona in 2021 and 2022". Nongame and Endangered Wildlife Program Technical Report 361. Arizona Game and Fish Department, Phoenix, Arizona (2023).
- Lee, Temple R., et al. "On the efficacy of Monin-Obukhov and bulk Richardson surface-layer parameterizations over drylands." *Journal of Applied Meteorology and Climatology* (2023).
- Norman, Laura M., et al. "Modeling riparian restoration impacts on the hydrologic cycle at the Babacomari Ranch, SE Arizona, USA." *Water* 11.2 (2019): 381.
- Petrakis, Roy E., et al. "Mapping perceived social values to support a respondent-defined restoration economy: case study in Southeastern Arizona, USA." *Air, Soil and Water Research* 13 (2020): 1178622120913318.

- Potucek, Alizabeth. "Designing for Conservation, Advocacy and Recreation in the High Sonoran Grasslands." University of Arizona (2022).
- Reed, Abigail A., and Matthew S. Lattanzio. "Deterring predator pursuit and attracting potential mates? The conspicuous melanized tail display of the zebra-tailed lizard." *Ethology Ecology & Evolution* 35.2 (2023): 191-207.
- Roeder, Karl A., et al. "Thermal traits predict the winners and losers under climate change: an example from North American ant communities." *Ecosphere* 12.7 (2021): e03645.
- Royimani, Lwando, Onisimo Mutanga, and Timothy Dube. "Progress in remote sensing of grass senescence: a review on the challenges and opportunities." *IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing* 14 (2021): 7714-7723.
- Ruth, Janet M. and Kitting, Jason "Nestling Development and Aging of Grasshopper Sparrow." *Journal of Arizona Field Ornithologists*. (2018).
- Ruth, Janet M., and Susan K. Skagen. "Reproductive response of Arizona Grasshopper Sparrows to weather patterns and habitat structure." *The Condor: Ornithological Applications* 120.3 (2018): 596-616.
- Simpson, Richard K., and Kevin J. McGraw. "Interspecific covariation in courtship displays, iridescent plumage, solar orientation, and their interactions in hummingbirds." *The American Naturalist* 194.4 (2019): 441-454.
- Taylor, Julie N., William M. Ternes, and Matthew S. Lattanzio. "Natural selection favors local specialization in a widespread habitat generalist." *Evolution* 72.10 (2018): 2090-2099.
- Walker, John-Lee Sky. Phenology of Lesser Long-Nosed Bats and their Food Plants. Diss. The University of Arizona, 2022.
- Westeen, Erin P., et al. "Dietary niche partitioning of three Sky Island Sceloporus lizards as revealed through DNA metabarcoding." *Ecology and Evolution* 13.9 (2023): e10461.
- Wolff, Patrick J., et al. *Demonstration of Subsurface Passive Acoustic Monitoring (SPAM) to Survey for and Estimate Populations of Imperiled Underwater-calling Frogs.* US Army Engineer Research and Development Center, Construction Engineering Research Laboratory, 2021.
- *The last Research Ranch annual report was produced in 2017. Expect a yearly report from this point forward!

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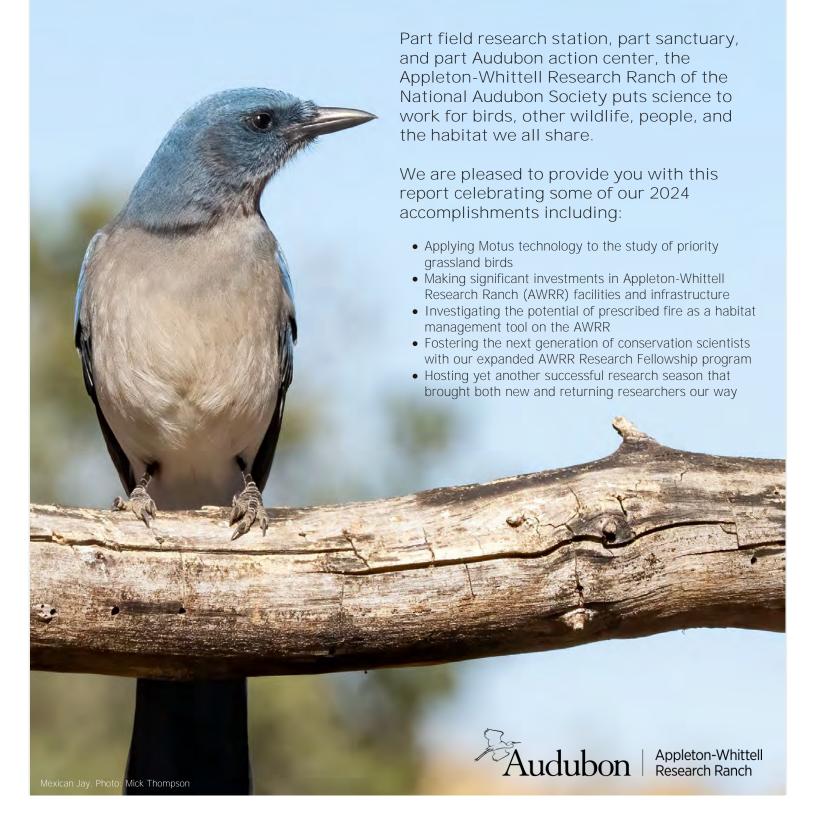
Instagram: https://www.instagram.com/audubon-research-ranch/

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Appleton-Whittell Research Ranch of the National Audubon Society 2024 Annual Report





Photographing a Cassin's Sparrow recently marked with a solar powered Motus tag.

Photo: Steven Prager.

Putting New Technology to Work for Grassland Sparrows

Understanding Avian Movement Through Motus

More common in the Eastern U.S., Motus (Latin for "movement"), is a network of radio stations equipped to pick up signals sent from tiny, radio-emitting tags that can be affixed to insects, bats, and of course birds. With a little help from the Bird Conservancy of the Rockies, the AWRR Motus station was installed atop Bald Hill in March of 2022. Since then, it's been picking up birds tagged elsewhere by other researchers (including a federally threatened Western Yellow-billed Cuckoo tagged at Audubon's Kern River Preserve in California), and we've been dreaming up ways to put it to use for our own investigations.

Unraveling the Mysteries of Grassland Sparrows

Take out your nearest field guide and look up Cassin's, Botteri's and Cassin's sparrows, three of the grassland specialist sparrows found here on the AWRR. Peak at the range maps and you'll see that all are shown to be year-round residents on the ranch

but ask our staff to point one out in winter and you're going to get some funny looks. These birds all but disappear in the winter, but is that because they've moved on to greener pastures or because they're living like mice silently below the grass? Fortunately for us, the AWRR is the perfect place to find out.

Leaning on Partners to Make it Happen Thanks to financial support from the Arizona Game and Fish Department (AZGFD) and field assistance from the Sonoran Joint Venture, Arizona State University, AZGFD, Tucson Audubon, and the Southern Sierra Research Station, we now have nearly 20 AWRR sparrows equipped with motus tags. Over the next many summers, we'll be working together to track these birds' seasonal movements and to explore yet another piece of new technology -Motus repeater boxes that allow us to pinpoint tagged birds' precise locations and consider more site-specific questions. The more we know about priority birds on the AWRR the better we can tailor our efforts to benefit them. We can't wait to see what these newly tagged birds teach us!



The Sonoita-Elgin Fire District assessing the scene after the 2018 Babo Fire, the most recent significant burn on the AWRR. Photo: Linda Kennedy.

Building Community Around Fire Management

An Altered Landscape

Arizona's grasslands evolved with fire, so it's easy to think that returning fire to the landscape would be an easy conservation win. We wish it were so simple.

Extremely responsive (and appreciated!) fire crews rarely allow fires that start outside of the AWRR to reach our borders and, while there have been periodic fires on the AWRR, some of them quite significant, the Ranch doesn't regularly burn as it historically would have. Combine this with the exclusion of cattle, changes in flora, and the warmer, drier days brought on by climate change, and you have a landscape that is likely to burn much differently than it once did. Complicating things even further, our most problematic invasive grasses can benefit from typical prescribed burns at the expense of native species.

Exploring the Possibilities

Despite the risks and unknowns, prescribed fire is still one of the few land management tools that can be applied efficiently at scale, and the AWRR offers a perfect laboratory where new methods can be explored, and best practices can be identified. That's why this fall we convened the experts – wildland firefighters, land management agencies, conservation non-profits, universities, researchers, ranchers, and more – to start a conversation around bringing fire back to the ranch. Together, we explored the question of whether fire is an appropriate tool to explore here on the AWRR and how to approach eventual burns in a way that allows us to try new methods, evaluate impacts, and inform management beyond our fences.

Balancing Risk and Opportunity

Two agreements rose immediately to the top during the first meeting of our prescribed fire working group. The first was that there is great opportunity on the AWRR to study the effects of prescribed fire and inform best practices regionwide. Second was that, with so much value tied to the habitat found on the AWRR, large acreage burns are too risky. These agreements will guide our planning as we work to develop an AWRR burn plan and research program in 2025 and beyond.



The Swinging H Ranch House over time. Photos: Top left – Mark Stromberg; Top right – Linda Kennedy; Bottom: Steven Prager.

Investing in Critical Infrastructure

Breathing New Life into the Swinging H Whether you were a researcher who's days in the field ended in one of its many beds, a birder who saw your first Montezuma Quail perched atop its backyard wall, or a volunteer who appreciated that its dining table was big enough for the entire team, if you've ever spent a night in the Swinging H Ranch House, it's likely an experience you've not forgotten.

The Swinging H is older than the Research Ranch itself, reportedly moved from Fort Huachuca in the mid-1900's to its current location on what was then the Clark Ranch. Attempts to pin down its exact origin have been attempted, but because of the many changes the building has undergone – lost and added windows, new doors, add-ons, and more paint colors than we can count – its story is still wrapped in mystery. Regardless of where it came from, over the years it has become critical to so much of what we do here on the AWRR, and it has earned a place in the hearts of the countless researchers, volunteers,

birders, and other visitors that have called it their temporary grassland home.

But sadly, to anyone who visited the Swinging H over the last few years, it was clear that the Swinging H needed a little attention. The once tan paint had faded to a ghastly shade of pink, the furniture bore the obvious signs of many decades of sweaty researchers, and the holes in the siding allowed for many critters that, while appreciated outdoors, most would prefer not to wake up to in the middle of the night.

This year, with the longevity of the building in question, we decided it couldn't wait a moment longer and got to work. So far, we've removed the old siding, applied fresh coats of stucco and paint, repaired the backyard gates, replaced the old couches and chairs, and swapped out the raggedy old curtains for new, clean blinds. More improvements are forthcoming, but for now, we're happy to report the Swinging H is ready for the next group lucky enough to stay the night at the AWRR.



Our 2024 AWRR Research Fellows (Left to Right: Emma Sudbeck, University of Arizona, Marcus Williams, Christopher Newport University, Laura Nicholson, Northern Arizona University. Photos provided by individual Research Fellows.

Providing New Opportunities to Our Newest Researchers

Investing in the Next Generation of Scientists

Each year, we offer scientists between the ages of 18 and 30 the opportunity to apply for one of three positions as an Appleton-Whittell Research Ranch Fellow. Each of the three recipients receives a \$1000 dollar stipend to be spent on anything from research equipment, to travel, to basic supplies and a \$500 AWRR housing stipend that affords them nearly two weeks' worth of overnight stays on the ranch. Not only is this our opportunity to support the next generation of conservation and research scientists, but it also gives us the chance to encourage the sort of research we most want to see conducted on the AWRR – research that helps us answer questions critical to the conservation of the flora, fauna, and habitats found on the ranch.

Prioritizing Diversity

By weighing need, demographics, and equitability and inclusiveness of research questions alongside the conservation value of Fellowship applications we

receive, we are able to use this program to elevate scientists of identities or from communities historically excluded from science and conservation. This approach helps us broaden our community of researchers and uplifts research questions and applications that otherwise may have been overlooked.

Expanding Opportunities

New to the AWRR Fellowship program this year was our Appleton-Whittell Research Ranch Fellow Webinar Series. During these lunchtime webinars, our 2024 fellows gave audiences a glimpse into their time on the AWRR, their work, and its conservation implications. More than 200 members of the Audubon flock registered for these three webinar sessions.

Next year, thanks to a generous contribution from the Research Ranch Foundation, we'll be doubling our impact by offering a \$2,000 stipend and \$1,000 housing voucher to each Fellow. We couldn't be more excited to see the faces and projects the expanded program brings our way.

2024 Research Summary

While we work hard to create education and hands-on-conservation opportunities for those looking to become involved with the work of the Research Ranch, research will always be our primary focus. An unparalleled field research station, the Research Ranch elevates the next generation of scientists and facilitates the investigations needed to answer the questions most critical to the conservation of birds, other wildlife, and grassland ecosystems. Read on to learn more about this year's efforts and to dig into publications resulting from past work.

2024 Projects on the Research Ranch

- * New to the AWRR this year
- ** AWRR Research Fellow

(Did you conduct research on the Research Ranch in 2024 that is not represented below? Let us know by reaching out to researchranch@audubon.org.)

- Audubon Southwest: Appleton-Whittell Christmas Bird Count
 Each year in early January, the AWRR contributes to the annual Christmas Bird Count, North America's
 longest-running community science project, by coordinating the Appleton-Whittell count. The effort takes
 the form of a 15-mile diameter circle with groups of volunteers recording all birds heard and seen within
 their preassigned area, and the results serve both to track trends in southeastern Arizona's wintering bird
 populations and to inform our conservation efforts. Check out this year's and past years' results here.
- Audubon Southwest: Nightjar Survey
 One night each spring, AWRR staff drives into the night to survey the area's nightjars (poorwills, nighthawks, and others) as part of a nationwide community science project coordinated by the Nightjar Survey Network and the Center for Conservation Biology. Information about how to get involved and data from this and previous years' surveys are available here.
- Audubon Southwest: Western Yellow-billed Cuckoo Survey
 The Western Yellow-billed Cuckoo was listed as a threatened species under the Endangered Species Act in 2014, and since 2015 we've been surveying for this imperiled bird within the riparian areas and oak woodlands of the Research Ranch. This year's effort was limited with only Post and Lyle Canyon transects surveyed, but we are looking forward to expanding the effort in the summer of 2024. Reports were provided to the Arizona Game and Fish Department and U.S. Fish and Wildlife Service and are available upon request.
- Audubon Southwest: Upland (Ecological Site) Vegetation Monitoring: In 2003, twenty-three vegetation transects were established across the Research Ranch by then-Director Linda Kennedy. Sited using data provided by the USDA-Natural Resource Conservation Service, these transects are positioned on all major ecological sites with at least one on land administered or owned by each of our landowning partners and one within our invasive grass treatment area. Ranch staff and volunteers survey a subset of these transects each fall to build a long-term dataset describing the AWRR's post-monsoon flora. The transects identify trends in vegetation and ground cover, provide support for research projects, are used by agencies as reference areas, serve as training venues, and help us assess the effectiveness of our invasive grass management efforts. A report detailing this year's efforts is available upon request.
- Audubon Southwest and the Arizona Important Bird Area Program: Grassland Sparrow Surveys
 The Research Ranch's designation as an Important Bird Area (IBA) is in part because of a suite of breeding
 grassland sparrows <u>Botteri's, Cassin's, Grasshopper, Rufous-winged, and others</u>. To monitor these priority
 birds and to track differences between the Ranch and adjacent working lands, we survey each year three
 point-count transects, two on the Research Ranch and one on the adjacent Babacomari Ranch. Data and
 our most recent (2016) ten-year summary are available upon request.

- Audubon Southwest, Arizona Game and Fish Department, and the University of Arizona:
 Chiricahua Leopard Frog Monitoring and Safe Harbor Site Management
 At multiple locations across the AWRR, natural and artificial wetlands host populations of Desert Pupfish
 (listed as Endangered in 1986) and Chiricahua Leopard Frogs (listed as Threatened in 2002). These sites are
 part of the Arizona Game and Fish Department's efforts to bring these species back from the brink, and to
 do our part we conduct annual Chiricahua Leopard Frog surveys. Data from these surveys include counts of
 adult frogs, tadpoles, and egg masses as well as information describing the condition of the sites. These
 data are submitted annually to the Arizona Game and Fish Department.
- *Audubon Southwest, Arizona Game and Fish Department, Sonoran Joint Venture, Southern Sierra Research Station, and Tucson Audubon: Grassland Sparrow Motus Project: More common in the Eastern U.S., Motus (Latin for "movement"), is a network of radio stations equipped to pick up signals sent from tiny, radio-emitting tags that can be affixed to insects, bats, and of course birds. With a little help from the Bird Conservancy of the Rockies, the AWRR Motus station was installed atop Bald Hill in March of 2022. Thanks to our collaborators, we now have nearly 20 AWRR sparrows (Botteri's, Cassin's, and Grasshopper) equipped with motus tags. Over the next many summers, we'll be working together to track these birds' seasonal movements and use of habitat on the AWRR. Follow our Motus station and the birds it detects here.
- *Maria Fernanda Bandeira de Melo Galletti Centers for Disease Control and Prevention: MALDI-TOF based identification of the *Amblyomma maculatum* population in the United States To improve tick surveillance in the United States, proper species level identification is needed. The current project aims to use a novel molecular protein-based identification method to determine which A. maculatum populations are present within Santa Cruz County habitats. The results obtained in this work will be part of the first database of tick protein spectra worldwide, accessible to public health investigators and medical entomologists, improving availability, accuracy, and speed of tick identification and tick-borne pathogen surveillance in the U.S. and other countries.
- *Joe Cicero Independent Researcher: Elucidating Life Cycle Stages of Fireflies with Flightless Females
 In many species of fireflies, morphological differences between larva and adults of both sexes create situations in which the flashy male is known to species but is not associated with conspecific larva or female. Following up on an observation made by AWRR staff in 2023 and another made by AWRR researcher Candace Fallon, this study aims to identify to species a flightless female firefly known from the mesas of the ranch. It is suspected that the observations, both made near *Pogonomyrmex* ant colonies, were of *Prolutacea pulsator*, a firefly species with an unknown larva and an unverified female form. The only other suspect is *Paraphausis eximius*, a species with an unknown larva and an unknown but presumed-flightless female. This study aims to collect flightless female and larva (to be reared in captivity) so that they may be identified to species, filling gaps in knowledge in our understanding of these beetles.
- Renee Duckworth University of Arizona: Characterizing Variation of Azure Bluebirds The Azure Bluebird (*Sialia sialis fulva*) is a subspecies of the Eastern Bluebird, and this study seeks to better understand the extent of divergence between it and its eastern counterparts. By assessing genetic, morphological, and behavioral traits and comparing findings to prior studies of other subspecies in this group, Dr. Renee Duckworth and her students hope to determine whether Azure Bluebirds are sufficiently unique to warrant higher-level taxonomic status and to understand the mechanisms underlying their divergence from other *Sialia* populations.
- *Candace Fallon Xerces Society: Firefly (Lampyridae) surveys at the Appleton-Whittell
 Research Ranch, AZ
 The purpose of this study is to generate firefly species occurrence data to better understand the distribution
 of data-deficient and potentially imperiled (but currently unlisted) firefly species. In addition, the study aims
 to provide the Audubon with a better understanding of the firefly species that occur on the AWRR and to
 develop management recommendations to conserve these species and their habitats.

- Sam Fernald New Mexico State University and Anne Cross Tulsa Community College: Soil Moisture and Lehmann Lovegrass
 Lehmann Lovegrass (*Eragrostis lehmanniana*) is among the most problematic invasive species found on the AWRR. Better understanding of water, soil, nutrient, and plant relationships in regard to Lehmann Lovegrass may help to improve management of this invasive grass and reduce its impact on ecosystem health. This study measures soil moisture and vegetation cover and density of invasive and native grasses. It also provides a longitudinal study that includes occasional measurements of production, nutrients, and other parameters to help inform invasion dynamics.
- Bryan Hughes Rattlesnake Solutions: Experimental Relocation of Rattlesnake Overwintering Dens
 To assess the usefulness of the two artificial rattlesnake overwintering dens <u>installed on the Research Ranch</u> this year, Rattlesnake Solutions and Research Ranch staff are now actively capturing, tagging, photographing, relocating, and monitoring snakes observed returning to the now-closed historic den sites beneath buildings on the Research Ranch. Additions to the project this year include more rigorous mark/recapture methodology and more in depth monitoring of conditions at and snake usage of the artificial dens.
- Matt Jenkins University of Arizona: Genetics, behavioral flexibility, and experience in Azure Bluebird nest box use
 A distinct and isolated subspecies of Eastern Bluebird, Azure Bluebirds (*Sialia sialis fulva*) are secondary cavity nesters, meaning that they nest within the old, abandoned nests of cavity excavators like woodpeckers (primary cavity nesters). Without large, old trees in which to nest, Azure Bluebirds are in trouble. The obvious patch-fix is to provide artificial nesting sites, but while Eastern Bluebirds in the eastern United States take quickly to nest boxes, it's been found to be more complicated in the southwest. To most effectively help Azure Bluebirds, a bird listed by the Arizona Game and Fish Department as a Species of Greatest Conservation Need, we need to more fully understand what factors are behind their decisions and this project aims to investigate the roles that genetics, behavioral flexibility, and experience play.
- Richard F. Lance U.S. Army Engineer Research and Development Center: eDNA Bioindicators of Soil Provenance
 There is likely a wealth of environmental information that can be obtained from soil environmental DNA (eDNA). However, for eukaryotic taxa, the reservoir of environmental information represented by soil eDNA is largely undescribed. This project is focused on understanding patterns in eukaryotic eDNA in soil and the degree to which these patterns can be used as bioindicators for soil ecological affiliations and points of origin. Soil collected on the Research Ranch during this and last year will be used as test samples for evaluating developing soil classification models, and results may contribute to eventual soil eDNA capabilities useful in natural resource management and conservation.
- Matthew Lattanzio Christopher Newport University: Evolutionary and Ecological Responses of Lizard Populations to Natural and Human Induced Changes in Environmental Conditions Through field and lab-based study of several southwestern lizards, this work aims to further our understanding of how species interact with their environments, how key evolutionary and ecological processes contribute to those interactions, and how they have responded to natural and human-caused changes in environmental conditions such as those resulting from grazing, prescribed fire, urbanization, and climate change. Results from these studies will provide valuable information to land managers and conservationists interested in the consequences of environmental changes for biodiversity.
- Rachel Laura University of Arizona/U.S. Fish and Wildlife Service: Shining a Light on an At-Risk Species: Investigations into the Abundance and Habitat Requirements of an Imperiled Arizona Firefly
 Petitioned for listing by the U.S. Fish and Wildlife Service in 2023, the Southwest Spring Firefly (*Bicellonycha wickershamorum wickershamorum*) can be found at marshy, ephemeral sites along canyons and streams and at seeps and springs in the mountains and foothills of the Madrean Sky Islands. This project aims to identify and assess populations of this firefly in preparation for the upcoming species status assessment.

The AWRR is home to significant populations of this imperiled firefly, and this year it was added to the growing list of surveyed locations.

- Louisa Messenger University of Nevada: Kissing Bugs
 In parts of Latin America, Chagas disease, a parasitic infection transmitted by triatomine bugs (Hemiptera; Reduviidae; Triatominae AKA "Kissing Bugs"), affects as many as six to eight million individuals and kills as many as 50,000 people annually. The etiological agent, Trypanosoa cruzi, is distributed from the Southern United States to Argentinean Patagonia, but not all kissing bugs are made equal in their likeliness to transmit the disease. Through the collection of these bugs by community scientists and investigations of T. cruzi infection prevalence and genetic diversity and triatomine bug genetic diversity, bloodmeal preferences, and microbiome composition, researchers hope to learn more about the risk posed by Chagas disease in the southwest United States.
- Meryl Mims Virginia Tech: Simulating Metapopulations and Removal Tactics for Strategic Invasives Management (SMARTSIM): a Data-Driven, Multi-Species Simulation Framework for Effective Management of Aquatic Invasive Species in the United States.
 Managing invasive species is complex, and tools with which to address spatial and multi-species challenges are limited. Through collaboration with the U.S. Forest Service and with a focus on American bullfrogs and Chiricahua leopard Frogs, this project aims to test and transfer efficient and effective management strategies that optimize the control of invasives while promoting the persistence of at-risk species. By developing strategies and tools to inform efficient management decisions, this research has the potential to benefit land managers, conservationists, and priority species across the southwest.
- **Laura Nicholson Northern Arizona University: Emory Oak and an Investigation of the Emerging Pathogen *biscogniauxia*A keystone plant in southeastern Arizona, Emory Oak feeds birds like the Montezuma Quail, Mexican Jay, and Acorn Woodpecker. Just as importantly, Emory Oak acorns have long been gathered and consumed by Indigenous communities including the Yavapai, Tonto, San Carlos, and White Mountain Apache Tribes. This project aims to understand how emerging pathogens, drought, climate change, and other threats may be impacting Emory Oak survival and to provide practical steps that can be taken to protect the this tree and the southwestern ecosystems and communities that depend on it.
- Grace O'Malley Virginia Tech: Investigating the breeding phenology of a threatened amphibian (Hyla wrightorum)
 The Arizona Treefrog (Hyla wrightorum) is a small green and black treefrog listed as a Species of Greatest Conservation Need by the Arizona Game and Fish Department that is found mostly above the Mogollon Rim in Arizona and eastward into New Mexico. Smaller and less well understood populations exist in Huachuca Mountains and Canelo hills, and animals are periodically encountered on the AWRR. This project is using acoustic recorders to investigate this species' breeding phenology and to address knowledge gaps in its spatial and temporal dynamics in the region.
- *Katherine Parys United States Department of Agriculture: Beenome100
 The United States Department of Agricultural and Agricultural Research Service are involved in an effort called <u>Beenome100</u> which aims to "sequence, assemble, and annotate the genomes of 100 U.S. bee pollinators, while also strengthening resources for the honey bee, a key pollinator and insect model".
 Collection visits to the southwestern U.S. are a key part of this effort because of the region's incredibly high bee diversity, and this year the AWRR was added to the list of collection sites.
- *Daniel Rubinoff University of Hawaii: Phylogenomics of Hemileuca and the Evolution of Pheromone Divergence
 Moths in the genus *Hemileuca*, of which there are about thirty, are brightly colored moths ranging from southern Canada to southern Mexico. As a complex group of moths that across species show varied phenology, a wide range of host plants from grasses to trees, diversity in behavior with nocturnal and diurnal examples, and isolated conspecific populations often with unique pheromones, they make for an interesting model through which to understand speciation and pheromone evolution. This project aims to

sample populations of *Hemileuca* moths in each species group across their range, and this year the AWRR served as home base for collection on the Coronado National Forest.

- Andrew Salywon Desert Botanical Gardens & Ron Tiller Arizona Department of Environmental Quality: Long-term Groundwater Monitoring This project monitors three shallow groundwater wells installed in the late-1990's. These wells are located in the bottomlands of Post and O'Donnell canyons, two of the Research Ranch's primary drainages, and were initially installed to understand the water requirements of the bunchgrass big sacaton (*Sporobolus wrightii*) and its namesake floodplain grasslands. Now, however, these wells are helping to understand how groundwater levels respond to precipitation, stormflows, drought, and extreme temperatures. In June 2015, all three wells were outfitted with transducers to measure water levels at 30-minute intervals. Since then, the project has accumulated an almost continuous record of water levels.
- *Kerry Schwartz Friends of Sonoita Creek/Sky Island Alliance: Spring Seeker Surveys
 Spring Seekers is a community science project facilitated by the Sky Island Alliance that aims to map and
 assess the health of springs in the Sky Islands region. This year, the AWRR's Finley Tank, a wildlife pond fed
 by a healthy natural spring, was added to their map and surveys were conducted by Friends of Sonoita
 Creek volunteer Kerry Schwartz.
- Sara Souther Northern Arizona University: Projecting Socio-Ecological Impacts of Drought in Southwestern Ecosystems to Prioritize Restoration
 For Indigenous communities, culture and ecology are intertwined and local species are often used for practical and/or ceremonial purposes. In Arizona and New Mexico, several tree species important to local Tribes are facing declines resulting from unprecedented ecological change, putting habitats and traditions at risk. As part of a broader, regional effort focused on several species, study plots on the Research Ranch are focused on identifying abiotic and biotic drivers of decline and resiliency in populations of Emory oak and, using these monitoring data, researchers hope to inform the development of effective, science-based management strategies to sustain the species long-term.
- Sara Souther Northern Arizona University: Conservation of the Endangered Species Pectis imberbis
 Pectis imberbis, known by its common name "beardless chinchweed", is a relative of the sunflower that was listed as an endangered species by the U.S. Fish and Wildlife Service in 2021 in the United States is known only from the Coronado National Memorial, portions of the Coronado National Forest, and the Research Ranch. Study of Pectis imberbis on the Research Ranch is aimed at better understanding how this recently listed and often overlooked plant responds to grazing, competition with invasive species, fire, and human disturbance. Data from this work will serve to inform ongoing recovery efforts.
- **Emma Sudbeck University of Arizona: Population Ecology of the Invasive American Bullfrog in Southeast Arizona
 Stocked into Arizona's waters by the Arizona Game and Fish Department from the 1920s into the early 1980s as a game (huntable) species, American bullfrogs (*Lithobates catesbeianus*) were quick to overwhelm native aquatic wildlife and those tasked with managing it. Using mark-recapture and radio telemetry techniques, this study will help further our knowledge of American bullfrog natural history and provide wildlife managers with information that allows them to leverage their limited resources by identifying sites and seasons during which removal efforts will have the greatest impact.
- Matt Webb Bird Conservancy of the Rockies: Chihuahuan Birds Motus Chihuahuan desert grasslands are disproportionately valuable to North America's breeding grassland birds (of the 34 grassland obligate species nesting in the Great Plains, 85% overwinter in the Chihuahuan desert). Unfortunately, this habitat type is in decline and data describing Chihuahuan desert grasslands bird distribution, abundance, and habitat requirements are limited. Using the Motus station installed during a workshop on the Research Ranch in 2022 as one of the westernmost outposts in their monitoring network, the Bird Conservancy of the Rockies is seeking to fill these data gaps and, through partnerships in both the United States and Mexico, develop a platform for Chihuahuan desert grassland bird conservation.

**Marcus Williams - Christopher Newport University: Eyes of Three to Regulate Ultraviolet
Light - Investigating the Role of the Parietal Eye in the Ornate Tree Lizard
Lizards require exposure to ultraviolet light, but how they detect and regulate it is poorly understood. It is
possible that lizards' parietal eye, a light detecting organ that sits atop the heads and between the true eyes
of many lizards, frogs, salamanders, and fish, might be the answer. While we know it plays a role in the
detection of light, our understanding of its full function is limited. This project aims to unravel the mystery
through field and lab-based study of Ornate Tree Lizards (*Urosaurus ornatus*) on the AWRR.

Publications Received Since the 2023 Field Season

(If you published work resulting from time spent on the Research Ranch that is not listed below, or if you have published works related to the Research Ranch that are not listed in our <u>online bibliography</u>, please send information to <u>researchranch@audubon.org</u>.)

- Beauregard, Nicholas. "Identification and Evaluation of Yellow-Billed Cuckoo Habitat Using Acoustic Monitoring and Species Distribution Model Methods." Diss. Northern Arizona University, 2023.
- Beauregard, Nicholas D., et al. "Breeding by western Yellow-billed Cuckoos in xeroriparian habitat in southeast Arizona." *Journal of Field Ornithology* 95.4 (2024).
- Beauregard, Nicholas D., et al. "Using autonomous recording units to identify and monitor western yellow-billed cuckoo habitat." *Wildlife Society Bulletin* 48.3 (2024): e1546.
- Goerge, Tyler M., and Donald B. Miles. "Behavioral plasticity during acute heat stress: heat hardening increases the expression of boldness." *Journal of Thermal Biology* 119 (2024): 103778.
- Haidar, Zeinab M. "Genetic evaluation of the current distribution and possible diffrentations between Lasiurus borealis and Lasiurus frantzii in southwestern North America." (2023).
- Moore, Chloe E., and Meryl C. Mims. "Sampling through space and time: multi-year analysis reveals dynamic population genetic patterns for an amphibian metapopulation." *Conservation Genetics* (2024): 1-18.
- Rivera, Adriana Garcia. *Identifying Patterns of Seed Dispersal and Predation Across the Emory Oak (Quercus emoryi Torr.) Range in Arizona*. MS thesis. Northern Arizona University, 2024.
- Schultz, Andreanna. *Beyond Thermoregulation: UV and Temperature Regulation Along an Elevation Gradient in Ornate Tree Lizards.* MS thesis. Christopher Newport University, 2024.
- Strom, Stephen E. Forging a Sustainable Southwest: The Power of Collaborative Conservation. University of Arizona Press, 2024
- Walker, John-Lee Sky, et al. "Improved amplification of fecal DNA supports non-invasive microsatellite genotyping of lesser long-nosed bats (Leptonycteris yerbabuenae)." *Conservation Genetics Resources* 16.1 (2024): 159-171.

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Facebook: https://www.facebook.com/ResearchRanch/

Instagram: https://www.instagram.com/audubon-research-ranch/

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APPENDIX K The BLM H-2000-01 Pre-Acquisition Environmental Site Assessments Checklist

Appendix 1. Blank PALS Forms

Instructions for Completion of Required Documentation for a Pre-Acquisition Liability Survey (PALS)

Introduction.

The land acquisition screening process is required for all proposed real property acquisitions and is used to determine whether there may be any hazardous substances, petroleum products, or other environmental problems on the real property. The purpose of the process is to help ensure that the BLM does not unknowingly acquire contaminated property and also to limit exposure to environmental liability.

Below are the recommended steps for completing the documentation:

Step	Document	Section	By	Submit To
1	Cover Sheet	Section 1 - Property	RS	AEP/EP
		Description		
2	Worksheet 1: Records.	All	AEP/EP	EP
3	Worksheet 2: Questionnaire for	All	AEP/EP	EP
	Interview.			
4	Worksheet 3: Visual Inspection of the	All	AEP/EP	EP
	Property and of Adjoining Property.			
5	Worksheet 4: Solid Waste, Physical	All	AEP/EP	EP
	Hazards, and Non-Scope Issues.			
6	Cover Sheet	Section 2 - Prepared By	AEP/EP	EP
7	AAI Results	All	EP	Manager
	Worksheet No. 1	All		
	Worksheet No. 2	All		
	Worksheet No. 3	All		
	Worksheet No. 4	All		
	Cover Sheet	Section 3-AAI		
		Conclusions		
8	Cover Sheet	Section 4 - Approved	Authorized	RS
		Ву	Officer	

RS=Realty Specialist

AEP=Assistant Environmental Professional

EP=Environmental Professional

For Completion of Required Documentation For a Pre-Acquisition Liability Survey (PALS)

The worksheets are intended to assist with completion of the land acquisition screening process. They are useful guides, but are not all inclusive, and are intended to allow the BLM to meet all the requirements for the CERCLA defenses. Not all questions may be applicable for the property. All questions noted as incomplete data gaps, or not applicable, must be documented and reviewed by the EP.

The Realty Specialist (RS), Assistant Environmental Professional (AEP) and Environmental Professional (EP) will work together to complete all work on the proposed acquisition. The EP can exercise independent judgment and discretion to complete all work associated with the acquisition documentation to complete the requirements for the Results of Inquiries by an EP. The EP can also complete all work without the use of an AEP.

Instructions for completing the documentation are provided in the following sections.

Instructions for Completion of the Cover Sheet.

Section 1 - Property Description: This section will be completed by the RS responsible for the acquisition project. This person does not have to be the AEP.

Section 2 - Prepared By: This section will be signed by the AEP when any of the work was performed under the responsible charge of the EP. If all work was performed by the EP, the EP only needs to sign in Section 3.

Section 3 – AAI Conclusions: This section will be completed by the EP who reviewed documentation and completed the AAI Results Form. The EP will provide a conclusion related to the suitability of the property for acquisition. In addition, the EP will make recommendations about solid waste, physical hazards, or non-scope issues that affect the subject property as described on Worksheet No. 4.

Section 4 - Approval: The Authorized Officer with the appropriate Approval Authority as described in BLM Manual 1203 – Delegation of Authority, will sign and approve the PALS. If desired, the office may have multiple approvals as long as the final approval is within the requirements of BLM Manual 1203.

Attachments: The EP will attach all documentation for the acquisition that supports the conclusions as part of the package submitted to the manager for signature.

For Completion of Required Documentation For a Pre-Acquisition Liability Survey (PALS)

Instructions for All Appropriate Inquiries (AAI) Results.

General.

This form will be completed and signed only the EP. At the beginning of the AAI for the acquisition project, the EP and AEP will need to decide who will complete Worksheets No. 1 through No. 4. After the work is completed, all worksheets are given to the EP who will review. The EP will use the AAI form to summarize opinions, data gaps, and other information leading to the conclusions.

As part of this process, it is important to understand this is a PALS to be completed on property where there is little likelihood the property has been impacted by hazardous substances and/or petroleum products. At any time in the process, a concern is identified, it must be brought to the attention of the EP who will decide if the PALS is appropriate or a higher level of investigation is needed.

The EP will review completed Worksheets No. 1 through No. 4 to determine if conditions indicative of releases or threatened releases of hazardous substances and/or petroleum products on, at, or to the subject property have occurred.

Section 1: Document Review.

The EP will complete Section 1 by reviewing Worksheet No. 1-4 and listing who prepared each worksheet, title of preparer, and date the each worksheet was completed. The EP will comment on the contents of the worksheets that support the opinions and data gaps described in Section 2 and 3 of this form.

Section 2: Opinions formed by the EP based on document review.

Using information provided on completed Worksheets No. 1-4 and knowledge of the subject property, the EP will offer an opinion if work has identified conditions indicative of releases of hazardous substances and/or petroleum products on, at, or to the subject property. If any have been identified, they must be described.

Section 3: Data Gaps identified by the EP during document review.

Using information provided on completed Worksheets No. 1-4 and knowledge of the subject property, the EP will determine if any data gaps exist that affect the ability of the EP to identify conditions indicative of releases of hazardous substances and/or petroleum products on, at, or to the subject property. If any have been identified, they must be described along with the significance of the data gaps in allowing the EP to form an opinion in Section 2.

For Completion of Required Documentation For a Pre-Acquisition Liability Survey (PALS)

Section 4: Additional Comments by EP about the property.

This section can be utilized to make additional comments that in the professional judgment of the EP, may impact the property. Issues identified on Worksheet No. 4 will also be addressed in this section.

Section 5: All Appropriate Inquiries (AAI) Conclusions.

Based on records search, interviews, site visitation, and other inquiries completed on the subject property reviewed by the EP, the EP will then provide a conclusion related to the suitability of the property for acquisition. The EP may provide comments on the conclusions if desired. This conclusion will be carried over to the cover sheet.

Section 6: Qualifications.

The EP signature will constitute meeting the requirements of 40 CFR part 312.2(d).

Instructions for Worksheet No. 1 Records.

General.

Worksheet No. 1 may be completed by the AEP under the responsible charge of the EP. As previously discussed, the AEP and EP will discuss who and how the information on the worksheets is to be obtained and documented.

Records to be reviewed include historical sources, environmental cleanup liens, and Federal, state, tribal, and local government records. It is not the intent of these instructions to provide detailed methods for determining sources of records as they will vary from state to state.

It is important to document all records reviewed to allow the EP to develop opinions, identify data gaps, and provide recommendations.

Part 1: Historical Sources.

As a minimum, the most recent aerial photograph must be reviewed. If the aerial photograph and other research indicate there have never been human-caused environmental impacts on the property, this may be adequate. Aerial photographs must be reviewed until that point in time can be identified.

The RS will provide a preliminary title report which will list the current owner(s) and encumbrances on the property that may indicate current and past uses of the site. The EP will exercise professional judgment concerning and determining the extent of inquiries into the historical sources of information.

For Completion of Required Documentation For a Pre-Acquisition Liability Survey (PALS)

USGS topographic maps can also be utilized to obtain information.

Review of zoning and land use records will also provide information related to past uses on the site.

Other records that provide information include the real property appraisal, newspaper articles, internet sites, and similar sources.

Part 2: Environmental Cleanup Liens.

If a Federal or state regulator has filed any environmental cleanup or activity use limitations on the subject property, these must be listed on the preliminary title report. For isolated properties, this absence of liens and/or limitations on the report will be adequate.

Part 3: Review of Federal, State, Tribal, and local government record.

Records on the worksheet identified as EPA for a source can be accessed via the Federal Environmental Protection Agency website (http://www.epa.gov/). The database search is generally done by zip code.

Some State Department of Environmental Quality (DEQ) records are now available online as well. The EP can provide assistance on what records are available and how they can be accessed. Perhaps the easiest way to make the first contact is simply search for the name of the state regulator. For example, a search for DEQ may provide listings for several states that have a DEQ. Once into the appropriate state site, there will be links to available data bases.

Landfill records may or may not be available through a state records search as they may be at a local level.

A useful tool to determine if records for a certain address may impact the subject property is the map search feature available through some internet providers.

It is also important to recognize there is often one more record than you counted on being present. A knowledge of the area of the subject property and the surrounding area property is very important to assist in determining which records should be reviewed.

Part 4: Attached or Summarized Records.

If any record is found that indicates the subject property has been or could be impacted by hazardous substances and/or petroleum products, the records (or a summary) must be attached and briefly described on the worksheet in sufficient detail to allow the EP to develop an opinion, identify data gaps, and provide conclusions.

For Completion of Required Documentation For a Pre-Acquisition Liability Survey (PALS)

Instructions for Worksheet No. 2 Questionnaire for Interview with Past and Present Owners, Operators, and Occupants.

This type of property generally will not have improvements or past uses that indicate the property has been impacted by hazardous substances and/or petroleum products. Because of this, the interview may be limited to the current owner and possibly a past owner. The questions are intended as a guide. The EP or AEP may adjust the questions as necessary depending upon the subject property.

It is suggested the questionnaire be mailed to the person(s) to be interviewed. The EP/AEP may use the returned information as a basis for oral interviews, if conducted. Information provided in interviews must be verified during records search and visual inspection to the maximum extent possible.

Interviews may be conducted via phone, in writing, in person, or any combination thereof. The completed records search may provide information about current and past uses that would indicate an emphasis on what questions may be asked of the person(s) to be interviewed. If the current landowner is willing, it is helpful if the owner or person to be interviewed is present during the site inspection. After the visual inspection of the property is completed, it may be necessary to conduct additional interviews to obtain clarification about known or potential concerns found on the subject property.

If any information is found during the interview(s) that indicates the subject property has been or could be impacted by hazardous substances and/or petroleum products, the information must be documented in sufficient detail to allow the EP to develop an opinion, identify data gaps, and provide conclusions.

Instructions for Worksheet No. 3 Visual Inspection of the Property and of Adjoining Properties.

Written permission to enter must be obtained from the current property owner (subject property and adjacent property) prior to entry for the visual inspection. The permission to enter letter must be carried during the visit.

A visual inspection will be conducted as specified by the EP. It may be conducted by the AEP if under the responsible charge of the EP. In some cases, it may be necessary to include subject matter specialists such as safety officers, geologists, engineers, or others as needed. In addition, in some situations, it may be necessary to be accompanied by law enforcement. All members of the inspection team will be listed on the worksheet.

The date and time of the inspection(s) will be provided. Weather conditions during the inspection will also be documented.

For Completion of Required Documentation For a Pre-Acquisition Liability Survey (PALS)

A site inspection strategy will be developed prior to the site inspection and documented on the worksheet. The strategy will describe the methodology used to inspect the subject property and adjoining property and any areas not inspected and why they were not inspected. During the inspection of the subject property and adjoining properties, photographs will be taken and a photo log prepared that is referenced on the worksheet questions. Limitations such as deep snow, lush vegetation, locked gates, or similar items that prevent access to a site or limit the ability to visually observe conditions at the site will be documented.

The individual responsible for the inspection will sign and date the worksheet.

If any conditions are observed during the visual inspection that indicates the subject property has been or could be impacted by hazardous substances and/or petroleum products, leave the area immediately. Contact the EP for assistance for completing additional inspections. The EP will determine the appropriate course of action before proceeding. The information must be documented in sufficient detail as appropriate to allow the EP to develop an opinion, identify data gaps, and provide conclusions.

Instructions for Worksheet No. 4 Solid Waste, Physical Hazards and Non-Scope Issues

Health and safety is a prime consideration and the first priority. Do not put yourself at risk.

During the visual inspection of the property, physical hazards and non-scope issues will be described, locations identified, and photographs taken of each of the items.

The EP will then make recommendations as what should be done with the conditions prior to acquisition. For example, solid waste should be removed by the current property owner prior to acquisition.

The EP may utilize other specialists to develop conclusions and document them on AAI Results and the Cover Sheet.

Cover Sheet
Pre-Acquisition Liability Survey (PALS) Pre-Acquisition Environmental Site Assessment (ESA)

Section 1: Property Description	Serial Number:
Property/Name: Appleton Ranch	
Location/Legal Description/Tax L	ot No.: Santa Cruz County APN: 108-18-012B, 108-18-012H, 108-18-019, 108-18-020, 108-18-012A, 108-18-017C, 108-36-003A, and 108-25-001.
Owner: Resolution Copper	1 520 689 9374
Name	Phone Number
Type and Purpose of Acquisition:	Land Exchange
Current Use: Conservation, open spa	ce.
Use after Acquisition:	
 □ Preliminary Title Report □ Chain of Title Documents if nee □ Permission to Enter Letter □ Site Map 	(if more are needed they will be obtained by the AEP/EP when
Printed Name:	Title:
Signature:	Date:
	sistant Environmental Professional: I have conducted portions of this e of an Environmental Professional.
Printed Name: Samantha Blonder	Title: Assistant Environmental Professional
Signature: Samantha Blonder	Date: 3/27/2025

Cover Sheet

Pre-Acquisition Liability Survey (PALS)
Pre-Acquisition Environmental Site Assessment (ESA)

Section 3: AAI Conclusions. As an Environmental Professional, I have reviewed and/or prepared the attached documentation associated with this acquisition and have reached the following conclusion:

✓	This Pre-Acquisition Liability Survey has revealed no evidence of hazardous substances, petroleum products, or environmental conditions on this real property. No further inquiry is needed for purposes of all appropriate inquiries; therefore, this property is suitable for acquisition.
	This Pre-Acquisition Liability Survey has revealed evidence of hazardous substances, petroleum products, or environmental conditions in connection with this real property; therefore, this property is not suitable for acquisition.
	This Pre-Acquisition Liability Survey has revealed evidence of hazardous substances, petroleum products, or environmental conditions in connection with this real property; therefore, <u>a Phase I Environmental Site Assessment is recommended</u> .
proc port	This Pre-Acquisition Liability Survey has revealed evidence of hazardous substances, petroleum ducts, or environmental conditions in connection with this real property. Therefore, only the following ions are suitable for acquisition: (describe). The following portions are not suitable for acquisition and be excluded: (describe).
	litional recommendations for issues identified on Worksheet No. 4: Solid Waste, Physical Hazards, and I-Scope Issues, are as follows:
N/A	
Prin	ted Name: Samantha Blonder Title: Assistant Environmental Professional
Sign	nature: Samantha Blonder Date:
T.C	3/27/2025
II no	one of the PALS was prepared by an AEP, the EP will sign in Section 3.

Cover Sheet
Pre-Acquisition Liability Survey (PALS) Pre-Acquisition Environmental Site Assessment (ESA)

Section 4: Approval. I concur with the conclusion in Section 3.

Printed Name: <u>Samantha Blonder</u>	Title: Assistant Environmental Specialist
Signature: Samantha Blonder	Date: 3/27/2025
Attachments (Check) ✓ All Appropriate Inquiries (AAI) Results ✓ Worksheet No. 1: Records ✓ Worksheet No. 2: Interviews ✓ Worksheet No. 3: Visual Inspection of	Salas Facilitas and Adiaining
 ✓ Worksheet No. 3: Visual Inspection of Properties ✓ Worksheet No. 4: Solid Waste, Physical Aerial Photograph(s) ✓ Site Photographs 	, , ,

All Appropriate Inquires (AAI) Results

Pre-Acquisition Liability Survey (PALS)

Section 1: Document Review § 312.21.

The following are the results of the inquiry to identify conditions indicative of releases or threatened releases, as defined in CERCLA section 101(22), of hazardous substances defined in CERCLA section 101(14); and, petroleum products excluded from the definition of "hazardous substance" as defined in CERCLA section 101(14). I have reviewed and/or prepared the following information:

Info	Document Name	Prepared By	Title	Date	Comments by EP*
	All Appropriate Inquiries (AAI) Results	Samantha Blonder	EP	3/27/2025	Complete.
WS No. 1	Records	Samantha Blonder	□ EP □ AEP	2/21/2025	Environmental Database Research, Inc. None found.
WS No. 2	Interviews	Diana Sandoval Samantha Blonder	□ EP □ AEP	3/21/2025	User/Owner complete. BLM pending.
WS No. 3	Visual Inspection of the Facility and Adjoining Properties	Christopher Rife	□ EP □ AEP	3/17/2025	Complete. No Rec observed.
WS No. 4	Solid Waste, Physical Hazards, and Non-Scope Issues		□ EP □ AEP	3/17/2025	None found.
Attach ment	Site Map(s)		□ EP □ AEP	3/17/2025	Complete.
Attach ment	Most recent aerial photograph and site photographs		□ EP □ AEP	3/17/2025	Complete.

^{*} In this column, for WS No. 1-3, the environmental professional will address conclusions that form the Opinion in Section 2 and the Data Gaps in Section 3. The EP will analyze and prepare recommendations for Solid Waste, Physical Hazards, and Non-Scope Issues identified on WS No. 4. The EP will also review maps, aerial photographs, and site photographs and comment.

All Appropriate Inquires (AAI) Results Pre-Acquisition Liability Survey (PALS)

Section 2: Opinions formed by the EP based on document review § 312.21(c)(1).

_		• • • • • • • • • • • • • • • • • • • •
INI	MV OPIN	NION, this inquiry:
	has not	identified conditions indicative of releases or threatened releases of hazardous substances and/or petroleum products on, at, in, or to the subject property; or,
	nas	
	Descr	ribe: None of the past or present land uses for the Property likely indicate a REC for the Property.
Sec	ction 3: D	Pata Gaps identified by EP during document review § 312.21(c)(2).
Inf	ormation	developed as part of this inquiry:
Ø	has not	identified data gaps as defined in § 312.10 that affect my ability to identify conditions indicative of releases or threatened releases of hazardous substances and/or petroleum products on, at, in, or to the subject property; or,
	nas	susjett property, et,
	_	_
	Desci	ribe:
Sec	ction 4: A	dditional Comments by EP about the property.
_		
_		
_		
_		
_		
_		

All Appropriate Inquires (AAI) Results Pre-Acquisition Liability Survey (PALS)

Section 5: All Appropriate Inquiries (AAI) Conclusions H 2101-04.

As an Environmental Professional	, I hav	e reviewed	l and/	or compl	eted	the attacl	ned	documen	tation
associated with this acquisition an	d reacl	hed the fol	llowir	ng conclu	ision:				

Ø	This Pre-Acquisition Liability Survey has revealed no evidence of hazardous substances, petroleum products, or environmental conditions on this real property. No further inquiry is needed for purposes of all appropriate inquiries; therefore, this property is suitable for acquisition.
	This Pre-Acquisition Liability Survey has revealed evidence of hazardous substances, petroleum
_	products, or environmental conditions in connection with this real property; therefore, this property is
	not suitable for acquisition.
	This Pre-Acquisition Liability Survey has revealed evidence of hazardous substances, petroleum
	products, or environmental conditions in connection with this real property; therefore, a Phase I
	Environmental Site Assessment is recommended.
	This Pre-Acquisition Liability Survey has revealed evidence of hazardous substances, petroleum
	products, or environmental conditions in connection with this real property. Therefore, only the
	following portions are suitable for acquisition: (describe). The following portions are not suitable for
	acquisition and will be excluded: (describe).
Con	nments:
	s property is suitable for acquisition.
Sec	tion 6: Qualifications §312.21(d).
	clare that to the best of my professional knowledge and belief, I meet the definition of Environmental
Pro	fessional as defined in § 312.10 of this part and as established by BLM policy.
	we the specific qualifications based on education, training, and experience to assess a property of the
	ure, history, and setting of the subject property. I have developed and performed the all appropriate
ınqı	uires in conformance with the standards and practices of 40 CFR part 312.
Nar	me: Samantha Blonder Title: Assistant Environmental
Sim	nature: Samantha Blonder Professional Date: 3/27/2025

Worksheet No. 1 - Records Pre-Acquisition Liability Survey (PALS)

The following Records were reviewed:

1.		ill be reviewed as far back as necessary to establish there has been no impact on bstances and/or petroleum products.
	Aerial Photographs 1956 Generally open space, ranch house.	to 2019 Describe past uses of the property and adjoining property:
	Recorded Land Title Records:	Describe chain of title records, easements, current owner, or other factors that affect uses of the property:
	The current Warranty Deed for from Swift Current Land & Cat	the Property was executed and recorded on April 8, 2020 conveying ownership tle LLC to Resolution, a Delaware limited liability company.
	Zoning/Land Use Records: Generally open space, conservation.	Describe current land use and zoning:
	Other	Describe other records reviewed. Examples include appraisals, miscellaneous
	Historical topo maps.	maps, internet sites, newspaper articles, etc.
	rnistoricai topo maps.	
2	Environmental Cleanup Liens	Describe environmental cleanup liens on the site. If none, so state.
	None.	

Worksheet No. 1 - Records Pre-Acquisition Liability Survey (PALS)

3. Reviews of Federal, State, Tribal, and Local Government Records. The following records must be reviewed if available. Check YES if reviewed and N/A if not available. If any records are identified within the minimum search distances or may impact the subject property, the records should be attached and described in number 4

	Minimum Search Distance			
Records Reviewed*	from Property Boundary	Agency*	YES	N/A
Federal NPL site list	1 Mile	EPA	X	
Federal Delisted NPL site list	0.5 Mile	EPA	X	
Federal CERCLIS List	0.5 Mile	EPA	X	
Federal CERCLIS NFRAP List	0.5 Mile	EPA	X	
Federal RCRA CORRACTS facilities list	1 Mile	EPA	X	
Federal RCRA non CORRACTS TSD	0.5 Mile	EPA	X	
facilities list				
Federal RCRA generators list	Property & adjoining property	EPA	X	
Federal Emergency Response Notification	On the Property	EPA	X	
System (ERNS) List				
State, Tribal, local lists of hazardous waste	On the Property	DEQ/Tribe/local	X	
sites identified**				
State, Tribal, local Equivalent NPL**	1 Mile	DEQ/Tribe/local	X	
State, Tribal, local Equivalent CERCLIS**	0.5 Mile	DEQ/Tribe/local	X	
State, Tribal, local landfill and/or solid	0.5 Mile	DEQ/Tribe/local	X	
waste disposal site lists**				
State, Tribal, local leaking storage (LUST	0.5 Mile	DEQ/Tribe/local	X	
& LAST) Lists**				
State, Tribal, local registered storage tank	Property & adjoining property	DEQ/Tribe/local	X	
(UST & AST) Lists**				
State, Tribal, local voluntary cleanup	0.5 Mile	DEQ/Tribe/local	X	
sites**				
Contaminated Well Records	On or adjacent to the property	DWR/DEQ	X	
State Emergency Release Reports	On or adjacent to the property	DEQ	X	

^{*} Records Name and Agency will vary from state to state. For the purposes of this table, EPA is the Federal Environmental Protection Agency. DEQ is the State Equivalent of the EPA. This name will vary from state to state. DWR is Division of Water Resources or state equivalent.

^{**} Indicate which record was reviewed by circling the source of the record reviewed.

Worksheet No. 1 - Records Pre-Acquisition Liability Survey (PALS)

4. Attached or Summarized Records: For any record where the answer was YES, attach the record or a summary of the records in sufficient detail for the Environmental Professional to prepare an Opinion as to how the information could affect the subject property. Also briefly describe the record below.						
See appendix D. No records found on the Property.						
Name: Samantha Blonder Title: Environmental Specialist						
Signature: Samantha Blonder Date:3/27/2025						

Worksheet No. 2 - Questionnaire for Interview

Pre-Acquisition Liability Survey (PALS)

The AAI Rule requires that interviews be conducted of the current owner and occupant of the subject property. This worksheet is intended to assist with completion of the Interview portion of the All Appropriate Inquiries land acquisition screening. While it is intended as a useful guide, it is not all inclusive and does not meet all the requirements for CERCLA defenses. If the property has multiple occupants, the inquiry of the environmental professional must include interviewing major occupants, as well as those occupants likely to use, store, treat, handle, or dispose of hazardous substances, pollutants, contaminants, petroleum and petroleum products, and controlled substances, or those occupants who have likely done so in the past. This includes interviewing one or more of the following persons:

- Current and past facility managers with relevant knowledge of uses and physical characteristics of the property
- Past owners, occupants, or operators of the subject property
- Employees of current and past occupants of the subject property

Name of person being interviewed:	
Casey McKeon, Resolution Copper	
(If by phone, provide phone number)	
Affiliation with Subject Real Property:	
Owner/Operator	
(Owner/operator/caretaker/previous owner/neighbor, etc.)	
Time frame affiliated with Subject Real Property: 2020 to present.	
Name of person conducting interview: Diana Sandoval	
Signature of person conducting interview:	
Title of person conducting interview: Environmental Specialist	
Date(s) of interview: 3/18/2025	
Note: This form may be mailed to the person(s) to be interviewed. Request a written response	e to the
Thore. This form may be maned to the person(s) to be interviewed. Request a written respons	o to the

questions.

Worksheet No. 2 - Questionnaire for Interview Pre-Acquisition Liability Survey (PALS)

"To the Best of Your Knowledge..."

A. Property Use/s

1. Is the property currently or was it previously used for an industrial or commercial use (i.e. official and unofficial shooting ranges, processing, handling, management, disposal, storage, manufacture, or transportation of hazardous substances or petroleum products, such as a gasoline station, motor repair facility, commercial printing facility, dry cleaners, photo developing laboratory, meth lab, junkyard, boneyard, or landfill, or as a waste treatment, storage, disposal, processing, or recycling facility)? If yes, describe the activities and provide the time frame, types, location(s), and quantities of hazardous substance
use and/or storage.
Yes No Unknown
See interview in Appendix B.
Has there been any past, present, or permitted or planned mining activity or oil and gas exploration/development present on the property? If yes, describe the activities and provide the time frame, location(s), and scope of operations. Yes No Unknown
See interview in Appendix B.
2. Has the property ever been used for agricultural, livestock, or crop purposes? If yes, describe the operations and indicate the location(s) and time frames involved. Yes No Unknown
See interview in Appendix B.
If yes, was hazardous substance use and/or storage involved in the operations (example, pesticide/herbicide use, cattle dip vats)? If yes, describe and provide location(s) and the type, quantity, and duration of use. Yes No Unknown See interview in Appendix B.

3. Are there or have there been any improvements, such as old building foundations, buildings, water towers, smokestacks, smelters, etc., on the property? If yes, describe the improvements and provide location(s) and the date of construction and removal (if applicable). Yes No Unknown
See interview in Appendix B.
4. Other Questions as necessary based on the records review:
See interview in Appendix B.
B. Hazardous Materials & Substances
1. Do the current operations at/on the property involve the use and storage of hazardous materials and substances? If yes, please describe the operations and indicate the location(s), type, and quantities of materials used. Describe the storage location(s) and if any chemical mixing (example, pesticide blending) operations occur. Discuss any use, storage, mixing, or disposal of chemicals, automotive or industrial batteries, pesticides, herbicides, fungicides, paints, solvents, or other on fence lines, right of ways, or other structures such as airstrips, heliports, crop duster operations, etc. Yes No Unknown
See interview in Appendix B.
If yes, has there been a spill or release of hazardous substances, petroleum products, or other potential environmental problems on the property associated with current operations? If yes, describe the nature and location(s) of the release and the quantities and types of hazardous substances. This includes staining of soils and floors in areas utilized for the use and storage of hazardous materials. Yes No Unknown
See interview in Appendix B.
If a spill or release of hazardous substances or petroleum products had occurred, was it reported to the National Response Center or a local or state emergency response authority? If yes, identify the agency. Yes No N/A Unknown See interview in Appendix B.

If a spill or release of hazardous substances or petroleum products has occurred, has the release been
mitigated? If yes, describe the mitigation, identify the regulatory agency that oversaw the mitigation, and
indicate if a no-further action (NFA) determination has been issued by the lead regulatory agency.
Yes No N/A Unknown
See interview in Appendix B.
If remediation is completed, is there contamination or residual contamination present? If yes, are there any institutional controls/land use restrictions in place or long-term monitoring and maintenance requirements?
Yes No N/A Unknown
See interview in Appendix B.
2. Are there any past operations at the property that involved the use and storage of hazardous materials and substances? If yes, describe the operations and the location(s), types and quantities. Yes No Unknown
See interview in Appendix B.
If yes, has there been a spill or release of hazardous substances, petroleum products, or other potential environmental problems on the property associated with past operations or tenants? If yes, describe the nature and location(s) of the release and the quantities and types of hazardous substances. Yes No N/A Unknown
See interview in Appendix B.
If a spill or release of hazardous substances or petroleum products occurred, was it reported to the National Response Center or a local or state emergency response authority? If yes, identify the agency. Yes No N/A Unknown
See interview in Appendix B.

If a release of hazardous substances or petroleum products occurred, was the release mitigated? If yes,
describe the mitigation, identify the regulatory agency who oversaw the mitigation, and indicate if a no-
further action (NFA) determination was been issued by the lead regulatory agency. Yes No N/A Unknown
ies ivo iv/A Chkhowh
See interview in Appendix B.
If remediation is completed, is there still contamination or residual contamination present? If yes, are there any institutional controls/land use restrictions in place or long-term monitoring and maintenance requirements? Yes No N/A Unknown
See interview in Appendix B.
structures, either buried or overhead, crossing the property? If yes, please describe and indicate the location(s), approximate date when constructed, and the identification of the owner. Yes No Unknown
See interview in Appendix B.
If yes, are you aware of any spills or releases associated with them? If yes, please describe the spills and/or releases and indicate the date, type and quantities of materials involved. Yes No Unknown
See interview in Appendix B.
If a spill or release has occurred, are you aware if the release has been mitigated? If yes, please indicate who conducted the mitigation and identify the regulatory agency who oversaw the mitigation. If known, indicate if a no-further action (NFA) determination was been issued by the lead regulatory agency. Yes No N/A Unknown
See interview in Appendix B.

maintenance requirements? Yes No N/A Unknown See interview in Appendix B. 4. Are you aware of any hazardous substance or pollutant or contaminant spill or release, or other potential environmental problems on any adjacent or nearby properties? If yes, please describe (if known) the location(s) of the release, the type, and quantities of materials involved and the approximate dates. If known, also indicate the owner of the property where the release occurred. Yes No Unknown See interview in Appendix B. If there was a release of hazardous substances or petroleum products on any adjacent or nearby properties, are you aware if the release was mitigated? Yes No N/A Unknown See interview in Appendix B. Are you aware if there is contamination present or residual contamination present on adjacent and/or nearby properties that poses a threat or may pose a future threat to the subject real property? If yes, describe the threat or potential threat. Yes No N/A Unknown See interview in Appendix B. Are you aware of any institutional controls/land use restrictions in place or long-term monitoring and	If remediation is completed, are you aware if there is still contamination or residual contamination present?
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environmental problems on any adjacent or nearby properties? If yes, please describe (if known) the location(s) of the release, the type, and quantities of materials involved and the approximate dates. If known, also indicate the owner of the property where the release occurred. Yes No Unknown See interview in Appendix B. If there was a release of hazardous substances or petroleum products on any adjacent or nearby properties, are you aware if the release was mitigated? Yes No N/A Unknown See interview in Appendix B. Are you aware if there is contamination present or residual contamination present on adjacent and/or nearby properties that poses a threat or may pose a future threat to the subject real property? If yes, describe the threat or potential threat. Yes No N/A Unknown See interview in Appendix B. Are you aware of any institutional controls/land use restrictions in place or long-term monitoring and maintenance requirements in place on adjacent or nearby properties that affect the subject real property? If yes, please describe and identify the adjacent or nearby property and the property owner. Yes No N/A Unknown	See interview in Appendix B.
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Are you aware of any institutional controls/land use restrictions in place or long-term monitoring and maintenance requirements in place on adjacent or nearby properties that affect the subject real property? If yes, please describe and identify the adjacent or nearby property and the property owner. Yes No N/A Unknown	nearby properties that poses a threat or may pose a future threat to the subject real property? If yes, describe the threat or potential threat.
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see interview in Appendix B.	maintenance requirements in place on adjacent or nearby properties that affect the subject real property? If yes, please describe and identify the adjacent or nearby property and the property owner. Yes No N/A Unknown
	See interview in Appendix B.

Are you aware if the site topography has been altered and/or if there are any unnatural topographic features
present on the subject real property? If yes, please describe the topographic alterations and/or unnatural features. Indicate their location(s) on the subject real property and if known when the alterations occurred
and by whom.
Yes No Unknown
See interview in Appendix B.
Has fill material ever been brought onto the property that originated from a contaminated site or that was of
an unknown origin? If yes, describe the date and quantity of material brought to the subject real property,
indicate when on the property the material was placed.
Yes No Unknown
See interview in Appendix B.
If fill material came from a contaminated site, identify the contaminated origin site of the material and
describe the contamination present.
See interview in Appendix B.
5. Is there any evidence of waste materials currently or previously being dumped above grade, buried, and/or burned on the property (i.e. hazardous materials, industrial waste, petroleum products, labeled/unlabeled drums or other containers, pesticide containers, household and farm debris, automotive or industrial batteries, building demolition debris, or any other waste materials)?
Yes No Unknown
See interview in Appendix B.
6. Are any aboveground or underground storage tanks being or have been used on the property? If yes, identify where on the property the tanks are/were located, when the tanks were installed, and the types and quantities of hazardous materials stored. If the tanks were removed, indicate when the removal took place and whether a closure certification notice was received by the lead regulatory agency.
Yes No Unknown
See interview in Appendix B.

If aboveground or underground storage tanks are or have been used on the property, was there ever a spill
or release of hazardous substances associated with the tank system? If yes, indicate the date and nature of the spill or release.
Yes No Unknown
See interview in Appendix B.
If a spill or release has occurred related to an onsite tank system, was it mitigated to the satisfaction of the lead regulatory agency? If no, describe further actions that must be undertaken to address the spill or release. Yes No N/A Unknown
7. Other questions as necessary based on the records review:
See interview in Appendix B.
C. Water/Waste Water 1. Does the property currently or has it ever been supplied by an onsite drinking water supply well? If yes, provide the location(s) of the well and date of construction. Yes No Unknown
See interview in Appendix B.
Have contaminants ever been identified in the onsite drinking water well or the water system that exceeded acceptable levels? If yes, describe the contamination and indicate the dates, contaminant levels, and the source of the contamination, if known. Yes No N/A Unknown
See interview in Appendix B.
If an onsite drinking water well is no longer used, has it been properly abandoned in accordance with applicable regulatory requirements? If, yes, indicate the date the well was abandoned. Yes No N/A Unknown
See interview in Appendix B.

2. Does the property currently have or has there ever been an onsite waste water treatment and disposal systems (septic systems, sewage lagoons, etc.)? If yes, please provide a description of the system,
including the location(s), size, date constructed, and which buildings discharge to the system.
Yes No Unknown
See interview in Appendix B.
If the onsite waste water treatment and disposal system is no longer in use, has it been closed? If yes, describe method of closure and date closed.
Yes No N/A Unknown
See interview in Appendix B.
<u> </u>
3. Have any monitoring wells been installed on the property? If yes, explain the purpose of the wells and provide the location(s), dates of construction, and any analytical results. Yes No Unknown
If the monitoring wells are no longer in use, have they been properly abandoned in accordance with applicable regulatory requirements? If, yes, indicate the date the wells were abandoned. Yes No N/A Unknown
See interview in Appendix B.
4. Is surface water present on the property (i.e. pits, ponds, lagoons, rivers, creeks, oceans, etc.)? If yes, provide a description of the location(s) and type of surface water present. Yes No Unknown
See interview in Appendix B.

If surface water is present, are you aware of any unnatural characteristics (i.e., color, sheens, odors, sterile, etc.)? If yes, please describe and indicate whether the situation is new or has been present for an extended period of time.
Yes No N/A Unknown See interview in Appendix B.
5. Other questions as necessary based on the records review:
D. Compliance/Permits
 Are you aware of any environmental liens against the subject real property that have been filed or recorded under Federal, tribal, state, or local law? If yes, describe the lien and indicate the date and effect on the current and future use of the property. Yes No Unknown
See interview in Appendix B.
2. Are you aware of any activity and land use limitations that are in place on the subject real property or that have been filed or recorded under Federal, tribal, state, or local law? If yes, describe the land use restrictions and identify when they were issued and by whom. Yes No Unknown
See interview in Appendix B.
3. Are you aware if any environmental site assessment or other environmental investigations of the subject real property or any other property/site records that indicated the presence of hazardous substances, petroleum products, or other potential environmental problems on the property? If yes, describe the report and findings. Yes No Unknown See interview in Appendix B.

Are you aware if any environmental site assessment or other environmental investigations of the subject real property or any other property/site records that recommended further assessment of the property? If
yes, identify the report and indicate if the further assessment was performed.
Yes No N/A Unknown
See interview in Appendix B.
4. Are you aware of any past, threatened, or pending lawsuits or administrative proceedings concerning a release or threatened release of any hazardous substances or petroleum products on the subject real property? If yes, describe and identify when and by whom the legal and/or administrative action was initiated. Yes No Unknown
See interview in Appendix B.
5. Have there ever been spills of hazardous substances or petroleum products that were reported to the National Response Center or a local or state emergency response authority? Yes No Unknown
Details:
See interview in Appendix B.
6. Other questions as necessary based on the records review:
See interview in Appendix B.
See Interview in Appendix B.
E. Other
 Are you aware of the presence of or has there been any anomalous vegetation (i.e. stressed, dead, etc.) present on the property? If yes, indicate the location(s) and approximate dates. Yes No Unknown
See interview in Appendix B.

2. If not mentioned above, is there anything else that could indicate the presence of haz petroleum products, or other environmental conditions that may impact the subject real	
Yes No Unknown	
See interview in Appendix B.	
If the questionnaire is provided to the owner/operator, provide a signature block. Follow format:	wing is a suggested
Name of individual completing Questionnaire: Casey McKeon	
Signature of individual completing Questionnaire:	
Affiliation with Subject Real Property: Owner/Operator	_
(Owner/operator/caretaker/previous owner/neighbor, etc.)	
Time frame affiliated with Subject Real Property:	
Date Signed:	_

Worksheet No. 3 - Visual Inspection of the Property and Adjoining Properties Pre-Acquisition Liability Survey (PALS)

This worksheet is intended to assist with completion of the Site Visit Survey portion of the All Appropriate Inquiries land acquisition screening. The AAI Rule calls for a visual onsite inspection of the subject property and facilities and improvements on the subject property, including a visual inspection of the areas where hazardous substances may be or may have been used, stored, treated, handled, or disposed. The AAI Rule also includes a visual inspection of adjoining properties from the subject property line, public rightsof-way, or other vantage point (e.g., aerial photography), including a visual inspection of areas where hazardous substances may be or may have been stored, treated, handled, or disposed.

In conducting the onsite visual inspection, the staff conducting the visit must maintain a photo log and property/site map that identifies the location(s) photo was/were taken and approximate direction of view.

Others present during	=	0	
<u>Name</u>	<u>Title</u>	<u>Organization</u>	
			
			<u></u>
Date of inspections:	3/17/2025		
Beginning and end ti	me of inspection: 10:00 ar	n – 12:30 pm	
Weather during inspe			
Clear			
		operty/adjoining property was inspecte Ranch is from the north via Arizona S	

Worksheet No. 3 - Visual Inspection of the Property and Adjoining Properties Pre-Acquisition Liability Survey (PALS)

During the visual inspection of the property and adjoining properties, if the answer to any of the Questions is YES, consult with the Environmental Professional who will determine if the PALS is the appropriate Level of Inquiry to meet the All Appropriate Inquiries Standards as described in 40 CFR part 312.

A. Property Use(s)

Are there currently structures and improvements present on the property? If yes, provide a physical scription of all structures and improvements, including their condition and location(s) on a property/s	
map. Yes X No Photo Log ID Number(s): 7,9 Solar wells and cisterns	
2. Is there evidence that there were structures and improvements present on the property in the past? If yes, describe the evidence and provide a physical description of all structures and improvements, including their condition and location(s) on a property/site map. Yes X No Photo Log ID Number(s): 13 Old house foundation.	
3. Is there evidence of agricultural use (livestock, crop raising, agricultural drainage; including surface, and/or subsurface drains)? If yes, describe the operations. Provide a physical description of operations and identify the location(s) on the property/site map. Yes No _X Photo Log ID Number(s): _9 Stock watering infrastructure including earthen cattle tanks, no livestock observed.	
4. Is there evidence of oil and gas exploration/development? If yes describe the operations. Provide a physical description of the activities and identify the associated structures and improvements and identify the location(s) on the property/site map. Yes No _X Photo Log ID Number(s): N/A	

If yes, are oil and/or gas drilling pads, holding ponds, or conveyance pipelines and s property? If yes, describe the operations and improvements and identify the location map.	
Yes No N/A X Photo Log ID Number(s): N/A N/A	
Is there evidence of current and/or past spills or releases of hazardous substances or contaminants, or petroleum and petroleum products related to the oil and gas explora yes, describe and provide the location(s) of the potential spills and releases on the provide the location of the potential spills and releases on the provided by the location of the potential spills and releases on the provided by the location of the potential spills and releases on the provided by the location of the potential spills and releases on the provided by the location of the potential spills and releases on the provided by the location of the potential spills and releases on the provided by the location of the potential spills and releases on the provided by the location of the potential spills and releases on the provided by the location of the potential spills and releases on the provided by the location of the potential spills and releases on the provided by the location of the potential spills and releases on the provided by the location of the potential spills and releases on the provided by the location of the potential spills and releases on the provided by the location of the potential spills and releases on the provided by the location of the potential spills and releases on the provided by the location of the locat	tion/development? If
5. Is there any evidence of strip mining, hard rock mining, piles, or other extractive yes, describe the operations. Provide physical description of the activities and list or associated structures and improvements (waste rock piles, mill sites, mill tailings, et location(s) on the property/site map. Yes No _X Photo Log ID Number(s): N/A N.A.	ut and identify the
If minerals extraction operations are present, is there evidence of the use/storage or substances (example, fuel storage tanks, cyanide or chemical use at mill sites)? If yo operations and provide a physical description of the evidence and the location(s) on Yes No N/A_X Photo Log ID Number(s): N/A_	es, describe the
N/A	
If minerals extraction operations are present, are there other potential environmental adits or acid mine drainage, waste rock, or mill tailings in or adjacent to streams and If yes, provide a physical description and provide the location(s) on the property/site Yes No N/A Photo Log ID Number(s): N/A N/A	surface waters, etc.)?

If minerals extraction operations are present, are there physical safety hazards present (open adits, vertical shafts, heavy equipment, etc.). If yes, provide a physical description of the hazards and the location(s) on the property/site map. Yes No N/A Photo Log ID Number(s): Photo Log ID Number(s): N/A Photo Log ID Number(s): Photo Photo Log ID Number(s):
If the areas of mineral extraction activities (mine sites, mill sites, etc) are not accessible for visual and/or physical inspection, describe the reason for the inaccessibility. N/A
6. Describe and note the topographic conditions of the property as well as the general topography of the area surrounding the property that is visually and/or physically observed from the periphery of the property. Identify and locate on a property/site map any key topographic features that may relate to offsite or onsite migration of contaminants. Photo Log ID Number(s): 4 Rolling grasslands.
Is there evidence of modified topography or unnatural topographic features (i.e., fill dirt brought onto the property, cover for dumps, mounds, fill areas, depressions, etc.)? If yes, provide a physical description and provide the location(s) on the property/site map. Yes x No Photo Log ID Number(s): N/A Several earthen embankments for livestock tanks.
7. Is there any evidence of waste materials currently or previously being dumped above grade, buried, and/or burned on the property (i.e., dumps, industrial waste, petroleum products, labeled/unlabeled drums or other containers, pesticide containers, household and farm debris, automotive or industrial batteries, building demolition debris, etc.)? If yes, describe the evidence and provide information relating to the waste materials and disposal areas and identify the location(s) on the property/site map. Yes No _X Photo Log ID Number(s): N/A N/A

8. Are there roads and/or paths present on the property? If yes, provide a description and indicate the location(s) on a property/site map. Yes X No Photo Log ID Number(s): 5 Several dirt roads.
If roads and/or paths are present, is there evidence of illegal or unauthorized dumping activities occurring? If yes provide a description of the dumping and waste materials. Based on observations, indicate the approximate age of the wastes and the location(s) on a property/site map (Cross reference to Worksheet No 4). Yes No _x N/A Photo Log ID Number(s):
B. Hazardous Materials & Substances 1. Is there evidence that current operations on the property involve the processing, handling, management, disposal, storage, manufacture, or transportation of hazardous substances or petroleum products (for example, official and/or unofficial shooting ranges, gasoline station, equipment/vehicle repair, printing facility, dry cleaners, photo developing laboratory, analytical laboratory, junkyard, boneyard, or landfill, or as a waste treatment, storage, disposal, processing, or recycling facility)? If yes, describe the operations a provide information relating to the chemical use and storage and identify the location(s) on a property/site map. Yes No _X Photo Log ID Number(s): _N/A
If yes, is there evidence that there has been a spill or release of hazardous substances, petroleum products, or other potential environmental problems on the property associated with current operations? If yes, describe the nature and location(s) of the release and the quantities and types of hazardous substances and identify the location(s) on a property/site map. This includes staining of soils and floors in areas used for the use and storage of hazardous materials. Yes No N/A Photo Log ID Number(s): N/A N/A Photo Log ID Number(s): N/A

2. Is there evidence that previous operations on the property involved the processing, handling, management, disposal, storage, manufacture, or transportation of hazardous substances or petroleum products (for example, official and/or unofficial shooting ranges, gasoline station, equipment/vehicle repair, printing facility, dry cleaners, photo developing laboratory, analytical laboratory, junkyard, boneyard, or landfill, or as a waste treatment, storage, disposal, processing, or recycling facility)? If yes, describe the operations and provide information relating to the chemical use and storage and identify the location(s) on a property/site map. Yes No _X Photo Log ID Number(s): N/A
If yes, is there evidence that there has been a spill or release of hazardous substances, petroleum products, or other potential environmental problems on the property associated with past operations or tenants? If yes, describe the nature and location(s) of the release and the quantities and types of hazardous substances and identify the location(s) on a property/site map. This includes staining of soils and floors in areas used for the use and storage of hazardous materials. Yes No N/A Photo Log ID Number(s): N/A
3. Is there evidence that the property is currently or was previously used for any form of illegal activities which may involve the processing, handling, management, disposal, storage, manufacture, or transportation of hazardous substances or petroleum products (for example, illegal drug labs, waste disposal sites)? If yes, describe the activities and provide information relating to the chemical use and storage and identify the location(s) on the property/site map. Yes No _X Photo Log ID Number(s): _N/A N/A
4. Is there any evidence of contamination (i.e., hazardous substances or petroleum products) or other materials (soil, rock, etc.) migrating from adjacent and/or nearby properties onto the site? If yes, describe and indicate the location(s) on a property/site map. Also indicate if the migration appears to be current or whether it happened in the past. Yes No _X Photo Log ID Number(s):N/A

5. Is there evidence of use, storage, mixing, and/or disposal of industrial drums (typically 55 gallons) or sacks of chemicals, automotive or industrial batteries, pesticides (including herbicides), paints, solvents, or other chemicals in individual containers larger than 5 gallons in volume or 50 gallons in the aggregate at the property? If yes, describe and indicate the location(s) on a property/site map. Yes No _X Photo Log ID Number(s): N/A
6. Are there any unidentified substance containers on the property? If yes, indicate their location(s) on a property/site map and bring to the immediate attention of the EP. Yes No _X Photo Log ID Number(s): _N/A N/A
7. Is there evidence of use of chemicals, automotive or industrial batteries, pesticides, herbicides, fungicides, paints, solvents, or other, on-fence lines, right of ways, airstrips, heliports, crop duster operations, etc.? If yes, describe the evidence and indicate location(s) on a property/site map. Yes No _X Photo Log ID Number(s):N/A
8. Is there evidence of oiled roads, oil seeps and slicks, staining on the soil and cracked concrete, asphalt, adjacent to storm-water drains, or other surfaces? If yes, describe and indicate the location(s) on a property/site map. Yes No X Photo Log ID Number(s): N/A N/A
9. Are there currently any aboveground or underground storage tanks on the property or indications of the presence of abandoned aboveground or underground storage tanks, such as any vent pipes, fill pipes, access ways indicating a fill pipe, concrete or asphalt pads or patches, islands, or dispensers on the property or adjacent to any structure on the property? If yes, describe and identify what materials the tanks hold/held and identify where on the property the tanks are located. Yes No _X Photo Log ID Number(s):N/A

If aboveground or underground storage are present, is there any evidence of spill or releases? If yes, describe and indicate the location(s) on a property/site map. Yes No N/A _X Photo Log ID Number(s): n/a
10. Is there evidence or any indications that an aboveground or underground storage tank had been installed on the property in the past? For example, the presence of tank pads, vent pipes, fill pipes, access ways indicating a fill pipe, or dispensers on the property or adjacent to any structure on the property? If yes, describe the evidence and identify the location(s) on the property where the tanks were located. If known, indicate when the tanks were removed. Yes X No Photo Log ID Number(s): 14 Septic tank was previously located at the ranch house location, this has been removed.
If aboveground or underground storage were previously present, is there any evidence of spill or releases? If yes, describe and indicate the location(s) on a property/site map. Yes No _X N/A Photo Log ID Number(s): N/A N/A
11. Are there electric transmission lines, transformers, capacitors, or any hydraulic equipment (i.e., elevators, presses, lifts, doors, etc.) currently present on the property? If yes, describe the equipment. Indicate whether any of the equipment is labeled as either containing PCBs or being PCB-free. Record information from any identification tags and indicate the location(s) on a property/site map. Yes X No Photo Log ID Number(s): 12
Transmission line running to the old house foundation, and utility line that run along the roadway.
If electrical transmission lines, transformers, capacitors, or hydraulic equipment are present, is there any evidence of leakage or the presence of PCBs? If yes, describe and indicate the location(s) on a property/site map. Yes No _x N/A Photo Log ID Number(s): N/A N/A N/A Photo Log ID Number(s): N/A

12. Is there any evidence electric transmission lines, transformers, capacitors, or any hydraulic equipment (i.e., elevators, presses, lifts, doors, etc.) being present on the property in the past? If yes, describe the evidence and indicate, if known, when and what type of equipment was present. If known, indicate whether any of the equipment contained PCBs and indicate the former location(s) on a property/site map. Yes x No Photo Log ID Number(s): N/A See question 11.
13. Are there identified mercury containing materials (i.e., fluorescent lamps, button batteries, thermostats, thermometers, manometers, and other medical devices, pressure gauges, switches, relays, sin traps, and medical waste) on the site? If yes, identify the materials. Include the quantity and a description of the condition of the equipment and identify the location(s) on a property/site map. Yes No _X Photo Log ID Number(s): N/A N/A
14. Is there evidence of any pipelines, utility lines, railways, entry/exit ports, and associated structures, either buried or overhead, crossing the property, and is there evidence of any spills or releases associated with them? If yes, describe the structures and indicate the location(s) on a property/site map. Yes X No Photo Log ID Number(s): 12 Utility lines are present above and below the ground.
If yes, is there any evidence of any spills or releases associated with them? If yes, provide a description and indicate the location(s) on a property/site map. Yes No X N/A Photo Log ID Number(s): N/A N/A

15. Are there structures (i.e., buildings, water towers, lead smelters, etc.) and/or soils surrounding structures on the site which might indicate the presence of lead in dust, old paint (peeling, chipping, chalking, or cracking lead-based paint) and/or which were built prior to 1978 (or of unknown construction dates)? If yes, identify the structures. Include a description of the location(s) (interior or exterior of structures) and identify the location(s) on a property/site map. If paint is present, also indicate whether the paint is peeling and whether there is evidence of paint chips on the ground surrounding the structures. Yes No _X Photo Log ID Number(s): _N/A N/A
If a structure is suspected to contain lead, is there any indication of what the intended use for the structure is or is it to be demolished? If yes, provide description and evidence and the location(s) on a property/site map. Yes No N/A Photo Log ID Number(s): N/A
16. Are there structures on the site containing identified asbestos-containing materials (ACMs) or with suspect ACMs (i.e., fire proofing, acoustical plaster, siding, floor tiles, roofing shingles, mastic, insulation, vermiculate, etc.)? If yes, describe the structure and the ACMs. Indicate the condition of the ACMs and identify the location(s) on a property/site map. Yes No _X Photo Log ID Number(s):NA
17. Are there floor drains present in any of the onsite structures and/or areas where hazardous materials are used and/or stored or have been used and/or stored in the past? If yes, provide a description including the current and previous use of the structure (if known) and observed operations and types of hazardous materials. Also indicate the location(s) of the floor drains in the structures on a property/site map and where the floor drain discharges. Yes No _X Photo Log ID Number(s): _N/A N/A

In the areas with floor drains, is there evidence of any chemical stains present on the walls and/or floors of the onsite areas and structures where hazardous materials are/have been used and/or stored? If yes, indicate which areas/structures have chemical staining and where they are located on a property/site map. Yes No N/A Photo Log ID Number(s): N/A
18. Are there any floors, drains, ceiling, or walls stained by substances other than water or that are emitting foul and/or unnatural odors (i.e. mold, mildew, other)? If yes, describe the site operations that occur and/or that have occurred in the past and indicate the location(s) on a property/site map. Yes No _X Photo Log ID Number(s):
19. Is there any evidence of any drains, pools, or sumps that contain liquids likely to be hazardous substances or petroleum products? If yes, describe and indicate the location(s) on a property/site map. If known, indicate what structure or site operations may be associated with the drains, pools, or sumps. Yes No _X Photo Log ID Number(s): N/A
20. If structures are present on the property, is there indication of how the structures are heated/cooled? If yes, describe the refrigeration/cooling systems and indicate whether they contain Freon and other regulated substances? For the heating systems, identify the heating and fuel source (for example, heating oil, gas, electric, radiators from a steam boiler fueled by gas) and indicate the location(s) on a property/site map. Yes No _X Photo Log ID Number(s): N/A N/A
C. Water/Waste Water 1. Is surface water present on the property (i.e. pits, ponds, lagoons, rivers, creeks, oceans, etc.)? If yes, provide a description of the type of surface water and its location(s) on a property/site map. Yes X No Photo Log ID Number(s): _8 Two stock ponds fed by solar well, one drainage with some surface water.

If surface water is present (example pits, ponds, lagoons), is there evidence of any unnatural characteristic (i.e., color, sheens, odors, sterile, etc)? If yes, describe and indicate the location(s) on a property/site may If known, indicate whether it is associated with an activity related to the property and whether it is the situation is new or has been present for an extended period of time. Yes No _x N/A Photo Log ID Number(s): N/A N/A	
	_
If surface water is present, is there evidence of hazardous materials dumping in water bodies (e.g. used fo agricultural, commercial and/or industrial purposes, marinas, docks, etc.)? If yes, describe and indicate it this is a current/ongoing activity or whether it has happened in the past. Indicate the location(s) on a property/site map.	
Yes No No N/A Photo Log ID Number(s): N/A	
IVA	
If surface water is present, is there any evidence of bank erosion and/or other unusual characteristics in running water bodies (i.e., rivers, streams, drain channels)? If yes, describe and indicate if this is a current/ongoing activity or whether it has happened in the past. Indicate the location(s) on a property/site map. Yes No _x N/A Photo Log ID Number(s): N/A N/A	
2. Is there evidence that the property currently or was previously served by an onsite drinking water supply well? If yes, describe the well and its condition and provide the location(s) on a property/site map. If the well is no longer used, indicate whether it has been properly abandoned. If no, indicate whether the property is supplied by an offsite water source. Yes x No Photo Log ID Number(s): ^{n/a}	
	_
If a well is present on the property, is there evidence of any contamination of the water supply or of the nearby soils? If yes, provide a description. Yes No \underline{X} N/A Photo Log ID Number(s): $\underline{N/A}$	
N/A	

3. Is there evidence that the property currently or was previously served by a non-potable water system (example, agricultural well)? If yes, describe the well and its condition and provide the location(s) on a property/site map. If the well is no longer used, indicate whether it has been properly abandoned. Yes X No Photo Log ID Number: 1,7,9 Several solar wells are present and functioning.
If a non-potable well is present on the property, is there evidence of any contamination of the water supply or of the nearby soils? If yes, provide a description. Yes No _X N/A Photo Log ID Number(s): N/A
4. Is there evidence, other than storm water, of sanitary wastewater discharge from restrooms, kitchens, or other household-type uses? Is there evidence of industrial and/or other wastewater discharge on or adjacen to the property? If yes describe the discharge and indicate if it is a current/ongoing activity or whether it has happened in the past. Indicate the location(s) on a property/site map. Yes No _X Photo Log ID Number(s):N/A
5. Is there evidence that the property currently has or had in the past an onsite waste water treatment and disposal system (septic systems, sewage lagoons, etc.)? If yes, describe the system and indicate which structures and operations discharged to the system. Provide the location(s) of the system on a property/site map. Yes X No Photo Log ID Number(s): N/A Septic system was removed from the old house foundation in 2020.
If the onsite waste water treatment and disposal system is no longer in use, is there evidence that is has it been closed? If yes, describe method of closure. Yes No N/A Photo Log ID Number: N/A Septic system has been removed.

6. Is there evidence that the property discharged waste water to an offsite facility? If yes, provide a
description. Yes No _X Photo Log ID Number(s): _N/A N/A
Is there evidence of other wastewater treatment/disposal facilities (example oil water separators, ponds, pits, lagoons) located on the property that have or may have been used for waste disposal? If yes, describe and provide the location(s) on a property/site map and identify the property/site operations that may have discharged to the systems. Yes No $\frac{X}{X}$ Photo Log ID Number(s) $\frac{N/A}{N/A}$
7. Is there evidence of any other existent discharges, drains, grates, etc that have not been addressed previously? If yes, describe and indicate the location(s) on a property/site map. Yes No X Photo Log ID Number(s): N/A N/A N/A
D. Other
1. Is there any evidence that any monitoring wells have been installed on the property? If yes, describe and explain the purpose of the wells, if known, and indicate the location(s) on a property/site map. Yes No _X Photo Log ID Number(s): _N/A N/A
If the monitoring wells have been installed and are no longer in use, is there evidence that they been properly abandoned in accordance with applicable regulatory requirements? If, yes, describe and indicate the date the well(s) was abandoned, if known. Yes No N/A Photo Log ID Number(s): N/A N/A

2. Is there evidence of stressed vegetation on the property (i.e., bare ground, distressed/dead vegetation, unusually healthy vegetation, etc.) that is not associated with insufficient or too much water? If yes, provide a description and indicate the location(s) on a property/site map and any current or past site
activities or operations in the area, if known. Yes No X Photo Log ID Number(s): N/A N/A
3. Is there a large number or amount of invasive plants present on the property? If yes, please indicate common name if known (e.g., kudzu, phragmites, cheatgrass, etc.), and approximate amount if possible (e.g., approximately half an acre, etc.). Indicate the location(s) on a property/site map. Yes No_X_Photo Log ID Number(s): N/A n/a
4. Is there anything else observed that could indicate the presence of hazardous substances, petroleum products, or other potential environmental problems on the property? If yes, provide a description and indicate the location(s) on a property/site map and how it relates to current and/or past activities or operations.
Yes No x Photo Log ID Number(s): N/A N/A

E. Surrounding Property Use

1. As can be visually and/or physically observed from the periphery of the property, are there currently structures and improvements present on the surrounding property? If yes, provide a physical description of
the observable structures and improvements. Yes X No Photo Log ID Number(s): N/A
Housing and research ranch offices and outbuilding.
2. As can be visually and/or physically observed from the periphery of the property, is there evidence that there were structures and improvements present on the surrounding property in the past? If yes, describe
the evidence.
Yes No X Photo Log ID Number(s): N/A See question 1.
•
3. As can be visually and/or physically observed from the periphery of the property, is there evidence that current operations on the surrounding property involve the processing, handling, management, disposal, storage, manufacture, or transportation of hazardous substances or petroleum products (for example, shooting ranges, gasoline station, equipment/vehicle repair, printing facility, dry cleaners, photo developing laboratory, analytical laboratory, junkyard, boneyard, landfill, or as a waste treatment, storage, disposal, processing, or recycling facility)? If yes, describe the operations and identify the location(s) on a property/site map. Yes No _X Photo Log ID Number(s): _N/A
N/A
4. As can be visually and/or physically observed from the periphery of the property, is there evidence that past operations on the surrounding property involved the processing, handling, management, disposal, storage, manufacture, or transportation of hazardous substances or petroleum products (for example, shooting ranges, gasoline station, equipment/vehicle repair, printing facility, dry cleaners, photo developing laboratory, analytical laboratory, junkyard, boneyard, landfill, or as a waste treatment, storage, disposal, processing, or recycling facility)? If yes, describe the evidence and identify the location(s) on a property/site map. Yes NoX Photo Log ID Number(s): N/A
N/A

5. Is there evidence of any other nearby land uses or activities, especially upstream or upgradient that might have had a waste or dump site? For example, are there upstream or upgradient active or abandoned mine sites which may impact or threaten the subject real property? If yes, describe evidence and the land use or activity. Identify the location(s) on a property/site map. Yes No _X Photo Log ID Number(s): N/A
6. Is there evidence of any hazardous substance, pollutant/contaminant spill or release, or other potential environmental problems on any adjacent or nearby properties? If yes, describe the evidence and the release and provide the location(s) on a property/site map. Yes No X Photo Log ID Number(s): N/A N/A
7. As can be visually and/or physically observed from the periphery of the property, is there evidence of any current or past agricultural drainage (surface, and/or subsurface drains, field runoff, etc.) discharging from the adjacent properties onto the property/site? If yes, describe the discharge and indicate the location(s) on a property/site map. Yes No _X Photo Log ID Number(s): _N/A N/A
8. As can be visually and/or physically observed from the periphery of the property, is there any evidence of contamination (i.e., hazardous substances or petroleum products) or other materials (soil, rock, etc.) migrating from adjacent and/or nearby properties onto the property/site? If yes, describe and indicate the location(s) on a property/site map. Also indicate if the migration appears to be current or whether it happened in the past. Yes No _X Photo Log ID Number(s): _N/A N/A

 As can be visually and/or physically observed from the periphery of the property, is there evi oil and gas exploration/development on the adjacent and surrounding property? If yes, describe operations and identify the location(s) on the property/site map. Yes No X Photo Log ID Number(s): N/A N/A 	
If yes, is there any evidence of oil and/or gas drilling pads, holding ponds, or conveyance pipelir structures present on the adjacent and surrounding property? If yes, describe the operations an improvements and identify the location(s) on the property/site map. Yes No N/A Photo Log ID Number(s): N/A N/A	
10. As can be visually and/or physically observed from the periphery of the property, is there of current and/or past spills or releases of hazardous substances or pollutants, contaminants, or p and petroleum products related to the oil and gas exploration/development? If yes, describe and the relative location(s) on a property/site map. Yes No N/A Photo Log ID Number(s):N/A	etroleum
11. As can be visually and/or physically observed from the periphery of the property, is there evidence of strip mining, hardrock mining, piles, or other extractive mineral activities on the adja surrounding property? If yes, describe the operations and identify any associated structures and improvements (waste rock piles, mill sites, mill tailings, etc.) and identify the location(s) on the property/site map. Yes No _X Photo Log ID Number(s):N/A	

12. As can be visually and/or physically observed from the periphery of the property, is there evidence of the use/storage or release of hazardous substances (for example, fuel storage tanks, cyanide or chemical use at mill sites) associated with the minerals extraction operations on the adjacent and surrounding property? If yes, provide a description of the evidence and provide the location(s) on a property/site map. Yes No N/A X Photo Log ID Number(s). N/A X
N/A
13. As can be visually and/or physically observed from the periphery of the property, describe and note the topographic conditions of the surrounding property as well as the general topography of the area. Identify and locate on a property/site map any key surrounding topographic features that may relate to offsite or onsite migration of contaminants. Photo Log ID Number(s): N/A
Rolling grasslands.
As can be visually and/or physically observed from the periphery of the property, is there evidence of modified topography or unnatural topographic features on the surrounding property that may indicate (i.e., fill dirt brought onto the property, cover for dumps, mounds, fill areas, depressions, etc.)? If yes, provide a physical description and provide the location(s) on the property/site map. Yes No _X Photo Log ID Number(s): N/A N/A
14. As can be visually and/or physically observed from the periphery of the property, is there evidence of stressed vegetation on the surrounding property (i.e., bare ground, distressed/dead vegetation, unusually healthy vegetation, etc.) that is not associated with insufficient or too much water? If yes, provide a description and indicate the location(s) on a property/site map and any current or past site activities or operations in the area, if known. Yes No _X Photo Log ID Number(s):N/A

15. As can be visually and/or physically observed from the periphery of the property, is there a large number or amount of invasive plants present on the surrounding property? If yes, indicate common name, if known (e.g., kudzu, phragmites, cheatgrass, etc.), and approximate amount if possible (e.g., approximately half an acre, etc.). Yes No X Photo Log ID Number(s): N/A N/A
16. Is there anything else observed that could indicate the presence of hazardous substances, petroleum products, or other potential environmental problems on the surrounding properties? If yes, provide a description and indicate the location(s) on a property/site map and how it now may threaten the property/site. Yes No X Photo Log ID Number(s): N/A
N/A

Worksheet No. 4 – Solid Waste, Physical Hazards, and Non-Scope Issues

Pre-Acquisition Liability Survey (PALS)

Solid Waste, Physical Hazards, and Non-Scope Issues identified during the inquiry will be described below, identified on the site map, and photographs taken and provided as an attachment. If none, so state.

Solid Waste: such as household garb similar items.	age, tires, appliances, dead animals, abandoned automobiles, and
None.	
	vironmental impacts such as mine shafts, high walls, unsafe bridges, nere the potential exists for injury to visitors on the lands after
None.	
	containing materials, radon, lead-based paint, drinking water systems, ems. [If these kinds of items are found on the property, a higher level
None.	
Name: Samantha Blonder	Title: Assistant Environmental Professional
Signature: Samantha Blonder	Date: 3/27/2025

APPENDIX L Operator Questionnaire Property: Appleton Ranch

PHASE I ENVIRONMENTAL SITE ASSESSMENT

OWNER/ OPERATOR/OCCUPANT QUESTIONNAIRE

Please respond to the questions provided below and expand your responses as appropriate:

(1). Please describe the current uses of the *property*, if known.

The Appleton-Whittell Research Ranch of the National Audubon Society (AWRR), which includes three distinct parcels owned by Resolution Copper, is an 8,000-acre sanctuary and living laboratory in southeastern Arizona, nestled in the grasslands that fill the spaces between the region's famous Sky Islands. Here, we work to formulate, test, and demonstrate methods to rehabilitate and safeguard the bioregion and provide assistance to community members and policy-makers in the protection and stewardship of our native ecosystems, natural resources, and quality of life. Primary uses includes research, conservation, and community education.

(2). Please describe the past/historic use(s) of the *property*, if known.

Prior to the formation of the AWRR, the land within its boundaries were part of an active cattle ranch. Uses included cattle grazing, limited residential development, and conservation.

(3). Name the current and any past owners or occupants of the *property*, if known.

Previous owners/occupants include homesteaders T. B. Titus, Wm. Roth, James L. Finley, Juan Telles, Francis Cuthbert Fenderson, Willard T. Roath, and John D. Riggs as well as the most recent ranching family, the Appletons. The property is currently owned by Resolution Copper and managed by the National Audubon Society.

- (4). Please describe the past and/or current uses of adjoining properties, if known.
 - Bureau of Land Management's Appleton-Whittell Area of Critical Environmental Concern (conservation, research, education)
 - Audubon-owned portions of the AWRR (conservation, research, education)
 - Research Ranch Foundation-owned potions of the AWRR (conservation, research, education)
 - The Babacomari Ranch (active cattle ranch, grazing)
 - Scott & Linda McDaniel (active cattle ranch, grazing)
 - Canelo Hills Ranch LLC (active cattle ranch, grazing)
 - Kyle & Suzanne Wilcox (private inholding within AWRR)
- (5). Please describe the general past and/or current uses of the surrounding area, if known. (i.e. residential, commercial, agricultural, industrial etc.)

Past and current uses of the surrounding area include cattle grazing, viticulture, limited residential development, conservation, research, and education.

(6). Are you aware of any chemicals/petroleum product	s in individual containers greater than 5-gallons that are
present or once were present at the property (including	g used automotive/industrial batteries, pesticides, paints,
solvents acids, bases, antifreeze, gasoline, diesel, fuel oi	l, kerosene, lubricating oil, benzene, etc)? This includes
industrial drums (typically 55-gallons).	

YesNo X	Unknown
(7). Do you know of spills or o	other chemical releases that have taken place at the <i>property</i> ?
Yes No X	Unknown
(0) D - 1 - C	411 - 441 - 41 1 44 49

Property: Appleton Ranch Yes No X Unknown (9). Are you aware of any environmental cleanup liens against the *property*? Yes No X Unknown (10). Are you aware of any engineering controls (capping, slurry walls or water treatment), land use restrictions or institutional controls (deed restriction, restrictive covenants, easements or zoning) intended to reduce exposure of a hazardous substance or petroleum product at the *property*? Yes No X Unknown (11). Are there any above ground storage tanks, underground storage tanks, vent pipes or access ways indicating storage tanks at the *property*? Yes No X Unknown____ (12). Are there any PCBs (transformers, hydraulic equipment) at the *property*? Yes No X Unknown (13). Have you observed stained soil/pavement, corrosion, or stressed vegetation that may indicate a petroleum or chemical spill at the *property*? Yes No X Unknown____ (14). Have you observed pits, ponds, or lagoons associated with wastewater treatment/disposal at the property? Yes No X Unknown (15). Are you aware of any wastewater/stormwater facilities at the *property* (drains, sumps, ditches, washes)? Yes X No Unknown (Vaughn Wash, Post Canyon, and O'Donnell Creek) (16). Are you aware of any wells located at the *property* (dry, irrigation, injection, or abandoned)? Yes X No Unknown (One windmill operated well at Vaughn Wash. One solar operated well at Finley Tank. Both fill wildlife waterers/ponds.) (17). Are you aware of any septic systems at the *property*? Yes No X Unknown (18). Has the *property* been used for landfill, dump, battery storage, junkyard, or other disposal purposes? Yes No X Unknown

(20). Are there or has there ever been any flooring, drains, or walls located within the facility that are stained by substances other than water or emitting odors?

(19). Has dirt fill been brought to the *property* that originated from a site of unknown origin or from a contaminated

site?

Yes No X Unknown____

Property: Appleton Ranch	
Yes No X Unknown	
(21). Are you aware of any other information that may be pertinent to identifying past and present environment conditions at the property or copies of any available prior <i>environmental site assessment reports</i> , documer correspondence, etc., concerning the <i>property</i> and its environmental condition?	
Yes No X Unknown	

Name, Title, and Organization of person interviewed: Steven Prager, Director – Appleton-Whittell Research Ranch of the National Audubon Society (Audubon Southwest)

Interview Medium (phone, email, in-person): Email

Date of Interview: 2025-03-01

APPENDIX M
Local Government Interview
(Sonoita Elgin Fire Department)

PHASE I ENVIRONMENTAL SITE ASSESSMENT (ASTM E 1527-13 & 2247-08) LOCAL GOVERNMENT INTERVIEW

Interviewee's name/agency/title:

Captain Aaron Sapienza Sonoita-Elgin Fire District 520-455-5854

Interview Medium:

Interview conducted by Samantha Blonder via telephone on 3/21/2025.

Questions and Responses:

(1). Do you know of any environmental cleanups that have taken place at or near the Property?

<u>No</u>

(2). Do you know of spills or chemicals/petroleum product releases that have taken place at or near the Property?

No

(3). Are you aware of any other information that may be pertinent to identifying past and present environmental conditions at the Property?

No

APPENDIX N Resumes

MARK TAYLOR

PRINCIPAL ENGINEER

SUMMARY

Mark is an engineering Principal and one of WestLand's founders. He has over 40 years of experience in water resources and wastewater systems engineering, including the design of water and wastewater systems for large, multi-disciplinary public works projects, master-planned communities, private water company master planning/energy efficiency evaluation, and the mining industry. Mark is responsible for the development of water system master plans; water policy, energy efficiency studies, well, reservoir, booster station, and transmission main design; water treatment design; and the assessment of rates and development impact fees for private and municipal clients. He is also experienced with wastewater master plan preparation, energy efficiency and feasibility studies, system modeling and simulation, and capacity analyses. Mark has provided training and presentations on water and wastewater systems and energy efficiency topics in numerous forums.

EXPERIENCE

40+ YEARS

EDUCATION

MBA

University of Arizona

BS, Civil Engineering

University of Arizona

REGISTRATION

Arizona #22999, 1989 California #44219, 1989 New Mexico #14546, 1999

PROFESSIONAL MEMBERSHIPS

Board Member – Citizen's Water Advisory Committee to the City of Tucson Finance Subcommittee Member – Citizen's Water Advisory Committee to the City of Tucson

SELECT PROJECT EXPERIENCE

Town of Florence's Territory Square Planned Area Utility Master Plan Project Principal Engineer. WestLand provided professional engineering services to develop a Water Resources Master Plan for the Town of Florence's Territory Square Planned Area. The project included determining the major water and sewer infrastructure required to serve the overall project area covering approximately 623 acres. WestLand's plan defined those water system planning elements that were most important to the utility, evaluated the existing system for service and upgrade requirements, and planned the infrastructure.

City of Coolidge Water Resources Master Plan

Principal Engineer. WestLand provided professional engineering services to develop a Water Resources Master Plan for Coolidge. The purpose of the Water Resources Master Plan was to provide Coolidge a reference document explaining the different types of water, the regulations placed on these types of water, how water use differs between sectors in Coolidge, and factors that could impact future use. The Water Resources Master Plan provided Coolidge an understanding of what the future water demands of their planning area might be and the resources available to meet that demand. This report discussed options for the City of Coolidge to put its effluent to use to benefit the City.

Harquahala Valley Water Project Engineering Feasibility Study

Principal Engineer. WestLand completed an engineering feasibility study for a large water delivery project involving the transportation of groundwater from the Harquahala Valley to the Central Arizona Project (CAP) canal. The project included preparation of a 171-page report which included a preliminary design, Opinion of Probable Construction Cost (OPCC), and thirty-year operations, maintenance, and replacement costs (OM&R).

Confidential Mining Client, Water Resource Planning

Principal Engineer. A future mine located in the Phoenix Active Management Area retained WestLand to prepare a water resource plan to bring water to their future mine site. The plan included an overview of Arizona water regulations, a review of the existing mine's water portfolio, presented options for obtaining additional water rights and/or permits, provided infrastructure options for conveying those water resources to the mine site, and provided preliminary capital and operational expenditures for those options.

Rio Rico Utilities, Inc., Rio Rico Water System Master Plan

Principal in Charge of the development of a water system master plan for a private water utility serving residential, commercial, and industrial customers. The master plan serves as a key guidance document for the identification of the capital components required for both existing and future customers in order to continue reliable operation, maintenance, and expansion of the water system. WestLand's plan defined those water system planning elements that were most important to the utility, evaluated the existing system for service and upgrade requirements, and planned the infrastructure to provide appropriate service to the expanding community.

Cottonwood Properties, Dove Mountain Reclaimed Water Master Plan

Principal in Charge of the preparation of the Dove Mountain Reclaimed Water Master Plan, an update to the Reclaimed Water Master Plan for the Tortolita Mountain Properties Basin that had been prepared for approximately 1,800 acres within the Dove Mountain community and included two golf courses. WestLand's revised master plan incorporated the entire 5,600-acre community with provisions for up to five 18-hole golf courses. The Dove Mountain project is served by Tucson Water's Thornydale reclaimed water reservoir and booster station. In accordance with Tucson Water's pressure and velocity requirements, WestLand performed hydraulic modeling for each of the various phasing scenarios to determine the best phasing of construction for the proposed reclaimed water system infrastructure buildout.

Willow Springs Utilities, LLC, Willow Springs Water Master Plan

Principal in Charge of the preparation of a water master plan for the 4,600-acre Willow Springs project, a development that includes approximately 6,500 residential dwelling units, two schools, 95 acres of turf (parks), and 90 acres of commercial/mixed-use development. The purpose of the concept master plan was to provide information for the determination of required water system facilities and to present a concept for water service for the development. The master plan included pressure zones and water service operational method, population and water usage projections, and facility sizing and locations.

CHRIS RIFE

SENIOR PROJECT MANAGER

SUMMARY

Mr. Rife is a Senior Project Manager in the Environmental Department. He has over 20 years of experience in federal and state environmental regulatory programs covering a broad range of business sectors, assisting clients in accomplishing their project goals. He specializes in environmental evaluation and permitting projects at industrial, commercial, residential, and transportation sites. His areas of expertise include water resources permitting, environmental resources plans and studies, and environmental site assessments. His focus in the western US has been on mining and residential land development projects; he also has experience on airport, railroad, and highway; solid and hazardous waste, and utilities projects throughout the United States and selected locations abroad. Mr. Rife has long-term relationships with several clients, as exemplified by the work completed at the two sites described below. Brief descriptions of numerous additional mining projects are provided subsequently.

EXPERIENCE

20+ YEARS

EDUCATION

M.S., Environmental Policy and Management University of Denver

B.A., Philosophy Humboldt State University

Additional Coursework in Hazardous Materials Management and Wetlands Science

SELECT PROJECT EXPERIENCE

Pinto Valley Mining Corp., Pinto Valley Mine; Gila County, Arizona Senior Project Manager. Mr. Rife has completed numerous environmental permitting and planning projects for this legacy copper mine in southern Arizona since joining WestLand in 2002. His prior work at this site ranges from stormwater inspections and environmental handbook authorship to participating in strategic planning and providing technical comments on regulatory agency actions potentially affecting the operation. He is currently supporting the mine operators during the U.S. Forest Service's National Environmental Policy Act evaluation of a mining Plan of Operations prepared by Mr. Rife on behalf of the client. Pinto Valley Mine lies primarily on private land but is surrounded by the Tonto National Forest and some mining-related activities use National Forest System lands. The Plan consolidates a number of previous authorizations issued by the U.S. Forest Service under separate Plans of Operations, Rights-of-Way, or Special Use Permits over the course of the 60+ year life of the facility. Mine use of National Forest System lands currently includes two tailings disposal facilities, a waste rock dump, and appurtenant infrastructure such as water pipelines, electrical transmission lines, and roads accessing these facilities. New uses of public lands, to accommodate further development of tailings disposal facilities and the open pit, are also included in the Plan. Mr. Rife worked closely with the client representative to develop the Plan, and now provides ongoing strategic and tactical support during the NEPA process. Additionally, Mr. Rife oversees WestLand's biological and cultural resources studies at the site, and provides technical review of hydrogeologic, hydrologic, geochemical, and geotechnical documents prepared by other consultants on the project team.

Cyprus Specialty Minerals, Former Satralloy Site; Steubenville, Ohio Senior Project Manager. Mr. Rife is the environmental permitting manager for a team remediating an abandoned chromium smelter site in eastern Ohio. Mr. Rife has performed this role since 2005 when the client was notified of their



responsibility for the site by the Ohio Environmental Protection Agency and entered into a Consent Order for Preliminary Investigation. He assisted the client in selecting the firm that would be responsible for interim actions, a remedial investigation/feasibility study, and implementing the selected remedial action. Over the course of the project, Mr. Rife has been responsible for conducting jurisdictional delineations, biological evaluations, and cultural resources studies to support permit applications under the federal and state programs authorizing fill of wetlands and waterways. For three separate "interim action" projects, Mr. Rife was responsible for preparing preconstruction notifications under the Clean Water Act Section 404 Nationwide Permit No. 38, Cleanup of Toxic and Hazardous Waste, to fill waters of the United States, as well as an application to fill Ohio-regulated isolated wetlands. He has participated in construction/demolition contractor selection process, including reviewing design specifications for environmental permit considerations and explaining permit conditions to bidders. Mr. Rife's biological work has supported an Ecological Risk Assessment conducted by others on the project team and (while at another firm) he managed an engineering evaluation of transportation options for heavy equipment, including design and construction of a railroad spur to the site.

Arizona Minerals, Inc., Drilling Plan of Operations Support; Santa Cruz County, Arizona Task Manager. Mr. Rife prepared a Plan of Operations for mining exploration program on National Forest System lands.

Arizona Minerals, Inc., STA 3rd Party Contractor; Santa Cruz County, Arizona Project Manager. Mr. Rife managed evaluation of parcels on National Forest System lands to be acquired by private client under the federal Small Tracts Act.

ASARCO, Ray Mine Phase I ESAs for Land Exchange; Ray, Arizona

Senior Project Manager. Mr. Rife managed Phase I Environmental Site Assessments of eight properties for a land exchange with a federal agency.

BHP-Billiton Legacy Assets, Closed Sites Wildlife Management Plan; Globe-Miami, Arizona Project Manager. Mr. Rife prepared Wildlife Management Plan for five closed copper mines. He also managed a wildlife survey of underground mine features (shafts and adits) at one site, including installation of exclusions (wire mesh screens) over openings to prevent bats and raptors from entering the features, allowing the client to permanently close them.

BHP-Billiton Legacy Assets, Copper Cities Plans of Operations; Miami, Arizona
Project Manager. Mr. Rife managed preparation of Plans of Operations describing proposed
geotechnical investigation and reclamation of a closed copper mine situated partially on National
Forest System lands and Bureau of Land Management- administered lands.

Cardero Resources, Zonia Mine Clean Water Act Permitting Support; Wickenburg, Arizona Senior Project Manager. Mr. Rife is currently managing jurisdictional waters, biological, and cultural resources surveys of this small inactive gold mine to prepare for a Clean Water Act Section 404 Nationwide Permit preconstruction notification to authorize waste rock dump reconfiguration activities required by the State of Arizona. A portion of the project is situated on Bureau of Land Management property, and therefore requires Notification to the agency for authorization to complete the work.



Cyprus Specialty Minerals, Bruce Mine Site; Bagdad, Arizona

Project Manager. Mr. Rife is the permitting manager for remediation activities at this historical copper mine site conducted under a voluntary cleanup agreement with the State of Arizona. Technical work by WestLand included a jurisdictional delineation and land management agency coordination. An "approved jurisdictional determination" was completed and submitted to the U.S. Army Corps of Engineers for review, based on a negative significant nexus evaluation. A portion of the project would be conducted on State Trust Lands administrated by the Arizona State Land Department. Mr. Rife has assisted the client in coordinating with both agencies to review and approve the determination.

Cyprus Specialty Minerals, Dante Site Permitting Support; Knoxville, Tennessee

Senior Project Manager. Mr. Rife is currently managing jurisdictional waters, biological, and cultural resources surveys of this closed manganese processing facility to prepare for a Clean Water Act Section 404 Nationwide Permit preconstruction notification to authorize tailings impoundment reconfiguration activities to improve the factor of safety of the embankments.

Cyprus Specialty Minerals, Inc., Newmire Smelter Site; Telluride, Colorado

Project Manager. Mr. Rife managed a permitting project for remediation activities at this historical vanadium smelter site required under a voluntary cleanup agreement with the State of Colorado. Technical work conducted by WestLand included a biological evaluation, archaeological studies, jurisdictional delineation, and site revegetation design after closure. Mr. Rife was instrumental in redesigning engineering plans for the remediation effort to avoid impacts to Waters of the United States, thereby avoiding a requirement for authorization by the U.S. Army Corps of Engineers under the Clean Water Act Section 404 program.

Freeport-McMoRan Corporation, Ecosystem Function Analysis Pilot Study and Monitoring/Reporting Project Manager. Mr. Rife conducted ecosystem function analysis pilot study at reclaimed smelter and tailings disposal facility site.

Freeport-McMoRan Inc., Clarkdale Smelter On-Call Environmental Support Services; Clarkdale, Arizona

Project Manager. Mr. Rife prepared a Spill Prevention, Control, and Countermeasures plan, and managed vegetation monitoring, at a reclaimed smelter site.

Freeport-McMoRan Inc., Iron King Permitting Support; Jerome, Arizona

Project Manager. Mr. Rife managed a permit requirements assessment of inactive copper mine, including evaluation of potential for occurrence of jurisdictional waters of the US, cultural resources, and special status species.

Freeport-McMoRan Miami, Inc., Environmental Support; Miami, Arizona

Project Manager. Mr. Rife has completed several projects at this legacy copper mine in southern Arizona. He recently managed an analysis of Clean Water Act Section 404 permit requirements for a new water pipeline from a treatment plant to the mine site, including a review of the potential jurisdictional status of drainages along the route, and an evaluation of biological and cultural resources. The analysis concluded that the project would qualify for no-notification coverage under Clean Water Act Section 404 Nationwide Permit 12, Utility Line Activities. Mr. Rife has also managed



an evaluation of avian control techniques to prevent nuisance birds from entering and roosting in industrial buildings at the mine. He also recently provided senior review of Phase I Environmental Site Assessments for two properties owned by the client and intended for divestment. Over the course of his involvement at this site, Mr. Rife updated the site Spill Prevention, Control, and Countermeasures plan, in accordance with current regulations, for the numerous on-site aboveground storage tanks. Mr. Rife was also responsible for managing an ongoing habitat-monitoring program required for the Pinal Creek Group, which included invasive vegetation species (tamarisk) control. He has also provided regulatory compliance support for the site-wide Aquifer Protection Permit and was coauthor of a Groundwater Sampling and Analysis Plan.

Freeport-McMoRan Morenci, Inc., Environmental Support; Morenci, Arizona

Project Manager. Mr. Rife has conducted numerous projects for this legacy copper mine in eastern Arizona. He is currently responsible for supporting the client in implementing a range of assignments specified in a Management Plan prepared to protect endangered fish species that may occur in a stream on the client's property. The client may fund construction of a fish barrier to prevent predatory non-native fish and other aquatic species (crayfish) from invading the native fish refugia in the upper reaches of Eagle Creek. Mr. Rife supported a geotechnical investigation of the proposed fish barrier site, including securing authorization from the U.S. Army Corps of Engineers under Clean Water Act Section 404 Nationwide Permit 6, Survey Activities. A jurisdictional delineation, biological evaluation, and cultural resources survey of the proposed fish barrier site were completed. Consultation with the U.S. Fish & Wildlife Service and the Corps under Section 6 of the Endangered Species Act was required. Mr. Rife is also responsible for other tasks including native fish monitoring, an exotic species control study, permitting support for constructing the fish barrier, and technical review of the fish barrier design and a Safe Harbor Agreement and/or Candidate Conservation Agreement with Assurances. Mr. Rife is also managing a mitigation monitoring project for this client. Three habitat restoration sites were established along lower Chase Creek and the San Francisco River to offset impacts to Waters of the United States from fill placed in upper Chase Creek for a mine expansion project, authorized by the Corps under two separate Clean Water Act Section 404 Individual Permits. The permits specify certain vegetation establishment goals along degraded segments of these streams; WestLand prepared and implemented a planting and irrigation plan. WestLand biologists currently monitor the sites on a quarterly and annual basis, and report observations and recommendations to the client and Corps.

Freeport-McMoRan Safford, Inc., Dos Pobres/San Juan Mine Mitigation Sites; Safford, Arizona Project Manager. Mr. Rife is responsible for managing a mitigation monitoring project for this client. Three habitat restoration sites were established along the Gila River to offset fill placed in waters of the United States for a mine expansion project, authorized under a Clean Water Act Section 404 Individual Permit. The permit specifies certain vegetation establishment goals along degraded segments of the river; WestLand prepared a planting and irrigation plan implemented by others on the project team. WestLand biologists currently monitor the restoration sites on a quarterly and annual basis, and report observations and recommendations to the client and Corps.

Gallagher & Kennedy, P.A., United Verde Mine; Jerome, Arizona

Project Manager. Mr. Rife managed a Clean Water Act permitting project for site remediation activities required under a Consent Decree for this closed mine property in central Arizona. Technical work included a biological evaluation, archaeological study and data recovery, and a jurisdictional



delineation. Mr. Rife completed a Clean Water Act Section 404 Nationwide Permit 38, Cleanup of Hazardous and Toxic Wastes preconstruction notification and secured authorization from the U.S. Army Corps of Engineers for the remediation project on behalf of the client. He coordinated agency and client communications, including National Historic Preservation Act Section 106 consultation regarding potential project impacts to the Jerome National Historic District.

Gallagher & Kennedy, P.A., United Verde – Verde Central Environmental Support; Jerome, Arizona Project Manager. Mr. Rife provided environmental permitting strategy support for voluntary cleanup considered for a small, abandoned copper mine.

Golden Vertex Corp., Moss Mine Plans of Operations; Bullhead City, Arizona

Project Manager. Mr. Rife managed environmental resource studies to support Plans of Operations for exploration and mining of a proposed expansion of a small gold and silver mine, and is currently managing biological and cultural resources surveys required by the Bureau of Land Management.

IMERYS, Santa Rita Limestone Quarry; Sahuarita, Arizona

Project Manager. Mr. Rife supported this client in an exploration drilling program on public lands. The existing quarry occupies both U.S. Forest Service and Bureau of Land Management administrated property. Mr. Rife prepared separate Plans of Operations for the agencies to evaluate the different exploration programs on the two portions of the site. The Bureau of Land Management has approved the Plan for the program on their property, while the Forest Service is currently completing a National Environmental Policy Act evaluation of the Plan for the program on National Forest System lands. Depending upon the outcome of the exploration programs, the client may consider expanding the existing facility within either or both agencies' lands. A new Plan of Operations for the expanded facility would be required for either scenario.

Kennecott Exploration Company, Inc., Stockton/Ophir Due Diligence; Utah

Project Manager. Mr. Rife conducted a risk evaluation of mining district for site development by copper mine exploration firm.

Kirkland Mine, BLM MPO and NEPA Support; Kirkland, Arizona

Senior Technical Reviewer. Mr. Rife provided senior technical review of Plan of Operations and Environmental Assessment for a proposed small pozzolan mine.

Redhawk Resources, Copper Creek Permit Evaluation and Environmental Services; Mammoth, Arizona

Task Manager. Mr. Rife provided technical support for permit evaluation of proposed copper mine at a historical mining site.

Resolution Copper, Resolution Mine Site; Superior, Arizona

Task Manager. Mr. Rife has participated in numerous projects at this proposed new underground copper mine in southern Arizona. He completed a comprehensive comparison of the biological and cultural resources of the proposed tailings disposal facility site to another large site that the client is contemplating to acquire and use as a mitigation parcel. He also updated a series of studies on seeps and springs at the proposed mine site and vicinity to standardize the description terminology and nomenclature for the resources. Most recently, Mr. Rife conducted Environmental Site Assessments



and Ecological Overview studies for a set of private properties for a land exchange for targeted public lands. He visited the sites to assess potential for environmental liabilities, compiled environmental setting information to combine with biological data from technical specialists, and authored reports. The land exchange was recently approved, and Mr. Rife provided technical review of updates to the original reports. Historically, Mr. Rife also prepared a comprehensive permitting schedule to assist in planning the new mine and assisted in updating Environmental Management System for the site, using corporate guidelines.

Rosemont Copper Company, Rosemont Project; Santa Cruz County, Arizona

Project Manager. Mr. Rife conducted a range of assignments to support finalizing the General Plan of Operations and other environmental resource studies for this proposed new mine in southern Arizona. He has reviewed numerous Monitoring Plans, prepared by various members of the project team, to ensure that specified protocols will meet various obligations identified in the U.S. Forest Service's Final Environmental Impact Statement for the project. He also prepared the Biological Monitoring Plan for the same purpose; this plan details the procedures and schedule for biological resource monitoring requirements that the client must pursuant to the Forest Service's Mitigation Measures and the U.S. Fish and Wildlife Service's Biological Opinion. Mr. Rife also managed a database development assignment to convert an extensive set of Excel spreadsheets from the client's vegetation and water quality monitoring programs to relational databases, and in the future will use "tablet" computers for field data collection and reporting. Mr. Rife also managed a GIS assignment; WestLand's graphics group prepared a custom "Geoportal" that links all spatial data and reports to a secure online website to allow the project team access to digital copies of relevant data based on site mapping.

Confidential Client, Agricultural Property Phase I ESA for Solar Array

Mr. Rife conducted a Phase I Environmental Site Assessment of 1,622 acres of agricultural land proposed for development as a solar farm. The assessment identified a range of recognized environmental conditions associated with agricultural chemical use, petroleum product releases, and unregulated waste disposal.

Industrial Site Expansion; Cochise County, Arizona

Project Manager. Mr. Rife was responsible for preparing an Environmental and Social Impact Assessment for a substantive expansion of an industrial site in southeastern Arizona. The document allowed project reviewers— corporate decision-makers and financiers—to understand the potential impacts to environmental and social resources that may result from the project. The assessment was modeled after a National Environmental Policy Act Environmental Assessment, but was for internal use only. It relied upon existing environmental permitting and planning documents, supplemented by WestLand's research and site specific studies of resources not previously addressed, such as traffic and visual impacts. Mr. Rife was responsible for scoping the assessment, conducting the existing report review, researching additional information, and writing the report.



Hazardous Waste Sites; Confidential Client, United States

Task Manager. Mr. Rife was the principal internal reviewer of Phase I Environmental Site Assessment reports for 60 hazardous waste collection sites, transfer facilities, incinerators, and landfills on behalf of client bidding to purchase portfolio. The work included fast-track mobilization of field investigators from offices across the country; coordination of document review, reporting, and responding to client inquires; and strict confidentiality protocols. (Services provided at previous firm.)

Resolution Copper Mine Site; Superior, Arizona

Task Manager. Mr. Rife conducted Environmental Site Assessments and Ecological Overview studies for a set of private properties contemplated for purchase by the client in anticipation of a land exchange for targeted public lands. He visited the remote, rural sites to assess potential for environmental liabilities, compiled environmental setting information to combine with biological data from technical specialists, and authored reports. The land exchange was recently approved, and Mr. Rife provided technical review of updates to the original reports.

Vigneto Development; Benson, Arizona

Senior Technical Reviewer. Mr. Rife participated in site visits and provided senior technical review of a Phase I Environmental Site Assessment of 12,500 acres proposed for residential development in southern Arizona. The property is largely undeveloped, although portions are used for cattle ranching and it is crossed by electrical transmission lines and a buried natural gas pipeline, a highway, and an abandoned railroad line. No recognized environmental conditions were identified during the assessment.

Miami Mine; Miami, Arizona

Project Manager. Mr. Rife has completed several projects at this legacy copper mine in southern Arizona. He recently managed Phase I Environmental Site Assessments for two properties owned by the client and intended for divestment. One of the properties had been used by the Arizona National Guard as an armory administrative center, whereas the other was a company recreation site, including a drive-in movie theater. No recognized environmental conditions were identified at either property.



SAMANTHA BLONDER

PROJECT MANAGER

SUMMARY

Samantha Blonder is a Senior Environmental Specialist with 6 years of experience gained through supporting environmental permitting projects at WestLand and while serving as a Research Assistant on projects for the Coastal Watershed Institute in Fort Myers, Florida, as an Argo Research Scientist for Heliae in Phoenix, Arizona, and as a Research Assistant-Team Lead while employed at Arizona State University. In 2016, Ms. Blonder served as a volunteer for Lead Adventures South America Galapagos Islands where she assisted in invasive species removal, cultural and environmental education outreach, and sustainable farming. In her role as an Environmental Specialist at WestLand, Ms. Blonder supports the environmental team working a wide variety of water focused projects with special expertise in: ESA, NEPA, CWA, Conservation Plans, Field Work, Data Collection and Data Entry, and Water Quality Collection and Analysis.

EXPERIENCE

6 YEARS

EDUCATION

M.S., Environmental Science Florida Gulf Coast University

B.S., Biology University of South Florida

REGISTRATIONS | CERTIFICATES

MSHA Certification

SELECT PROJECT EXPERIENCE

Navajo Tribal Utility Authority (NTUA), Environmental Evaluations

Environmental Specialist. WestLand conducted environmental evaluations of 21 water line projects that were funded by the CARES Act Coronavirus Relief Fund in October 2020. The projects were located in 17 Chapters across the Navajo Nation in Arizona and New Mexico. WestLand coordinated with NTUA and Navajo Nation Department of Fish and Wildlife (NNDFW) to obtain biological clearances for each project. Species data requests were submitted to NNDFW, including project location maps, ground photographs obtained in the field, and National Wetland Inventory mapping. Species data received were analyzed for the potential occurrence of species of concern on the Navajo Endangered Species List. Results were summarized for each project site in table format and provided to NNDFW to obtain biological clearances.

Freeport-McMoRan Inc, Eagle Creek Project Environmental Assessment

Environmental Specialist. WestLand was contracted by Freeport-McMoran to prepare an Environmental Assessment (EA) for the Eagle Creek Project. The Eagle Creek project proposes to develop range improvements along eagle creek including a well, pipeline infrastructure and fencing. This project includes public scoping, an administrative draft of the EA, a draft EA for public comment, and a final EA.

Resolution Copper, EOCTRI Emory Oak Monitoring

Project Manager. WestLand was contracted to conduct data collection to support the goal of the Emory Oak Collaborative Tribal Restoration Initiative (EOCTRI) which is to restore and protect Emory oak groves (Quercus emoryi) and to ensure the sustainability of subsistence foods for Arizona tribes. This project includes field work, community outreach and data dissemination.



HVWP Management LLC, Harquahala Valley Water Project Environmental Assessment

Environmental Specialist. WestLand was contracted by HVWP Management LLC to prepare an Environmental Assessment (EA) for the Harquahala Valley Water Project. The HVWP proposes to develop infrastructure required to pump groundwater from the Harquahala Irrigation Non-Expansion Area and to convey the pumped groundwater to the Central Arizona Project (CAP Canal). This project includes public scoping, an administrative draft of the EA, a draft EA for public comment, and a final EA.

Town of Oro Valley Water Utility, Northwest Recharge, Recovery and Delivery System (NWRRDS) Design

Environmental Specialist. The WestLand and Carollo Engineering team was hired by the Town of Oro Valley for the design of the NWRRDS project. The team is providing design services for approximately 6-miles of transmission pipeline. Additionally, the team is designing the distribution main connections downstream of the proposed booster at Shannon into existing Oro Valley Water Utility distribution mains at Naranja and Tangerine Road.

Resolution Copper, LEX Phase I ESA Updates

Environmental Specialist. WestLand was contracted to conduct Phase I Environmental Site Assessments (ESAs) for a set of properties considered in the Resolution Project Land Exchange between Resolution Copper and two federal land management agencies. Work on this project includes: environmental agency records review, interviews with persons familiar with the sites, site reconnaissance, and report preparation.



DIANA SANDOVAL

SENIOR PROJECT MANAGER

SUMMARY

Diana Sandoval has 17 years of regulatory compliance and permitting services related to land use and transportation planning, distribution/ transmission power planning, renewable energy projects, mining expansions, and residential and commercial development. She offers clients coordinated and collaborative project leadership required to address multiple stakeholders. She has experience with both small- and large-scale projects involving federal, state and local requirements. Her expertise is in Phase I Environmental Site Assessments, Clean Water Act Permitting, Endangered Species Act compliance, National Environmental Policy Act documentation, Arizona State Land Department authorization and local riparian and zoning processes.

EXPERIENCE

17 YEARS

EDUCATION

M.A., Land Use and Community Planning

Northern Arizona University

BSc, Regional Development University of Arizona

Phase I and Phase II Environmental Site Assessments for Commercial Real Estate Workshop

National Environmental Policy Act Compliance Workshop

REGISTRATIONS | CERTIFICATES

Mine Safety and Health Administration Certification

90-Hour Real Estate Pre-Licensing

Property Legal Description

SELECT PROJECT EXPERIENCE

Three Sisters Solar Project, BrightNight, Pima County, Arizona

WestLand prepared a CEC application per the requirements of Arizona Revised Statutes (A.R.S.) § 40-360.03 including environmental and cultural resources studies discussing areas of biological wealth, visual resources, scenic areas recreational facilities, relevant plans of the state and local government, and any private entities' and how the project comports with those plans, provided narrative on anticipated noise emission levels and interference with communication signals, and focused on potential impacts and mitigation measures for avian species since the project is situated next to the Willcox Playa, a migratory bird hotspot known for its rich natural history and ecotourism. WestLand conducted and summarized public outreach efforts completed under Task 1.3, and other public engagement. WestLand planned and facilitated a robust public outreach effort in connection with the CEC application to identify the stakeholders for the public participation process, including agencies, local government officials, neighborhood associations, special interest groups, businesses, landowners, and residents in the area with the potential to be affected by the proposed Project. Several different public outreach efforts were conducted and facilitated by both WestLand and BrightNight including internet website (including online comment form and interactive project map), stakeholder group outreach, community and agency briefings, newsletters, public open house, and telephone information line. WestLand then supported BrightNight and their attorney in preparing for and participating in the ACC Line Siting Committee public hearing for the project including power points and expert testimony at the hearing, which was approved by the committee in a unanimous vote.

Pinal Central Substation to Tortolita Substation Transmission Line Project, Tucson Electric Power, Pinal County, Arizona

Project Manager. Managed environmental regulatory compliance for TEP transmission line project, which runs approximately 41 linear miles in Pinal County. Assisted TEP in addressing NEPA, National Historic Preservation Act,



CWA, Endangered Species Act (ESA), migratory bird protection, Arizona Pollutant Discharge Elimination System, State Native Plant Preservation and more. Coordinated with various federal entities and land management agencies to obtain all agreements, required permits and compliance documentation; the transmission line will cross privately-owned lands, lands owned by the State of Arizona and managed by the Arizona State Land Department, federally owned lands managed by the Bureau of Reclamation and the San Carlos Irrigation Project, an agency of the Bureau of Indian Affairs. Ms. Sandoval obtained an Approved JD from the Corps regarding the absence of jurisdictional waters for the project, documented that project was not likely to not adversely impact federally protected species, coordinated with AZGFD to conduct surveys for candidate species in anticipation of potential federal listing, addressed plant salvage considerations for protected native species including vegetation clearing projections, and addressed state and federal archaeological clearance requirements. Presented methods and results at the Society for Ecological Restoration November 2014 annual conference for a project study that used remote sensing and predicted growth rates to assess saguaro conflict with the transmission lines over the next 20 years.

University of Arizona, Environmental Compliance for the University of Arizona Science and Technology Park (UA Tech Park)

Project Manager. Provides on-call services for UA Tech Park addressing federal, state and local development project environmental clearances and risk reduction. Ms. Sandoval has documented compliance with CWA Section 404 under preliminary JD; obtained concurrence from the Corps of nojurisdictional waters for the UA Tech Park property; oversaw cultural resource survey and data recovery in accordance with current archaeological standards in a manner that would conform to National Historic Preservation Act (NHPA) standards; completed BEs, including surveys for listed plant species and surveys for the western burrowing owl; and prepared Phase I ESAs for prospective tenants within the Solar Zone. Ms. Sandoval has also assisted with development of formal environmental planning protocols and guidance for the UA Tech Park Master Plan. She has provided environmental documentation to support demonstration of NEPA project readiness for Department of Transportation grant applications.

Consulting Project Manager for TEP Land Resource Team

Since 2017, Ms. Sandoval has worked as a part-time land contractor with Unisource Energy Corporation (UNS)/TEP providing direct environmental consultation services as a Land Resource Department team member for power projects in Arizona. She collaborates directly with TEP's engineers, designers, project managers, and construction teams. She manages environmental and land use requirements for system reinforcement projects including new substations, distribution and transmission lines; new business connections; public improvement projects; and renewables. This includes reviews and permitting associated with various surface management agencies, municipal approvals, and other regulators and landowners, as the utility's agent.

AeroPark Substation and Distribution Lines

Ms. Sandoval was responsible for managing environmental approvals associated with a new substation located on land owned by the City of Tucson and the Tucson Airport Authority (TAA) also leased by Raytheon who would need additional power load in the area. Ms. Sandoval supported the Right of Way Agent with land right acquisition, commissioned cultural and biological surveys, obtained clearance the through Federal Aviation Administration (FAA) obstruction evaluations for



new structures and the use of cranes during construction. The project also involved construction of a communication tower that required antenna structure registration (ASR) with the Federal Communication Commission (FCC). A National Environmental Policy Act (NEPA) environmental assessment checklist was prepared, and public notice provided. Ms. Sandoval also ensured conformance with FCC requirements for National Historic Preservation Act - Section 106 Consultation compliance pursuant to FCC regulations.

FRV-Avra Valley Solar in Pima County

Ms. Sandoval conducted a comprehensive permitting analysis and provided local, state and federal entitlement/permitting support for a 305-acre photovoltaic solar power generation facility located on fallow farmland northwest of Tucson. Local permitting support for the Conditional Use Permit and site development plan included cultural surveys, noise studies, biological surveys and coordination with US Fish and Wildlife Service and Arizona Game and Fish Department. WestLand prepared a Biological Impact Report to address Pima County's Conservation Land System requirements and prepared a subsequent Habitat and Vegetation Restoration Plan in cooperation with local conservation groups as a condition to the Conditional Use Permit. WestLand also assisted with implementation and monitoring as the project was constructed and designed and developed a special western burrowing owl habitat area in coordination with Arizona Game and Fish Department.

