

Appendix F

Phase 1A Cultural Resource Literature Review



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Subject: Phase 1A Cultural Resource Literature Review for the Keetac Tailings Basin Expansion near Keewatin, Itasca and St. Louis Counties, Minnesota

Dear Mr. Tix,

This report presents the results of a Phase IA Cultural Resource Literature Review conducted by In Situ Archaeological Consulting, LLC (In Situ) for a proposed 2,283-acre site in Keewatin, Itasca and St. Louis Counties, Minnesota. The proposed project area is located within the legal locations listed shown in Table 1. The proposed project will be an expansion of the Keetac Trailings Basin located in Keewatin, Itasca and St. Louis Counties, Minnesota. The project area is near Hibbing and Keewatin in Minnesota.

Table 1: Legal Locations of the Proposed Project Area		
Township (T)	Range (R)	Section(s)
56 North	21 West	4, 5, 7, 8, 9, 17, 18
56 North	22 West	1, 2, 11, 12, 13
57 North	21 West	33

The proposed project area is approximately 2,283 acres in size and located on privately-owned land. The literature review was conducted by Craig Picka on October 4, 2021, using files maintained by the Minnesota Office of the State Archaeologist (OSA) and Minnesota State Historic Preservation Office (SHPO). The literature review is being completed in support of a Wetland Conservation Act (WCA) permit and a Section 404 of the Clean Water Act (CWA) permit for the project. The literature review will assist the client in identifying the locations of previous cultural resources, locations on the National Register of Historic Places (NRHP), previous cultural resource inventories, and the potential for cultural resources within and around the project area.

BACKGROUND RESEARCH

A literature review consisted of identifying any previously recorded archaeological sites and architectural properties within a 2-Mile Study Area (Study Area). The task was completed using site data files and previous inventory files maintained by the OSA and at SHPO. In addition, background research was completed by reviewing NRHP data, historic maps, atlases, current

aerial photographs, soil maps, topographic and geomorphic data, and other sources that might provide information for the locations of historic-era sites, areas of prior disturbance, etc. (Figures 1-12). The literature/records search at OSA and SHPO revealed one previously recorded archaeological site and two previously recorded architectural resources within the Study Area.

Due to the implementation of Emergency Executive Order 20-20 in response to the Novel Coronavirus (COVID-19) Pandemic, at the time of this project's completion, the Minnesota SHPO and OSA offices were closed. Due to this, information regarding previous surveys and reports was limited. However, for the purpose of this Phase IA investigation, the information regarding previous surveys and reports would only serve as context for the broad research area and is not directly related to the outcome of the current project.

The data gathered revealed one previously recorded archaeological site within the Study Area (Table 2). The site 21SL1103 is a historic Euro-American homestead that is *unevaluated* for the NRHP. Site 21SL1103 is not within the proposed project area.

Site	Legal Description	Site Type	NRHP Eligibility	Within Project Area
21SL1103	[REDACTED]	Historic Euro American: Homestead	Unevaluated	No

The literature review revealed two previously recorded architectural resources within the Study Area (Table 3). Of these resources, one is *eligible* for the NRHP (SL-HBC-182) and one architectural resource that is *unevaluated* for the NRHP (XX-ROD-048). None of these previously recorded architectural resources are located within the project area.

Site Number	Site Name/Type	Address/Location	NRHP Eligibility	Within Project Area
SL-HBC-182	Bridge No. 9232	TH 73 over BNSF RR	Eligible	No
XX-ROD-048	Former TH 35 (Grand Rapids-Aurora)	N/A	Unevaluated	No

BASIC ENVIRONMENT OF THE PROJECT AREA

The project area is located within the Chisholm-Embarrass physiographic region (Wright 1972). This area is characterized by low moraines and outwash plains. The moraines were deposited by the Rainy lobe and are stony and dominated by crystalline rocks. The area is bounded by these moraines (Wright 1972). Hay Creek is the only natural waterbody within the project area. Outside of the project area, the closest natural water source is Reservoir Number Six, which is approximately 0.02 mile to the west, and West Swan River, which is approximately 0.15 mile to the east. Currently Reservoir Number Six is utilized in Keetac's operation for water storage before pumping back to the plant or prior to discharging water from the basin. The elevation within the project ranges between approximately 1434-1510 ft above mean sea level.

This area is located within the Nashwauk-Keewatin soil association. The Nashwauk-Keewatin soil association is described as “nearly level to very steep, well drained and somewhat poorly drained, loamy and silty soils that formed in firm glacial till; on till plains and moraines (U.S. Department of Agriculture, SCS 1987 [2021]).” There are 13 specific soil series types present within the project area (Table 4). Much of this project area (87.2%) is contained in the Tailings basin (1050) and Slickens (1044) soils, which are contributed to the existing tailings basin (Natural Resources Conservation Service, 2021).

Soil Series	Parent Material	Drainage	Slope	Landform
Keewatin Silt Loam (619)	Loamy Till	Somewhat poorly drained	0%–3%	Swales on Moraines
Nashwauk fine sandy loam (622B)	Loamy Till	Moderately well drained	1%–10%	Moraines
Sago and Roscommon soils (798)	Organic material over sandy and silty glaciolacustrine deposits	Very poorly drained	0%–2%	Depressions on outwash plains
Udorthents, nearly level to rolling (1043C)	N/A	Well drained	2%–12%	N/A
Slickens (1044)	N/A	N/A	N/A	N/A
Eagleview and Menahga soils (A1B)	Sandy outwash	Somewhat excessively drained	1%–8%	Flats
Eagleview and Menahga soils (A1C)	Sandy outwash	Somewhat excessively drained	3%–15%	Hillslopes
Water W	N/A	N/A	N/A	N/A
Udorthents, loamy (1003B)	Variable soil material	Well drained	0%–6%	Moraines
Tailings basin (1050)	Metal ore extraction mine spoil	N/A	N/A	Moraines
Mcquade-Buhl (B27A)	Loamy material over dense fine till	Poorly drained	0%–2%	Flats on till plains
Buhl loam (B28B)	Loamy material over dense fine till	Somewhat poorly drained	1%–5%	Till plains, drumlins
Mcquade-Fayal, depressional (B22A)	Loamy material over dense fine till	Poorly drained	0%–2%	Flats on till plains

Source: Natural Resources Conservation Service 2021 .

CULTURAL RESOURCE POTENTIAL

The project is located within the existing Keetac Trailings Basin. The project area consists of fairly flat terrain and is on a landform with no topographically significant landscape features. The project location does have a few suitable/permeant water sources within and nearby the project area. However, the majority of project area appears to be within disturbed context, as the area was used as a tailings deposition area, which were produced as a byproduct of processing mined ore, between around 1970 and 2000. Prior to mining operations, historic maps show that a large portion of the project area was situated within a marshy landscape (Figures 11 and 12). In addition, historic maps did not indicate any prior cultural sites within the project area (Figures 11 and 12). Currently, the project area has either tailings deposits or is under water/inundated; there is a small area in the southeast of the project area that may have undisturbed soils. Finally, there are no confirmed previously recorded cultural resources within the project area. Due to these factors, the project area has a low potential of containing intact and/or significant cultural resources.

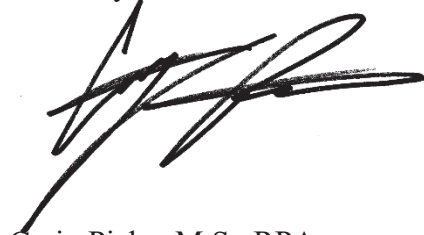
REPORT SUMMARY

In Situ completed a Phase IA Cultural Resource Literature Review for the proposed 2,283 - Acre expansion of the Keetac Trailings Basin located in Keewatin, Itasca and St. Louis Counties, Minnesota. The literature/records search revealed one previously recorded site and two previously recorded architectural resources within the Study Area. The site and two architectural resources are not within or in close proximity of the project area.

It is the opinion of In Situ that a Phase I cultural resource management survey is not warranted for this project, and this is based on several factors. The project location does have a few suitable/permanent water sources within and nearby the project area. However, the majority of project area appears to be within disturbed context, as the area was used as a tailings deposition area, which were produced as a byproduct of processing mined ore, between around 1970 and 2000. Prior to mining operations, historic maps show that a large portion of the project area was situated within a marshy landscape. In addition, historic maps did not indicate any prior cultural sites within the project area. Currently, the project area has either tailings deposits or is under water/inundated; there is a small area in the southeast of the project area that may have undisturbed soils. Finally, there are no confirmed previously recorded cultural resources within the project area. Due to these factors, the project area has a low potential of containing intact and/or significant cultural resources. Based upon these findings, In Situ recommends no further work for this project.

Please contact me at 952.658.8891 or cpicka@insitucrm.com should you have any further questions or concerns regarding the information assembled.

Sincerely,



Craig Picka, M.S., RPA
Principal Investigator

Enclosures: Figure 1: Literature Review Topographic Map (Overview)
Figures 2-5: Literature Review Topographic Map (Detailed)
Figure 6: Literature Review Aerial Map (Overview)
Figures 7-10: Literature Review Aerial Map (Detailed)
Figure 11: Historical BLM GLO Plat Map
Figure 12: Historical Topographic Map

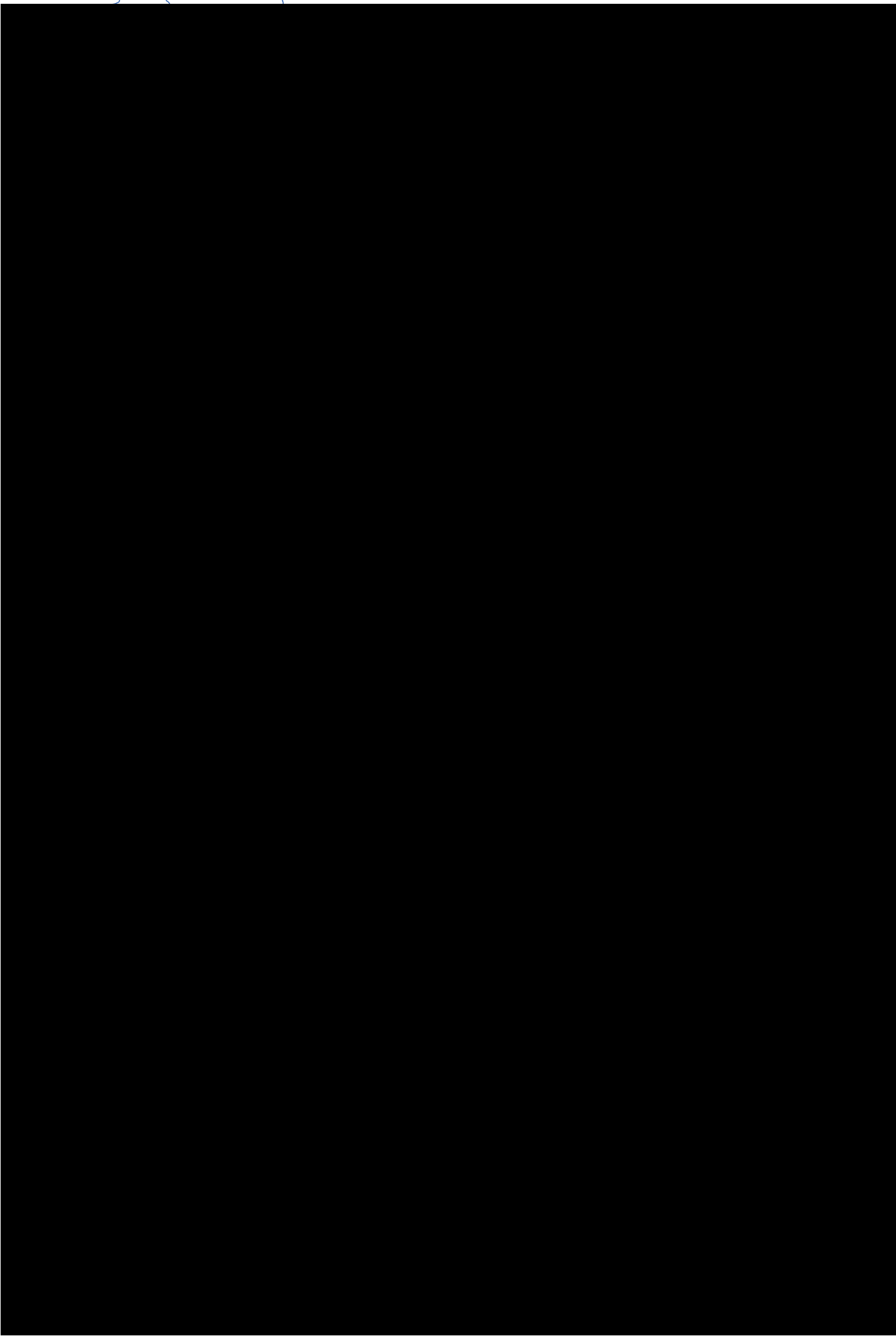
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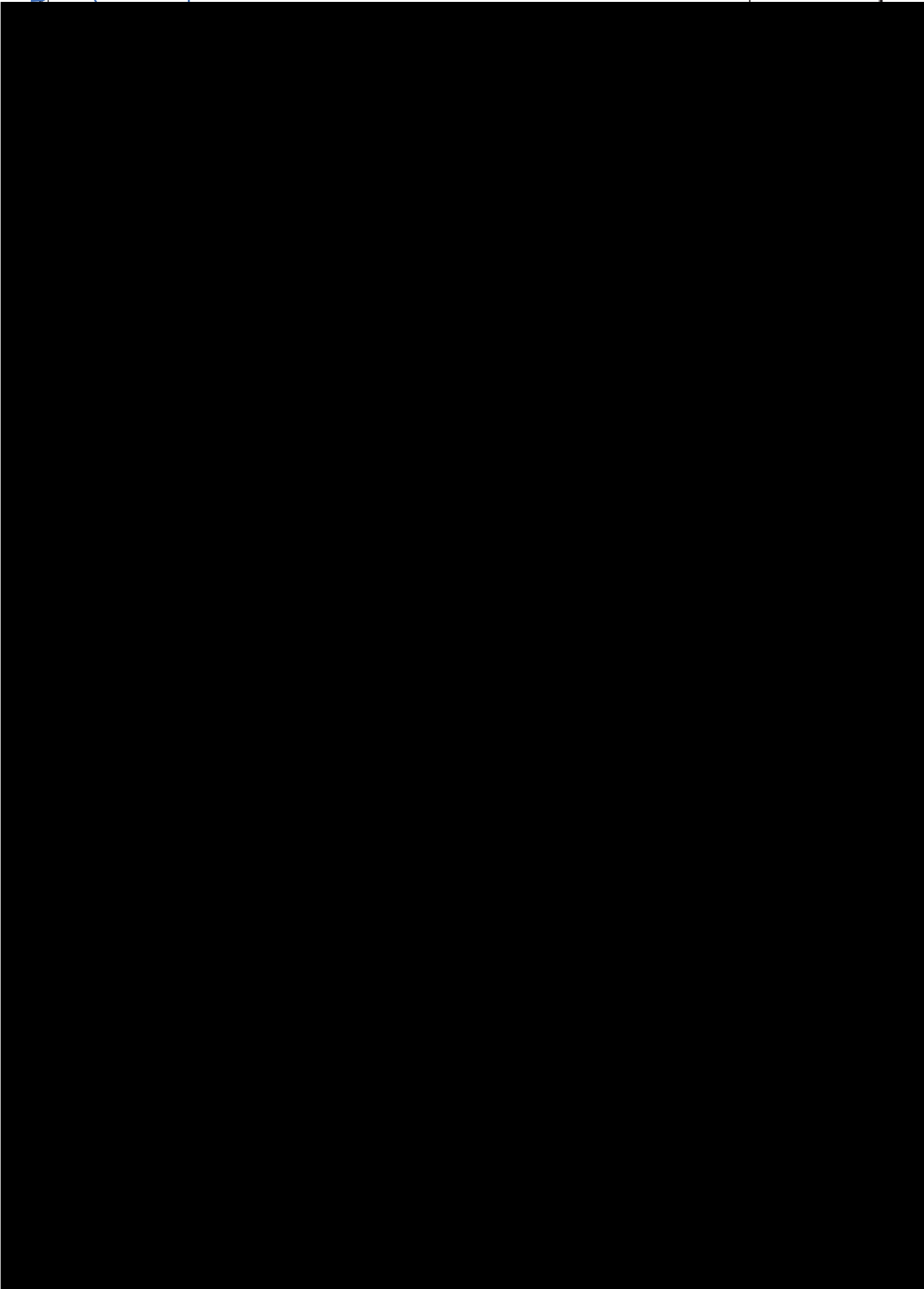
Natural Resources Conservation Service

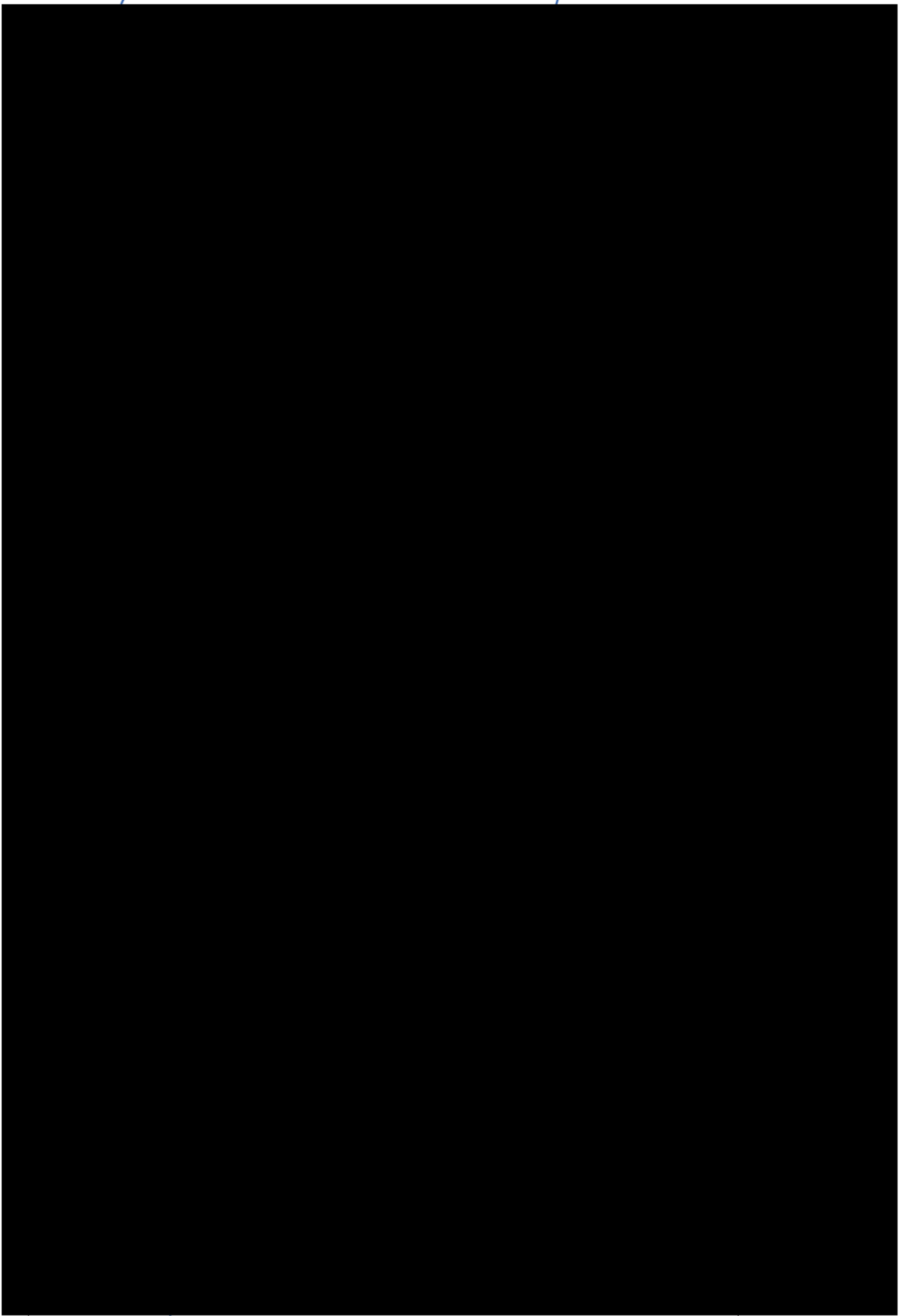
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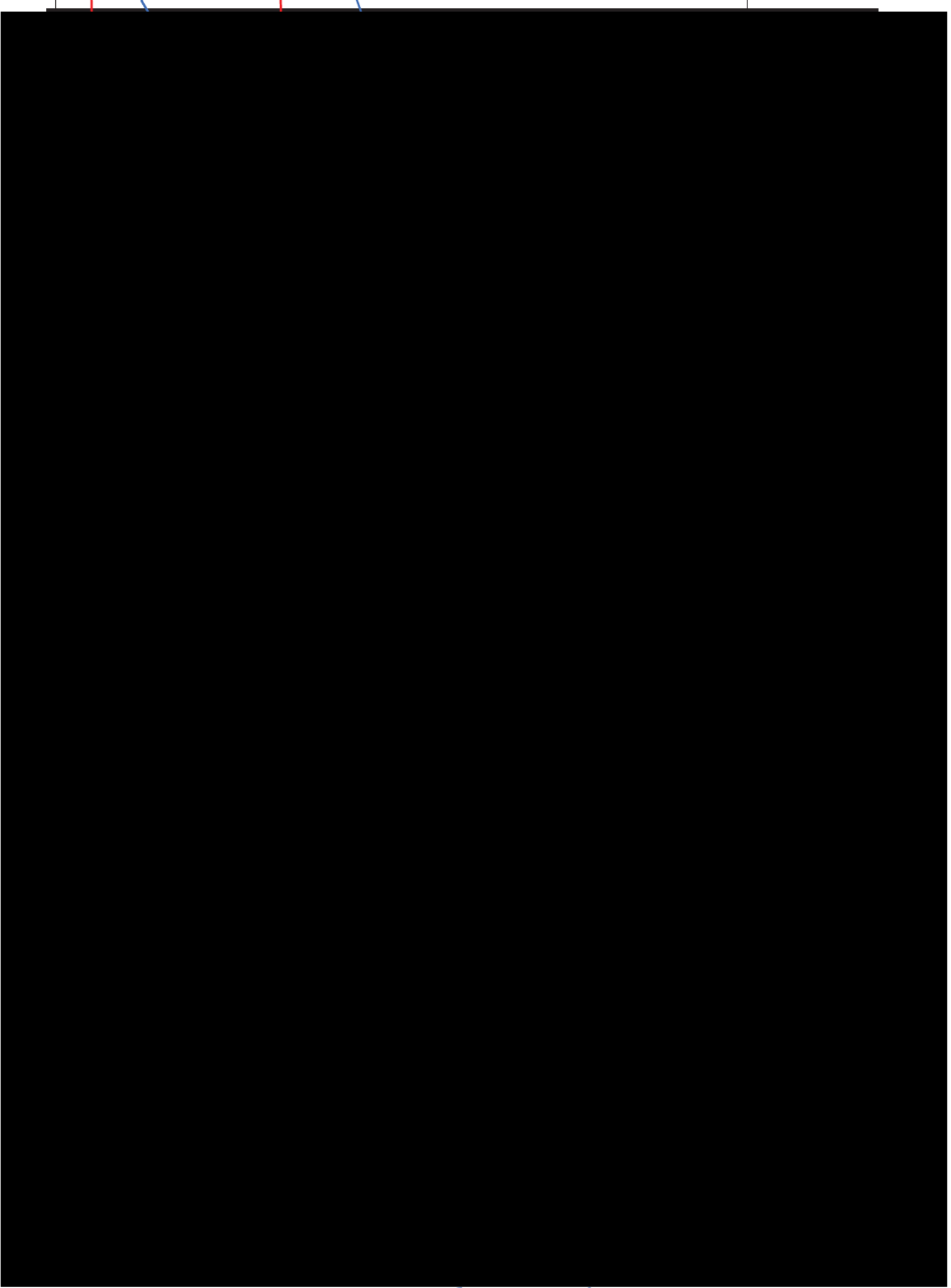
Wright, H. E. Jr.

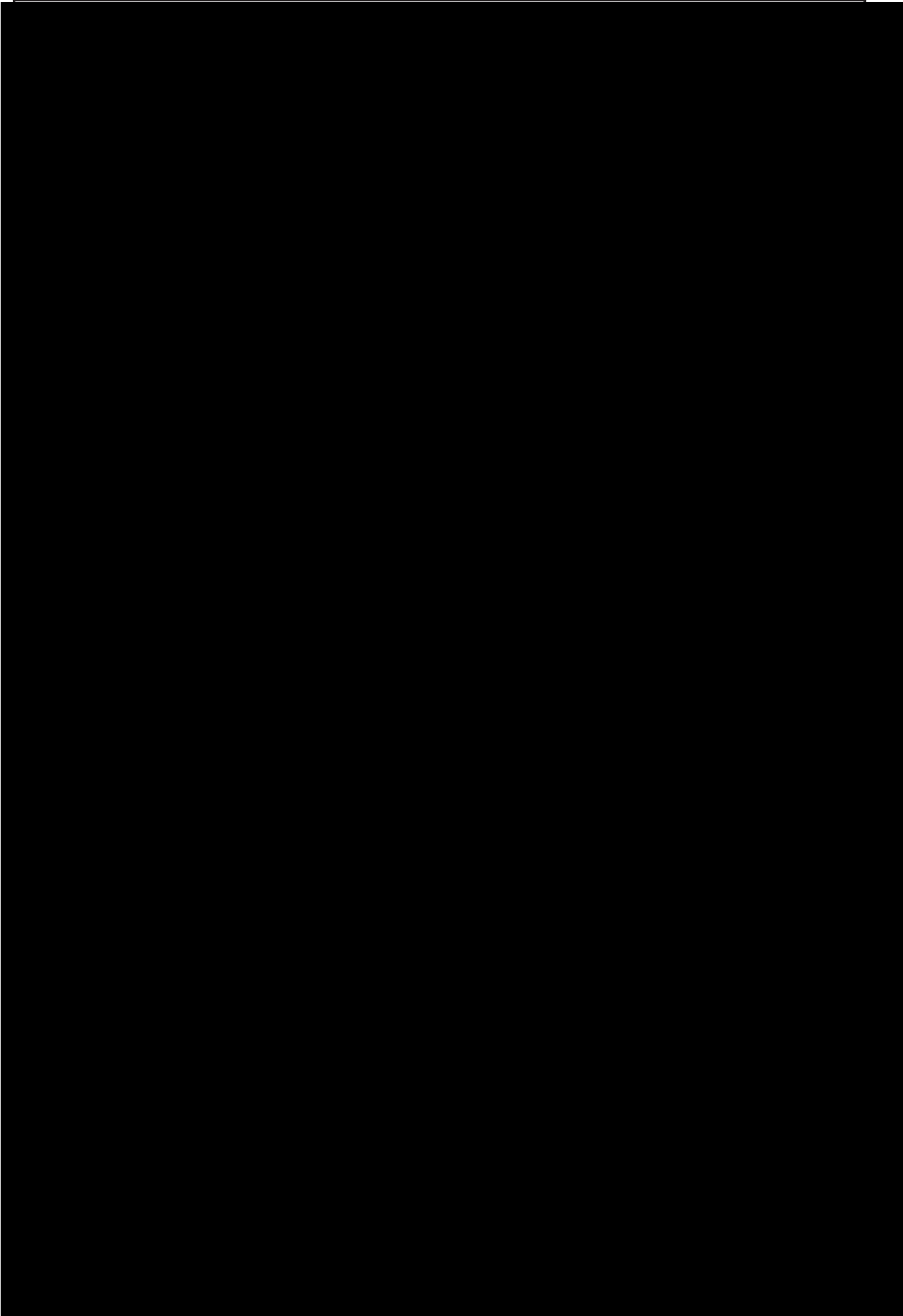
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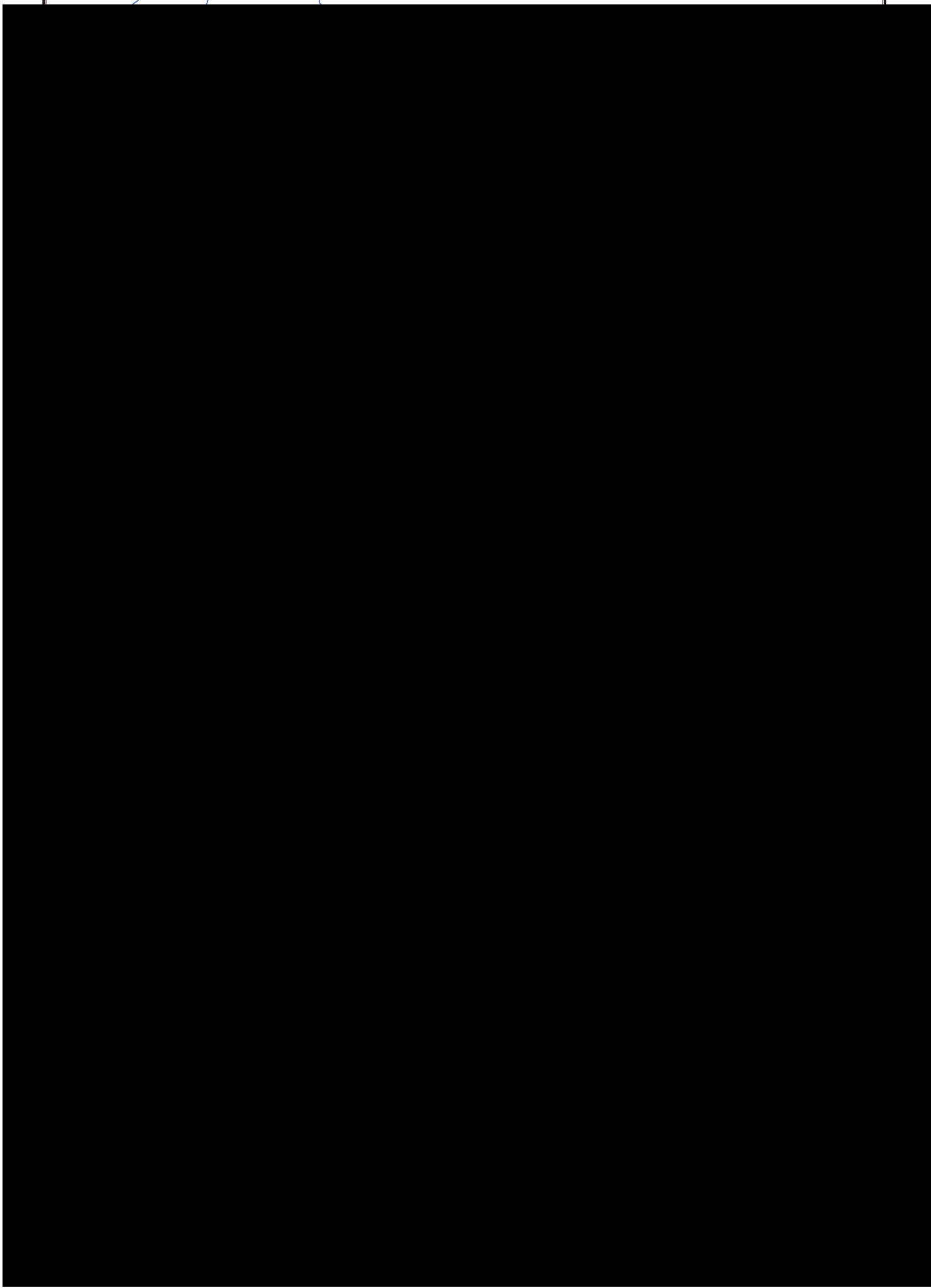


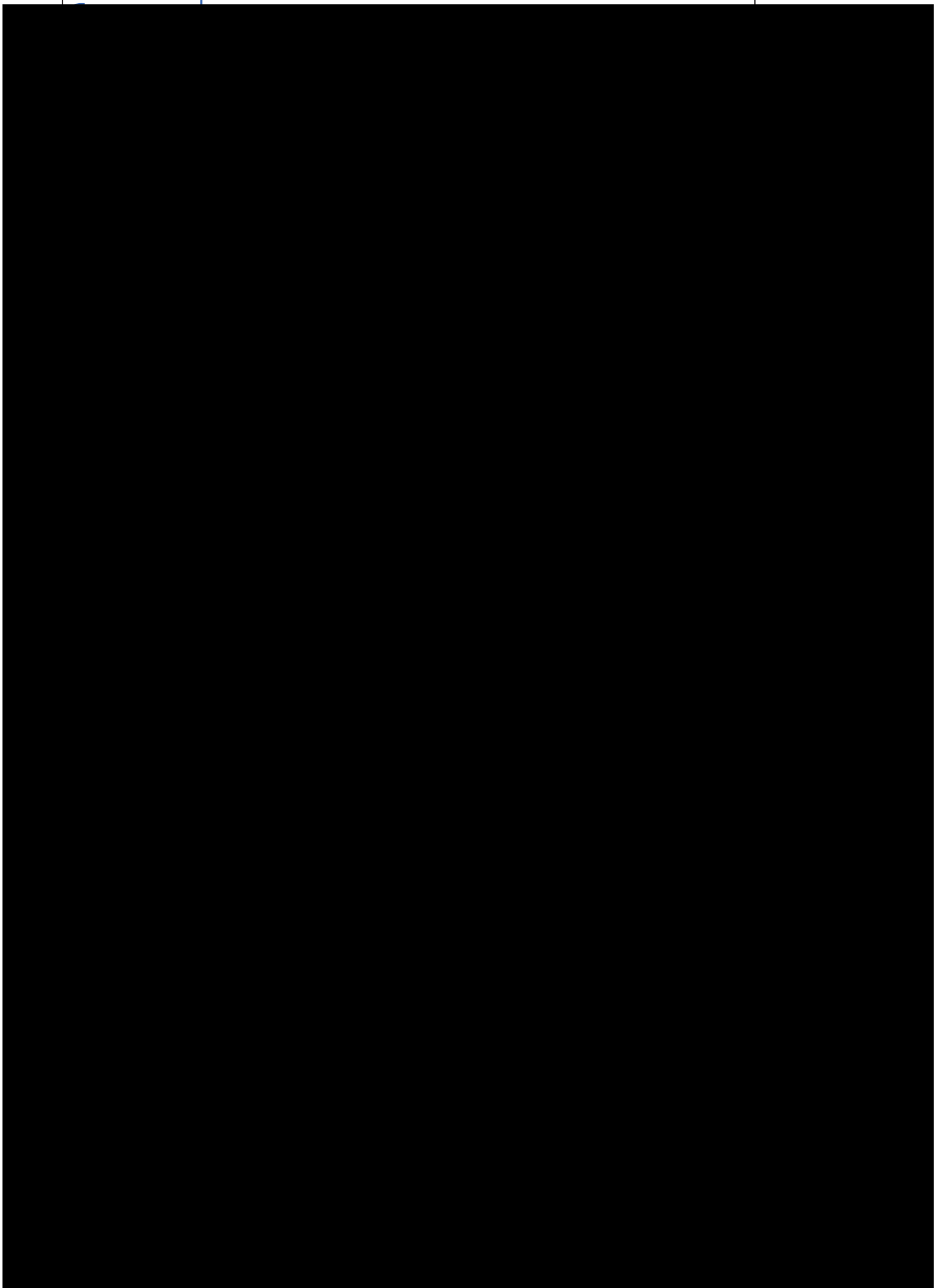


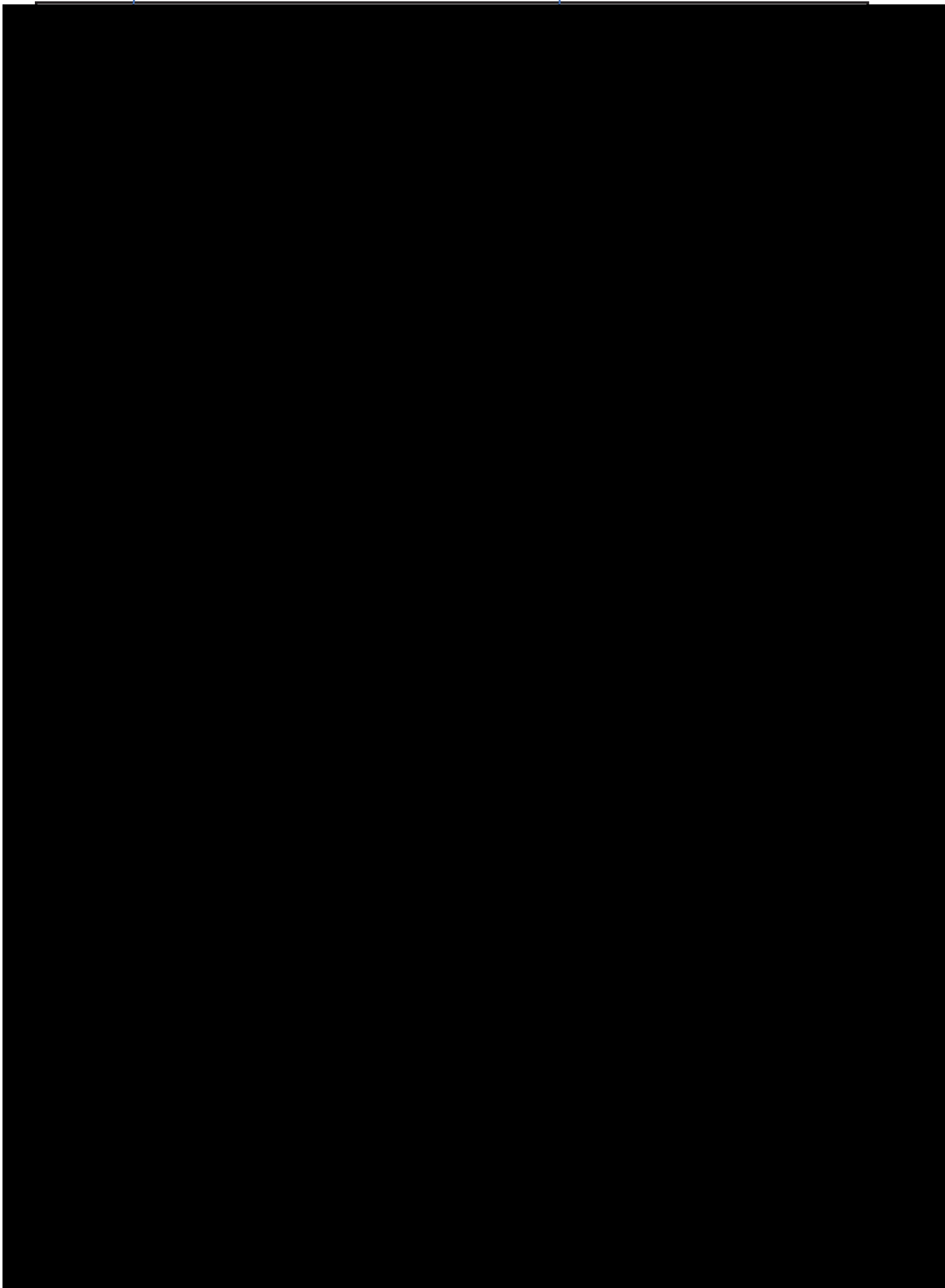


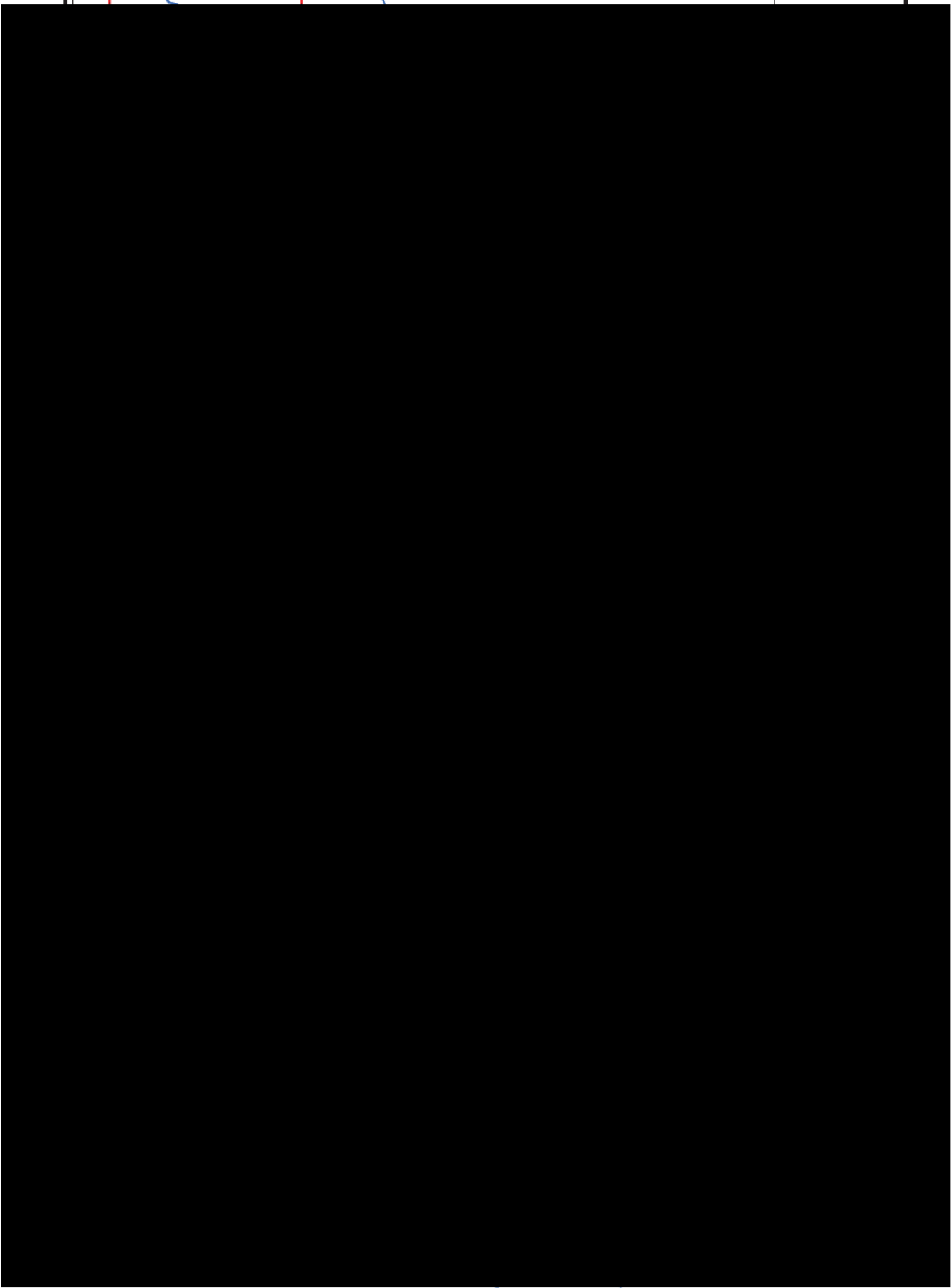














LITERATURE REVIEW
AERIAL MAP
 Keetac Tailings Basin Project
 Itasca and St. Louis County, Minnesota
DO NOT RELEASE
 Archaeological Site Location
 Not for Public Disclosure

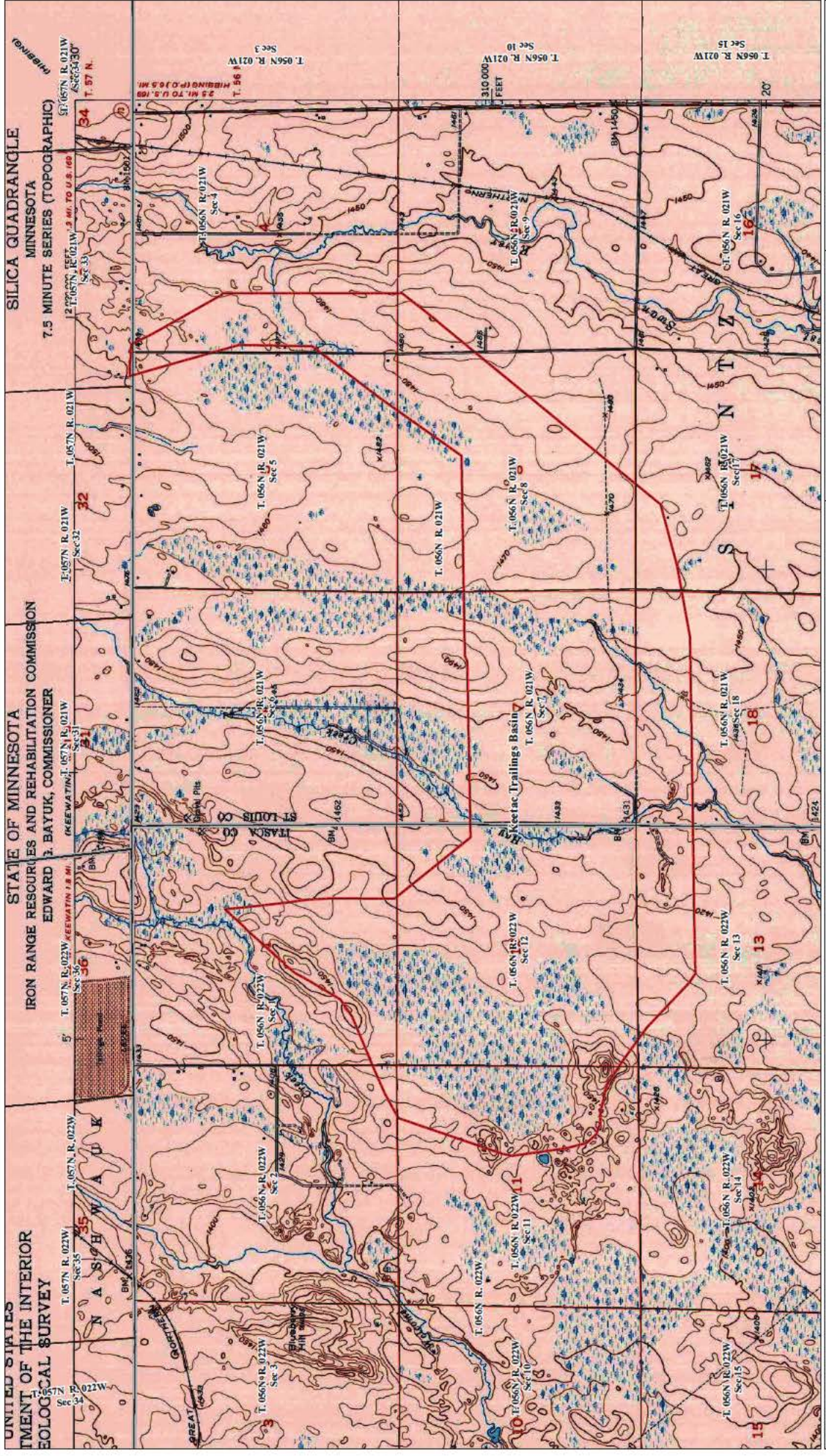
1:24,000
 Approximate Scale in Feet
 0 500 1,000 2,000 3,000 4,000
 1 inch equals 2,000 feet
 Note: Imagery courtesy of ERI

Figure 10. Aerial map with previous cultural resources surveys and previously recorded sites.



Legend

- NRHP Eligible Property (N=1)
- Unevaluated Historic Property (N=1)
- 2-Mile Study Area
- Archaeological Site
- Project Area
- NHD Streams/Rivers
- NHD Waterbodies
- Township Boundary
- Township/Range/Section



UNITED STATES
DEPARTMENT OF THE INTERIOR
BIOLOGICAL SURVEY

STATE OF MINNESOTA
IRON RANGE RESOURCES AND REHABILITATION COMMISSION
EDWARD J. BAYUK, COMMISSIONER

SILICA QUADRANGLE
MINNESOTA
7.5 MINUTE SERIES (TOPOGRAPHIC)

Legend

Project Area

Township Boundary

Township/Range/Section



HISTORICAL MAP
TOPOGRAPHIC MAP
Keetac Trailings Basin Expansion
Itasca and St. Louis Counties, Minnesota

0 500 1,000 2,000 3,000 4,000
Approximate Scale in Feet

1:24,000
Note: Imagery courtesy of ERI.
Figure 12. Project location on the
USGS 1952 Silica, MN 7.5 minute
series topographic map.