

**PHASE I ENVIRONMENTAL SITE ASSESSMENT
HESS RANCH – SOUTH PORTION
CROWFOOT VALLEY ROAD
AND NORTH PINERY PARKWAY
DOUGLAS COUNTY, COLORADO**

Prepared for:

**E5X MANAGEMENT
7353 S Alton Way, Suite A-100
Englewood, Colorado 80112**

Attention: Mr. Corey Elliott

Project No. DN48,372-200

June 6, 2016



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EXECUTIVE SUMMARY

This report presents the results of the Phase I Environmental Site Assessment (ESA) that was performed by CTL | Thompson, Inc. for E5X Management. The site is located west of Pinery Parkway along Crowfoot Valley Road in Douglas County, Colorado.

The Phase I ESA was conducted in general conformance with the methods and procedures described in the American Society for Testing and Materials (ASTM) E 1527-13, Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process.

The site appears to have remained vacant or rangeland since at least the late 1930s. The Arapahoe Canal has been present at the Site since at least 1937; however, this is no longer in use. Residential development began in the surrounding area in the 1970s. There is one structure for cattle shelter located along the western boundary of the site and two windmills with water troughs located at the site. The only known use of the site has been for cattle grazing.

We did not find evidence of a Recognized Environmental Condition (REC) in connection with the site.

This executive summary does not contain all the information that is found in the full report. The report should be read in its entirety to obtain a more complete understanding of the information provided and to aid in any decisions made or actions taken based on this information.



1.0 INTRODUCTION

This report was prepared by CTL | Thompson, Inc. (CTL) for E5X Management (E5X) and presents the results of the Phase I Environmental Site Assessment (ESA) for Hess Ranch – South Portion. The “Site” is generally located southwest of Stroh Road along Crowfoot Valley Road in Douglas County, Colorado. The Phase I ESA was conducted in general accordance with Proposal No. DN 16-0191 and subsequent authorization by Mr. Corey Elliott on May 2, 2016.

1.1 Purpose

The purpose of the Phase I ESA was to identify Recognized Environmental Conditions (REC), to the extent feasible, pursuant to the methods and procedures described in the American Society for Testing and Materials (ASTM) Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessments, E 1527-13.

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

ASTM Standard E1527-13 also has separate definitions for past conditions that would otherwise be considered a REC but have been addressed to the satisfaction of the applicable regulatory agencies and would either allow for generally



unrestricted use of the Site (referred to as a Historic Recognized Environmental Condition, or HREC) or for use of the Site with various restrictions (referred to as a Controlled Recognized Environmental Condition, or CREC).

1.2 Scope of Services

The scope of services for this assessment consisted of a records review, a site reconnaissance, historical research, interviews, and documentation of findings in a report.

1.3 Limitations

This Phase I ESA was prepared in general accordance with ASTM Standard E 1527-13. There may be additional environmental issues present at the site that are outside the scope of this practice that include, but are not limited to, the following:

- Asbestos-containing materials;
- Radon;
- Lead-based paint;
- Lead in drinking water;
- Cultural and historic resources;
- Mold and fungi;
- Industrial hygiene;
- Indoor air quality;
- Health & safety;
- Ecological resources;
- Endangered species;
- Biological or infectious agents and pathogens;
- Wetlands;
- Jurisdictional waters of the U.S.;
- Regulatory compliance;
- High voltage power lines; and,
- Mine subsidence.



CTL provided an opinion based upon the condition of the site on the day it was observed and a review of existing and reasonably ascertainable regulatory records and historical information. Our scope did not include chemical testing of soil, groundwater, air, or building materials. The opinion, conclusions, and recommendations of this report are not intended to be used or relied upon by a third party to this Agreement. With the written consent of our client, CTL may be available to contract with other parties to provide an opinion or conduct additional environmental assessment services. Due to latent conditions and other contingencies which may become evident in the future, the current assessment does not result in any guarantee the subject site is free and clear of hazardous materials. Should additional surface, subsurface or chemical data become available, the conclusions and recommendations contained in this report shall not be considered valid unless the data is reviewed and the conclusions of this report are modified or approved in writing by our firm.

We believe that this investigation was conducted in a manner consistent with that level of care and skill ordinarily exercised by members of the profession currently practicing under similar conditions in the locality of the project. No warranty, express or implied, is made.

2.0 SITE DESCRIPTION AND LOCATION

2.1 Location and General Description

The “site” consists of approximately 400 acres of vacant land west of Pinery Parkway located along Crowfoot Valley Road in Douglas County, Colorado. The legal description is in metes and bounds and the site is generally described as being within portions of Section 4, 8 and 9, Township 7 South, Range 66 West of the 6th Principal Meridian, in Douglas County, Colorado. The site location and plan are shown on Figure 1 (Area Map) and Appendix B (Aerial Photo).



2.2 General Description of Site and Improvements

The site is generally vacant with a structure used as shelter for grazing cattle. The site is generally covered with grasses and weeds and some trees on the higher elevation sections of the site. There are no roads on the Site. A photographic record of our site reconnaissance is presented in Appendix A.

2.3 General Uses of Adjoining Properties

The site is located in a developing residential area in Douglas County, Colorado. The site is bounded by rural-type residential development to the north and south, vacant land to the east and Crowfoot Valley Road to the west. Additional details regarding our observations of adjacent properties are presented in Section 7.4 of this report.

3.0 **USER PROVIDED INFORMATION**

Mr. Corey Elliott of E5X Management (E5X) provided the information in this section. His responses to our environmental questionnaire, which would include client knowledge of environmental liens, activity and use limitations, and other environmental information per ASTM E1527-13, are discussed below. E5X indicated that the owner representative for the site is Ms. Tracy Hutchins of SDI, Inc. Ms. Hutchins responded via email on June 1, 2016. Mr. Elliott completed our questionnaire on May 25, 2016.

3.1 Environmental Liens/Title Records

An environmental lien is a charge, security, or encumbrance upon title to a property to secure the payment of a cost, damage, debt, obligation, or duty arising out of response actions, cleanup, or other remediation of hazardous material or



petroleum products upon a property. E5X and SDI were not aware of existing environmental liens on the Site.

E5X provided a Commitment for Title Insurance, prepared by First American Title Insurance Company, Commitment No. 5514-2556675 dated March 16, 2016. We reviewed Schedule B-2 (Exceptions) for documented environmental liens. No obvious environmental liens were indicated on this title record. We are not title experts and assume that the client/user of this Phase I ESA is conducting current title work per typical due diligence on the part of a property buyer.

3.2 Activity and Use Limitations

Environmental AULs are legal or physical restrictions or limitations on the use of, or access to, a site or facility to: 1) reduce or eliminate potential exposure to hazardous substances or petroleum products in the soil or groundwater on the property, or 2) prevent activities that could interfere with the effectiveness of a response action, in order to ensure maintenance of a condition of no significant risk to public health or the environment. These legal or physical restrictions may include engineering controls, institutional controls, or land use restrictions. E5X and SDI were not aware of recorded environmental AULs related to the site.

3.3 Specialized Knowledge

E5X and SDI were not aware of specialized knowledge or experience related to previous environmental activities on the site.

3.4 Valuation Reduction for Environmental Issues

E5X and SDI were not aware of valuation reduction of the site because of environmental issues.



3.5 Commonly Known or Reasonably Ascertainable Information

E5X and SDI were not aware of commonly known or reasonably ascertainable information regarding environmental issues related to the site.

3.6 Previous Environmental Site Assessments

CTL was not provided with any previous environmental site assessments related to the site.

3.7 Reason for Performing a Phase I ESA

E5X requested a Phase I ESA prior to acquisition of the site.

4.0 **RECORDS REVIEW**

CTL reviewed existing sources listed in the **REFERENCES** section to assess the soils, geologic and hydrogeologic conditions of the general vicinity of the site.

4.1 Physiography

The site lies on hilly terrain with the higher elevations located in the central to southwestern portion of the site. The elevation ranges from an approximate high point of 6,210 feet to 6,040 feet. The east side of the site slopes towards Cherry Creek which is located approximately 1,000 feet east of the site and the western side of the site slopes towards Lemon Gulch.



4.2 Geology and Soils

CTL conducted a previous Geotechnical Investigation (report dated July 30, 2014, Project No. 47,325.000-115) for the greater Stone Creek Ranch property, which is located adjacent to the southeast of the subject site. Soils encountered in our exploratory borings generally consisted of slightly sandy clay to clayey sand with some gravel. Bedrock was encountered in five of the borings at a depth of approximately 50 feet below ground surface. It should be noted that the Stone Creek Ranch site is situated at a lower elevation and relatively flat topography which varies from the subject site. This report should be read for further details on soils in the area.

4.3 Groundwater

It is our experience that the flow direction of shallow, unconfined groundwater is generally controlled by topography. Based on topography, we estimate the general direction of groundwater flow below the site is to the east towards Cherry Creek; however, the western portion of the site likely flows towards Lemon Gulch. Topographic data suggests areas up-gradient of the site are generally to the southwest. During our above mentioned Geotechnical Investigation for the nearby Stone Creek Ranch (Project No. DN47,325.000-115), groundwater was encountered in five of the borings at depths between 19 and 23 bgs.

4.4 Water Wells

Water wells are generally identified through the Colorado Division of Water Resources online water well permit database. The database indicated the presence of two potential permitted wells within site boundaries. One permit (No. 94308) application is located in the northeast portion of the site and the other permit (No. 138031) application is located in the southwest area of the site. The



wells are listed for domestic and livestock purposes. There are two windmills located at the site that appear to be in use as water wells and therefore are likely associated with these listings. Wells no longer planned for further use should be abandoned properly.

4.5 Oil/Gas Wells

Oil and gas wells were identified through the Colorado Oil and Gas Conservation Commission online database. The database did not indicate the presence of oil and gas wells within one mile of the site.

4.6 Physical Setting Analysis of Migration of Hazardous/Petroleum Substances

A hypothetical spill of a hazardous or petroleum substance on the site would be expected to migrate along the ground surface generally to the east or west depending on where the release occurs. Off-site surface spills on the adjoining parcels to the southwest appear to have the highest potential to migrate on-site. Based on historical topography, we estimate groundwater generally flows to the west or east depending on the area of the site. Sources of contamination to groundwater beneath the site, if present, would most likely be located on-site or to the southwest.

5.0 **HISTORICAL USE INFORMATION**

5.1 Historical Aerial Photographs and Topographic Maps

Historical aerial photographs of the site and surrounding area were reviewed for 1937, 1957, 1972, 1985, 1993, 1999, 2003, 2008 and 2015; a copy of the 2015 photograph is presented in Appendix B. USGS topographic maps were reviewed for 1940, 1945, 1965, 1965 revised 1971, 1965 revised 1980 and 1965



revised 1994. An interpretation of the aerial photographs and maps is presented, as follows:

- 1937-1957: The site appears generally vacant with the Arapahoe Canal traversing the southwestern and central portion. There are areas of cultivated land present to the north and east of the canal. Crowfoot Valley Road is present to the west with a farmhouse and associated outbuildings beyond. No structures are present at the site.
- 1965-1985: The site remains generally unchanged. Residential development is now present to the north and southeast of the site.
- 1993: The structure used as cattle shelter and the stock pond are now present at the site.
- 1999-2008: Residence now present adjacent to the southwest.
- 2015: Pradera residential development now visible to the south.

5.2 Sanborn Fire Insurance Maps

Sanborn fire insurance maps were a tool used by the fire insurance industry to evaluate property risk. The maps often show details of historic dwellings, commercial buildings, and factories, indicate property uses and addresses, and show locations of items such as wells, cisterns, and fuel storage tanks. Sanborn Fire Insurance Map coverage was not available for the site and surrounding area.

5.3 Historical City Directories

Due to the lack of address information, and the predominant use of the site for agricultural use, historic city directories were not reviewed for the site.



5.4 Assessor Records

We reviewed Douglas County Assessor online files for the site. The site is owned by Stroh Ranch Development. The Site consists of an approximately 400.12 acre parcel. There are no records of buildings for the site.

5.5 Zoning/Land Use Records

The site is currently listed as agricultural land by Douglas County.

6.0 REGULATORY AGENCY RECORDS

Regulatory agency records were provided by GeoSearch. The report, dated May 18, 2016 is presented in Appendix C.

6.1 Summary of Findings

There is one listing for a historic solid waste landfill located to the north of the site. Based upon site inspection and results from methane testing there is low confidence by unspecified regulators that a landfill actually existed at this location. There are also one unmapped finding for the Sterling Tree Farm located at Bayou Gulch Road; this location is off-site and likely down-gradient due to the topography and distance from the site. We do not believe either of these listings present a REC to the site.

6.2 Local Government Records

We contacted the Tri-County Health Department for any records of historic solid waste disposal sites, individual sewage disposal systems, clandestine methamphetamine labs and complaints regarding possible hazardous material spills or



hazardous waste releases. We have not received a response as of the date of this report.

We contacted the Franktown Fire Department via email in regards to hazardous material spills on or adjacent to the site. We have not received a response as of the date of this report. If we receive a response from either agency that alters the findings of this report we will notify you in writing.

7.0 SITE RECONNAISSANCE

The following section discusses observations made during our site reconnaissance.

7.1 Methodology and Limiting Conditions

Our Mr. Trevor Branch conducted a site visit on May 31, 2016. The majority of the site was accessed by walking and driving. A photographic record of the site reconnaissance is presented in Appendix A.

7.2 Description of Site Structures and Roads

The site is generally vacant with a structure for shelter for the cattle. The site is generally covered with grasses and weeds with shrubs and small trees at the higher elevations. There are no roads on the Site. The Arapahoe Canal (no longer in use) traverses the site following a contour that moves around the southwest portion of the site. A photographic record of our site reconnaissance is presented in Appendix A.



7.3 Site Observations

During our reconnaissance, we specifically looked for obvious evidence of the site features listed in Table I. Table I lists features typically observed at vacant properties. An “X” located within the table indicates that the feature was readily observable. Those features which were observed on the site are discussed in further detail within the following subsection(s).

Table I
Exterior Site Features

	Aboveground Storage Tanks		Stained Soil and/or Pavement
	Air Emissions Sources		Stockpiles of Soil or Debris
	Cultivated Land/Crops		Stressed Vegetation
	Drains, Sumps, Pits	X	Surface Water, Streams, Ponds, Lagoons
	Hazardous Material Storage		Transformers
	High Power Transmission Lines		Underground Storage Tanks
	Natural Gas Pipelines		Unidentified Piping Below Grade
	Odors		Unidentified Substance Containers
	Petroleum Pipelines		Vehicle Maintenance Areas
	Physical Irregularities		Waste Water Discharge
	Placed Fill or Imported Soils		Waste Treatment Processes
	Railroad Lines	X	Wells (Agricultural, Water Supply)
	Septic Systems or Leach Fields		Wells (Monitoring)
	Solid Waste or Disposal Areas		Wells (Oil or Natural Gas)

7.3.1 *Surface Water*

There is a stock pond located in the northwest portion of the site near Crow-foot Valley Road. This pond is used by the grazing cattle at the site. We do not believe this presents a REC to the site.

7.3.2 *Agricultural Wells*

We observed two windmills located at the site that appeared to be the pumping mechanisms for agricultural wells. We do not believe these wells present a REC to the site.



7.4 Review of Adjacent Properties

General observations of properties adjacent to the site were performed in conjunction with on-site observations made on May 31, 2016. Developed property in the vicinity of the site consists of transportation corridors, single-family residences, and vacant land. Properties immediately adjacent to the site are described below, based on outdoor observations from the site or nearby public streets.

- North: The site is bound by single-family residences and vacant land. There is also a barn structure.
- East: The site is generally bounded by vacant land.
- South: The site is generally bounded by vacant land and the Pradera residential development.
- West: The site is bounded by Crowfoot Valley Road with a farm residence and vacant land beyond.

Observation of adjacent properties did not reveal obvious visual indications of environmental concern. We did not observe evidence of landfills, lagoons, pits, or other waste treatment or disposal operations; underground storage tanks, spills, releases, or discharge of hazardous material.

8.0 INTERVIEWS

8.1 Owner, Site Manager and/or Occupants

Ms. Hutchins is the owner representative for the site. She stated that SDI has been associated with the site since 1986 and is only aware of it being used for agricultural purposes (i.e. cattle grazing). She is unaware of any hazardous materials being used or stored at the Site.



9.0 DEVIATIONS

9.1 Exceptions and Deletions

ASTM Standard E 1527-13 for Phase I Environmental Site Assessments, Section 8.3.2, states that “all obvious uses of the site shall be identified from the present, back to the site’s obvious first developed use, or back to 1940, whichever is earlier.” The term “developed use” includes agricultural uses (i.e., cultivated land/agricultural crops) and placement of fill. In our opinion, livestock rangeland is not a developed use.

The historical documentation for this assessment went back to 1937 on the basis of an aerial photograph and 1940 on the basis of historic topographic map. The aerial photograph showed the Site partially in use as agricultural land and the Arapahoe Canal is present, thus the ASTM historical standard was not fully satisfied.

It is the opinion of CTL that obtaining earlier historical information would not be sufficiently useful, reasonably ascertainable, or change the likelihood for the presence of a REC on the site.

9.2 Data Gaps

As of the date of this report we have not received a response from the Tri-County Health Department or the Franktown Fire Department. Based on the information presented in this report and the fact that vacant unaddressed agricultural properties rarely have listings associated with them, we do not believe that there are significant data gaps which would affect our ability to identify recognized environmental conditions associated with the site.



10.0 FINDINGS AND OPINION

10.1 Summary of Site Historical Use

The site appears to have remained vacant or rangeland since at least the late 1930s. The Arapahoe Canal has been present at the Site since at least 1937; however, this is no longer in use. Residential development began in the surrounding area in the 1970s. There is one structure for cattle shelter located along the western boundary of the site and two windmills with water troughs located at the site. The only known use of the site has been for cattle grazing.

10.2 Nearby Environmental Concerns

No nearby environmental concerns were identified through our site research or were readily visible during our site reconnaissance.

10.3 Storm Water Discharges Associated With Construction Activity

Under current Federal/state regulations, construction sites that disturb one acre, or are part of a larger development in which total disturbed area is equal to or greater than one acre, are required to apply for a General Permit for Storm Water Discharges Associated With Construction Activity (General Permit) from the Colorado Department of Public Health and Environment (CDPHE). Some Municipal Separate Storm Sewer Systems (MS4s) also require additional permitting for construction sites within their jurisdiction.

The General Permit application must be submitted to the CDPHE at least 10 days prior to the start of construction activities. The General Permit requires a Storm Water Management Plan (SWMP) to be developed, implemented, and modified as needed from before commencement of construction activities until



final stabilization is complete and a Notice of Termination has been submitted to the CDPHE. Furthermore, the General Permit requires that site inspections be performed at least every 14 calendar days and within 24 hours following a storm event that causes significant movement of sediment on-site. The local MS4 may require more frequent inspections. Complete and current storm water management plans should be kept on-site. CTL can assist with your storm water management and compliance needs, if desired.

11.0 CONCLUSIONS

We have performed a Phase I Environmental Site Assessment (ESA) in general conformance with the scope and limitations of ASTM Practice E 1527-13 of Hess Ranch – South Portion in Douglas County, the Site. Any exceptions to, or deletions from, this practice are described in Section 9.1 of this report. This assessment has revealed no evidence of recognized environmental conditions in connection with the property.

12.0 QUALIFICATIONS

This Phase I ESA was supervised by, and the report reviewed by, Mr. Matthew Wardlow, a licensed Professional Engineer (P.E.) registered in the State of Colorado. Mr. Wardlow has performed or reviewed over 1,000 Phase I ESAs in the State of Colorado, and has been practicing within the local environmental consulting profession for at least 20 years. The resumes of the individuals conducting this Phase I ESA are included in Appendix D.

Mr. Wardlow declares that, to the best of his professional knowledge and belief, he meets the definition of an Environmental Professional as defined in §312.10 of 40 CFR 312. I have the specific qualifications based on education, training and experience to assess a property of the nature, history and setting of



the subject site. I have developed and performed all appropriate inquiries in general conformance with the standards and practices set forth in 40 CFR Part 312.

We believe that this ESA was conducted in a manner consistent with that level of care and skill ordinarily exercised by members of the profession currently practicing under similar conditions in the locality of the project. No warranty, express or implied, is made.

If we can be of further service in discussing the contents of this report, please call.

CTL | THOMPSON, INC.

Trevor M. Branch, E.I.T.
Environmental Staff Engineer

Reviewed by:

Matthew L. Wardlow, P.E.
Environmental Department Manager

TMB:MLW/tmb/nn

Via e-mail: coreye@e5xmanagement.com



REFERENCES

Colorado Aerial Photo Service, Aerial Photographs, Stereo Pairs, from 1956, 1972, and 1985.

Colorado Division of Water Resources, online Water Well Permit Database, <http://165.127.23.116/website/lttools/>

Colorado Oil and Gas Conservation Commission, online Oil/Gas Well Permit Database, <http://www.oil-gas.state.co.us>

CTL | Thompson, Inc., Geotechnical Investigation, Stone Creek Ranch, Project No. DN47,325.000-115.

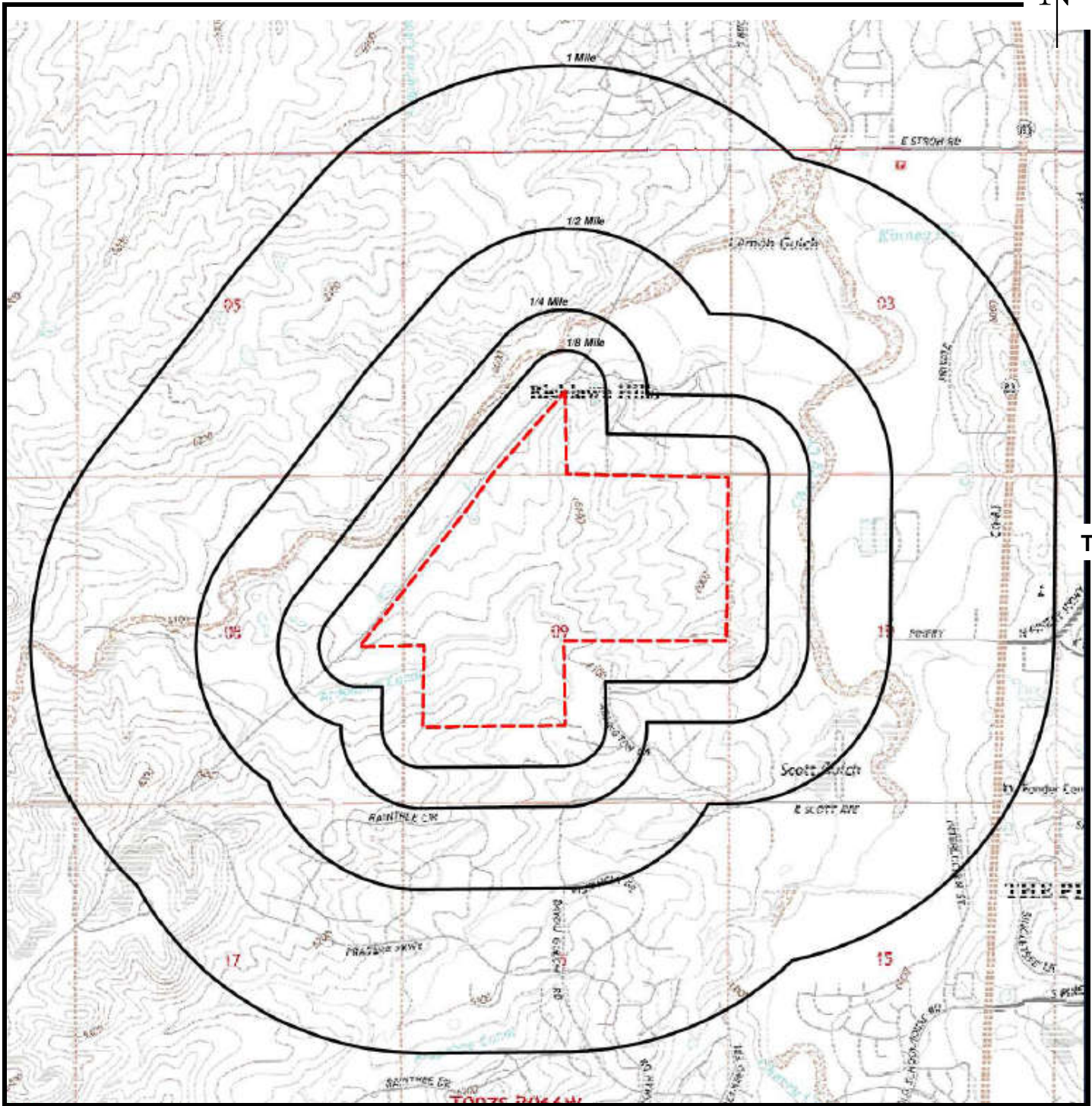
GeoSearch, (Report #DN48372-200, dated May 18, 2016).

User Questionnaire, Mr. Corey Elliott of E5X Management dated May 25, 2016

Google Earth Images, Aerial Photographs, Selected Imagery 1937, 1956, 1993-2015

U.S. Geological Survey Topographic Map, Castle Rock Quadrangle, Colorado (1940, 1945, 1965, 1965 revised 1971, 1965 revised 1980 and 1965 revised 1994).

Owner Questionnaire, Ms. Tracy Hutchins dated June 1, 2016.



R 66 W

Scale:
1" ~ 2,000'

Source:
U.S.G.S. Topographic Map
Castle Rock Quadrangle, Colorado
2013

E5X MANAGEMENT
HESS RANCH - SOUTH PORTION
CTL PROJECT NO. DN48,372-200

Topographic Area Map
Fig. 1



APPENDIX A SITE PHOTOGRAPHS



Description: View of stock pond
Direction: Northwest



Description: Abandoned Arapahoe Canal
Direction: East



Description: View across western portion of site
Direction: South



Description: View north of site
Direction: North



Description: On-site structure for cattle
Direction: West



Description: Windmill with watering troughs
Direction: West



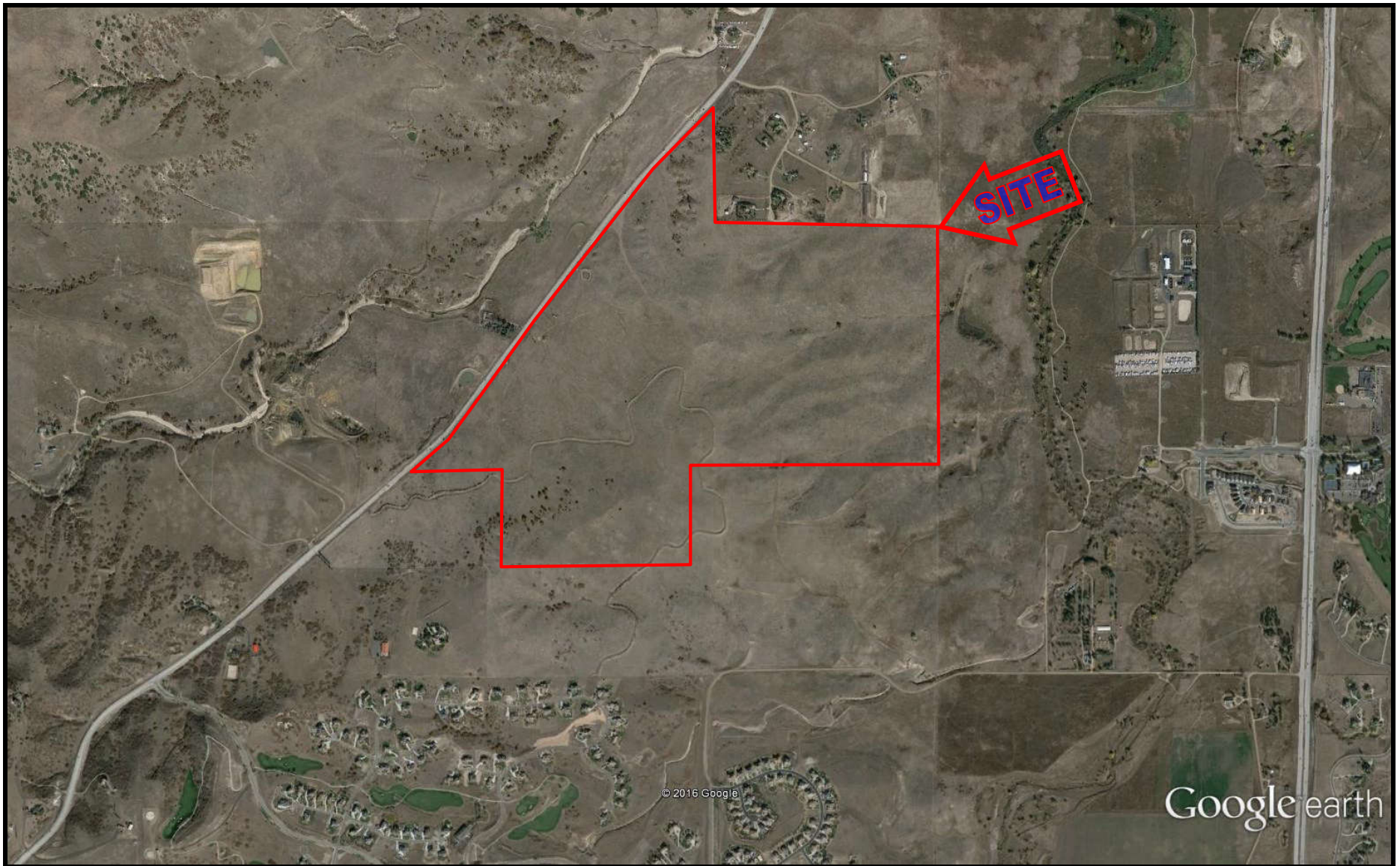
Description: View across southern portion of site
Direction: South



Description: View across southwestern portion of site
Direction: East



APPENDIX B
AERIAL PHOTOGRAPH





APPENDIX C GEOSEARCH REPORT



On time. On target. In touch.™

Radius Report

[Satellite view](#)

Target Property:

Hess Ranch

6645 N Crowfoot Valley Rd

Parker, Douglas County, Colorado 80134

Prepared For:

CTL Thompson- Denver

Order #: 67268

Job #: 146154

Project #: DN48372-200

Date: 05/18/2016

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Disclaimer

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

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Target Property Summary

Target Property Information

Hess Ranch
6645 N Crowfoot Valley Rd
Parker, Colorado 80134

Coordinates

Area centroid (-104.78471, 39.4593134)
6,087 feet above sea level

USGS Quadrangle

Castle Rock North, CO

Geographic Coverage Information

County/Parish: Douglas (CO)

ZipCode(s):

Castle Rock CO: 80108

Parker CO: 80134

Radon

* Target property is located in Radon Zone .

Database Summary

FEDERAL LISTING

Standard Environmental Records

Database	Acronym	Locatable	Unlocatable	Search Radius (miles)
FEDERAL ENGINEERING INSTITUTIONAL CONTROL SITES	EC	0	0	TP/AP
LAND USE CONTROL INFORMATION SYSTEM	LUCIS	0	0	TP/AP
RCRA SITES WITH CONTROLS	RCRASC	0	0	TP/AP
EMERGENCY RESPONSE NOTIFICATION SYSTEM	ERNSCO	0	0	0.1250
NO LONGER REGULATED RCRA GENERATOR FACILITIES	NLRRCRAG	0	0	0.2500
RESOURCE CONSERVATION & RECOVERY ACT - GENERATOR FACILITIES	RCRAGR08	0	0	0.2500
RESOURCE CONSERVATION & RECOVERY ACT - NON-GENERATOR FACILITIES	RCRANGR08	0	0	0.2500
BROWNFIELDS MANAGEMENT SYSTEM	BF	0	0	0.5000
NO LONGER REGULATED RCRA NON-CORRACTS TSD FACILITIES	NLRRCRAT	0	0	0.5000
RESOURCE CONSERVATION & RECOVERY ACT - NON-CORRACTS TREATMENT, STORAGE & DISPOSAL FACILITIES	RCRAT	0	0	0.5000
SUPERFUND ENTERPRISE MANAGEMENT SYSTEM	SEMS	0	0	0.5000
SUPERFUND ENTERPRISE MANAGEMENT SYSTEM ARCHIVED SITE INVENTORY	SEMSARCH	0	0	0.5000
DELISTED NATIONAL PRIORITIES LIST	DNPL	0	0	1.0000
NATIONAL PRIORITIES LIST	NPL	0	0	1.0000
NO LONGER REGULATED RCRA CORRECTIVE ACTION FACILITIES	NLRRCRAC	0	0	1.0000
PROPOSED NATIONAL PRIORITIES LIST	PNPL	0	0	1.0000
RESOURCE CONSERVATION & RECOVERY ACT - CORRECTIVE ACTION FACILITIES	RCRAC	0	0	1.0000
RESOURCE CONSERVATION & RECOVERY ACT - SUBJECT TO CORRECTIVE ACTION FACILITIES	RCRASUBC	0	0	1.0000
SUB-TOTAL		0	0	

Additional Environmental Records

Database	Acronym	Locatable	Unlocatable	Search Radius (miles)
CERCLIS LIENS	SFLIENS	0	0	TP/AP
EPA DOCKET DATA	DOCKETS	0	0	TP/AP
MATERIAL LICENSING TRACKING SYSTEM	MLTS	0	0	TP/AP
TOXIC SUBSTANCE CONTROL ACT INVENTORY	TSCA	0	0	TP/AP
AEROMETRIC INFORMATION RETRIEVAL SYSTEM / AIR FACILITY SUBSYSTEM	AIRSAFS	0	0	0.1250
CLANDESTINE DRUG LABORATORY LOCATIONS	CDL	0	0	0.1250

Database Summary

Database	Acronym	Locatable	Unlocatable	Search Radius (miles)
HAZARDOUS MATERIALS INCIDENT REPORTING SYSTEM	HMIRSR08	0	0	0.1250
TOXICS RELEASE INVENTORY	TRI	0	0	0.1250
BIENNIAL REPORTING SYSTEM	BRS	0	0	0.2500
HISTORICAL GAS STATIONS	HISTPST	0	0	0.2500
OPEN DUMP INVENTORY	ODI	0	0	0.5000
DEPARTMENT OF DEFENSE SITES	DOD	0	0	1.0000
FORMERLY USED DEFENSE SITES	FUDS	0	0	1.0000
RECORD OF DECISION SYSTEM	RODS	0	0	1.0000
SUB-TOTAL		0	0	

Database Summary

STATE (CO) LISTING

Standard Environmental Records

Database	Acronym	Locatable	Unlocatable	Search Radius (miles)
ENVIRONMENTAL REAL COVENANTS LIST	COVENANTS	0	0	TP/AP
ABOVEGROUND STORAGE TANK FACILITIES	AST	0	0	0.2500
HAZARDOUS WASTE SITES- GENERATOR	HWSG	0	0	0.2500
UNDERGROUND STORAGE TANK FACILITIES	UST	0	1	0.2500
HISTORICAL SOLID WASTE LANDFILLS	HISTSWLF	1	0	0.5000
LEAKING STORAGE TANK FACILITIES	LST	0	0	0.5000
LEAKING UNDERGROUND STORAGE TANKS TRUST FUND SITES	LUSTTRUST	0	0	0.5000
SOLID WASTE FACILITIES	SWF	0	0	0.5000
VOLUNTARY CLEANUP AND REDEVELOPMENT PROGRAM SITES	VCRA	0	0	0.5000
HAZARDOUS WASTE SITES- CORRECTIVE ACTION	HWSCA	0	0	1.0000
SUPERFUND SITES	SF	0	0	1.0000
SUB-TOTAL		1	1	

Additional Environmental Records

Database	Acronym	Locatable	Unlocatable	Search Radius (miles)
ASBESTOS ABATEMENT AND DEMOLITION PROJECTS	ASBESTOS	0	0	TP/AP
URANIUM MILL TAILINGS SITES	UMTS	0	0	TP/AP
AIR POLLUTION CONTROL DIVISION PERMITTED FACILITIES	APCDP	0	0	0.1250
CLANDESTINE DRUG LABORATORY LOCATIONS	CDL	0	0	0.1250
DRY CLEANING FACILITIES	CLEANERS	0	0	0.1250
SPILLS LISTING	SPILLS	0	0	0.1250
HAZARDOUS WASTE SITES- TREATMENT, STORAGE & DISPOSAL	HWSTSD	0	0	0.5000
METHANE GAS STUDY SITES	METHANESITES	0	0	0.5000
SUB-TOTAL		0	0	

Database Summary

LOCAL LISTING

Additional Environmental Records

<i>Database</i>	<i>Acronym</i>	<i>Locatable</i>	<i>Unlocatable</i>	<i>Search Radius (miles)</i>
DOUGLAS COUNTY TRASH TRANSFER AND LANDFILLS	DCTTLF	0	0	0.5000
SUB-TOTAL		0	0	

Database Summary

TRIBAL LISTING

Standard Environmental Records

Database	Acronym	Locatable	Unlocatable	Search Radius (miles)
UNDERGROUND STORAGE TANKS ON TRIBAL LANDS	USTR08	0	0	0.2500
LEAKING UNDERGROUND STORAGE TANKS ON TRIBAL LANDS	LUSTR08	0	0	0.5000
OPEN DUMP INVENTORY ON TRIBAL LANDS	ODINDIAN	0	0	0.5000

SUB-TOTAL		0	0	
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Additional Environmental Records

Database	Acronym	Locatable	Unlocatable	Search Radius (miles)
INDIAN RESERVATIONS	INDIANRES	0	0	1.0000

SUB-TOTAL		0	0	
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TOTAL		1	1	
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Database Radius Summary

FEDERAL LISTING

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

Acronym	Search Radius (miles)	TP/AP (0 - 0.02)	1/8 Mile (> TP/AP)	1/4 Mile (> 1/8)	1/2 Mile (> 1/4)	1 Mile (> 1/2)	> 1 Mile	Total
DOCKETS	0.0200	0	NS	NS	NS	NS	NS	0
EC	0.0200	0	NS	NS	NS	NS	NS	0
LUCIS	0.0200	0	NS	NS	NS	NS	NS	0
MLTS	0.0200	0	NS	NS	NS	NS	NS	0
RCRASC	0.0200	0	NS	NS	NS	NS	NS	0
SFLIENS	0.0200	0	NS	NS	NS	NS	NS	0
TSCA	0.0200	0	NS	NS	NS	NS	NS	0
AIRSAFS	0.1250	0	0	NS	NS	NS	NS	0
CDL	0.1250	0	0	NS	NS	NS	NS	0
ERNSCO	0.1250	0	0	NS	NS	NS	NS	0
HMIRSR08	0.1250	0	0	NS	NS	NS	NS	0
TRI	0.1250	0	0	NS	NS	NS	NS	0
BRS	0.2500	0	0	0	NS	NS	NS	0
HISTPST	0.2500	0	0	0	NS	NS	NS	0
NLRRCRAG	0.2500	0	0	0	NS	NS	NS	0
RCRAGR08	0.2500	0	0	0	NS	NS	NS	0
RCRANGR08	0.2500	0	0	0	NS	NS	NS	0
BF	0.5000	0	0	0	0	NS	NS	0
NLRRCRAT	0.5000	0	0	0	0	NS	NS	0
ODI	0.5000	0	0	0	0	NS	NS	0
RCRAT	0.5000	0	0	0	0	NS	NS	0
SEMS	0.5000	0	0	0	0	NS	NS	0
SEMSARCH	0.5000	0	0	0	0	NS	NS	0
DNPL	1.0000	0	0	0	0	0	NS	0
DOD	1.0000	0	0	0	0	0	NS	0
FUDS	1.0000	0	0	0	0	0	NS	0
NLRRCRAC	1.0000	0	0	0	0	0	NS	0
NPL	1.0000	0	0	0	0	0	NS	0
PNPL	1.0000	0	0	0	0	0	NS	0
RCRAC	1.0000	0	0	0	0	0	NS	0
RCRASUBC	1.0000	0	0	0	0	0	NS	0
RODS	1.0000	0	0	0	0	0	NS	0
SUB-TOTAL		0	0	0	0	0	0	0

Database Radius Summary

STATE (CO) LISTING

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

Acronym	Search Radius (miles)	TP/AP (0 - 0.02)	1/8 Mile (> TP/AP)	1/4 Mile (> 1/8)	1/2 Mile (> 1/4)	1 Mile (> 1/2)	> 1 Mile	Total
ASBESTOS	0.0200	0	NS	NS	NS	NS	NS	0
COVENANTS	0.0200	0	NS	NS	NS	NS	NS	0
UMTS	0.0200	0	NS	NS	NS	NS	NS	0
APCDP	0.1250	0	0	NS	NS	NS	NS	0
CDL	0.1250	0	0	NS	NS	NS	NS	0
CLEANERS	0.1250	0	0	NS	NS	NS	NS	0
SPILLS	0.1250	0	0	NS	NS	NS	NS	0
AST	0.2500	0	0	0	NS	NS	NS	0
HWSG	0.2500	0	0	0	NS	NS	NS	0
UST	0.2500	0	0	0	NS	NS	NS	0
HISTSWLF	0.5000	0	0	0	1	NS	NS	1
HWSTSD	0.5000	0	0	0	0	NS	NS	0
LST	0.5000	0	0	0	0	NS	NS	0
LUSTTRUST	0.5000	0	0	0	0	NS	NS	0
METHANESITES	0.5000	0	0	0	0	NS	NS	0
SWF	0.5000	0	0	0	0	NS	NS	0
VCRA	0.5000	0	0	0	0	NS	NS	0
HWSCA	1.0000	0	0	0	0	0	NS	0
SF	1.0000	0	0	0	0	0	NS	0
SUB-TOTAL		0	0	0	1	0	0	1

Database Radius Summary

LOCAL LISTING

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

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

Database Radius Summary

TRIBAL LISTING

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

Acronym	Search Radius (miles)	TP/AP (0 - 0.02)	1/8 Mile (> TP/AP)	1/4 Mile (> 1/8)	1/2 Mile (> 1/4)	1 Mile (> 1/2)	> 1 Mile	Total
USTR08	0.2500	0	0	0	NS	NS	NS	0
LUSTR08	0.5000	0	0	0	0	NS	NS	0
ODINDIAN	0.5000	0	0	0	0	NS	NS	0
INDIANRES	1.0000	0	0	0	0	0	NS	0

SUB-TOTAL		0	0	0	0	0	0	0
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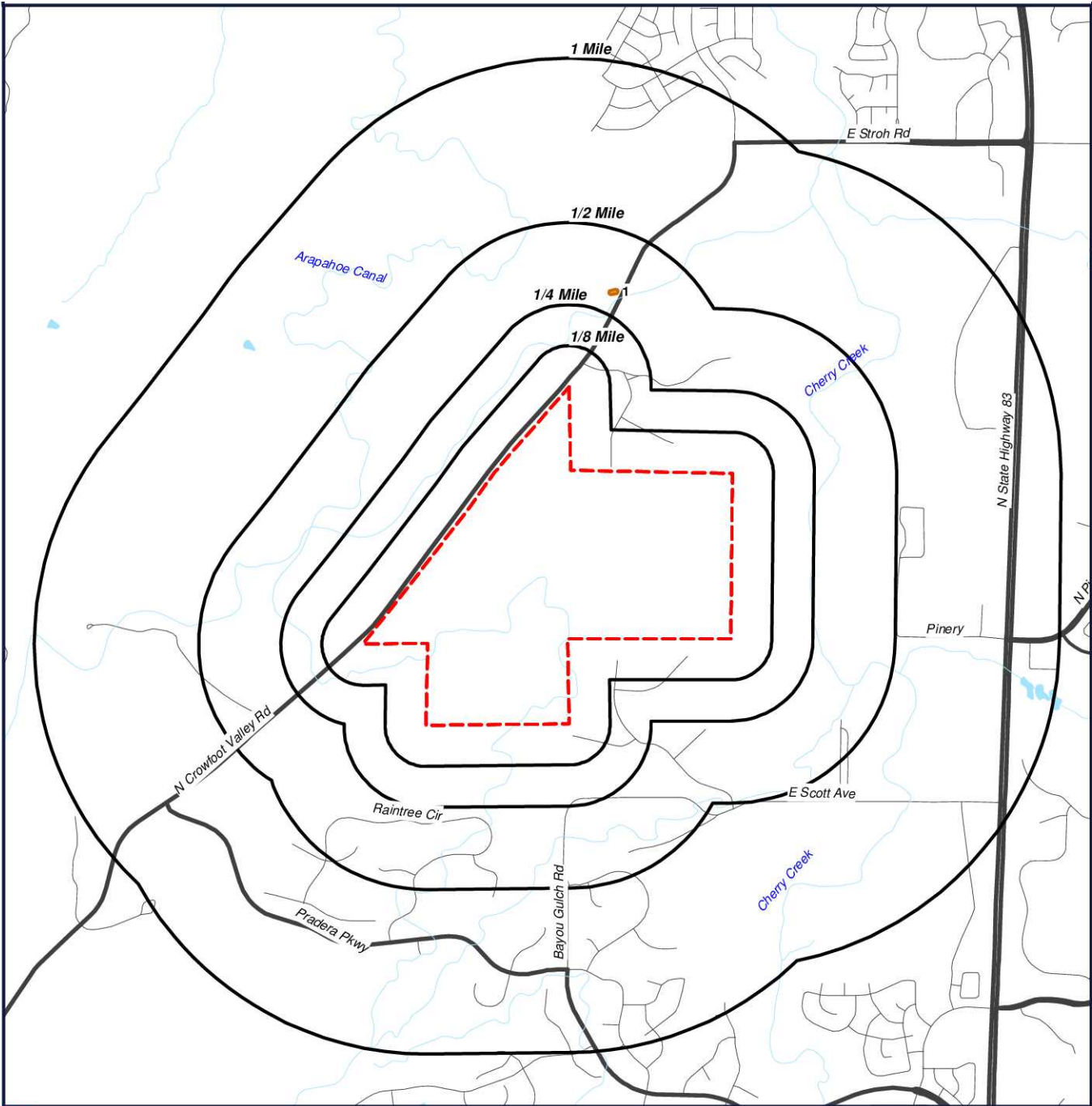
TOTAL		0	0	0	1	0	0	1
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NOTES:

NS = NOT SEARCHED

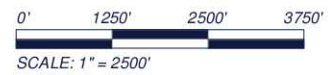
TP/AP = TARGET PROPERTY/ADJACENT PROPERTY

Radius Map 1



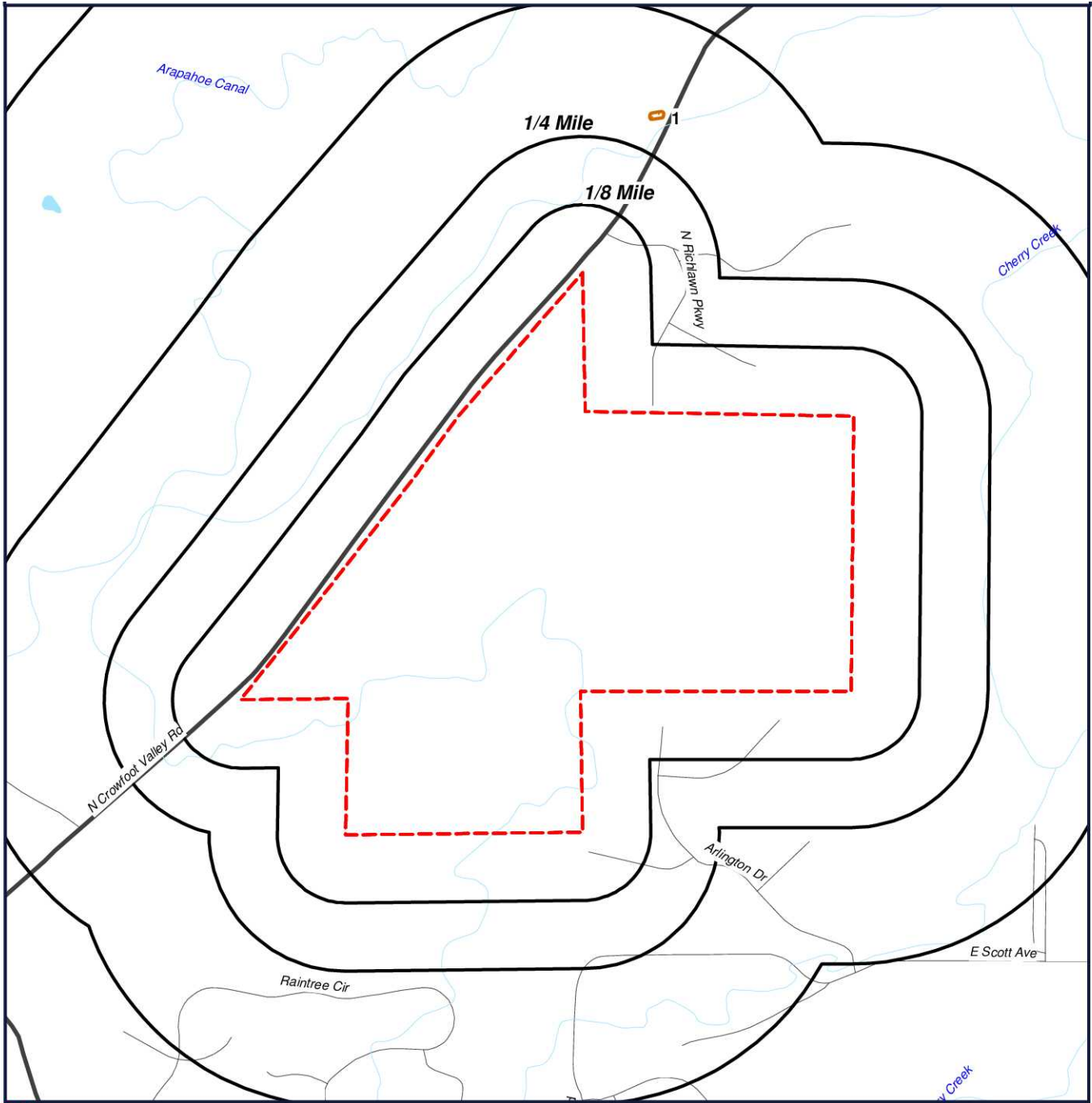
 Target Property (TP)
 HISTSWLF

Hess Ranch
6645 N Crowfoot Valley Rd
Parker, Colorado
80134



[Click here to access Satellite view](#)

Radius Map 2



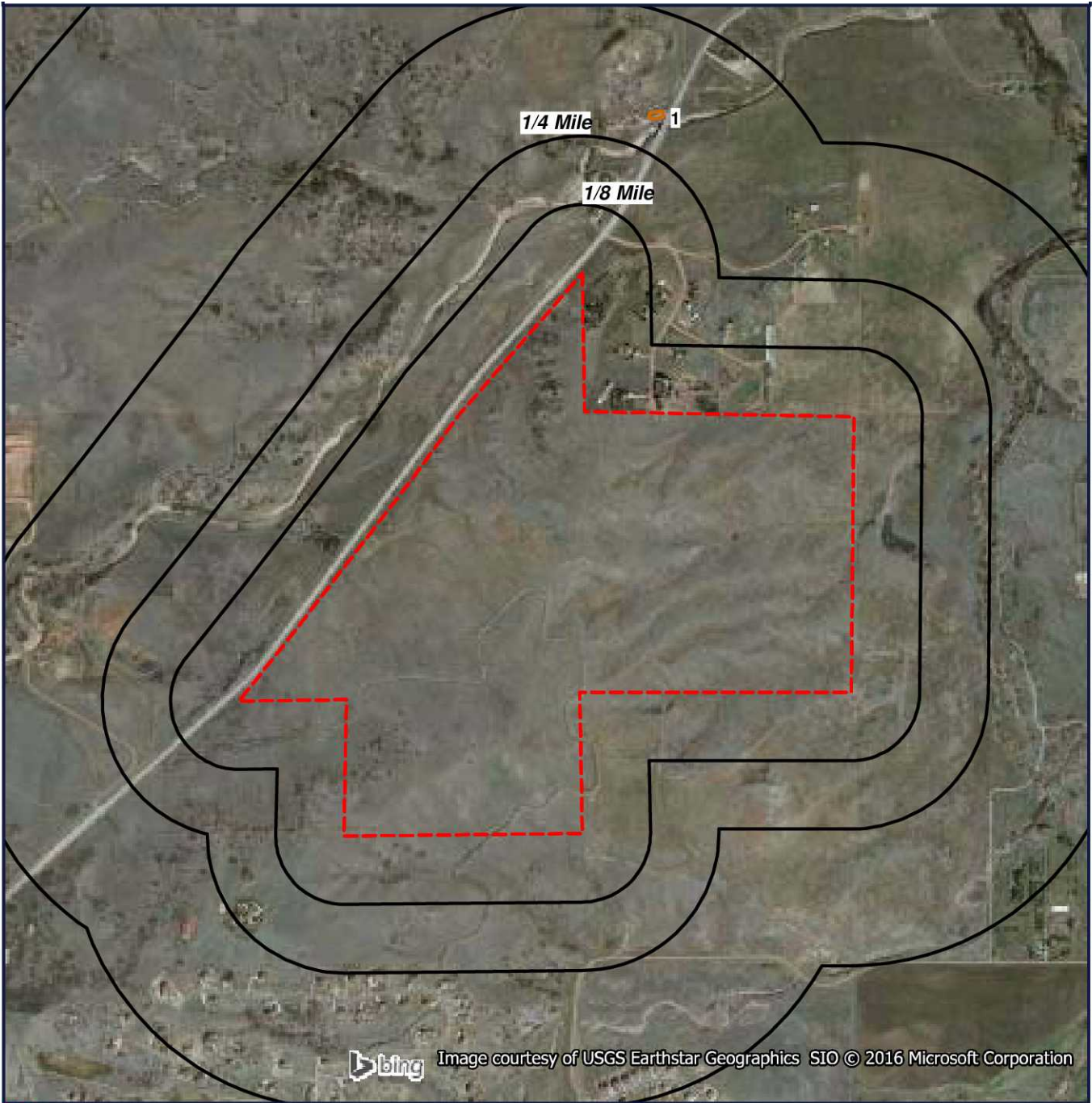
 Target Property (TP)
 HISTSWLF

Hess Ranch
6645 N Crowfoot Valley Rd
Parker, Colorado
80134



[Click here to access Satellite view](#)

Ortho Map



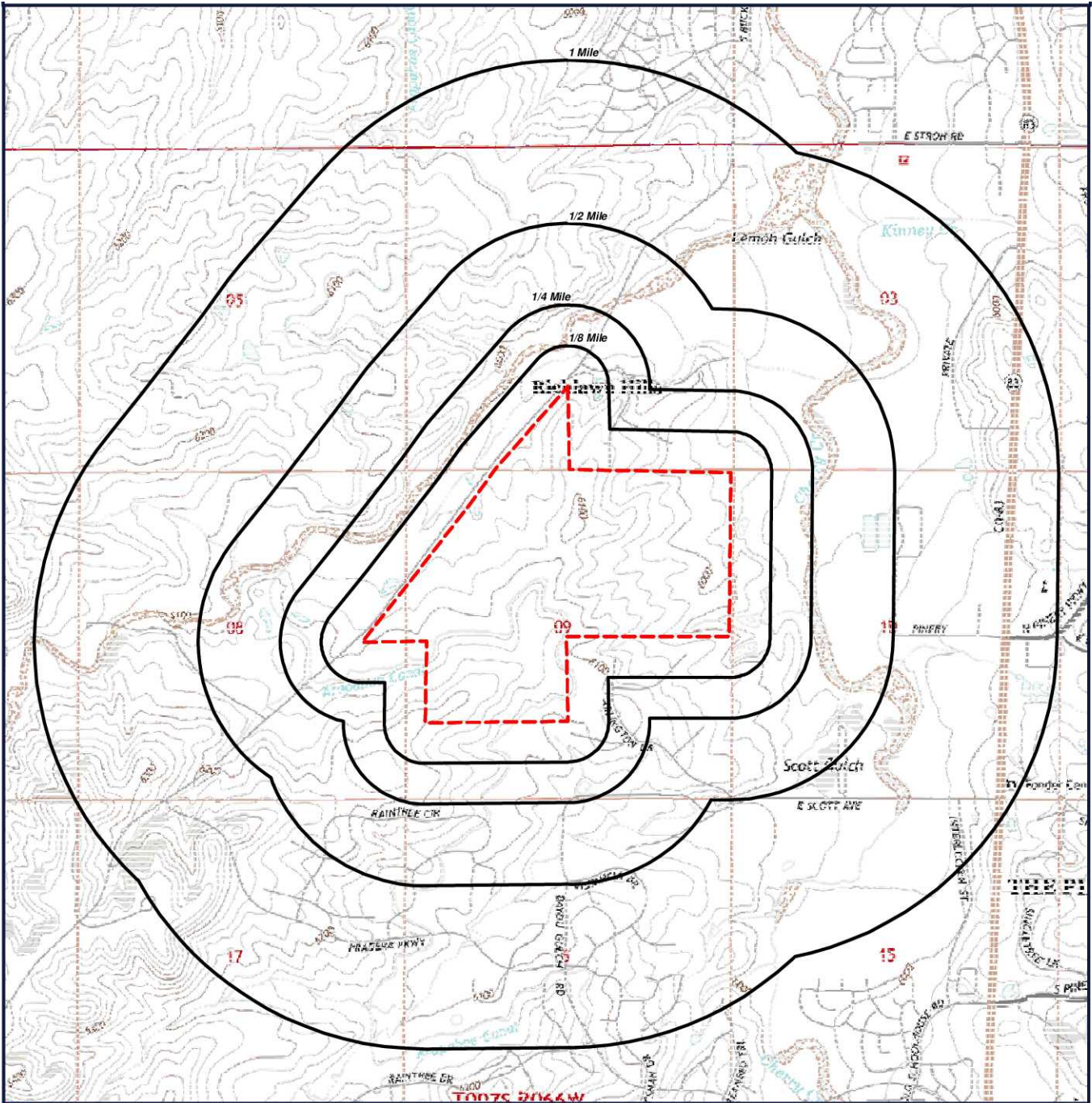
 Target Property (TP)
 HISTSWLF

**Quadrangle(s): Castle Rock
North
Hess Ranch
6645 N Crowfoot Valley Rd
Parker, Colorado
80134**



[Click here to access Satellite view](#)

Topographic Map



 Target Property (TP)

Quadrangle(s): Castle Rock
North
Source: USGS, 08/08/2013
Hess Ranch
6645 N Crowfoot Valley Rd
Parker, Colorado
80134



0' 1250' 2500' 3750'
SCALE: 1" = 2500'

[Click here to access Satellite view](#)

GeoSearch www.geo-search.com 888-396-0042

Located Sites Summary

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

Map ID#	Database Name	Site ID#	Relative Elevation	Distance From Site	Site Name	Address	PAGE #
1	HISTSWLF	00070-0000347	Lower (5,975 ft.)	0.32 mi. NE (1690 ft.)	RICHLAWN LANDFILL	N. CROWFOOT VALLEY ROAD, CITY NOT REPORTED, CO 80134	17

Elevation Summary

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

Target Property Elevation: 6087 ft.

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

EQUAL/HIGHER ELEVATION

No Records Found

LOWER ELEVATION

Map ID#	Database Name	Elevation	Site Name	Address	Page #
1	HISTSWLF	5,975 ft.	RICHLAWN LANDFILL	N. CROWFOOT VALLEY ROAD, CITY NOT REPORTED, CO 80134	17

Historical Solid Waste Landfills (HISTSWLF)

[MAP ID# 1](#)

Distance from Property: 0.32 mi. (1,690 ft.) NE
Elevation: 5,975 ft. (Lower than TP)

SITE INFORMATION

UNIQUE ID: 00070-0000347

NAME: RICHLAWN LANDFILL

ADDRESS: N. CROWFOOT VALLEY ROAD

CITY NOT REPORTED, CO

DIRECTIONS: NOT REPORTED

COUNTY: DOUGLAS

SITE DETAILS

AGENCY SOURCE: NOT REPORTED

DETAIL1:

LOC'N CONFID- LOW (BASED ON SITE INSPECTION); FILL- SANITARY WASTE, CONSTRUCTION DEBRIS; ACRES- ; OPENED- 1974; CLOSED- 12/31/80; OPER/OWNR/ OTHR- ; REGUL'D- NO; ENGRG CNTRL- NONE

DETAIL2:

METHANE SURVEY CONDUCTED IN 1983. LOCATION GIVEN AS JUST SOUTH OF LEMON GULCH. ONE TEST WITH NO METHANE. SITE CANNOT BE FOUND IN FIELD. SITE LOCATED ON THE W SIDE OF THE ROAD N OF LEMON CREEK (FILL PLACEMENT FOR EROSION CONTROL).

[Back to Report Summary](#)

Unlocated Sites Summary

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

<i>Database Name</i>	<i>Site ID#</i>	<i>Site Name</i>	<i>Address</i>	<i>City/State/Zip/County</i>
UST	5186	STERLING TREE FARM	BAYOU GULCH RD	PARKER 80134 Douglas

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DOCKETS EPA Docket Data

VERSION DATE: 12/22/05

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

EC Federal Engineering Institutional Control Sites

VERSION DATE: 08/03/15

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

LUCIS Land Use Control Information System

VERSION DATE: 09/01/06

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

MLTS Material Licensing Tracking System

VERSION DATE: 02/12/16

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

RCRASC RCRA Sites with Controls

VERSION DATE: 02/23/16

This list of Resource Conservation and Recovery Act sites with institutional controls in place is provided by the U.S. Environmental Protection Agency.

SFLIENS CERCLIS Liens

VERSION DATE: 06/08/12

A Federal CERCLA ("Superfund") lien can exist by operation of law at any site or property at which United States

Environmental Records Definitions - FEDERAL

Environmental Protection Agency has spent Superfund monies. These monies are spent to investigate and address releases and threatened releases of contamination. CERCLIS provides information as to the identity of these sites and properties. This database contains those CERCLIS sites where the Lien on Property action is complete.

TSCA Toxic Substance Control Act Inventory

VERSION DATE: 12/31/06

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

AIRSAFS Aerometric Information Retrieval System / Air Facility Subsystem

VERSION DATE: 10/20/14

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

CDL Clandestine Drug Laboratory Locations

VERSION DATE: 01/20/16

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

ERNSCO Emergency Response Notification System

VERSION DATE: 02/21/16

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

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HMIRSR08 Hazardous Materials Incident Reporting System

VERSION DATE: 11/08/15

The HMIRS database contains unintentional hazardous materials release information reported to the U.S. Department of Transportation located in EPA Region 8. This region includes the following states: Colorado, Montana, North Dakota, South Dakota, Utah, and Wyoming.

TRI Toxics Release Inventory

VERSION DATE: 12/31/14

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

BRS Biennial Reporting System

VERSION DATE: 12/31/11

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

HISTPST Historical Gas Stations

VERSION DATE: NR

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

NLRRCRAG No Longer Regulated RCRA Generator Facilities

VERSION DATE: 02/09/16

This database includes RCRA Generator facilities that are no longer regulated by the United States Environmental Protection Agency or do not meet other RCRA reporting requirements. This listing includes facilities that formerly generated hazardous waste.

Large Quantity Generators: Generate 1,000 kg or more of hazardous waste during any calendar month; or Generate more than 1 kg of acutely hazardous waste during any calendar month; or Generate more than 100 kg of any residue or contaminated soil, waste or other debris resulting from the cleanup of a spill, into or on any land

Environmental Records Definitions - FEDERAL

or water, or acutely hazardous waste during any calendar month; or Generate 1 kg or less of acutely hazardous waste during any calendar month, and accumulate more than 1kg of acutely hazardous waste at any time; or Generate 100 kg or less of any residue or contaminated soil, waste or other debris resulting from the cleanup of a spill, into or on any land or water, of acutely hazardous waste during any calendar month, and accumulated more than 100 kg of that material at any time.

Small Quantity Generators: Generate more than 100 and less than 1000 kilograms of hazardous waste during any calendar month and accumulate less than 6000 kg of hazardous waste at any time; or Generate 100 kg or less of hazardous waste during any calendar month, and accumulate more than 1000 kg of hazardous waste at any time.

Conditionally Exempt Small Quantity Generators: Generate 100 kilograms or less of hazardous waste per calendar month, and accumulate 1000 kg or less of hazardous waste at any time; or Generate one kilogram or less of acutely hazardous waste per calendar month, and accumulate at any time: 1 kg or less of acutely hazardous waste; or 100 kg or less of any residue or contaminated soil, waste or other debris resulting from the cleanup of a spill, into or on any land or water, of acutely hazardous waste; or Generate 100 kg or less of any residue or contaminated soil, waste or other debris resulting from the cleanup of a spill, into or on any land or water, of acutely hazardous waste during any calendar month, and accumulate at any time: 1 kg or less of acutely hazardous waste; or 100 kg or less of any residue or contaminated soil, waste or other debris resulting from the cleanup of a spill, into or on any land or water, of acutely hazardous waste.

RCRAGR08

Resource Conservation & Recovery Act - Generator Facilities

VERSION DATE: 02/09/16

This database includes sites listed as generators of hazardous waste (large, small, and exempt) in the RCRAInfo system. The United States Environmental Protection Agency defines RCRAInfo as the comprehensive information system which provides access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. RCRAInfo replaces the data recording and reporting abilities of the Resource Conservation and Recovery Information System (RCRIS) and the Biennial Reporting System (BRS). This database includes sites located in EPA Region 8. This region includes the following states: Colorado, Montana, North Dakota, South Dakota, Utah, and Wyoming.

Large Quantity Generators: Generate 1,000 kg or more of hazardous waste during any calendar month; or Generate more than 1 kg of acutely hazardous waste during any calendar month; or Generate more than 100 kg of any residue or contaminated soil, waste or other debris resulting from the cleanup of a spill, into or on any land or water, of acutely hazardous waste during any calendar month; or Generate 1 kg or less of acutely hazardous waste during any calendar month, and accumulate more than 1kg of acutely hazardous waste at any time; or Generate 100 kg or less of any residue or contaminated soil, waste or other debris resulting from the cleanup of a spill, into or on any land or water, of acutely hazardous waste during any calendar month, and accumulated more than 100 kg of that material at any time.

Small Quantity Generators: Generate more than 100 and less than 1000 kilograms of hazardous waste during any calendar month and accumulate less than 6000 kg of hazardous waste at any time; or Generate 100 kg or less of hazardous waste during any calendar month, and accumulate more than 1000 kg of hazardous waste at any time.

Conditionally Exempt Small Quantity Generators: Generate 100 kilograms or less of hazardous waste per calendar month, and accumulate 1000 kg or less of hazardous waste at any time; or Generate one kilogram or less of acutely hazardous waste per calendar month, and accumulate at any time: 1 kg or less of acutely hazardous waste; or 100 kg or less of any residue or contaminated soil, waste or other debris resulting from the

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cleanup of a spill, into or on any land or water, or acutely hazardous waste; or Generate 100 kg or less of any residue or contaminated soil, waste or other debris resulting from the cleanup of a spill, into or on any land or water, or acutely hazardous waste during any calendar month, and accumulate at any time: 1 kg or less of acutely hazardous waste; or 100 kg or less of any residue or contaminated soil, waste or other debris resulting from the cleanup of a spill, into or on any land or water, of acutely hazardous waste.

RCRANGR08

Resource Conservation & Recovery Act - Non-Generator Facilities

VERSION DATE: 02/09/16

This database identifies RCRAInfo system sites that only handle hazardous waste, such as transporters, without generating any amount hazardous waste. The United States Environmental Protection Agency defines RCRAInfo as the comprehensive information system which provides access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. RCRAInfo replaces the data recording and reporting abilities of the Resource Conservation and Recovery Information System (RCRIS) and the Biennial Reporting System (BRS). This database includes sites located in EPA Region 8. This region includes the following states: Colorado, Montana, North Dakota, South Dakota, Utah, and Wyoming.

BF

Brownfields Management System

VERSION DATE: 01/28/16

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

NLRRCRAT

No Longer Regulated RCRA Non-CORRACTS TSD Facilities

VERSION DATE: 02/09/16

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

ODI

Open Dump Inventory

VERSION DATE: 06/01/85

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

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

VERSION DATE: 02/09/16

This database includes Non-Corrective Action sites listed as treatment, storage and/or disposal facilities of hazardous waste in the RCRAInfo system. The United States Environmental Protection Agency defines RCRAInfo as the comprehensive information system which provides access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. RCRAInfo replaces the data recording and reporting abilities of the Resource Conservation and Recovery Information System (RCRIS) and the Biennial Reporting System (BRS).

SEMS Superfund Enterprise Management System

VERSION DATE: 03/07/16

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

SEMSARCH Superfund Enterprise Management System Archived Site Inventory

VERSION DATE: 03/16/16

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

DNPL Delisted National Priorities List

VERSION DATE: 03/07/16

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

DOD Department of Defense Sites

VERSION DATE: 06/21/10

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

Environmental Records Definitions - FEDERAL

FUDS Formerly Used Defense Sites

VERSION DATE: 06/01/15

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

NLRRCRAC No Longer Regulated RCRA Corrective Action Facilities

VERSION DATE: 02/09/16

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

NPL National Priorities List

VERSION DATE: 03/07/16

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

PNPL Proposed National Priorities List

VERSION DATE: 03/07/16

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

RCRAC Resource Conservation & Recovery Act - Corrective Action Facilities

VERSION DATE: 02/09/16

This database includes all hazardous waste sites with ongoing corrective action activity and where corrective action is statutorily required to be address but have not had corrective action imposed in the RCRAInfo system. The Corrective Action Program requires owners or operators of RCRA facilities (or treatment, storage, and disposal facilities) to investigate and cleanup contamination in order to protect human health and the

Environmental Records Definitions - FEDERAL

environment. The United States Environmental Protection Agency defines RCRAInfo as the comprehensive information system which provides access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. RCRAInfo replaces the data recording and reporting abilities of the Resource Conservation and Recovery Information System (RCRIS) and the Biennial Reporting System (BRS).

RCRASUBC Resource Conservation & Recovery Act - Subject to Corrective Action Facilities

VERSION DATE: 02/09/16

This database includes hazardous waste sites which are potentially subject to corrective action regardless of whether they have correction action underway, plus any sites showing a corrective action event of RFI or beyond in the RCRAInfo system. Sites conducting corrective action under analogous state authorities are also included. The United States Environmental Protection Agency defines RCRAInfo as the comprehensive information system which provides access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. RCRAInfo replaces the data recording and reporting abilities of the Resource Conservation and Recovery Information System (RCRIS) and the Biennial Reporting System (BRS).

RODS Record of Decision System

VERSION DATE: 07/01/13

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

Environmental Records Definitions - STATE (CO)

ASBESTOS

Asbestos Abatement and Demolition Projects

VERSION DATE: 01/12/16

The Colorado Department of Public Health and Environment's Air Pollution Control Division assists schools and businesses to comply with air pollution laws regulating asbestos and asbestos containing materials. The regulation that governs asbestos in Colorado is the Colorado Air Quality Control Commission's Regulation No. 8, Part B, "Emission Standards for Asbestos." Notification is required for all demolitions of all facilities and all asbestos abatement projects that exceed the trigger levels, whatever is the lesser quantity. The notification requirements apply to both friable and non-friable asbestos materials. This database contains those related projects since January 2008.

COVENANTS

Environmental Real Covenants List

VERSION DATE: 08/25/15

Senate Bill 01-145 gave authority to the Colorado Department of Public Health and Environment to approve requests to restrict the future use of a property using an enforceable agreement called an environmental covenant. These covenants, which are recorded with the deed and run with the land, provide a mechanism to ensure that institutional controls that are part of environmental remediation projects are properly implemented and that engineered structures are protected and maintained, so that implemented remedies continue to be protective of human health and the environment for as long as any residual contamination remains a risk.

UMTS

Uranium Mill Tailings Sites

VERSION DATE: 08/09/02

There were nine uranium mill tailings sites in Colorado designated for cleanup under the federal Uranium Mill Tailings Radiation Control Act. These nine sites, known commonly as UMTRA sites, were remediated jointly by the State of Colorado and the U.S. Department of Energy during the late 1980's and early 1990's. Mill tailings were removed from 8 of the mill sites and relocated in engineered disposal cells. A disposal cell is designed to encapsulate the material, reduce radon emanation, and prevent the movement of water through the material. At one site, Maybell, CO, the tailings were stabilized in-place at the mill site. After remediation of the tailings was completed, the State and DOE began to investigate the residual impacts to groundwater at the mill sites. The groundwater phase of the UMTRA program is on-going. This database was provided by the Colorado Department of Public Health and Environment.

APCDP

Air Pollution Control Division Permitted Facilities

VERSION DATE: 05/01/16

The Stationary Sources Program, located within the Air Pollution Control Division of the Colorado Department of Public Health and Environment, evaluates and develops air permits for stationary sources in Colorado. The program inspects sources to determine compliance with air regulations and permit conditions, and maintains a computerized inventory of air pollution emissions throughout the state.

Environmental Records Definitions - STATE (CO)

CDL Clandestine Drug Laboratory Locations

VERSION DATE: 02/18/16

This list of Methamphetamine lab seizures is provided by multiple sources: the North Metro Task Force, FACTS (Forensic Applications Consulting Technologies, Inc) and the Colorado Springs Police Department. The North Metro Task Force list of Methamphetamine labs were seized between 2001 and 2010. The North Metro area includes the following Cities and Counties of Colorado: Adams County, Broomfield, Brighton, Commerce City, Federal Heights, Northglenn, Thornton, and Westminster. According to Section 2 of Colorado Revised Statutes: "25-18.5-103. Discovery of an illegal drug laboratory - property owner - clean-up - liability. (1) (a) Upon notification from a peace officer that chemicals, equipment, or supplies indicative of an illegal drug laboratory are located on a property, or when an illegal drug laboratory used to manufacture methamphetamine is otherwise discovered and the property owner has received notice, the owner of any contaminated property shall meet the cleanup standards for property established by the board in section 25-18.5-102". The FACTS and Colorado Springs Police Department Methamphetamine labs were seized between 2001 and 2014.

CLEANERS Dry Cleaning Facilities

VERSION DATE: 02/01/16

This database contains dry cleaners which have obtained an air permit through the Air Pollution Control Division at the Colorado Department of Public Health and Environment.

SPILLS Spills Listing

VERSION DATE: 01/31/16

The Colorado Department of Public Health and Environment's Division of Emergency Preparedness and Response maintains this listing of chemical spills and/or releases.

AST Aboveground Storage Tank Facilities

VERSION DATE: 04/18/16

The Oil and Public Safety Division of the Colorado Department of Labor and Employment maintains this list of aboveground storage tank (AST) facilities. This AST database also includes other types of storage tank facilities such as liquefied petroleum gas (LPG), vehicle tank meters (VTM), and compressed natural gas facilities.

HWSG Hazardous Waste Sites- Generator

VERSION DATE: 06/30/03

The Resource Conservation and Recovery Act (RCRA) was enacted by congress in 1976, followed by the promulgation of implementing regulations in 1980. In 1984, the State was authorized by EPA to implement the RCRA program in Colorado on their behalf. This facility listing includes RCRA sites listed as generators of hazardous waste (Small Quantity Generators and Large Quantity Generators) and was provided by the Colorado Department of Public Health and Environment.

Environmental Records Definitions - STATE (CO)

Small Quantity Generators (SQG) generate, in any calendar month, more than 100 kg (220 lbs.) but less than 1,000 kg (2,200 lbs.) of RCRA hazardous waste; and generate, in any calendar month, or accumulate at any time, no more than 1 kg (2.2 lbs.) of acute hazardous waste and no more than 100 kg (220 lbs.) of material from the cleanup of a spill of acute hazardous waste; and accumulate on-site no more than 6000 kg (13,200 lbs) of hazardous waste at any one time; or, the site is a Small Quantity Generator if the site met all other criteria for a Conditionally Exempt Small Quantity Generator, but accumulated, at any time, more than 1,000 kg (2,200 lbs.) of RCRA hazardous waste.

Large Quantity Generators (LQG) generate, in any calendar month, 1,000 kg (2,200 lbs.) or more of RCRA hazardous waste; or generate, in any calendar month, or accumulated at any time, more than 1 kg (2.2 lbs.) of RCRA acute hazardous waste; or generate, in any calendar month, or accumulated at any time, more than 100 kg (220 lbs.) of spill cleanup material contaminated with RCRA acute hazardous waste.

UST Underground Storage Tank Facilities

VERSION DATE: 04/18/16

The Oil and Public Safety Division of the Colorado Department of Labor and Employment maintains this list of underground storage tank facilities.

HISTSWLF Historical Solid Waste Landfills

VERSION DATE: NR

This historical solid waste landfills database contains data from the Hazardous Materials Waste Management Division (HMWMD) of the Colorado Department of Public Health and other various state and local agencies. In the early 1980s, the HMWMD conducted a survey of staff members and local agencies to compile this listing of sites that were known or thought to have waste issues. This Solid Waste Historical Data is not considered complete or verifiable and has not been maintained since the late 1980s. The HMWMD is not responsible and shall not be liable to the used for damages of any kind arising out of the use of this data or information.

HWSTSD Hazardous Waste Sites- Treatment, Storage & Disposal

VERSION DATE: 06/30/03

The Resource Conservation and Recovery Act (RCRA) was enacted by congress in 1976, followed by the promulgation of implementing regulations in 1980. In 1984, the State was authorized by EPA to implement the RCRA program in Colorado on their behalf. TSD facilities treat, store, dispose, or recycle hazardous waste on site in units and therefore are subject to RCRA permitting requirements. Historic TSDs are facilities that have completed closure and/or post-closure of the RCRA Subtitle C Regulated Unit(s) or the Treatment/Storage/Disposal Unit is no longer regulated. This database was provided by the Colorado Department of Public Health and Environment.

LST Leaking Storage Tank Facilities

VERSION DATE: 04/18/16

The Oil and Public Safety Division of the Colorado Department of Labor and Employment maintains this list of

Environmental Records Definitions - STATE (CO)

leaking aboveground and underground storage tank facilities.

LUSTTRUST Leaking Underground Storage Tanks Trust Fund Sites

VERSION DATE: 01/01/00

Suspected tank leaks have been discovered at the sites included in this database, but the facility responsible for the leak has not been identified. The state's investigation and search for responsible parties is paid for out of the state's Leaking Underground Storage Tank (LUST) Trust Fund. This database was provided by the Colorado Department of Labor & Employment, Division of Oil and Public Safety, State Fund Section and is no longer updated.

METHANESITES Methane Gas Study Sites

VERSION DATE: 01/01/81

This Investigation of Methane Gas Hazards report was prepared by the Denver Office of Emergency Preparedness in 1981. The purpose of this study was to assess the actual and potential generation, migration, explosive and related problems associated with specified landfills, and to identify existing and potential problems, suggested strategies to prevent, abate, and control such problems and recommend investigative and monitoring functions as may be deemed necessary. The Colorado Department of Health selected eight landfills as priorities due to population density and potential hazards to population and property.

SWF Solid Waste Facilities

VERSION DATE: 04/07/16

The Colorado Department of Public Health and Environment maintains this database of solid waste disposal facilities, transfer stations, recyclers, waste tire registrants, and waste grease registrants.

VCRA Voluntary Cleanup and Redevelopment Program Sites

VERSION DATE: 05/03/16

This site listing is provided by the Colorado Department of Public Health and Environment (CDPHE) and includes both voluntary cleanup and brownfield properties. The Voluntary Cleanup and Redevelopment program was created in 1994. The objective of the program is to facilitate the redevelopment and transfer of contaminated properties. Properties that sit untouched because of their real or perceived contamination can be rehabilitated using the CDPHE's Brownfields Program in conjunction with the Voluntary Cleanup Program. Cleanup decisions are based on existing standards and the proposed use of the property. The actual cleanup and verification is the owner's responsibility.

HWSCA Hazardous Waste Sites- Corrective Action

VERSION DATE: 06/30/03

The Resource Conservation and Recovery Act (RCRA) was enacted by congress in 1976, followed by the

Environmental Records Definitions - STATE (CO)

promulgation of implementing regulations in 1980. In 1984, the Hazardous and Solid Waste Amendments (HSWA) were added to RCRA providing for corrective action at facilities subject to RCRA. That same year, the State was authorized by EPA to implement the RCRA program in Colorado on their behalf. Corrective action may be implemented as part of a RCRA Hazardous Waste Permit, an Order, or a Corrective Action Plan pursuant to the Colorado Hazardous Waste Regulations. Corrective action is the process by which regulated facilities investigate and remediate, as necessary, all contamination (soil, ground water, surface water, air) associated with their releases into the environment. Historic Corrective Action Sites are facilities that have completed the RCRA Subtitle C corrective Action process. This database was provided by the Colorado Department of Public Health and Environment.

SF Superfund Sites

VERSION DATE: 06/01/03

This listing contains active, deleted and proposed "Superfund" hazardous waste sites, as well as those sites identified through the Natural Resource Damages section of Superfund legislation and one Private Non-Superfund Cleanup site. A site qualifies for the National Priorities List (NPL or Superfund list) when the U.S. Environmental Protection Agency (EPA) determines there is a release or threatened release of hazardous substances that may endanger public health, welfare or the environment. In Colorado, the lead agency for Superfund remediation may be either the EPA or the Colorado Department of Public Health and Environment.

Environmental Records Definitions - LOCAL

DCTTLF Douglas County Trash Transfer and Landfills

VERSION DATE: 01/04/16

This list of landfills and trash transfer sites is provided by the Douglas County Public Works Department.

Environmental Records Definitions - TRIBAL

USTR08 Underground Storage Tanks On Tribal Lands

VERSION DATE: 04/01/15

This database, provided by the United States Environmental Protection Agency (EPA), contains underground storage tanks on Tribal lands located in EPA Region 8. This region includes the following states: Colorado, Montana, North Dakota, South Dakota, Utah, and Wyoming.

LUSTR08 Leaking Underground Storage Tanks On Tribal Lands

VERSION DATE: 04/01/15

This database, provided by the United States Environmental Protection Agency (EPA), contains leaking underground storage tanks on Tribal lands located in EPA Region 8. This region includes the following states: Colorado, Montana, North Dakota, South Dakota, Utah, and Wyoming.

ODINDIAN Open Dump Inventory on Tribal Lands

VERSION DATE: 11/08/06

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

INDIANRES Indian Reservations

VERSION DATE: 01/01/00

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



APPENDIX D RESUMES

Trevor Branch, E.I., Staff Engineer/Geologist

Office Location

Denver, Colorado

Years of Experience

5 Years

Education

B.S. Environmental Engineering
University of New Hampshire
Durham, NH 2010

Training & Certifications

40 Hour OSHA Training
Confined Space Training
Engineer-in Training

Professional Affiliations

National Groundwater Association (NGWA)
Colorado Environmental Management Society

Professional Summary

Mr. Branch joined CTL | Thompson in 2013 with over two years of previous experience providing environmental consulting throughout New York, New Jersey and Connecticut.

Currently, as a Staff Engineer/Geologist for CTL's Denver-based environmental consulting division, his responsibilities are providing Phase I and Phase II ESAs, assistance with Remedial Alternatives, Remediation Design, and preparation of Voluntary Cleanup Plans. Mr. Branch's experience includes underground storage tank removals, site characterization and remediation.

Project Experience

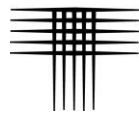
5th and Walnut Parking Garage, Auraria Higher Education Center, Denver, CO
Served as site geologist during subsurface investigation activities to determine the extent of PAH contamination previously encountered in test borings and pits. Oversight of drilling, logging and field screening of soils, lab analysis and groundwater flow determination were all conducted during the Phase II investigation. The findings of this investigation indicated that the site was not a source of contamination and was likely up gradient from an unidentified source. Later received No Action Determination from CDPHE

345 Santa Fe Drive, Denver, Colorado
Performed Phase I ESA, Phase II ESA and Voluntary Cleanup Application for former chromium plating shop. Fully characterized site and then oversaw excavation remediation. Received No Action Determination from CDPHE.

County Line Apartments, Centennial, CO
Performed Phase I ESA, Phase II ESA and Voluntary Cleanup Application for this new building construction, downgradient from chlorinated solvent plume. Fully characterized site, assisted Mr. Wardlow with Remedial Alternatives including design of vapor mitigation systems and verification sampling. Received No Action Determination from CDPHE.

Green Gables Development, Lakewood, CO
Performed a Phase II ESA including a groundwater survey. Delineated extent of chlorinated solvent plume from off-site up-gradient source. Prepared approved Voluntary Cleanup Plan for residences located above impacted area. Designed vapor mitigation system.

Metro Express Car Wash, Sheridan, CO
Reviewed previous environmental studies for site located with the River Point at Sheridan development located adjacent to historic landfills with documented presence of volatile organic vapors including methane. Conducted baseline air quality sampling prior to and during construction activities. Prepared Operation Maintenance and Monitoring Plan for active vapor mitigation system installed in on-site building.



Matthew L. Wardlow, P.E.

Environmental Department Manager

Office Location

Denver, Colorado

Years of Experience

20 Years

Professional

Registration

Registered Professional Engineer: Colorado

Education

B.S. Engineering and Policy, Washington University, St. Louis, MO, 1993

Training & Certifications

40 Hour OSHA Training

Confined Space Training

Mold Remediation Technician

Training Principals of Forced Air Remediation

Asbestos Inspector
Air Monitoring Specialist
Designer

Professional Affiliations

American Society of Civil Engineers

American Society of Foundation Engineers

Colorado Environmental Management Society

Urban Land Institute

Mr. Wardlow has a variety of technical expertise in Phase I and II Environmental Site Assessments, CDPHE Voluntary Cleanup (VCP) applications, asbestos consultation, underground storage tank removals, site characterizations, and assessments under the National Environmental Policy Act. Mr. Wardlow reviews all environmental deliverables, making sure that the latest practices are followed. He has developed a reputation as a consistent and reliable consultant for his clients, which include the City & County of Denver, Auraria Campus and its colleges, and Boulder County. He encompasses a variety of project experience including brownfields, historical mine sites, medical facilities, and wastewater treatment plants.

Project Experience

Regency Athletic Complex at MSU Denver, Denver Colorado

2016 ACEC CO GRAND CONCEPTOR AWARD – Highest Engineering Honor

This former brownfield, located at the southern end of Auraria Campus, was the site of geotechnical and environmental issues from past industrial use. There was also the potential for settlement due to undocumented fill. Mr. Wardlow devised an idea using Deep Dynamic Compaction (DDC), which is a ground improvement technique that densifies the majority of soils and fills in-place by using a drop weight. CTL then provided on-site geotechnical and environmental inspection services, management of contaminants excavated, and also successfully entered the client into the State of Colorado Voluntary Cleanup Program. Measures were also taken to monitor air quality and vibrations from the impact. The solution was about 25% of the removal and replacement costs, and there has been no noticeable settlement.

Other Redevelopment/Voluntary Cleanup Projects:

Prepared Overall 2016 Auraria Campus Materials Management Plan

New Breckenridge Brewery – VCP – Remediation of Pesticides

Community College of Denver Confluence Building

Metro State Hotel and Hospitality Learning Center

Metro State Student Success Building

AHEC 5th Street Parking Garage – VCP – Coal Ash and Asbestos

Gold Hill Mesa - VCP - Subdivision Constructed on Mine Tailings

4th and Santa Fe – VCP Remediation of Chrome Plating Site

ConocoPhillips - Purchase/Redevelopment of 400-acre StorageTek

Other Major Projects and Clients

Denver Department of Environmental Health - 20+ P1 and P2 ESAs

CDOT - Over 30 Asbestos Surveys, Air Clearances of Buildings

Land Developers - Due Diligence Studies and SWMP Consultation

Urban Land Conservancy - P1 and P2 ESAs, IAQ Concerns

CU Boulder - Asbestos Consultant - Ketchum Hall, Hallett Hall

Homebuilders - Due Diligence, Mold and Moisture Consultation

Boulder County Risk Management - On-Call Industrial Hygienist

Boulder Valley School District - On-Call Asbestos Consultant

Regis University - P1 ESA of 7 Parcels of Campus