

Records Review and Survey Report

City of Louisville Former Oil & Gas Wellsites & Pits

Louisville, Boulder County, Colorado

April 1, 2019

Terracon Project No. 22187046



Prepared for:

City of Louisville
Louisville, Colorado

Prepared by:

Terracon Consultants, Inc.
Longmont, Colorado

terracon.com

Terracon

Environmental



Facilities



Geotechnical



Materials

April 1, 2019



Ms. Megan Davis
City of Louisville
749 Main Street
Louisville, Colorado 80027

Phone: (303) 335-4539
Email: mdavis@louisvilleco.gov

Re: Records Review and Survey Report
13 Former Oil & Gas Wellsites & Pits
Louisville, Boulder County, Colorado
Terracon Project No. 22187046

Dear Ms. Davis:

Terracon Consultants, Inc. (Terracon) is pleased to submit the enclosed Records Review and Survey for the above-referenced sites. This assessment was performed in accordance with Terracon Proposal No. P22187046 dated August 15, 2018.

We appreciate the opportunity to be of service to you on this project. In addition to due diligence services, our professionals provide geotechnical, environmental, construction materials, and facilities services on a wide variety of projects locally, regionally and nationally. For more detailed information on all of Terracon's services please visit our website at www.terracon.com. If there are any questions regarding this report or if we may be of further assistance, please do not hesitate to contact us.

Sincerely,
Terracon Consultants, Inc.

A blue ink signature of Aaron Varnell, consisting of several fluid, overlapping loops.

Aaron Varnell, E.I.T.
Staff Environmental Engineer

A blue ink signature of John C. Graves, featuring a series of sharp, upward-pointing strokes.

John C. Graves, P.G.
Senior Principal/Regional Manager



TABLE OF CONTENTS

	Page No.
1.0 INTRODUCTION.....	1
1.1 Site Descriptions	1
1.2 Scope of Services	2
1.3 Standard of Care.....	2
1.4 Additional Scope Limitations and Data Gaps	2
1.5 Reliance	3
2.0 SITE RECONNAISSANCE.....	3
3.0 HISTORICAL AERIALS AND RECORDS REVIEW.....	4
3.1 Historical Aerial Photographs.....	4
3.2 Incident/Spill Reports	5
3.3 COGCC Documentation	6
3.4 Borra #1 Additional Investigation	8
4.0 CONCLUSIONS AND RECOMMENDATIONS.....	11
4.1 Conclusions.....	11
4.2 Recommendations	12

APPENDICES

APPENDIX A	Table 1 – Former Oil and Gas Wellsites and Pits
APPENDIX B	Exhibit 1 – Topographic Map Exhibit 2A – Site Diagram – Western Wells and Pits Exhibit 2B – Site Diagram – Eastern Wells Exhibit 3A – Site Diagram – Berger Land Co #13-1 and JSB #13-1 Exhibit 3B – Site Diagram – Borra #1 Exhibit 3C – Cowdrey-Moore #1 Exhibit 3D – Minks #18-2 Exhibit 3E – TLD #13-4 Exhibit 3F – Williams & Associates #1-7
APPENDIX C	Site Photographs
APPENDIX D	Historical Aerial Photographs
APPENDIX E	COGCC/Historical Documents
APPENDIX F	Environmental Database Information
APPENDIX G	Credentials

1.0 INTRODUCTION

This Records Review and Survey Report was performed in accordance with Terracon Proposal No. P22187046 dated August 15, 2018. The information contained in this report was obtained from publicly available sources for use by the City of Louisville planning department.

The report was conducted under the supervision or responsible charge of Mr. John C. Graves. Aaron G. Varnell and Charles A. Covington performed the site visits on September 28, 2018.

1.1 Site Descriptions

The following 13 former oil and gas wellsites and pits were reviewed as part of this report:

Facility Name	Facility Type	API/Facility ID	Status
Berger Land Co. #13-1	Pit	114877	Unknown
Borra #1	Well	05-013-05002	Dry and Abandoned*
Cowdrey-Moore #1	Well	05-013-06028	Plugged and Abandoned
Cowdrey-Moore #1	Pit	114875	Closed
D-B-R #12-4	Well	05-013-06119	Abandoned Location
Hocheder #1-5	Well	05-013-06012	Abandoned Location
Hocheder #1-18	Well	05-013-06013	Abandoned Location
JSB #13-1	Well	05-013-06118	Plugged and Abandoned
Kahan #18-3	Well	05-013-06132	Abandoned Location
Minks #18-2	Well	05-013-06126	Plugged and Abandoned
Minks #18-2	Pit	114876	Closed
TLD #13-4	Pit	114820	Unknown
Williams & Associates #1-7	Well	05-013-06114	Dry and Abandoned

*Reported as Dry and Abandoned; however, review of COGCC documents indicated that the Borra #1 well produced when it was initially drilled

Information from the above table was obtained from the Colorado Oil and Gas Conservation Commission (COGCC) and verified via historical aerial photographs, COGCC records review, and/or observations made during site reconnaissance, when applicable. Abandoned locations are permitted locations that were vacated without being drilled. Dry and abandoned locations are wells that were drilled but did not produce oil or natural gas.

The site locations are depicted on Exhibit 1 of Appendix B, which was reproduced from a portion of the USGS 7.5-minute series topographic map. Overall site location diagrams are included as Exhibit 2A and 2B of Appendix B. Individual site maps of each reportedly drilled location are included as Exhibit 3A through 3F of Appendix B.

1.2 Scope of Services

This Records Review and Survey Report was performed in accordance with Terracon Proposal No. P22187046 dated August 15, 2018. Additional research outside of the scope of Terracon Proposal No. P22187046, such as interviews and a database report review, was performed to clarify preliminary findings of the report. The objective of this report is to provide information concerning the status, location, and processes of plugging and abandoning of the abovementioned 13 O&G former exploration and production (E&P) wellheads and pits located within the City of Louisville.

This purpose was undertaken through a records review of documentation registered with the COGCC, a review of historical aerial photographs, a visual noninvasive reconnaissance of each former wellsite or pit location. This scope of services is not intended to provide a comprehensive understanding of potential impacts, or of potential costs which may be incurred if remediation is necessary, or of times required to achieve regulatory closure, if appropriate.

1.3 Standard of Care

This Records Review and Survey Report was performed in accordance with generally accepted practices of this profession, undertaken in similar studies at the same time and in the same geographical area. We have endeavored to meet this standard of care, but may be limited by conditions encountered during performance, a client-driven scope of work, or inability to review information not received by the report date. Where appropriate, these limitations are discussed in the text of the report, and an evaluation of their significance with respect to our findings has been conducted.

This report was of limited scope, was noninvasive, and cannot eliminate the potential that hazardous, toxic, or petroleum substances are present or have been released at the sites beyond what is identified by the limited scope of this Records Review and Survey Report. In conducting the limited scope of services described herein, certain sources of information and public records were not reviewed. It should be recognized that environmental concerns may be documented in public records that were not reviewed. No warranties, express or implied, are intended or made. The limitations herein must be considered when the user of this report formulates opinions as to risks associated with the site or otherwise uses the report for any other purpose. These risks may be further evaluated – but not eliminated – through additional research or assessment. We will, upon request, advise you of additional research or assessment options that may be available and associated costs.

1.4 Additional Scope Limitations and Data Gaps

Based upon the agreed-on scope of services, this Records Review and Survey Report did not include a full records review, subsurface or other invasive assessments, vapor intrusion assessments or indoor air quality assessments (i.e. evaluation of the presence of vapors within a building structure), business environmental risk evaluations, or other services not particularly

identified and discussed herein. Credentials of the company (Statement of Qualifications) have not been included in this report but are available upon request. Pertinent documents are referred to in the text of this report, and a separate reference section has not been included. Information obtained for this report was received from several sources that we believe to be reliable; nonetheless, the authenticity or reliability of these sources cannot and is not warranted hereunder.

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

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

1.5 Reliance

This Records Review and Survey report is prepared for the exclusive use and reliance of the City of Louisville. Use or reliance by any other party is prohibited without the written authorization of the City of Louisville and Terracon Consultants, Inc. (Terracon).

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

2.0 SITE RECONNAISSANCE

Terracon's observations are based on a visual reconnaissance conducted from public right-of-ways in the immediate vicinity of the each of the 13 former oil and gas wellsites and pits researched as part of this report.

The reported locations of the oil and gas operations were observed on September 28, 2018 by Terracon professionals Aaron G. Varnell and Charles A. Covington. In addition, each reported site location was inspected for visual evidence of environmental impairment including surface stains, distressed vegetation, land scars, or apparent and obvious evidence of improper use or disposal of toxic or hazardous materials. Evidence of environmental impairment and/or current oil and gas operations were not observed during the site inspections.

The site locations are depicted on Exhibit 1 of Appendix B, which was reproduced from a portion of the USGS 7.5-minute series topographic map. Overall site location diagrams are included as Exhibit 2A and 2B of Appendix B. Individual site maps of each reportedly drilled location are included as Exhibit 3A through 3F of Appendix B. Photo documentation of the site at the time of the visual reconnaissance is provided in Appendix C. Credentials of the individuals planning and conducting the site visit are included in Appendix E.

3.0 HISTORICAL AERIALS AND RECORDS REVIEW

Terracon reviewed the following historical sources to develop a history of oil and gas activity at each of the 13 former oil and gas facilities reviewed as part of this report. Copies of selected historical documents are included in Appendices D and E.

3.1 Historical Aerial Photographs

Historical aerial photographs were reviewed to obtain information concerning the history of development on and near the oil/gas facilities. Select aerial photographs provided by Environmental Risk Information Services (ERIS) and from Google Earth, dated various years from 1937 to 2017, were reviewed as part of this project. Evaluation of these aerials may be limited by a photo's quality and scale.

The general location of these facilities was obtained from coordinates provided by the COGCC database, and the reported coordinates were field-verified. The aerial extent of oil and gas activity for each facility was determined by measuring the distance of boundaries from static landmarks, such as nearby street intersections, visible in both historical aerial photographs and current Google Earth aerial images. Significant discrepancies in COGCC-provided coordinates and observed location of historic oil and gas activities were not identified with the exception of the Berger Land Co. #13-1 pit, which appears to have been located within the observed oil and gas activity in the vicinity of the JSB #13-1 well approximately 500 feet east-northeast from the COGCC-reported location. Due to the quality of the aerial photographs, however, this location could not be confirmed. For the purposes of this report, both are presumed to be potential locations for the Berger Land Co. 13-1 pit. The observed historical aerial extent of each reportedly drilled location is indicated on current Google Earth aerial images in Appendix B.

The following table summarizes features noted on the historical aerial photographs.

Facility	Facility Type	Historical Observations
Berger Land Co. #13-1	Pit	Vacant/agricultural land (1941-1978); Vacant open space (1988-2017)
Borra #1	Well	Vacant/agricultural land (1937-1969); Single-family residential development (1978-2017)
Cowdrey-Moore #1	Well	Vacant/agricultural land (1941-1978); Oil and gas activity visible (1983); Vacant land (1988); Open space, apparent park (1999-2017)
Cowdrey-Moore #1	Pit	
D-B-R #12-4	Well (AL*)	Vacant/agricultural land (1941-1983); Site has been cleared and graded (1988); Open space (1999-2017)
Hocheder #1-5	Well (AL)	Vacant/agricultural land (1937-1983); Single-family residential development (1988-2017)
Hocheder #1-18	Well (AL)	Vacant/agricultural land (1941-1978); Single-family residential development (1983-2017)
JSB #13-1	Well	Vacant/agricultural land (1941-1978); Apparent oil and gas activity visible (1983); Site has been cleared and graded (1988); Open space and commercial parking lot (1999-2017)
Kahan #18-3	Well (AL)	Vacant/agricultural land (1941-1978); Site has cleared and graded (1983-1988); Site developed as hotel and parking lot (1999-2017)
Minks #18-2	Well	Vacant/agricultural land (1941-1978); Apparent oil and gas activity visible (1983); Vacant land (1988); Commercial development (1999-2017)
Minks #18-2	Pit	
TLD #13-4	Pit	Vacant/agricultural land (1941-1978); Oil and gas pit visible (1983-1988); Vacant land (1999); Developed as commercial parking lot and vacant space (2005-2017)
Williams & Associates #1-7	Well	Vacant/agricultural land (1941-1978); Apparent oil and gas activity visible (1983); Site has been cleared and graded (1988); Single-family residential development (1999-2017)

*AL – Abandoned Location, well reportedly not drilled

The site locations are situated in areas of historical vacant/agricultural land. Several of the oil and gas production operations were visible in the 1983 and 1988 historical aerial photographs. The majority of the sites have been since developed for commercial or single-family residential use. Current oil and gas production operations are not visible in aerials from at least 1999 to the present.

3.2 Incident/Spill Reports

Terracon researched the incident reports that were reported by the Colorado Oil and Gas Conservation Commission (COGCC) for each oil and gas production facility associated with this project, as well as incident reports associated with the following sections encompassing the geographic footprint of the City of Louisville (presented as Section, Township, Range):

- S12, T1S, R70W
- S13, T1S, R70W
- S5, T1S, R69W
- S6, T1S, R69W
- S7, T1S, R69W
- S8, T1S, R69W
- S16, T1S, R69W
- S17, T1S, R69W

- S18, T1S, R69W

Incidents/spills were not reported in the above researched area.

3.3 COGCC Documentation

For each of the 13 former oil and gas wellsites and pits researched as part of this report, Terracon reviewed inspection, plugging and abandonment, and miscellaneous reports included in the COGCC database. The following is a synopsis of pertinent reports associated with each well, excluding those that were reported as abandoned locations. Relevant COGCC documentation is included in Appendix E:

Berger Land Co. #13-1/JSB #13-1

According to COGCC documents, the JSB #13-1 well was reported as shut-in without passing mechanical integrity test in 1996. Following several failed COGCC P&A field inspection reports, the facility passed a COGCC P&A field inspection report dated 1999.

According to COGCC documents, the Berger Land Co. #13-1 pit is approximately 90 feet south from the JSB #13-1 well location. This location is approximately 500 feet east-northeast from the Berger #13-1 pit coordinates provided by COGCC. Due to the quality of historical aerial photographs, this location could not be confirmed. For the purposes of this report, both are assumed to be potential locations for the Berger #13-1 pit. Documentation regarding abandonment and restoration of the Berger land CO #13-1 pit was not observed in the COGCC database during the file review.

Based on observations made during site reconnaissance and Terracon's review of historical aerial photographs, the Berger Land Co #13-1 pit and JSB #13-1 well locations are reportedly currently located on vacant land to the adjacent southeast of a commercial office building. The historical extent of oil and gas activity associated with these facilities appears to extend onto the parking lot associated with the commercial office building. A site diagram for the Berger Land Co #13-1 pit and JSB #13-1 well locations is included as Figure 3A in Appendix B.

Borra #1

According to an Investigations & Recommendations report conducted by William A. Hessin on behalf of First Federal Investment Corporation in January 1976, the well was initially drilled in 1939, then plugged and abandoned. The well was subsequently re-opened and deepened in 1942; however, completion attempts were abandoned when equipment was lost within the well. The well was again plugged, but plugging was unsuccessful as natural, flammable gas was reported as flowing in small volumes into shallow soil from 1942 through at least 1975. An attempt was made in 1975 to re-enter the well and sufficiently plug the well; however, this was reportedly

also unsuccessful. An investigation conducted by Public Service Company of Colorado identified natural gas was in shallow soil extending approximately 300 feet from the well bore.

In a letter from William A. Hessin on behalf of First Federal Investment Corporation dated May 1976, Mr. Hessin reported field readings in multiple bore holes advanced to approximately 10 feet below ground surface (bgs) that indicate elevated readings of subsurface natural gas contamination. The possible subsurface natural gas contamination extended in a north-northeasterly direction from the Borra #1 well bore. The field readings were reported with flame ionization detector concentrations up to 10,400 parts per million. Samples collected from the bore holes also indicated the presence of heavy hydrocarbons. The May 1976 letter recommended the continued weekly monitoring of concentrations of the bore holes. Further documentation regarding testing or conclusion of the additional monitoring activities was not observed in the COGCC database during the file review.

Based on observations made during site reconnaissance and Terracon's review of historical aerial photographs, the Borra #1 well is reportedly currently located on Evans Circle, a cul-de-sac surrounded by multiple single-family residential properties. A site diagram for the Borra #1 well location is included as Figure 3B in Appendix B.

Cowdrey-Moore #1

According to inspector reports, in March 1996 three barrels of oil were reportedly spilled onsite. The Boulder County Health Department was reportedly notified and the contaminated soil was "mostly remediated," with some staining remaining. The well was reportedly plugged and abandoned in 1996 due to depleted reserves. Additional plugging and abandonment (P&A) documentation and/or documentation regarding the Cowdrey-Moore #1 pit was not observed in the COGCC database during the file review.

Based on observations made during site reconnaissance and Terracon's review of historical aerial photographs, the Cowdrey-Moore #1 well and pit locations are reportedly currently located in a park owned by the City of Louisville (Meadows Park). A site diagram for the Cowdrey-Moore #1 well and pit locations is included as Figure 3C in Appendix B.

Minks #18-2

According to COGCC documents, the Minks #18-2 well was reportedly plugged and abandoned to COGCC approval in 1992. Multiple documents obtained from COGCC indicate that the Minks #18-2 well was never completed to the point where it produced. The COGCC database indicates the Minks #18-2 well as dry and abandoned (DA). Documentation regarding the Minks #18-2 pit was not observed in the COGCC database during the file review.

Based on observations made during site reconnaissance and Terracon's review of historical aerial photographs, the Minks #18-2 well and pit locations are reportedly currently located beneath or in the immediate vicinity of a bank currently owned and occupied by Great Western Bank. The

historical extent of oil and gas activity associated with these facilities appears to extend onto West Century Drive and McCaslin Boulevard, located to the adjacent north and east of the Great Western Bank property, respectively. A site diagram for the Minks #18-2 well and pit locations is included as Figure 3D in Appendix B.

Williams & Associates #1-7

According to COGCC documents, the Williams & Associates #1-7 well was reportedly plugged and abandoned to approximately 8 feet below surface in 1985. However, a final P&A inspection report dated September 1986 indicated the production string was left in the hole and well could not be located due to residential construction. The inspector report additionally reported that the well head would “now sit in somebody’s living room”. . The final P&A inspection report indicated that the surface in the vicinity of the Williams well was properly reclaimed, although the abovementioned comments suggest that the final P&A inspection was not able to be completed.

Based on observations made during site reconnaissance and Terracon’s review of historical aerial photographs, the Williams & Associates #1-7 well location is reportedly currently beneath a single-family residential structure located at 592 Spruce Circle. The historical extent of oil and gas activity, reportedly including two 300-bbl stock tanks and a 100-bbl skim tank, associated with this facility appears to extend onto the single-family residential property located to the adjacent north of the reported well location at 594 Spruce Circle. A site diagram for the Williams & Associates #1-7 well is included as Figure 3E in Appendix B.

3.4 Borra #1 Additional Investigation

Following the initial Borra #1 file review, Terracon conducted interviews and a regulatory file review in an effort to obtain additional information regarding the Borra #1 well investigation.

Interviews

Terracon (Aaron G. Varnell) interviewed the following individuals with the following organizations:

Organization	Interviewee / Contact Method	Title	Date/Time
Bank of the West (acquired First Federal Investment Corporation in 2016)	Ms. Georgina Dannat / Phone and Email (Georgina.dannatt@bankofthewest.com)	Environmental Risk Manager	January 8, 2019 / 11 am
	Unnamed representative / Phone (303-202-5536)	None	January 8, 2019 / 10:30 am
Xcel Energy (Public Service Company of Colorado)	Ms. Jaime Massey / Phone and Email (Jaime.j.masseyxcelenergy.com)	Environmental Analyst	January 8, 2019 / 10 am

Organization	Interviewee / Contact Method	Title	Date/Time
COGCC	Ms. Diana Burn / Phone (303-894-2100)	Eastern Region Engineering Supervisor	January 8, 2019 / 1 pm
William A. Hessin Consulting*	None / Phone (303-571-0977)	N/A	January 8, 2019 / 2 pm

*Could not contact due to disconnected phone number

Bank of the West

According to information obtained from the US National Information Center, First Federal Investment Corporation was acquired by Commercial Federal Bank, A Federal Savings Bank in 1998. In 2005, Commercial Federal Bank was acquired by Bank of the West.

Terracon initially contacted the Bank of the West branch located at the address identified in COGCC documents as formerly occupied by First Federal Investment Corporation on January 8, 2019. An unnamed representative did not have knowledge of files onsite pertaining to the Borra #1 investigation and connected Terracon to the Bank of the West corporate office. Following a brief phone conversation with Ms. Georgina Dannatt, environmental risk manager with Bank of the West, Terracon emailed Ms. Dannatt information pertaining to the Borra #1 well and requested additional information related to the investigation. On January 17, 2019, Ms. Dannatt indicated that she had corresponded with the Bank of the West legal department and they were unable to locate any records which would be of assistance.

Public Service Company of Colorado

Terracon contacted Ms. Jaime Massey, Environmental Analyst with Public Service Company of Colorado (Xcel Energy), via phone and subsequent email on January 8, 2019. In a follow-up phone conversation, Ms. Massey indicated that she was unable to locate records relating to the Borra # 1 well in the Xcel database. Ms. Massey additionally indicated that she spoke with several employees who were with Xcel in the late 1970s and early 1980s, and they did not have additional knowledge pertaining to the investigation.

COGCC

Terracon spoke with Ms. Diana Burns, Eastern Region Engineering Supervisor, on January 8, 2019. Ms. Burns indicated that, to her knowledge, all available physical files of historic COGCC documents had been scanned into the online COGCC database. These online files have been reviewed by Terracon and are discussed above. Ms. Burns did not have additional information pertaining to the Borra #1 well or investigation.

William A. Hessin Consulting

Terracon attempted to contact William A. Hessin Consulting on January 8, 2019. The phone number associated with William A. Hessin Consulting had been disconnected, and an online search indicated that William A. Hessin Consulting was no longer in operation.

Additional documentation or relevant information regarding testing or conclusion of the additional monitoring activities was not obtained during Terracon's interviews regarding the Borra #1 wellsite.

Regulatory Database Review

Terracon ordered a regulatory database report from ERIS, a contract information services company, to determine if regulatory efforts outside of those available within the COGCC database existed for the site. Information in this section is subject to the accuracy of the data provided by the information services company and the date at which the information is updated. The scope herein did not include confirmation of facilities listed as "unmappable" by regulatory databases.

For the purposes of this database search, the site was identified as a square with boundaries approximately 300 feet to the north, east, south, and west from the Borra #1 well location. The database search was conducted consistent with the procedures included in ASTM E1527-13, *Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process*. Terracon reviewed ASTM-required listings as well as other federal, state, local, and proprietary databases provided by the database firm. A list of the additional reviewed databases is included in the regulatory database report included in Appendix D.

No listings potentially pertaining to the Borra #1 wellsite were reported in the ERIS database report; therefore, additional information regarding testing or conclusion of the additional monitoring activities was not obtained.

Additional Documentation

The City of Louisville building permitting department provided Terracon with a letter from Public Service Company of Colorado to First Federal Saving and Loan Associates of Denver (First Federal) dated January 24, 1977. This letter concluded the following:

- Natural gas migration from the Borra #1 well had been stopped and no longer presented a potential hazard.
- Traces of combustible gas detected in test holes were those of residue gas which would dissipate during excavation for basements.
- Water table would not cause measurable increases in gas migration.
- Flame out of Public Service Company's flame ionization unit was caused from carbon dioxide and not from a high concentration of a combustible gas.

The letter referenced test results from McCartney & Associates; however, these results were not included, and Terracon therefore cannot independently verify the basis for the conclusions made in the letter. The letter additionally indicates that the showhome constructed on Lot 145 (currently 2282 Crown Circle) would include, as a condition of sale, the authorization of Public Service Company to enter the house and check for natural gas at least once a year until such time as Public Service Company deems such tests no longer necessary. Finally, the letter indicated that

First Federal would have additional tests made to define the boundaries of the old drilling mud pit and would remove and replace any identified drilling mud with proper dirt material.

Terracon did not encounter evidence or documentation of this proposed testing or drilling mud pit remediation during research of historical and regulatory information conducted as part of this report. The 1977 letter is included in Appendix E.

4.0 CONCLUSIONS AND RECOMMENDATIONS

This Records Review and Survey Report was performed in accordance with Terracon Proposal No. P22187046 dated August 15, 2018. The report was conducted under the supervision or responsible charge of Mr. John C. Graves. Aaron G. Varnell and Charles A. Covington performed the site visits on September 28, 2018.

4.1 Conclusions

Based on Terracon's review of historical documentation obtained from the Colorado Oil and Gas Conservation Commission (COGCC), historical aerial photographs, and observations made during site reconnaissance, Terracon has made the following conclusions:

- Current oil and gas production was not identified at the 13 former oil and gas wellsites and pits reviewed as part of this report.
- Evidence of environmental impairment and/or current oil and gas operations were not observed during the site inspections.
- The following facilities were reported by the COGCC as abandoned locations, and appear to have been permitted but not drilled:
 - D-B-R #12-4 well
 - Hocheder #1-5 well
 - Hocheder #1-18 well
 - Kahan #18-3 well
- The following facilities are not currently located beneath or in the immediate vicinity of existing structures:
 - Berger Land Co. #13-1 pit
 - Cowdrey Moore #1 pit
 - Cowdrey Moore #1 well
 - JSB #13-1 well
 - Minks #18-2 pit

- Minks #18-2 well
- Borra #1 Well: In 1975, soil contamination extending approximately 300 feet north-northeast from the Borra #1 well location was identified. Subsurface field readings and soil samples taken from bore holes indicated the presence of heavy hydrocarbons. A 1976 letter recommended the continued weekly monitoring of concentrations of the bore holes. A 1977 letter indicated that natural gas migration from the Borra # 1 well had stopped and concluded that combustible gas from the well did not present a hazard to properties in the vicinity of the well. The 1977 letter also indicated that Public Service Company would perform natural gas monitoring at least annually within the showhome constructed on Lot 145 (currently 2282 Crown Circle), and that First Federal Savings and Loan Association would have additional testing done to define the boundaries of the former drilling mud pit, then remove and replace the drilling mud with proper dirt material.

Further documentation regarding testing or conclusion of the additional monitoring activities or proposed remedial actions was not observed in the COGCC database, in additional applicable state or federal databases, or in subsequent interviews with relevant organizations. The Borra #1 location is currently located on Evans Circle, a cul-de-sac surrounded by multiple single-family residential properties.

- Williams & Associates #1-7 Well: Reportedly plugged and abandoned to approximately 8 feet below surface in 1985; however, a final P&A inspection report indicated the well could not be located due to residential construction. Based on observations made during site reconnaissance and Terracon's review of historical aerial photographs, the Williams & Associates #1-7 well is reportedly currently beneath a single-family residential structure located at 592 Spruce Circle. The historical extent of oil and gas activity associated with this facility, reportedly including two 300-bbl stock tanks and a 100-bbl skim tank, appears to extend onto the single-family residential property located to the adjacent north of the reported well location at 594 Spruce Circle. The final P&A inspection report indicated that the surface in the vicinity of the Williams well was properly reclaimed.

4.2 Recommendations

Based on Terracon's review of COGCC documentation, historical aerial photographs, interviews, and observations made during site visits, Terracon recommends that the City of Louisville use the information contained in this report to inform and guide future development in the vicinity of the identified historic oil and gas activity.

If the city wishes to pursue subsurface investigation, Terracon recommends sampling subsurface soil gas for constituents of concern (COCs) associated with oil and gas production and well closure activities in the vicinity of selected historic former oil and gas sites. This investigation should be driven by and ultimately assess the potential for COC infiltration of nearby structures.

APPENDIX A
TABLE 1 – FORMER OIL AND GAS WELLSITES AND PITS

**Table 1 - Former Oil and Gas Wellsites and Pits
Records Review and Survey Report - City of Louisville
Terracon Project No. 22187046**

Type	Name	API/Facility ID	Status	Lat (N)	Long (W)	Location Confirmed via Aerial?	Completion Date	Status Date	Operator
Pit	Berger Land Co. 13-1	114877	U	39.970628	105.172981	Y	Unknown	9/23/1999	Piute Energy Co
Well	Borra 1	05-013-05002	DA	39.991307	105.138736	N	Unknown	10/1/1939	First Federal Bank of Colorado
Well	Cowdrey-Moore 1	05-013-06028	PA	39.961639	105.154028	Y	2/14/1980	3/27/1996	Gerrity Oil & Gas Corp
Pit	Cowdrey-Moore 1	114875	C	39.961645	105.154027	N	Unknown	9/5/1986	Piute Energy Co
Well	D-B-R 12-4	05-013-06119	AL	39.975118	105.169590	N/A	9/20/1983	4/28/1983	Caerus Washco LLC
Well	Hocheder 1-5	05-013-06012	AL	39.988299	105.145140	N/A	N/A	11/12/1977	Toltek Drilling Co
Well	Hocheder 1-18	05-013-06013	AL	39.970648	105.154020	N/A	N/A	11/12/1977	Toltek Drilling Co
Well	JSB 13-1	05-013-06118	PA	39.971558	105.171501	Y	2/13/1982	3/25/1997	Gerrity Oil & Gas Corp
Well	Kahan 18-3	05-013-06132	AL	39.959156	105.162973	N/A	9/20/1983	8/30/1982	Caerus Washco LLC
Well	Minks 18-2	05-013-06126	PA	39.968412	105.164024	Y	5/29/1983	12/21/1992	Martin Exploration Management Co
Pit	Minks 18-2	114876	C	39.968478	105.164010	N	Unknown	9/23/1999	Piute Energy Co
Pit	TLD 13-4	114820	U	39.963248	105.168290	Y	Unknown	9/23/1999	Piute Energy Co
Well	Williams & Associates 1-7	05-013-06114	DA	39.975442	105.149603	Y	1/26/1982	10/2/1985	Martin Exploration Management Co

Information obtained from Colorado Oil and Gas Conservation Commission (COGCC)

PA - Plugged and Abandoned

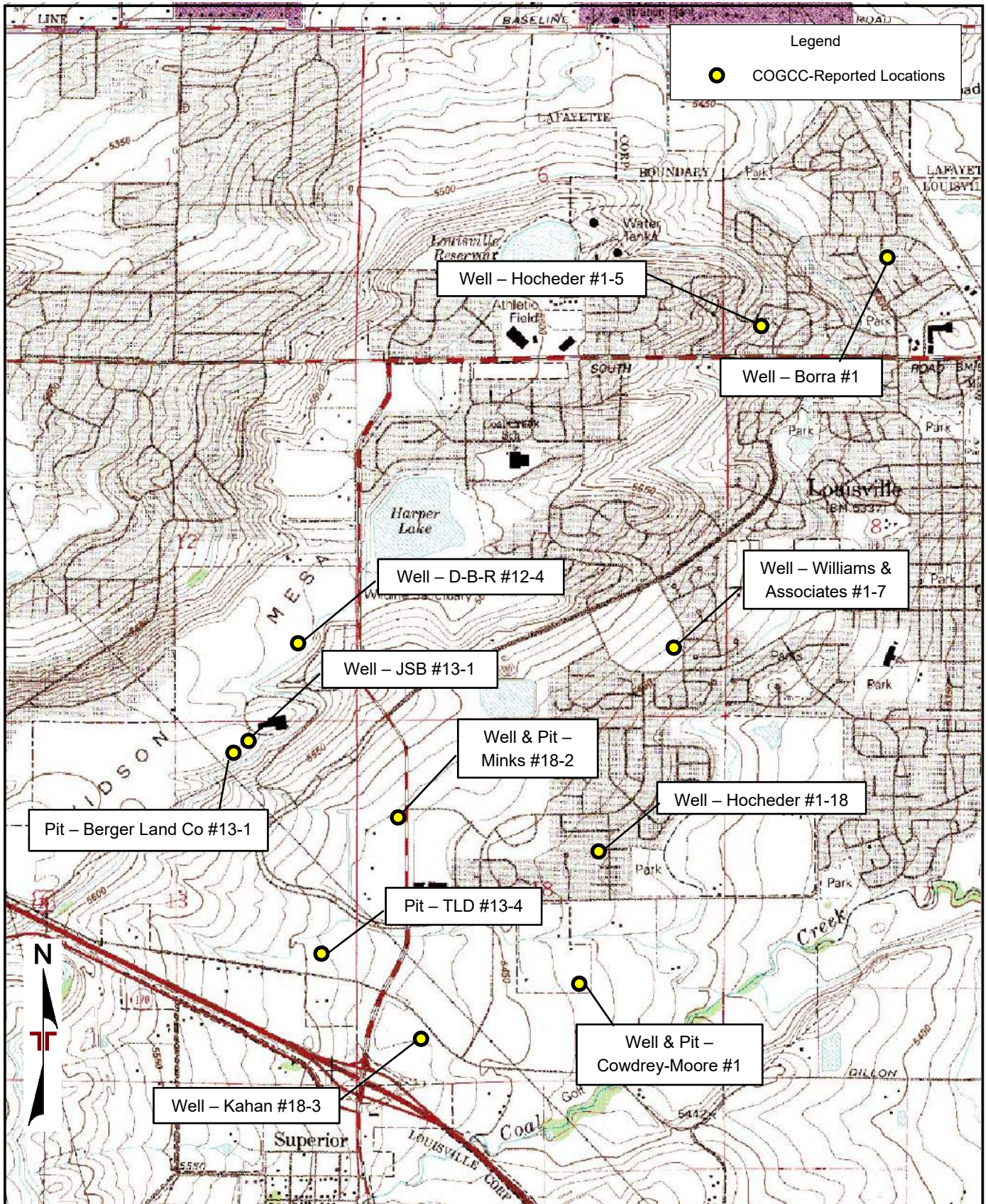
C - Closed

U - Unknown

DA - Dry and Abandoned

AL - Abandoned Location

APPENDIX B
EXHIBIT 1 – TOPOGRAPHIC MAP
EXHIBITS 2A & 2B – OVERALL SITE DIAGRAMS
EXHIBITS 3A THROUGH 3F – INDIVIDUAL SITE DIAGRAMS



TOPOGRAPHIC MAP IMAGE COURTESY OF THE U.S. GEOLOGICAL SURVEY
 QUADRANGLES INCLUDE: NIWOT, CO (1979) and LOUISVILLE, CO (1994).

Project Manager:	JAS
Drawn by:	AGV
Checked by:	JAS
Approved by:	JCG

Project No.	22187046
Scale:	1"=2,000'
File Name:	TOPO
Date:	9/26/2018

Terracon
 1831 Lefthand Cir Ste C
 Longmont, CO 80501-6768

TOPOGRAPHIC MAP

City of Louisville O&G Wellsite Survey
 Louisville, Colorado

Exhibit	1
---------	---



Legend

- COGCC-Reported Locations
- ✕ COGCC-Reported Abandoned Locations (well not drilled)
- Observed Aerial Extent of Historic O&G Activity

Well – D-B-R #12-4

Well – JSB #13-1

Well & Pit – Minks #18-2

Well – Hocheder #1-18

West Cherry Street

Well & Pit – Cowdrey-Moore #1

Pit – TLD #13-4

US Highway 36

Well – Kahan #18-3



AERIAL PHOTOGRAPHY PROVIDED BY GOOGLE MAPS

DIAGRAM IS FOR GENERAL LOCATION ONLY, AND IS NOT INTENDED FOR CONSTRUCTION PURPOSES

Project Manager: JAS
 Drawn by: AGV
 Checked by: JAS
 Approved by: JCG

Project No. 22187046
 Scale: AS SHOWN
 File Name: Site Map A
 Date: 9/26/2018

Terracon
 1831 Lefthand Circle, Suite C
 Longmont, Colorado 80501

SITE DIAGRAM – Western Wells and Pits

City of Louisville O&G Wellsite Survey
 Louisville, Colorado

Exhibit
 2A



Legend

- COGCC-Reported Locations
- ✕ COGCC-Reported Abandoned Locations (well not drilled)
- Observed Aerial Extent of Historic O&G Activity

Well - Hocheder #1-5

Well - Borra #1

South Boulder Road

Centennial Parkway

Well - Williams & Associates #1-7



AERIAL PHOTOGRAPHY PROVIDED BY
GOOGLE MAPS

DIAGRAM IS FOR GENERAL LOCATION ONLY,
AND IS NOT INTENDED FOR CONSTRUCTION
PURPOSES

Project Manager: JAS
 Drawn by: AGV
 Checked by: JAS
 Approved by: JCG

Project No. 22187046
 Scale: AS SHOWN
 File Name: Site Map B
 Date: 9/26/2018

Terracon
 1831 Lefthand Circle, Suite C
 Longmont, Colorado 80501

SITE DIAGRAM - Eastern Wells

City of Louisville O&G Wellsite Survey
 Louisville, Colorado

Exhibit
 2B

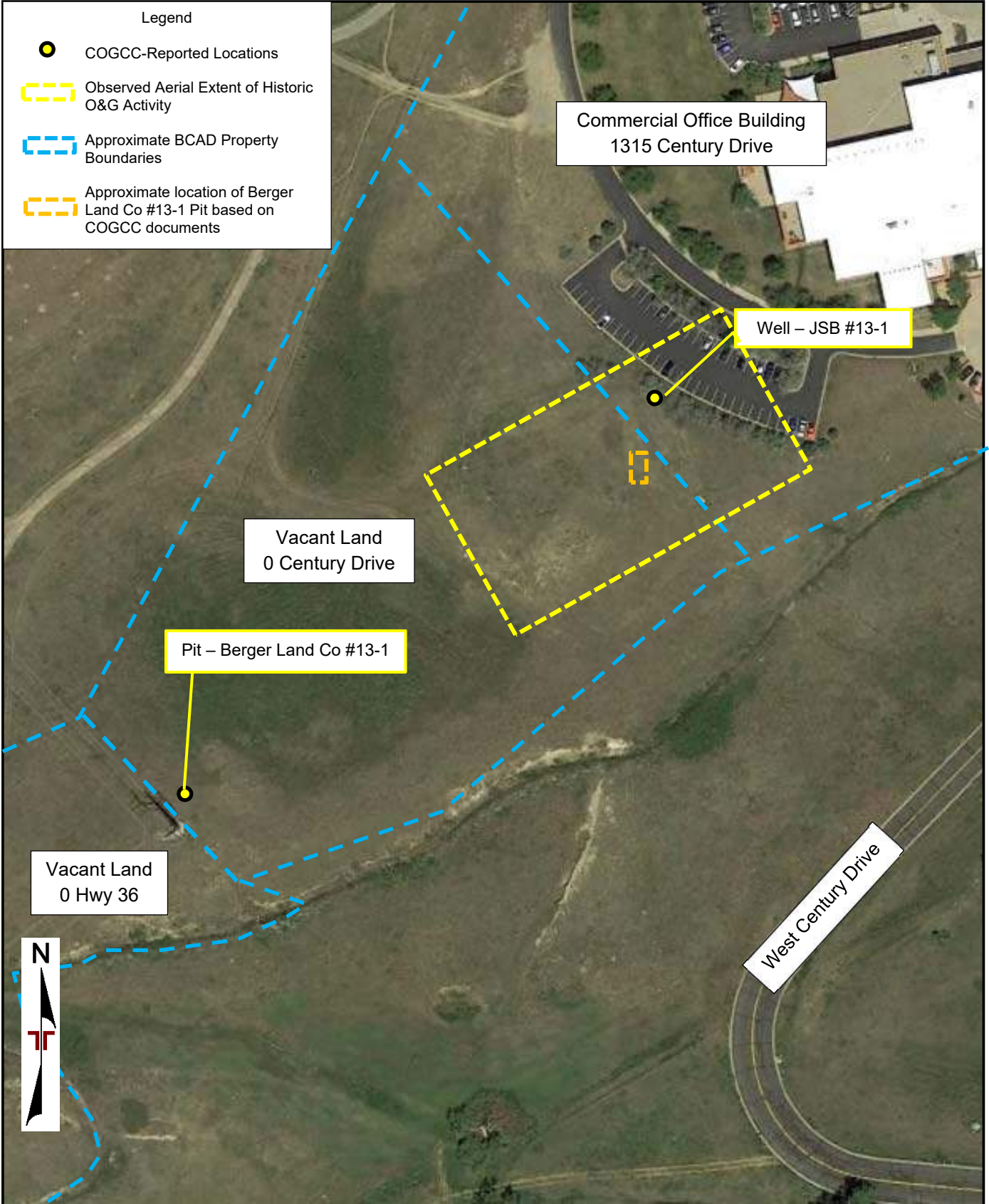


DIAGRAM IS FOR GENERAL LOCATION ONLY, AND IS NOT INTENDED FOR CONSTRUCTION PURPOSES

AERIAL PHOTOGRAPHY PROVIDED BY GOOGLE MAPS

Project Manager:	JAS
Drawn by:	AGV
Checked by:	JAS
Approved by:	JCG

Project No.	22187046
Scale:	AS SHOWN
File Name:	SITE A
Date:	11/4/2018

Terracon

1831 Lefthand Cir Ste C
Longmont, CO 80501-6768

SITE DIAGRAM - Berger Land Co 13-1 and JSB 13-1

City of Louisville Former O&G Wellsites & Pits
Louisville, Colorado

Exhibit	3A
---------	----

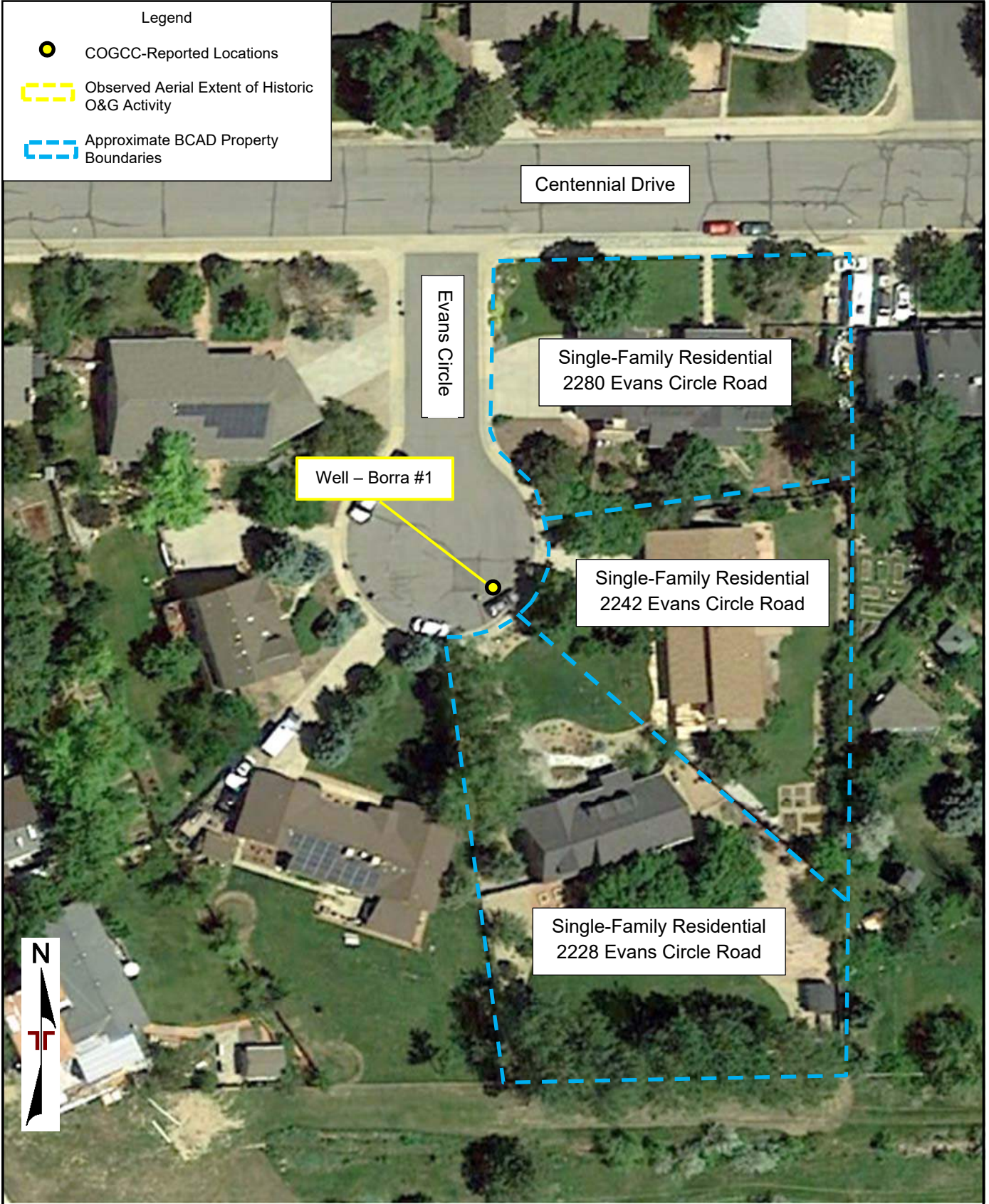


DIAGRAM IS FOR GENERAL LOCATION ONLY, AND IS NOT INTENDED FOR CONSTRUCTION PURPOSES

AERIAL PHOTOGRAPHY PROVIDED BY GOOGLE MAPS

Project Manager:	JAS
Drawn by:	AGV
Checked by:	JAS
Approved by:	JCG

Project No.	22187046
Scale:	AS SHOWN
File Name:	SITE B
Date:	11/4/2018

Terracon
 1831 Lefthand Cir Ste C
 Longmont, CO 80501-6768

SITE DIAGRAM - Borra #1
 City of Louisville Former O&G Wellsites & Pits
 Louisville, Colorado

Exhibit
3B

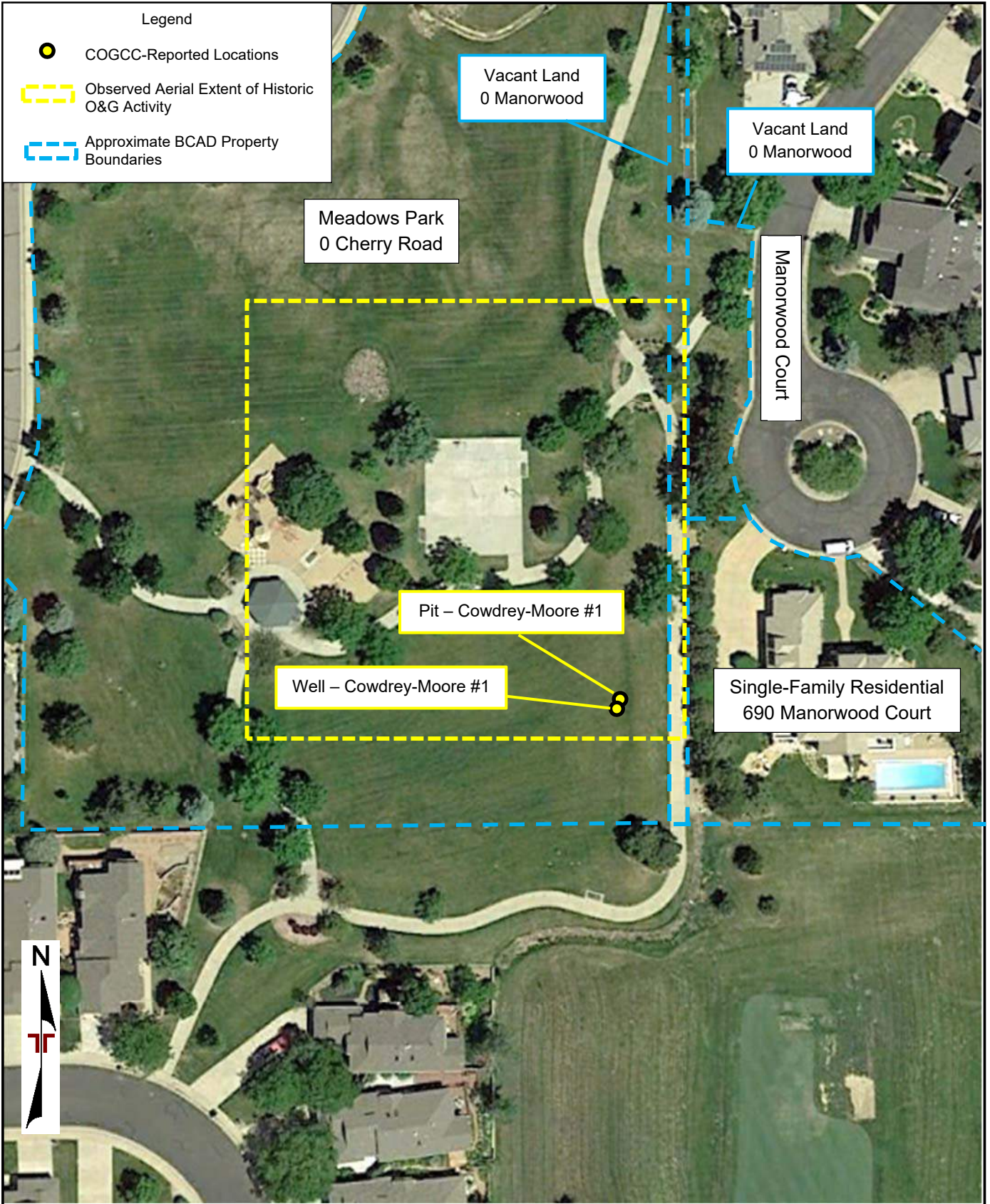


DIAGRAM IS FOR GENERAL LOCATION ONLY, AND IS NOT INTENDED FOR CONSTRUCTION PURPOSES

AERIAL PHOTOGRAPHY PROVIDED BY GOOGLE MAPS

Project Manager:	JAS	Project No.	22187046
Drawn by:	AGV	Scale:	AS SHOWN
Checked by:	JAS	File Name:	SITE C
Approved by:	JCG	Date:	11/4/2018

Terracon

1831 Lefthand Cir Ste C
Longmont, CO 80501-6768

SITE DIAGRAM - Cowdrey-Moore #1

City of Louisville Former O&G Wellsites & Pits
Louisville, Colorado

Exhibit

3C

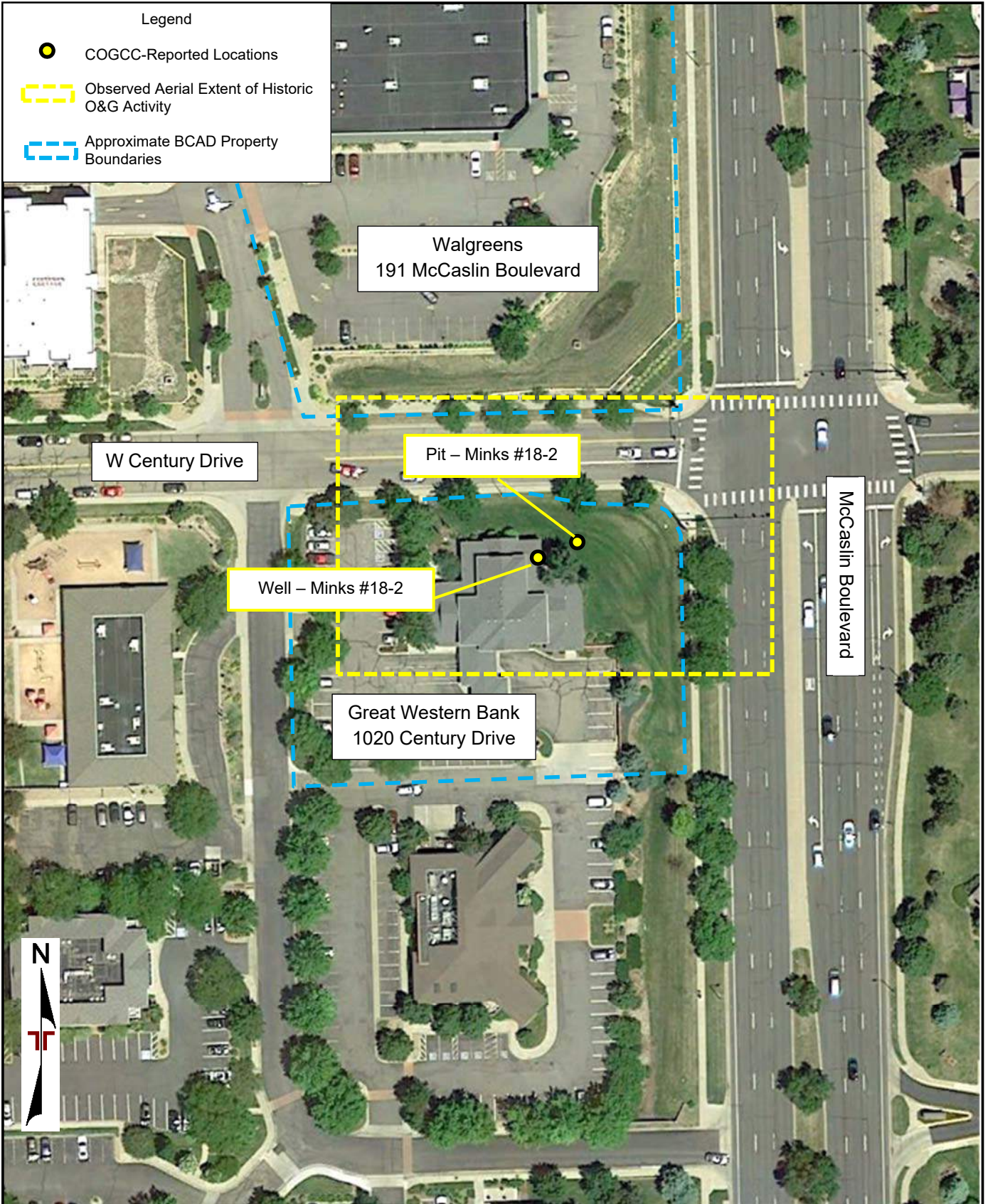


DIAGRAM IS FOR GENERAL LOCATION ONLY, AND IS NOT INTENDED FOR CONSTRUCTION PURPOSES

AERIAL PHOTOGRAPHY PROVIDED BY GOOGLE MAPS

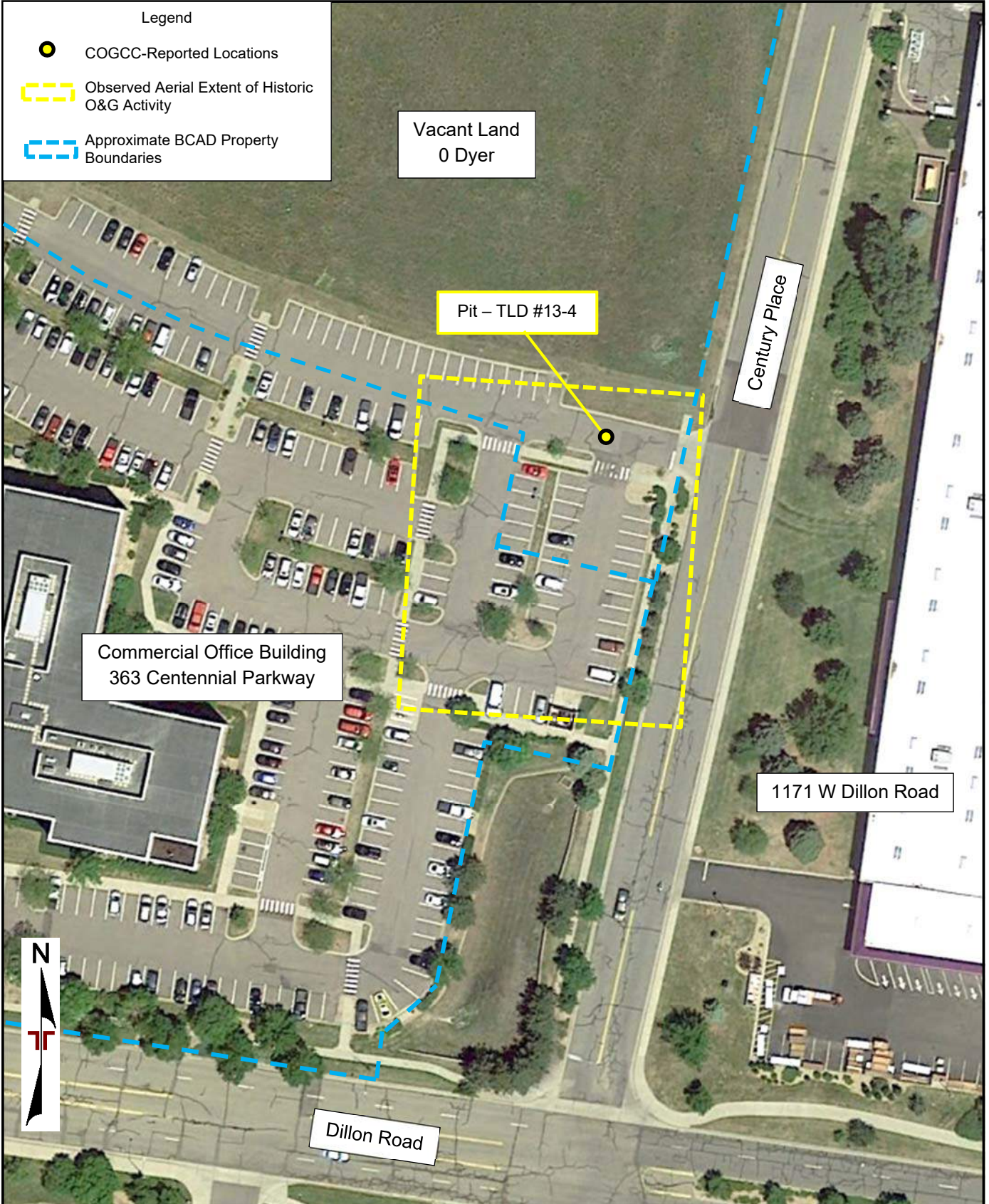
Project Manager:	JAS	Project No.	22187046
Drawn by:	AGV	Scale:	AS SHOWN
Checked by:	JAS	File Name:	SITE C
Approved by:	JCG	Date:	11/4/2018

Terracon
1831 Lefthand Cir Ste C
Longmont, CO 80501-6768

SITE DIAGRAM - Minks #18-2

City of Louisville Former O&G Wellsites & Pits
Louisville, Colorado

Exhibit
3D



Legend

- COGCC-Reported Locations
- Observed Aerial Extent of Historic O&G Activity
- Approximate BCAD Property Boundaries

Vacant Land
0 Dyer

Pit - TLD #13-4

Commercial Office Building
363 Centennial Parkway

Century Place

1171 W Dillon Road



Dillon Road

DIAGRAM IS FOR GENERAL LOCATION ONLY, AND IS NOT INTENDED FOR CONSTRUCTION PURPOSES

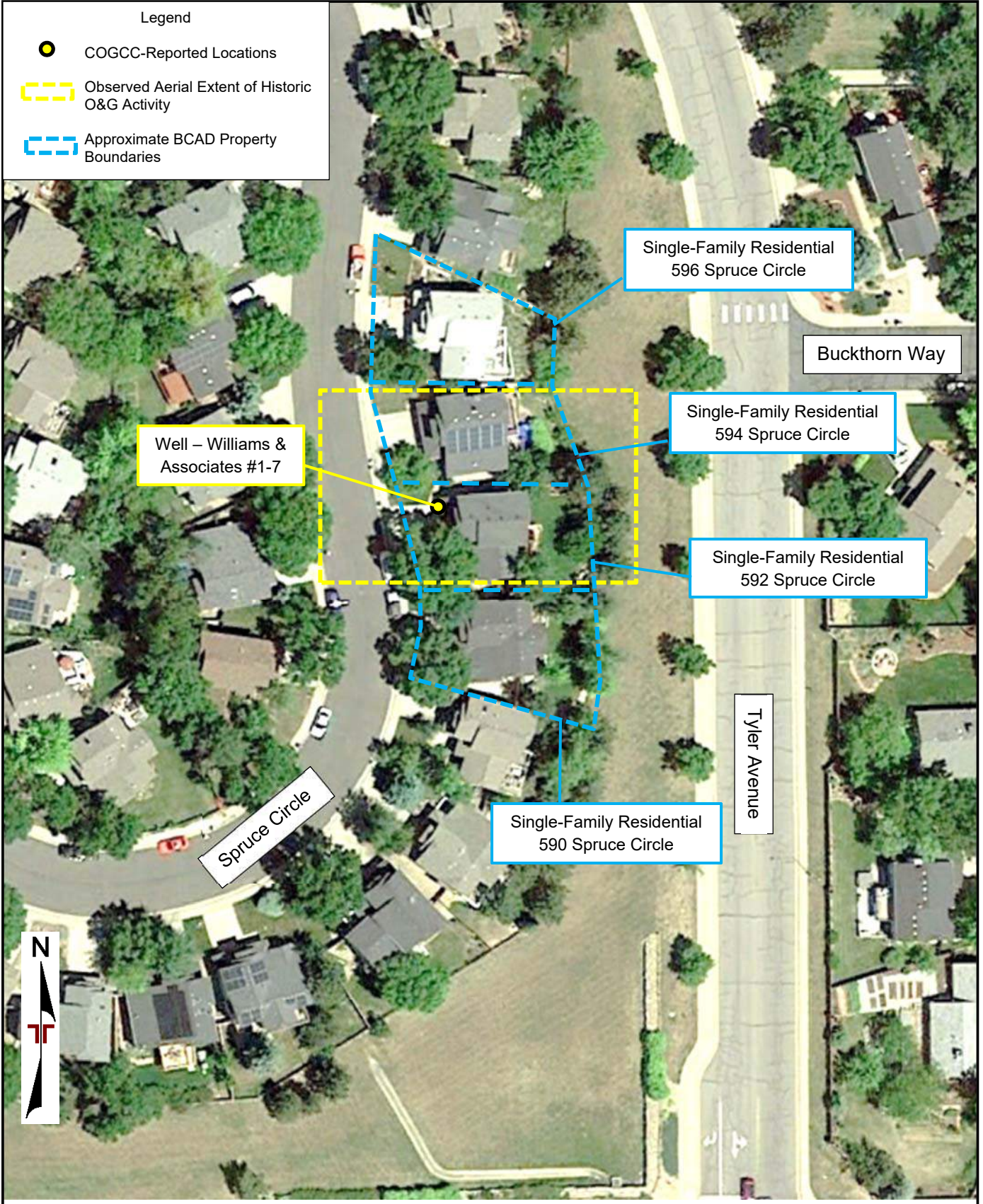
AERIAL PHOTOGRAPHY PROVIDED BY GOOGLE MAPS

Project Manager: JAS	Project No. 22187046
Drawn by: AGV	Scale: AS SHOWN
Checked by: JAS	File Name: SITE E
Approved by: JCG	Date: 11/4/2018

Terracon
1831 Lefthand Cir Ste C
Longmont, CO 80501-6768

SITE DIAGRAM - TLD #13-4
City of Louisville Former O&G Wellsites & Pits
Louisville, Colorado

Exhibit
3E



- Legend**
- COGCC-Reported Locations
 - Observed Aerial Extent of Historic O&G Activity
 - Approximate BCAD Property Boundaries

DIAGRAM IS FOR GENERAL LOCATION ONLY, AND IS NOT INTENDED FOR CONSTRUCTION PURPOSES

AERIAL PHOTOGRAPHY PROVIDED BY GOOGLE MAPS

Project Manager:	JAS
Drawn by:	AGV
Checked by:	JAS
Approved by:	JCG
Project No.	22187046
Scale:	AS SHOWN
File Name:	SITE F
Date:	11/4/2018

Terracon
 1831 Lefthand Cir Ste C
 Longmont, CO 80501-6768

SITE DIAGRAM - Williams & Associates #1-7
 City of Louisville Former O&G Wellsites & Pits
 Louisville, Colorado

Exhibit
3F

**APPENDIX C
SITE PHOTOGRAPHS**

Phase I Environmental Site Assessment

Records Review and Survey Report – Borra #1 ■ Louisville, Colorado
Photos Taken: September 28, 2018 ■ Terracon Project No. 22187046



1. View of reported Borra #1 well location followed by single-family residential property, 2228 Evans Circle Road, to the adjacent south of the site (facing south)



2. View of reported Borra #1 well location followed by single-family residential property, 2242 Evans Circle Road, to the adjacent east of the site (facing east)



3. View of reported Borra #1 well location followed by Evans Circle cul-de-sac to the adjacent north of the site (facing northwest)

Phase I Environmental Site Assessment

Records Review and Survey Report – DBR #12-4 ■ Louisville, Colorado

Photos Taken: September 28, 2018 ■ Terracon Project No. 22187046



1. View of reported DBR #12-4 location followed by open space and single-family residential properties to the adjacent east of the site (facing east)



2. View of reported DBR #12-4 location followed by open space to the adjacent south of the site (facing south)



3. View of reported DBR #12-4 location followed by open space to the adjacent northwest of the site (facing northwest)

Phase I Environmental Site Assessment

Records Review and Survey Report – Cowdrey-Moore #1 ■ Louisville, CO

Photos Taken: September 28, 2018 ■ Terracon Project No. 22187046



1. View of reported Cowdrey-Moore #1 well and pit location followed by Meadows Park to the adjacent north of the site (facing north)



2. View of reported Cowdrey-Moore #1 well and pit location followed by single-family residential property, 690 Manorwood Court, to the adjacent east of the site (facing east)



3. View of reported Cowdrey-Moore #1 well and pit location followed by Meadows Park and golf course to the adjacent south of the site (facing south)



4. View of reported Cowdrey-Moore #1 well and pit location followed by Meadows Park to the adjacent west of the site (facing west)



5. View of single-family residential property, 690 Manorwood Court, to the adjacent east of the site (facing south)

Phase I Environmental Site Assessment

Records Review and Survey Report – Hocheder #1-5 ■ Louisville, CO

Photos Taken: September 28, 2018 ■ Terracon Project No. 22187046

Terracon



1. View of reported Hocheder #1-5 location followed by single-family residential properties to the adjacent southeast of the site (facing east)



2. View of single-family residence in the vicinity of reported Hocheder #1-5 location (facing east)

Phase I Environmental Site Assessment

Records Review and Survey Report – Hocheder #1-18 ■ Louisville, CO

Photos Taken: September 28, 2018 ■ Terracon Project No. 22187046

Terracon



1. View of reported Hocheder #1-18 location followed by single-family residential property to the adjacent south of the site (facing south)



2. View of W Louis Court followed by single-family residential property to the adjacent north of the reported Hocheder #1-18 location (facing north)



3. View of single-family residential property to the adjacent south of the reported Hocheder #1-18 location (facing northwest)

Phase I Environmental Site Assessment

Records Review – JSB #13-1 and Berger Land Co #13-1 ■ Louisville, CO

Photos Taken: September 28, 2018 ■ Terracon Project No. 22187046



1. View of reported Berger Land Co #13-1 pit location followed by vacant land to the adjacent northwest of the site (facing northwest)



2. View of reported Berger Land Co #13-1 pit location followed by vacant land to the adjacent northeast of the site (facing northeast)



3. View of reported Berger Land Co #13-1 pit location followed by vacant land to the adjacent south of the site (facing south)



4. View of reported JSB #13-1 well location followed by vacant land to the adjacent south of the site (facing south)



5. View of JSB #13-1 well location followed by vacant land to the adjacent northwest of the site (facing northwest)



6. View of JSB #13-1 well location followed by vacant land and commercial office building, 1315 Century Drive, located to the adjacent northeast of the site (facing north)

Phase I Environmental Site Assessment

Records Review – JSB #13-1 and Berger Land Co #13-1 ■ Louisville, CO

Photos Taken: September 28, 2018 ■ Terracon Project No. 22187046



7. View of commercial office building, 1315 Century Drive, located to the adjacent northeast of the reported JSB #13-1 well location (facing east)

Phase I Environmental Site Assessment

Records Review and Survey Report – Kahan #18-3 ■ Louisville, CO
Photos Taken: September 28, 2018 ■ Terracon Project No. 22187046



1. View of reported Kahan #18-3 location followed by Courtyard Marriott to the adjacent west of the site (facing southwest)



2. View of reported Kahan #18-3 location followed by Hampton inn to the adjacent west of the site (facing south)



3. View of reported Kahan #18-3 location followed by Best Western to the adjacent north of the site (facing northeast)

Phase I Environmental Site Assessment

Records Review and Survey Report – Minks #18-2 ■ Louisville, CO

Photos Taken: September 28, 2018 ■ Terracon Project No. 22187046



1. View of reported Minks #18-2 pit location followed by Great Western Bank and reported Minks #18-2 well location (facing west)



2. View of W Century Drive followed by Walgreens, 191 McCaslin Boulevard, to the adjacent north of the site (facing north)



3. View of Great Western Bank lawn to the adjacent east of the reported Minks #18-2 well and pit locations (facing east)



4. View of Great Western Bank and reported Minks #18-2 well and pit locations (facing west)



5. View of Great Western Bank to the adjacent south of reported Minks #18-2 well and pit locations (facing northeast)

Phase I Environmental Site Assessment

Records Review and Survey Report – TLD #13-4 ■ Louisville, Colorado

Photos Taken: September 28, 2018 ■ Terracon Project No. 22187046



1. View of reported TLD #13-4 pit location followed by vacant land to the adjacent north of the site (facing north)



2. View of reported TLD #13-4 pit location followed by commercial office building to the adjacent west of the site (facing southwest)



3. View of commercial office parking lot to the adjacent south of the reported TLD #13-4 location (facing south)



4. View of Century Place followed by Lowe's Home Improvement to the adjacent east of the reported TLD #13-4 location (facing southeast)

Phase I Environmental Site Assessment

Records Review – Williams & Associates #1-7 ■ Louisville, Colorado
Photos Taken: September 28, 2018 ■ Terracon Project No. 22187046



1. View of reported location of Williams & Associates #1-7 well, currently single-family residence, 592 Spruce Circle (facing northeast)



2. View of reported location of Williams & Associates #1-7 well followed by single family residence, 594 Spruce Circle (facing north)



3. View of Spruce Circle followed by single family residences to the adjacent west of reported Williams & Associates #1-7 well location (facing west)



4. View of single-family residence, 590 Spruce Circle, to the adjacent south of reported Williams & Associates #1-7 well location (facing southeast)



5. View of single-family residence, 596 Spruce Circle, to the adjacent north of reported Williams & Associates #1-7 well location (facing northeast)



6. Rear view of single-family residences, 594-598 Spruce Circle, located to the north of reported Williams & Associates #1-7 well location (facing northwest)

Phase I Environmental Site Assessment

Records Review – Williams & Associates #1-7 ■ Louisville, Colorado
Photos Taken: September 28, 2018 ■ Terracon Project No. 22187046



7. View of Tyler Avenue followed by single-family residential development to the adjacent east of observed aerial extent of historic oil and gas activity (facing northeast)



8. View of eastern portion of observed extent of historic oil and gas activity (facing north)

APPENDIX D
HISTORICAL AERIAL PHOTOGRAPHS



HISTORICAL AERIAL REPORT

for the site:

13 Former Oil & Gas Wellsites & Pits

n/a

Louisville, CO

PO #:

Report ID: 20180920131

Completed: 9/21/2018

ERIS Information Inc.

Environmental Risk Information
Services (ERIS)

A division of Glacier Media Inc.

T: 1.866.517.5204

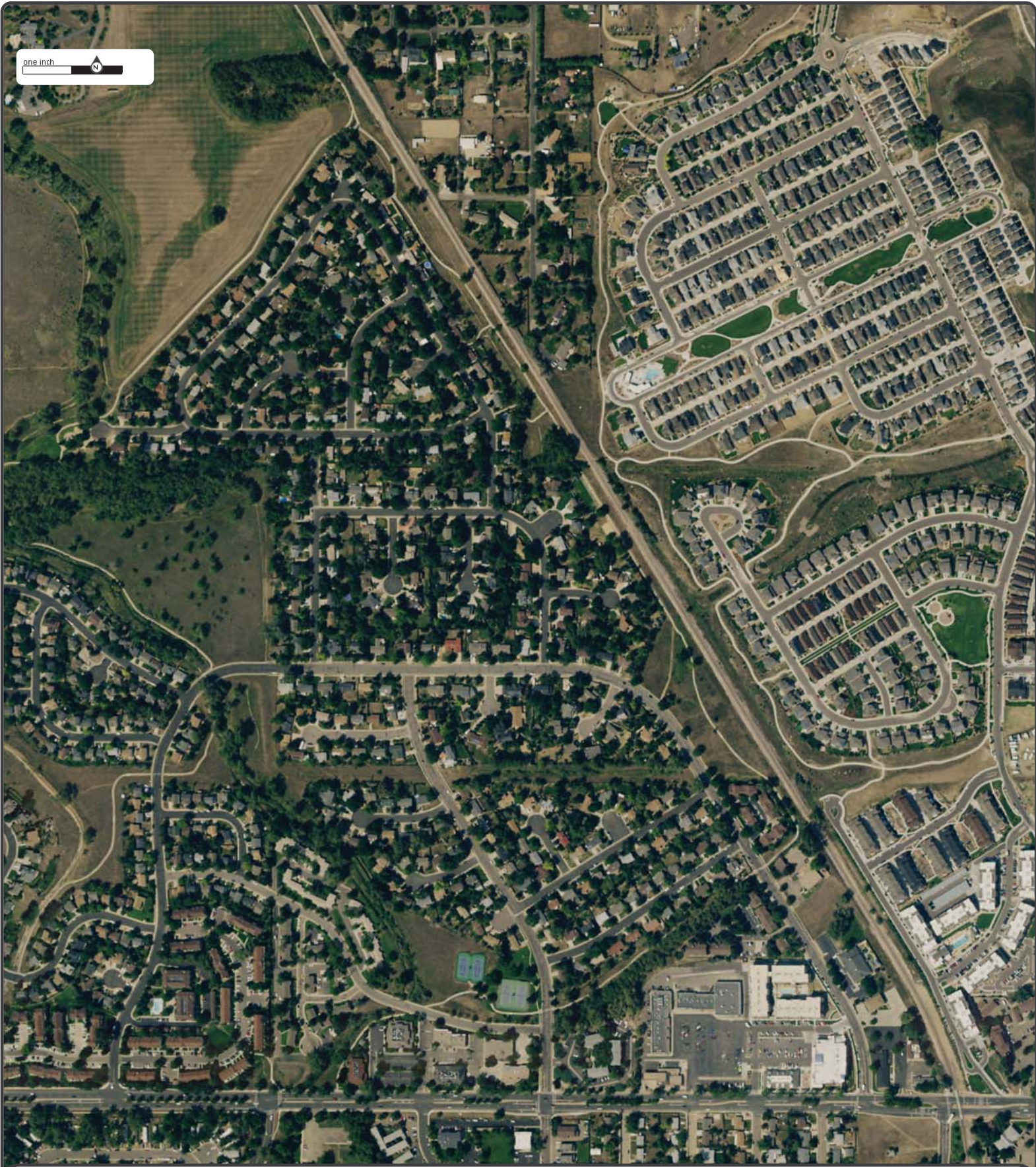
E: info@erisinfo.com

www.erisinfo.com

Search Results Summary

Date	Source	Scale	Comment
2017	NAIP - National Agriculture Information Program	1"=500'	
2015	NAIP - National Agriculture Information Program	1"=500'	
2013	NAIP - National Agriculture Information Program	1"=500'	
2011	NAIP - National Agriculture Information Program	1"=500'	
2009	NAIP - National Agriculture Information Program	1"=500'	
2006	NAIP - National Agriculture Information Program	1"=500'	
2005	NAIP - National Agriculture Information Program	1"=500'	
1999	USGS - US Geological Survey	1"=500'	
1988	NAPP - National Aerial Photography Program	1"=500'	BEST COPY AVAILABLE
1983	NHAP - National High Altitude Photography	1"=500'	
1978	USGS - US Geological Survey	1"=500'	
1969	USGS - US Geological Survey	1"=500'	BEST COPY AVAILABLE
1963	USGS - US Geological Survey	1"=500'	
1953	AMS - Army Mapping Service	1"=500'	
1948	ASCS - Agriculture and Soil Conservation Service	1"=500'	
1937	USDA - US Department of Agriculture	1"=500'	PHOTO INDEX-BEST AVAIL

one inch 



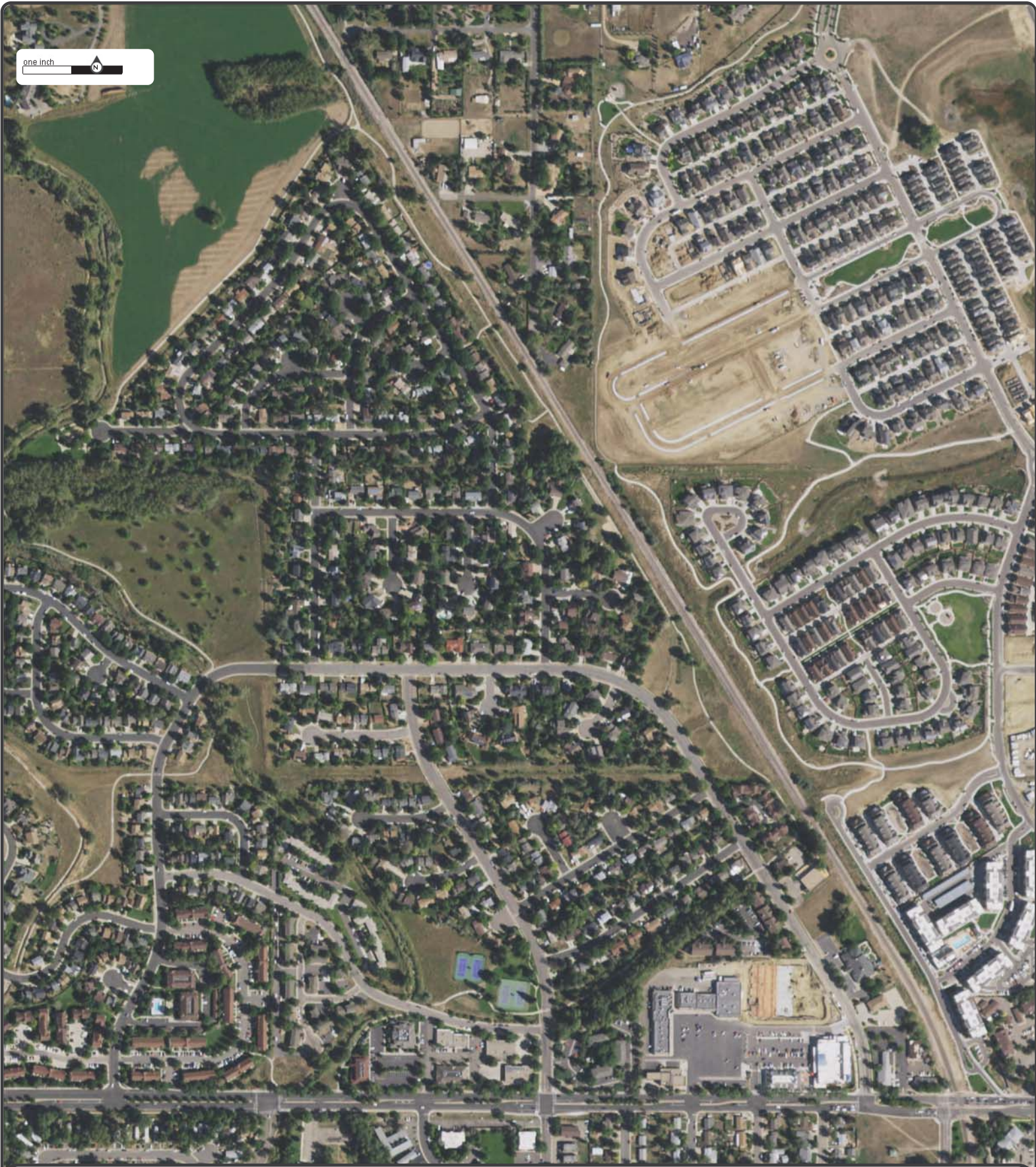
Date: **2017**
Source: **NAIP**
Scale: **1" to 500'**
Comments:

Subject: *n/a Louisville CO*
Approx Center: 39.99179 / -105.1384



www.erisinfo.com | 1.866.517.5204

one inch 



Date: **2015**
Source: **NAIP**
Scale: **1" to 500'**
Comments:

Subject: *n/a Louisville CO*
Approx Center: 39.99179 / -105.1384

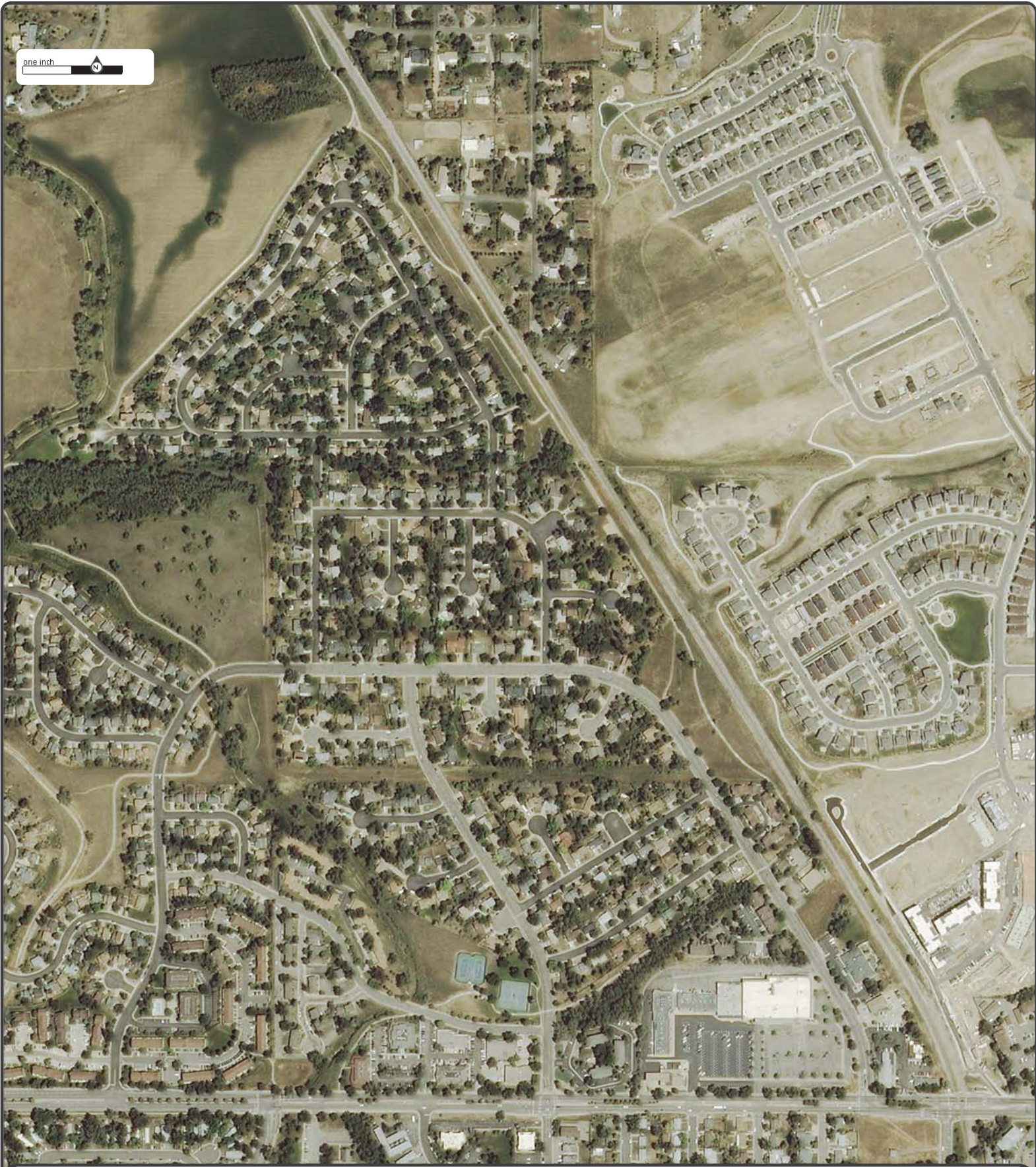


ERIS
ENVIRONMENTAL RISK INFORMATION SERVICES



www.erisinfo.com | 1.866.517.5204

one inch 



Date: **2013**
Source: **NAIP**
Scale: **1" to 500'**
Comments:

Subject: *n/a Louisville CO*
Approx Center: 39.99179 / -105.1384



www.erisinfo.com | 1.866.517.5204

one inch 

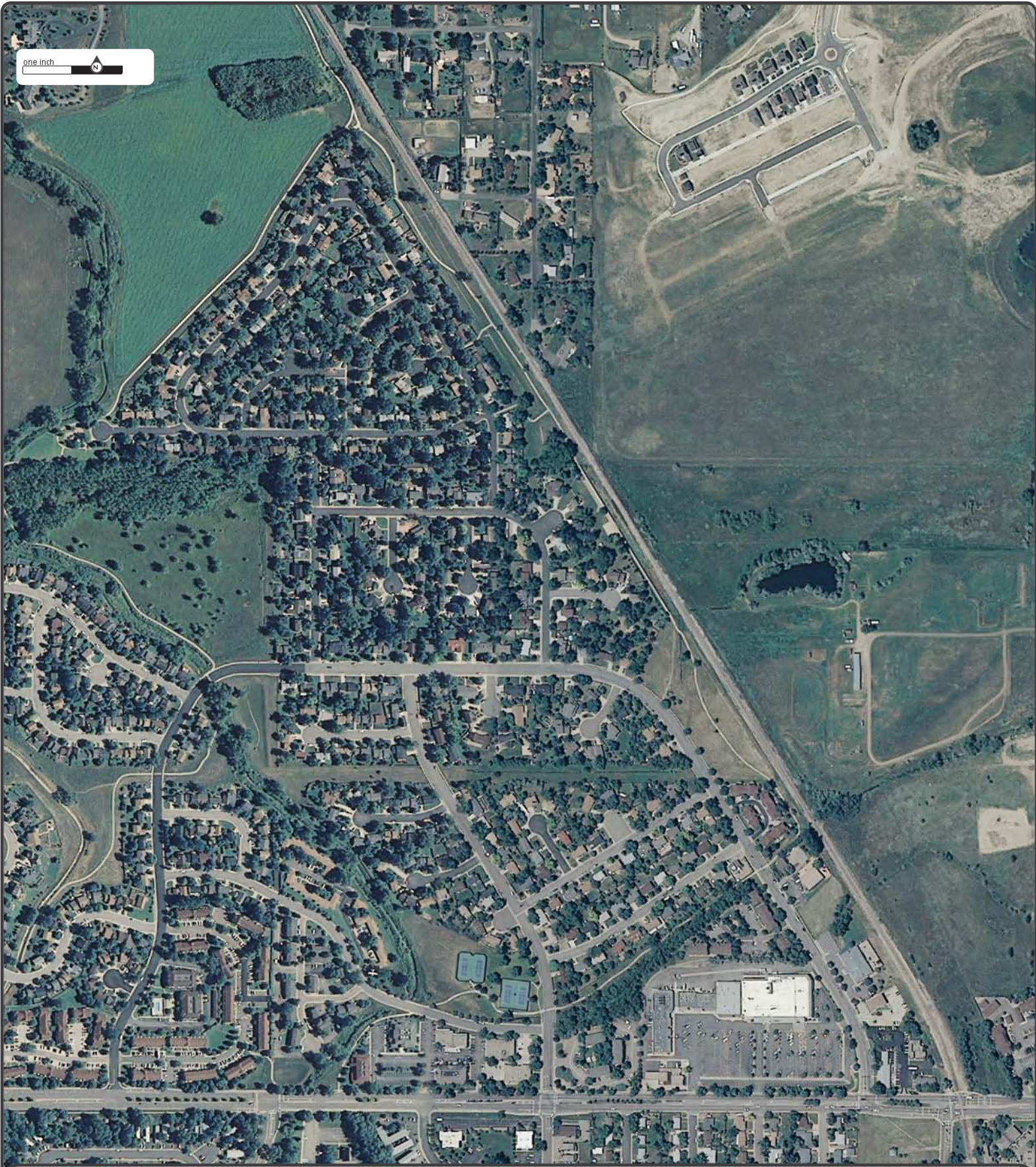


Date: **2011**
Source: **NAIP**
Scale: **1" to 500'**
Comments:

Subject: *n/a Louisville CO*
Approx Center: 39.99179 / -105.1384



www.erisinfo.com | 1.866.517.5204



Date: **2009**
Source: **NAIP**
Scale: **1" to 500'**
Comments:

Subject: *n/a Louisville CO*
Approx Center: 39.99179 / -105.1384

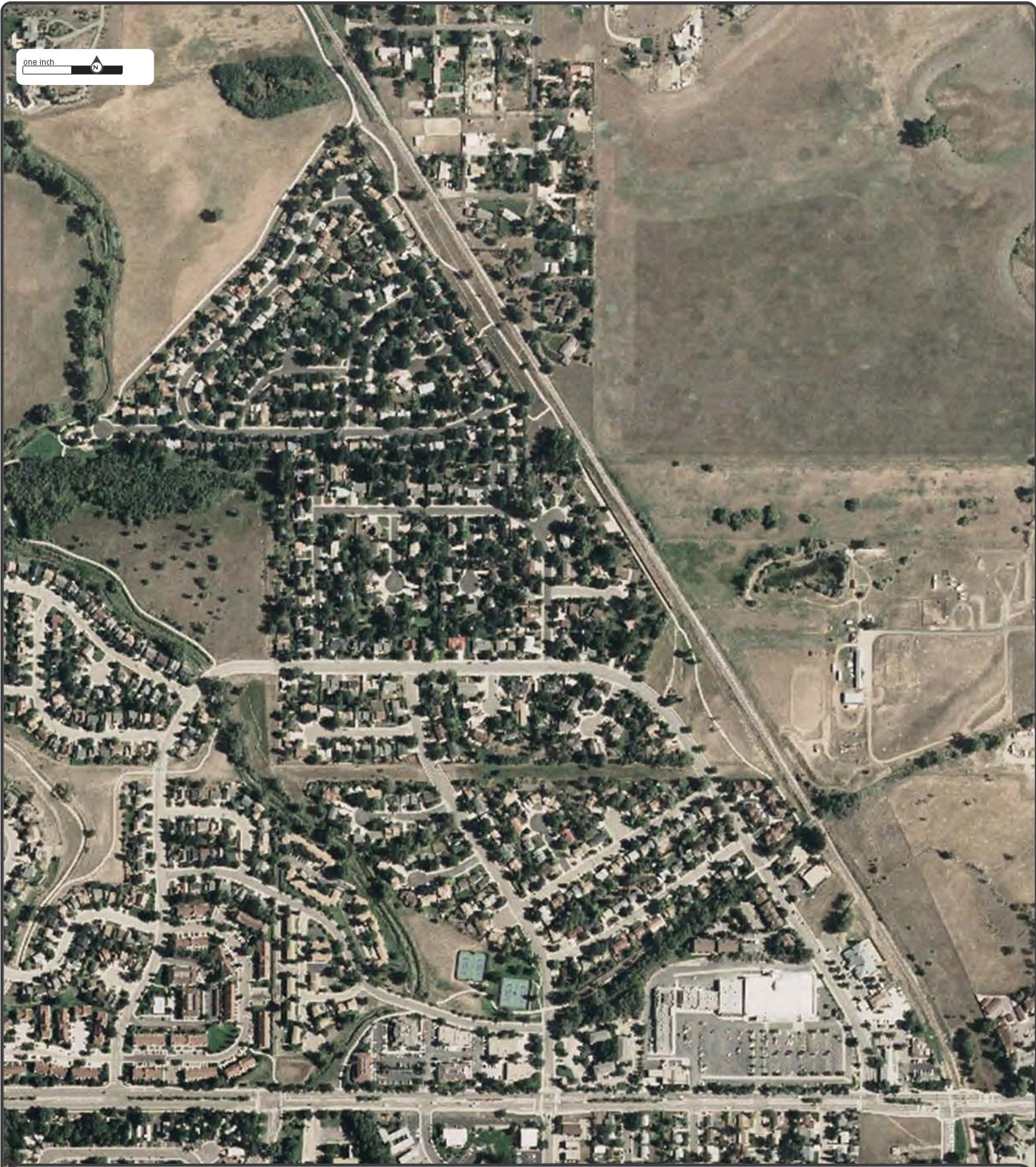


ERIS
ENVIRONMENTAL RISK INFORMATION SERVICES



www.erisinfo.com | 1.866.517.5204

one inch 



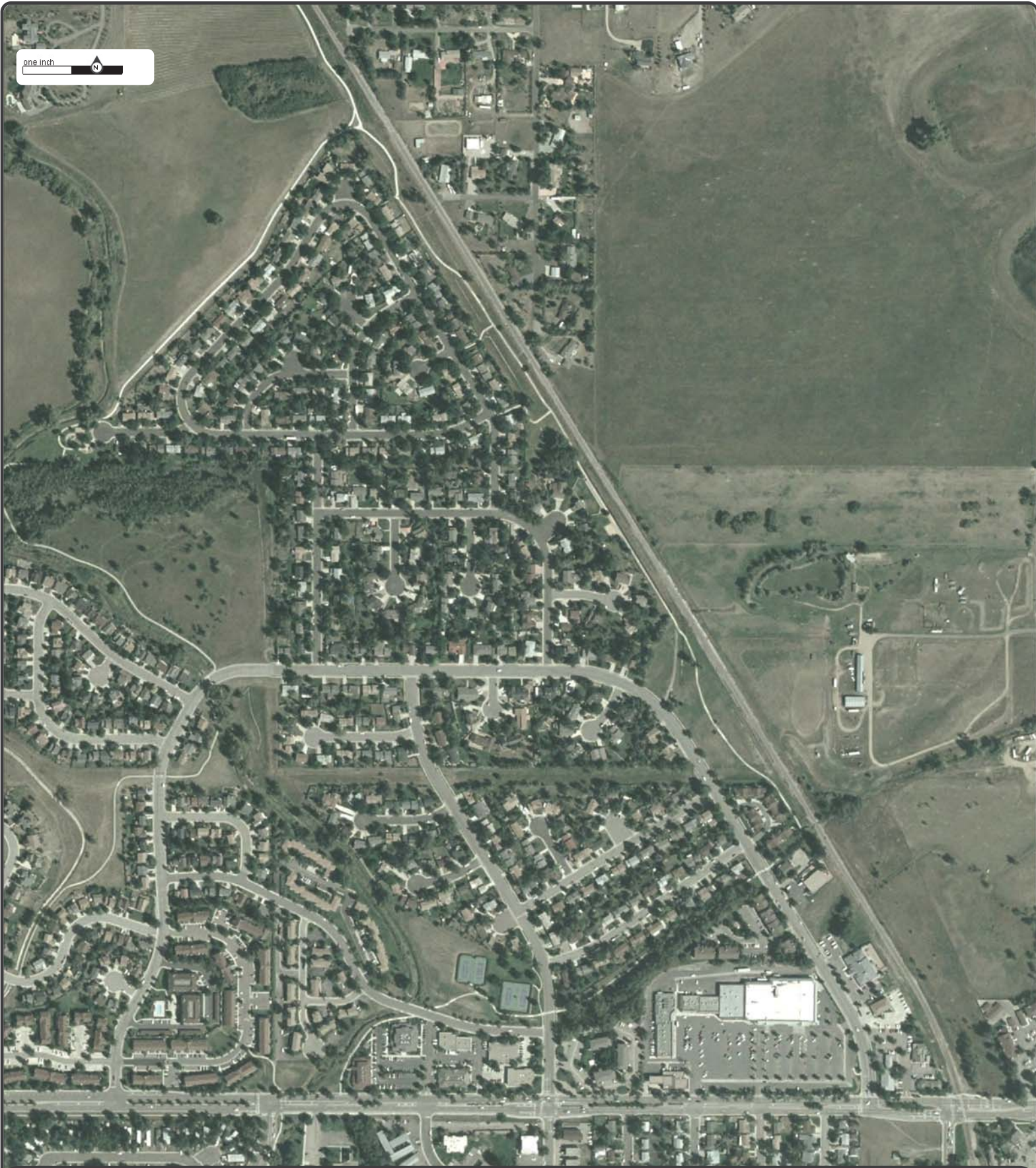
Date: **2006**
Source: **NAIP**
Scale: **1" to 500'**
Comments:

Subject: *n/a Louisville CO*
Approx Center: 39.99179 / -105.1384



www.erisinfo.com | 1.866.517.5204

one inch



Date: **2005**
Source: **NAIP**
Scale: **1" to 500'**
Comments:

Subject: *n/a Louisville CO*
Approx Center: 39.99179 / -105.1384



ERIS
ENVIRONMENTAL RISK INFORMATION SERVICES



www.erisinfo.com | 1.866.517.5204

one inch



Date: 1999
Source: USGS
Scale: 1" to 500'
Comments:

Subject: n/a Louisville CO
Approx Center: 39.99179 / -105.1384



www.erisinfo.com | 1.866.517.5204

one inch 



Date: **1988**
Source: **NAPP**
Scale: **1" to 500'**
Comments: *BEST COPY AVAILABLE*

Subject: *n/a Louisville CO*
Approx Center: 39.99179 / -105.1384



ENVIRONMENTAL RISK INFORMATION SERVICES

www.erisinfo.com | 1.866.517.5204

one inch



Date: **1983**
Source: **NHAP**
Scale: **1" to 500'**
Comments:

Subject: *n/a Louisville CO*
Approx Center: 39.99179 / -105.1384



ERIS
ENVIRONMENTAL RISK INFORMATION SERVICES



www.erisinfo.com | 1.866.517.5204

one inch 



Date: 1978
Source: USGS
Scale: 1" to 500'
Comments:

Subject: n/a Louisville CO
Approx Center: 39.99179 / -105.1384



ERIS
ENVIRONMENTAL RISK INFORMATION SERVICES



www.erisinfo.com | 1.866.517.5204

one inch



Date: 1969
Source: USGS
Scale: 1" to 500'
Comments: BEST COPY AVAILABLE

Subject: n/a Louisville CO
Approx Center: 39.99179 / -105.1384



ERIS
ENVIRONMENTAL RISK INFORMATION SERVICES



www.erisinfo.com | 1.866.517.5204

one inch



Date: 1963
Source: USGS
Scale: 1" to 500'
Comments:

Subject: n/a Louisville CO
Approx Center: 39.99179 / -105.1384



ERIS
ENVIRONMENTAL RISK INFORMATION SERVICES



www.erisinfo.com | 1.866.517.5204

one inch



Date: 1953
Source: AMS
Scale: 1" to 500'
Comments:

Subject: n/a Louisville CO
Approx Center: 39.99179 / -105.1384



ERIS
ENVIRONMENTAL RISK INFORMATION SERVICES



www.erisinfo.com | 1.866.517.5204

one inch



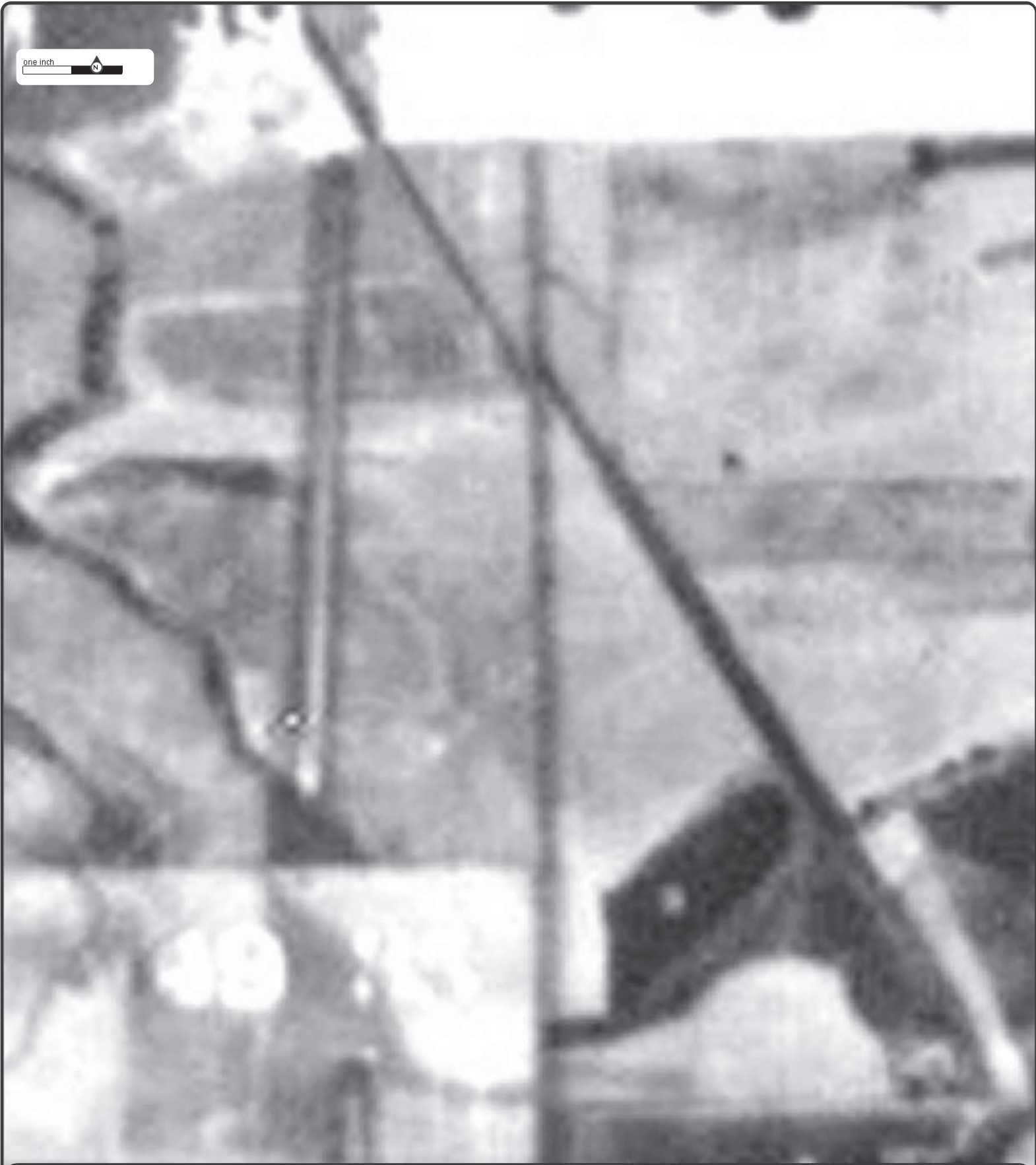
Date: 1948
Source: ASCS
Scale: 1" to 500'
Comments:

Subject: n/a Louisville CO
Approx Center: 39.99179 / -105.1384



www.erisinfo.com | 1.866.517.5204

one inch 



Date: **1937**
Source: **USDA**
Scale: **1" to 500'**
Comments: *PHOTO INDEX-BEST AVAIL*

Subject: *n/a Louisville CO*
Approx Center: 39.99179 / -105.1384



ENVIRONMENTAL RISK INFORMATION SERVICES

www.erisinfo.com | 1.866.517.5204



HISTORICAL AERIAL REPORT

for the site:

13 Former Oil & Gas Wellsites & Pits

n/a

Louisville, CO

PO #:

Report ID: 20180920132

Completed: 9/21/2018

ERIS Information Inc.

Environmental Risk Information
Services (ERIS)

A division of Glacier Media Inc.

T: 1.866.517.5204

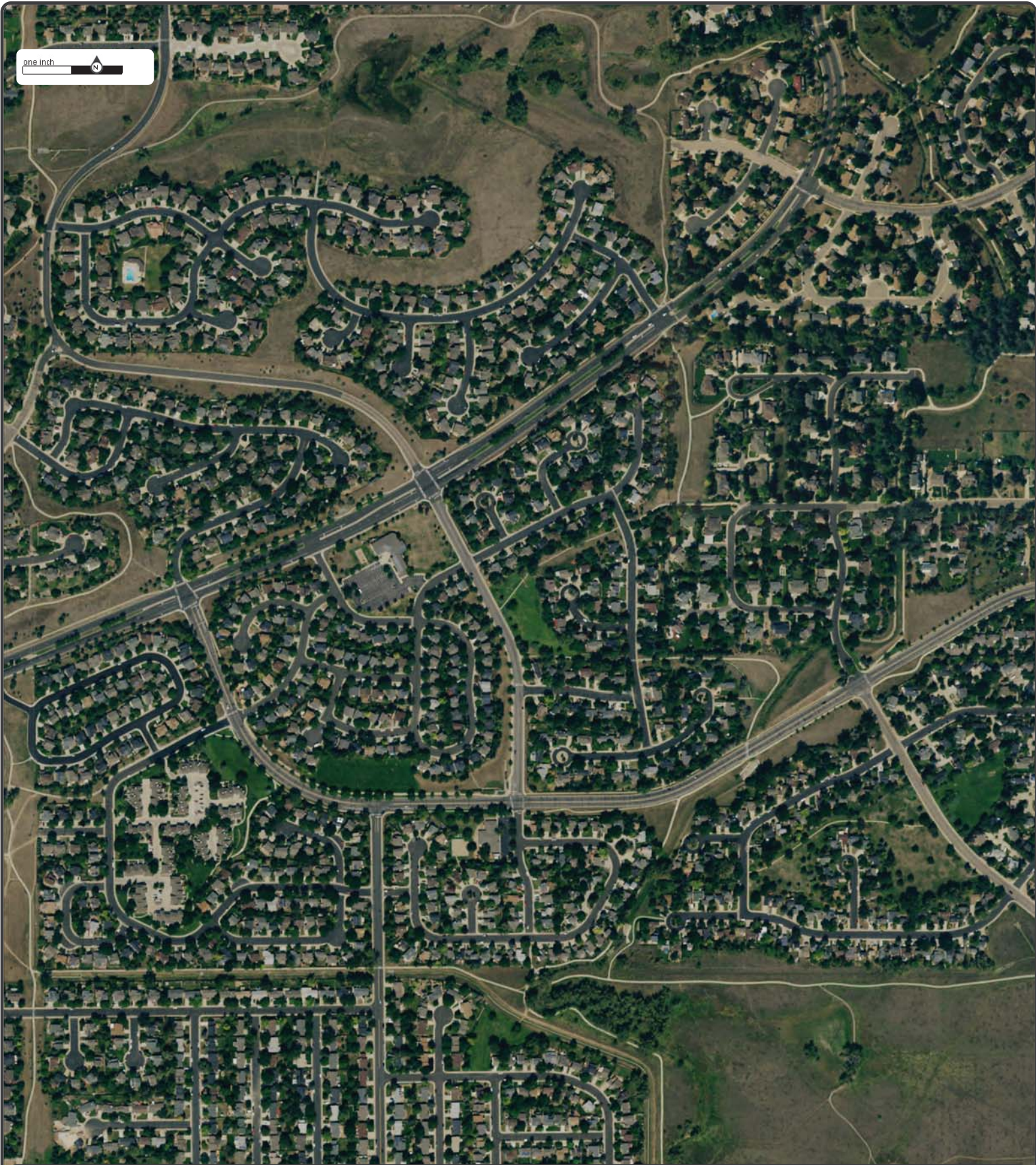
E: info@erisinfo.com

www.erisinfo.com

Search Results Summary

Date	Source	Scale	Comment
2017	NAIP - National Agriculture Information Program	1"=500'	
2015	NAIP - National Agriculture Information Program	1"=500'	
2013	NAIP - National Agriculture Information Program	1"=500'	
2011	NAIP - National Agriculture Information Program	1"=500'	
2009	NAIP - National Agriculture Information Program	1"=500'	
2006	NAIP - National Agriculture Information Program	1"=500'	
2005	NAIP - National Agriculture Information Program	1"=500'	
1999	USGS - US Geological Survey	1"=500'	
1988	NAPP - National Aerial Photography Program	1"=500'	BEST COPY AVAILABLE
1983	NHAP - National High Altitude Photography	1"=500'	
1978	USGS - US Geological Survey	1"=500'	
1971	USGS - US Geological Survey	1"=500'	
1963	USGS - US Geological Survey	1"=500'	
1953	AMS - Army Mapping Service	1"=500'	
1941	ASCS - Agriculture and Soil Conservation Service	1"=500'	PHOTO INDEX- BEST AVAIL

one inch



Date: 2017
Source: NAIP
Scale: 1" to 500'
Comments:

Subject: n/a Louisville CO
Approx Center: 39.97584 / -105.1490

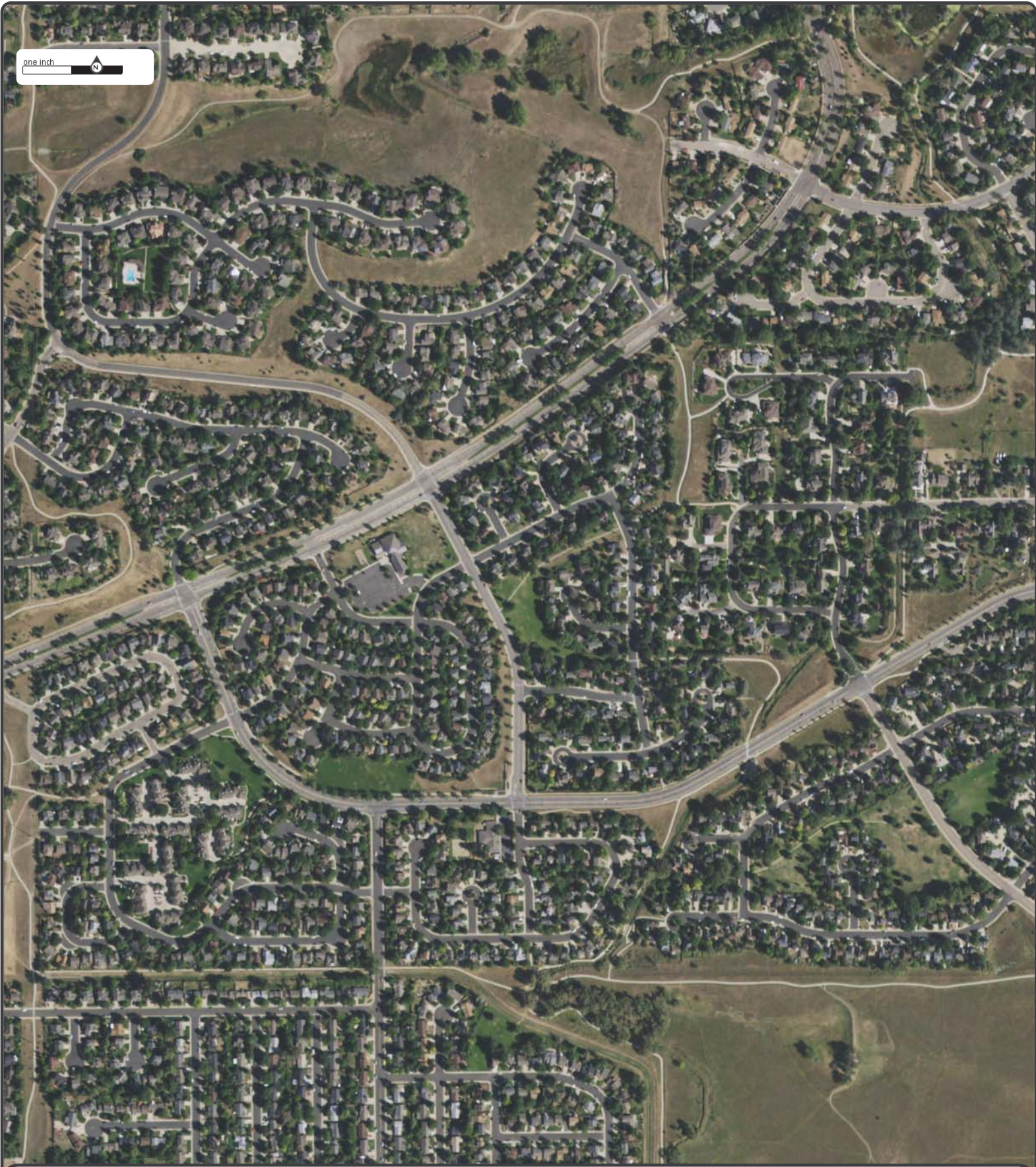


ERIS
ENVIRONMENTAL RISK INFORMATION SERVICES



www.erisinfo.com | 1.866.517.5204

one inch 



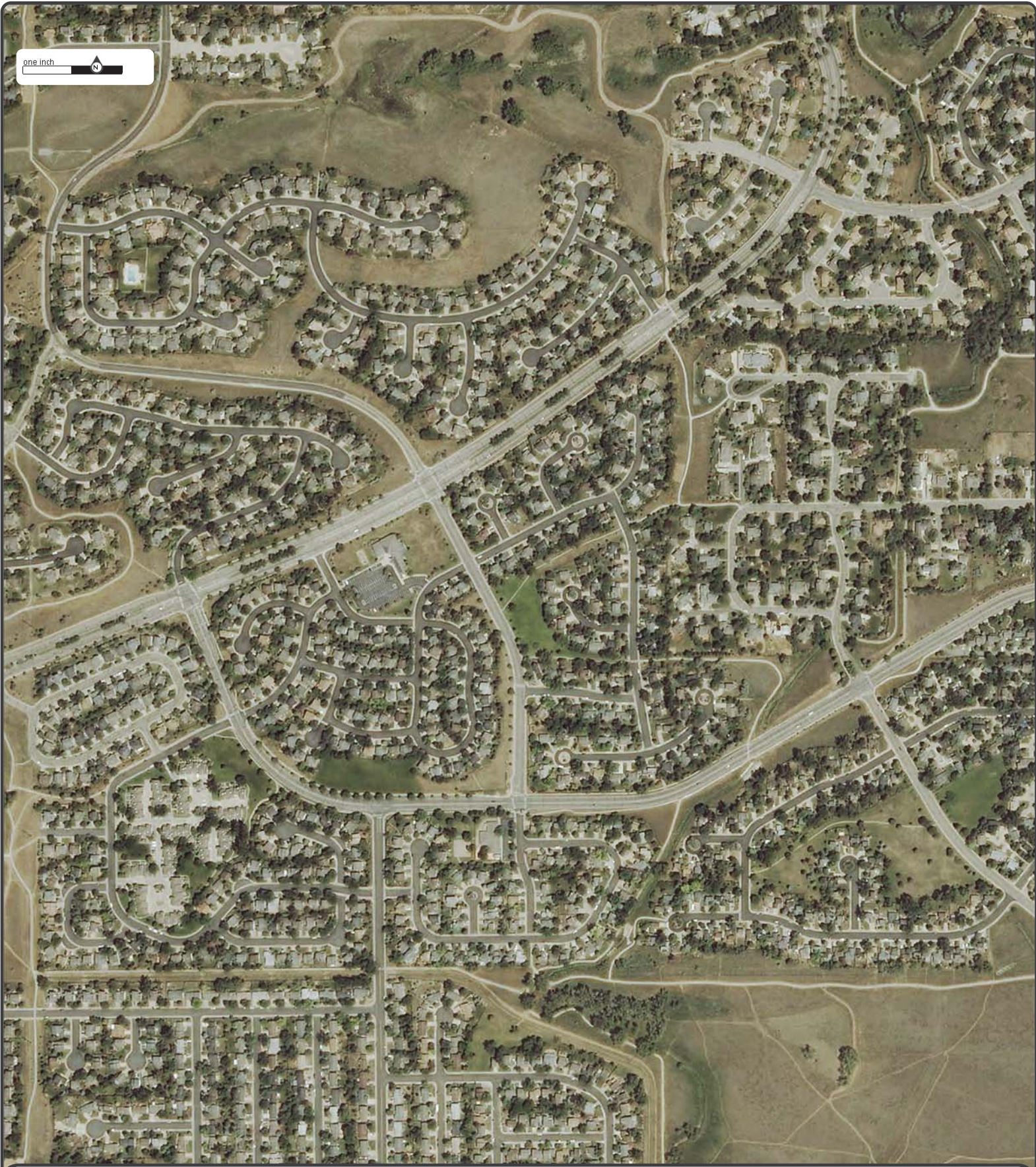
Date: **2015**
Source: **NAIP**
Scale: **1" to 500'**
Comments:

Subject: *n/a Louisville CO*
Approx Center: 39.97584 / -105.1490



www.erisinfo.com | 1.866.517.5204

one inch



Date: **2013**
Source: **NAIP**
Scale: **1" to 500'**
Comments:

Subject: *n/a Louisville CO*
Approx Center: 39.97584 / -105.1490

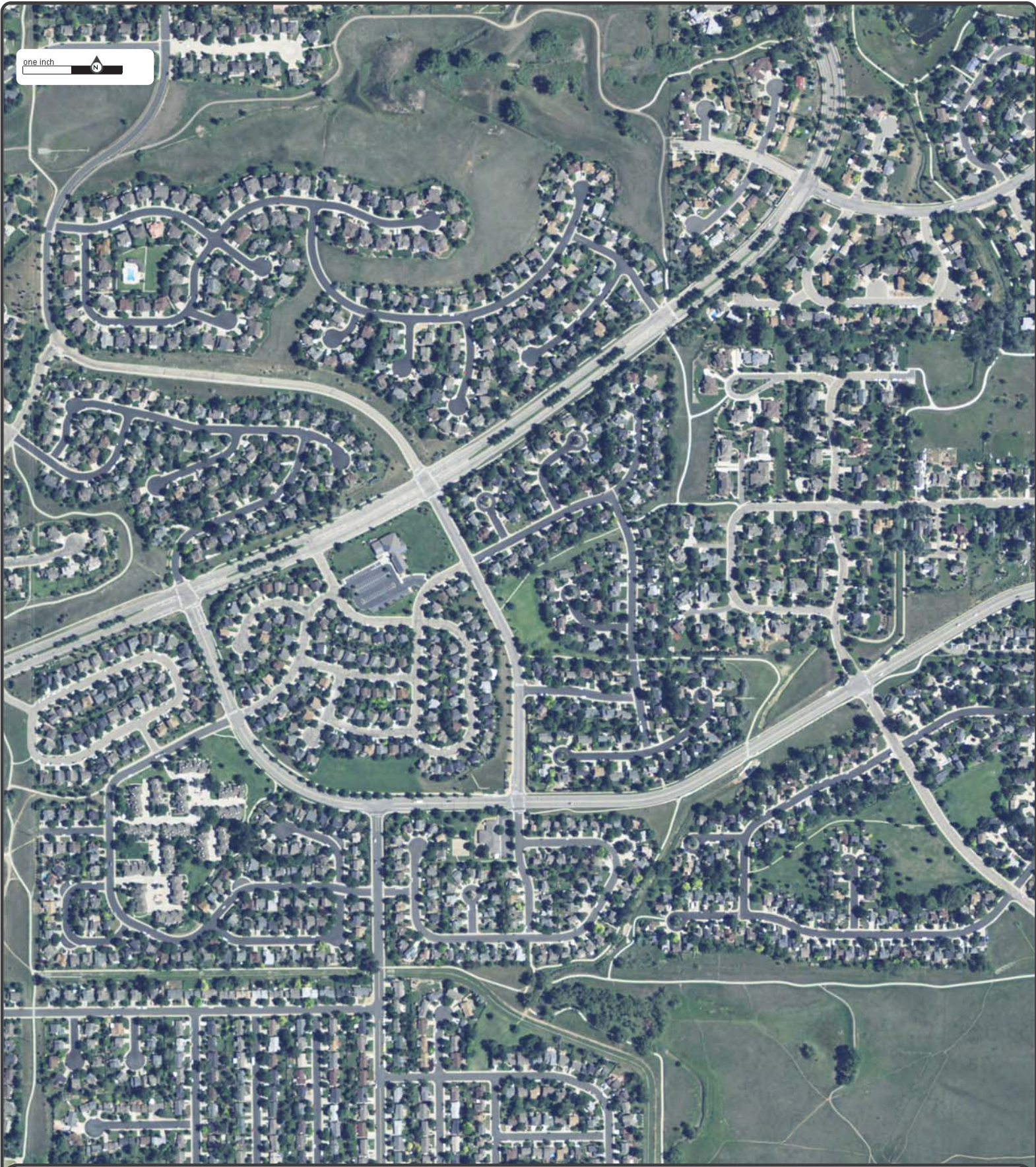


ERIS
ENVIRONMENTAL RISK INFORMATION SERVICES



www.erisinfo.com | 1.866.517.5204

one inch



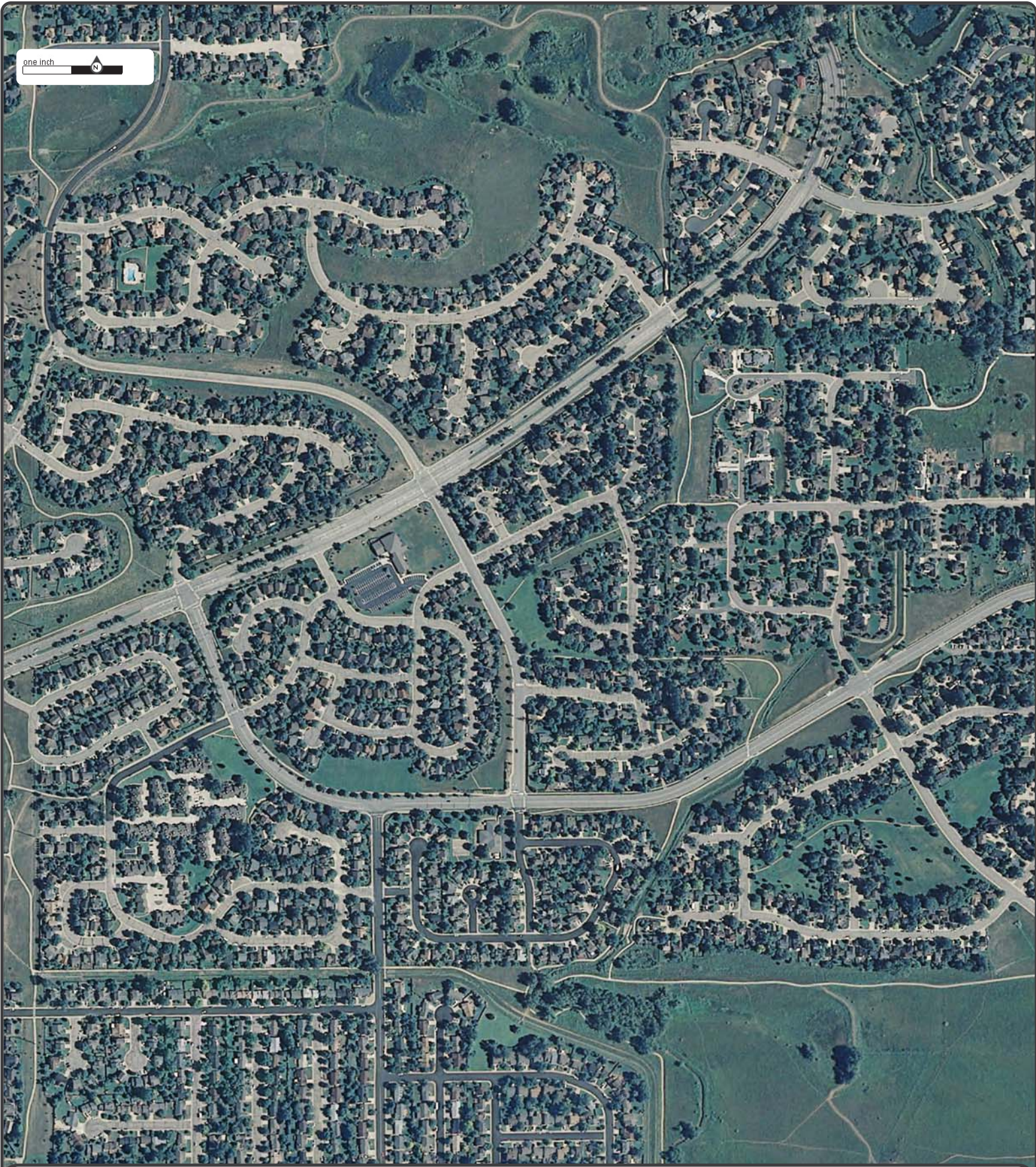
Date: **2011**
Source: **NAIP**
Scale: **1" to 500'**
Comments:

Subject: *n/a Louisville CO*
Approx Center: 39.97584 / -105.1490



www.erisinfo.com | 1.866.517.5204

one inch



Date: 2009
Source: NAIP
Scale: 1" to 500'
Comments:

Subject: n/a Louisville CO
Approx Center: 39.97584 / -105.1490

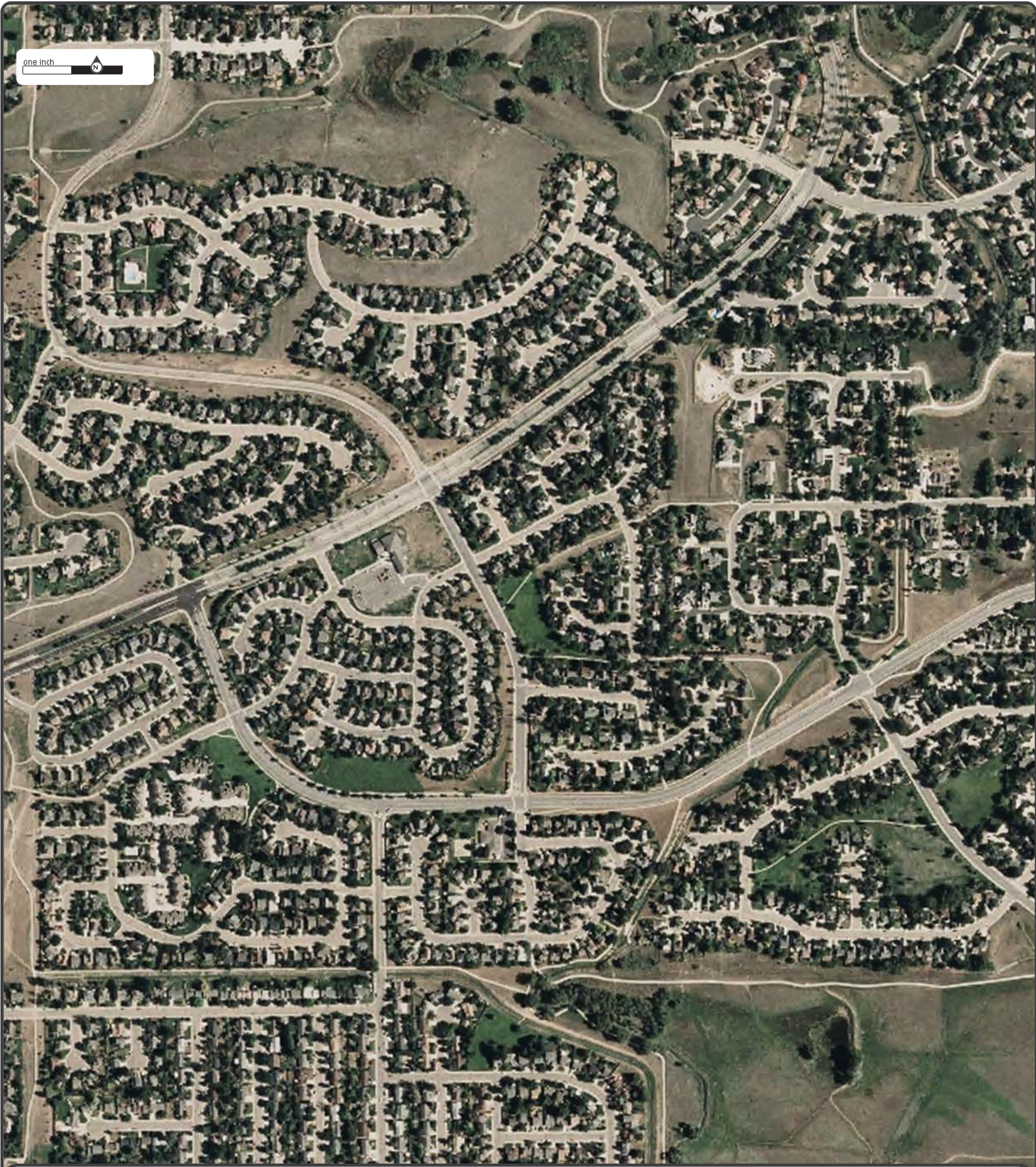


ERIS
ENVIRONMENTAL RISK INFORMATION SERVICES



www.erisinfo.com | 1.866.517.5204

one inch 



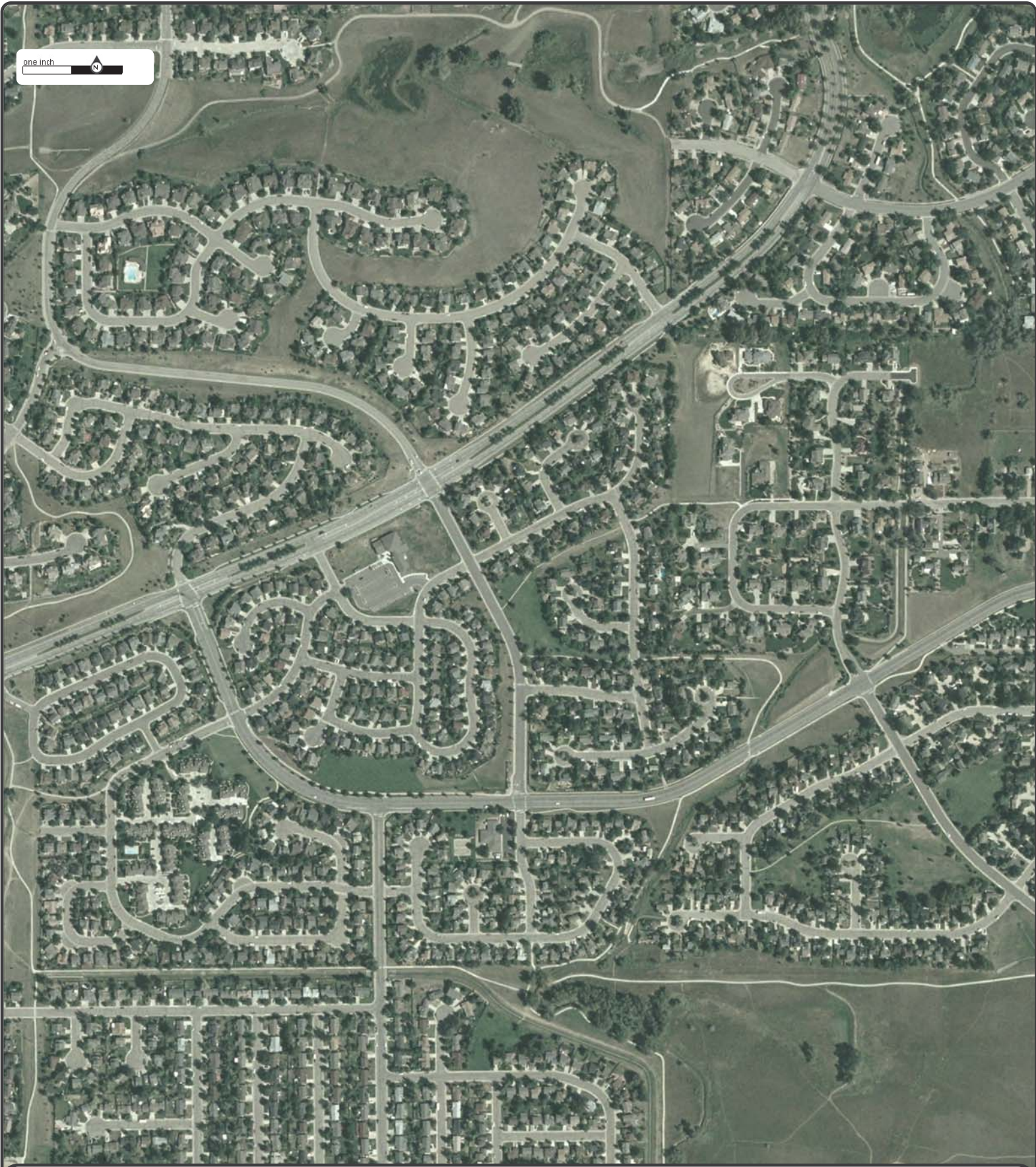
Date: **2006**
Source: **NAIP**
Scale: **1" to 500'**
Comments:

Subject: *n/a Louisville CO*
Approx Center: 39.97584 / -105.1490



www.erisinfo.com | 1.866.517.5204

one inch 



Date: **2005**
Source: **NAIP**
Scale: **1" to 500'**
Comments:

Subject: *n/a Louisville CO*
Approx Center: 39.97584 / -105.1490



www.erisinfo.com | 1.866.517.5204

one inch 



Date: **1999**
Source: **USGS**
Scale: **1" to 500'**
Comments:

Subject: *n/a Louisville CO*
Approx Center: 39.97584 / -105.1490



www.erisinfo.com | 1.866.517.5204

one inch 



Date: **1988**
Source: **NAPP**
Scale: **1" to 500'**
Comments: *BEST COPY AVAILABLE*

Subject: *n/a Louisville CO*
Approx Center: 39.97584 / -105.1490



ENVIRONMENTAL RISK INFORMATION SERVICES

www.erisinfo.com | 1.866.517.5204

one inch



Williams &
Associates 1-7
Well

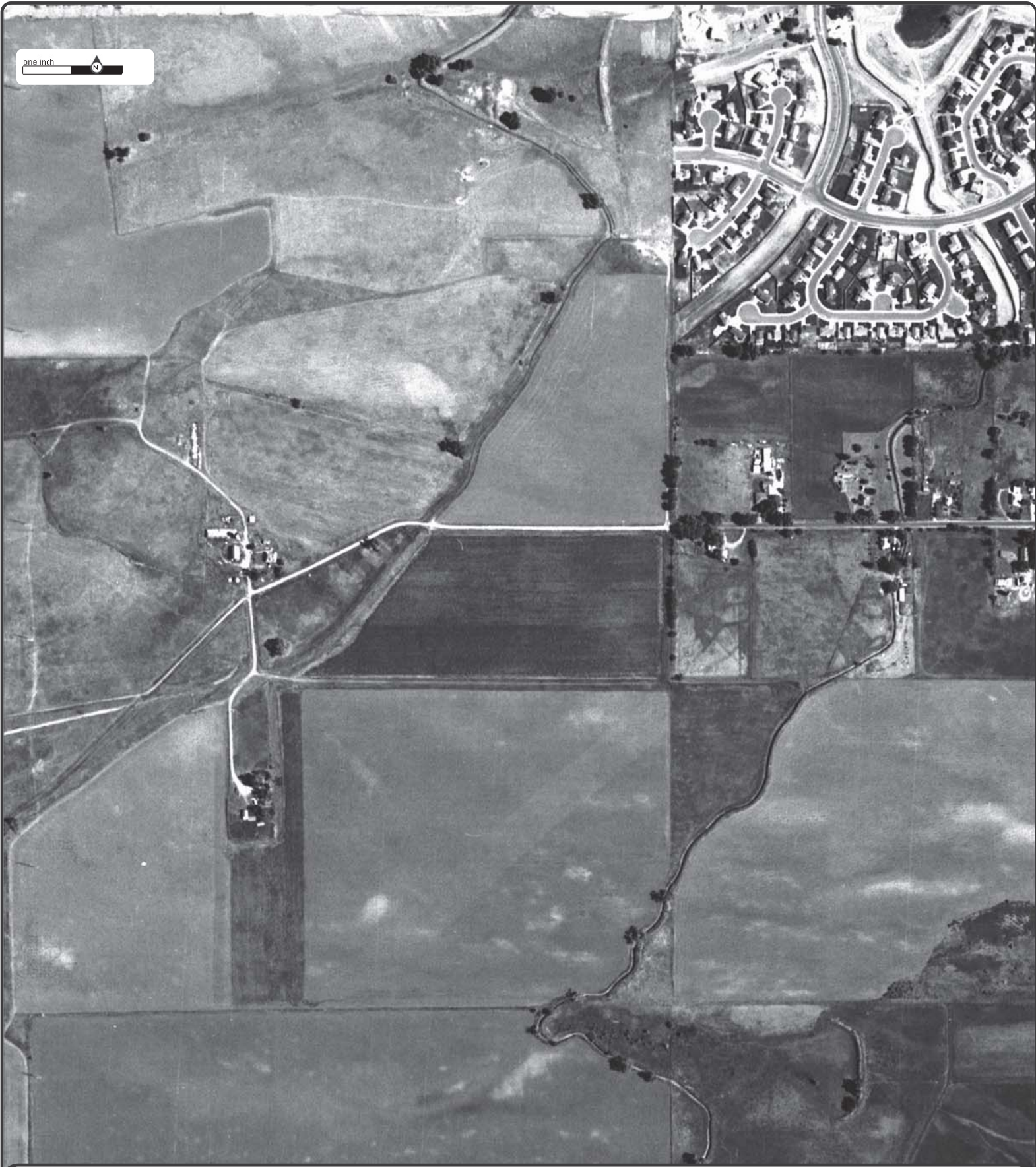
Date: 1983
Source: NHAP
Scale: 1" to 500'
Comments:

Subject: n/a Louisville CO
Approx Center: 39.97584 / -105.1490



www.erisinfo.com | 1.866.517.5204

one inch



Date: 1978
Source: USGS
Scale: 1" to 500'
Comments:

Subject: n/a Louisville CO
Approx Center: 39.97584 / -105.1490



www.erisinfo.com | 1.866.517.5204

one inch



Date: 1971
Source: USGS
Scale: 1" to 500'
Comments:

Subject: n/a Louisville CO
Approx Center: 39.97584 / -105.1490



ERIS
ENVIRONMENTAL RISK INFORMATION SERVICES



www.erisinfo.com | 1.866.517.5204

one inch 



Date: **1963**
Source: **USGS**
Scale: **1" to 500'**
Comments:

Subject: *n/a Louisville CO*
Approx Center: 39.97584 / -105.1490



www.erisinfo.com | 1.866.517.5204

one inch 



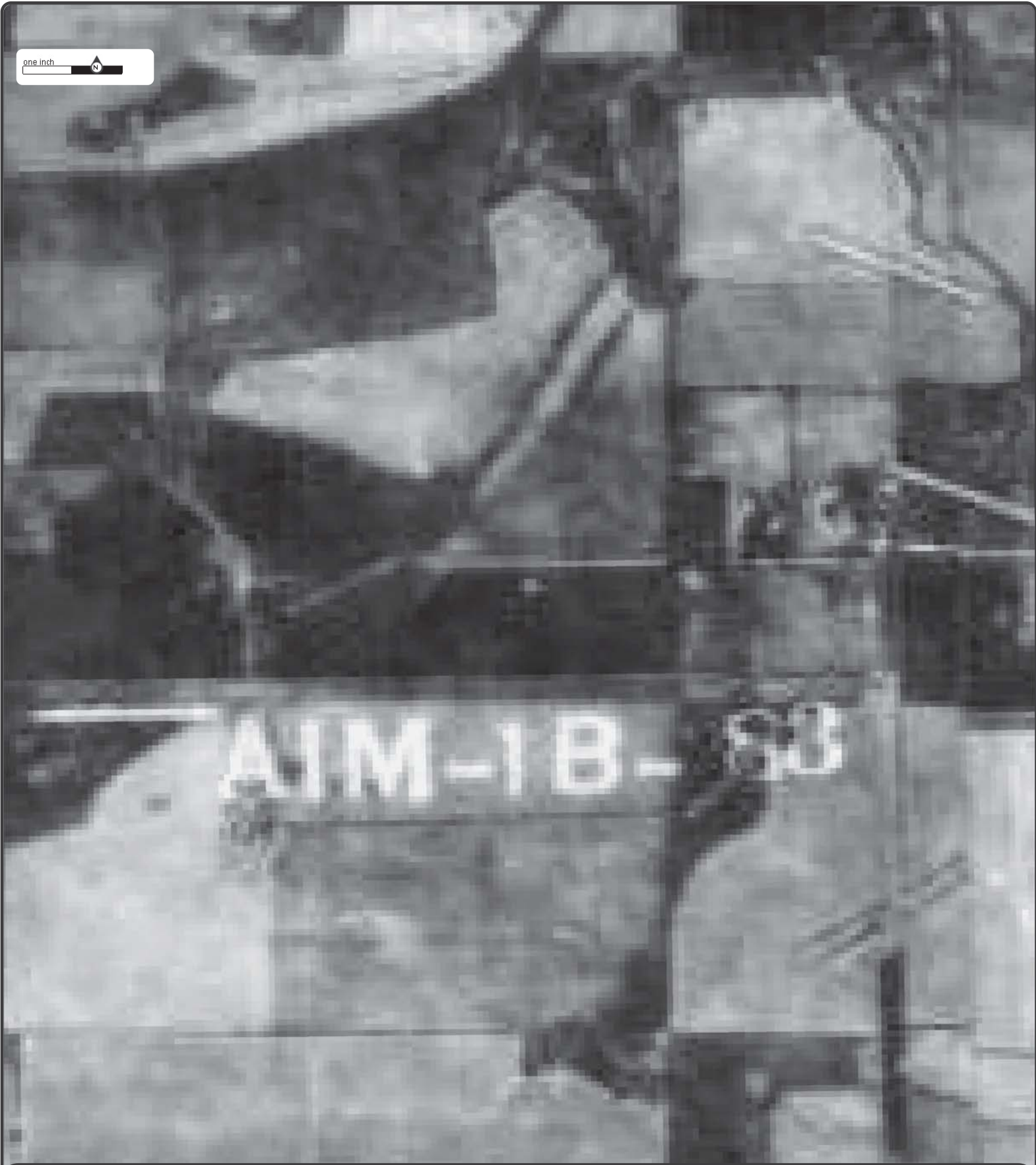
Date: **1953**
Source: **AMS**
Scale: **1" to 500'**
Comments:

Subject: *n/a Louisville CO*
Approx Center: 39.97584 / -105.1490



www.erisinfo.com | 1.866.517.5204

one inch 



Date: **1941**
Source: **ASCS**
Scale: **1" to 500'**
Comments: *PHOTO INDEX- BEST AVAIL*

Subject: *n/a Louisville CO*
Approx Center: 39.97584 / -105.1490



www.erisinfo.com | 1.866.517.5204

HISTORICAL AERIAL REPORT

for the site:

13 Former Oil & Gas Wellsites & Pits

n/a

Boulder, CO

PO #:

Report ID: 20180920133

Completed: 9/21/2018

ERIS Information Inc.

Environmental Risk Information
 Services (ERIS)

A division of Glacier Media Inc.

T: 1.866.517.5204

E: info@erisinfo.com

www.erisinfo.com

Search Results Summary

Date	Source	Scale	Comment
2017	NAIP - National Agriculture Information Program	1"=800'	
2015	NAIP - National Agriculture Information Program	1"=800'	
2013	NAIP - National Agriculture Information Program	1"=800'	
2011	NAIP - National Agriculture Information Program	1"=800'	
2009	NAIP - National Agriculture Information Program	1"=800'	
2006	NAIP - National Agriculture Information Program	1"=800'	
2005	NAIP - National Agriculture Information Program	1"=800'	
1999	USGS - US Geological Survey	1"=800'	
1988	NAPP - National Aerial Photography Program	1"=800'	BEST COPY AVAILABLE
1983	NHAP - National High Altitude Photography	1"=800'	
1978	USGS - US Geological Survey	1"=800'	
1971	USGS - US Geological Survey	1"=800'	
1963	USGS - US Geological Survey	1"=800'	
1953	AMS - Army Mapping Service	1"=800'	
1941	ASCS - Agriculture and Soil Conservation Service	1"=800'	PHOTO INDEX- BEST AVAIL

one inch 



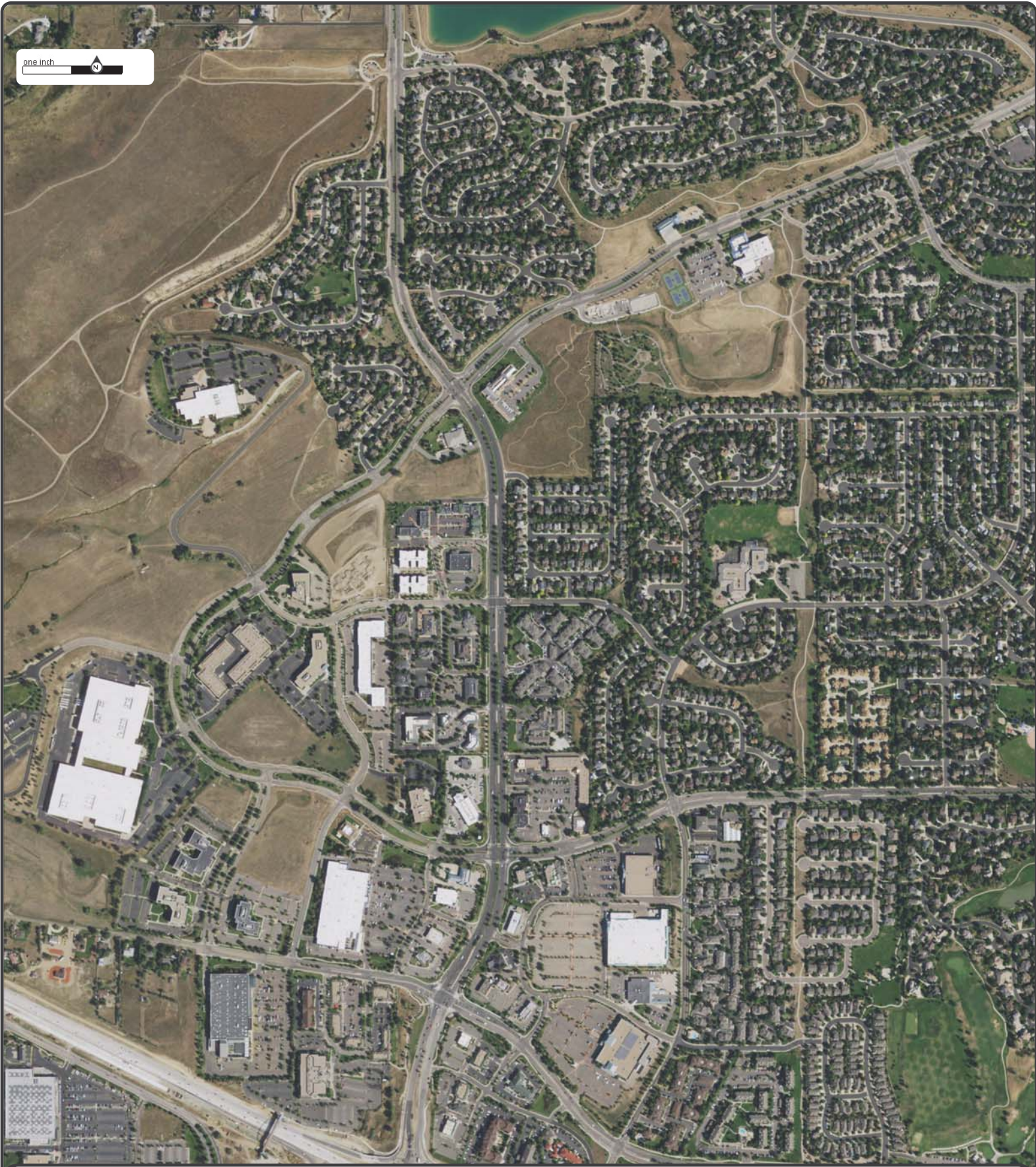
Date: **2017**
Source: **NAIP**
Scale: **1" to 800'**
Comments:

Subject: *n/a Boulder CO*
Approx Center: 39.96741 / -105.1628



www.erisinfo.com | 1.866.517.5204

one inch 



Date: **2015**
Source: **NAIP**
Scale: **1" to 800'**
Comments:

Subject: *n/a Boulder CO*
Approx Center: 39.96741 / -105.1628



www.erisinfo.com | 1.866.517.5204

one inch 



Date: **2013**
Source: **NAIP**
Scale: **1" to 800'**
Comments:

Subject: *n/a Boulder CO*
Approx Center: 39.96741 / -105.1628



ERIS 
ENVIRONMENTAL RISK INFORMATION SERVICES
www.erisinfo.com | 1.866.517.5204

one inch



Date: 2011
Source: NAIP
Scale: 1" to 800'
Comments:

Subject: n/a Boulder CO
Approx Center: 39.96741 / -105.1628



ERIS
ENVIRONMENTAL RISK INFORMATION SERVICES



www.erisinfo.com | 1.866.517.5204

one inch 



Date: **2009**
Source: **NAIP**
Scale: **1" to 800'**
Comments:

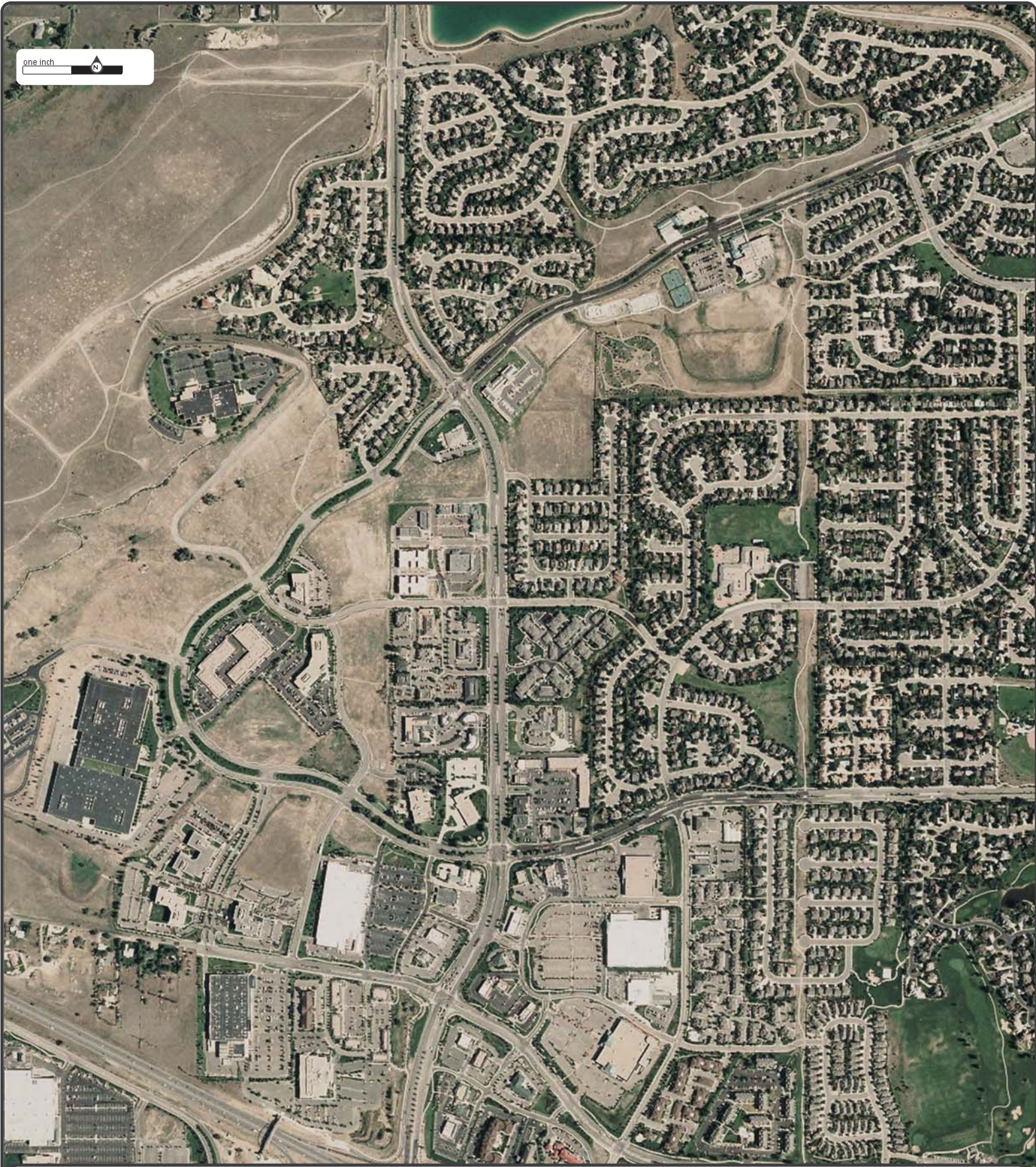
Subject: *n/a Boulder CO*
Approx Center: 39.96741 / -105.1628



ERIS
ENVIRONMENTAL RISK INFORMATION SERVICES



www.erisinfo.com | 1.866.517.5204



one inch

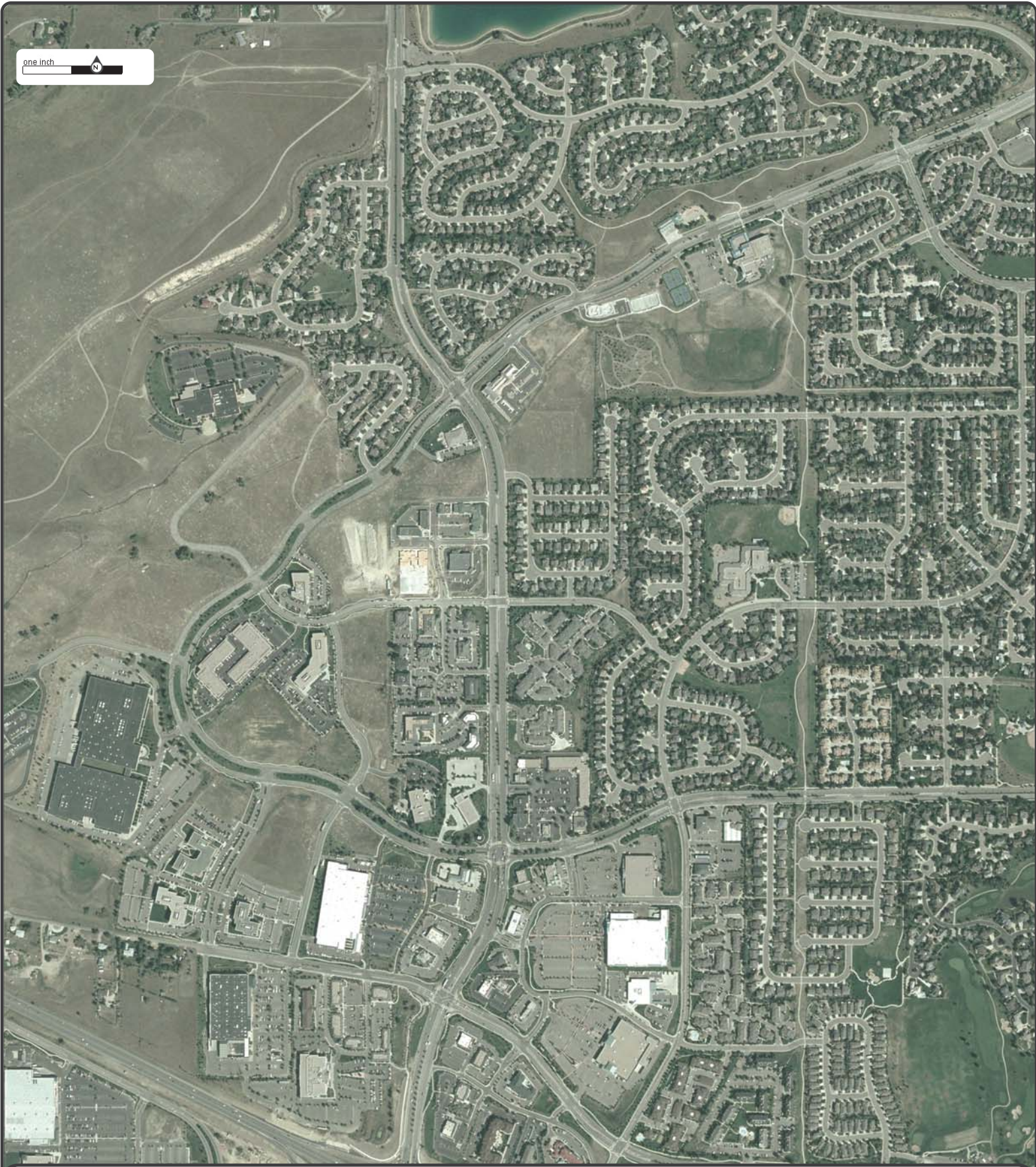
Date: 2006
Source: NAIP
Scale: 1" to 800'
Comments:

Subject: n/a Boulder CO
Approx Center: 39.96741 / -105.1628



www.erisinfo.com | 1.866.517.5204

one inch



Date: **2005**
Source: **NAIP**
Scale: **1" to 800'**
Comments:

Subject: *n/a Boulder CO*
Approx Center: 39.96741 / -105.1628



www.erisinfo.com | 1.866.517.5204

one inch

Berger Land 13-1
Pit



Date: 1999
Source: USGS
Scale: 1" to 800'
Comments:

Subject: n/a Boulder CO
Approx Center: 39.96741 / -105.1628



ERIS
ENVIRONMENTAL RISK INFORMATION SERVICES



www.erisinfo.com | 1.866.517.5204

one inch



TLD 13-4 Pit



Date: 1988
Source: NAPP
Scale: 1" to 800'
Comments: BEST COPY AVAILABLE

Subject: n/a Boulder CO
Approx Center: 39.96741 / -105.1628



www.erisinfo.com | 1.866.517.5204

one inch 

JSB 13-1 Well

Minks 18-2 Well

TLD 13-4 Pit?

Cowdrey-Moore
Well and Pit

Date: 1983
Source: NHAP
Scale: 1" to 800'
Comments:

Subject: n/a Boulder CO
Approx Center: 39.96741 / -105.1628



ERIS
ENVIRONMENTAL RISK INFORMATION SERVICES



www.erisinfo.com | 1.866.517.5204



one inch

Date: 1978
Source: USGS
Scale: 1" to 800'
Comments:

Subject: n/a Boulder CO
Approx Center: 39.96741 / -105.1628



ERIS
ENVIRONMENTAL RISK INFORMATION SERVICES



www.erisinfo.com | 1.866.517.5204

one inch 



Date: **1971**
Source: **USGS**
Scale: **1" to 800'**
Comments:

Subject: *n/a Boulder CO*
Approx Center: 39.96741 / -105.1628



www.erisinfo.com | 1.866.517.5204

one inch 



Date: **1963**
Source: **USGS**
Scale: **1" to 800'**
Comments:

Subject: *n/a Boulder CO*
Approx Center: 39.96741 / -105.1628



www.erisinfo.com | 1.866.517.5204

one inch 



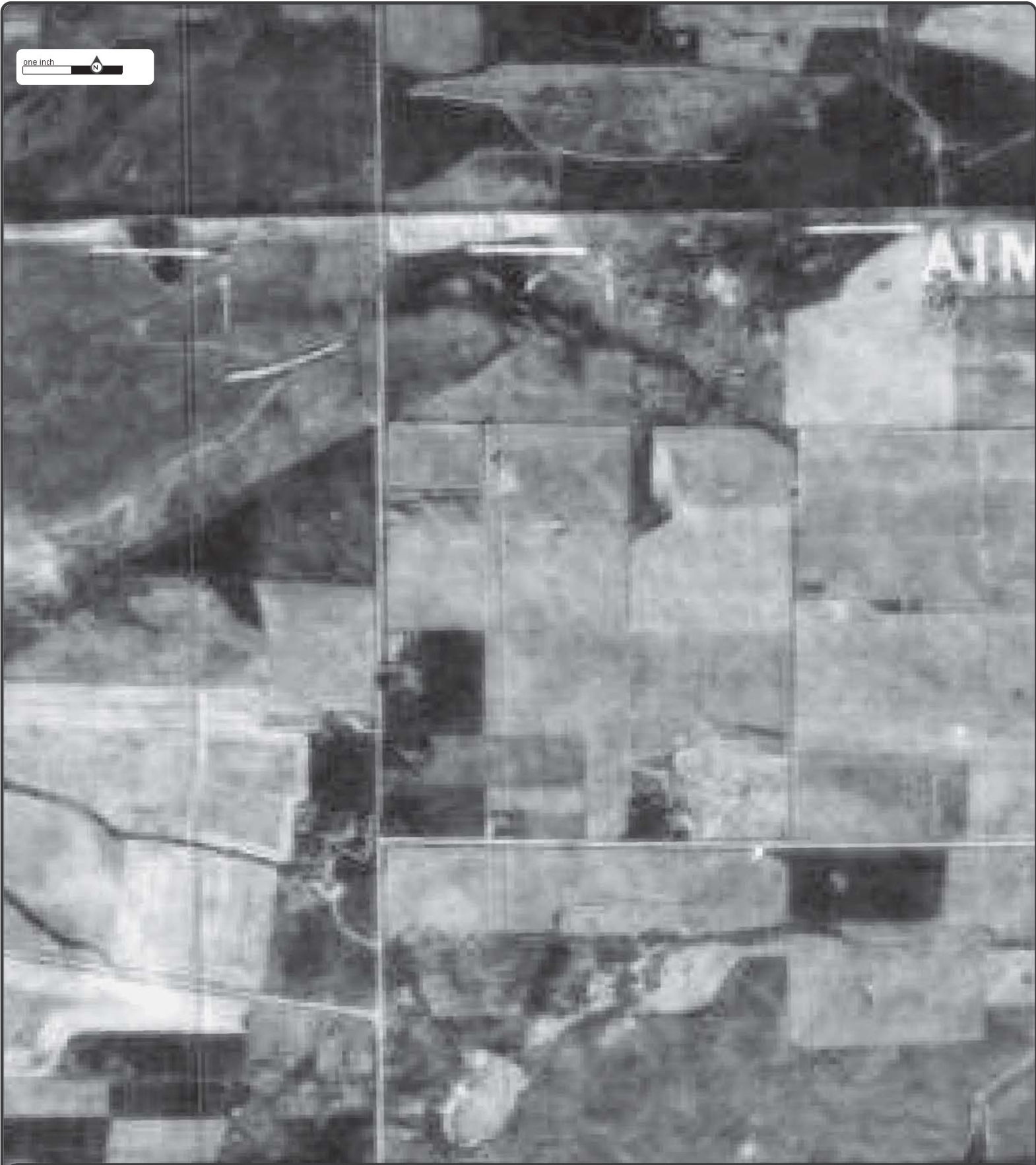
Date: **1953**
Source: **AMS**
Scale: **1" to 800'**
Comments:

Subject: *n/a Boulder CO*
Approx Center: 39.96741 / -105.1628



www.erisinfo.com | 1.866.517.5204

one inch 



Date: **1941**
Source: **ASCS**
Scale: **1" to 800'**
Comments: *PHOTO INDEX- BEST AVAIL*

Subject: *n/a Boulder CO*
Approx Center: 39.96741 / -105.1628



www.erisinfo.com | 1.866.517.5204

APPENDIX E
COGCC DOCUMENTS

WILLIAM A. HESSIN
CONSULTING PETROLEUM ENGINEER
PETROLEUM CLUB BUILDING
DENVER, COLORADO 80202

RECEIVED
JUN 1 1976
COLO. OIL & GAS CONS. COMM.

OFFICE: 303 571-0977

HOME: 303 238-0297



May 28, 1976

Mr. Robert Francis
First Federal Investment Corp.
215 South Wadsworth
Lakewood, Colorado 80226

Mr. Ray Shelton
1289 West Littleton Blvd.
Littleton, Colorado 80120

Re: Natural Gas Surface
Drainage
Borra Well No. 1 Area
Boulder County, Colorado

Gentlemen:

This office is now in receipt of gas well leak survey data and gas content curves from Public Service Company of Colorado covering the record of surveys made from early March, 1976 to present on natural gas content and flame ionization checks taken on certain building lots in the near vicinity of the recently plugged Borra No. 1. All lots are reported as having zero gas readings at surface; the three test holes (10' \pm deep) 1,000 to 10,100 parts per million flame ionization. This indicates that natural gas is still present below the surface at certain lots apparently extending in a north-northeasterly direction from the Borra Well No. 1 and parallel with the known fault strike.

Public Service reports that present plans are to test for gas content at the test points once per month from now on. The length of time required to naturally drain the gas from the ground surface and sub-surface to the point where Public Service would clear the questionable lots for utilities installation is unknown, under the present drainage conditions.

Thus, the following is proposed for your consideration:



RECEIVED
APR 12 1976
COLO. OIL & GAS CONS. COMM.

ADDENDUM

On March 31, 1976 at 12:00 PM, a meeting was held in the Rig Room, 12th Floor Petroleum Club Building, Denver, Colorado, to discuss the operations conducted during February and March, 1976 at the #1 Borra, Boulder County, Colorado and the results of such operations.

Present at the meeting were Mr. Robert Francis and Mr. Thurman Cardwell, First Federal Investment Corp.; Mr. Raymond Shelton, General Contractor; Mr. William Croley and Mr. John Brosius, Public Service Company; Mr. William Miller, Dowell; Mr. James McKee, Colorado Oil and Gas Commission; Mr. James Anderson, Consulting Associate Engineer; and Mr. William A. Hessin, Consulting Petroleum Engineer.

Mr. Hessin began the meeting by reviewing the report which had been prepared covering the re-entry and plugging operations at the #1 Borra. Also included in the report and discussed by Mr. Hessin were various drawings and diagrams pertaining to the well; i. e. the fault strike at the surface and fault plane intersection of the well-bore, the placement of plugs, and other pertinent data.

A lengthy discussion was held regarding the fault plane. Mr. Shelton questioned Mr. Hessin regarding fault fractures at deeper depths in addition to those from shallower depths to the surface. Mr. Hessin replied that the deeper fractures were not of concern in that they did not reach the surface and were not involved in the problem.

Regarding the plugging of the well, it was brought out that the key plug (No. 1) was at 3650'. Mr. Miller and Mr. McKee concurred that the first plug set at 3650' was the initial and most effective and was set below the fault plane. Mr. Miller proceeded to describe the RFC cement and its thixotropic properties. A demonstration was also made. This demonstration provided a visual observation of the rapid gelling, said sample gelling in approximately four minutes. Mr. Miller went on to explain that this rapid gelling prevents gas from bubbling up through the cement as can happen in cement without the RFC additive. Also, cement with the RFC additive has no strength retrogression and expands rather than shrinks.

Mr. William Croley then discussed ground gas content in the area of the well. When gas was first detected in the area, three holes were drilled by Public Service to determine if the gas was coming from a Public Service gas line or from the #1 Borra. One hole was drilled on Lot 171 and two on Lot 153, both lots directly north of the well location. Samples taken from these three holes and well were analyzed and indicated the presence of heavy hydrocarbons, such presence confirming the source as the #1 Borra. Prior to the recent re-entry and plugging of the well, ground gas content readings were: Lot 171 -- 10,200 PPM; Lot 153 -- 10,200 PPM at each hole. Since the re-entry and plugging of the well, the most recent readings were: Lot 171 -- 10,100 PPM; Lot 153 -- 800 PPM and 1200 PPM. Mr. Croley stated that gas readings are definitely reducing. Lots where gas detection was found on the surface prior to the re-entry and plugging, now have zero readings. Mr. Croley pointed out that only Lots 171 and 153 currently have appreciable gas present, with Lot 171 having the highest reading. Mr. McKee suggested that perhaps the reason for such high readings at Lot 171 may be due to the fact that it is the farthest test hole from the well and that Lot 171 may have the best contact with the fault plane. Mr. Croley concurred. Also discussed was the fact that the test hole on Lot 171 was not being vented.

Public Service Company intends to take weekly readings in the area. Mr. Croley concluded with the statement that the maximum reading of ground gas content acceptable to Public Service Company would be "zero", due to the fact that even a small trace of gas concentrated over a period of time could build up and become hazardous.

Mr. Francis directly asked Mr. Hessin if, in his opinion, the well was sealed. Mr. Hessin replied yes.

There being no further business to discuss, the meeting was adjourned.

.

Note:

On April 8, 1976, Mr. Croley of Public Service Company reported to this office the following gas test information: (it was reported that on April 1, 1976, the wellhead had been opened to the atmosphere)

Hole #1, Lot 171 was up to 10,400 PPM from 10,200 PPM from the previous reading, also the percentage gas reading was 52/100 on April 7 as compared to 100/25 on April 5. The 52/100 reading represents 2.5% gas content.

Hole #2, Lot 153 had a reading of 0 PPM on April 5 and a trace on April 7, which represents 1500 PPM.

Hole #3, Lot 153 had a reading of 10,300 PPM on April 5 and a reading of 160 PPM on April 7.

The following lots indicated zero readings on April 1, 1976: 138, 139, 153, 155, 156, 157, 158, 168, 169 and 170.

Lot 171 had a reading of 140 PPM on April 5 and a reading of 160 PPM on April 7.

Lot 172 had a reading of 70 PPM on April 5 and the same on April 7.

Lot 173 had a reading of 60 PPM on April 5 and 7.

Lot 152 had a zero reading.

Lot 154 had a reading of 70 PPM on April 7.

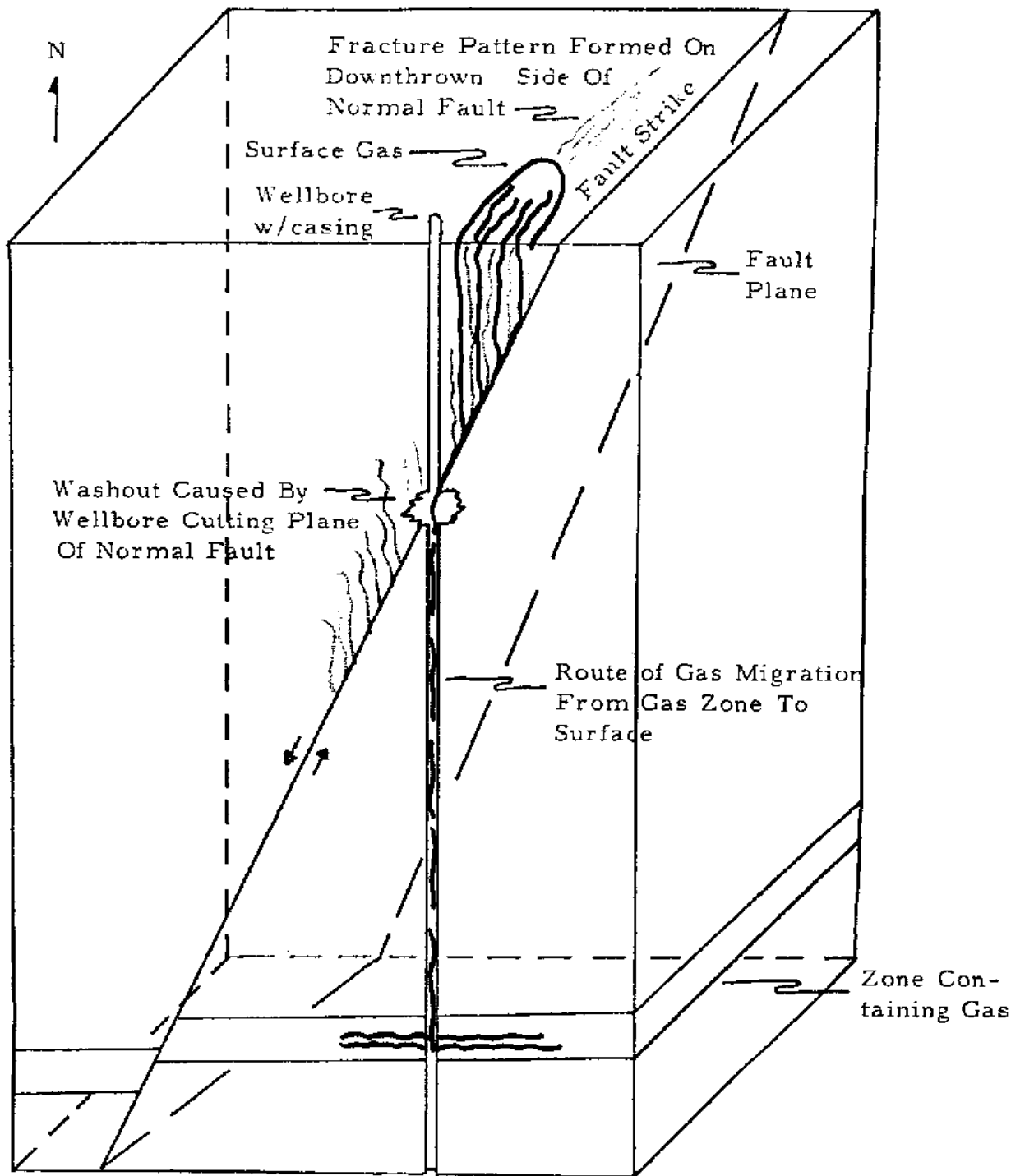
Lot 155, which had a reading of 1200 PPM three weeks ago, now had a reading of 600 PPM on both April 5 and 7.

The plan for the Public Service survey at this time is to allow the well and the traps all to remain open for a weekly check of gas content until further notice.



Borra No. 1

Block Diagram
Showing The Well, The Fault Plane
Intersecting The Wellbore And The
Route Of The Gas From Source To Surface



WILLIAM A. HESSIN
CONSULTING PETROLEUM ENGINEER
PETROLEUM CLUB BUILDING
DENVER, COLORADO 80202

RECEIVED

FEB 9 1976

2015 012 - 01 - 85 - 30111

OFFICE: 303 571-0977

HOME: 303 238-0297



INVESTIGATION & RECOMMENDATIONS

Borra Well No. 1
SE NE SW Section 5-T1S-R69W
Boulder County, Colorado

Work Requested By: **Robert A. Francis**
First Federal Investment
Corporation

Raymond E. Shelton
General Contractor

Report Released: **January 30, 1976**

FR	
FC	
FF	
JM	✓
DD	
GH	✓
CG	

William A. Hessin
William A. Hessin

INVESTIGATION & RECOMMENDATIONS

Borra Well No. 1
Boulder County, Colorado

An investigation and study has been made to determine the source and attempt to establish a shut-off of natural gas escaping from the well bore and nearby surface area at the Borra No. 1 well located SE NE SW Section 5-T1S-R69W, Boulder County, Colorado.

DISCUSSION

According to records made available, this well was initially drilled in 1939 by Continental Oil Company to a depth of 6137', plugged and abandoned. Next, an organization known as Minnelusa Oil Corporation re-entered the well and deepened to 9264' in October, 1942, and subsequently the well was further deepened to 9309' by Kerlyn Oil Company on November 2, 1942.

Attempts to test or complete the well were apparently abandoned in late 1942 when a test tool and 3300' of drill pipe were lost in the bottom section of the hole. The well was plugged with one or more cement plugs, including one in the top of the surface pipe, but plugging was unsuccessful as natural, flammable gas has been reported as flowing in small volumes from the well since late 1942.

An attempt was made in the summer of 1975 to re-enter the well and set a plug at some sufficient depth to establish a shut-off. This was unsuccessful as the small completion rig encountered wood and junk at or near the bottom of the surface casing and cleanout operations were terminated. A cement plug was again set at surface.

Gas is not only leaking up through the most recent cement plug in the surface casing, but also outside and adjacent to the casing and has been detected at the surface of the ground some 300' horizontally away from the well bore. Gas personnel of Public Service Company of Colorado have determined the presence of natural gas at these locations by the probe method and a collection of gas samples has been made from the wellhead and traps dug into the ground away from the well.

As the well is located within the confines of an extensive housing development, of which surface and minerals are also under control of First Federal Investment Corporation, it has been considered essential that this subject investigation be conducted to aid in determining the program to follow in handling the situation at hand.

CONCLUSIONS

Without benefit of a current liability investigation, it is assumed to be the responsibility of First Federal to conduct the investigation and operations at and/or in the old well.

The Colorado Oil and Gas Conservation Commission, the governmental controlling agency in the situation at the subject well, has stated that the agency will cooperate in this study and operation, that they wish to be notified of the plan of operations and that First Federal is not obligated to stop the flow of natural gas from the well.

The Borra No. 1 is reasonably established as the source of the natural gas tested in the area, based on the probe data and analysis of the samples now being provided by Public Service.

In order to find the source of the gas downhole at the well, two approaches are apparent:

(1) Re-enter, clean out and wash down the old hole through the surface casing now in place;

(2) Offset the old hole some 50' and drill a new well, using directional drilling techniques to drill into the old hole at a depth of approximately 1700'.

Age and condition of the 12-3/4" O.D. surface casing and of the 10" reported loose section of casing set just below the surface casing presents a high risk for successful re-entry of the old hole. The wood and wire line junk placed in the top of the 10" casing during the initial plugging operation augments this risk. Drilling a new hole close to the original hole, running surface casing and directional drilling of the hole to the old hole, below the original cased and junked section, is also a high risk, as well as being more expensive.

It is very difficult to arrive at cost estimates for well operations of this type; however, an attempt has been made to present outside estimates for the approaches to the alternate operations, as follows: (See Tables)

To Re-enter the Old Hole, Clean Out, Test and Log to 5500'	\$ 59,186
To Drill New Hole and Deviate Into Old Hole, Clean Out, Test and Log to 5500'	\$ 80,960
To Plug --With Cement and Services	\$ 13,595
To Complete as a Producer	\$131,160

RECOMMENDATIONS

Re-enter the old hole at surface using a rig and tools adequate to clean out and wash down the hole. Test the hole, if possible, to determine the origin of the gas.

Based on the results of the test, decide at that point whether to complete as a producer or plug and abandon.



Public Service Company of Colorado

P.O. Box 551
Boulder, Colorado 80306

(303) 443-1101

January 24, 1977

Mr. Malcolm E. Collier, Jr.
President, First Federal Savings
and Loan Association of Denver
215 South Wadsworth Blvd.
Lakewood, Colorado 80226

Jim Henry
866-3531
Oil & Gas Commission
H. L. Field

Dear Mr. Collier:

This letter is to reconfirm our discussion and agreements made between Public Service Company of Colorado and First Federal Savings and Loan Association of Denver, concerning the Louisville North Subdivision in Louisville, Colorado, at a meeting in Public Service Company's offices in Boulder on January 17, 1977. Those in attendance were: Malcolm E. Collier, Jr., and Robert A. Francis, First Federal Savings and Loan Association; Ray Shelton, contractor; R. T. Person, Jr., John Brosius, Bill Croley, James Heckendorn and Leslie Dickson, Public Service Company; and Jack McCartney, McCartney & Associates, petroleum consultants.

Results of tests and studies submitted by Mr. McCartney on foreign gas migration in Louisville North Subdivision indicate the following:

1. Natural gas migration from the Borra Gas Well #1 located on lot 154 has been stopped and no longer presents a potential hazard.
2. Traces of a combustible gas detected in test holes (see report submitted by McCartney & Associates) are those of residue gas which will dissipate within a short period of time after an excavation has been made for a basement (zero amount of natural gas being present or detected).
3. The water table in the area will not cause measurable increases in gas migration.
4. Flame out of Public Service Company's flame ionization unit was caused from carbon dioxide and not from a high concentration of a combustible gas.

Mr. Malcolm E. Collier

-2-

January 24, 1977

Based upon these conclusions, Public Service Company of Colorado will provide gas and electric service to all lots in the Louisville North Subdivision excluding the following lots: 152, 153, 154, 155, 156, 157, 158, 169, 170, 171 and 172; provided, however, that all excavations for basements are to be checked by Public Service Company prior to pouring concrete, with no combustible gas being detected. If combustible gas is detected, the hole will remain open until all residue gas has been dissipated and zero readings obtained. Any gas service will be subject to the current Public Service Company Gas Attachment Schedule Program.

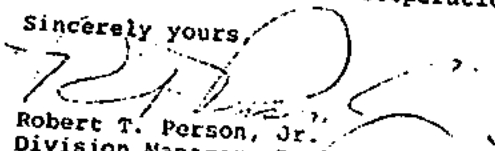
Lots 152, 153, 154, 155, 156, 157, 158, 169, 170, 171 and 172 will not be served at this time. Additional tests will be conducted by First Federal Savings and Loan and results reviewed by Public Service Company. A decision by Public Service Company to serve these lots with gas and electric service will be made at a later date.

Also based upon tests conducted by McCartney & Associates, we see no reason at this time why the vacant showhome on lot 145 cannot be occupied. First Federal Savings and Loan Association will include as a condition of sale, the authorization of Public Service Company (upon proper notification) to enter the house and check for natural gas at least once a year until such time as Public Service Company deems such tests no longer necessary.

First Federal Savings and Loan Association will have additional tests made to define the boundaries of the old drilling mud pit. Any lot having portions of the mud pit where a house will be built, the mud pit will be removed and replaced with proper dirt material.

We would like to express our appreciation to First Federal Savings and Loan Association for their fine cooperation.

Sincerely yours,


Robert T. Person, Jr.
Division Manager, Boulder

RTP:cc

cc: John J. Brosius
Bill Croley
James P. Hockendorn
Jack W. Rouse



Public Service Company of Colorado

P.O. Box 551
Boulder, Colorado 80306

(303) 443-1101

January 24, 1977

Mr. Malcolm E. Collier, Jr.
President, First Federal Savings
and Loan Association of Denver
215 South Wadsworth Blvd.
Lakewood, Colorado 80226

Jim Henry
866-3531
Oil & Gas Commission
H. L. Field

Dear Mr. Collier:

This letter is to reconfirm our discussion and agreements made between Public Service Company of Colorado and First Federal Savings and Loan Association of Denver, concerning the Louisville North Subdivision in Louisville, Colorado, at a meeting in Public Service Company's offices in Boulder on January 17, 1977. Those in attendance were: Malcolm E. Collier, Jr., and Robert A. Francis, First Federal Savings and Loan Association; Ray Shelton, contractor; R. T. Person, Jr., John Brosius, Bill Croley, James Heckendorn and Leslie Dickson, Public Service Company; and Jack McCartney, McCartney & Associates, petroleum consultants.

Results of tests and studies submitted by Mr. McCartney on foreign gas migration in Louisville North Subdivision indicate the following:

1. Natural gas migration from the Borra Gas Well #1 located on lot 154 has been stopped and no longer presents a potential hazard.
2. Traces of a combustible gas detected in test holes (see report submitted by McCartney & Associates) are those of residue gas which will dissipate within a short period of time after an excavation has been made for a basement (zero amount of natural gas being present or detected).
3. The water table in the area will not cause measurable increases in gas migration.
4. Flame out of Public Service Company's flame ionization unit was caused from carbon dioxide and not from a high concentration of a combustible gas.

Mr. Malcolm E. Collier

-2-

January 24, 1977

Based upon these conclusions, Public Service Company of Colorado will provide gas and electric service to all lots in the Louisville North Subdivision excluding the following lots: 152, 153, 154, 155, 156, 157, 158, 169, 170, 171 and 172; provided, however, that all excavations for basements are to be checked by Public Service Company prior to pouring concrete, with no combustible gas being detected. If combustible gas is detected, the hole will remain open until all residue gas has been dissipated and zero readings obtained. Any gas service will be subject to the current Public Service Company Gas Attachment Schedule Program.

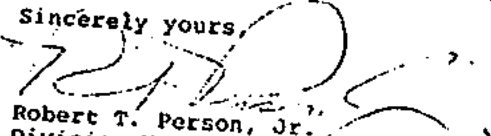
Lots 152, 153, 154, 155, 156, 157, 158, 169, 170, 171 and 172 will not be served at this time. Additional tests will be conducted by First Federal Savings and Loan and results reviewed by Public Service Company. A decision by Public Service Company to serve these lots with gas and electric service will be made at a later date.

Also based upon tests conducted by McCartney & Associates, we see no reason at this time why the vacant showhome on lot 145 cannot be occupied. First Federal Savings and Loan Association will include as a condition of sale, the authorization of Public Service Company (upon proper notification) to enter the house and check for natural gas at least once a year until such time as Public Service Company deems such tests no longer necessary.

First Federal Savings and Loan Association will have additional tests made to define the boundaries of the old drilling mud pit. Any lot having portions of the mud pit where a house will be built, the mud pit will be removed and replaced with proper dirt material.

We would like to express our appreciation to First Federal Savings and Loan Association for their fine cooperation.


Sincerely yours,


Robert T. Person, Jr.
Division Manager, Boulder

RTP:cc

cc: John J. Brosius
Bill Croley
James P. Hockendorn
Jack W. Rouse

COGIS - Field Inspection Report

	
API Number: 05-013-06028	Name: COWDREY-MOORE #1
Location: NWSE 18 1S 69W	Lat: 39.961639 Long: -105.154028
Operator #: 33870	Operator Name: GERRITY OIL & GAS CORP
Inspection Date: 4/2/1996	Inspector: David Shelton


Inspection was: **No Satisfactory/Unsatisfactory Indicator**

Insp. Type: **SR** Insp. Stat: **PA** Reclamation (Pass, Interim or Fail): **F** P&A (Pass/Fail): **F**
 Brhd. Pressure: Inj. Pressure: T-C Ann. Pressure: UIC Violation Type:
 Violation: **N** NOAV Sent: Date Corrective Action Due: Date Remedied:

Field Inspection Comments and Observations

Insp. Comment	Inspection/Violation Comments
HISTORICAL	PA OK, GMR & PIPELINE CONN REMAIN; SPILL MOSTLY REMEDIATED, SOME STAINING; TB SITE RESTORED; SITE NOT RIPPED;

COGIS - Field Inspection Report

	
API Number: 05-013-06028	Name: COWDREY-MOORE #1
Location: NWSE 18 1S 69W	Lat: 39.961639 Long: -105.154028
Operator #: 33870	Operator Name: GERRITY OIL & GAS CORP
Inspection Date: 3/27/1996	Inspector: David Shelton

Inspection was: **No Satisfactory/Unsatisfactory Indicator**

Insp. Type: **CA** Insp. Stat: **PA** Reclamation (Pass, Interim or Fail): **F** P&A (Pass/Fail): **F**
 Brhd. Pressure: Inj. Pressure: T-C Ann. Pressure: UIC Violation Type:
 Violation: **Y** NOAV Sent: Date Corrective Action Due: Date Remedied:

Field Inspection Comments and Observations

Insp. Comment	Inspection/Violation Comments
HISTORICAL	RESHOOT CASING AT 4736', U-TUBE EFFECT BLEW 3 BBLS OIL OVER SITE; GERRITY NOTIFIED BOULDER COUNTY HEALTH; PULL CASING, SET BOSC PLUG, PULL REST OF CASING, SET SURFACE PLUG; TO SCOOP UP CONTAMINATEDSOIL;



UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir. Use Form 9-331-C for such proposals.)

1. oil well gas well other

2. NAME OF OPERATOR
TETON ENERGY CO., INC.

3. ADDRESS OF OPERATOR
621 17th St., #2201, Denver, CO 80293

4. LOCATION OF WELL (REPORT LOCATION CLEARLY. See space 17 below.)
AT SURFACE: SESE Sec. 12-T1S-R70W
AT TOP PROD. INTERVAL: 975' FSL 1024' FEL
AT TOTAL DEPTH:

16. CHECK APPROPRIATE BOX TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

REQUEST FOR APPROVAL TO:		SUBSEQUENT REPORT OF:	
TEST WATER SHUT-OFF	<input type="checkbox"/>		<input type="checkbox"/>
FRACTURE TREAT	<input type="checkbox"/>		<input type="checkbox"/>
SHOOT OR ACIDIZE	<input type="checkbox"/>		<input type="checkbox"/>
REPAIR WELL	<input type="checkbox"/>		<input type="checkbox"/>
PULL OR ALTER CASING	<input type="checkbox"/>		<input type="checkbox"/>
MULTIPLE COMPLETE	<input type="checkbox"/>		<input type="checkbox"/>
CHANGE ZONES	<input type="checkbox"/>		<input type="checkbox"/>
ABANDON*	<input type="checkbox"/>		<input type="checkbox"/>
(other) X - Current Status	<input checked="" type="checkbox"/>		<input type="checkbox"/>

5. LEASE Fee

6. IF INDIAN, ALLOTTEE OR TRIBE NAME N/A

7. UNIT AGREEMENT NAME N/A

8. FARM OR LEASE NAME D-B-R

9. WELL NO. DBRL #12-4 ✓

10. FIELD OR WILDCAT NAME Superior ✓

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA Sec. 12-T1S-R70W ✓

12. COUNTY OR PARISH / 13. STATE Boulder / CO

14. API NO. 05-013-6119 ✓

15. ELEVATIONS (SHOW DF, KDB, AND WD) 5621' GR

(NOTE: Report results of multiple completion or zone change on Form 9-330.)

DVR
FJP
HMM
JAM
RCC
LAR
GCM

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*

Currently a location, Will abandon location for now and resubmit at a later date should the opportunity arise.

DVR
FJP
HMM
JAM
RCC
LAR
GCM

Subsurface Safety Valve: Manu. and Type _____ Set @ _____ Ft.

18. I hereby certify that the foregoing is true and correct

SIGNED Sandra S. Brown TITLE Prod. Secretary DATE 04/13/83

(This space for Federal or State office use)
APPROVED BY [Signature] TITLE DIRECTOR DATE APR 28 1983
CONDITIONS OF APPROVAL, IF ANY: O & G Cons. Comm.



ROBERT C. ROEHRS
 PETROLEUM GEOLOGIST
 SUITE 2550
 FIRST NATIONAL BANK BUILDING
 DENVER, COLORADO 80293

RECEIVED
 NOV 29 1977
 OIL & GAS CONSERVATION COMMISSION
 (303) 856-2338 571-5244
 (303) 823-1105

November 28, 1977

Ms. Carole Perkins
 State of Colorado
 Oil & Gas Conservation Commission
 1313 Sherman Street, Suite 721
 Denver, Colorado 80203

Re: #1-5 Hocheder, SWSW 5-1S-69W
 Wildcat Field, Boulder County
 #1-18 Hocheder, CNWNE 18-1S-69W
 Wildcat Field, Boulder County

Dear Ms. Perkins:

With reference to the above captioned wells, these wells have not been drilled because of County Zoning Regulations which we are attempting to have changed. If and when we are allowed to commence operations we will provide you with all of the necessary reports.

Very truly yours,

Robert C. Roehrs
 Robert C. Roehrs

RCR:jg

*Zoltak Drilling Co.
 Check refund*

STATE OF COLORADO
OIL AND GAS CONSERVATION COMMISSION
Room 237 Columbine Building
1845 Sherman Street
Denver, Colorado 80203

November 30, 1977

TO: John L. Likes, Chief Accountant

FROM: Natural Resources (Name)
Oil & Gas Commission (Division)

SUBJECT: Request for refunds of prior deposits into:

FUND NUMBER	CASH ACCOUNT	NAME
<u>1001</u>	<u>11801</u>	<u>Oil & Gas Conservation Commission</u>

(Please do not request refunds for more than one cash account on a single request document)

<u>PAYEE</u>	<u>RECEIPT CLASS #</u>	<u>G/L ACCT. #</u>	<u>AMT.</u>
Name <u>Toltek Drilling Company</u>	<u>2200</u>	<u>42965</u>	<u>\$ 150.00</u>
Address <u>340 Denver Club Bldg.</u>			(2 permits)
City <u>Denver</u> State <u>CO</u>			
Zip <u>80202</u>			

REMARKS: Please issue a refund in the amount of \$150. to Toltek Drilling Company for
Permit No. 77-473, #1-5 Hocheder, SW SW 5-1S-69W, Boulder County, Colorado
Permit No. 77-474, #1-18 Hocheder, C NW NE 18-1S-69W, Boulder County, Colorado
Please send a copy of the payment voucher to this office for our records. Thank you!

Please issue warrants in payment for refund of receipt classes as indicated above.



Carole Perkins
Carole Perkins



STATE OF COLORADO
OIL & GAS CONSERVATION COMMISSION

1120 Lincoln Street, Suite 801
Denver, CO 80203
303-894-2100 fax: 303-894-2109

*** NOTICE OF ALLEGED VIOLATION ***

Operator Name & Mailing Address / Company Representative:
Patina Oil & Gas Corporation
1625 Broadway Suite 2000
Denver, CO. 80202

Date Notice Issued:

November 12, 1996

Well/Site/Facility: JSB #13-1	Legal Description (1/4 1/4, Section, Township, Range, P.M.): NW NE 13 1 S 70 W 6	County: Boulder
Lease Number: 10472	API Number: 05-013-6118	
COGCC Representative: Dave Shelton	Phone Number: 303-894-2100 ext 108	Date of Alleged Violation: October 1995
		Approx Time of Violation:

THE FOLLOWING ALLEGED VIOLATION WAS FOUND BY THE COGCC REPRESENTATIVE FOR THE SITE LISTED

Describe Alleged Violation: Well has been shut-in without passing mechanical integrity test.
Well incapable of gas production due to abandonment of pipeline.

Act, Order, Regulation, Permit Conditions Cited: Rule 326-b

Abatement or Corrective Action to be Completed by: December 15, 1996

Abatement or Corrective Action Required to be Performed by Operator*: Well must either: 1) Pass mechanical integrity test or 2) be put back on production or 3) be properly plugged and abandoned by December 15, 1996.

* Proper and timely abatement does not necessarily preclude the assessment of penalties and an order finding violation.

TO BE COMPLETED BY OPERATOR: When alleged violation is corrected, sign this notice and return to the above address

Print Company Representative Name & Title:	Signature:	Date:
--	------------	-------

Company Comments:

*** This Notice constitutes a separate notice of alleged violation for each violation listed ***

WARNING

Abatement and reporting time frames for Notices of Alleged Violation begin upon receipt of the Notice or 5 days after the date it is mailed, whichever is earlier. Each violation must be abated within the prescribed time upon receipt of this Notice, reported to the Colorado Oil and Gas Conservation Commission at the address shown above, and postmarked no later than the next business day after the prescribed time for abatement. Should abatement or corrective action fail to occur, the Director may make application to the Commission for an Order Finding Violation. Proper and timely abatement does not necessarily preclude the assessment of penalties and an Order Finding Violation.

PENALTY PROPOSED BY THE DIRECTOR PER RULE 523

The Director may propose a penalty as listed in the table below, not to exceed a maximum of \$1000.00 per day per violation. Such proposed penalty amount will be limited to \$10,000.00 per violation if the violation does not result in significant waste of oil and gas resources, damage to correlative rights, or a significant adverse impact on public health, safety, or welfare. Such proposed penalty amount may be increased if aggravating factors indicate the violation: was intentional or reckless; had, or threatened to have, a significant negative impact on public health, safety, or welfare; resulted in significant waste of oil and gas resources; had a significant negative impact on correlative rights of other parties; resulted in, or threatened to result in, significant loss or damage to public or private property; involved recalcitrance or recidivism upon the part of the violator; involved intentional false reporting or record keeping; resulted in economic benefit to the violator. Such proposed penalty amount may be decreased if mitigating factors indicate the violator: self-reported; promptly, effectively, and prudently responded to the violation; cooperated with the Commission or other agencies with respect to the violation; could not reasonably control, or be responsible for, the cause of the violation; made a good faith effort to comply with applicable requirements prior to the Commission learning of the violation; had any economic benefit reduced or eliminated due to the cost of correcting the violation; has demonstrated a history of compliance with Commission rules, regulations, and orders. The Commission has final authority over the penalty amount assessed.

- BASE FINE \$250.00 PER DAY PER VIOLATION: RULES 210, 307, 311, 312, 313, 314A, 315, 403, 405, 802, 803, 804
- BASE FINE \$500.00 PER DAY PER VIOLATION: RULES 205, 206, 207, 208, 302, 308, 309, 310, 316A, 317, 321, 322, 328, 329, 330, 331, 332, 401
- BASE FINE \$750.00 PER DAY PER VIOLATION: RULES 605, 606A, 606B, 607, 902, 903, 904, 905, 908, 907, 908, 909
- BASE FINE \$1000.00 PER DAY PER VIOLATION: RULES 209, 301, 303, 304, 305, 306, 316B, 317A, 318, 319, 320, 323, 324, 325, 326, 327, 333, 404, 602, 803, 804, 1002, 1003, 1004, 1101, 1102, 1103


In accordance with Rule 523.a.(4), fines for violations for which no base fine is listed shall be determined by the Commission at its discretion.

Signature of COGCC Representative: <i>[Signature]</i>	Date: 11/12/96	Time: 1300
---	----------------	------------

FOR OFFICE USE ONLY

Resolution Approved by: <i>[Signature]</i>	Date: 3/31/97	Resolution Action: WITNESSED P & A
--	---------------	------------------------------------

COGIS - Field Inspection Report

	
API Number: 05-013-06118	Name: JSB #13-1
Location: NWNE 13 1S 70W	Lat: 39.971558 Long: -105.171501
Operator #: 33870	Operator Name: GERRITY OIL & GAS CORP
Inspection Date: 1/27/1998	Inspector: David Shelton


Inspection was: **No Satisfactory/Unsatisfactory Indicator**

Insp. Type: SR	Insp. Stat: PA	Reclamation (Pass, Interim or Fail): P	P&A (Pass/Fail): I
Brhd. Pressure:	Inj. Pressure:	T-C Ann. Pressure:	UIC Violation Type:
Violation: N	NOAV Sent:	Date Corrective Action Due:	Date Remedied:

Field Inspection Comments and Observations

Insp. Comment	Inspection/Violation Comments
HISTORICAL	SITE RESTORED IN GRASSLAND, REVEGETATION NOT COMPLETE;

COGIS - Field Inspection Report

	
API Number: 05-013-06118	Name: JSB #13-1
Location: NWNE 13 1S 70W	Lat: 39.971558 Long: -105.171501
Operator #: 33870	Operator Name: GERRITY OIL & GAS CORP
Inspection Date: 6/2/1999	Inspector: David Shelton

Inspection was: **No Satisfactory/Unsatisfactory Indicator**

Insp. Type: **SR** Insp. Stat: **PA** Reclamation (Pass, Interim or Fail): **P** P&A (Pass/Fail): **P**
 Brhd. Pressure: Inj. Pressure: T-C Ann. Pressure: UIC Violation Type:
 Violation: **N** NOAV Sent: Date Corrective Action Due: Date Remedied:

Field Inspection Comments and Observations

Insp. Comment	Inspection/Violation Comments
HISTORICAL	SITE RESTORED AND REVEGETATED IN GRASSLAND;



RECEIVED
AUG 30 1982

~~COLORADO OIL & GAS CONSV. COMM.~~

TETON ENERGY CO., INC.

621 Seventeenth Street Suite 2201
Denver, Colorado 80293
Telephone (303) 623-5094

August 27, 1982

COLORADO OIL & GAS
CONSERVATION COMMISSION
1313 Sherman Street, #721
Denver, CO 80203

Attn: Mr. Doug Rogers

RE: Kahan #18-3 ⁶⁹
SWSW Sec. 18-T1S-R96W
Boulder County, CO

Mr. Rogers,

With regards to the above captioned, Teton Energy has had a change of plans and does not plan to drill on this location in the near future.

With that in mind, we are requesting a refund of \$75.00 for the permit fee.

Thank you in advance for your cooperation.

Sincerely,

TETON ENERGY CO., INC.

Sandie S. Brown

Sandie S. Brown
Production Secretary

*14 in
Jan*

*OK to Refund
ALR*





October 26, 1983

RECEIVED
OCT 27 1983
COLO. OIL & GAS CONS. COMM.

State of Colorado
Oil & Gas Conservation Commission
Room 721, State Centennial Building
1313 Sherman Street
Denver, Colorado 80203

Re: #18-2 Minks
SWNW Sec. 18, T1S, R69W
Boulder Co., Colorado

Dear Sir:

We received your request for test data on the above mentioned well. We do not have any test data available.

This well was not completed to the point where tests would have been run. (We shut this well in with a temporary abandonment status), therefore, we do not have test data to submit.

If we can help you in any other way, please let us know.
Thank you.

Sincerely,

FIRST ENERGY CORPORATION

Rebecca J. Vest

Rebecca J. Vest
Secretary - Engineer/Exploration



00322972

**STATE OF COLORADO
OIL AND GAS CONSERVATION COMMISSION
DEPARTMENT OF NATURAL RESOURCES
SUBMIT ORIGINAL AND 1 COPY**



FOR OFFICE USE			
ET	FE	UC	SE

SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill or to deepen of plug back to a different reservoir. Use "APPLICATION FOR PERMIT-" for such proposals.)

1. OIL WELL GAS WELL COALBED METHANE INJECTION WELL OTHER

5. FEDERAL/INDIAN OR STATE LEASE NO.

FEE

6. PERMIT NO.
82 345

2. NAME OF OPERATOR
MARTIN EXPLORATION MANAGEMENT CO.

7. API NO.
05-013-6126

3. ADDRESS OF OPERATOR
2300 CENTRAL AVENUE, SUITE A
CITY: **BOULDER** STATE: **CO** ZIP CODE: **80301**

8. WELL NAME
MINKS

9. WELL NUMBER
18-2

4. LOCATION OF WELL (Report location clearly & in accordance with any State requirements)
At surface: **544' FWL, 1440' FNL, SW ^{SW} NW**
At proposed production zone:

10. FIELD OR WILDCAT
SUPERIOR

12. COUNTY
BOULDER

11. QTR. QTR. SEC., T.R. AND MERIDIAN
SW ^{SW} NW 18-T1S-R69W

Check Appropriate Box To Indicate Nature of Notice, Report or Notification

13A. NOTICE OF INTENTION TO

- PLUG AND ABANDON
- MULTIPLE COMPLETION
- COMMINGLE ZONES
- FRACTURE TREAT
- REPAIR WELL
- OTHER: _____

13B. SUBSEQUENT REPORT OF

- FINAL PLUG AND ABANDONMENT (SUBMIT 3RD PARTY CEMENT VERIFICATION & JOB LOG)
- ABANDONED LOCATION (WELL NEVER DRILLED - SITE MUST BE RESTORED WITHIN 6 MONTHS)
- REPAIRED WELL
- OTHER: _____

13C. NOTIFICATION OF

- SHUT-IN/TEMPORARILY ABANDONED
DATE: _____
(REQUIRED EVERY 6 MONTHS)
- PRODUCTION RESUMED
DATE: _____
- LOCATION CHANGE (SUBMIT NEW PLAT)
- WELL NAME CHANGE
- OTHER: _____

14. DESCRIBE PROPOSED OR COMPLETED OPERATIONS ON THIS FORM (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent.)

15. DATE OF WORK _____

WELL DATA

9-5/8" @ 816'
4-1/2" 11.6# N-80 @ 9202'
Squeezed perfs: 9008-18', 8990-9000', 8928-32'
Open perfs: 9045-47', 9051-53', 9028-34'



RECEIVED

NOV 13 1992

COLO. OIL & GAS CONSERVATION

PROCEDURE: Set CIBP @ ± 8500'. Cap w/cmt from a wireline dump bailer. Cut off surface csg and 4-1/2", 4' below ground level. Set a cement plug @ surface w/Ready Mix that will seal the 4-1/2 and the 9-5/8 / 4-1/2 annulus. Weld cap on 9-5/8. Clean up location.

minimum plug length 50'

16. I hereby certify that the foregoing is true and correct.

SIGNED

Neal Feagans

PHONE NO. (303) 447-8539

NAME (PRINT)

Neal Feagans

TITLE **Operatins Manager**

DATE

11/11/92

(This space for Federal or State official)

APPROVED

Terrie B. Bradley TITLE **Engineer**

DATE

12-4-92

will be DA when plugged - never produced or tested



00317020

NEW WELL

LEASE INSPECTION FORM

DATE 11/19/91 OPERATOR UPRC FIELD Muddy Creek
 COUNTY Adams LEASE #2 Linear LOCATION NU SE 23-15-59W
 WELLS & STATUS PR
 CLASS 3-? LEASE SIGN: YES NO TANK ID: YES NO NA

TYPE OF OBSERVED WATER DISPOSAL:
 EVAP. PITS TANKS/TRUCKED INJECTED* NOT DETERMINED NA
 ESTIMATED WATER PRODUCTION ?

BRADENHEAD PRESSURE _____ FLUID: NO YES TYPE _____

STOCK TANKS 2-300 steel

EQUIPMENT HT

SKIM TANK/PIT 100 BBB Fiberglass

PITS none

CONDITION OF LEASE DRUG PITS closed

RECOMMENDED ACTION none

PIT PERMIT YES NO, LINER REQUIRED YES NO, TDS ? **DPB**

REPORTED WATER PRODUCTION _____ BBL/DAY LEASE NUMBER _____

*INJECTION FACILITY: NAME _____ LOCATION _____

NOTICE SENT YES NO DATE SENT _____ INSPECTOR JDL



LOCATION SESE 7, 15, b. FIELD WC
 OPERATOR Martin Expl COUNTY Boulder
 WELL NAME Williams & Assoc 1-7 FORMATION _____

DATE OF INSPECTION DURING DRILLING: _____

RIG _____ SURFACE CASING: _____
 BOP'S _____ DEPTH _____ WOC _____
 CONTACT _____ CMT VOL _____ RETURNS _____
 ADEQUATE AQUIFER PROTECTION? _____
 COMMENTS _____

DATE OF INSPECTION AFTER COMPLETION: _____

FRACED: _____ PRODUCTION STRING: _____
 CBL CHECKED? _____ DEPTH _____ STAGED _____
 WATER DISPOSAL METHOD _____
 PITS: PERMIT _____ TDS _____ SKIM TANK _____
 DIMENSION: _____ SCREEN: _____ LINER: _____
 LEASE SIGN: _____ TANK ID: _____ FENCED? _____
 SURFACE EQUIPMENT: _____

DATE OF FINAL P&A INSPECTION 3/4/86 / 9/4/86

PLUG 1	<u>15 SX @ surface</u>	SURFACE RECLAIMED?	<u>Yes</u>
PLUG 2	<u>SX @</u>	SITE CLEAN?	<u>Yes</u>
PLUG 3	<u>SX @</u>	LANDOWNER RELEASE?	_____

INSPECTOR KDB / SSK

production string left in hole

Could not locate well. Roads are being constructed and houses built in the area.

9/4/86 - well head would now sit in someone's living room - nice SUBDIVISION.

Y 05-013-6114

STATE OF COLORADO
OIL AND GAS CONSERVATION COMMISSION
DEPARTMENT OF NATURAL RESOURCES

P & A INSP RECEIVED

File in duplicate for Patented and Federal lands.
File in triplicate for State lands.

5. LEASE DESIGNATION & SURVEY NO.
NOV 4 1985

SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir.
Use "APPLICATION FOR PERMIT—" for such proposals.)

6. IF IN MINORITY ALLOTTEE OR TRIBE NAME
COLORADO OIL & GAS CONSERVATION COMMISSION

1. OIL WELL <input type="checkbox"/> GAS WELL <input checked="" type="checkbox"/> OTHER <input type="checkbox"/>		7. UNIT AGREEMENT NAME	
2. NAME OF OPERATOR Martin Exploration Management Corp.		8. FARM OR LEASE NAME Williams & Associates	
3. ADDRESS OF OPERATOR 2300 Central Ave., Suite A, Boulder, CO 80301		9. WELL NO. 1-7	
4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements. See also space 17 below.) At surface 745' FEL, 1080' PSL At proposed prod. zone Same		10. FIELD AND POOL OR WILDCAT Wildcat	
14. PERMIT NO. 812349		15. ELEVATIONS (Show whether DF, RT, GR, etc.) 5454' GL, 5664' KB	
		12. COUNTY Boulder	13. STATE Colorado

11. SEC. T., R., M., OR BLK. AND SURVEY OR AREA
Sec 7, T1S, R69W

16. Check Appropriate Box To Indicate Nature of Notice, Report or Other Data

NOTICE OF INTENTION TO:		SUBSEQUENT REPORT OF:	
TEST WATER SHUT-OFF <input type="checkbox"/>	PULL OR ALTER CASING <input type="checkbox"/>	WATER SHUT-OFF <input type="checkbox"/>	REPAIRING WELL <input type="checkbox"/>
FRACTURE TREAT <input type="checkbox"/>	MULTIPLE COMPLETE <input type="checkbox"/>	FRACTURE TREATMENT <input type="checkbox"/>	ALTERING CASING <input type="checkbox"/>
SHOOT OR ACIDIZE <input type="checkbox"/>	ABANDON <input type="checkbox"/>	SHOOTING OR ACIDIZING <input type="checkbox"/>	ABANDONMENT* <input checked="" type="checkbox"/>
REPAIR WELL <input type="checkbox"/>	CHANGE PLANS <input type="checkbox"/>	(Other) _____	(Note: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)

18. Date of work 10/24/85 * Must be accompanied by a cement verification report.

On 10/24/85 the Williams and Associates well #1-7 was P&A. Surface and production casing was cut off +/- 8' below ground level and the 5 1/2" production string and the annular space between 8 5/8" (surface casing) - 5 1/2" was plugged with 15 sacks cement. A steel plate was welded over the casing and the ground returned to its original contour.

P&A 3/14/86
could not locate site. A lot of dirt work and new construction in the area

19. I hereby certify that the foregoing is true and correct

SIGNED Nick Teague 10/31/85 TITLE Drilling/Prod. Engineer DATE 10/31/85

(This space for Federal or State office use)

APPROVED BY _____ TITLE _____ DATE _____

CONDITIONS OF APPROVAL, IF ANY:

APPENDIX F
ENVIRONMENTAL DATABASE INFORMATION



DATABASE REPORT

Project Property: *Borra #1 Wellsite
Borra #1
Louisville CO 80027*

Project No:

Report Type: *Database Report*

Order No: *20181205148*

Requested by: *Terracon Consultants, Inc.*

Date Completed: *December 6, 2018*

**Environmental Risk
Information Services**
A division of Glacier Media Inc.
P: 1.866.517.5204
E: info@erisinfo.com

www.erisinfo.com

Table of Contents

Table of Contents.....	2
Executive Summary.....	3
Executive Summary: Report Summary.....	4
Executive Summary: Site Report Summary - Project Property.....	7
Executive Summary: Site Report Summary - Surrounding Properties.....	8
Executive Summary: Summary by Data Source.....	9
Map.....	10
Aerial.....	13
Topographic Map.....	14
Detail Report.....	15
Unplottable Summary.....	23
Unplottable Report.....	24
Appendix: Database Descriptions.....	25
Definitions.....	33

Notice: IMPORTANT LIMITATIONS and YOUR LIABILITY

Reliance on information in Report: This report DOES NOT replace a full Phase I Environmental Site Assessment but is solely intended to be used as database review of environmental records.

License for use of information in Report: No page of this report can be used without this cover page, this notice and the project property identifier. The information in Report(s) may not be modified or re-sold.

Your Liability for misuse: Using this Service and/or its reports in a manner contrary to this Notice or your agreement will be in breach of copyright and contract and ERIS may obtain damages for such mis-use, including damages caused to third parties, and gives ERIS the right to terminate your account, rescind your license to any previous reports and to bar you from future use of the Service.

No warranty of Accuracy or Liability for ERIS: The information contained in this report has been produced by ERIS Information Inc. ("ERIS") using various sources of information, including information provided by Federal and State government departments. The report applies only to the address and up to the date specified on the cover of this report, and any alterations or deviation from this description will require a new report. This report and the data contained herein does not purport to be and does not constitute a guarantee of the accuracy of the information contained herein and does not constitute a legal opinion nor medical advice. Although ERIS has endeavored to present you with information that is accurate, ERIS disclaims, any and all liability for any errors, omissions, or inaccuracies in such information and data, whether attributable to inadvertence, negligence or otherwise, and for any consequences arising therefrom. Liability on the part of ERIS is limited to the monetary value paid for this report.

Trademark and Copyright: You may not use the ERIS trademarks or attribute any work to ERIS other than as outlined above. This Service and Report(s) are protected by copyright owned by ERIS Information Inc. Copyright in data used in the Service or Report(s) (the "Data") is owned by ERIS or its licensors. The Service, Report(s) and Data may not be copied or reproduced in whole or in any substantial part without prior written consent of ERIS.

Executive Summary

Property Information:

Project Property: *Borra #1 Wellsite
Borra #1 Louisville CO 80027*

Project No:

Coordinates:

Latitude: *39.99142*
Longitude: *-105.138791*
UTM Northing: *4,426,814.16*
UTM Easting: *488,151.32*
UTM Zone: *UTM Zone 13S*

Elevation: *5,384 FT*

Order Information:

Order No: *20181205148*
Date Requested: *December 5, 2018*
Requested by: *Terracon Consultants, Inc.*
Report Type: *Database Report*

Historicals/Products:

ERIS Xplorer [ERIS Xplorer](#)
Excel Add-On *Excel Add-On*
terraDOCS Report *terraDOCS (Terracon)*

Executive Summary: Report Summary

Database	Searched	Search Radius	Project Property	Within 0.12mi	.125mi to 0.25mi	0.25mi to 0.50mi	0.50mi to 1.00mi	Total
Standard Environmental Records								
Federal								
NPL	Y	1	0	0	0	0	0	0
PROPOSED NPL	Y	1	0	0	0	0	0	0
DELETED NPL	Y	.5	0	0	0	0	-	0
SEMS	Y	.5	0	0	0	0	-	0
ODI	Y	.5	0	0	0	0	-	0
SEMS ARCHIVE	Y	.5	0	0	0	0	-	0
CERCLIS	Y	.5	0	0	0	0	-	0
IODI	Y	.5	0	0	0	0	-	0
CERCLIS NFRAP	Y	.5	0	0	0	0	-	0
CERCLIS LIENS	Y	PO	0	-	-	-	-	0
RCRA CORRACTS	Y	1	0	0	0	0	0	0
RCRA TSD	Y	.5	0	0	0	0	-	0
RCRA LQG	Y	.25	0	0	0	-	-	0
RCRA SQG	Y	.25	0	0	0	-	-	0
RCRA CESQG	Y	.25	0	0	0	-	-	0
RCRA NON GEN	Y	.25	0	0	0	-	-	0
FED ENG	Y	.5	0	0	0	0	-	0
FED INST	Y	.5	0	0	0	0	-	0
ERNS 1982 TO 1986	Y	PO	0	-	-	-	-	0
ERNS 1987 TO 1989	Y	PO	0	-	-	-	-	0
ERNS	Y	PO	0	-	-	-	-	0
FED BROWNFIELDS	Y	.5	0	0	0	1	-	1
FEMA UST	Y	.25	0	0	0	-	-	0
SEMS LIEN	Y	PO	0	-	-	-	-	0
SUPERFUND ROD	Y	1	0	0	0	0	0	0
State								
SHWS	Y	1	0	0	0	0	0	0

Database	Searched	Search Radius	Project Property	Within 0.12mi	.125mi to 0.25mi	0.25mi to 0.50mi	0.50mi to 1.00mi	Total
SWF/LF	Y	.5	0	0	0	0	-	0
HIST LF	Y	.5	0	0	0	0	-	0
LST	Y	.5	0	0	0	1	-	1
DELISTED LST	Y	.5	0	0	0	1	-	1
UST	Y	.25	0	0	0	-	-	0
AST	Y	.25	0	0	0	-	-	0
TANKS	Y	.25	0	0	0	-	-	0
DTNK	Y	.25	0	0	0	-	-	0
AUL	Y	.5	0	0	0	0	-	0
VCP	Y	.5	0	0	0	0	-	0

Tribal

INDIAN LUST	Y	.5	0	0	0	0	-	0
INDIAN UST	Y	.25	0	0	0	-	-	0
DELISTED ILST	Y	.5	0	0	0	0	-	0
DELISTED IUST	Y	.25	0	0	0	-	-	0

County

No County standard environmental record sources available for this State.

Additional Environmental Records

Federal

FINDS/FRS	Y	PO	0	-	-	-	-	0
TRIS	Y	PO	0	-	-	-	-	0
HMIRS	Y	.125	0	0	-	-	-	0
NCDL	Y	PO	0	-	-	-	-	0
TSCA	Y	.125	0	0	-	-	-	0
HIST TSCA	Y	.125	0	0	-	-	-	0
FTTS ADMIN	Y	PO	0	-	-	-	-	0
FTTS INSP	Y	PO	0	-	-	-	-	0
PRP	Y	PO	0	-	-	-	-	0
SCRD DRYCLEANER	Y	.5	0	0	0	0	-	0
ICIS	Y	PO	0	-	-	-	-	0
FED DRYCLEANERS	Y	.25	0	0	0	-	-	0
DELISTED FED DRY	Y	.25	0	0	0	-	-	0
FUDS	Y	1	0	0	0	0	0	0
MLTS	Y	PO	0	-	-	-	-	0
HIST MLTS	Y	PO	0	-	-	-	-	0
MINES	Y	.25	0	0	0	-	-	0
ALT FUELS	Y	.25	0	0	0	-	-	0
SSTS	Y	.25	0	0	0	-	-	0
PCB	Y	.5	0	0	0	0	-	0

State

Database	Searched	Search Radius	Project Property	Within 0.12mi	.125mi to 0.25mi	0.25mi to 0.50mi	0.50mi to 1.00mi	Total
SPILLS	Y	.125	0	0	-	-	-	0
DRYCLEANERS	Y	.25	0	0	0	-	-	0
DELISTED DRYCLEANERS	Y	.25	0	0	0	-	-	0
NPDES	Y	PO	0	-	-	-	-	0

Tribal *No Tribal additional environmental record sources available for this State.*

County *No County additional environmental record sources available for this State.*

Total: 0 0 0 3 0 3

* PO – Property Only

* 'Property and adjoining properties' database search radii are set at 0.25 miles.

Executive Summary: Site Report Summary - Project Property

<i>Map Key</i>	<i>DB</i>	<i>Company/Site Name</i>	<i>Address</i>	<i>Direction</i>	<i>Distance (mi/ft)</i>	<i>Elev Diff (ft)</i>	<i>Page Number</i>
--------------------	-----------	--------------------------	----------------	------------------	-----------------------------	---------------------------	------------------------

No records found in the selected databases for the project property.

Executive Summary: Site Report Summary - Surrounding Properties

<i>Map Key</i>	<i>DB</i>	<i>Company/Site Name</i>	<i>Address</i>	<i>Direction</i>	<i>Distance (mi/ft)</i>	<i>Elev Diff (ft)</i>	<i>Page Number</i>
1	DELISTED LST	DIAMOND SHAMROCK 652	1135 S BOULDER RD LOUISVILLE CO 80027	SE	0.42 / 2,220.17	-11	15
1	LST	CST Metro LLC DBA Corner Store #652	1135 E South Boulder Rd Louisville 80027 CO Facility ID: 3197 Event ID Status: 9269 Closed, 11319 Closed	SE	0.42 / 2,220.17	-11	15
2	FED BROWNFIELDS	Undeveloped Land	1040 South Boulder Road and 0 South Boulder Road Louisville CO 80027	SE	0.48 / 2,529.29	-24	19

Executive Summary: Summary by Data Source

Standard

Federal

FED BROWNFIELDS - The Assessment, Cleanup and Redevelopment Exchange System (ACRES) Brownfield Database

A search of the FED BROWNFIELDS database, dated Feb 20, 2018 has found that there are 1 FED BROWNFIELDS site(s) within approximately 0.50 miles of the project property.

<u>Lower Elevation</u>	<u>Address</u>	<u>Direction</u>	<u>Distance (mi/ft)</u>	<u>Map Key</u>
Undeveloped Land	1040 South Boulder Road and 0 South Boulder Road Louisville CO 80027	SE	0.48 / 2,529.29	2

State

LST - Leaking Storage Tanks

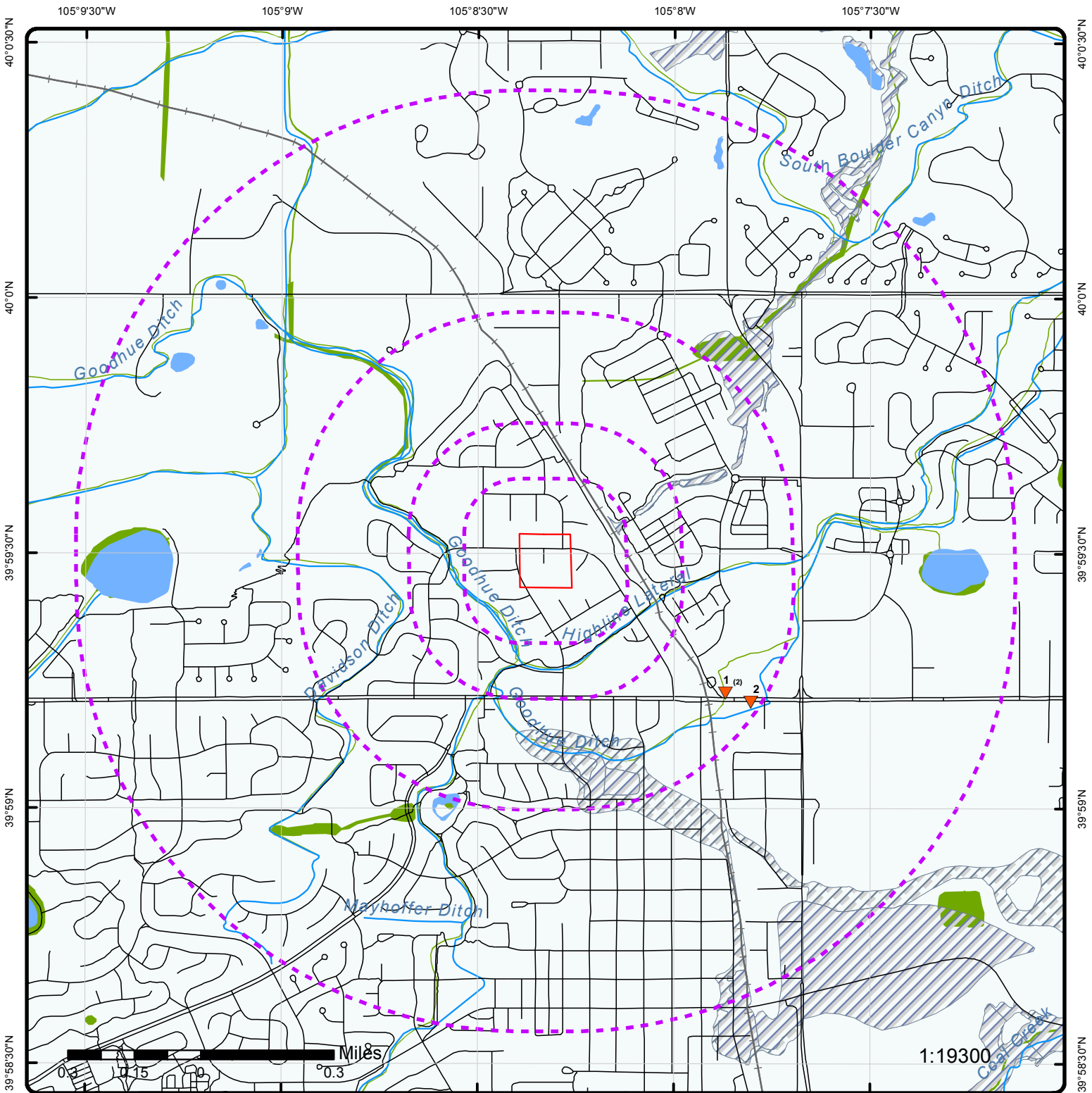
A search of the LST database, dated Sep 24, 2018 has found that there are 1 LST site(s) within approximately 0.50 miles of the project property.

<u>Lower Elevation</u>	<u>Address</u>	<u>Direction</u>	<u>Distance (mi/ft)</u>	<u>Map Key</u>
CST Metro LLC DBA Corner Store #652	1135 E South Boulder Rd Louisville 80027 CO <i>Facility ID: 3197</i> <i>Event ID Status: 9269 Closed, 11319 Closed</i>	SE	0.42 / 2,220.17	1

DELISTED LST - Delisted Leaking Storage Tanks

A search of the DELISTED LST database, dated Sep 24, 2018 has found that there are 1 DELISTED LST site(s) within approximately 0.50 miles of the project property.

<u>Lower Elevation</u>	<u>Address</u>	<u>Direction</u>	<u>Distance (mi/ft)</u>	<u>Map Key</u>
DIAMOND SHAMROCK 652	1135 S BOULDER RD LOUISVILLE CO 80027	SE	0.42 / 2,220.17	1



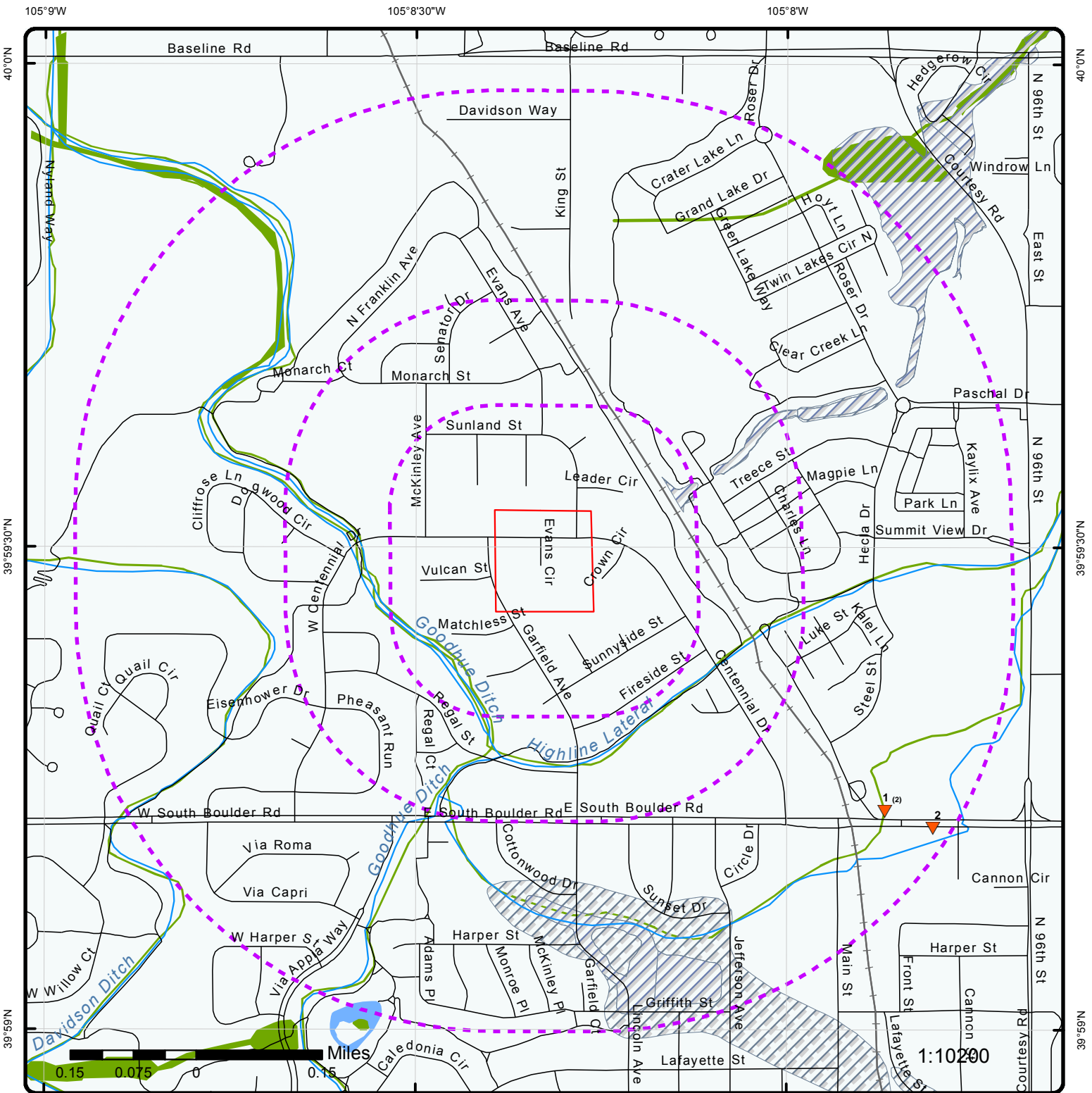
Map : 1 Mile Radius

Order No: 20181205148

Address: Borra #1, Louisville, CO, 80027



Project Property	Rails	State Boundary	FWS Special Designation Areas
Buffer Outline	Major Highways	National Priority List Sites	State Brownfield Sites
Eris Sites with Higher Elevation	Major Highways Ramps	National Wetland	State Brownfield Areas
Eris Sites with Same Elevation	Major Roads	Indian Reserve Land	State Superfund Areas:Dept. of Defense
Eris Sites with Lower Elevation	Major Roads Ramps	Historic Fill	State Superfund Areas:NPL
Eris Sites with Unknown Elevation	Secondary Roads	100 Year Flood Zone	WQARF Areas
County Boundary	Secondary Roads Ramps	500 Year Flood Zone	Federal Lands: Dept. of Defense (owned/administered areas)
	Local Roads and Ramps		



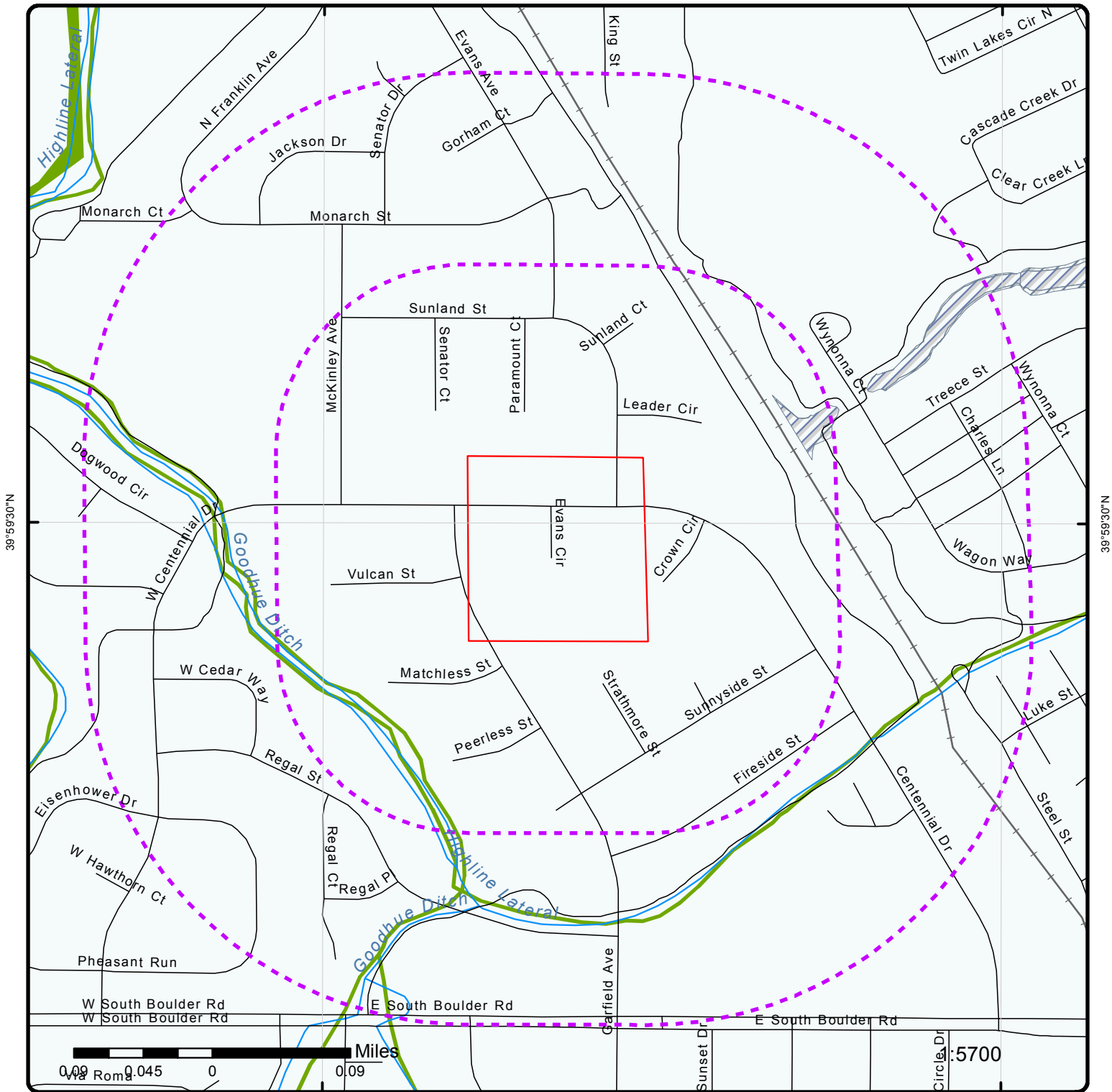
Map : 0.5 Mile Radius

Order No: 20181205148

Address: Borra #1, Louisville, CO, 80027



Project Property	Rails	State Boundary	FWS Special Designation Areas
Buffer Outline	Major Highways	National Priority List Sites	State Brownfield Sites
Eris Sites with Higher Elevation	Major Highways Ramps	National Wetland	State Brownfield Areas
Eris Sites with Same Elevation	Major Roads	Indian Reserve Land	State Superfund Areas:Dept. of Defense
Eris Sites with Lower Elevation	Major Roads Ramps	Historic Fill	State Superfund Areas:NPL
Eris Sites with Unknown Elevation	Secondary Roads	100 Year Flood Zone	WQARF Areas
County Boundary	Secondary Roads Ramps	500 Year Flood Zone	Federal Lands: Dept. of Defense (owned/administered areas)
	Local Roads and Ramps		



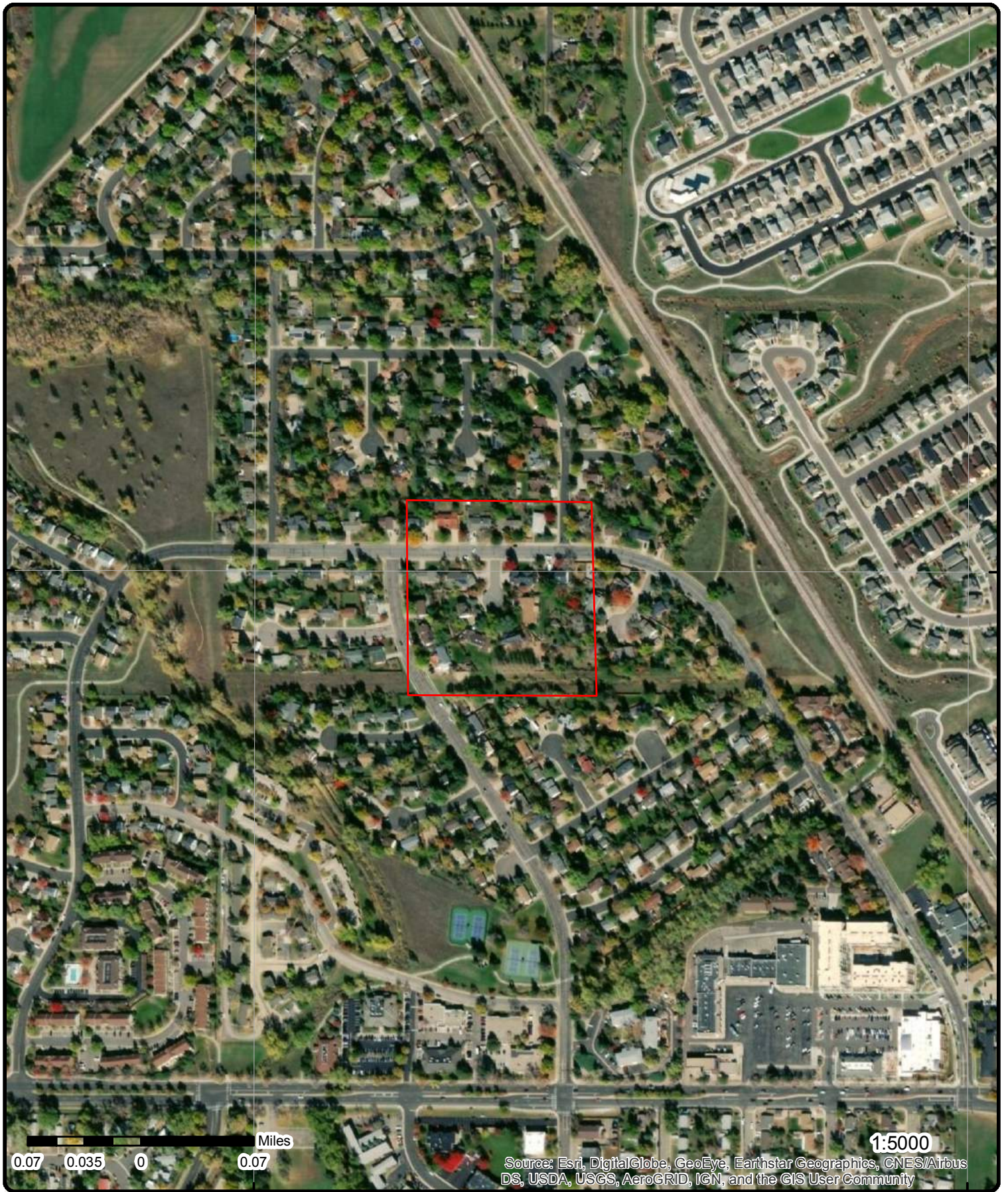
Map : 0.25 Mile Radius

Order No: 20181205148

Address: Borra #1, Louisville, CO, 80027



Project Property	Rails	State Boundary	FWS Special Designation Areas
Buffer Outline	Major Highways	National Priority List Sites	State Brownfield Sites
Eris Sites with Higher Elevation	Major Highways Ramps	National Wetland	State Brownfield Areas
Eris Sites with Same Elevation	Major Roads	Indian Reserve Land	State Superfund Areas:Dept. of Defense
Eris Sites with Lower Elevation	Major Roads Ramps	Historic Fill	State Superfund Areas:NPL
Eris Sites with Unknown Elevation	Secondary Roads	100 Year Flood Zone	WQARF Areas
County Boundary	Secondary Roads Ramps	500 Year Flood Zone	Federal Lands: Dept. of Defense (owned/administered areas)
	Local Roads and Ramps		



Aerial (2017)

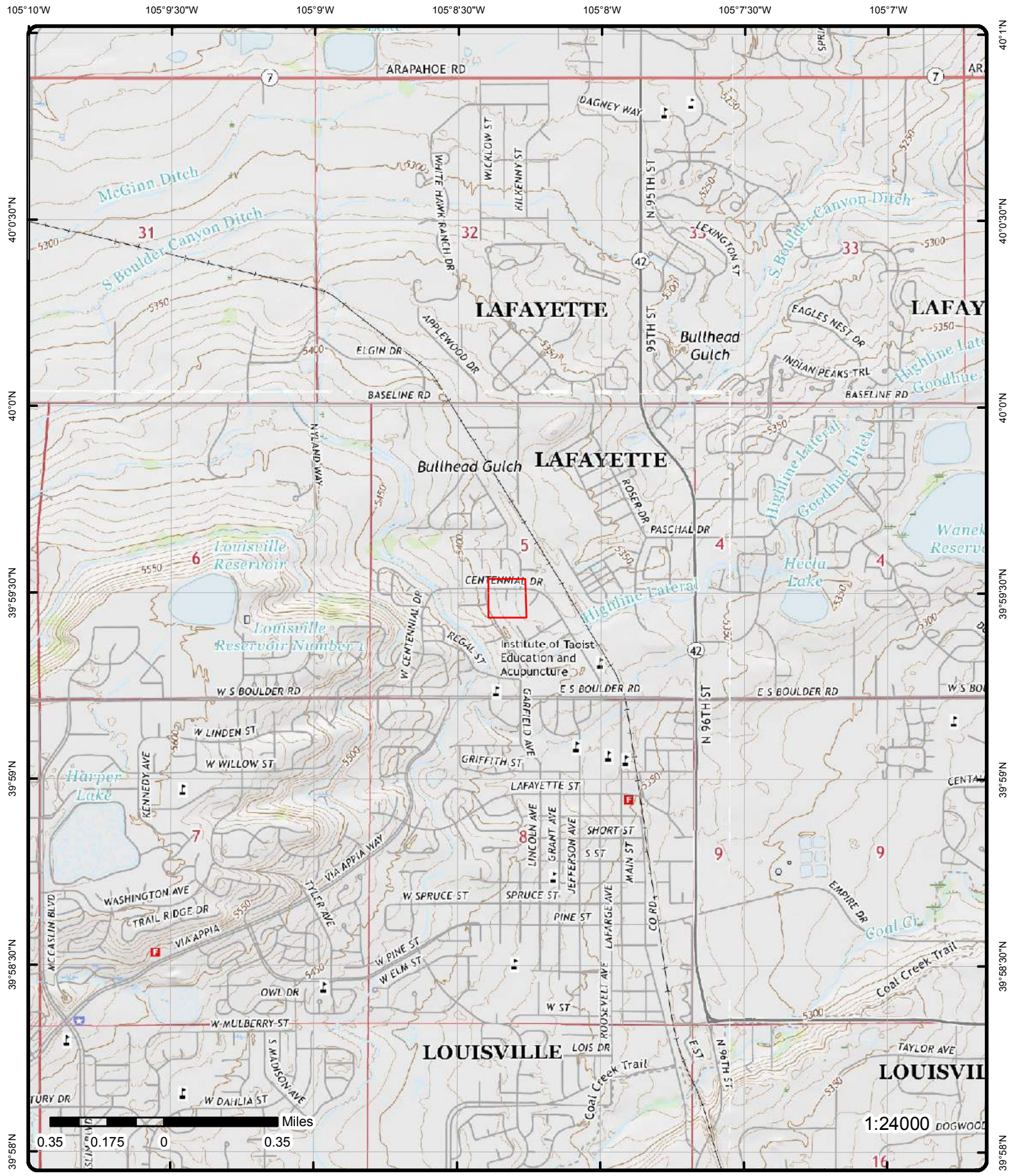
Address: Borra #1, Louisville, CO, 80027

Source: ESRI World Imagery

Order No: 20181205148



© ERIS Information Inc.



Topographic Map (2016)

Address: Borra #1, Louisville, CO, 80027

Quadrangle(s): Niwot, CO; Louisville, CO; Lafayette, CO; Erie, CO;

Source: USGS Topographic Map

Order No: 20181205148



© ERIS Information Inc.

Detail Report

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
1	1 of 2	SE	0.42 / 2,220.17	5,373.23 / -11	DIAMOND SHAMROCK 652 1135 S BOULDER RD LOUISVILLE CO 80027	DELISTED LST

Delisted Leaking Storage Tanks

Facility ID: 3197
Event ID:
Dense ID:
Sum of Reimbursement: \$38,816.52
Owner Name:
County:
Latitude:
Longitude:
Original Source: LSTT
Record Date: 11-SEP-2014

1	2 of 2	SE	0.42 / 2,220.17	5,373.23 / -11	CST Metro LLC DBA Corner Store #652 1135 E South Boulder Rd Louisville 80027 CO	LST
-------------------	--------	----	--------------------	-------------------	---	-----

Facility ID: 3197
Owner ID: 22345
County: Boulder
Owner Name:
Data Source(s): Colorado Storage Tank Information System (COSTIS), downloaded on 18OCT2018; Colorado Department of Labor and Employment (CDLE), received on 13SEP2018
Latitude: 39.987249
Longitude: -105.129271

Events (CDLE-FOIA)

Event ID: 9269
Alt Event ID:
Status: Closed
UST Tank Count: 4
AST Tank Count:
Source of Release:
Cause of Release:
Confirm Rel Dt:
Site Name: Shamrock 652
Loc Addr: 1135 S Boulder Rd
Loc Addr2:
Loc Addr3:
Aka Name:
Aka Loc Addr:
Note: Colorado Department of Labor and Employment (CDLE), received on 13SEP2018
Proj. Closure Date:
Category: 14
Sardonyx ID:
MTBE Classifica:
Sum of Reimbur Amt:
Reviewer Full Name: Singh Raj
Logged On: 7/17/2003 3:37:05 PM
Logged By: sraj

Events (CDLE-FOIA)

Event ID: 11319
Alt Event ID:
Status: Closed
UST Tank Count: 4
Proj. Closure Date:
Category: 14
Sardonyx ID:
MTBE Classifica:

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
AST Tank Count:				Sum of Reimbur Amt: 38816.52		
Source of Release:				Reviewer Full Name: Tim Kelley		
Cause of Release:				Logged On: 12/13/2010 10:28:33 AM		
Confirm Rel Dt: 12/13/2010				Logged By: tkelley		
Site Name: Diamond Shamrock 652						
Loc Addr: 1135 S Boulder Rd						
Loc Addr2:						
Loc Addr3:						
Aka Name:						
Aka Loc Addr:						
Note: Colorado Department of Labor and Employment (CDLE), received on 13SEP2018						

Reimbursement Application (CDLE)

Rap ID:	23918	Eligibil Type Desc:	Tank Owner/Operator
Event ID:	11319	Rap Payee Type ID:	5
Protest ID:		Reimbursement Req:	7581.4
Rap Status:	Approved	Total Reimburse:	38816.52
Rap Type Desc:	Supplemental	Max Amt Reduction:	2000000
User Group Name:	jbral	Pstc Date:	
FPR Date:	4/24/2012		
Payee:	Diamond Shamrock Stations Inc		
Cap Status:			
Spec Cond:	Recd W-9 and 147C for Diamond Shamrock Stations Inc 6/3/11 - CAHII **Note: Many records provided by the department have a truncated [Spec Cond] field.		
Note:	Colorado Department of Labor and Employment (CDLE), received on 13SEP2018		

Rap ID:	27156	Eligibil Type Desc:	Tank Owner/Operator
Event ID:	11319	Rap Payee Type ID:	5
Protest ID:		Reimbursement Req:	2851.94
Rap Status:	Approved	Total Reimburse:	38816.52
Rap Type Desc:	Supplemental	Max Amt Reduction:	2000000
User Group Name:	jgarcia	Pstc Date:	
FPR Date:	4/28/2014		
Payee:	Ultramar Diamond Shamrock		
Cap Status:			
Spec Cond:	Recd W-9 and 147C for Diamond Shamrock Stations Inc 6/3/11 - CAHII **Note: Many records provided by the department have a truncated [Spec Cond] field.		
Note:	Colorado Department of Labor and Employment (CDLE), received on 13SEP2018		

Rap ID:	24407	Eligibil Type Desc:	Tank Owner/Operator
Event ID:	11319	Rap Payee Type ID:	5
Protest ID:		Reimbursement Req:	3102.87
Rap Status:	Approved	Total Reimburse:	38816.52
Rap Type Desc:	Supplemental	Max Amt Reduction:	2000000
User Group Name:	jbral	Pstc Date:	
FPR Date:	7/19/2012		
Payee:	Diamond Shamrock Stations Inc		
Cap Status:			
Spec Cond:	Recd W-9 and 147C for Diamond Shamrock Stations Inc 6/3/11 - CAHII **Note: Many records provided by the department have a truncated [Spec Cond] field.		
Note:	Colorado Department of Labor and Employment (CDLE), received on 13SEP2018		

Rap ID:	23405	Eligibil Type Desc:	Tank Owner/Operator
Event ID:	11319	Rap Payee Type ID:	5
Protest ID:		Reimbursement Req:	1611.71
Rap Status:	Approved	Total Reimburse:	38816.52
Rap Type Desc:	Supplemental	Max Amt Reduction:	2000000
User Group Name:	jbral	Pstc Date:	
FPR Date:	12/20/2011		
Payee:	Diamond Shamrock Stations Inc		
Cap Status:			
Spec Cond:	Recd W-9 and 147C for Diamond Shamrock Stations Inc 6/3/11 - CAHII **Note: Many records provided by the department have a truncated [Spec Cond] field.		
Note:	Colorado Department of Labor and Employment (CDLE), received on 13SEP2018		

Rap ID:	22982	Eligibil Type Desc:	Tank Owner/Operator
Event ID:	11319	Rap Payee Type ID:	5

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
Protest ID:					Reimbursement Req:	13410.46
Rap Status:	Approved				Total Reimburse:	38816.52
Rap Type Desc:	Original				Max Amt Reduction:	2000000
User Group Name:	jbral				Pstc Date:	9/16/2011
FPR Date:	9/16/2011					
Payee:	Diamond Shamrock Stations Inc					
Cap Status:						
Spec Cond:	Recd W-9 and 147C for Diamond Shamrock Stations Inc 6/3/11 - CAHII **Note: Many records provided by the department have a truncated [Spec Cond] field.					
Note:	Colorado Department of Labor and Employment (CDLE), received on 13SEP2018					
Rap ID:	25074				Eligibil Type Desc:	Tank Owner/Operator
Event ID:	11319				Rap Payee Type ID:	5
Protest ID:					Reimbursement Req:	6368.69
Rap Status:	Approved				Total Reimburse:	38816.52
Rap Type Desc:	Supplemental				Max Amt Reduction:	2000000
User Group Name:	jbral				Pstc Date:	
FPR Date:	1/15/2013					
Payee:	Diamond Shamrock Stations Inc					
Cap Status:						
Spec Cond:	Recd W-9 and 147C for Diamond Shamrock Stations Inc 6/3/11 - CAHII **Note: Many records provided by the department have a truncated [Spec Cond] field.					
Note:	Colorado Department of Labor and Employment (CDLE), received on 13SEP2018					
Rap ID:	22986				Eligibil Type Desc:	Tank Owner/Operator
Event ID:	11319				Rap Payee Type ID:	5
Protest ID:					Reimbursement Req:	3232.01
Rap Status:	Approved				Total Reimburse:	38816.52
Rap Type Desc:	Supplemental				Max Amt Reduction:	2000000
User Group Name:	jbral				Pstc Date:	
FPR Date:	11/21/2011					
Payee:	Diamond Shamrock Stations Inc					
Cap Status:						
Spec Cond:	Recd W-9 and 147C for Diamond Shamrock Stations Inc 6/3/11 - CAHII **Note: Many records provided by the department have a truncated [Spec Cond] field.					
Note:	Colorado Department of Labor and Employment (CDLE), received on 13SEP2018					
Rap ID:	25402				Eligibil Type Desc:	Tank Owner/Operator
Event ID:	11319				Rap Payee Type ID:	5
Protest ID:					Reimbursement Req:	1945.74
Rap Status:	Approved				Total Reimburse:	38816.52
Rap Type Desc:	Supplemental				Max Amt Reduction:	2000000
User Group Name:	jbral				Pstc Date:	
FPR Date:	4/12/2013					
Payee:	Diamond Shamrock Stations Inc					
Cap Status:						
Spec Cond:	Recd W-9 and 147C for Diamond Shamrock Stations Inc 6/3/11 - CAHII **Note: Many records provided by the department have a truncated [Spec Cond] field.					
Note:	Colorado Department of Labor and Employment (CDLE), received on 13SEP2018					
Rap ID:	23776				Eligibil Type Desc:	Tank Owner/Operator
Event ID:	11319				Rap Payee Type ID:	5
Protest ID:					Reimbursement Req:	6402.62
Rap Status:	Approved				Total Reimburse:	38816.52
Rap Type Desc:	Supplemental				Max Amt Reduction:	2000000
User Group Name:	jbral				Pstc Date:	
FPR Date:	3/27/2012					
Payee:	Diamond Shamrock Stations Inc					
Cap Status:						
Spec Cond:	Recd W-9 and 147C for Diamond Shamrock Stations Inc 6/3/11 - CAHII **Note: Many records provided by the department have a truncated [Spec Cond] field.					
Note:	Colorado Department of Labor and Employment (CDLE), received on 13SEP2018					
Rap ID:	26076				Eligibil Type Desc:	Tank Owner/Operator
Event ID:	11319				Rap Payee Type ID:	5
Protest ID:					Reimbursement Req:	3205.89
Rap Status:	Approved				Total Reimburse:	38816.52
Rap Type Desc:	Supplemental				Max Amt Reduction:	2000000
User Group Name:	jbral				Pstc Date:	

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
---------	-------------------	-----------	------------------	----------------	------	----

FPR Date: 8/2/2013
Payee: Diamond Shamrock Stations Inc
Cap Status:
Spec Cond: Recd W-9 and 147C for Diamond Shamrock Stations Inc 6/3/11 - CAHII **Note: Many records provided by the department have a truncated [Spec Cond] field.
Note: Colorado Department of Labor and Employment (CDLE), received on 13SEP2018

Events (COSTIS-Online)

Event ID: 11319 **Loc City:** Louisville
Process Status: Closed **Loc County:** Boulder
Log Date: 12/13/2010 10:28:33 AM
Site Name: Diamond Shamrock 652
Loc Addr: 1135 S Boulder Rd
Louisville 80027
Facility Name:
Address: 1135 E South Boulder Rd Louisville CO 80027
Note: Colorado Storage Tank Information System (COSTIS), downloaded on 18OCT2018

Reimbursement Application (COSTIS)

Rap ID: 25402 **Pstc Date:**
Event ID: 11319
Facility Name: CST Metro LLC DBA Corner Store #652
Payee Name: Diamond Shamrock Stations Inc
Address: 1135 E South Boulder Rd Louisville 80027
Note: Colorado Department of Labor and Employment (CDLE), received on 13SEP2018

Rap ID: 27156 **Pstc Date:**
Event ID: 11319
Facility Name: CST Metro LLC DBA Corner Store #652
Payee Name: Ultramar Diamond Shamrock
Address: 1135 E South Boulder Rd Louisville 80027
Note: Colorado Department of Labor and Employment (CDLE), received on 13SEP2018

Rap ID: 26076 **Pstc Date:**
Event ID: 11319
Facility Name: CST Metro LLC DBA Corner Store #652
Payee Name: Diamond Shamrock Stations Inc
Address: 1135 E South Boulder Rd Louisville 80027
Note: Colorado Department of Labor and Employment (CDLE), received on 13SEP2018

Rap ID: 25074 **Pstc Date:**
Event ID: 11319
Facility Name: CST Metro LLC DBA Corner Store #652
Payee Name: Diamond Shamrock Stations Inc
Address: 1135 E South Boulder Rd Louisville 80027
Note: Colorado Department of Labor and Employment (CDLE), received on 13SEP2018

Rap ID: 22982 **Pstc Date:** 9/16/2011
Event ID: 11319
Facility Name: CST Metro LLC DBA Corner Store #652
Payee Name: Diamond Shamrock Stations Inc
Address: 1135 E South Boulder Rd Louisville 80027
Note: Colorado Department of Labor and Employment (CDLE), received on 13SEP2018

Rap ID: 22986 **Pstc Date:**
Event ID: 11319
Facility Name: CST Metro LLC DBA Corner Store #652
Payee Name: Diamond Shamrock Stations Inc
Address: 1135 E South Boulder Rd Louisville 80027
Note: Colorado Department of Labor and Employment (CDLE), received on 13SEP2018

Rap ID: 24407 **Pstc Date:**
Event ID: 11319
Facility Name: CST Metro LLC DBA Corner Store #652
Payee Name: Diamond Shamrock Stations Inc
Address: 1135 E South Boulder Rd Louisville 80027

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
Note: Colorado Department of Labor and Employment (CDLE), received on 13SEP2018						
Rap ID:	23405				Pstc Date:	
Event ID:	11319					
Facility Name:		CST Metro LLC DBA Corner Store #652				
Payee Name:		Diamond Shamrock Stations Inc				
Address:		1135 E South Boulder Rd Louisville 80027				
Note:		Colorado Department of Labor and Employment (CDLE), received on 13SEP2018				
Rap ID:	23918				Pstc Date:	
Event ID:	11319					
Facility Name:		CST Metro LLC DBA Corner Store #652				
Payee Name:		Diamond Shamrock Stations Inc				
Address:		1135 E South Boulder Rd Louisville 80027				
Note:		Colorado Department of Labor and Employment (CDLE), received on 13SEP2018				
Rap ID:	23776				Pstc Date:	
Event ID:	11319					
Facility Name:		CST Metro LLC DBA Corner Store #652				
Payee Name:		Diamond Shamrock Stations Inc				
Address:		1135 E South Boulder Rd Louisville 80027				
Note:		Colorado Department of Labor and Employment (CDLE), received on 13SEP2018				

<u>2</u>	1 of 1	SE	0.48 / 2,529.29	5,360.50 / -24	Undeveloped Land 1040 South Boulder Road and 0 South Boulder Road Louisville CO 80027	FED BROWNFIELDS
----------	--------	-----------	----------------------------	---------------------------	--	----------------------------

Type of Funding: Hazardous
Acres Property ID: 103082
Property Size(Acres): 8.01
Local Property No:
Ownership Entity: Private
Current Owner: Eastpark & Sirago James and Eastpark
Did Ownership Change: N
Sflp Fact into the Owship:
Latitude: 39.98547
Longitude: -105.130054
Horizontal Collection Mthd: Interpolation-Digital Map Source (TIGER)
Source Map Scale:
Reference Point:
Horiz Reference Datum: World Geodetic System of 1984
Cleanup Required: N
Cntmnt Fnd Ctrl Sbstncs:
Cntmnt Fnd Petroleum:
Cntmnt Fnd Asbestos:
Cntmnt Fnd Lead:
Cntmnt Fnd Pahs:
Cntmnt Fnd Pcb:
Cntmnt Fnd Vocs: Yes
Cntmnt Fnd Selenium:
Cntmnt Fnd Iron:
Cntmnt Fnd Arsenic:
Cntmnt Fnd Cadmium:
Cntmnt Fnd Chromium:
Cntmnt Fnd Copper:
Cntmnt Fnd Mercury:
Cntmnt Fnd Nickel:
Cntmnt Fnd Pesticides:
Cntmnt Fnd Svocs:
Cntmnt Fnd Other Metals:
Cntmnt Fnd Other:
Cntmnt Fnd Other Descr :
Cntmnt Fnd Unknown:
Cntmnt Fnd None:
Cntmnt Clnd Up Ctl Sbst:
Cntmnt Clnd Up Petroleum:
Cntmnt Clnd Up Asbestos:

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
<i>Cntmnt Clnd Up Lead:</i>						
<i>Cntmnt Clnd Up PAHs:</i>						
<i>Cntmnt Clnd Up PCBs:</i>						
<i>Cntmnt Clnd Up VOCs:</i>						
<i>Cntmnt Clnd Up Selenium:</i>						
<i>Cntmnt Clnd Up Iron:</i>						
<i>Cntmnt Clnd Up Arsenic:</i>						
<i>Cntmnt Clnd Up Cadmium:</i>						
<i>Cntmnt Clnd Up Chromium:</i>						
<i>Cntmnt Clnd Up Copper:</i>						
<i>Cntmnt Clnd Up Mercury:</i>						
<i>Cntmnt Clnd Up Nickel:</i>						
<i>Cntmnt Clnd Up Pesticides:</i>						
<i>Cntmnt Clnd Up Svocs:</i>						
<i>Cntmnt Clnd Oth Metals:</i>						
<i>Cntmnt Clnd Up Other:</i>						
<i>Cntmnt Clnd Up Oth Desc:</i>						
<i>Cntmnt Clnd Up Unknown:</i>						
<i>Cntmnt Clnd Up None:</i>						
<i>Media Affected Air:</i>						
<i>Media Affected Sediments:</i>						
<i>Media Affected Soil:</i>		Y				
<i>Media Affect Drnking Wtr:</i>						
<i>Media Affected Grnd Wtr:</i>						
<i>Media Affctd Surf Wtr:</i>						
<i>Media Affctd Bldg Matrls:</i>						
<i>Media Affected Indoor Air:</i>						
<i>Media Affected None:</i>						
<i>Media Affected Unknown:</i>						
<i>Media Clnd Up Air:</i>						
<i>Media Clnd Up Sediments:</i>						
<i>Media Clnd Up Soil:</i>						
<i>Media Clnd Up Drnk Wtr:</i>						
<i>Media Clnd Up Grnd Wtr:</i>						
<i>Media Clnd Up Surf Wtr:</i>						
<i>Media Clnd Up Bldg Mats:</i>						
<i>Media Clnd Up Indoor Air:</i>						
<i>Media Clnd Up Unknown:</i>						
<i>St Tribal Prg ID No:</i>						
<i>Further Action Cleanup:</i>						
<i>Enrollment St Tribal Prg:</i>						
<i>Institutional Ctrl ICs Req:</i>		U				
<i>IC Catgry Proprietary Ctrl:</i>						
<i>IC Catgry Informational Dev:</i>						
<i>IC Catgry Govmntal Ctrl:</i>						
<i>IC Catgry Enfrc Prmt TIs:</i>						
<i>ICs in Place:</i>						
<i>Date ICs in Place:</i>						
<i>Photographs are Available:</i>		Y				
<i>Video is Available:</i>		N				
<i>Description History:</i>						

--Details--

Grant Recipient Name:	Louisville, City of
Accomplishment Counted:	0
Cooperative Agrment No:	97811501
Type Brownfields Grant:	Assessment
Assessment Phase:	Phase II Environmental Assessment
Assessment Start Date:	01/17/2007 00:00:00
Assessment Compltn Dt:	01/17/2007 00:00:00
Srce of Assessment Fund:	US EPA - Brownfields Assessment Cooperative Agreement
Entity Prov Assmnt Fund:	
Assessment Funding Amt:	1500
Cleanup Start Date:	
Cleanup Completion Date:	
Acres Cleaned Up:	
Cleanup Funding Source:	
Entity Prvd Cleanup Fund:	

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
Cleanup Funding Amount:						
Redevelopment Start Dt:						
No of Clnup/Redev Jobs:						
Acre/Grnspace Created:						
Src of Redev Funding:						
Entity Prvd Redev Funds:						
Redev Funding Amount:						
Highlights:						
IC Data Address:						
Redev Completion Date:						
Past Use Greenspace Arces:						
Past Use Residential Arces:						
Past Use Commercial Arces:						
Past Use Industrial Arces:						
Past Use Multistory Arces:						
Future Use Multistory Arces:						
Future Use Greenspace:						
Future Use Residential:						
Future Use Commercial:						
Future Use Industrial:						
2010 Below Poverty No:			190			
2010 Below Poverty Pct:			4.6%			
2010 Median Income:			7261			
2010 Low Income No:			549			
2010 Low Income Pct:			13.2%			
2010 Vacant Housing No:			4			
2010 Vac Housing Pct:			.3%			
2010 Unemployed No:			211			
2010 Unemployed:			5.1%			
Grant Recipient Name:						
			Louisville, City of			
Accomplishment Counted:						
			1			
Cooperative Agrmnt No:						
			97811501			
Type Brownfields Grant:						
			Assessment			
Assessment Phase:						
			Phase I Environmental Assessment			
Assessment Start Date:						
			05/25/2005 00:00:00			
Assessment Compltn Dt:						
			05/25/2005 00:00:00			
Srce of Assessment Fund:						
			US EPA - Brownfields Assessment Cooperative Agreement			
Entity Prov Assmnt Fund:						
			1500			
Assessment Funding Amt:						
Cleanup Start Date:						
Cleanup Completion Date:						
Acres Cleaned Up:						
Cleanup Funding Source:						
Entity Prvd Cleanup Fund:						
Cleanup Funding Amount:						
Redevelopment Start Dt:						
No of Clnup/Redev Jobs:						
Acre/Grnspace Created:						
Src of Redev Funding:						
Entity Prvd Redev Funds:						
Redev Funding Amount:						
Highlights:						
IC Data Address:						
Redev Completion Date:						
Past Use Greenspace Arces:						
Past Use Residential Arces:						
Past Use Commercial Arces:						
Past Use Industrial Arces:						
Past Use Multistory Arces:						
Future Use Multistory Arces:						
Future Use Greenspace:						
Future Use Residential:						
Future Use Commercial:						
Future Use Industrial:						
2010 Below Poverty No:			190			
2010 Below Poverty Pct:			4.6%			
2010 Median Income:			7261			
2010 Low Income No:			549			

<i>Map Key</i>	<i>Number of Records</i>	<i>Direction</i>	<i>Distance (mi/ft)</i>	<i>Elev/Diff (ft)</i>	<i>Site</i>	<i>DB</i>
<i>2010 Low Income Pct:</i>		13.2%				
<i>2010 Vacant Housing No:</i>	4					
<i>2010 Vac Housing Pct:</i>		.3%				
<i>2010 Unemployed No:</i>	211					
<i>2010 Unemployed:</i>		5.1%				

Unplottable Summary

Total: 1 Unplottable sites

DB	Company Name/Site Name	Address	City	Zip	ERIS ID
SPILLS		MT. EVANS SUMMIT OBSERVATORY	CO		820851924
		Case No: CO93-222			

Unplottable Report

Site: MT. EVANS SUMMIT OBSERVATORY CO SPILLS

Case No:	CO93-222	H2O Unit Measure 2:	
Main ID:		Quantity 3:	0
NRC No:	NONE	Unit Measure 3:	
Dt of Spl or Rel:	6/26/1993	H2O quantity 3:	0
Event Time:	12:00:00 AM	H2O Unit Measure 3:	
1st Rep Event Dt:	6/26/1993	Cause:	0
Date Reported:	7/1/1993	Death:	
Time Reported:	2:28:00 PM	Injury:	
Date Entered:	1/5/1995	Evacuation:	N
Time Entered:	4:34:49 PM	Evacuation No:	0
Land:	TRUE	PRP City:	
Air:	FALSE	PRP County:	JEFFERSON
Surface Water:	FALSE	PRP State:	
Ground Water:	FALSE	PRP Zip:	
Material Type:	OIL	PRP Phone:	303-871-4646
Quantity 1:	249.99	PRP Extension:	
Unit Measure 1:	G	Mile Marker:	
H2O Quantity 1:	0	Who Took Report:	JONES, JANET
H2O Unit Measure 1:		Fixed Facility:	FALSE
Material 2:		Event County:	JEFFERSON
Quantity 2:	0	Latitude:	0
Unit Measure 2:		Longitude:	0
H2O Quantity 2:	0		
Source:	F		
Source Type:	MOUNTAIN OBSERVATORY		
Medium:	LAND		
Waterway:	NONE		
Material 1:	DIESEL		
Material 3:			
PRP:	COLORADO SEMINARY		
PRP Contact:			
PRP Street:			
PRP Fax:			
Responder 1:	CLEAR CREEK FIRE DEPARTMENT		
Responder 2:			
Responder 3:			
Response Comments:			
Notified Name:	CDH/EMU; NRC		
Additional Comments:			
Comments:	SNOW AND ICE CONTAMINATION WILL BE SHOVELED INTO BARRELS FOR DISPOSAL. **Note: Many records provided by the department have a truncated [Comments] field.		
Cause Info:	VANDALISM OF AN ABOVE GROUND TANK.		
Action:	SPILL WAS CONTAINED WITHIN AREA. ABSORBANT PADS WERE USED TO SOAK UP SPILL.		

Appendix: Database Descriptions

Environmental Risk Information Services (ERIS) can search the following databases. The extent of historical information varies with each database and current information is determined by what is publicly available to ERIS at the time of update. ERIS updates databases as set out in ASTM Standard E1527-13, Section 8.1.8 Sources of Standard Source Information:

"Government information from nongovernmental sources may be considered current if the source updates the information at least every 90 days, or, for information that is updated less frequently than quarterly by the government agency, within 90 days of the date the government agency makes the information available to the public."

Standard Environmental Record Sources

Federal

National Priority List:

NPL

National Priorities List (Superfund)-NPL: EPA's (United States Environmental Protection Agency) list of the most serious uncontrolled or abandoned hazardous waste sites identified for possible long-term remedial action under the Superfund program. The NPL, which EPA is required to update at least once a year, is based primarily on the score a site receives from EPA's Hazard Ranking System. A site must be on the NPL to receive money from the Superfund Trust Fund for remedial action.

Government Publication Date: Oct 10, 2018

National Priority List - Proposed:

PROPOSED NPL

Includes sites proposed (by the EPA, the state, or concerned citizens) for addition to the NPL due to contamination by hazardous waste and identified by the Environmental Protection Agency (EPA) as a candidate for cleanup because it poses a risk to human health and/or the environment.

Government Publication Date: Oct 10, 2018

Deleted NPL:

DELETED NPL

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.

Government Publication Date: Oct 10, 2018

SEMS List 8R Active Site Inventory:

SEMS

The Superfund Program has deployed the Superfund Enterprise Management System (SEMS), which integrates multiple legacy systems into a comprehensive tracking and reporting tool. This inventory contains active sites evaluated by the Superfund program that are either proposed to be or are on the National Priorities List (NPL) as well as sites that are in the screening and assessment phase for possible inclusion on the NPL. The Active Site Inventory Report displays site and location information at active SEMS sites. An active site is one at which site assessment, removal, remedial, enforcement, cost recovery, or oversight activities are being planned or conducted.

Government Publication Date: Aug 13, 2018

Inventory of Open Dumps, June 1985:

ODI

The Resource Conservation and Recovery Act (RCRA) provides for publication of an inventory of open dumps. The Act defines "open dumps" as facilities which do not comply with EPA's "Criteria for Classification of Solid Waste Disposal Facilities and Practices" (40 CFR 257).

Government Publication Date: Jun 1985

SEMS List 8R Archive Sites:

SEMS ARCHIVE

The Superfund Enterprise Management System (SEMS) Archived Site Inventory displays site and location information at sites archived from SEMS. An archived site is one at which EPA has determined that assessment has been completed and no further remedial action is planned under the Superfund program at this time.

Government Publication Date: Aug 13, 2018

Comprehensive Environmental Response, Compensation and Liability Information System - CERCLIS:

CERCLIS

Superfund is a program administered by the United States Environmental Protection Agency (EPA) to locate, investigate, and clean up the worst hazardous waste sites throughout the United States. CERCLIS is a database of potential and confirmed hazardous waste sites at which the EPA Superfund program has some involvement. It contains sites that are either proposed to be or are on the National Priorities List (NPL) as well as sites that are in the screening and assessment phase for possible inclusion on the NPL. The EPA administers the Superfund program in cooperation with individual states and tribal governments; this database is made available by the EPA.

Government Publication Date: Oct 25, 2013

EPA Report on the Status of Open Dumps on Indian Lands:

IODI

Public Law 103-399, The Indian Lands Open Dump Cleanup Act of 1994, enacted October 22, 1994, identified congressional concerns that solid waste open dump sites located on American Indian or Alaska Native (AI/AN) lands threaten the health and safety of residents of those lands and contiguous areas. The purpose of the Act is to identify the location of open dumps on Indian lands, assess the relative health and environment hazards posed by those sites, and provide financial and technical assistance to Indian tribal governments to close such dumps in compliance with Federal standards and regulations or standards promulgated by Indian Tribal governments or Alaska Native entities.

Government Publication Date: Dec 31, 1998

CERCLIS - No Further Remedial Action Planned:

CERCLIS NFRAP

An archived site is one at which EPA has determined that assessment has been completed and no further remedial action is planned under the Superfund program at this time. The Archive designation means 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 this site on the National Priorities List (NPL). This 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 a potential NPL site.

Government Publication Date: Oct 25, 2013

CERCLIS Liens:

CERCLIS LIENS

A Federal Superfund lien exists at any property where EPA has incurred Superfund costs to address contamination ("Superfund site") and has provided notice of liability to the property owner. A Federal CERCLA ("Superfund") lien can exist by operation of law at any site or property at which EPA has spent Superfund monies. This database is made available by the United States Environmental Protection Agency (EPA).

Government Publication Date: Jan 30, 2014

RCRA CORRACTS-Corrective Action:

RCRA CORRACTS

RCRA Info 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. At these sites, the Corrective Action Program ensures that cleanups occur. EPA and state regulators work with facilities and communities to design remedies based on the contamination, geology, and anticipated use unique to each site.

Government Publication Date: Aug 2, 2018

RCRA non-CORRACTS TSD Facilities:

RCRA TSD

RCRA Info 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. This database includes Non-Corrective Action sites listed as treatment, storage and/or disposal facilities of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA).

Government Publication Date: Aug 2, 2018

RCRA Generator List:

RCRA LQG

RCRA Info 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. RCRA Info replaces the data recording and reporting abilities of the Resource Conservation and Recovery Information System (RCRIS) and the Biennial Reporting System (BRS). A hazardous waste generator is any person or site whose processes and actions create hazardous waste (see 40 CFR 260.10). Large Quantity Generators (LQGs) generate 1,000 kilograms per month or more of hazardous waste or more than one kilogram per month of acutely hazardous waste.

Government Publication Date: Aug 2, 2018

RCRA Small Quantity Generators List:

RCRA SQG

RCRA Info is the 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. RCRA Info replaces the data recording and reporting abilities of the Resource Conservation and Recovery Information System (RCRIS) and the Biennial Reporting System (BRS). A hazardous waste generator is any person or site whose processes and actions create hazardous waste (see 40 CFR 260.10). Small Quantity Generators (SQGs) generate more than 100 kilograms, but less than 1,000 kilograms, of hazardous waste per month.

Government Publication Date: Aug 2, 2018

RCRA Conditionally Exempt Small Quantity Generators List:

[RCRA CESQG](#)

RCRA Info is the 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. RCRA Info replaces the data recording and reporting abilities of the Resource Conservation and Recovery Information System (RCRIS) and the Biennial Reporting System (BRS). A hazardous waste generator is any person or site whose processes and actions create hazardous waste (see 40 CFR 260.10). Conditionally Exempt Small Quantity Generators (CESQG) generate 100 kilograms or less per month of hazardous waste or one kilogram or less per month of acutely hazardous waste.

Government Publication Date: Aug 2, 2018

RCRA Non-Generators:

[RCRA NON GEN](#)

RCRA Info 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. RCRA Info replaces the data recording and reporting abilities of the Resource Conservation and Recovery Information System (RCRIS) and the Biennial Reporting System (BRS). A hazardous waste generator is any person or site whose processes and actions create hazardous waste (see 40 CFR 260.10). Non-Generators do not presently generate hazardous waste.

Government Publication Date: Aug 2, 2018

Federal Engineering Controls-ECs:

[FED ENG](#)

Engineering controls (ECs) encompass a variety of engineered and constructed physical barriers (e.g., soil capping, sub-surface venting systems, mitigation barriers, fences) to contain and/or prevent exposure to contamination on a property. This database is made available by the United States Environmental Protection Agency (EPA).

Government Publication Date: Jan 20, 2016

Federal Institutional Controls- ICs:

[FED INST](#)

Institutional controls are non-engineered instruments, such as administrative and legal controls, that help minimize the potential for human exposure to contamination and/or protect the integrity of the remedy. Although it is EPA's (United States Environmental Protection Agency) expectation that treatment or engineering controls will be used to address principal threat wastes and that groundwater will be returned to its beneficial use whenever practicable, ICs play an important role in site remedies because they reduce exposure to contamination by limiting land or resource use and guide human behavior at a site.

Government Publication Date: Jan 20, 2016

Emergency Response Notification System:

[ERNS 1982 TO 1986](#)

Database of oil and hazardous substances spill reports controlled by the National Response Center. The primary function of the National Response Center is to serve as the sole national point of contact for reporting oil, chemical, radiological, biological, and etiological discharges into the environment anywhere in the United States and its territories.

Government Publication Date: 1982-1986

Emergency Response Notification System:

[ERNS 1987 TO 1989](#)

Database of oil and hazardous substances spill reports controlled by the National Response Center. The primary function of the National Response Center is to serve as the sole national point of contact for reporting oil, chemical, radiological, biological, and etiological discharges into the environment anywhere in the United States and its territories.

Government Publication Date: 1987-1989

Emergency Response Notification System:

[ERNS](#)

Database of oil and hazardous substances spill reports controlled by the National Response Center. The primary function of the National Response Center is to serve as the sole national point of contact for reporting oil, chemical, radiological, biological, and etiological discharges into the environment anywhere in the United States and its territories. This database is made available by the United States Environmental Protection Agency (EPA).

Government Publication Date: Feb 12, 2018

The Assessment, Cleanup and Redevelopment Exchange System (ACRES) Brownfield Database:

[FED BROWNFIELDS](#)

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 protects the environment, reduces blight, and takes development pressures off greenspaces and working lands. This database is made available by the United States Environmental Protection Agency (EPA).

Government Publication Date: Feb 20, 2018

FEMA Underground Storage Tank Listing:

[FEMA UST](#)

The Federal Emergency Management Agency (FEMA) of the Department of Homeland Security maintains a list of FEMA owned underground storage tanks.

Government Publication Date: Dec 31, 2017

LIEN on Property:

[SEMS LIEN](#)

The EPA Superfund Enterprise Management System (SEMS) provides LIEN information on properties under the EPA Superfund Program.

Government Publication Date: Aug 13, 2018

Superfund Decision Documents:

[SUPERFUND ROD](#)

This database contains a listing of decision documents for Superfund sites. Decision documents serve to provide the reasoning for the choice of (or) changes to a Superfund Site cleanup plan. The decision documents include Records of Decision (ROD), ROD Amendments, Explanations of Significant Differences (ESD), along with other associated memos and files. This information is maintained and made available by the US EPA (Environmental Protection Agency).

Government Publication Date: Aug 13, 2018

State

Superfund Sites:

[SHWS](#)

A list of Superfund sites in Colorado made available by the Colorado Department of Public Health and Environment (CDPHE). In Colorado, the cleanup of Superfund sites is overseen by the CDPHE or the Environmental Protection Agency (EPA). This list includes active Superfund sites, deleted sites, proposed sites, and natural resource damage sites.

Government Publication Date: Oct 18, 2018

Solid Waste Facilities and Landfills:

[SWF/LF](#)

The Colorado Department of Public Health and Environment (CDPHE) regulates the management and disposal of solid waste and landfill facilities.

Government Publication Date: Jul 6, 2018

Historical Solid Waste (Closed or Abandoned Landfills):

[HIST LF](#)

In the early 1980s the Hazardous Materials Waste Management Division of the Colorado Department of Public Health and Environment (CDPHE) conducted a survey of staff members and local agencies. The information gathered was compiled in 1984 for sites that were known or thought to have waste issues. The information is not complete and generally not very definitive or verifiable. This data became the Solid Waste Historical Data. The data is not maintained and has not been since the late 1980s.

Government Publication Date: 1984

Leaking Storage Tanks:

[LST](#)

A list of leaking storage tank locations from the Colorado Storage Tank Information System (COSTIS) database, including those which have applied for reimbursement from the Petroleum Storage Tank Fund. This list has been made available by the Colorado Department of Labor and Employment (CDLE).

Government Publication Date: Sep 24, 2018

Delisted Leaking Storage Tanks:

[DELISTED LST](#)

This database contains a list of leaking storage tank sites and their Funds for reimbursement of costs related to assessment and cleanup that were removed from the Colorado Department of Labor and Employment (CDLE) database.

Government Publication Date: Sep 24, 2018

Underground Storage Tanks:

[UST](#)

A list of underground storage tanks from the Colorado Storage Tank Information System (COSTIS) database. This database is made available by the Division of Oil and Public Safety of the Colorado Department of Labor and Employment (CDLE).

Government Publication Date: Sep 24, 2018

Aboveground Storage Tanks:

[AST](#)

A list of aboveground storage tanks from the Colorado Storage Tank Information System (COSTIS) database. This list is made available by the Division of Oil and Public Safety of the Colorado Department of Labor and Employment (CDLE).

Government Publication Date: Sep 24, 2018

Storage Tank Information System (COSTIS):

[TANKS](#)

The Department of Labor and Employment/Division of Oil and Public Safety manages the Colorado Storage Tank Information System (COSTIS) database that stores information on facilities with storage tanks. This database contains facilities with liquified petroleum gas, liquefied natural gas, and compressed natural gas tanks which are not classified as either USTs or ASTs.

Government Publication Date: Sep 24, 2018

Delisted Storage Tanks:

DTNK

This database contains a list of closed storage tank sites that were removed from the Division of Oil and Public Safety of the Colorado Department of Labor and Employment (CDLE) Tank Information System.

Government Publication Date: Sep 24, 2018

Environmental Covenants and Environmental Use Restrictions List:

AUL

The Colorado Department of Public Health and Environment (CDPHE) maintains a list of sites that have environmental covenants and use restrictions in place. Land use restrictions may be used to ensure the cleanup remedy adequately protects human health and the environment when a contaminated site is not cleaned up completely.

Government Publication Date: Sep 5, 2018

The Voluntary Cleanup and Redevelopment Program:

VCP

The Voluntary Cleanup and Redevelopment program of the Colorado Department of Public Health and Environment (CDPHE) was created in 1994 with the objective to facilitate the redevelopment and transfer of contaminated properties.

Government Publication Date: Oct 31, 2018

Tribal

Leaking Underground Storage Tanks (LUSTs) on Indian Lands:

INDIAN LUST

LUSTs on Tribal/Indian Lands in Region 8, which includes Colorado.

Government Publication Date: Oct 12, 2017

Underground Storage Tanks (USTs) on Indian Lands:

INDIAN UST

USTs on Tribal/Indian Lands in Region 8, which includes Colorado.

Government Publication Date: Oct 12, 2017

Delisted Tribal Leaking Storage Tanks:

DELISTED ILST

Leaking Underground Storage Tank facilities which have been removed from the Regional Tribal LUST lists made available by the EPA.

Government Publication Date: Oct 14, 2017

Delisted Tribal Underground Storage Tanks:

DELISTED IUST

Underground Storage Tank facilities which have been removed from the Regional Tribal UST lists made available by the EPA.

Government Publication Date: Oct 14, 2017

County

No County standard environmental record sources available for this State.

Additional Environmental Record Sources

Federal

Facility Registry Service/Facility Index:

FINDS/FRS

The US Environmental Protection Agency (EPA)'s Facility Registry System (FRS) is a centrally managed database that identifies facilities, sites or places subject to environmental regulations or of environmental interest. FRS creates high-quality, accurate, and authoritative facility identification records through rigorous verification and management procedures that incorporate information from program national systems, state master facility records, data collected from EPA's Central Data Exchange registrations and data management personnel.

Government Publication Date: Apr 17, 2018

Toxics Release Inventory (TRI) Program:

TRIS

The EPA's Toxics Release Inventory (TRI) is a database containing data on disposal or other releases of over 650 toxic chemicals from thousands of U.S. facilities and information about how facilities manage those chemicals through recycling, energy recovery, and treatment. One of TRI's primary purposes is to inform communities about toxic chemical releases to the environment.

Government Publication Date: Dec 31, 2017

Hazardous Materials Information Reporting System:

HMIRS

US DOT - Department of Transportation Pipeline and Hazardous Materials Safety Administration (PHMSA) Incidents Reports Database taken from Hazmat Intelligence Portal, U.S. Department of Transportation.

Government Publication Date: May 23, 2018

National Clandestine Drug Labs:

NCDL

The U.S. Department of Justice ("the Department") provides this data 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.

Government Publication Date: Jul 18, 2018

Toxic Substances Control Act:

TSCA

The Environmental Protection Agency (EPA) is amending the Toxic Substances Control Act (TSCA) section 8(a) Inventory Update Reporting (IUR) rule and changing its name to the Chemical Data Reporting (CDR) rule.

The CDR enables EPA to collect and publish information on the manufacturing, processing, and use of commercial chemical substances and mixtures (referred to hereafter as chemical substances) on the TSCA Chemical Substance Inventory (TSCA Inventory). This includes current information on chemical substance production volumes, manufacturing sites, and how the chemical substances are used. This information helps the Agency determine whether people or the environment are potentially exposed to reported chemical substances. EPA publishes submitted CDR data that is not Confidential Business Information (CBI).

Government Publication Date: Jun 30, 2017

Hist TSCA:

HIST TSCA

The Environmental Protection Agency (EPA) is amending the Toxic Substances Control Act (TSCA) section 8(a) Inventory Update Reporting (IUR) rule and changing its name to the Chemical Data Reporting (CDR) rule.

The 2006 IUR data summary report includes information about chemicals manufactured or imported in quantities of 25,000 pounds or more at a single site during calendar year 2005. In addition to the basic manufacturing information collected in previous reporting cycles, the 2006 cycle is the first time EPA collected information to characterize exposure during manufacturing, processing and use of organic chemicals. The 2006 cycle also is the first time manufacturers of inorganic chemicals were required to report basic manufacturing information.

Government Publication Date: Dec 31, 2006

FTTS Administrative Case Listing:

FTTS ADMIN

An administrative case listing from the Federal Insecticide, Fungicide, & Rodenticide Act (FIFRA) and Toxic Substances Control Act (TSCA), together known as FTTS. This database was obtained from the Environmental Protection Agency's (EPA) National Compliance Database (NCDB). The FTTS and NCDB was shut down in 2006.

Government Publication Date: Jan 19, 2007

FTTS Inspection Case Listing:

FTTS INSP

An inspection case listing from the Federal Insecticide, Fungicide, & Rodenticide Act (FIFRA) and Toxic Substances Control Act (TSCA), together known as FTTS. This database was obtained from the Environmental Protection Agency's (EPA) National Compliance Database (NCDB). The FTTS and NCDB was shut down in 2006.

Government Publication Date: Jan 19, 2007

Potentially Responsible Parties List:

PRP

Early in the cleanup process, the Environmental Protection Agency (EPA) conducts a search to find the potentially responsible parties (PRPs). EPA looks for evidence to determine liability by matching wastes found at the site with parties that may have contributed wastes to the site.

Government Publication Date: Aug 13, 2018

State Coalition for Remediation of Drycleaners Listing:

SCRD DRYCLEANER

The State Coalition for Remediation of Drycleaners (SCRD) was established in 1998, with support from the U.S. Environmental Protection Agency (EPA) Office of Superfund Remediation and Technology Innovation. Coalition members are states with mandated programs and funding for drycleaner site remediation. Current members are Alabama, Connecticut, Florida, Illinois, Kansas, Minnesota, Missouri, North Carolina, Oregon, South Carolina, Tennessee, Texas, and Wisconsin.

Government Publication Date: Nov 08, 2017

Integrated Compliance Information System (ICIS):

ICIS

The Integrated Compliance Information System (ICIS) is a system that provides information for the Federal Enforcement and Compliance (FE&C) and the National Pollutant Discharge Elimination System (NPDES) programs. The FE&C component supports the Environmental Protection Agency's (EPA) Civil Enforcement and Compliance program activities. These activities include Compliance Assistance, Compliance Monitoring and Enforcement. The NPDES program supports tracking of NPDES permits, limits, discharge monitoring data and other program reports.

Drycleaner Facilities:

[FED DRYCLEANERS](#)

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

Government Publication Date: May 29, 2018

Delisted Drycleaner Facilities:

[DELISTED FED DRY](#)

List of sites removed from the list of Drycleaner Facilities (sites in the EPA's Integrated Compliance Information System (ICIS) with NAIC or SIC codes identifying the business as a drycleaner establishment).

Government Publication Date: May 29, 2018

Formerly Used Defense Sites:

[FUDS](#)

Formerly Used Defense Sites (FUDS) are properties that were formerly owned by, leased to, or otherwise possessed by and under the jurisdiction of the Secretary of Defense prior to October 1986, where the Department of Defense (DoD) is responsible for an environmental restoration. This list is published by the U.S. Army Corps of Engineers.

Government Publication Date: Oct 23, 2018

Material Licensing Tracking System (MLTS):

[MLTS](#)

A list of sites that store radioactive material subject to the Nuclear Regulatory Commission (NRC) licensing requirements. This list is maintained by the NRC. As of September 2016, the NRC no longer releases location information for sites. Site locations were last received in July 2016.

Government Publication Date: Nov 1, 2018

Historic Material Licensing Tracking System (MLTS) sites:

[HIST MLTS](#)

A historic list of sites that have inactive licenses and/or removed from the Material Licensing Tracking System (MLTS). In some cases, a site is removed from the MLTS when the state becomes an "Agreement State". An Agreement State is a State that has signed an agreement with the Nuclear Regulatory Commission (NRC) authorizing the State to regulate certain uses of radioactive materials within the State.

Government Publication Date: Jan 31, 2010

Mines Master Index File:

[MINES](#)

The Master Index File (MIF) contains mine identification numbers issued by the Department of Labor Mine Safety and Health Administration (MSHA) for mines active or opened since 1971. Note that addresses may or may not correspond with the physical location of the mine itself.

Government Publication Date: Jan 30, 2018

Alternative Fueling Stations:

[ALT FUELS](#)

List of alternative fueling stations made available by the US Department of Energy's Office of Energy Efficiency & Renewable Energy. Includes Biodiesel stations, Ethanol (E85) stations, Liquefied Petroleum Gas (Propane) stations, Ethanol (E85) stations, Natural Gas stations, Hydrogen stations, and Electric Vehicle Supply Equipment (EVSE). The National Renewable Energy Laboratory (NREL) obtains information about new stations from trade media, Clean Cities coordinators, a Submit New Station form on the Station Locator website, and through collaborating with infrastructure equipment and fuel providers, original equipment manufacturers (OEMs), and industry groups.

Government Publication Date: Oct 16, 2018

Registered Pesticide Establishments:

[SSTS](#)

List of active EPA-registered foreign and domestic pesticide-producing and device-producing establishments based on data from the Section Seven Tracking System (SSTS). The Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) Section 7 requires that facilities producing pesticides, active ingredients, or devices be registered. The list of establishments is made available by the EPA.

Government Publication Date: Mar 1, 2018

Polychlorinated Biphenyl (PCB) Notifiers:

[PCB](#)

Facilities included in the national list of facilities that have notified the United States Environmental Protection Agency (EPA) of Polychlorinated Biphenyl (PCB) activities. Any company or person storing, transporting or disposing of PCBs or conducting PCB research and development must notify the EPA and receive an identification number.

Government Publication Date: Sep 14, 2018

State

Spills:

[SPILLS](#)

A list of hazardous material spills and releases (including Meth Labs) that were reported to the Colorado Department of Public Health and Environment (CDPHE).

Government Publication Date: Nov 15, 2018

Dry Cleaning Facilities:

[DRYCLEANERS](#)

A list of drycleaning facilities in Colorado that have submitted an Air Pollutant Emission Notice (APEN). This list was provided by the Department of Public Health & Environment.

Government Publication Date: Sep 6, 2018

Delisted Dry Cleaning Facilities:

[DELISTED DRYCLEANERS](#)

List of sites removed from the drycleaners database made available by the Department of Public Health & Environment.

Government Publication Date: Sep 6, 2018

Permitted Facilities Listing:

[NPDES](#)

A list of permitted facilities tracked by the Water Quality Control Division of the Department of Public Health & Environment (DPHE). This list is the state version of the NPDES (National Pollution Discharge Elimination System).

Government Publication Date: Oct 2, 2018

Tribal

No Tribal additional environmental record sources available for this State.

County

No County additional environmental record sources available for this State.

Definitions

Database Descriptions: This section provides a detailed explanation for each database including: source, information available, time coverage, and acronyms used. They are listed in alphabetic order.

Detail Report: This is the section of the report which provides the most detail for each individual record. Records are summarized by location, starting with the project property followed by records in closest proximity.

Distance: The distance value is the distance between plotted points, not necessarily the distance between the sites' boundaries. All values are an approximation.

Direction: The direction value is the compass direction of the site in respect to the project property and/or center point of the report.

Elevation: The elevation value is taken from the location at which the records for the site address have been plotted. All values are an approximation. Source: Google Elevation API.

Executive Summary: This portion of the report is divided into 3 sections:

'Report Summary'- Displays a chart indicating how many records fall on the project property and, within the report search radii.

'Site Report Summary'-Project Property'- This section lists all the records which fall on the project property. For more details, see the 'Detail Report' section.

'Site Report Summary-Surrounding Properties'- This section summarizes all records on adjacent properties, listing them in order of proximity from the project property. For more details, see the 'Detail Report' section.

Map Key: The map key number is assigned according to closest proximity from the project property. Map Key numbers always start at #1. The project property will always have a map key of '1' if records are available. If there is a number in brackets beside the main number, this will indicate the number of records on that specific property. If there is no number in brackets, there is only one record for that property.

The symbol and colour used indicates 'elevation': the red inverted triangle will dictate 'ERIS Sites with Lower Elevation', the yellow triangle will dictate 'ERIS Sites with Higher Elevation' and the orange square will dictate 'ERIS Sites with Same Elevation.'

Unplottables: These are records that could not be mapped due to various reasons, including limited geographic information. These records may or may not be in your study area, and are included as reference.

**APPENDIX G
CREDENTIALS**

AARON VARNELL, E.I.T.

STAFF ENVIRONMENTAL ENGINEER

PROFESSIONAL EXPERIENCE

Mr. Varnell currently serves as a Staff Environmental Engineer for the Fort Collins, Colorado office with over 3 years of engineering and environmental consulting experience. His primary responsibilities include Phase I and Limited Phase II environmental site assessments (ESAs), soil and groundwater sampling/monitoring reports, all types of environmental sampling, documentation of field activities, statistical analysis, and operation and maintenance (O&M) of remediation systems. Field activities include construction oversight for installation of remediation technologies, drilling oversight for subsurface sampling, groundwater sampling and development and documentation of field activities.

PROJECT EXPERIENCE

Texas Commission on Environmental Quality (TCEQ) Remediation Projects

Mr. Varnell has been associated with and managed elements of numerous remediation projects including refineries, oil and gas exploration and production facilities, industrial/manufacturing facilities, landfill and dump sites, underground storage tank sites, and dry cleaning facilities. Remediation projects have been performed under TCEQ Risk Reduction Rules (RRR) and Texas Risk Reduction Program (TRRP) as well as Railroad Commission of Texas (RRC) rules. Mr. Varnell has been primarily involved with performing engineering assessment for the treatment of soil and groundwater via institutional controls, including the preparation of the Response Action Plans (RAPs), Affected Property Assessment Reports (APARs), and Response Action Completion Reports (RACRs).

Leaking Petroleum Storage Tank (LPST) Remediation

Mr. Varnell has been responsible for the characterization and closure of multiple LPST sites, including overseeing the excavation and removal of LPSTs, planning and executing initial and quarterly soil and groundwater sampling, and preparing associated registration and closure request reports for submission to the TCEQ.

Phase I Environmental Site Assessments

Mr. Varnell has conducted environmental site assessments for large tracts of undeveloped property, agricultural parcels, residential, industrial and commercial areas. Properties and adjacent properties have contained AST facilities, LUST facilities, oil & gas facilities, and manufacturing facilities.

Limited Site Investigations

Mr. Varnell has performed Limited Site Investigations (LSI) for former fueling stations, agricultural properties, and planned commercial development in order to identify and/or characterize potential on-site contamination. Duties included drilling oversight, field screening soil samples, collecting soil and groundwater samples, maintaining field notes, and report preparation. Mr. Varnell has also assessed structures for vapor intrusion concerns due to volatile organic compounds. This includes conducting indoor, sub-slab, and subsurface vapor sampling.

Education

Bachelor of Science, Civil and Environmental Engineering, 2013, Rice University

Registrations

Engineer-in-Training (EIT), Texas, 50458

Certifications

40-Hour OSHA Hazardous Waste Operations (HAZWOPER) Training, 2014

HAZWOPER 8-hour Annual Refresher Courses, 2015 to Present

Work History

Terracon Consultants, Inc., Fort Collins, Colorado, Staff Environmental Engineer, March 2018 – Present

ESE Partners, LLC, Houston, Texas, Staff Environmental Engineer, March 2014 – March 2017

JOHN C. GRAVES, P.G.

OFFICE MANAGER / PRINCIPAL

PROFESSIONAL EXPERIENCE

Mr. Graves has over 16 years of experience as a geologist and 13 years of experience performing environmental, geotechnical, and materials engineering services. Mr. Graves is responsible for the management of Terracon's offices in Fort Collins and Greeley, Colorado, including business development, resource allocation, and client services throughout northern Colorado and Wyoming. As an Environmental Geologist, Mr. Graves provides senior project management, technical review, and quality assurance for an array of environmental compliance services as well as assisting with the project management and completion of geotechnical and materials engineering projects.

Mr. Graves' primary experience includes the management of leaking underground storage tank (LUST) remedial sites, developing groundwater sampling programs, preparation of Phase I and II environmental site assessments, geotechnical investigations, construction materials testing oversight, managing subsurface soil and groundwater investigations, performing environmental risk assessments, environmental compliance services, geologic and hydrogeologic site characterization, and mineral assessments for potential conservation easements. Mr. Graves also has experience in solid waste engineering for solid waste landfill facilities. His solid waste engineering experience includes regulatory compliance, siting, permitting, geologic and hydrogeologic site characterization, environmental monitoring, and construction quality assurance. His experience includes lined cells; lateral expansions; and cell closure.

Mr. Graves opened and managed a new office for Terracon in Rock Springs, Wyoming in 2005. This allowed Mr. Graves the opportunity to perform and manage geotechnical subsurface exploration projects and to provide materials testing services for a variety of project types including airports, compressor stations, natural gas processing facilities, coal-fired power plants, school facilities, hotels, and many other types of projects.

PROJECT EXPERIENCE

Site Characterization and Remediation

Wyoming Department of Environmental Quality

Currently managing and performing environmental field work and project oversight and reporting for numerous active LUST site remediation systems. Remediation systems include groundwater extraction, enhanced bioremediation, ozone sparging, air sparging, soil vapor extraction and dual phase vapor extraction. On-going projects include remediation systems and/or on-going site investigations/corrective actions in Casper, Cody, Douglas, Glenrock, Green River, Greybull, Jeffrey City, Lusk, Meeteetse, Rawlins, Worland, and Yellowstone National Park. In addition, Mr. Graves is currently managing and/or providing oversight for three Voluntary Cleanup Program projects in Rawlins and Cheyenne.

Previous projects include remediation work being performed for the Indiana Department of Environmental Management, the Nebraska Department of Environmental Quality, and the Colorado Department of Labor and Employment.

Education

Bachelor of Science, Environmental Geology, 1997, Purdue University

Registrations

Professional Geologist: Wyoming, No. 3521

Certifications

40-Hour OSHA Hazardous Waste Operations Training

Nuclear Density Gauge Safety Training

American Red Cross First Aid and CPR

U.S. EPA Accredited AHERA – Asbestos Inspector Training

Affiliations

ASFE/The Geoprofessional Business Association

Northern Colorado Geologists Association

Fort Collins Area Chamber of Commerce

Wyoming Solid Waste and Recycling Association

Association of Environmental and Engineering Geologists

Work History

*Terracon – Fort Collins/Greeley, CO
Office Manager and Environmental Department Manager
August 2009 to Present*

*Terracon – Rock Springs, WY
Office Manager, March 2005 to August 2009*

*Terracon – Cheyenne, WY
Environmental Department Manager
April 2004 to March 2005
Environmental Professional
February 2001 to April 2004*

Creek Run Environmental Engineering L.L.C., Project Geologist, 2000-2001

Schlumberger - Geco-Prakla Division, Acquisition Engineer, 1997-2000

School Facilities

Mr. Graves has been the Project Manager for numerous environmental investigations, geotechnical explorations and has managed materials testing services at various school facilities. Recent examples include geotechnical investigations for a new parking lot and new classrooms at Front Range Community College in Fort Collins, Colorado; geotechnical investigations for student housing and expansion of the student center at Western Wyoming Community College in Rock Springs, Wyoming; environmental compliance services provided during construction for Moby Arena and the Behavioral Sciences Building at Colorado State University in Fort Collins; geotechnical investigations for new classrooms at Morgan Community College in Fort Morgan, Colorado; and environmental site assessments performed during the site selection stage for a new elementary school in Cheyenne, Wyoming for Laramie County School District Number One.

Landfill Facilities

Kemmerer Landfill, Lincoln County, Wyoming

Project Manager for landfill design and permit application project for a lateral and vertical expansion to the existing landfill. Client is Lincoln County Commissioner's Office. This project included preparation of a revised permit application, slope stability analysis, location standard assessment for lateral expansion of the landfill, design of the first engineered containment system (lined cell) at the facility, preparation of revised Environmental Monitoring Plan, and preparation of Construction Quality Assurance (CQA) Plan.

Cheley Camps Landfill, Estes Park, Colorado

Mr. Graves is the Project Manager for a landfill closure design for a private landfill under Colorado Department of Public Health and Environment rules and regulations. Completed services include the installation of groundwater monitoring network, a landfill gas monitoring network, the preparation of a Landfill Closure Plan including technical specifications and a slope stability analysis, and Construction Quality Assurance Plan. Mr. Graves also oversaw the implementation of the plan. The landfill was granted closure from the State in 2012 and Mr. Graves is currently performing long-term closure activities including groundwater sampling, vapor monitoring, and semi-annual visual inspection of the capped landfill and implemented stormwater control system.

Municipalities

Mr. Graves has been the project manager and/or performed project oversight on numerous environmental and geotechnical projects being performed for local municipalities. Recent example projects include environmental assessment services for a new park for the Berthoud Regional Recreation District in Berthoud, Colorado; environmental assessment services for a new office building for Teton County Weed & Pest in Jackson, Wyoming; numerous environmental and geotechnical investigations for the City of Loveland, Colorado; environmental assessment and compliance services for the procurement of new property for the Estes Park Sanitation District, and environmental compliance services for Larimer County Fleet Management.

Residential

Mr. Graves has been the project manager and/or performed project oversight on numerous geotechnical, environmental and materials testing projects being performed for new housing complexes in the past year, including multiple geotechnical investigations for off-campus student housing at Colorado State University and another environmental and geotechnical investigation for off-campus student housing at the University of Northern Colorado in Greeley. Another notable project is Legacy Senior Residences apartments in Fort Collins, Colorado. This project was proposed at a site within a known historic landfill utilized in the early 1900s by the original military fort. Mr. Graves coordinated a combined environmental and geotechnical field investigation for the property and assisted the owner with enrolling the site in the Colorado Voluntary Cleanup Program. To reduce the potential for environmental issues during construction, a helical pier foundation system was recommended and installed with Terracon oversight. In addition, Terracon designed a vapor mitigation system for the proposed structure, as well as the preparation and implementation of a soils management plan to deal with asbestos-contaminated soil uncovered during construction.