APPENDIX F-1
Part 2
Campo Wind Preliminary ESA

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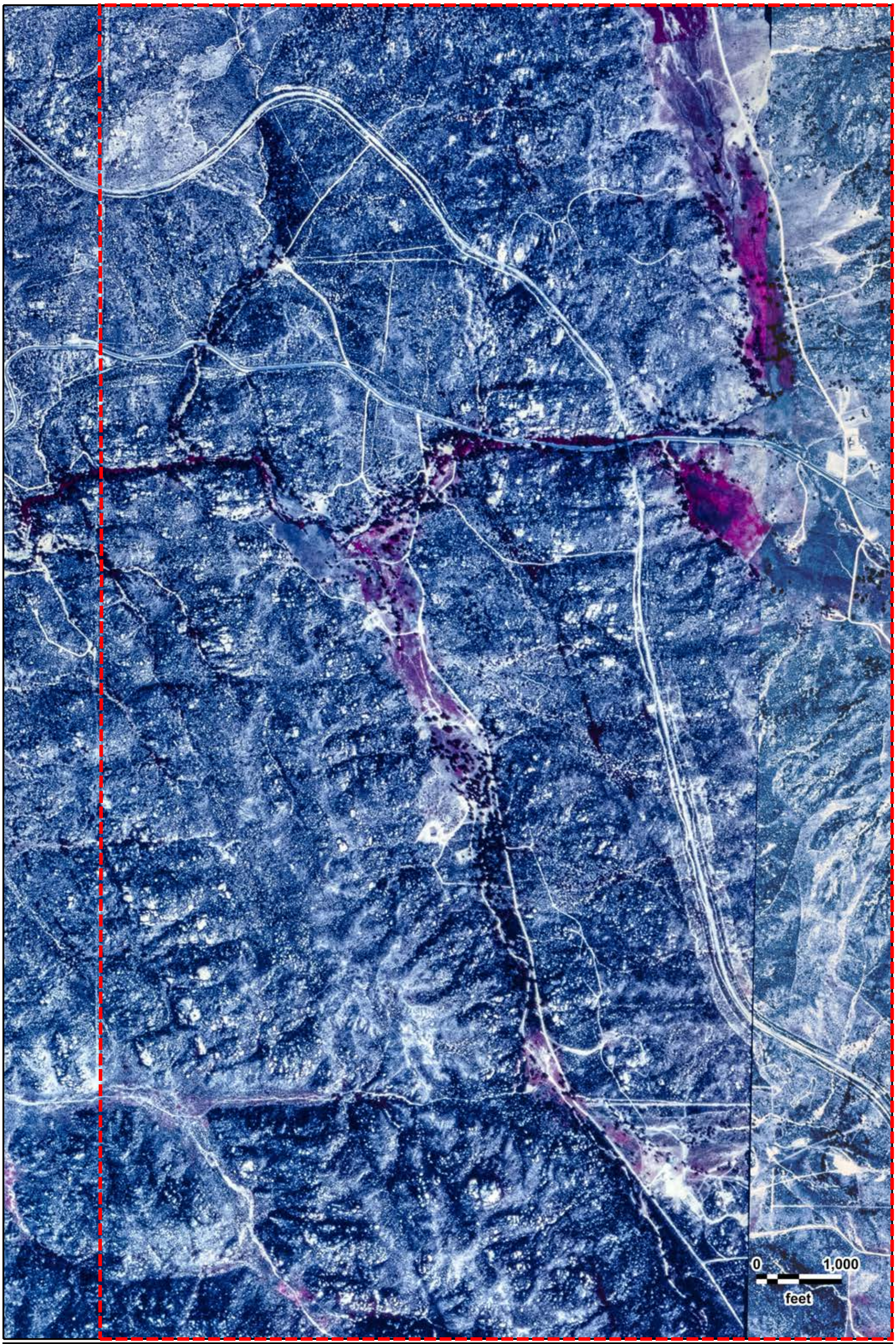
Campo Project
USGS
08/24/1984

GeoSearch

JOB #: 248836 - 08/02/2018



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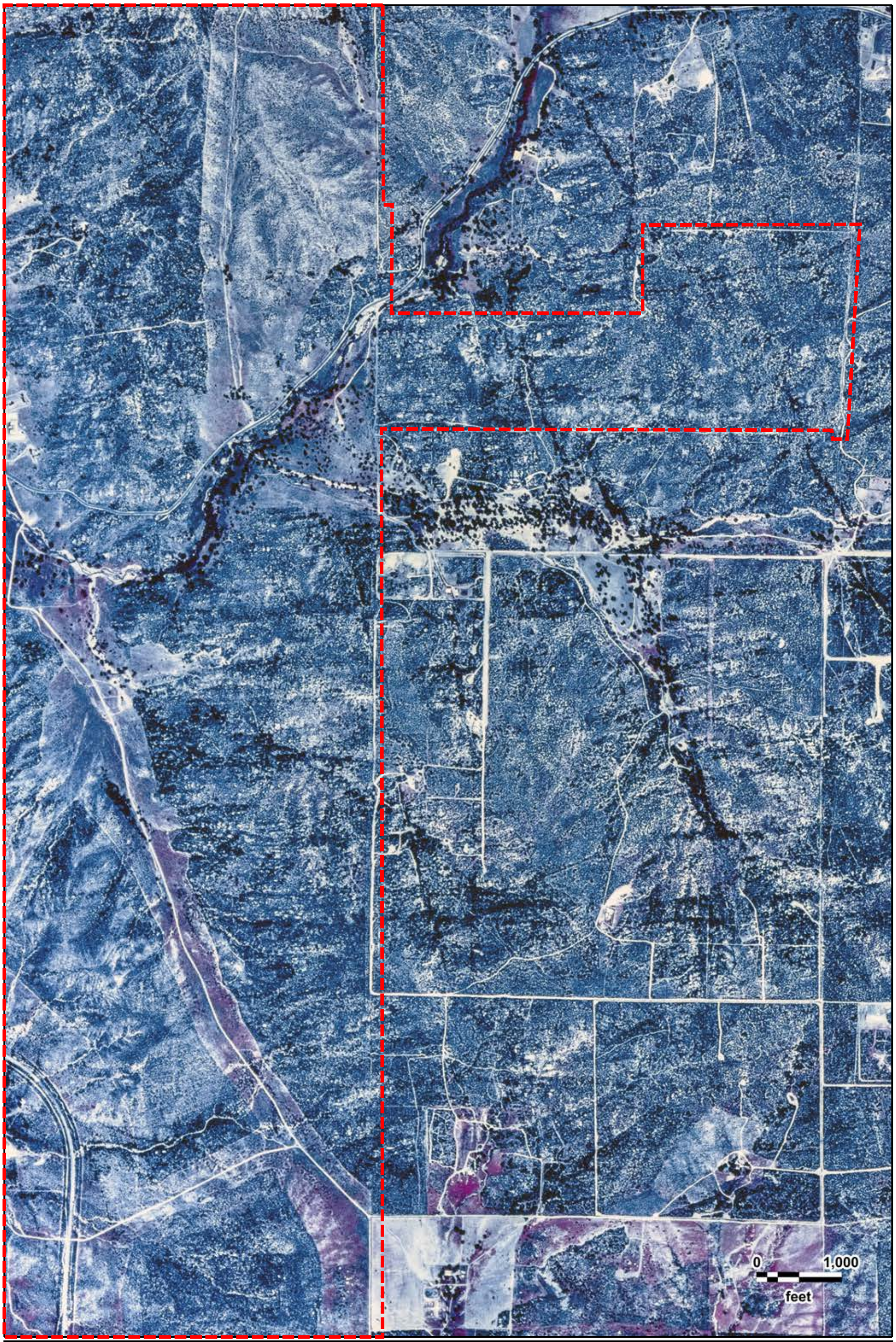
Campo Project
USGS
08/24/1984

GeoSearch

JOB #: 248836 - 08/02/2018



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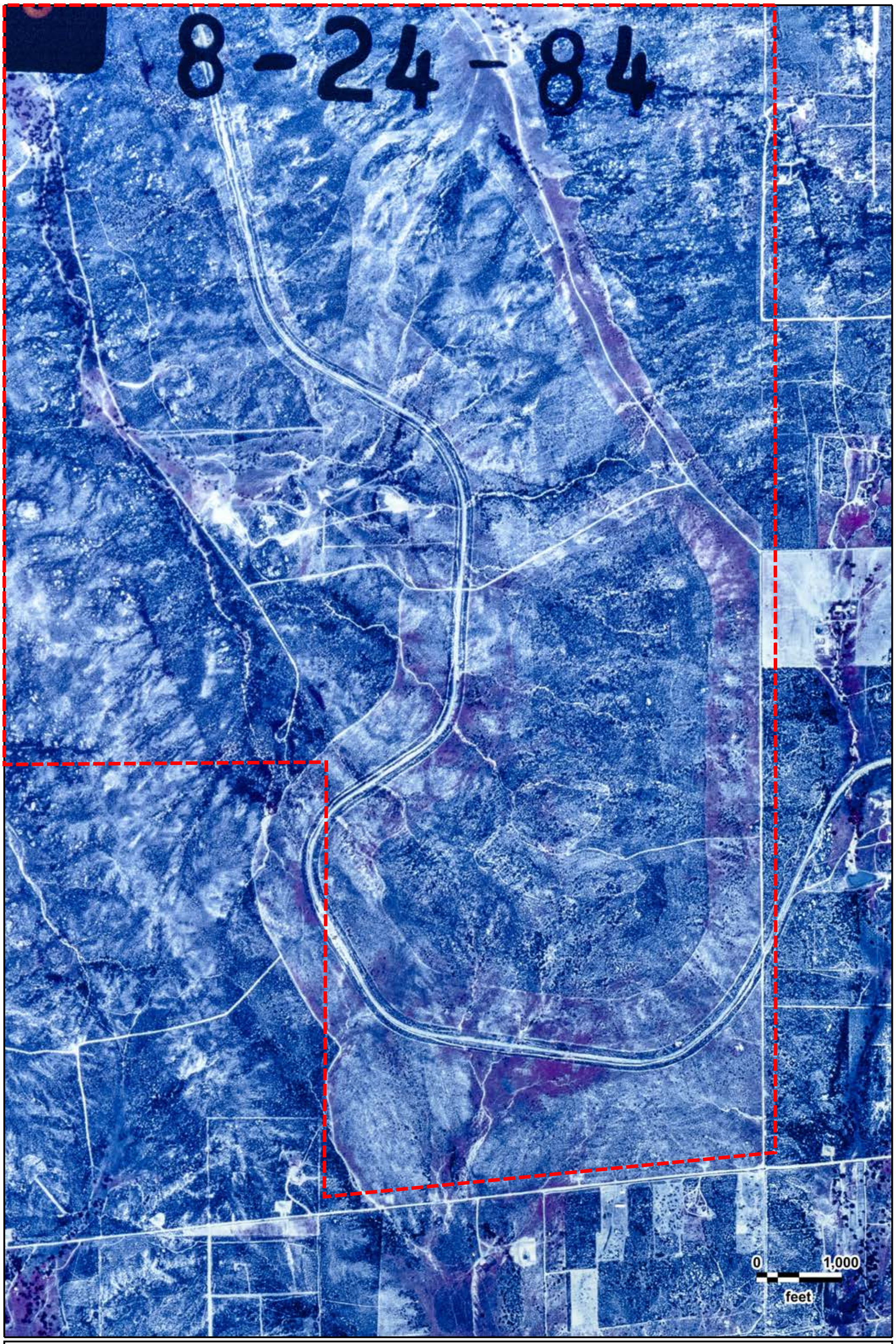
Campo Project
USGS
08/24/1984

GeoSearch

JOB #: 248836 - 08/02/2018



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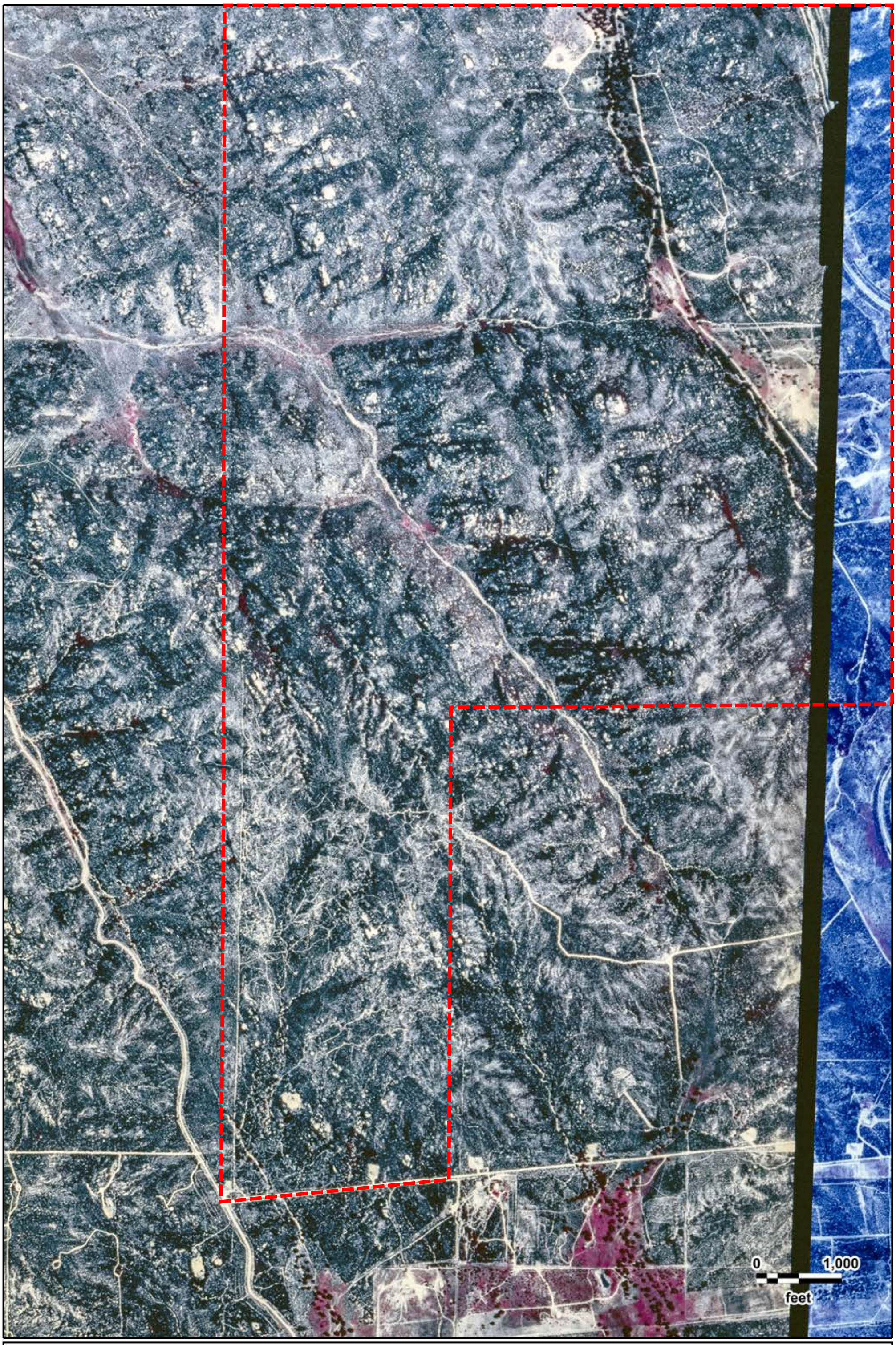
Campo Project
USGS
08/24/1984

GeoSearch

JOB #: 248836 - 08/02/2018



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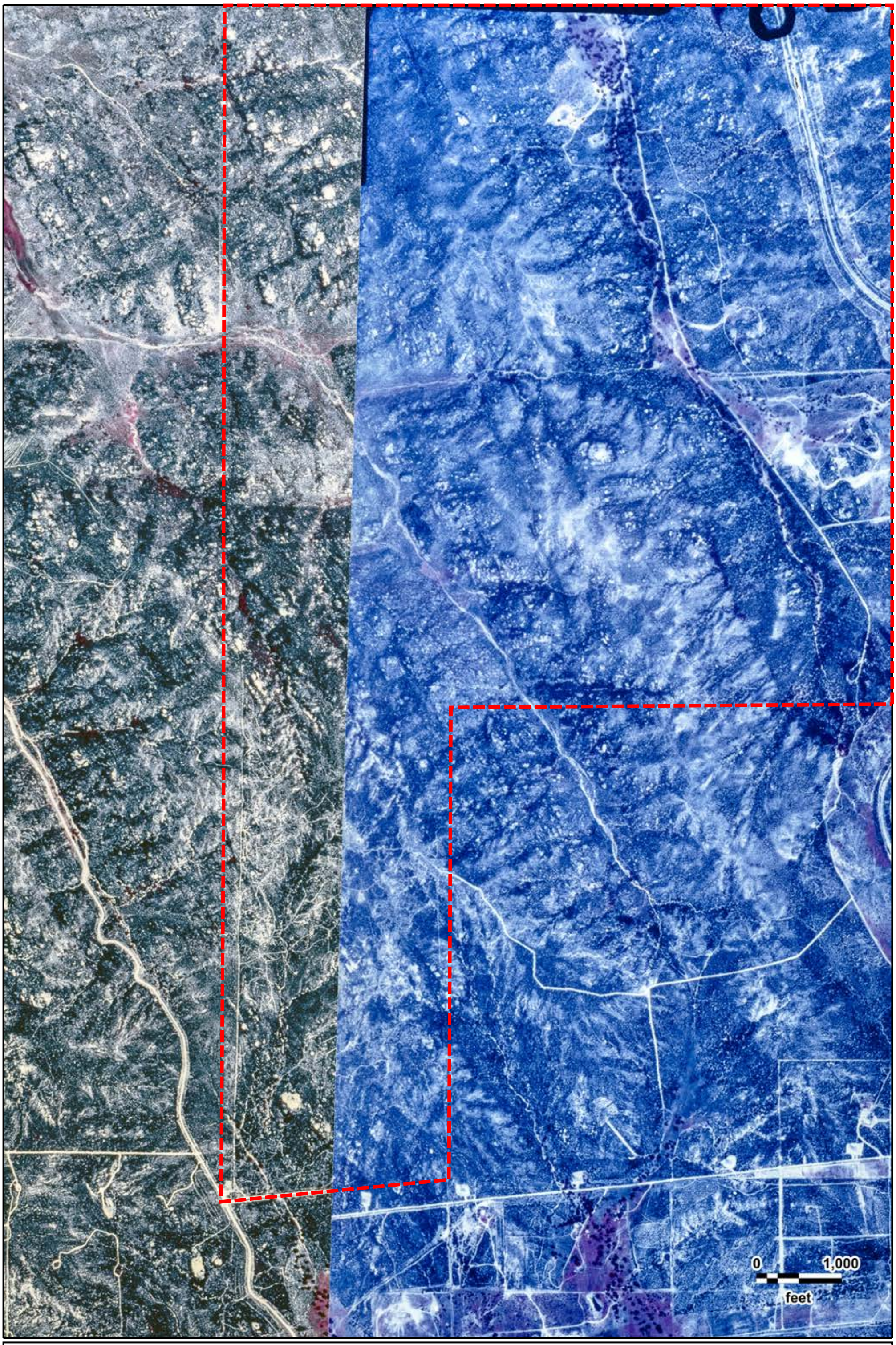
Campo Project
USGS
08/24/1984

GeoSearch

JOB #: 248836 - 08/02/2018



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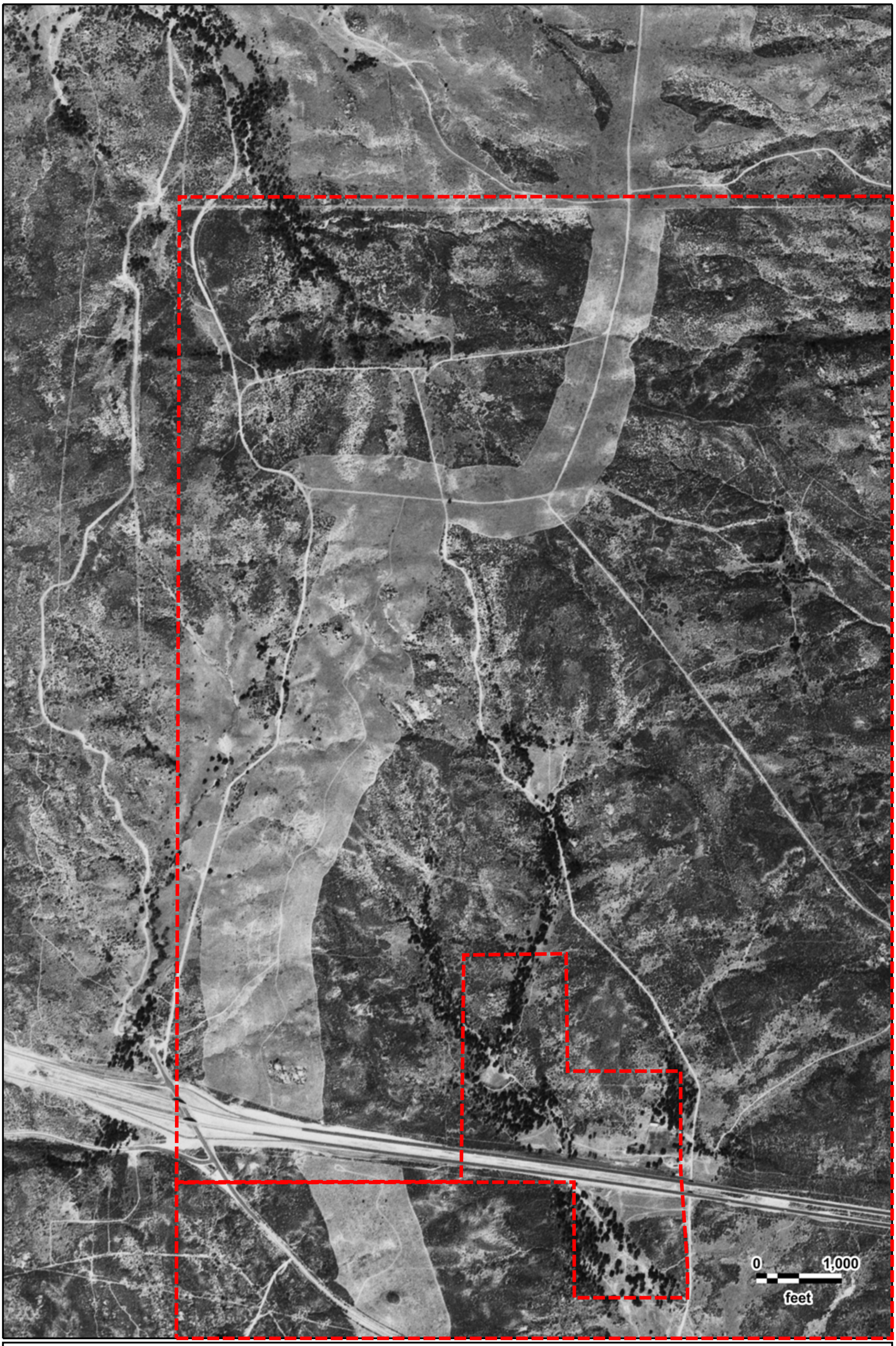
Campo Project
USGS
08/24/1984

GeoSearch

JOB #: 248836 - 08/02/2018



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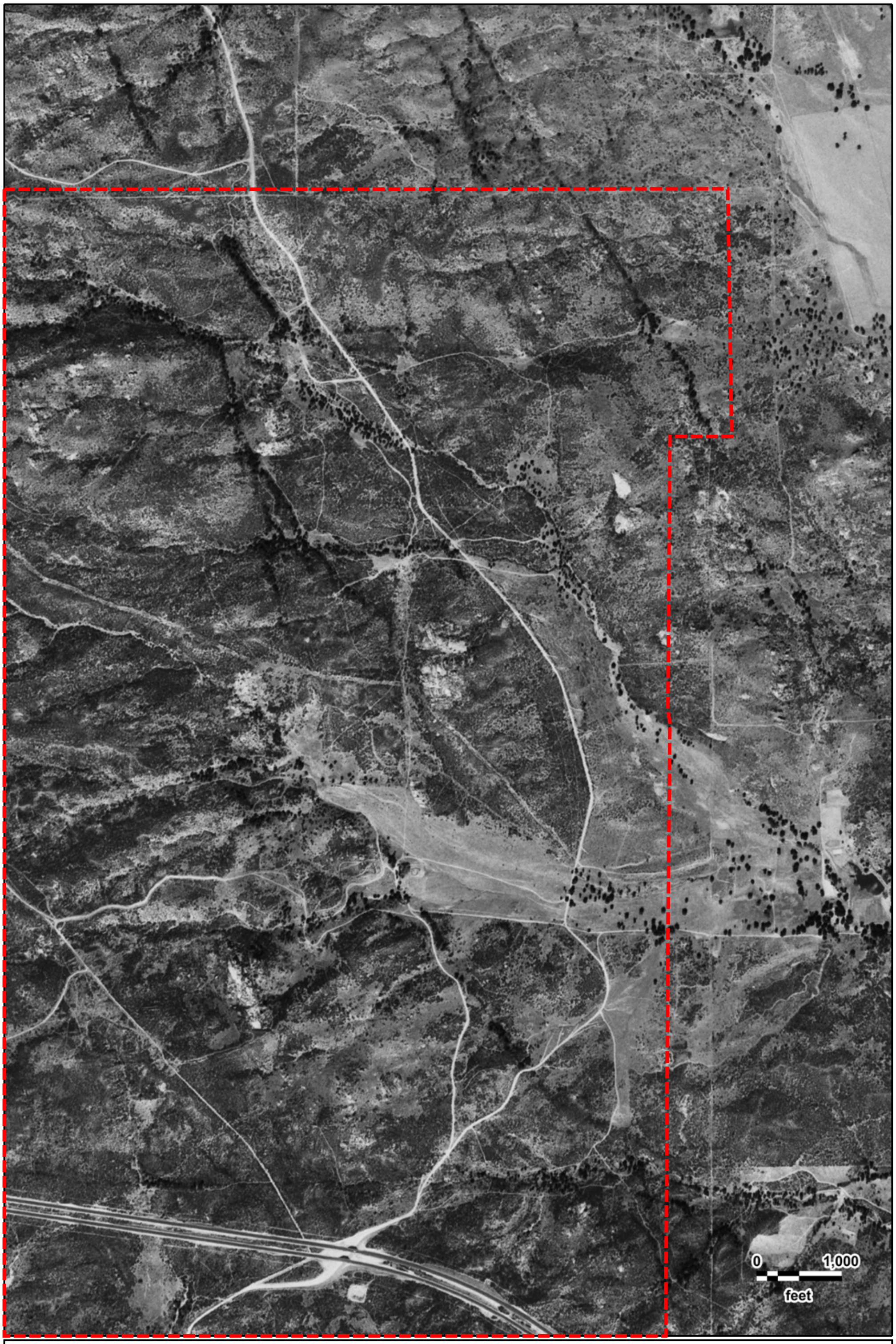
Campo Project
USGS
10/16/1975

GeoSearch

JOB #: 248836 - 08/02/2018



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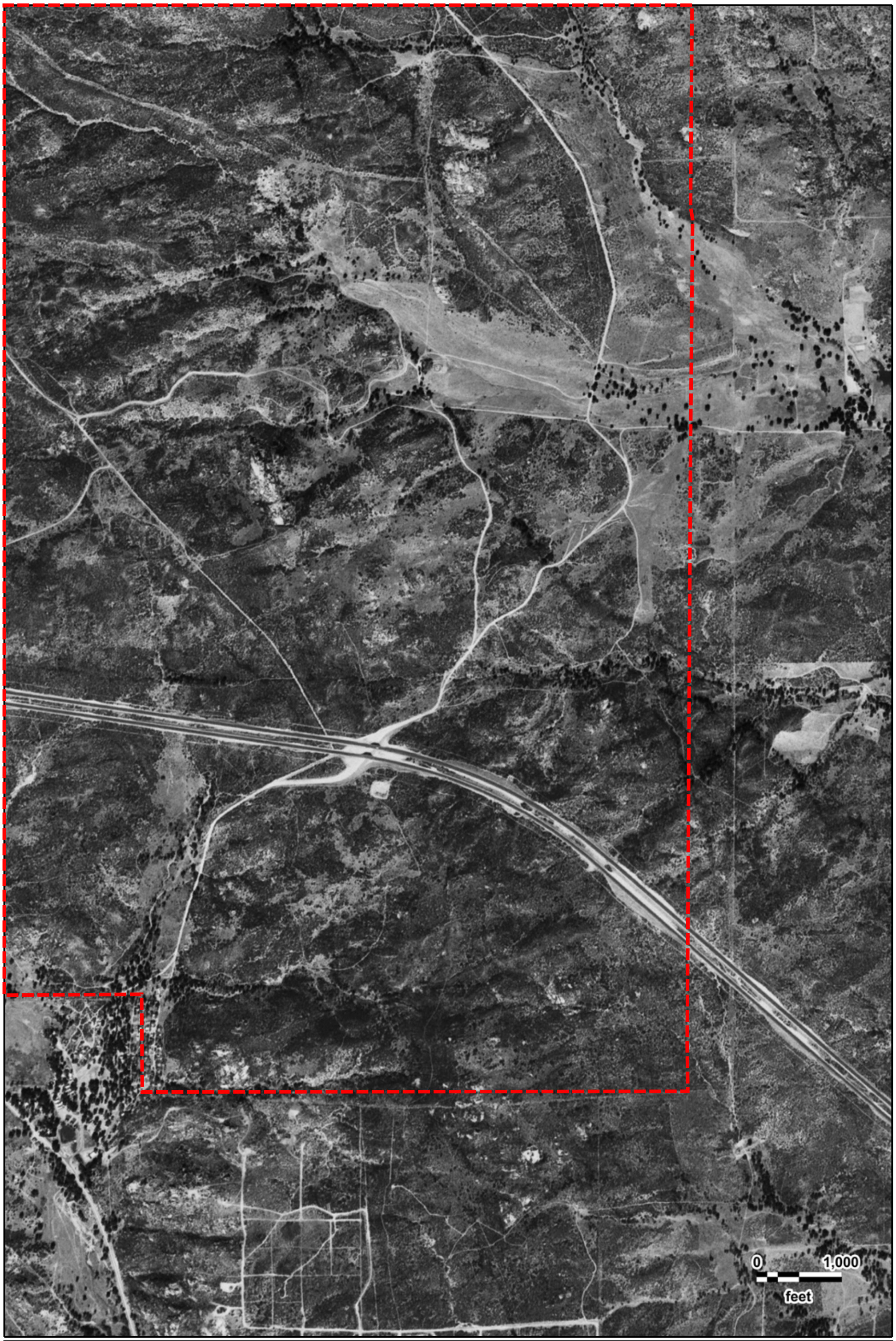
Campo Project
USGS
10/16/1975

GeoSearch

JOB #: 248836 - 08/02/2018



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Campo Project
USGS
10/16/1975

GeoSearch

JOB #: 248836 - 08/02/2018

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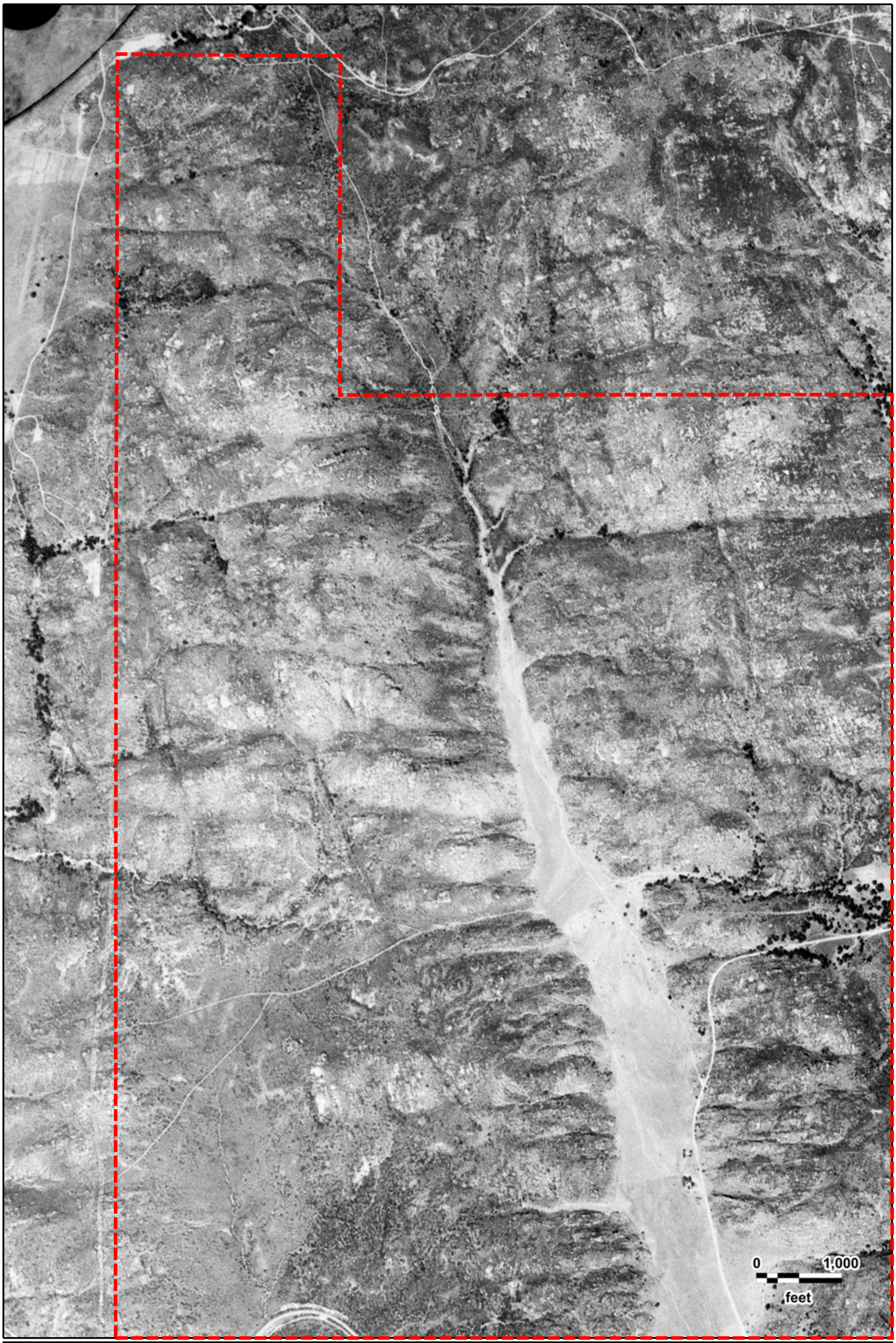
Campo Project
USGS
10/16/1975

GeoSearch

JOB #: 248836 - 08/02/2018



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Campo Project
USGS
10/16/1975

GeoSearch

JOB #: 248836 - 08/02/2018

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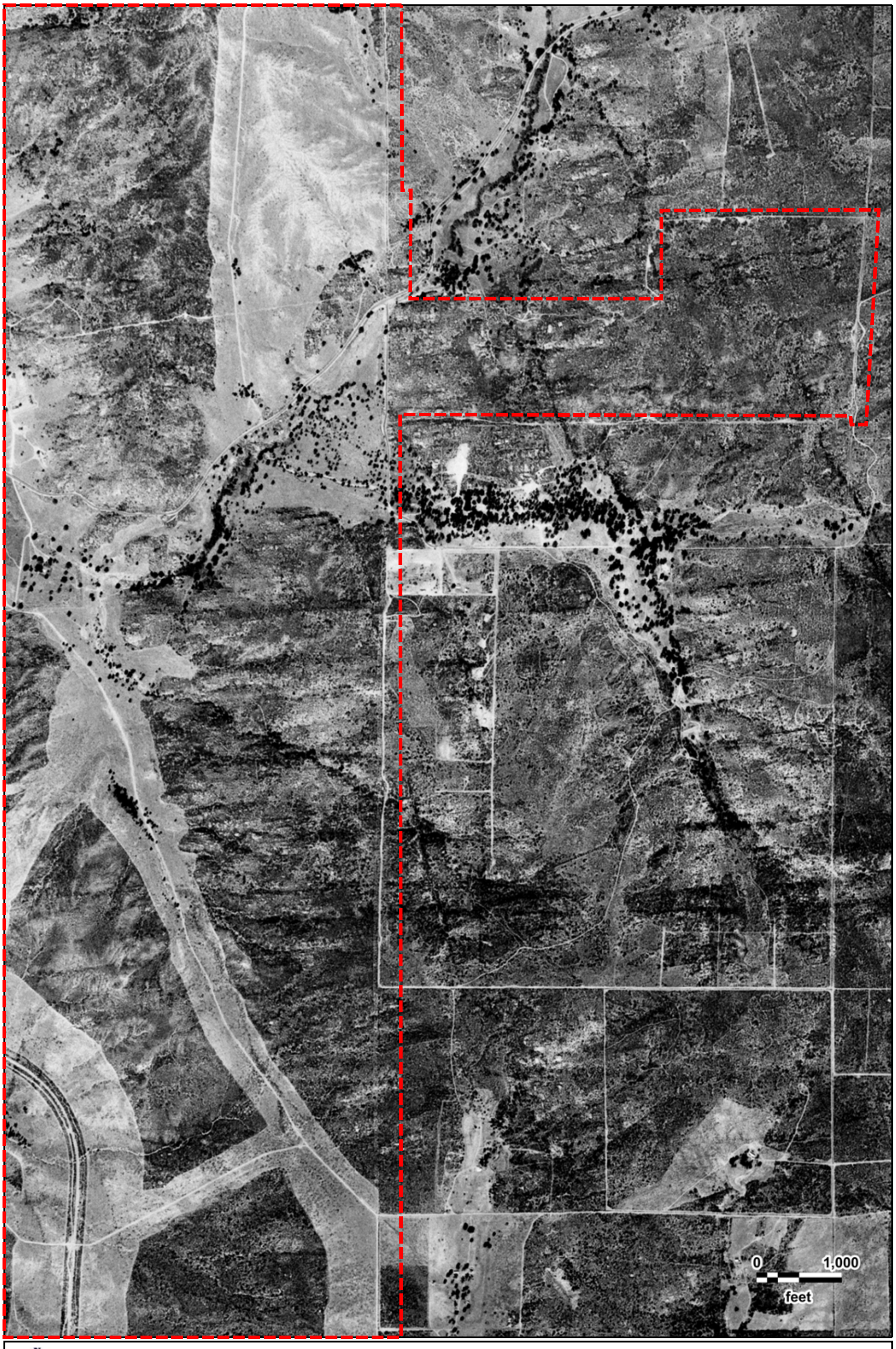
Campo Project
USGS
10/16/1975

GeoSearch

JOB #: 248836 - 08/02/2018



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Campo Project
USGS
10/16/1975

GeoSearch

JOB #: 248836 - 08/02/2018

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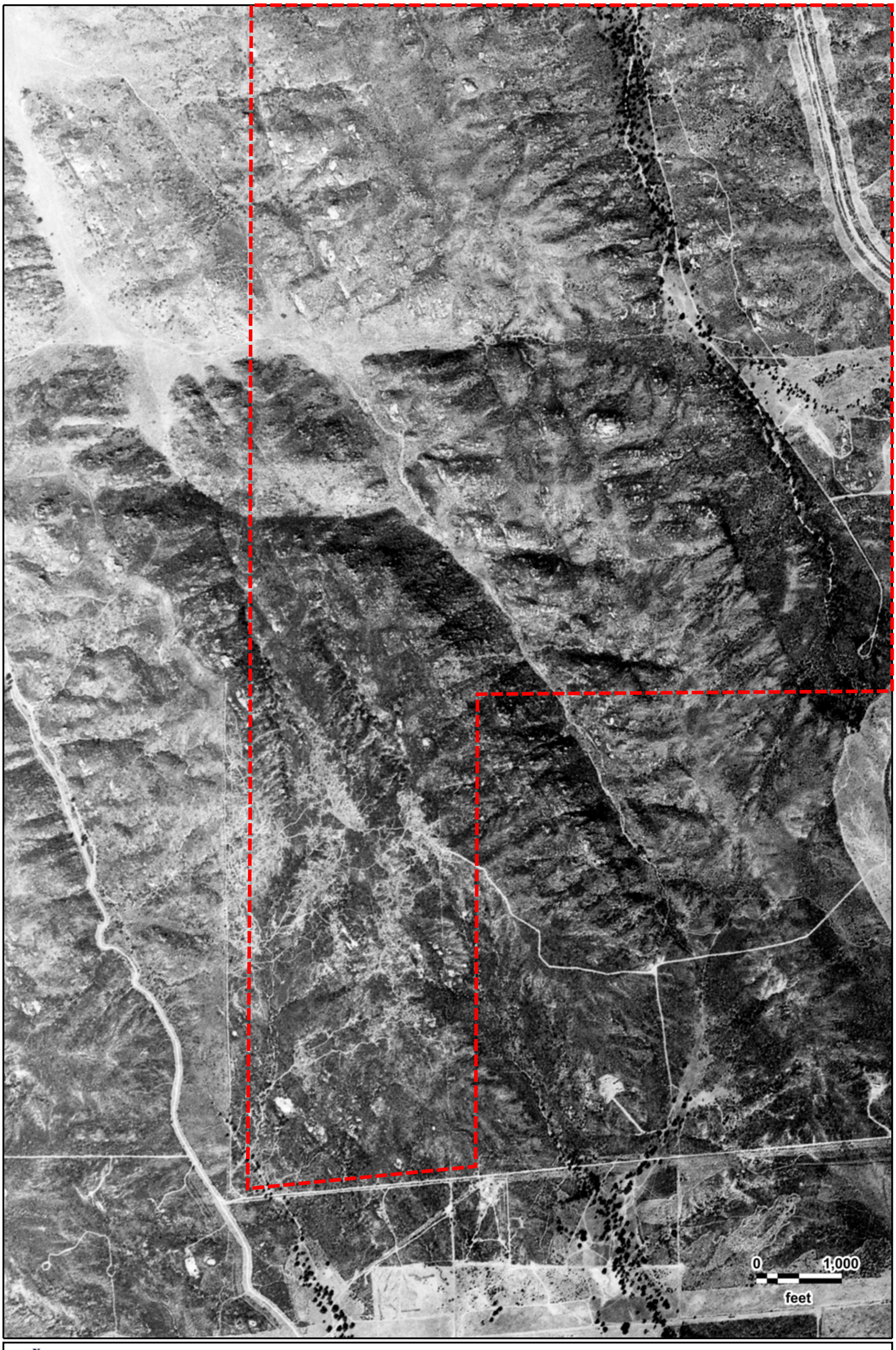
Campo Project
USGS
10/16/1975

GeoSearch

JOB #: 248836 - 08/02/2018



N
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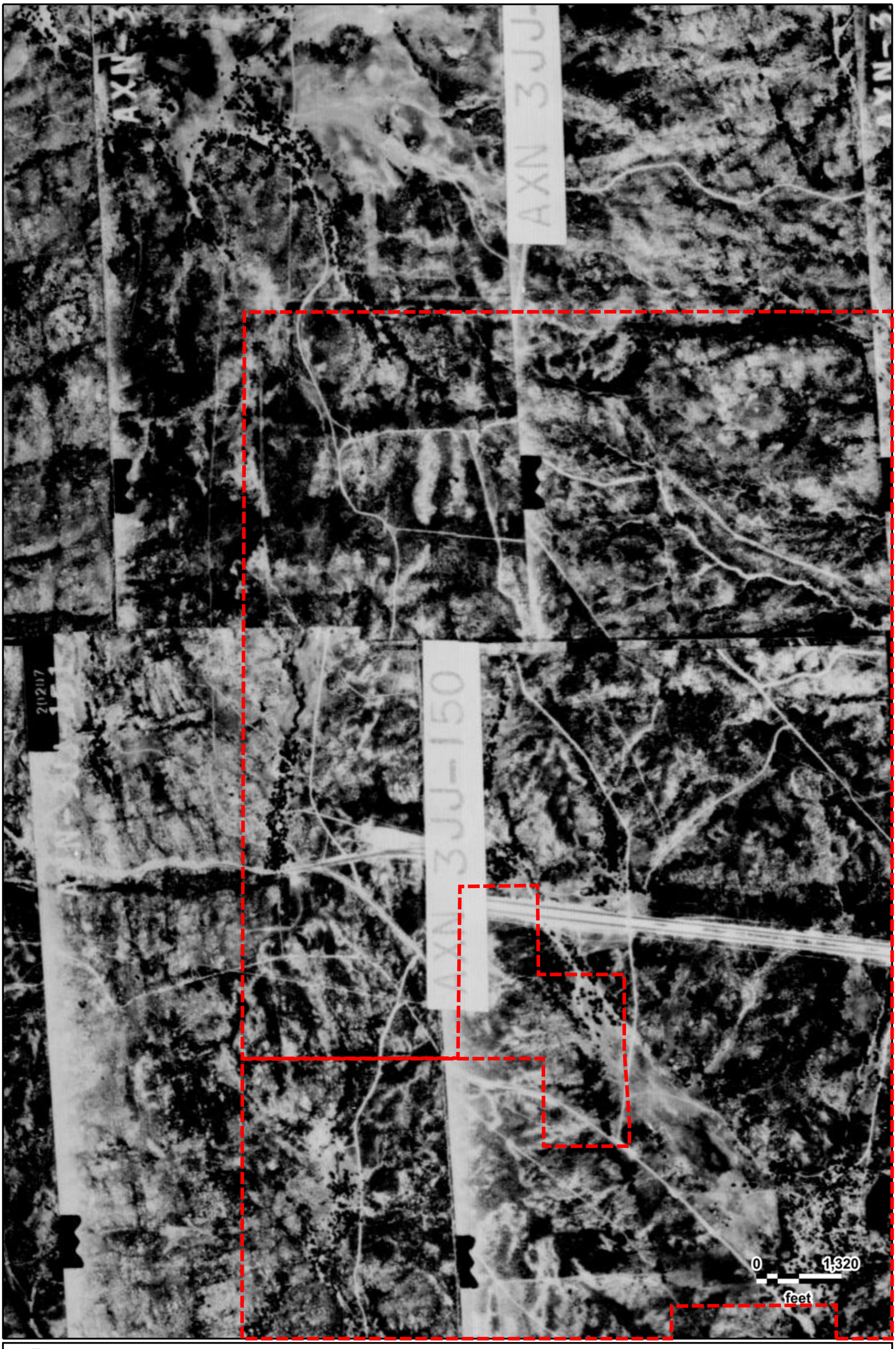
Campo Project
USGS
10/16/1975

GeoSearch

JOB #: 248836 - 08/02/2018



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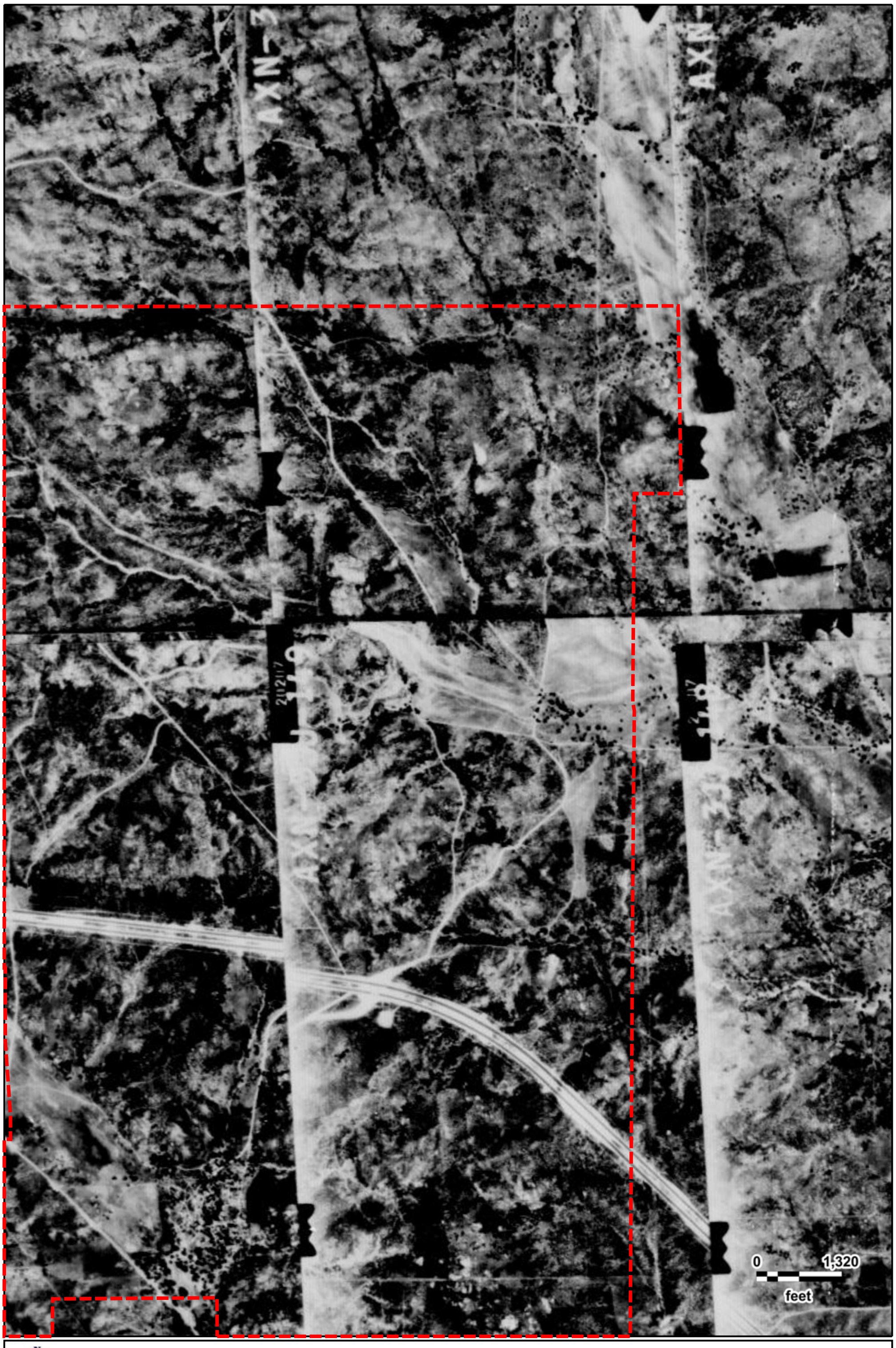
Campo Project
ASCS
1968

GeoSearch

JOB #: 248836 - 08/02/2018



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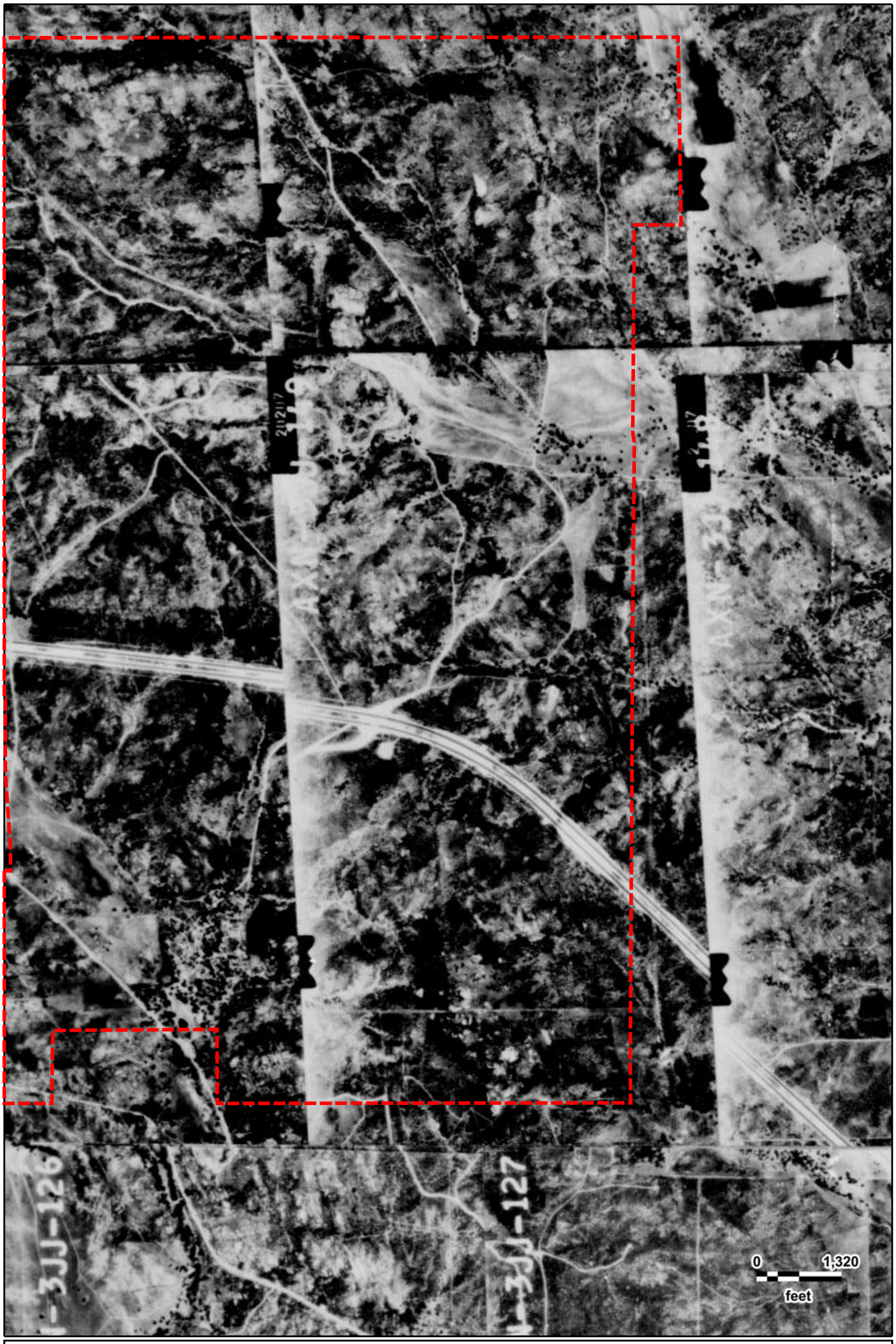
Campo Project
ASCS
1968

GeoSearch

JOB #: 248836 - 08/02/2018



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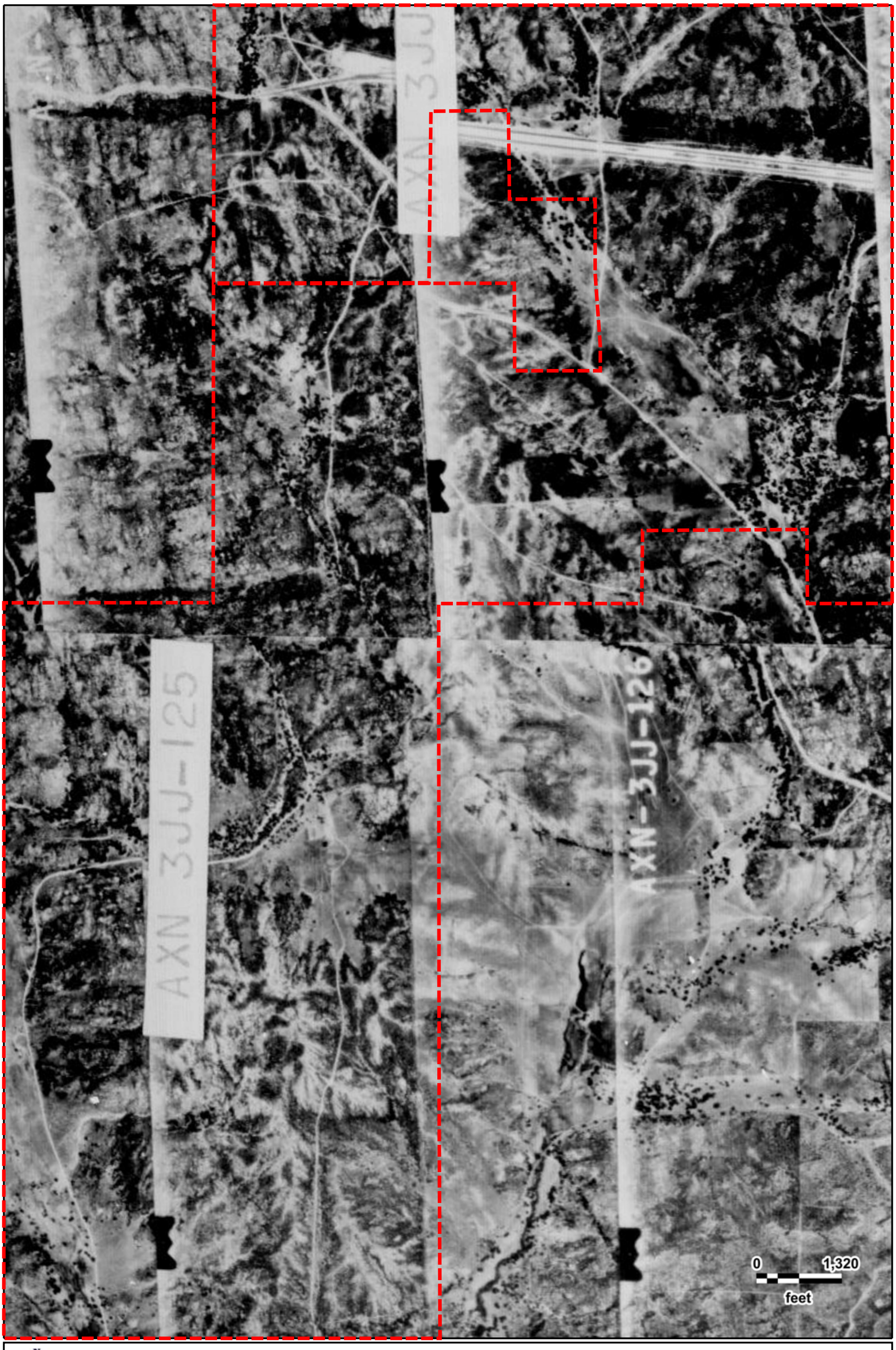
Campo Project
ASCS
1968

GeoSearch

JOB #: 248836 - 08/02/2018



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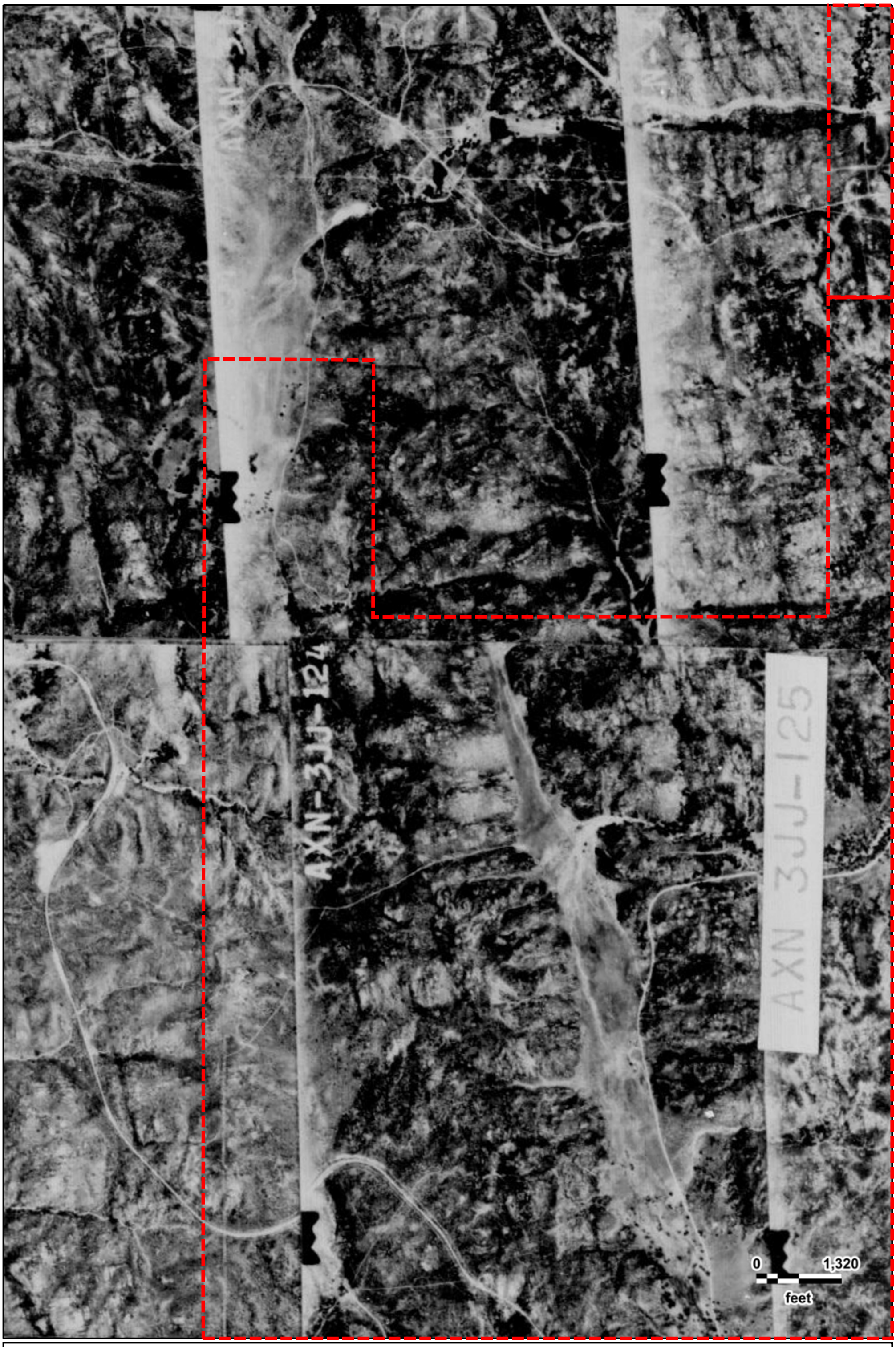
Campo Project
ASCS
1968

GeoSearch

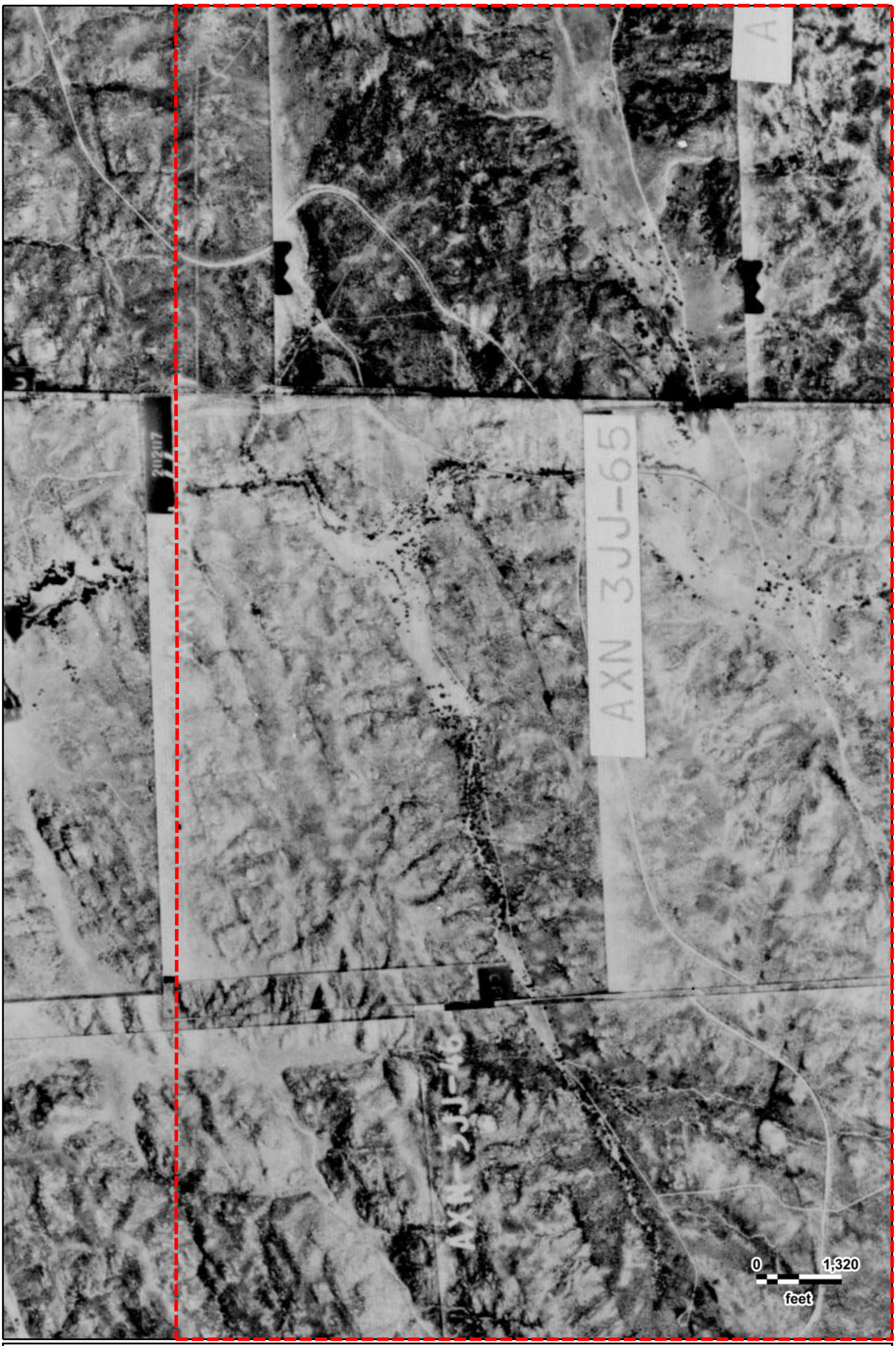
JOB #: 248836 - 08/02/2018



Campo Project
ASCS
1968

GeoSearch

JOB #: 248836 - 08/02/2018



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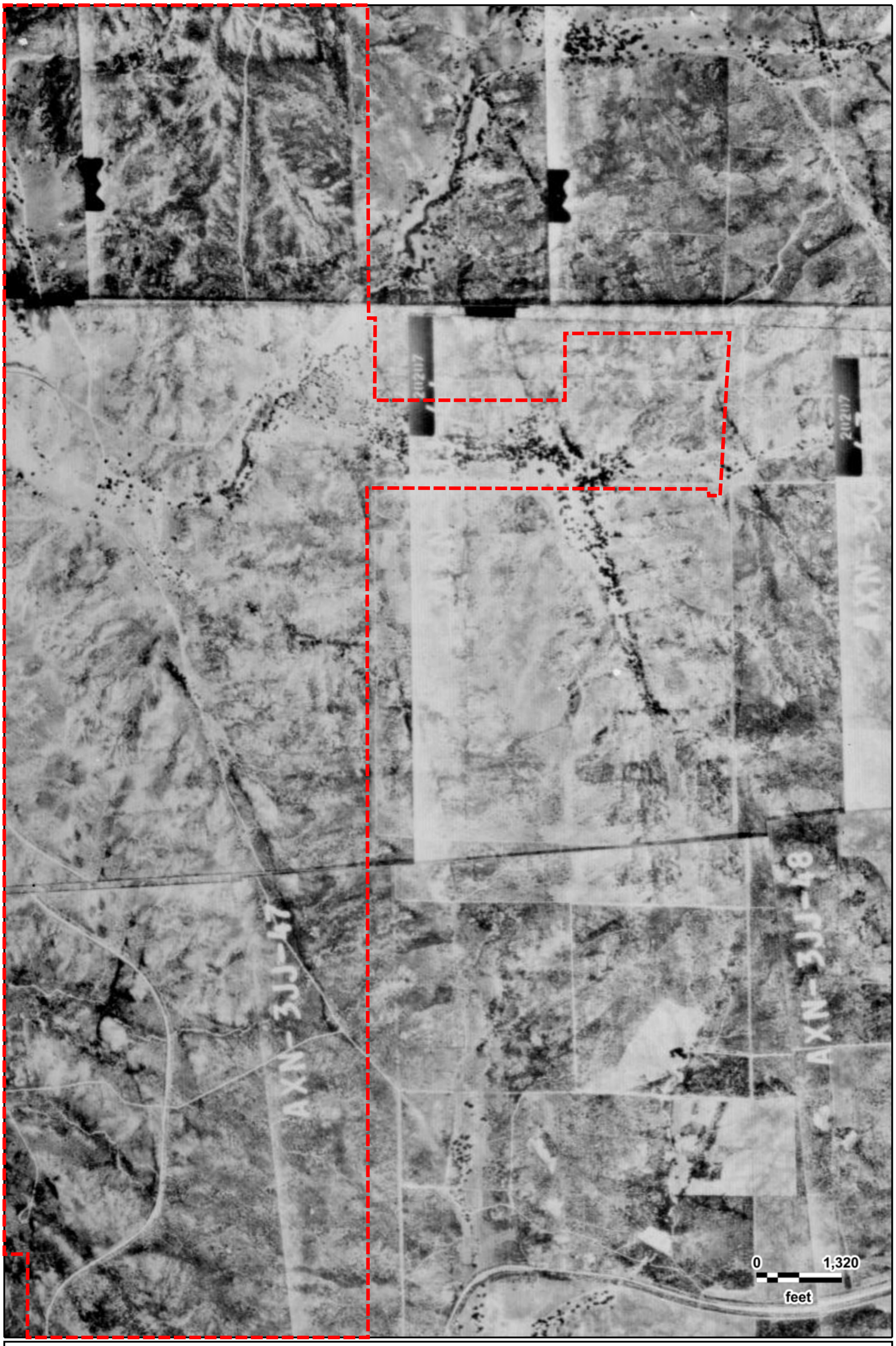
Campo Project
ASCS
1968

GeoSearch

JOB #: 248836 - 08/02/2018



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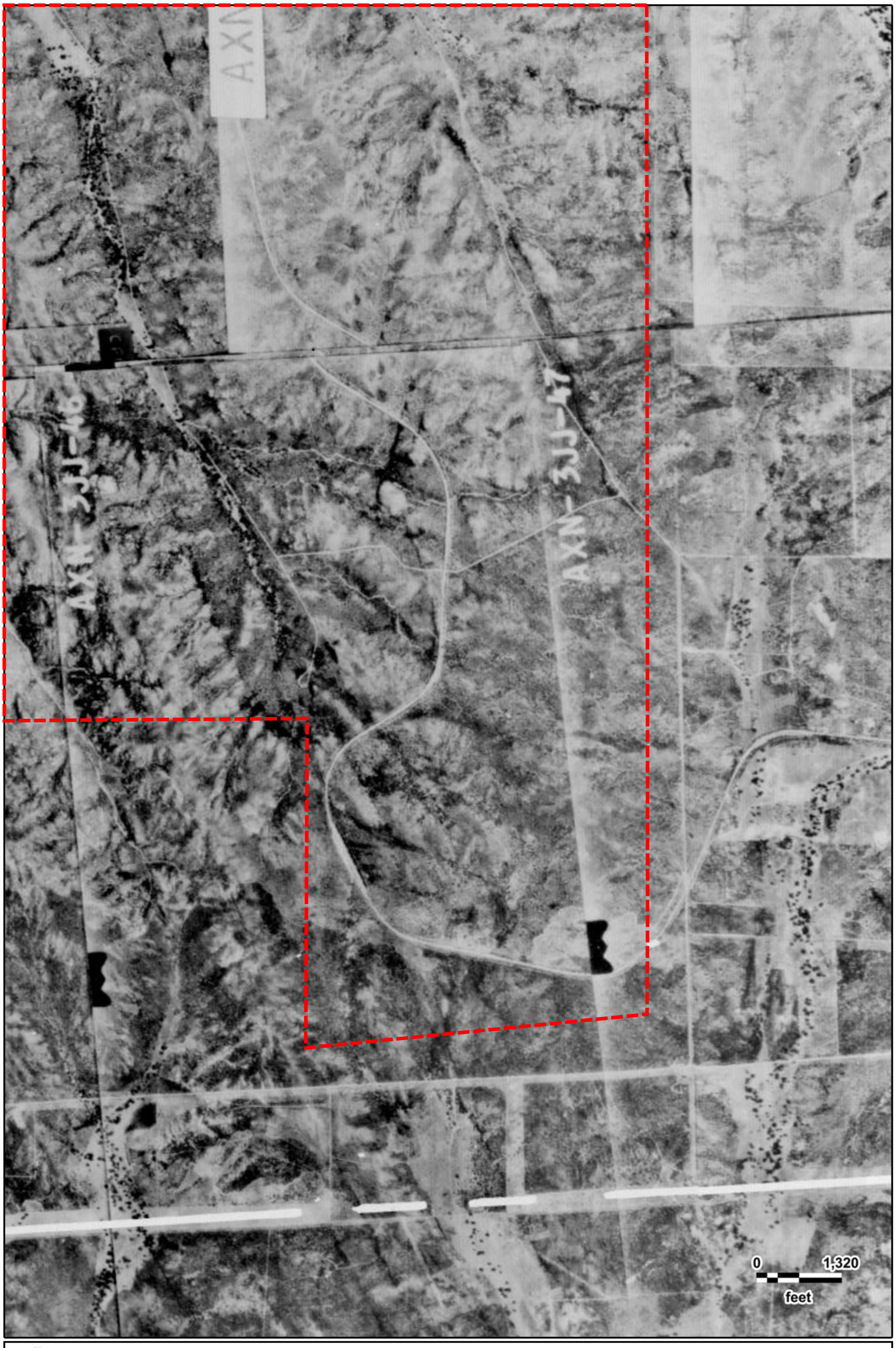
Campo Project
ASCS
1968

GeoSearch

JOB #: 248836 - 08/02/2018



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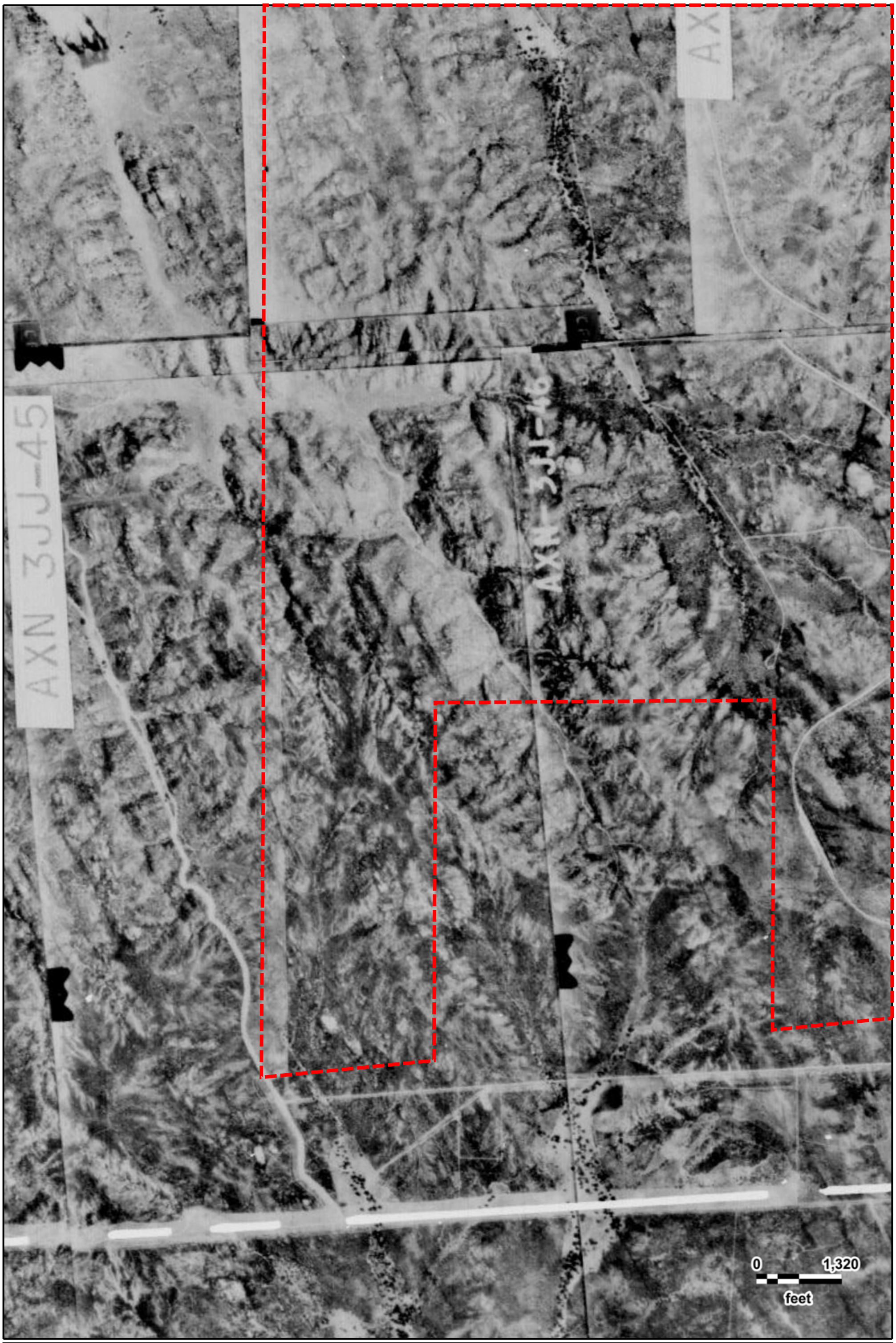
Campo Project
ASCS
1968

GeoSearch

JOB #: 248836 - 08/02/2018



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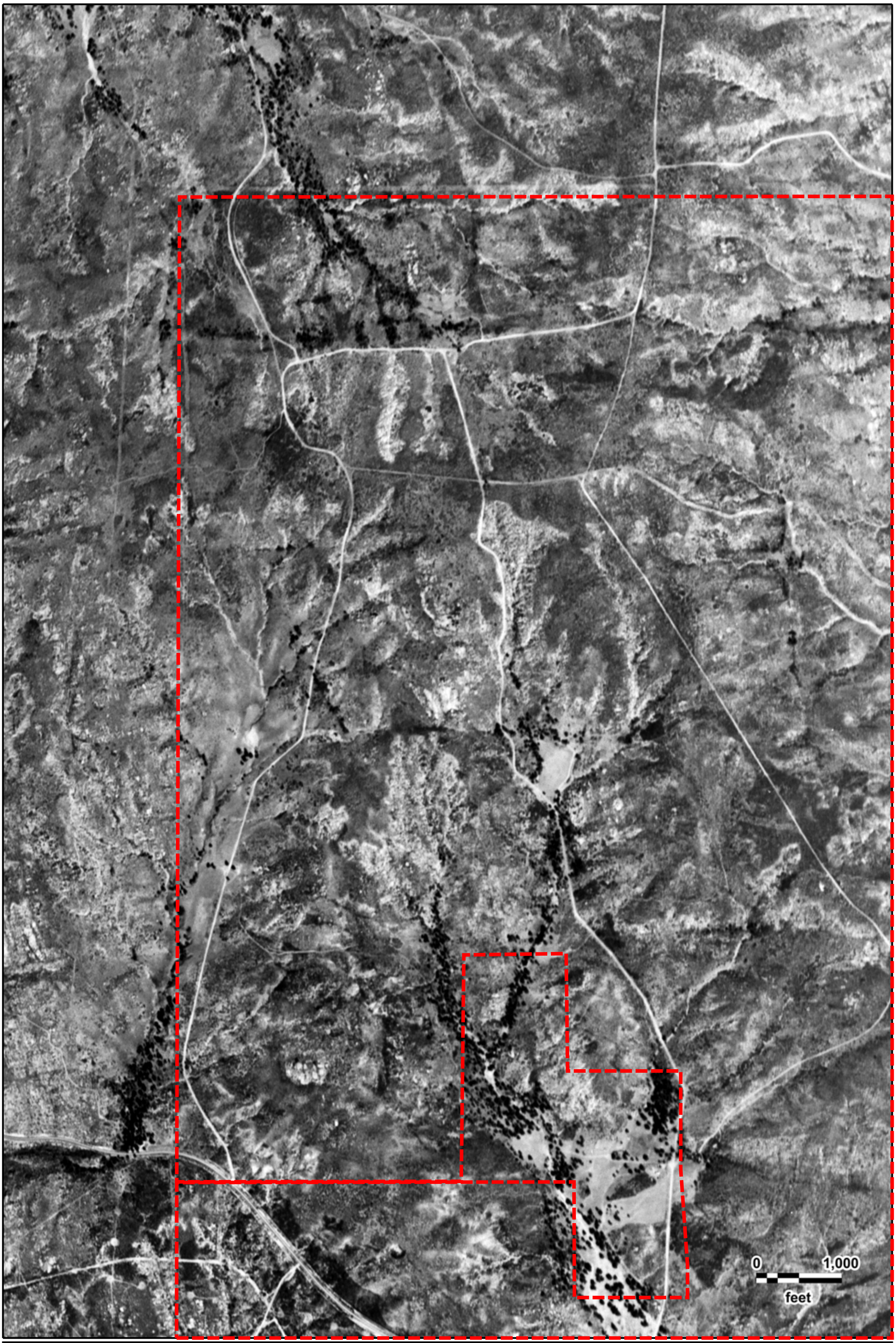
Campo Project
ASCS
1968

GeoSearch

JOB #: 248836 - 08/02/2018



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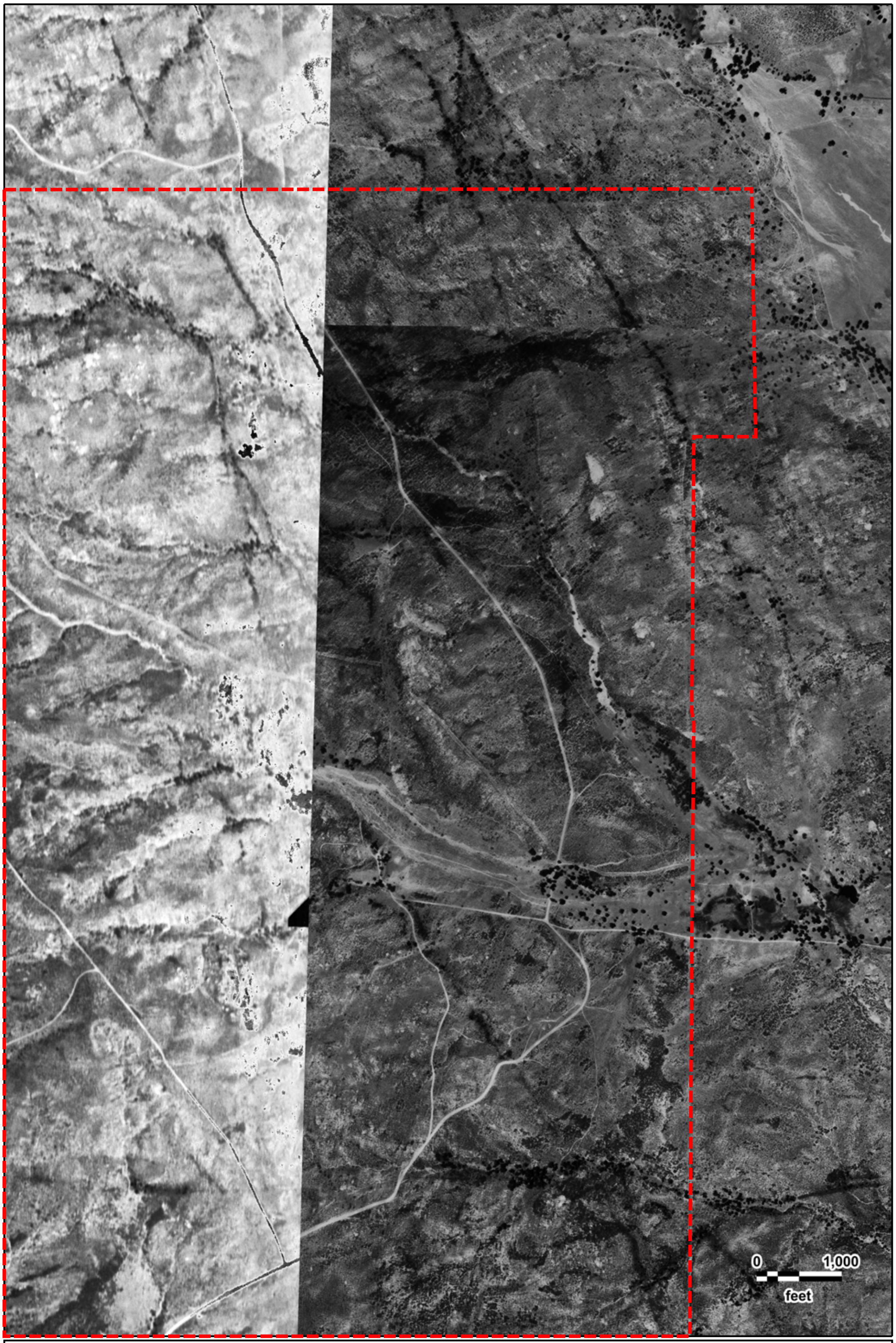
Campo Project
AMS
10/13/1956

GeoSearch

JOB #: 248836 - 08/02/2018



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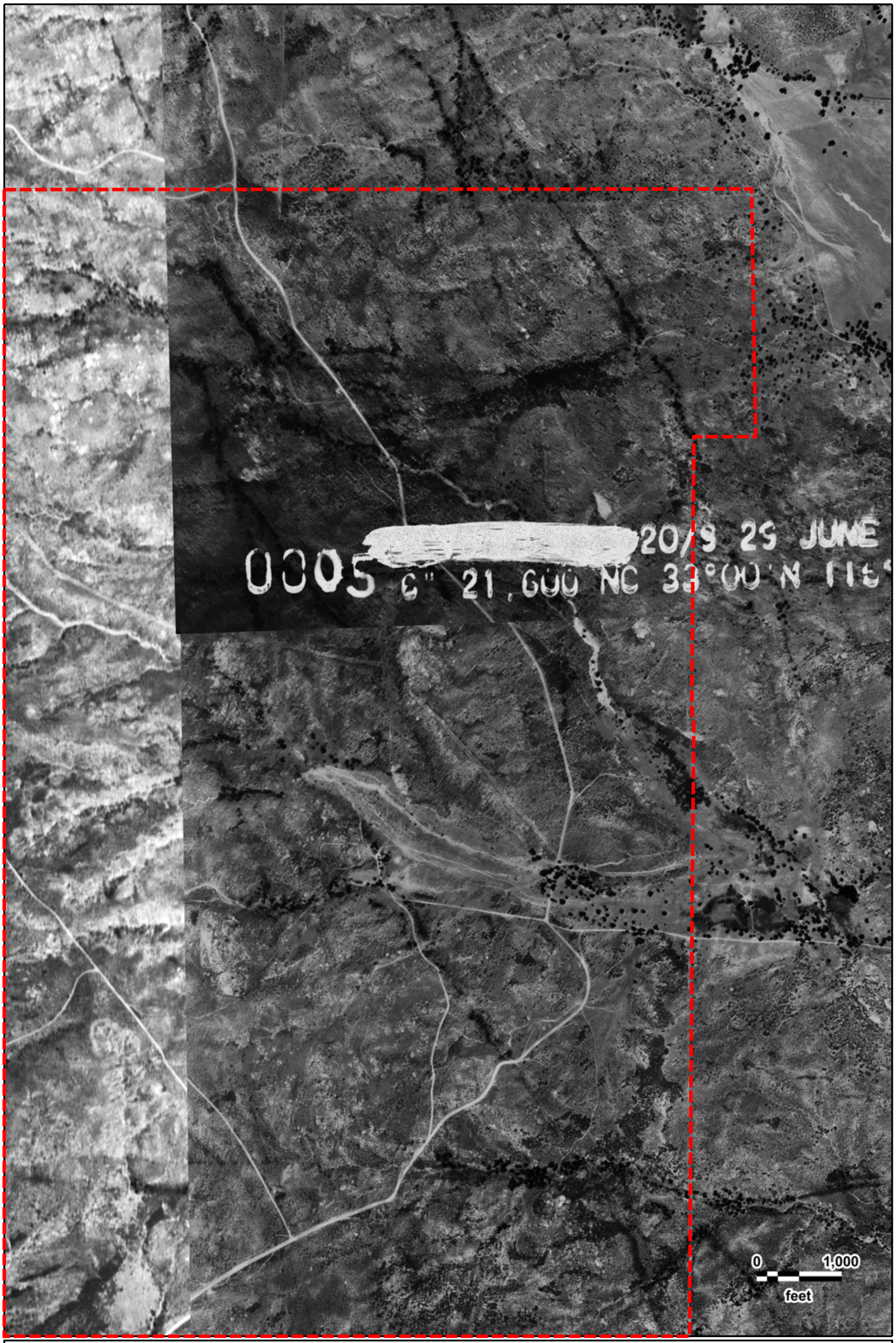
Campo Project
AMS
10/13/1956

GeoSearch

JOB #: 248836 - 08/02/2018



Campo Project
USNAVY
06/29/1955

GeoSearch

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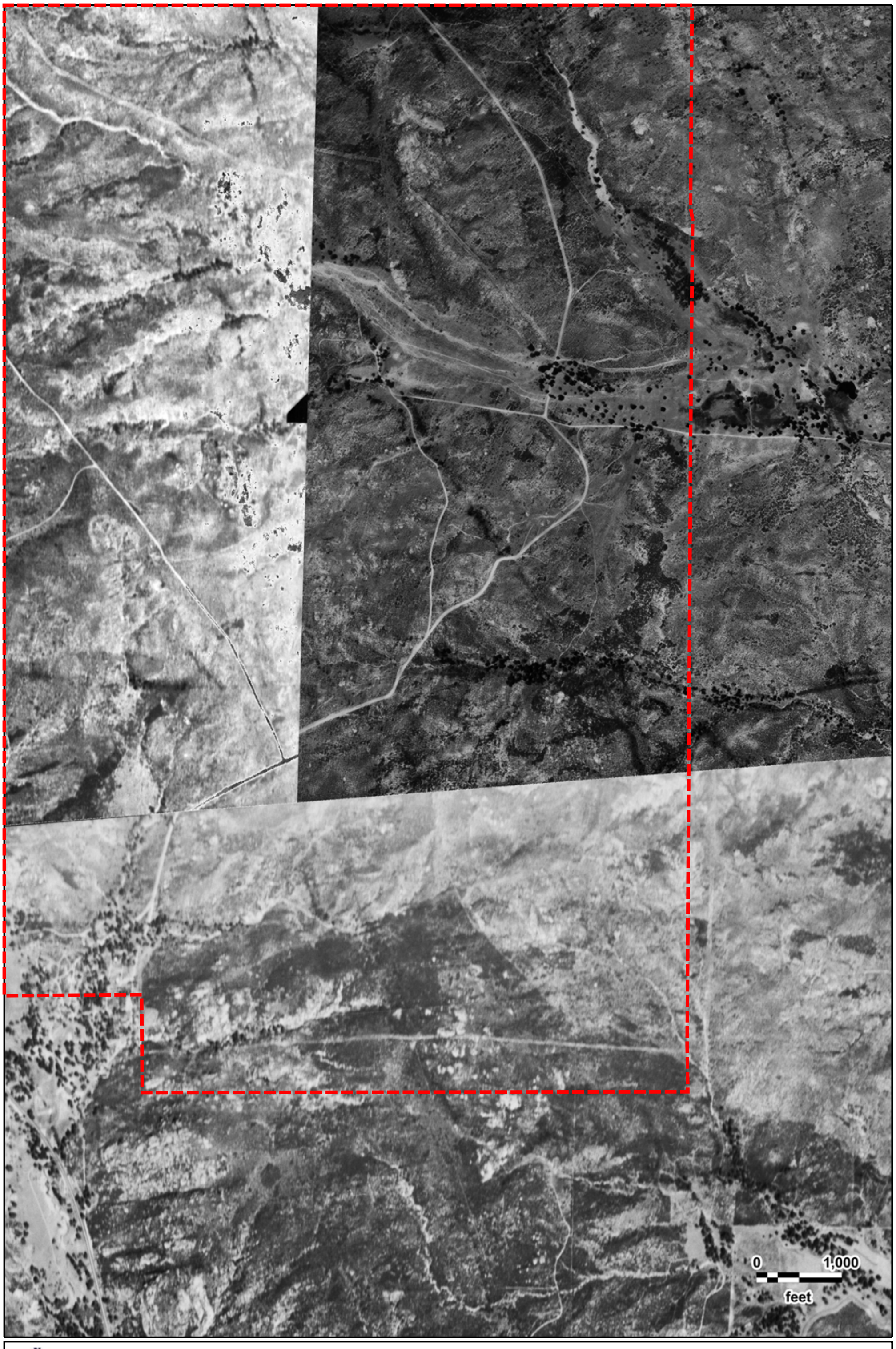

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Campo Project
AMS
10/27/1956

GeoSearch

JOB #: 248836 - 08/02/2018

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Campo Project
USNAVY
06/28/1955

GeoSearch

JOB #: 248836 - 08/02/2018

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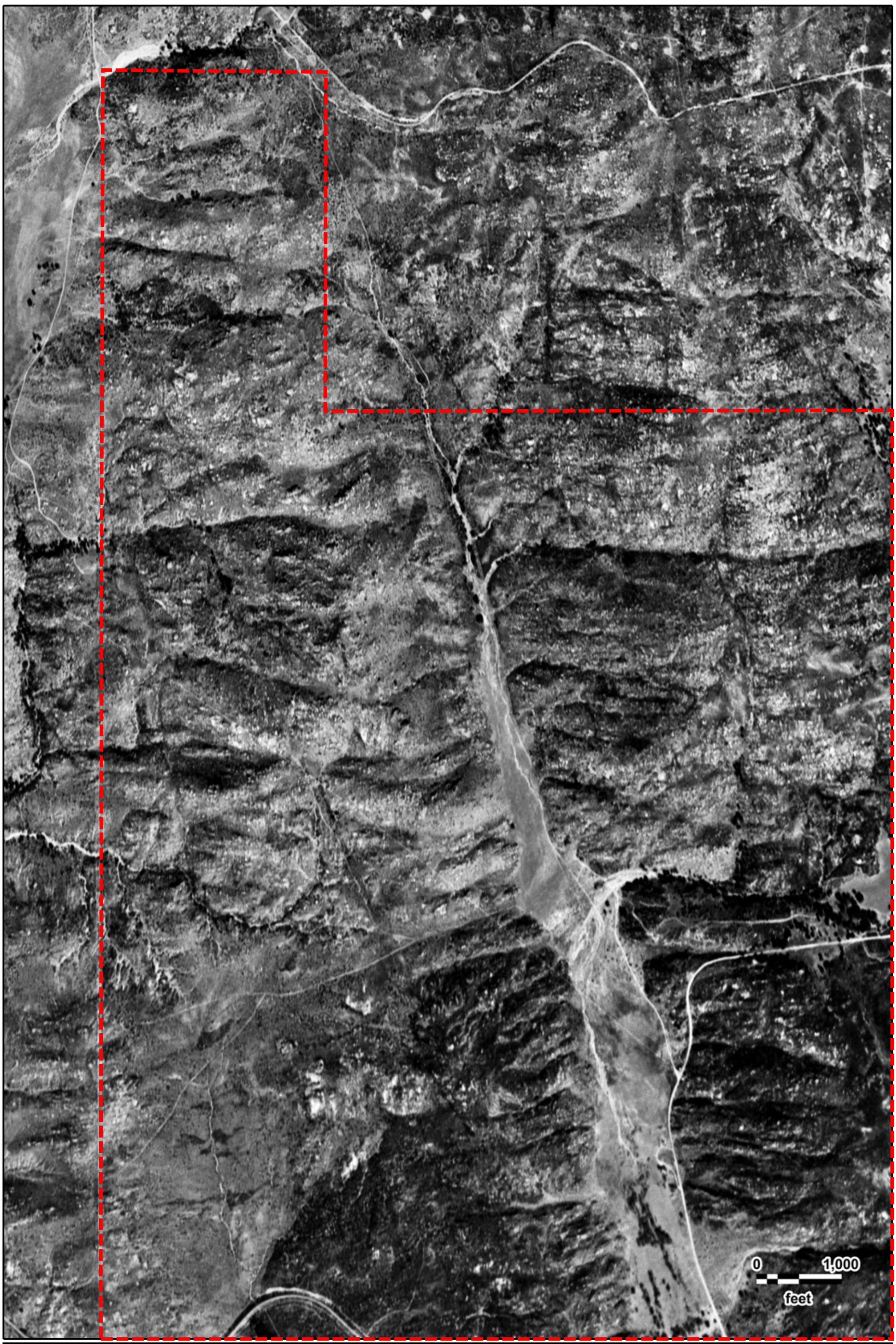
Campo Project
AMS
10/13/1956

GeoSearch

JOB #: 248836 - 08/02/2018



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Campo Project
AMS
10/13/1956

GeoSearch

JOB #: 248836 - 08/02/2018

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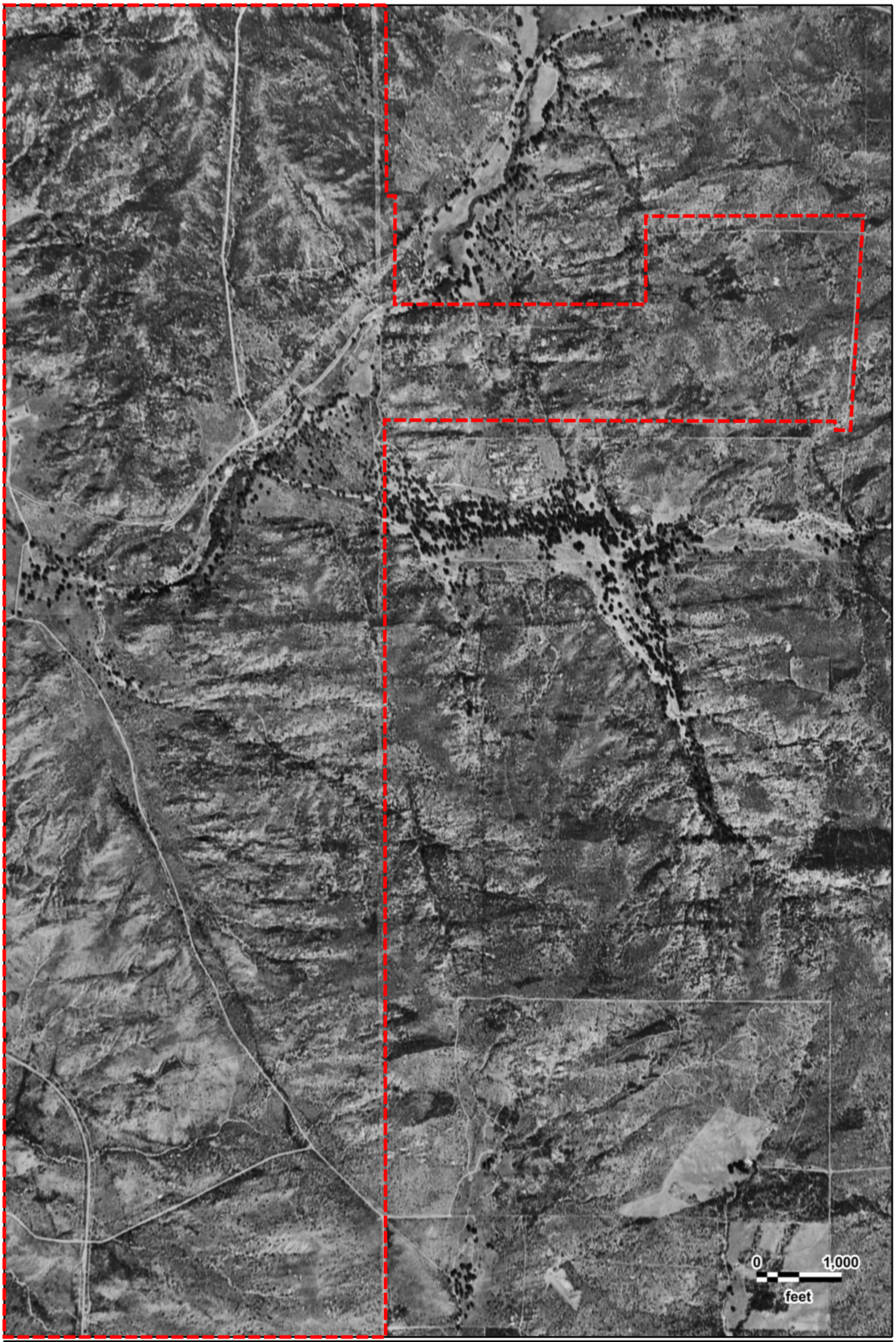
GeoSearch

JOB #: 248836 - 08/02/2018



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Campo Project
AMS
10/27/1956

GeoSearch

JOB #: 248836 - 08/02/2018

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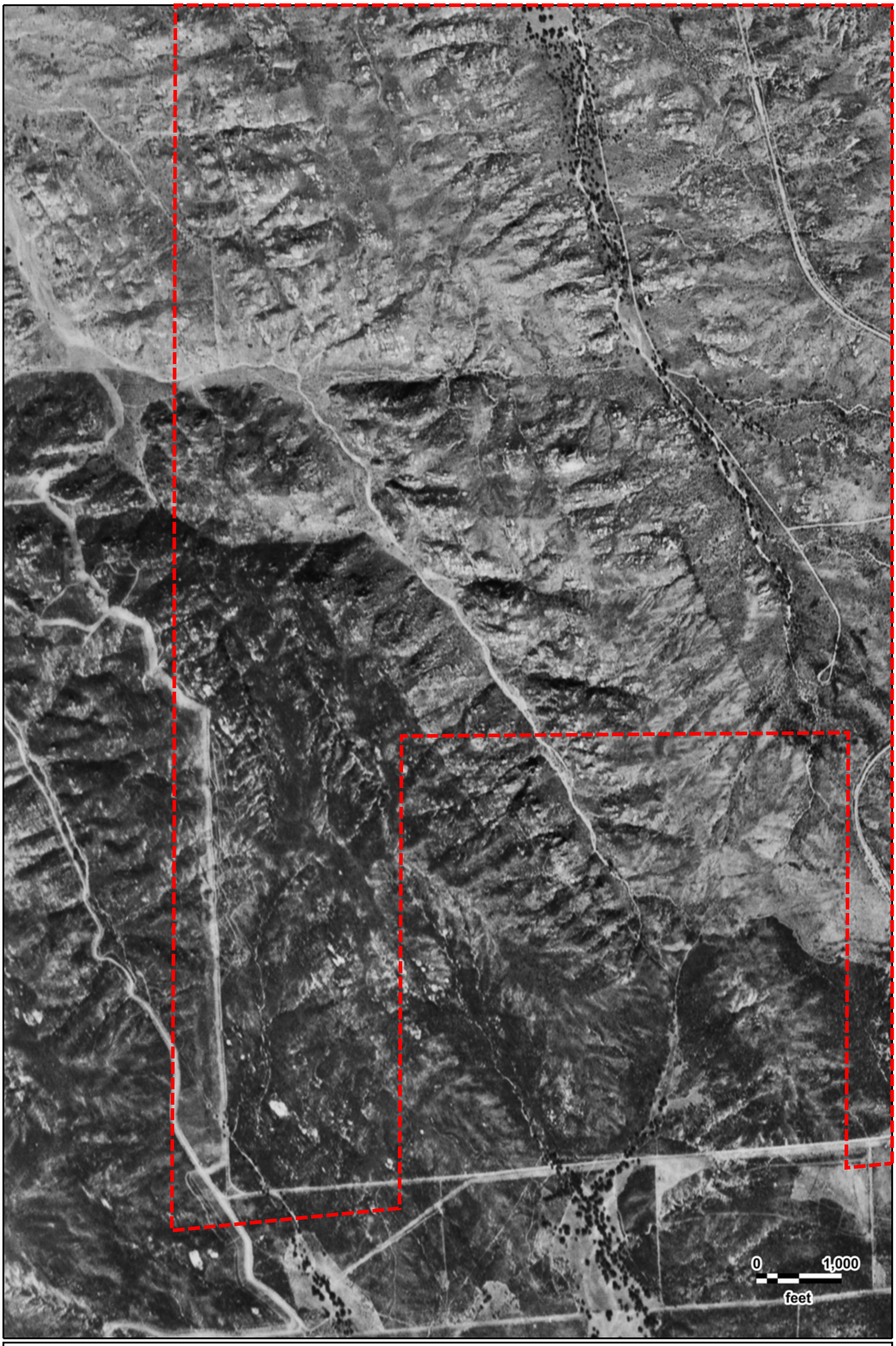
10/27/1956

GeoSearch

JOB #: 248836 - 08/02/2018



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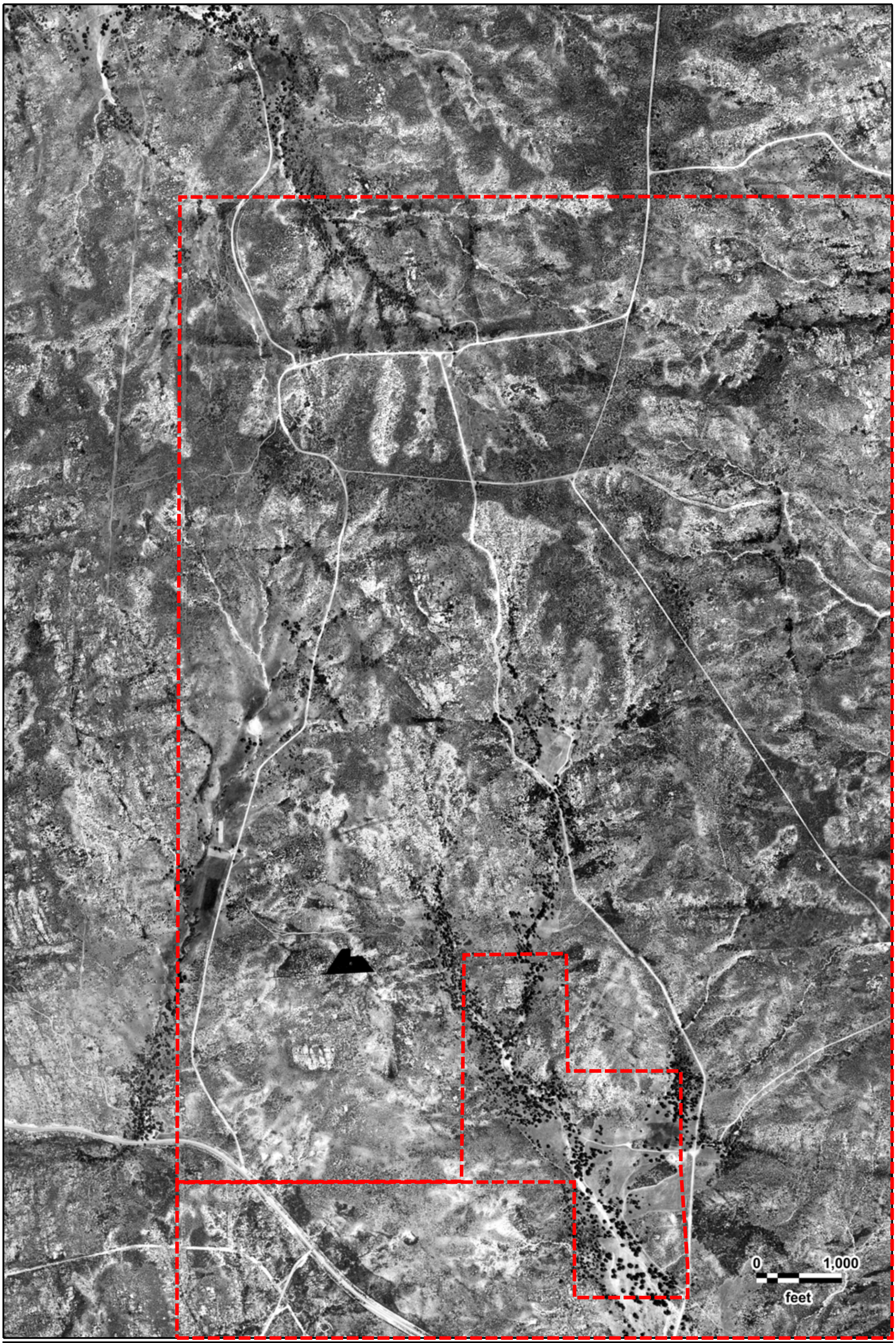
Campo Project
AMS
10/27/1956

GeoSearch

JOB #: 248836 - 08/02/2018



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Campo Project
ASCS
05/12/1953

GeoSearch

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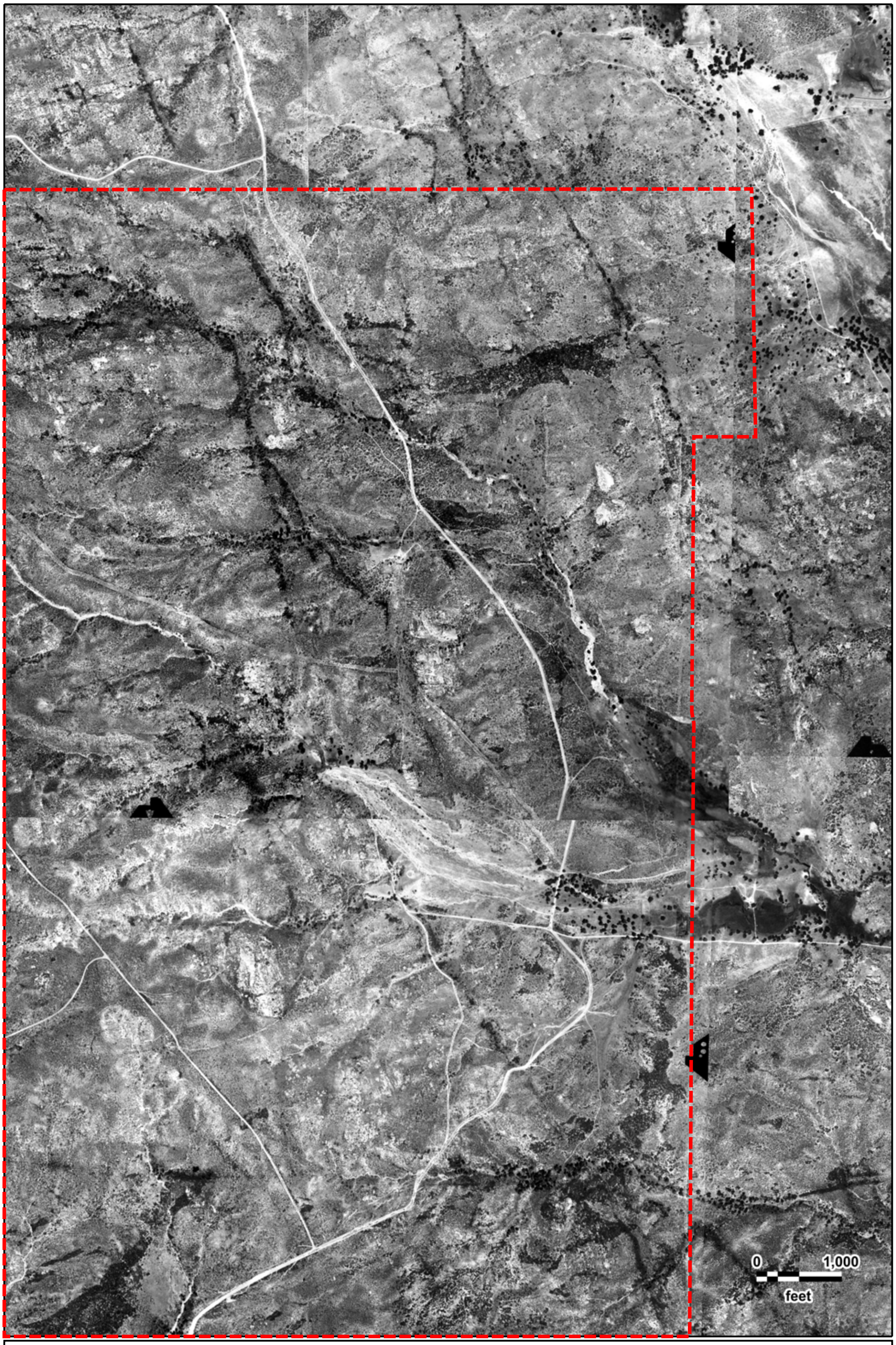

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Campo Project
ASCS
05/02/1953

GeoSearch

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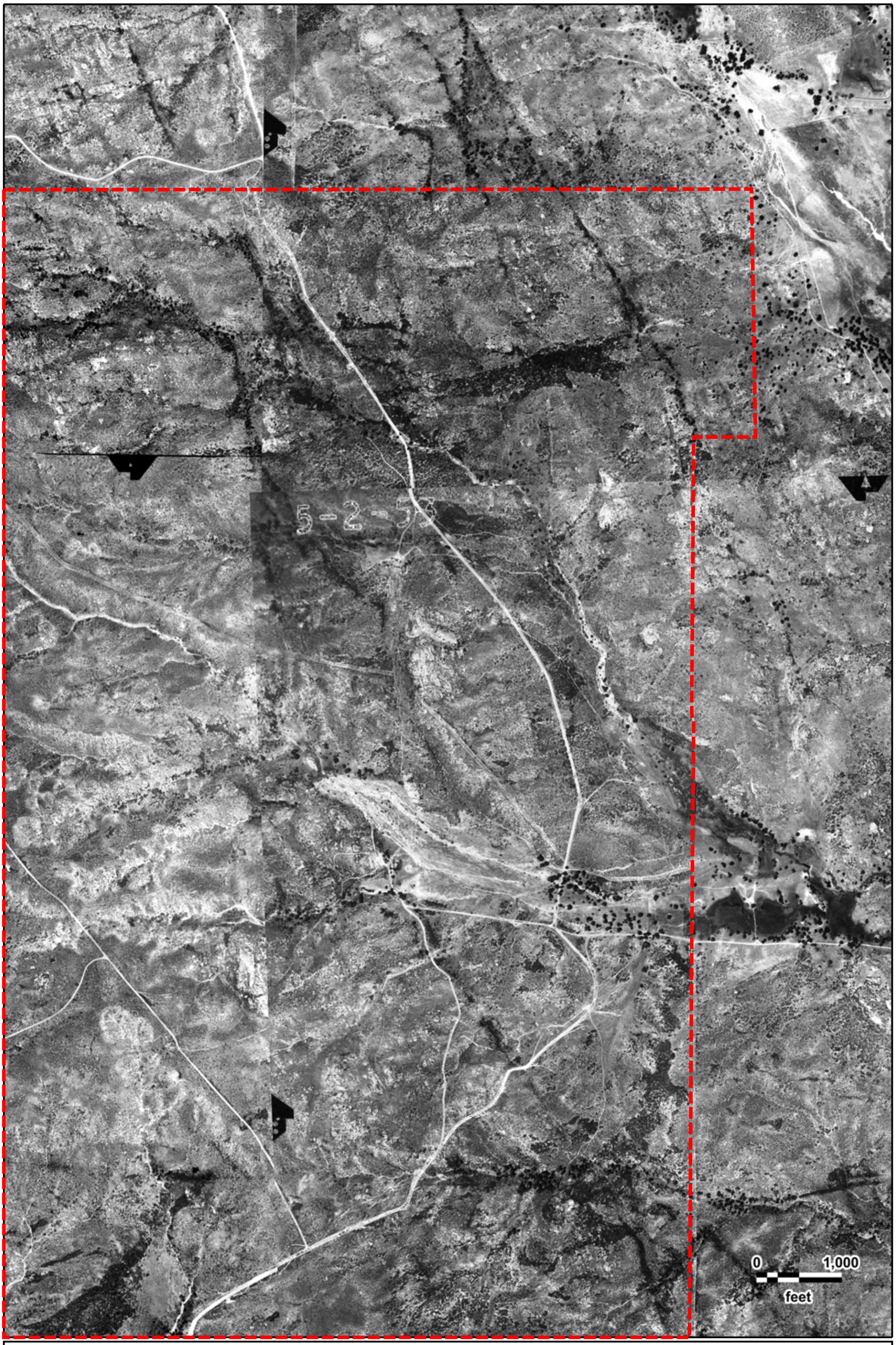

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Campo Project
ASCS
05/02/1953

GeoSearch

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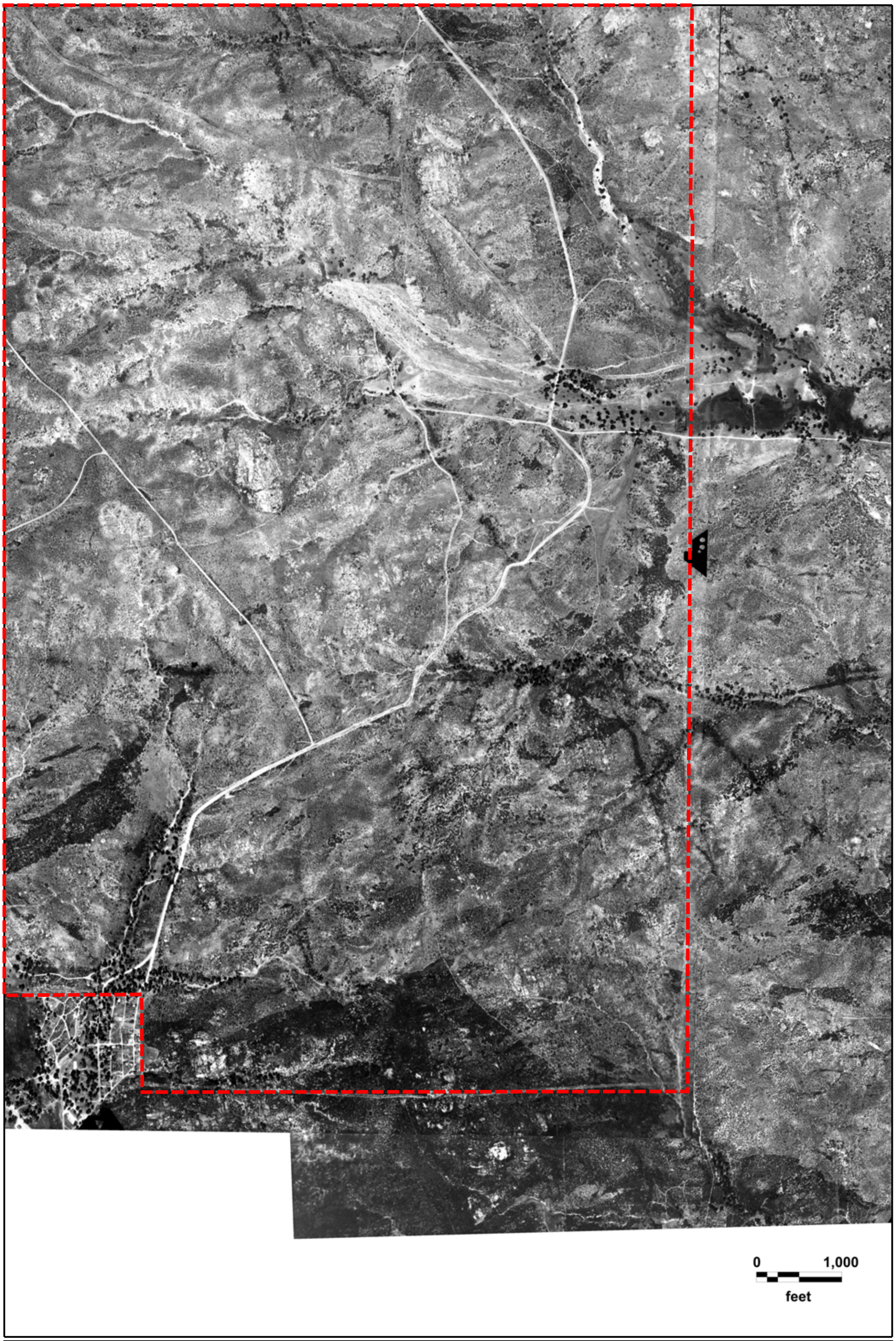

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ASCS
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GeoSearch

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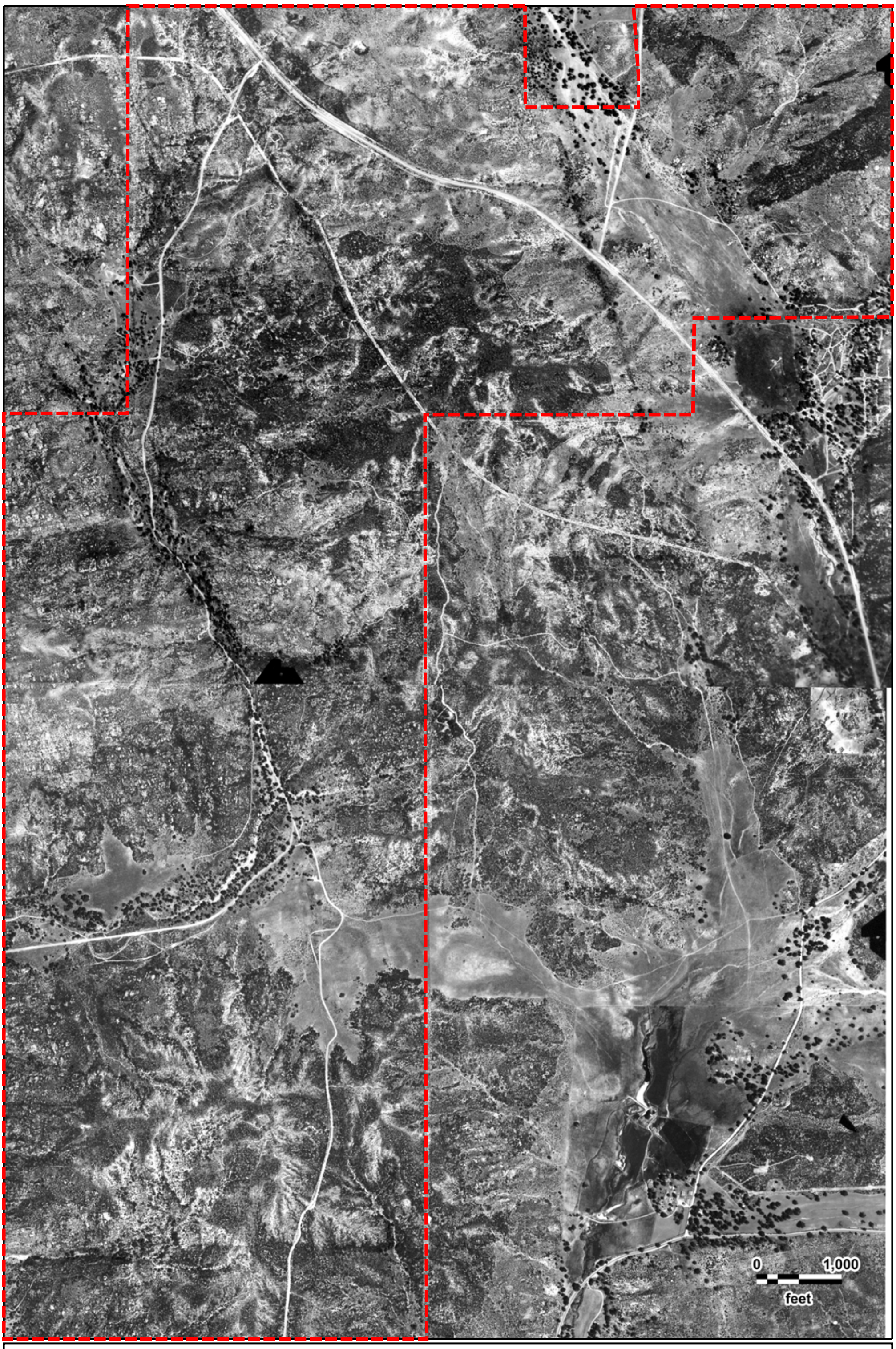

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Campo Project
ASCS
05/12/1953

GeoSearch

JOB #: 248836 - 08/02/2018

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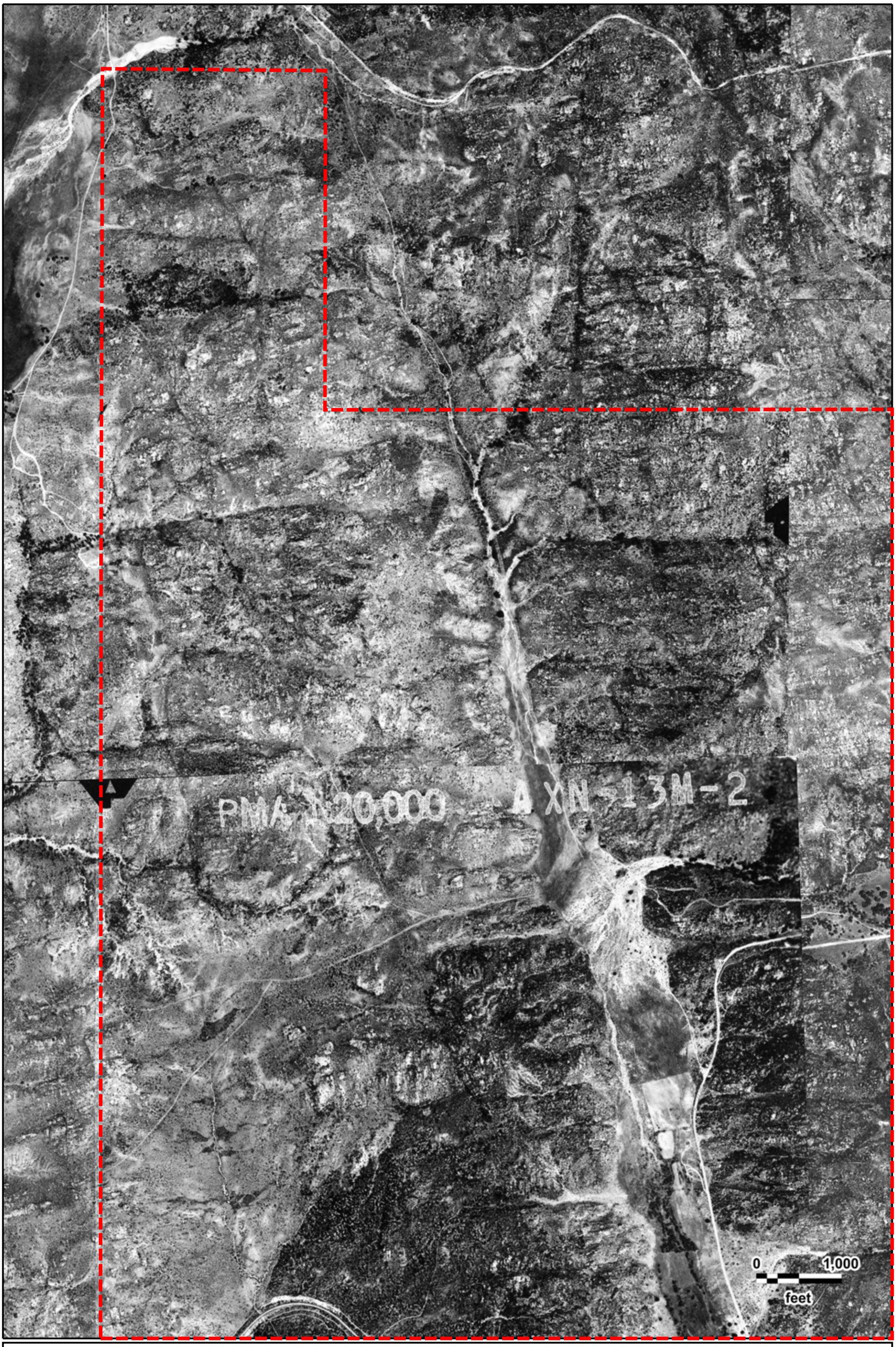
Campo Project
ASCS
05/12/1953

GeoSearch

JOB #: 248836 - 08/02/2018



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Campo Project
ASCS
04/25/1953

GeoSearch

JOB #: 248836 - 08/02/2018

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Campo Project
ASCS
05/12/1953

GeoSearch

JOB #: 248836 - 08/02/2018

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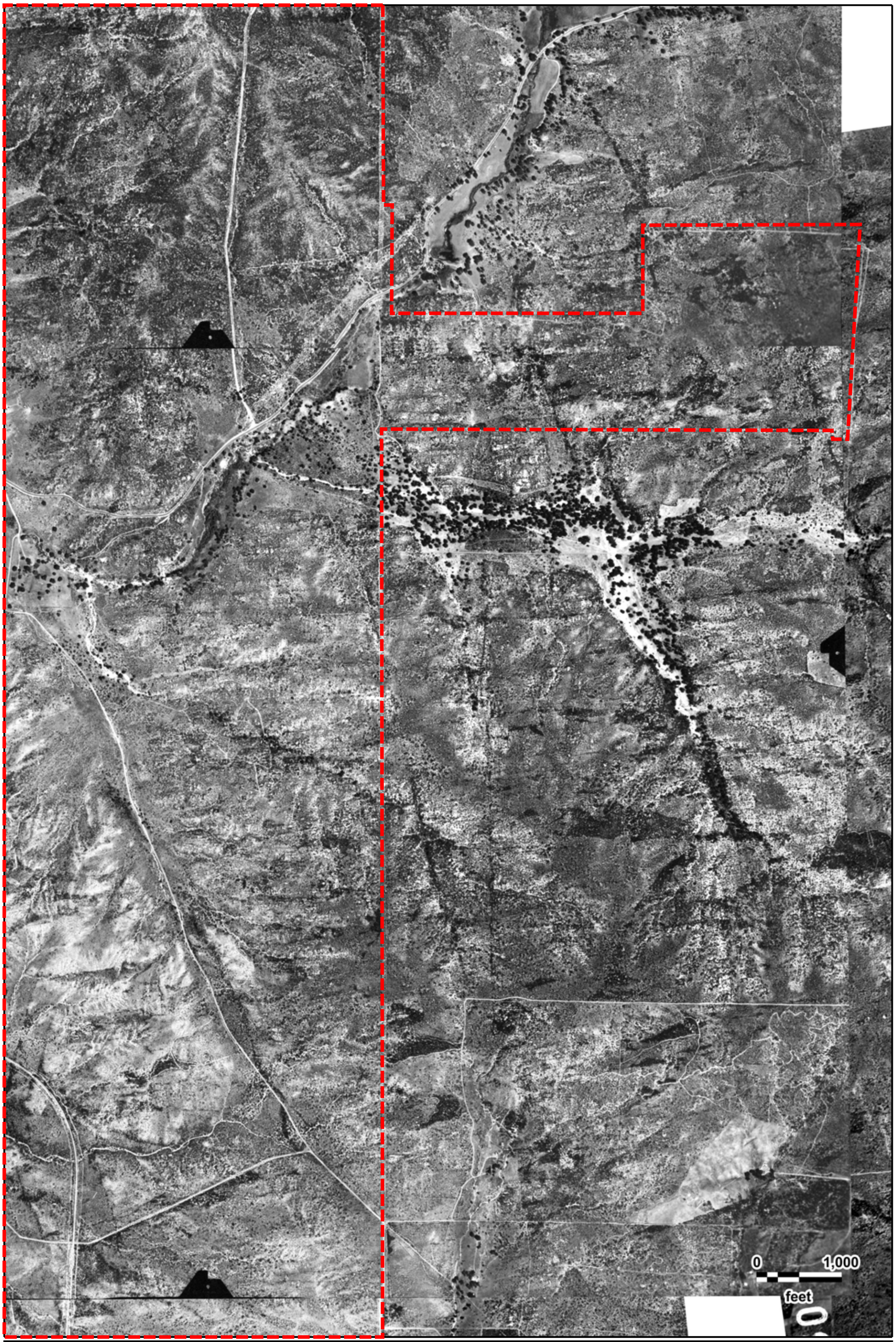
Campo Project
ASCS
03/30/1953

GeoSearch

JOB #: 248836 - 08/02/2018



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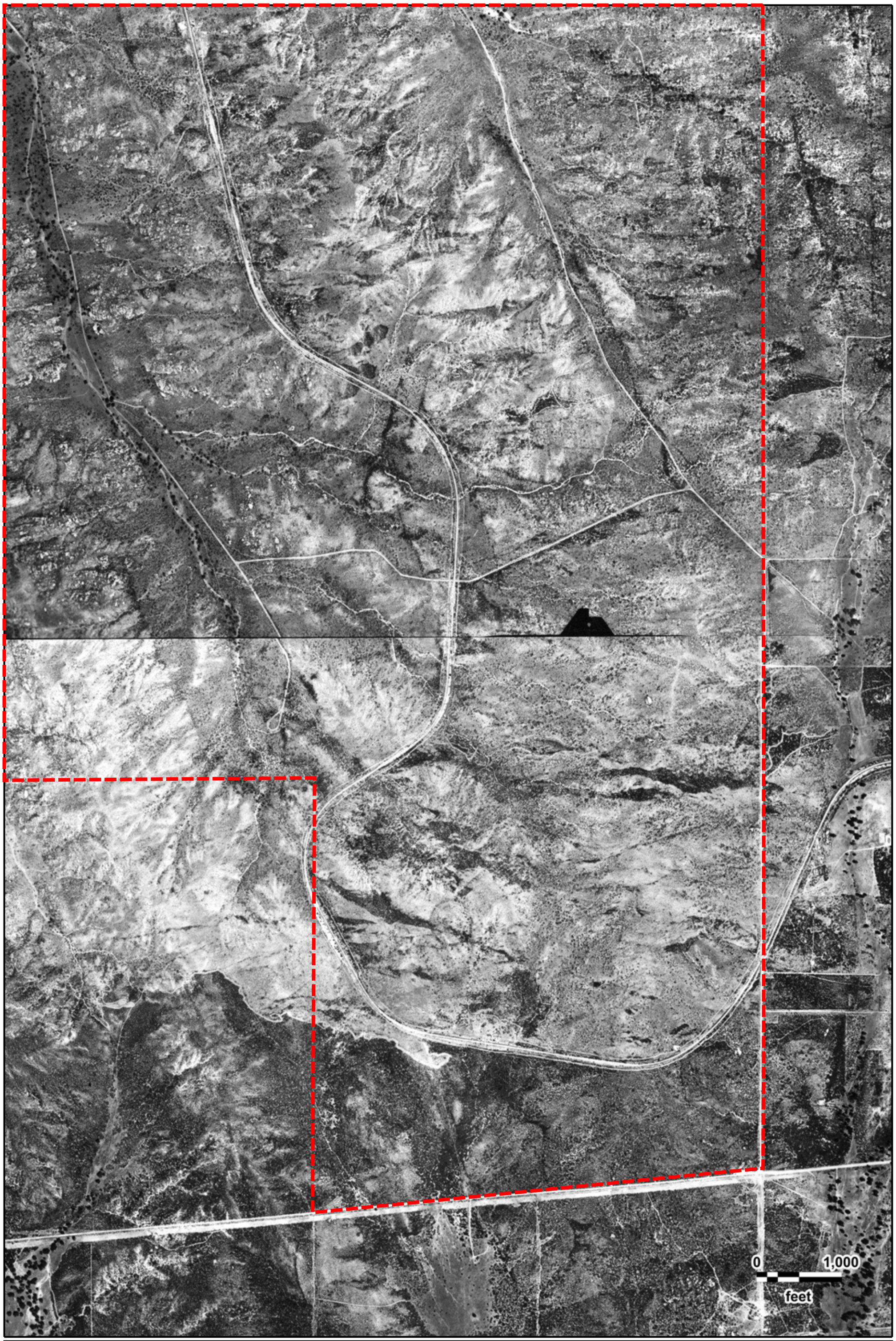
Campo Project
ASCS
05/12/1953

GeoSearch

JOB #: 248836 - 08/02/2018



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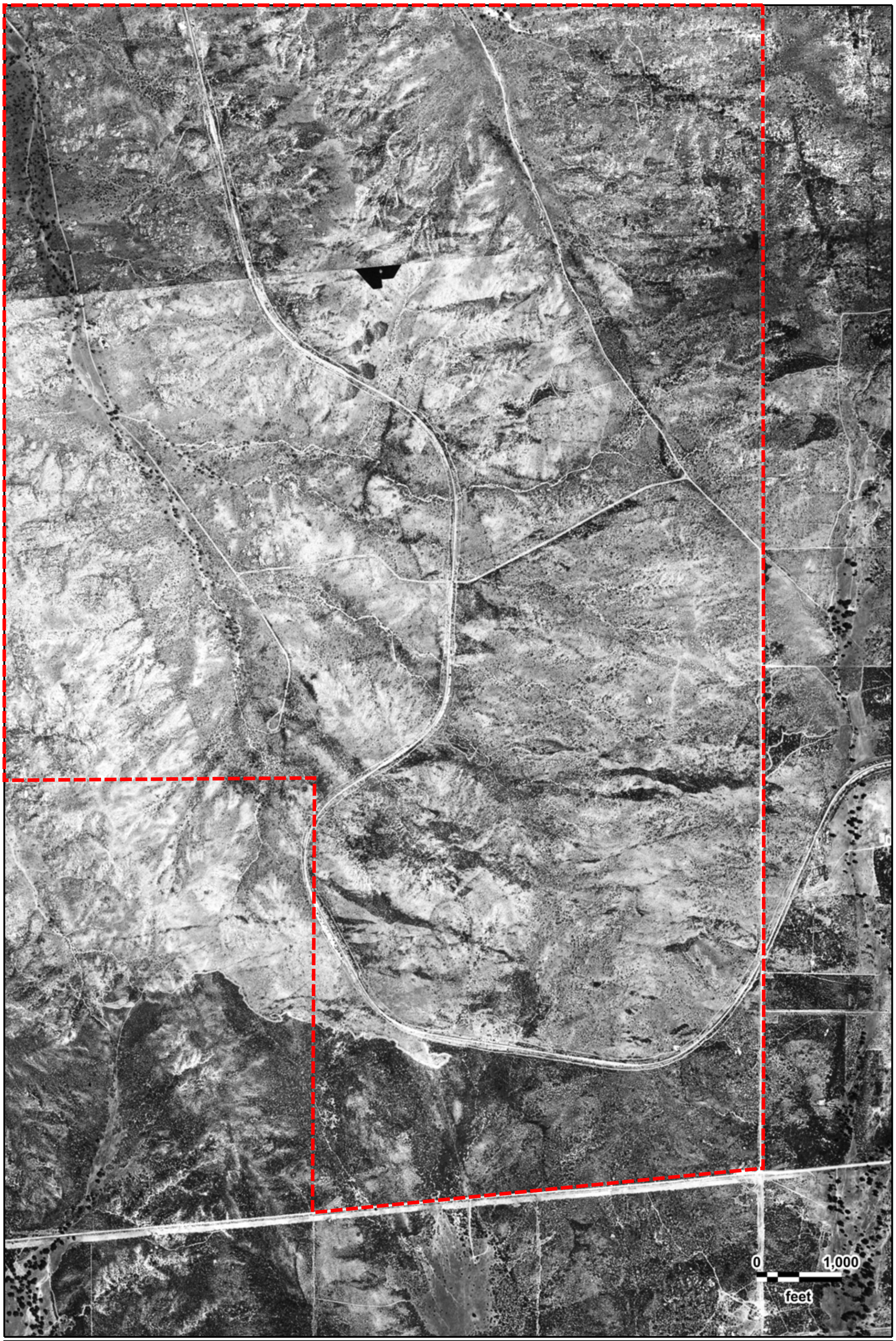
Campo Project
ASCS
05/12/1953

GeoSearch

JOB #: 248836 - 08/02/2018



N
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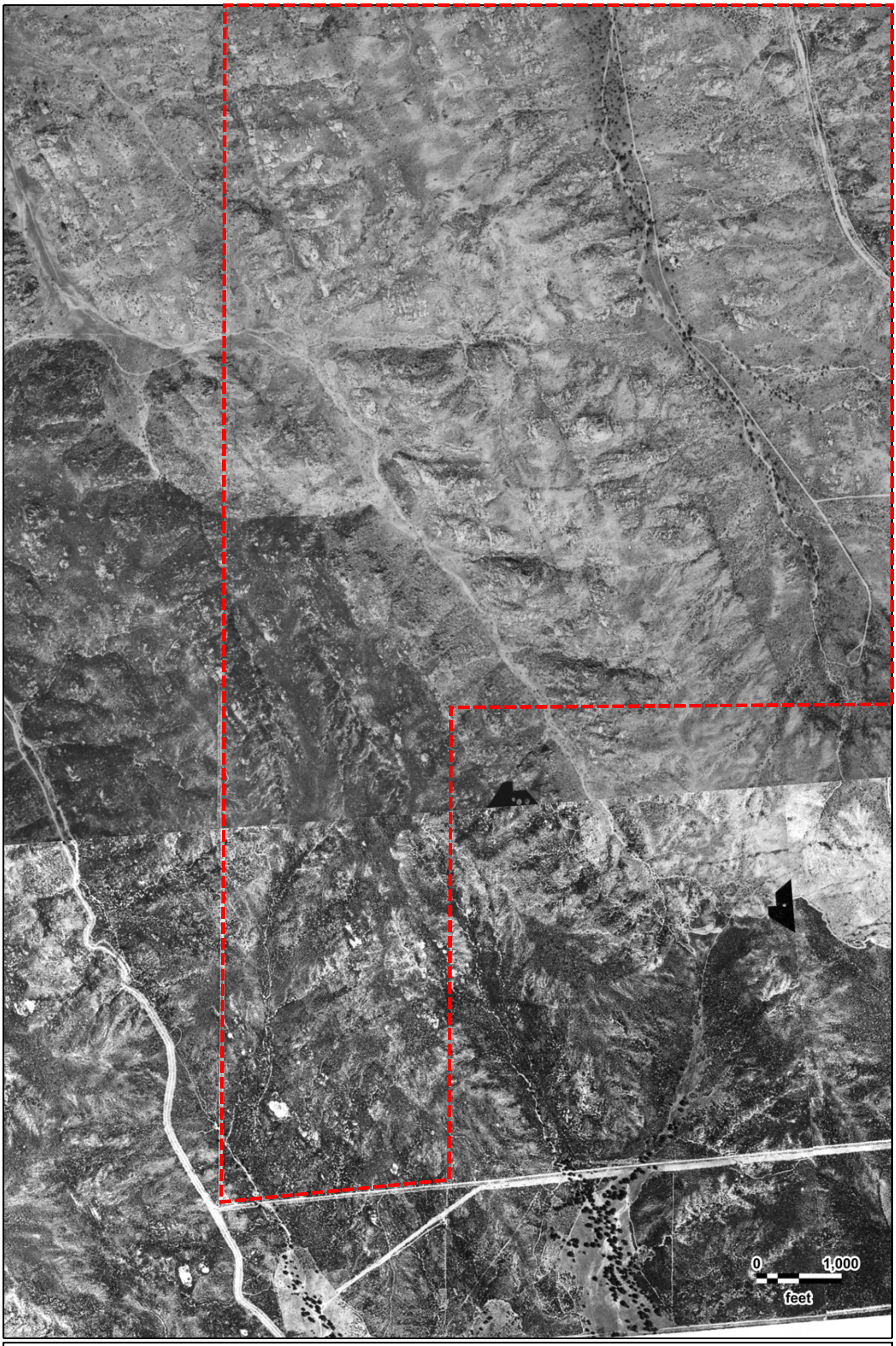
Campo Project
ASCS
04/24/1953

GeoSearch

JOB #: 248836 - 08/02/2018



N
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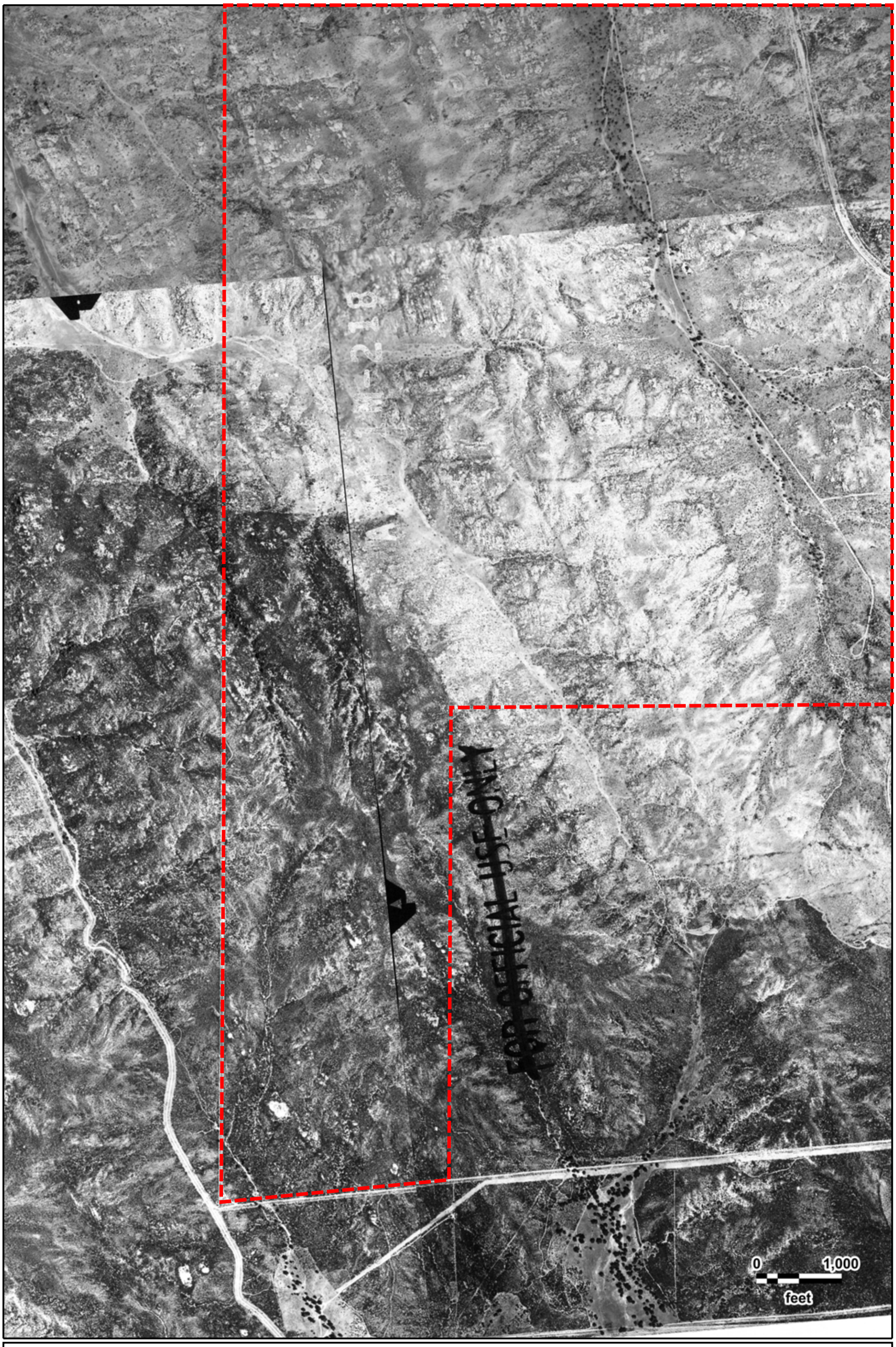
Campo Project
ASCS
04/24/1953

GeoSearch

JOB #: 248836 - 08/02/2018



N
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Campo Project
ASCS
04/24/1953

GeoSearch

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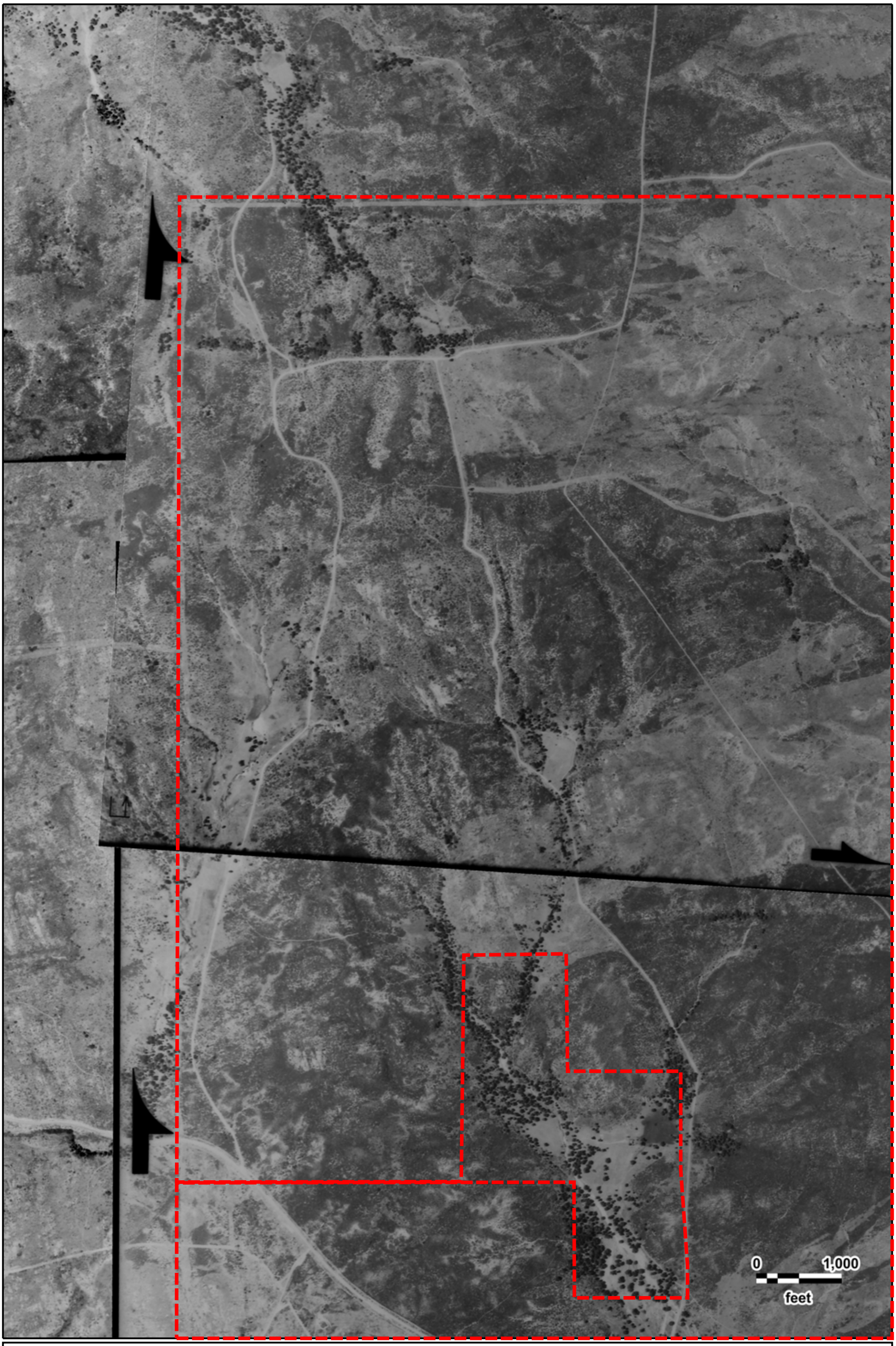

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Campo Project
ASCS
06/12/1942

GeoSearch

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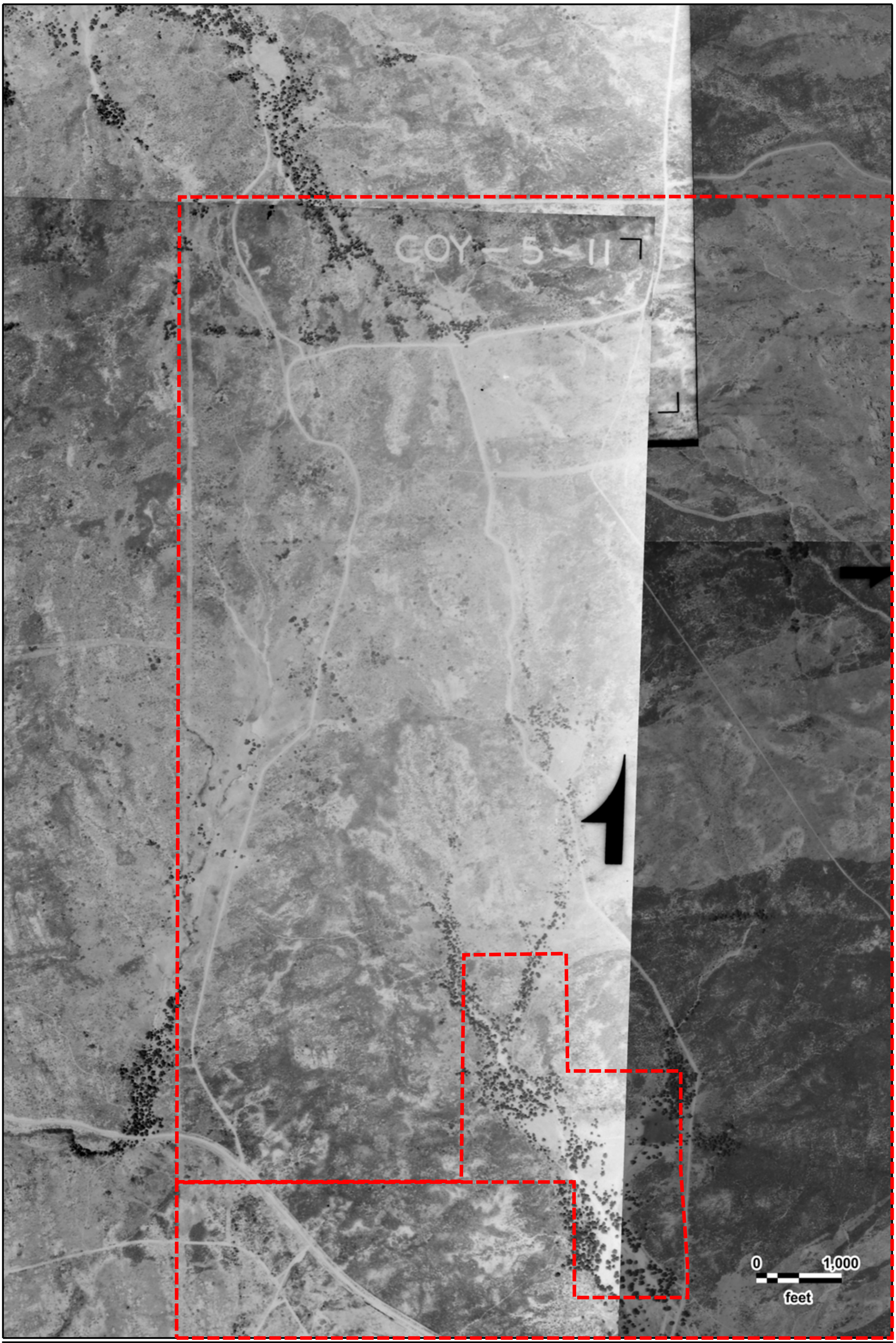

N
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Campo Project
ASCS
07/18/1942

GeoSearch

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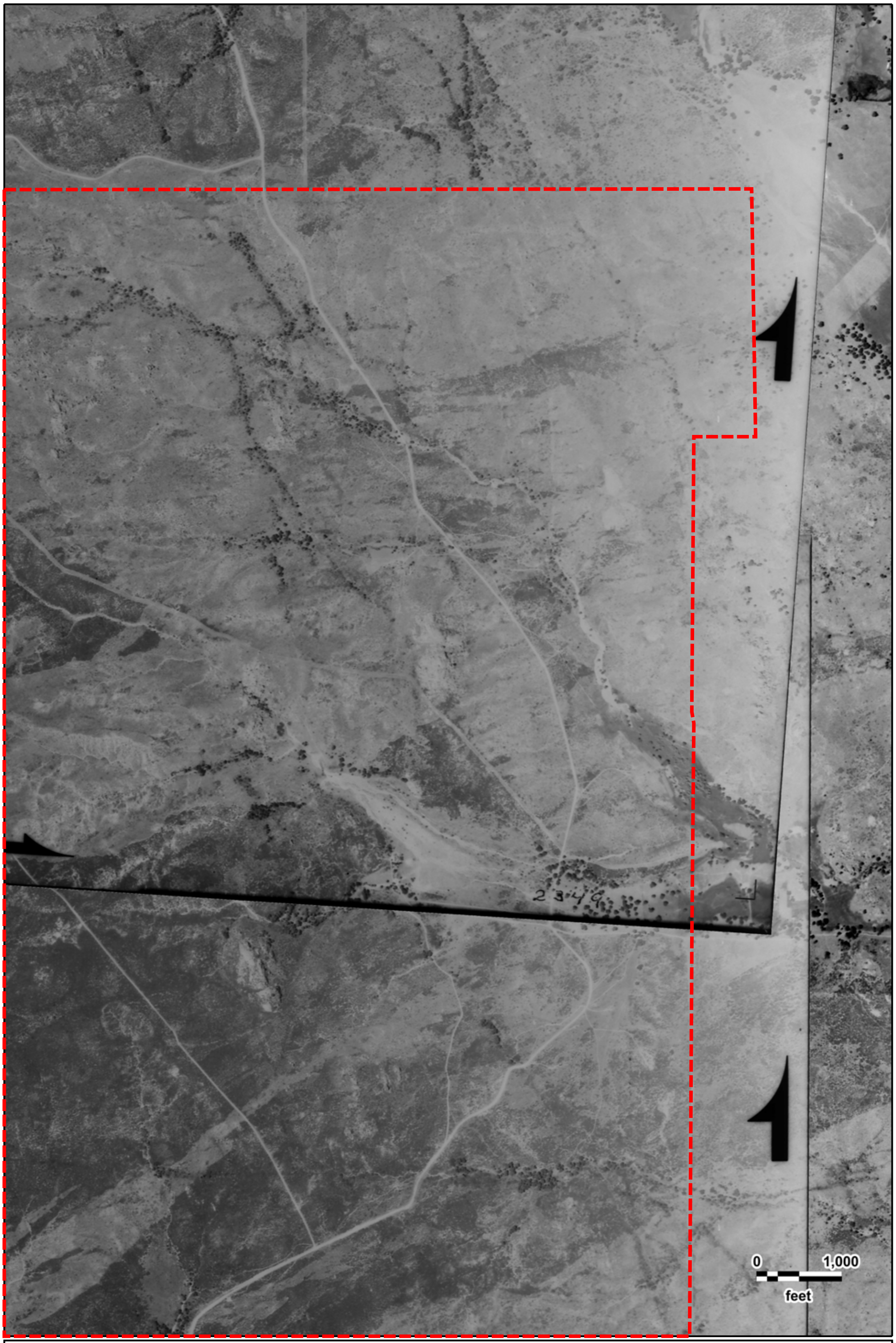

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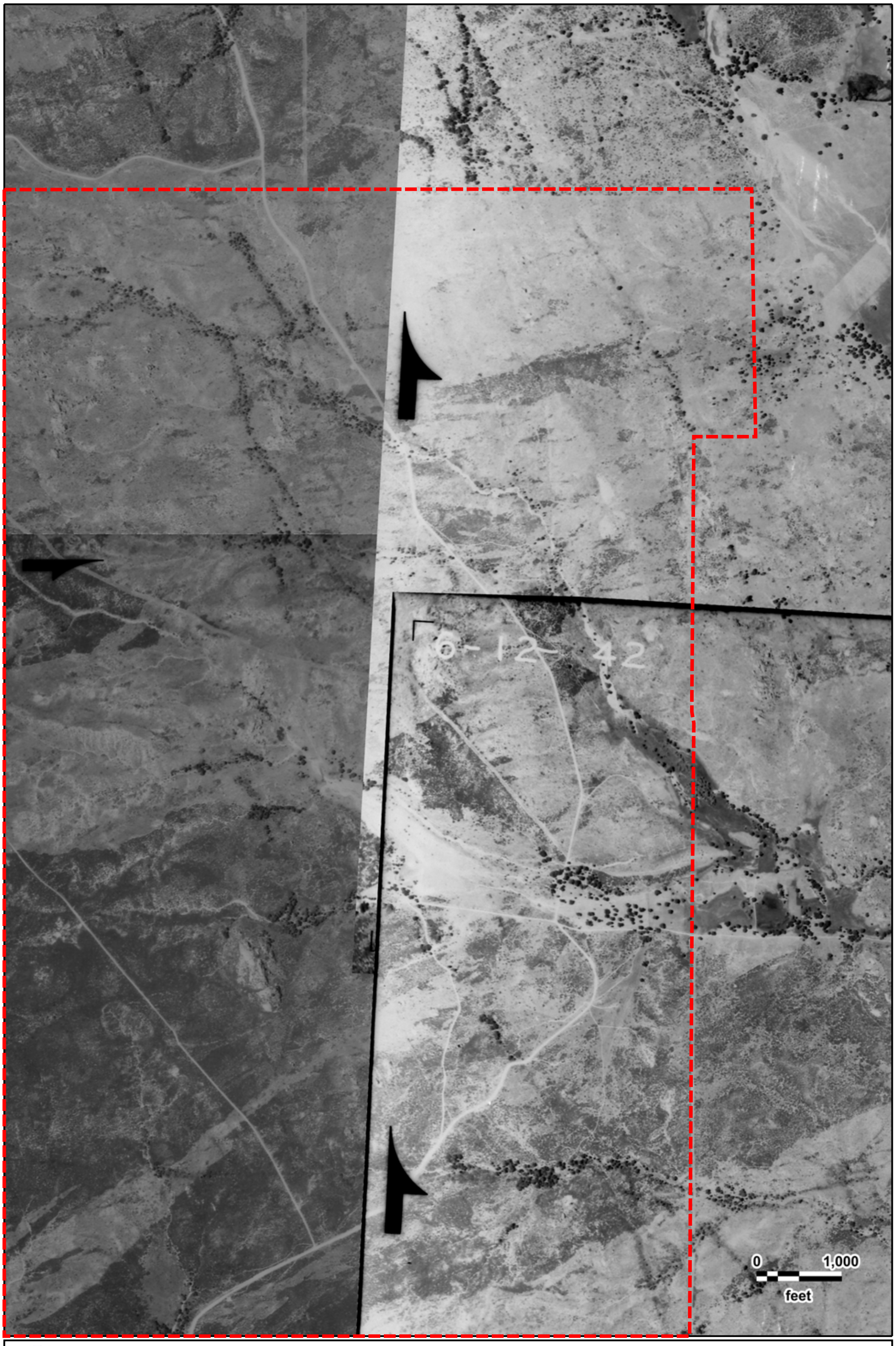
Campo Project
ASCS
06/12/1942

GeoSearch

JOB #: 248836 - 08/02/2018



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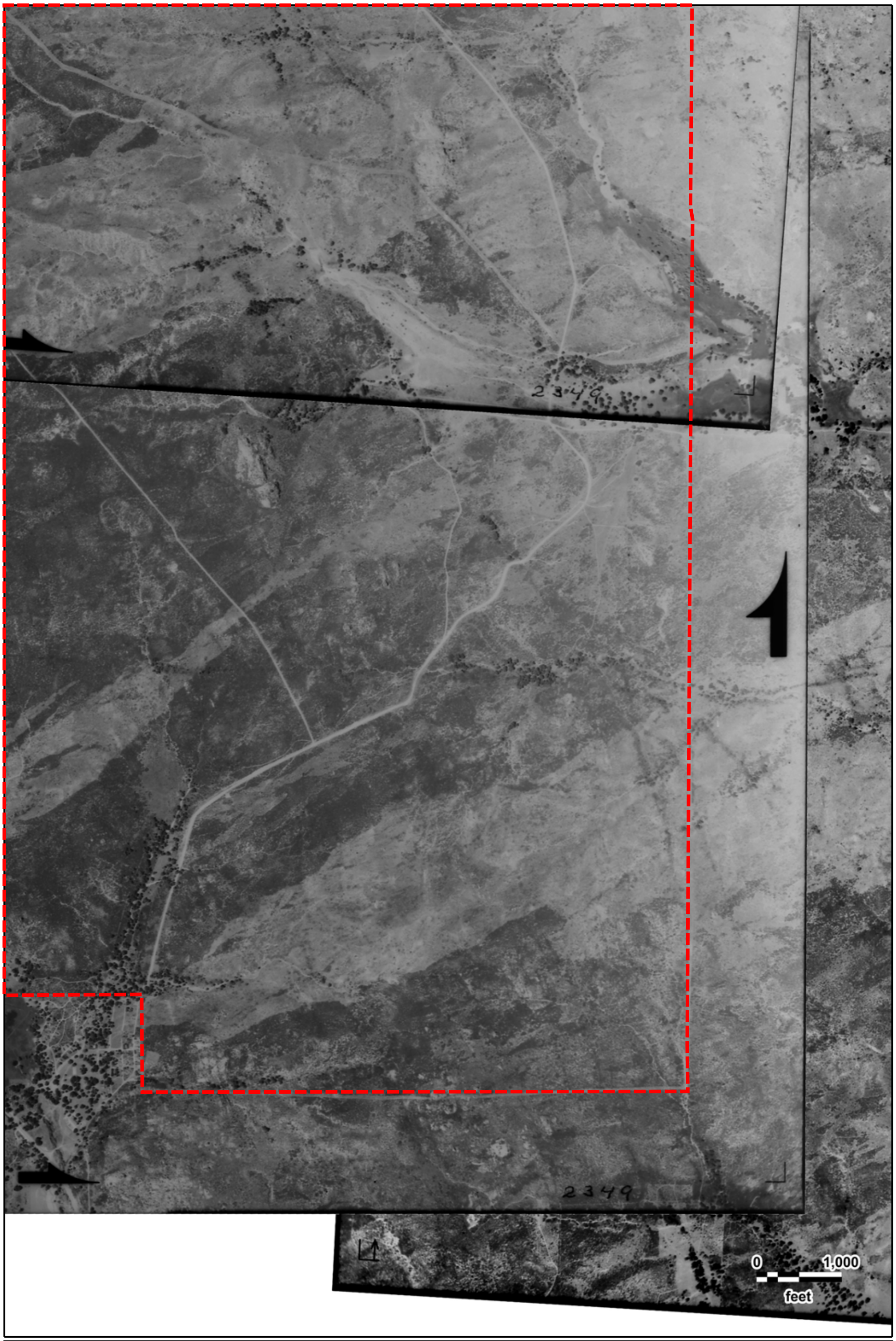
Campo Project
ASCS
06/12/1942

GeoSearch

JOB #: 248836 - 08/02/2018



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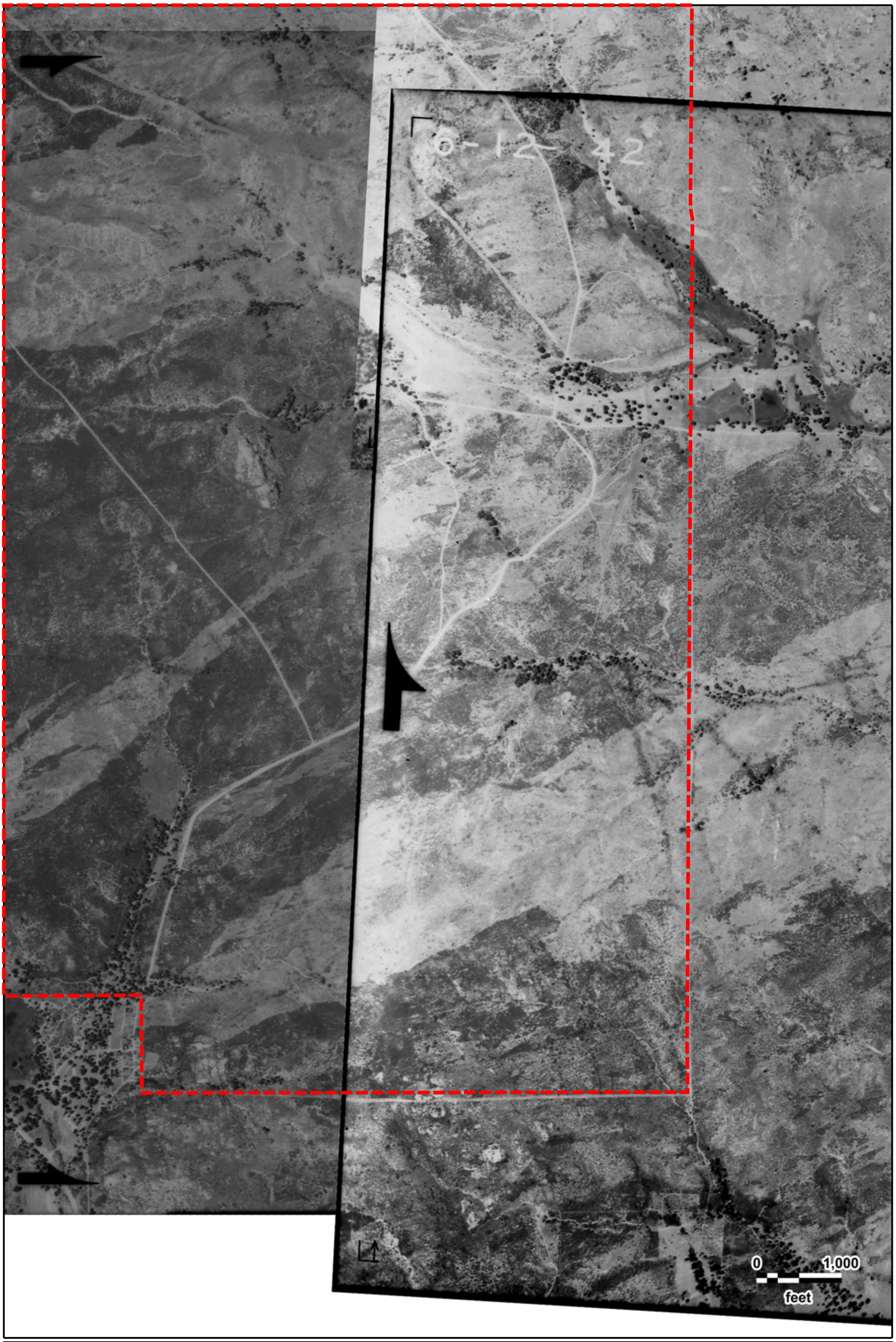
Campo Project
ASCS
06/12/1942

GeoSearch

JOB #: 248836 - 08/02/2018



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Campo Project
ASCS
06/12/1942

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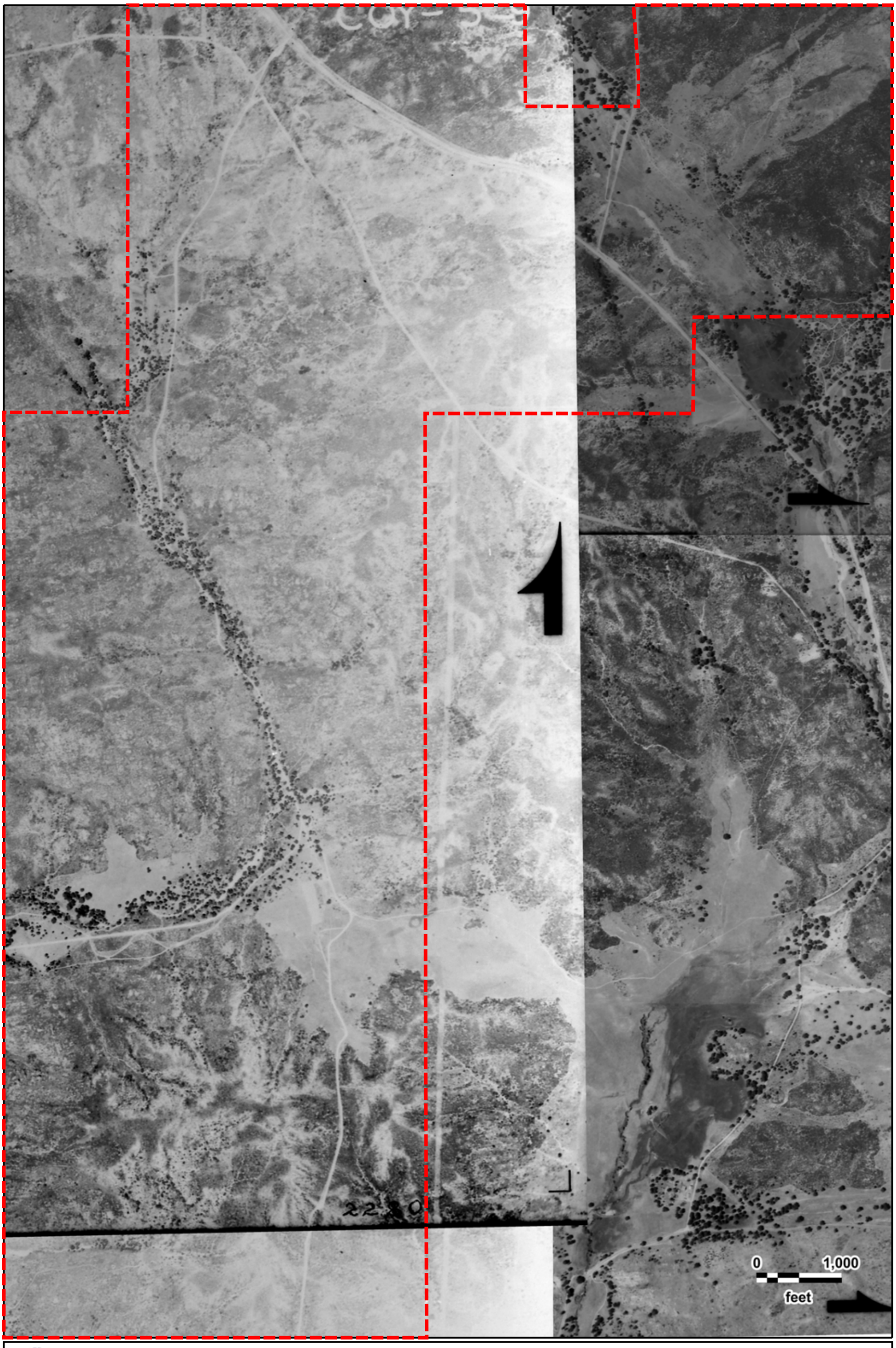

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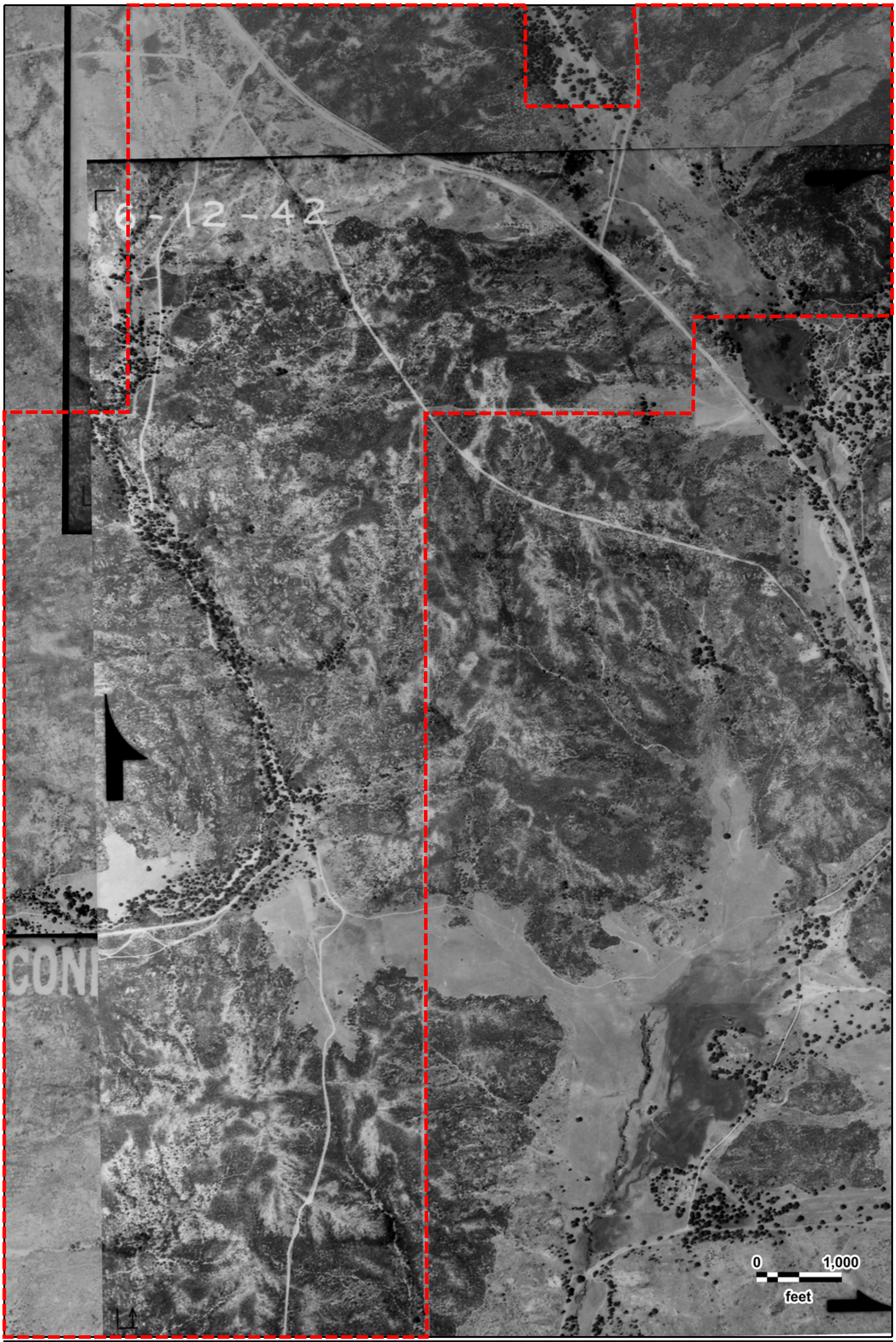

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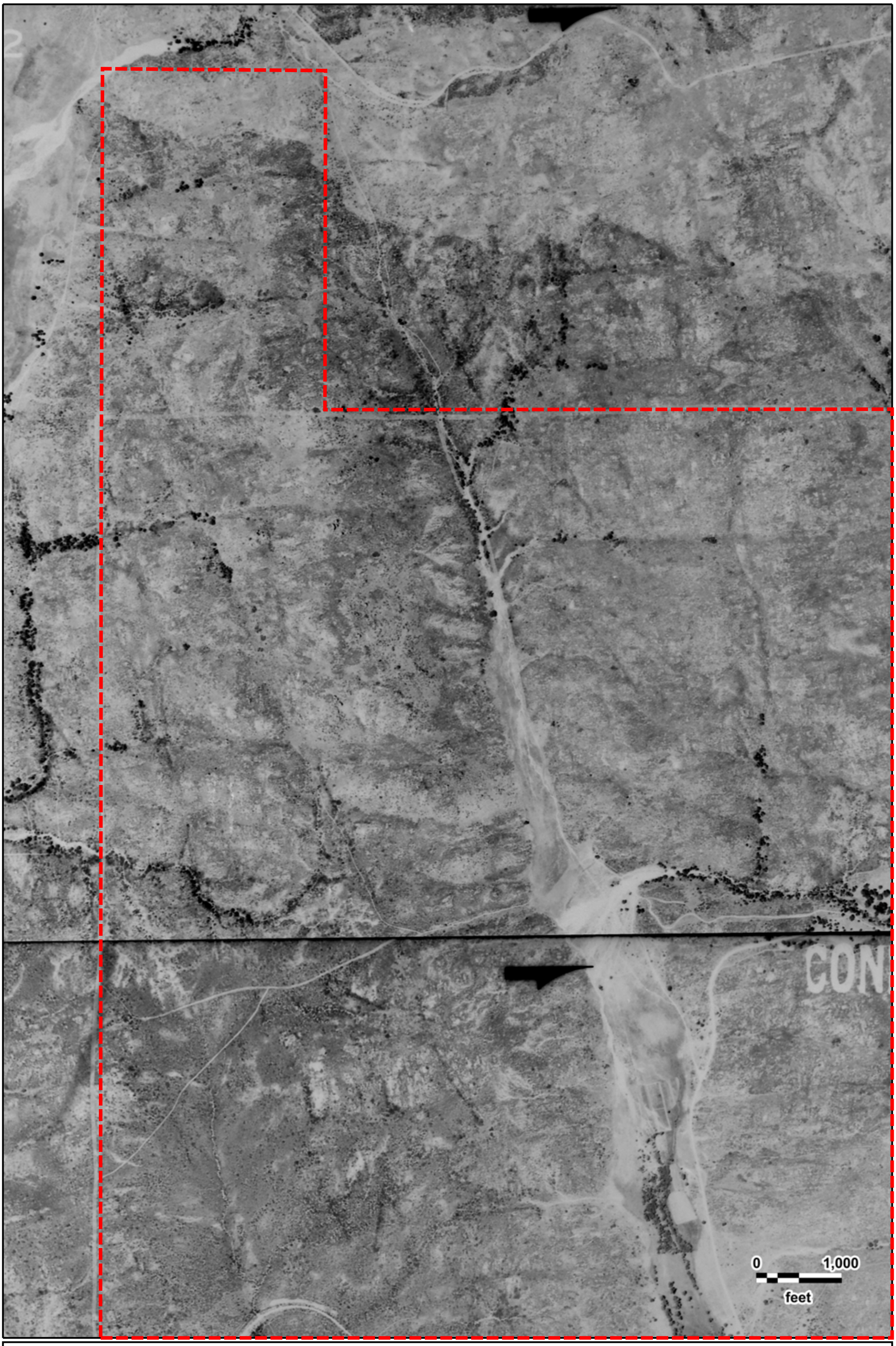

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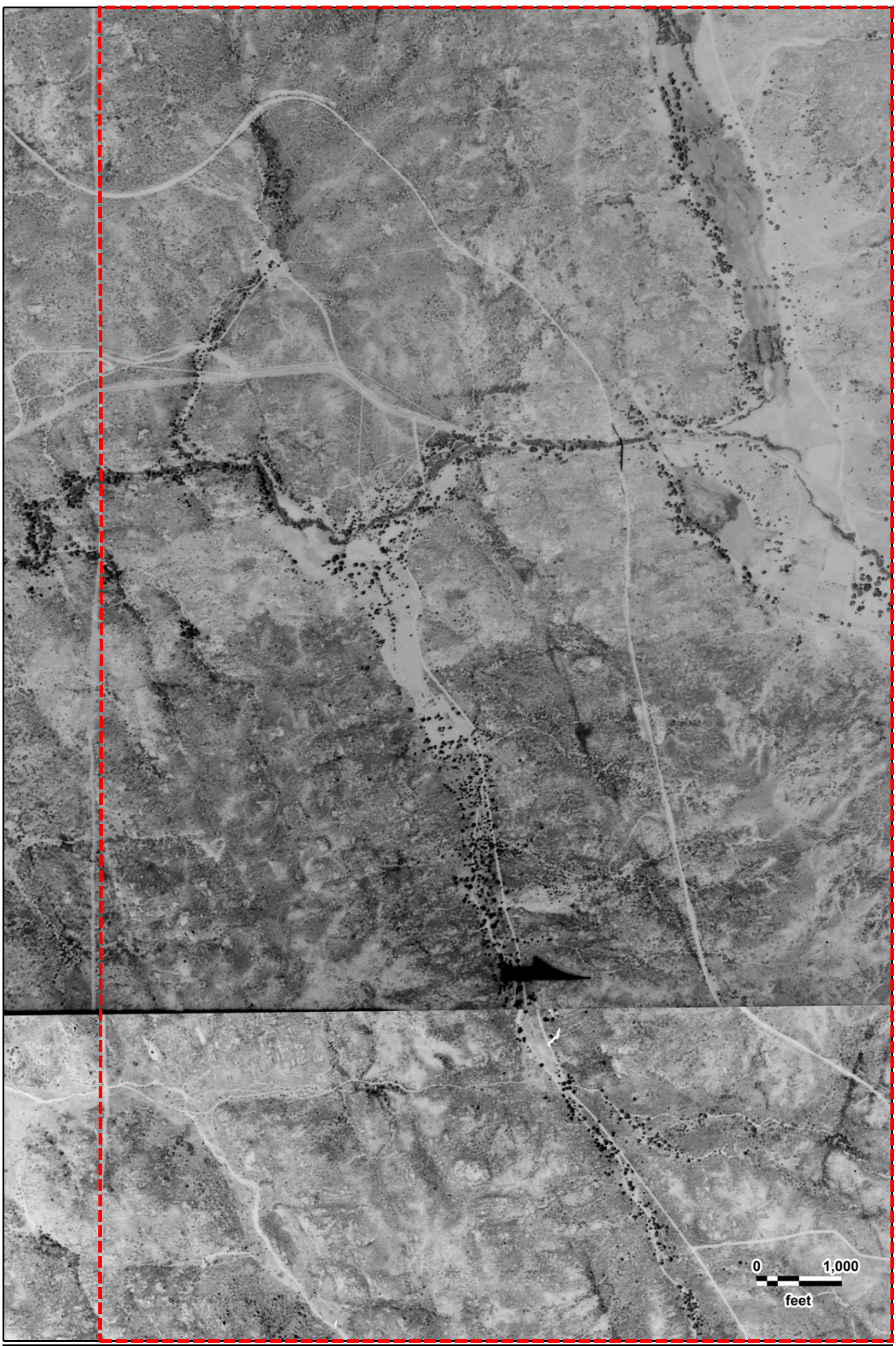

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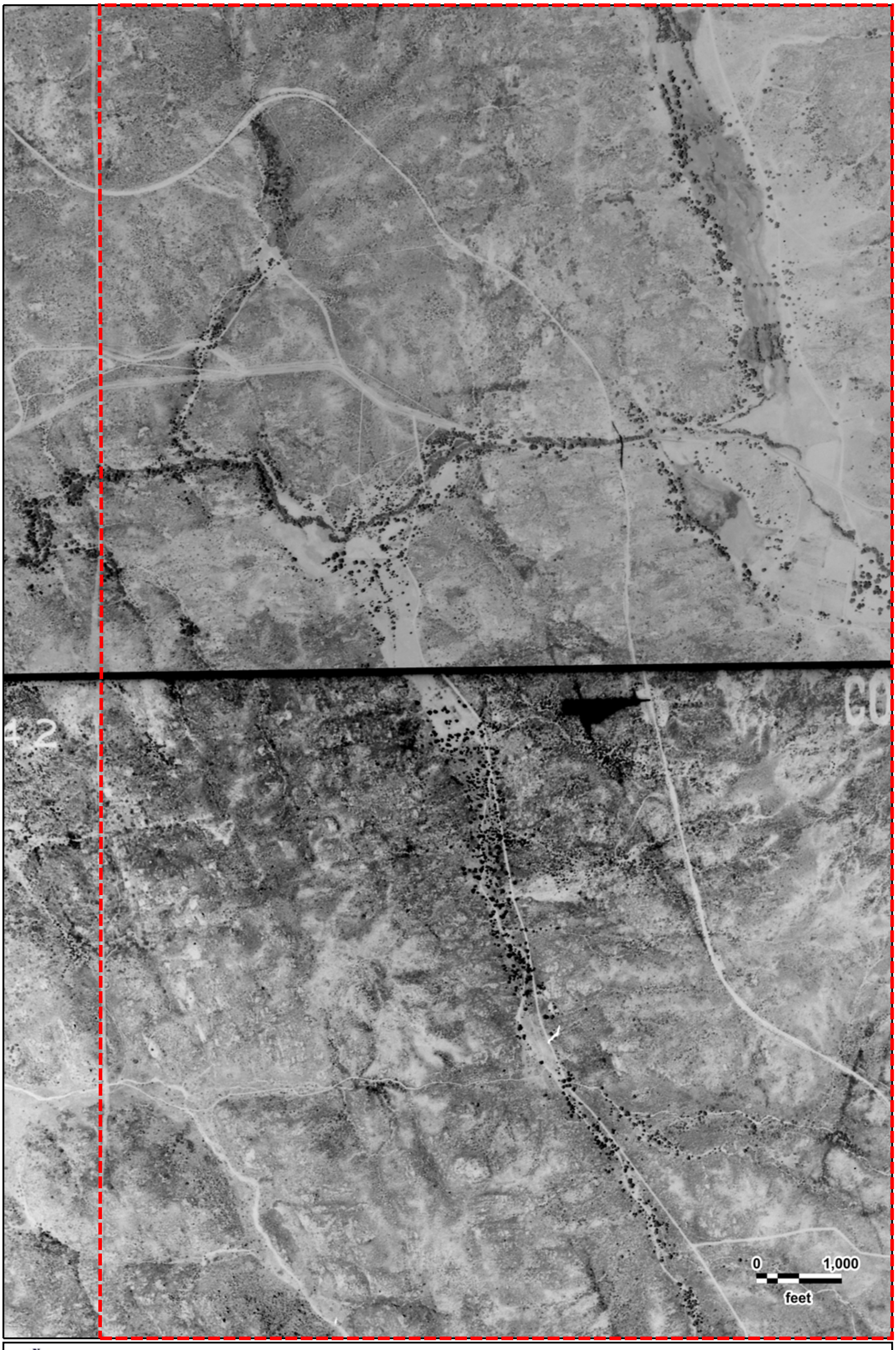

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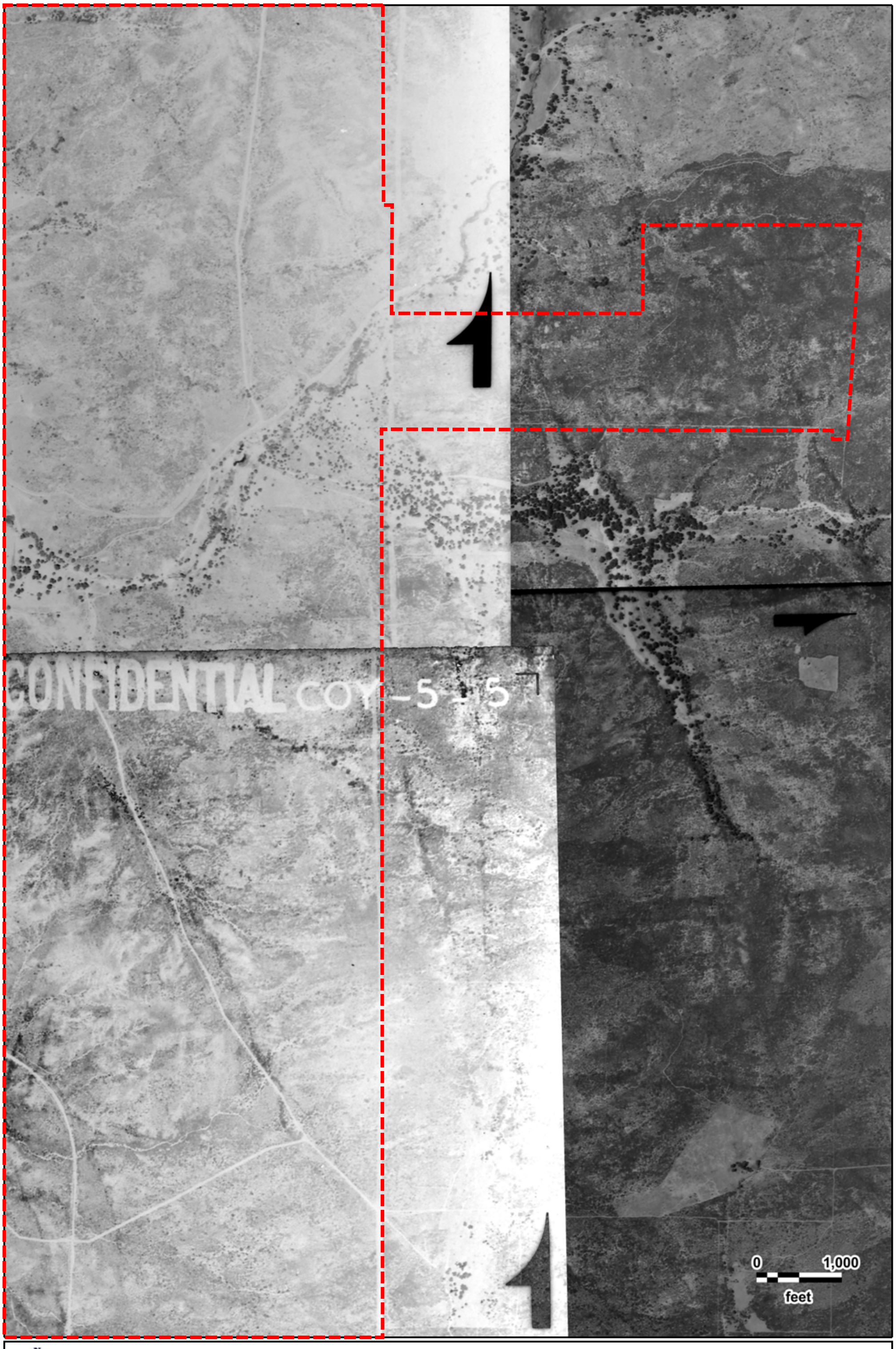

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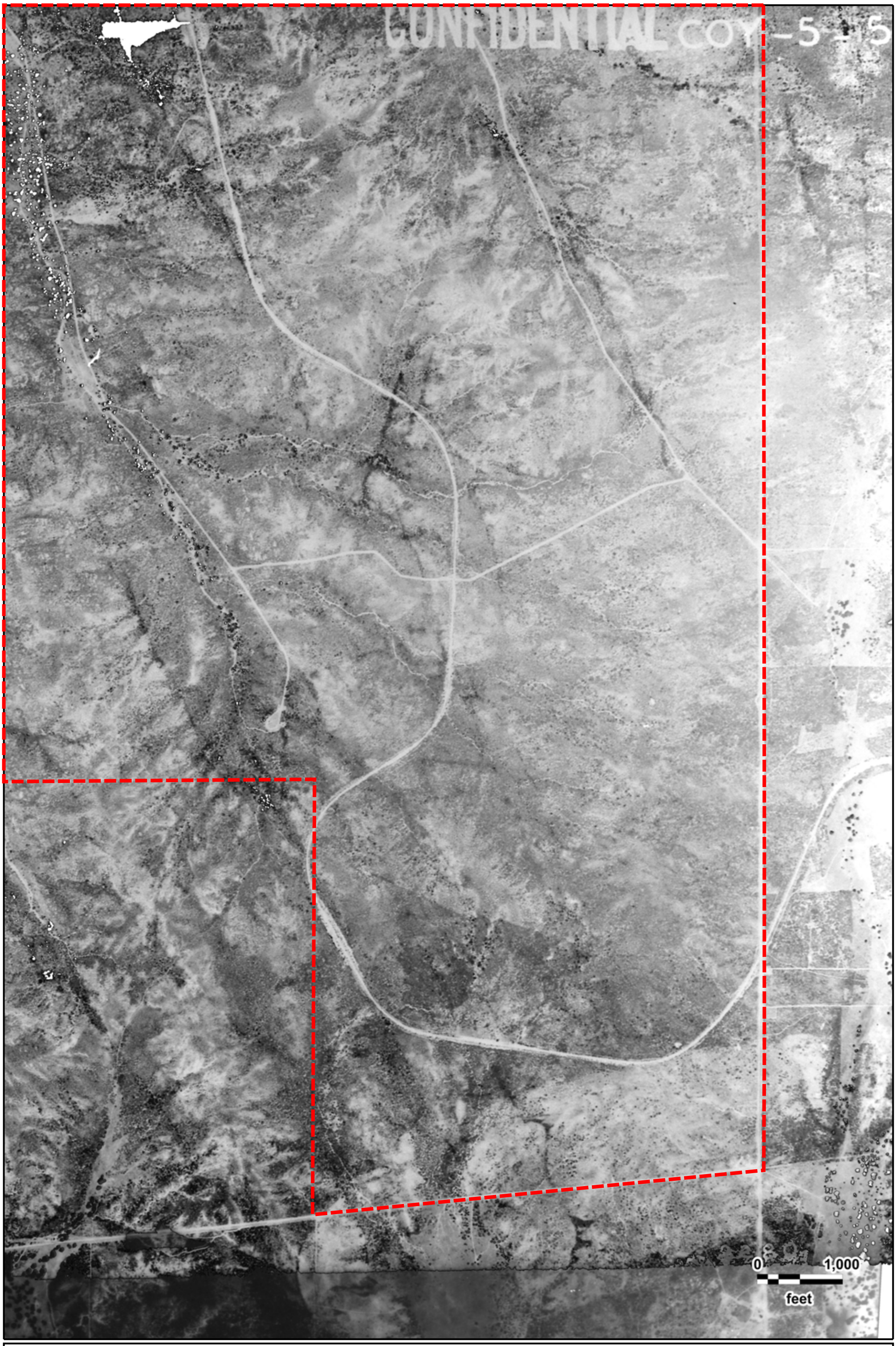

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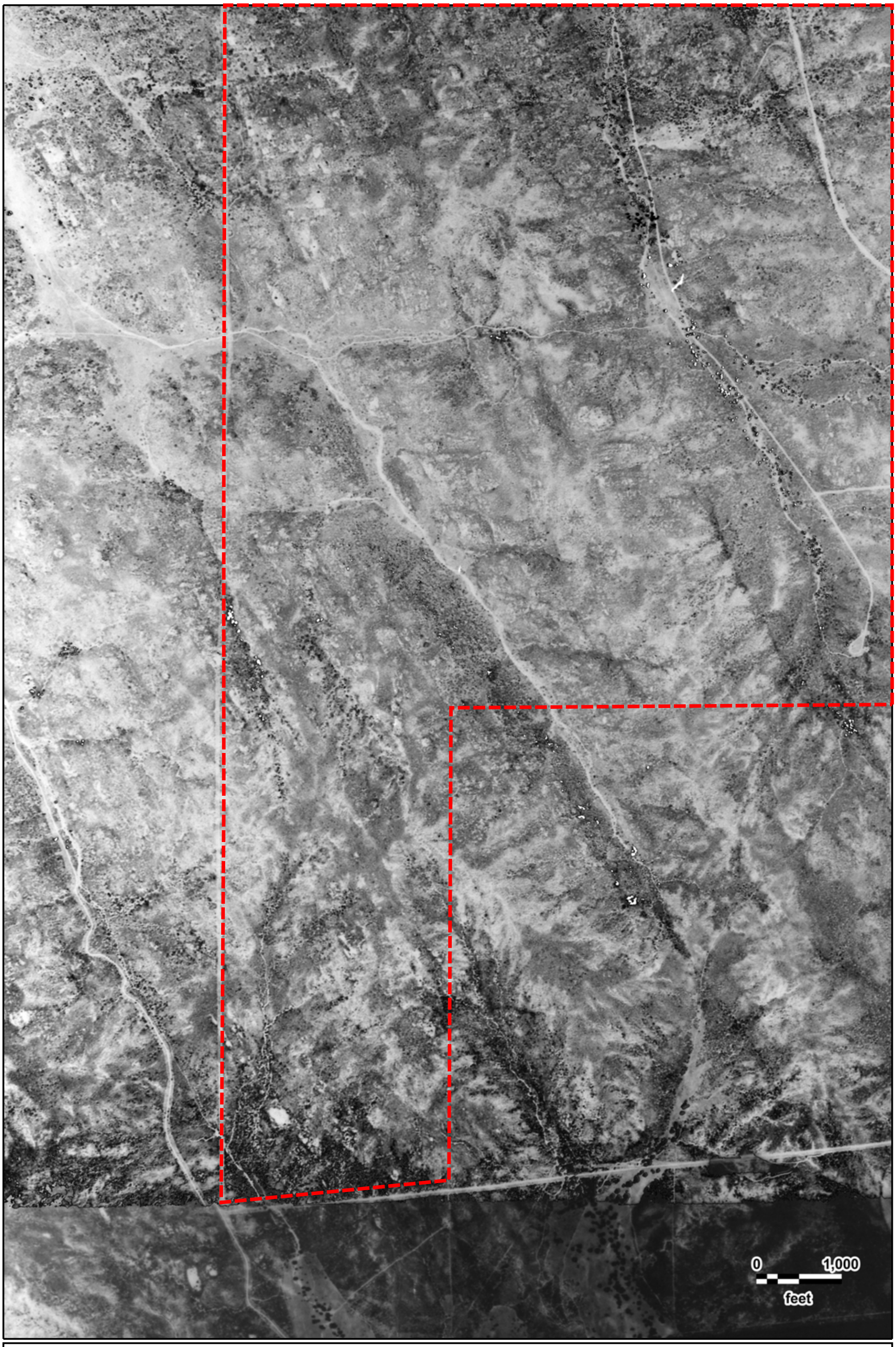

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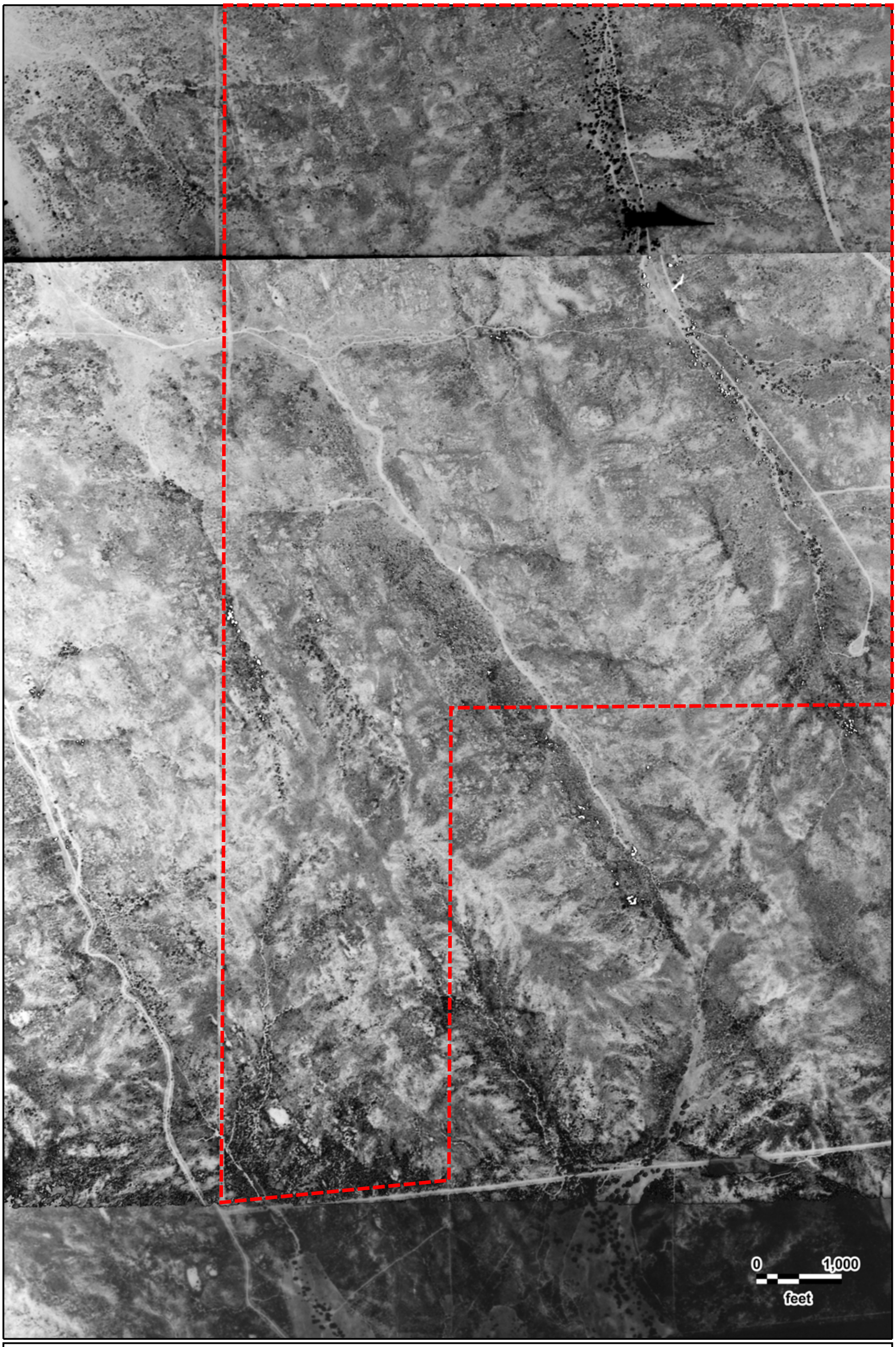

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Attachment C

Letter from EPA to Bureau of Indian Affairs Regarding Draft Supplemental Environmental Impact Statement, May 12, 2010

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105

May 12, 2010

Dale Risling
Acting Regional Director
Pacific Regional Office
Bureau of Indian Affairs
2800 Cottage Way
Sacramento, CA 95825

Subject: Draft Supplemental Environmental Impact Statement (DSEIS), Campo Regional Landfill Project, Campo Indian Reservation, San Diego County, California (CEQ # 20100045)

Dear Mr. Risling:

The U.S. Environmental Protection Agency (EPA) has reviewed the above-referenced document pursuant to the National Environmental Policy Act (NEPA), Council on Environmental Quality (CEQ) regulations (40 CFR Parts 1500-1508), and our NEPA review authority under Section 309 of the Clean Air Act. Our detailed comments are enclosed.

In 2006, EPA accepted the Bureau of Indian Affairs (BIA)'s request to serve as a cooperating agency for the proposed project. We appreciate the opportunity for early involvement. In our role as cooperating agency, EPA reviewed and commented on preliminary draft versions of the Supplemental EIS (PDSEIS) in both 2007 and 2009. We appreciate BIA's responsiveness to many of our comments.

Based on our review of the DSEIS, we have rated the document as Environmental Concerns – Insufficient Information (EC-2) (see enclosed "Summary of Rating Definitions"). While the proposed project has improved since 2007, additional protective measures should be included to fully protect the environment. Specifically, because the proposed project site overlies a Sole Source Aquifer as designated under the Safe Drinking Water Act, the proposal should ensure that all practicable and feasible measures are incorporated to protect groundwater resources.

EPA had rated the 1992 DEIS as Environmental Objections - Insufficient Information (EO-2) based on concerns regarding compliance with federal groundwater monitoring and corrective action requirements. Information available at that time indicated that compliance with these requirements could prove difficult or infeasible in the project's geological setting of fractured bedrock. Additional field studies have been conducted and more is now known about the project site hydrogeology. In addition, improvements were made to the proposed water quality detection monitoring program. We have additional recommendations for improving this

monitoring program, which is important for the protection of groundwater resources, including a request to commit to additional groundwater monitoring wells.

The proposed project now includes an alternative liner system and alternative final cover, which will require EPA approval through a Site Specific Flexibility Request[1] (SSFR), along with approval for construction in a seismic zone. While EPA has not formally received the SSFR applications, draft SSFRs are included in the Appendix of the DSEIS. Therefore, our comments reflect our initial review of these draft SSFRs but should not be interpreted as constituting any decisions regarding SSFR approval or disapproval. Once EPA receives the SSFR's, we will conduct a thorough review to determine whether the proposed alternative design components meet the requirements in 40 CFR Part 258 and are sufficiently protective of the Sole Source Aquifer. For the alternative liner SSFR, the liner design must ensure that the concentrations of constituents listed in the regulations will not be exceeded in the uppermost aquifer at the relevant point of compliance. Our review will consider the hydrogeologic characteristics of the facility and surrounding land, and the current and future importance of groundwater as a water supply.

EPA had previously recommended[2] that an evaluation of a double composite liner, where one liner is 2-feet of low-permeable clay, be included in the DSEIS. We recommend this evaluation be added to the FSEIS, consistent with 40 CFR 1502.14.

The DSEIS references a "much needed waste disposal capacity" in San Diego County but does not update the detailed discussion of this need that was included in the 1992 EIS. Increased diversion through recycling in the County would affect demand for waste disposal. Waste disposal demand may also determine the economic feasibility of the project, which is important for the long-term management of the landfill and the implementation of mitigation measures. An update of this discussion should be included in the Final SEIS. We also request additional information regarding final cover, erosion control measures, project water supply, the property value protection agreement and implementation of mitigation measures, seismic impacts, and the project's GHG emissions, among other issues.

EPA appreciates the opportunity to review this DSEIS. When the Final SEIS is released for public review, please send one copy to the address above (mail code: CED-2). If you have any questions, please contact me at (415) 972-3843 or have your staff contact Karen Vitulano, the lead reviewer for this project, at (415) 947-4178 or vitulano.karen@epa.gov.

Sincerely,
/s/

Enrique Manzanilla, Director
Communities and Ecosystems Division

Enclosure: Summary of EPA Rating Definitions
EPA's Detailed Comments

[1] A separate public comment period is associated with this process.
[2] See comments from April 11, 2007

cc: Monique LaChappa, Chairwoman, Campo Band of Kumeyaay Indians
Lisa Gover, Director, Campo Environmental Protection Agency

Landfill Design

Site Specific Flexibility Requests

Federal regulations (40 CFR Part 258) allow landfill owners and operators to request flexibility in the municipal solid waste landfill (MSWLF) criteria, including the allowance of alternative liner designs. The flexibility provided in the MSWLF criteria allows for the consideration of site-specific conditions in designing and operating a MSWLF while ensuring protection of human health and the environment. Seeking such flexibility is not uncommon in the industry.

Alternative liner designs must meet criteria set out in the regulations and be approved by the appropriate regulatory entity. In most cases, the appropriate regulatory entity is a state agency whose landfill permit program incorporates federal landfill requirements. However, since the State of California does not have regulatory authority over MSWLFs in Indian Country, EPA would determine whether an alternative meets the regulatory criteria. EPA makes this determination by reviewing a Site Specific Flexibility Request (SSFR) submitted by the landfill developer.

The proposed Campo Landfill project includes a liner system that is an alternative to the prescriptive liner requirements of 40 CFR Part 258.40(a)(2). The prescriptive liner required in the federal regulations is a single composite liner consisting of two components; an upper flexible membrane liner (geomembrane) component[3], and a lower component that must consist of at least a two-foot layer of compacted soil with a hydraulic conductivity of no more than 10^{-07} cm/sec. The geomembrane component must be installed in direct contact with the compacted soil component. The proposed Campo liner is a double liner system where the upper (primary) liner is a single composite liner, in which the 2-foot compacted soil layer is replaced by a geosynthetic clay layer (GCL) sandwiched between two geomembranes, and the lower (secondary) liner consists of a single geomembrane overlaid by a geocomposite drainage layer (Figure 2.1-5).

Therefore, the main difference between the proposed liner system and the prescriptive liner requirements of 40 CFR Part 258.40(a)(2) is that the proposed liner system substitutes an approximately ¼ inch thick GCL as an alternative to the 2-foot thick low-permeable, compacted bentonite clay soil component of the single composite liner requirement and adds an additional layer of high density polyethylene plastic beneath the primary liner.

Protecting groundwater resources is especially important at the Campo landfill site since the aquifer has been designated a Sole Source Aquifer under Section 1424(e) of the Safe Drinking Water Act. EPA previously commented, during our review of preliminary drafts of the SEIS in 2007 and 2009, that it is our belief that a double composite liner of the configuration proposed for the Gregory Canyon Landfill in San Diego County would be most protective of groundwater resources. For the Gregory Canyon Landfill, which is also located over fractured bedrock, the State of California required that at least one of the low permeability liner components be comprised of the 2-foot thick low- permeable, compacted bentonite clay soil.

[3] Geomembrane components consisting of high density polyethylene (HDPE) must be at least 60-mil thick

Once the SSFR's are formally submitted to EPA, we will evaluate whether or not the proposed liner meets the requirements in the federal landfill regulations found in 40 CFR Part 258. EPA's review will be based on the criteria in 40 CFR 258.40: the design must ensure that the concentrations of constituents listed in the regulations will not be exceeded in the uppermost aquifer at the relevant point of compliance. This includes consideration of the hydrogeologic characteristics of the facility and surrounding land. EPA will announce its draft decision on the SFFRs in a separate process and will hold public meetings and establish a public comment period pursuant to EPA's draft Guidance entitled *Site-Specific Flexibility Requests for Municipal Solid Waste Landfills in Indian Country,* August 1997 (EPA530-R-97-016).

Liner System Comparison

The DSEIS provides a discussion of the proposed alternative liner as compared to the prescriptive liner of 40 CFR Part 258, however this discussion is limited to a comparison of results of the Hydrologic Evaluation of Landfill Performance (HELP) model (p. 2-15). HELP modeling results show that the proposed liner could provide more protection than the prescriptive single composite liner required by the federal regulations. However, the evaluation does not include discussion of other factors, such as shear-strength when hydrated, cation exchange vulnerability, and the risk of construction damage related to overall thinness of the GCL/Geomembrane liner system. Appendix D (p. 1-10) does identify the advantages and disadvantages of GCLs; however, this information should be discussed and evaluated in the body of the SEIS with statements as to how these relate to environmental impacts.

> *Recommendation:* Expand the discussion of the comparison of the proposed alternative liner with the prescriptive liner from 40 CFR Part 258 to include factors in addition to the modeling results, such as a comparative assessment of hydraulic, physical/mechanical, and construction criteria[4]. A discussion of the advantages and disadvantages, including a discussion of costs to benefits, would be appropriate. EPA had previously recommended[5] that an evaluation of a double composite liner, where one liner is 2-feet of low-permeable clay, be included in the DSEIS. We recommend this evaluation be added to the FSEIS, consistent with 40 CFR 1502.14.

Quality Assurance/Quality Control Program

EPA previously commented on the importance of a Quality Assurance/Quality Control program to ensure the GCL liner is installed properly, which is vital to its proper functioning. The Hydrologic Evaluation of Landfill Performance (HELP) program modeling performed for the project also necessitates a rigorous Construction Quality Assurance program since the modeling results depend on the number and size of flaws in the geosynthetic products.

The DSEIS includes development and implementation of a Construction Quality Assurance (CQA) program as part of the final construction documents that would be submitted to Campo Environmental Protection Agency (CEPA) for review and approval prior to the liner construction

[4] One reference for this comparison is Koerner, R., and Daniel, D., "A Suggested Methodology for Assessing the Technical Equivalency of GCLs to CCLs," Proceedings Geokunststoff-Ton-Dichtungen, GTD, H. Zanzinger (Ed.), Nurnberg, Germany, 1994, pp. 61-83

[5] See comments from April 11, 2007

(p. 2-27), consistent with EPA's previous recommendation. Leak detection via electrical leak location surveys in installed geomembranes is also proposed. EPA strongly supports electrical leak location surveys as they would help provide for good quality control of the geomembranes.

> *Recommendation:* The CQA program should be provided to EPA for review as part of the final liner and cover SSFRs submittals.

Protecting the Primary Liner System

The DSEIS states that the liner/cover prevents direct infiltration of precipitation to the groundwater below, resulting in denied recharge, which is considered a beneficial impact because it would increase the distance between the groundwater and the landfill liner (p. 4.2-7). This adds a measure of protection for the groundwater supply and for the landfill liner system (p. 4.2-6). We agree that increasing the distance between the liner and groundwater is a protective measure. The project proposal includes the use of groundwater interceptor trenches which could be effective in keeping at least 5 feet of unsaturated soil between groundwater and the liner. However, we are aware of trenches that have not performed as intended. Therefore, having redundant approaches to liner protection from groundwater contact would offer greater liner protection.

The DSEIS identifies the potentially significant threat to water quality from groundwater mounding, where infiltration of groundwater beneath the recharge basins could raise a mound on the water table to the base of refuse and the bottom liner (p. 4.2-7). The secondary geomembrane liner offers protection to the primary liner should this occur. However, decreasing the likelihood of this occurring would offer greater liner protection.

> *Recommendation:* Consider exploring the feasibility of additional methods of liner protection from groundwater contact/mounding in the FSEIS. Identify whether all options to increase the distance between groundwater and the landfill liner have been explored. Evaluate locating the recharge basins further downstream from the landfill perimeter to offer added protection from groundwater mounding beneath the recharge basins along the downgradient perimeter of the landfill footprint.
>
> Because groundwater trenches can fail, the project should include a requirement for monitoring the performance of the intercept trenches to verify the continual successful operation in the collection and removal of groundwater. We also recommend that contingencies be included for potential maintenance or repair of the intercept trenches or interceptor pumps. Additionally, we recommend contingencies be included for powering of the groundwater interception pumps in the event of a power outage.

Erosion Control

The analysis in the DSEIS has not demonstrated that significant erosion will not occur. The calculation of soil loss in Appendix D-1 uses a C factor value of 0.05 in the Revised Universal Soil Loss Equation (RUSLE), which it indicates is typically associated with the presence of 65% grass cover (App D-1, App. 2B, p. 2). However, this C factor may be low and may not reflect the semi-arid climate of the site and expected vegetative cover. The project's Revegetation and Adaptive Management Plan requires a minimum of 50% coverage by the fourth growing season

(p. 4.4-18). If coverage were 50% with a well established grass root structure, the C value would be approximately 0.07[6] (40% higher than the assumed value of 0.05). This would increase the soil loss estimate by 40%. The final results of the calculation are very sensitive to the C factor. Given this, it is possible the soil loss for the 3:1 slopes might exceed 2 tons/acre/year, which would be considered excessive.

> *Recommendation:* Correct or justify the use of the C factor of 0.05 in the FSEIS. EPA recommends additional erosion control measures. For example, a soil-gravel admixture would help reduce potential erosion on the side slopes. Additionally, use of a soil-gravel admixture in the top six to eight inches of cover soil throughout the site would help reduce loss of the topsoil to wind and water erosion.

Final Cover Drainage Layer Design

The proposed final cover soil appears to be placed directly on a geosynthetic drainage layer, which overlays a textured Linear Low Density Polyethylene (LLDPE) 60-mil geomembrane (Section 2.1.3.1 and Figure 2.1-9). There should be a filter geotextile installed to separate the cover soil layer from the underlying geosynthetic drainage layer, similar to the filter geotextile that is proposed to separate the operations soil layer from the underlying primary leachate collection and removal system. Without a filter geotextile to minimize the migration of fine soil particles into the drainage layer, the permeability and performance of the geosynthetic drainage layer will be reduced.

> *Recommendation:* We recommend a filter geotextile be included in the final cover design to separate the cover soil layer from the underlying geosynthetic drainage layer to ensure that fine soil particles do not clog the geodrain layer's internal drainage channels.

Soil Quality and Final Cover

The suitability of on-site soil for use in the final cover should be further discussed. Because the soil to be used will come from subsurface soils, it is likely that it will not have adequate nutrients that are required for establishing vegetation. Subsurface soil can also have layers of soil with significant salts such as caliches or calcium carbonate layers, and salts adversely affect vegetation's ability to uptake water and thus should be limited in the cover soil. The DSEIS states that measures will be provided for topsoil salvage and replacement, but more discussion is needed to demonstrate that this is practicable, including where and how the topsoil will be stored, and how subsoil might be used or amended if insufficient topsoil is available.

> *Recommendation:* The FSEIS should discuss the practicability and logistics associated with topsoil salvage and use in the final cover. For the SSFR, testing and analysis should be provided to demonstrate that the hydraulic properties are consistent with the values used in the HELP modeling and that this soil is adequate to maintain a quality rooting medium for native vegetation upon closure. This analysis is required to provide the justification for using native subsurface soil for cover. Additionally, the SSFR should include the particle size distribution for the soils to ensure it is not excessively rocky, especially for soils placed adjacent to geosynthetics where rocky soil can damage these

[6] Estimated from USDA 1978, Table 10, Predicting Rainfall Erosion Losses, A Guide to Conservation Planning

membranes. The FSEIS should also address the soils needed for seeding of temporary slopes to establish vegetative cover for erosion control.

Financial Assurance

The DSEIS identifies the landfill closure requirements, including the development of a closure plan under 40 CFR 258.60 and Campo Tribal Regulations (CTR) (p. 2-33 - 2-34). The federal regulations at 40 CFR Part 258 Subpart G (Sections 258.70-75) require financial assurance for closure, post-closure care and, if necessary, corrective action[7]. The DSEIS does not discuss the requirement to meet financial assurance or provide any information regarding compliance with these requirements.

Recommendation: The FSEIS should include financial assurance information in the FSEIS, including how the project proponent intends to comply with these requirements. Since closure and post-closure monitoring and maintenance could be viewed as mitigation as defined under NEPA (40 CFR 1508.20d)[8], this information could be included in the discussion of mitigation measures. The FSEIS should explain how the closure and post-closure monitoring and maintenance will be implemented, including funding commitments, responsible parties and enforcement mechanisms (see also comment below on mitigation measures). The FSEIS should include a clear commitment to comply with the financial assurance requirements of 40 CFR Part 258 and the Campo Tribal Regulations.

Seismic Impact Zone SSFR

The DSEIS and the Seismic Impact Zone SSFR should consider additional earthquakes in its discussions. On April 4, 2010, there was a 7.2 magnitude earthquake in Baja California. Additionally, the applicability of the 7.8 magnitude earthquake along the Laguna Salada Fault in 1892 should be considered and discussed.

The DSEIS and the Seismic SSFR discuss and summarize calculated static factors of safety in the slope stability analysis; however, they do not discuss or summarize the calculated seismic factors of safety. Instead, the permanent seismic deformation (of less than one inch) was summarized in the text and SSFR Tables 3-6 and 3-7. From Appendix 3.1 of Appendix D-1, (Slope Stability Calculations) it appears the calculated seismic slope stability factors of safety are approximately 1.0. EPA is unlikely to approve a seismic impact zone SSFR if seismic factors of safety are less than 1.0.

Recommendations: The FSEIS and the Seismic SSFR should consider additional earthquakes, as identified above, and discuss and summarize the calculated seismic factors of safety for refuse slope stability and final cover slope stability, in addition to the permanent seismic deformation. Additionally, for refuse slope stability, include a column in the Seismic SSFR Tables 3-6 and 3-7 showing calculated seismic factors of safety.

[7] It appears the Campo Tribal Regulations also address financial assurance

[8] 40 CFR 1508.20d: (d) Reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action.

Leachate Generation Rate and Pond Sizing
Clarification is needed regarding leachate pond sizing assumptions. The leachate generation calculations shown in Appendix C-1 appear to only include leachate generated from areas without final cover. In other words, the total leachate volume (gal) for each year equals only that which would be generated from that year's area without final cover[9].

It appears a value of zero is being used for areas with final cover. Leachate generation will decrease following final closure, but it would not be zero for the first year. Estimates based on Bonaparte et al. (2002), as cited in Appendix D-1, p. 1-9, appear reasonable. Bonaparte et al. suggest that landfills closed with geomembrane cover systems reduce leachate generation to approximately 10 percent of the operational leachate generation rate within 4 years, and within 9 years, the leachate generation rate is negligible.

> *Recommendation*: Review the leachate generation calculations shown in Appendix C-1 and, if necessary, resize the leachate storage ponds. Identify the unit "sy" in these tables.
>
> Additionally, clarify the assumptions regarding rainfall conditions used in the calculations and indicate whether they consider the wide variation in annual rainfall which can occur at the site (Figure 3.2-1). It is not clear if a worst case rainfall event was utilized for the HELP modeling for the DSEIS (p. 4.2-17). We continue to recommend that a discussion of contingency plans for the storage or disposal of leachate be addressed in the FSEIS, including procedures to address leachate management in the event of excessive rainfall/flooding or when rainfall exceeds what can be effectively applied or evaporated during the rainy season.

Water Resources

Water Quality Detection Monitoring Program
In our 1992 comments on the FEIS, EPA expressed concern regarding the feasibility of monitoring groundwater in fractured bedrock systems. Additional field studies have been conducted and more is now known about hydrogeology at the proposed project site. However, EPA believes the following recommendations are important for the protection of groundwater and should be incorporated into the monitoring program. EPA will evaluate the monitoring program in conjunction with its formal review of the liner SSFR and may recommend additional wells as appropriate.

Groundwater Monitoring Well Construction/Placement. The groundwater monitoring plan (Appendix C-3) includes limited deep groundwater sampling (i.e., greater than 100 feet below ground surface), based on a vertical upward gradient from the deep zone to the shallow zone. Pumping from the future water supply wells could change the vertical gradient. To ensure that assumptions about the vertical gradient are correct, the groundwater monitoring plan should include paired shallow/deep wells. For example, Appendix C-3, Figure 2 indicates that new deep well P1-50 will be paired with existing shallow well P1-26, which should provide useful data on the vertical groundwater gradient. Other wells are not similarly paired.

[9] For example in 2011 (252,800 square yards (sy) without final cover/4820 sy per acre) x 82,700 gal/ac = 4,319,537 gal.

Recommendation: Project proponents should pair the other two new deep wells (P1-48 and P1-49) with either new or existing shallow wells to provide a more robust data set on the vertical gradient. The current plan pairs the P1-48 and P1-49 wells with shallow wells P1-8 and P1-11, which are scheduled for decommissioning.

Groundwater Monitoring of Future Phases. The DSEIS includes a vague description regarding monitoring wells for landfill phases, stating only that the adequacy of the well spacing and placement shall be evaluated throughout the landfill construction process (p. 4.2-31). EPA believes that the proposed groundwater monitoring program for Phases 1 and 2 is generally adequate; however, the program as presented is insufficient to monitor additional phases as they are constructed further south. Additionally, proposed phases 18 and 19 (SEIS Figure 2.1-7) encroach on the ridgeline at the eastern boundary of the proposed landfill. The proximity of phases 18, 19, and other near-ridgeline phases (including Phase 3) to the groundwater divide under the ridgeline may suggest the need for additional groundwater monitoring wells on the ridgeline, and, if needed, on the east side of the ridge.

Recommendation: The FSEIS and Record of Decision should include a firm commitment for additional groundwater monitoring as new phases are constructed. Appendix C-3 and elsewhere should indicate that the proposed groundwater monitoring program for the initial phases will serve as a template for an expanded groundwater monitoring program as future phases (Phases 4 through 19) are built out, and that the horizontal and vertical well spacing, sampling and analytical frequency, monitoring parameters, and other details included for Phases 1 through 3 of the project will extend to future phases. Additionally, as new landfill phases are built out toward the ridgeline, additional groundwater monitoring wells may be needed on the crest and, possibly, east of the ridgeline. The FSEIS and ROD should commit to including additional monitoring wells on the crest and east side of the ridge to evaluate possible changes to the groundwater once near ridgeline phases are being filled.

Water Supply

The project includes development of a well field to supply water for the landfill for routine dust control, consumptive office use, irrigation of nursery plants and revegetation areas, and construction uses such as dust control and soil compaction (p. 2-6). The assessment of water availability in the DSEIS is based on "porous media equivalent" analysis and may not be representative of subsurface conditions at the proposed landfill site. Numerical modeling results are one line of evidence to support a water resource evaluation, but the limited site-specific hydraulic test data do not indicate that sufficient water is available to meet project demands. Available aquifer test data (Appendix C-4) showed the following results for wells tested:

- Well P1-14 test: Well P1-14 sustained a flow rate of 10.7 gpm over a 94 hour test, but the water level in nearby shallow wells "dropped gradually and did not reach steady state during 94 hours of pumping."
- Well ATA-PW-1 test: Well ATA-PW-1 sustained an apparent flow rate of 3.4 gpm, but the water level dropped below the pump intake after 16 hours. Pumping of the ATA-PW-

1 well resulted in continuous drawdown in well ATB-PZ-1, which did not reach steady state after 70 hours of pumping.

The DSEIS identifies the existing wells at the Campo sand quarry and the Campo Tribal Center as potential water sources, such that, in the event that insufficient water is available from the proposed well field, water shall be pumped from one or both of these wells to supplement water from the proposed well field, and withdrawals from the well field shall be curtailed sufficiently to eliminate any adverse effects on other groundwater users (p. ES-37). The DEIS does not discuss impacts from such a pipeline.

Recommendation: Because of the limited site-specific hydraulic test data, we recommend the project proponents construct and rigorously test a sufficient number of water supply wells within the 300-acre wellfield to ensure that sufficient water is available to meet the short- and long-term demands of the proposed landfill. This is important since it bears on environmental impacts as well as fire protection. This information would also provide an indication of the likelihood that this alternative water source would be needed, which involves constructing a 2+ mile water pipeline along existing and proposed roads from the quarry and/or tribal center (p. ES-37). A discussion of impacts from this pipeline should be included in the FSEIS.

Property Value Protection Agreement

The DSEIS notes that the current applicant has not offered a property value protection agreement for the proposed project but the DSEIS contains a recommended mitigation measure that requires the project operator to provide water to any domestic user whose source is compromised by project water withdrawals or unanticipated discharges of pollutants for the duration of the compromised condition of the water supply (p. ES-14). The measure states that in the event that groundwater pumping substantially depletes groundwater supplies such that the production rate of pre-existing nearby wells drops to a level which would not support existing land uses, or planned uses for which permits have been granted, alternate sources of supply, including piping in water from the quarry or tribal center (p. 4.2-29), shall be developed or withdrawals from the well field shall be curtailed until groundwater levels recover (p. 4.2-28).

Recommendation: EPA supports the inclusion of the property value protection agreement as appropriate mitigation. More details should be provided for this measure including whether it is being committed to as part of the proposal, the details regarding when and how it would be triggered, and what the mechanism of implementation would be. The DSEIS references the water supply mitigation measures from the 1992 FEIS including twice annual monitoring in off-site wells (p. 4.2-28) but these measures do not appear to be integrated into the new recommended mitigation measure. For example, the 1992 FEIS measures include development of new wells, and the DSEIS states that these mitigation measures from the FEIS would be applicable to the potential groundwater impacts as described in Section 4.2.3.2, however this section discusses groundwater infiltration basins and groundwater interception trenches. We recommend that this mitigation measure be more clearly defined. Additionally, since potential impacts from the proposed project could affect off-reservation resources and mitigation measures would involve coordination with non-tribal individuals (i.e. domestic well sampling

program, etc.), it is important to set up a mechanism of accountability for these mitigation commitments. Third party mechanisms are one such possibility. For example, tribal casino projects have proposed contracting with a third party to oversee their well impact compensation program[10].

Remedial Action

Groundwater Remediation Plan. On page 4.2-31, the DSEIS refers to the groundwater remediation plan mitigation measures in the FSEIS, but does not indicate whether these measures still apply to the proposed project[11].

Recommendation: Clarify in the FSEIS whether the actions identified in the FSEIS, p. 4-25 are still applicable to the current project. If so, include reference to it in Table ES-4-4.

Leaks from Primary Liner system. The DSEIS identifies the remedial action that would take place should the primary liner system leak such that leachate from the landfill is observed and confirmed in the collection sumps near the landfill periphery. These actions could include the application of an internal liner layer within the landfill over the area in which leakage occurred to prevent additional infiltration, redirection of landfill activities to another portion of the phase; and/or possible early closure of a phase (p. 2-8).

Recommendation: EPA recommends that the potential remedial actions that would take place, should the primary liner leak, also include excavation of the waste material and repair of the liner, if warranted.

Leaks in Secondary Liner system. While the DSEIS identifies the remedial action that would take place should the primary liner leak, there is no discussion of remedial action that would take place should the secondary liner system leak such that groundwater from a rising water table is observed and confirmed in the collection sumps for the secondary drainage layer.

Recommendation: If significant groundwater inflow is detected, remedial action should include, but would not necessarily be limited to, assessment and determination of the groundwater source, maintenance of nearby groundwater intercept trenches, installation of additional groundwater intercept trenches, installation of groundwater extraction wells, and/or excavation of the waste material and repair of the liner, if warranted.

Use of Certified Laboratories

The sample analysis discussion of Appendix C-3, Appendix A, Section 3.5, indicates that analysis of groundwater samples will be conducted by a laboratory certified by the California Department of Health Services or a laboratory approved by Campo EPA (CEPA). To ensure that the laboratory is competent to perform the necessary analyses, BIA and the Tribe should ensure that the laboratory is accredited under the auspices of the National Environmental Laboratory

[10] See North Fork Casino Final EIS, November 2008, p. 5-8; Graton Rancheria Casino and Hotel FEIS, p. 5-11

[11] The DSEIS generally indicates in Table ES-4-4 whether the FEIS mitigation measures still apply to the project, but no reference to this plan is identified there.

Accreditation Program (NELAP). NELAP-accredited laboratories have demonstrated capability to analyze environmental samples using approved methods.

> *Recommendation:* EPA recommends that the proposed project commit to utilizing a laboratory accredited by a NELAP recognized accreditation body for the analysis of groundwater samples collected as part of compliance and leak detection monitoring. The FSEIS should identify this commitment.

Additional Groundwater Monitoring Recommendations

- The monitoring well construction summary (Table 2) in Appendix C-3 includes water level data from 1995. This table should be updated to include current (2010) water levels. Many of the existing wells were installed approximately 15 years ago and should be evaluated to determine integrity, accessibility, and suitability for groundwater monitoring at the proposed landfill. Wells that are irreparably damaged should be properly decommissioned and replaced.
- The proposed monitoring well network (Figure 2) in Appendix C-3 should clarify that the number of new wells is based on an average 200-foot spacing, but that actual well locations will be determined in the field based on site-specific conditions, with a preference for placing new wells in fracture zones. Thus, the actual well spacing may be greater or lesser than 200 feet, although the number of new wells (i.e., ten upper zone, three lower zone) would be as discussed.
- The SOPs included in Attachment 1 of Appendix A (Appendix C-3) are generally consistent with current practices in environmental monitoring, but should be tailored to the proposed Campo Landfill project. Although the SOPs included in Appendix C-3 are initially useful for the proposed Campo Landfill site, project-specific SOPs should be developed after the monitoring network is established to ensure that field activities are consistent through time.
- The planned well screens described for well construction in Appendix C-3 range from 10 to 30 feet in length; project proponents should evaluate historical water level changes to ensure that shorter-screened wells do not become unusable (i.e. dry) during drought years.
- Acetone is correctly listed with several other volatile and semi-volatile organic compounds as a common sampling or laboratory-related contaminant (App C-3, Section 5), but the interpretation of acetone in groundwater warrants additional consideration. Acetone is a product of organic material biodegradation and may be an indicator of landfill contamination. Acetone and other "laboratory contaminants" that are found consistently in specific wells, or at increasing concentrations through time, may be indicative of a landfill release. Acetone and other common laboratory contaminants are typically found at low concentrations, random with respect to wells, and frequently (though not always) found in associated field, trip, or method blanks.

Stormwater and Surface Waters

Potential Impacts to Campo Creek

The DSEIS does not fully evaluate impacts to Campo Creek. According to the DSEIS, runoff would be directed away from active landfill operations to recharge basins, with overflow drains discharging to Campo Creek (p. 4.2-4). Water from groundwater interception trenches would also be pumped to these basins. No sizing information is provided for these basins to provide an estimate of frequency of discharges. Additionally, the DSEIS does not describe the types of operations that will be located outside the containment area for the 100-year, 24-hour storm, including the location of the vehicle and other maintenance facilities[12] (p. 2-22). The DSEIS states that either CEPA or USEPA will determine the constituents, locations, and frequency to be monitored for surface water runoff (p. 2-19). Note, however, that minimum monitoring requirements are prescribed in EPA's Multi-Sector General Permit (MSGP) for discharges of industrial stormwater, including stormwater from landfill activities. This should be clarified in the FSEIS. In addition, the DSEIS does not update the beneficial uses of Campo Creek from the related discussion in the FEIS[13]. These beneficial uses can be found in the San Diego Regional Water Quality Control Board's Basin Plan which is available at: http://www.waterboards.ca.gov/sandiego. Finally, the FEIS states that these downgradient recharge areas would all be in existing natural drainages (p. 4-11). The DSEIS does not indicate whether this is still applicable to the proposed project.

> *Recommendation:* In the FSEIS, provide information discussed above, including basin sizing and estimates of discharge frequency, the types of operations outside the containment area where runoff would originate, pollutants which may be in the discharges, and the potential effects on the downstream receiving waters from the discharges. Beneficial uses of the downstream receiving waters should be considered in this discussion.

Construction Phase Stormwater Discharges

The DSEIS (section 2.1.4) indicates the proposed project would include a start-up phase in which infrastructure would be constructed and the landfill would be prepared to accept waste (p. 2-22). During this initial phase of a landfill operation, stormwater discharges are permitted under EPA's construction general stormwater permit, rather than the MSGP; see EPA 833-F-93-002B, available at: http://cfpub.epa.gov/npdes/stormwater/cgp.cfm. The DSEIS does not identify this permit requirement nor specifically address the potential effects of these start-up construction phase stormwater discharges on downstream receiving waters.

> *Recommendation:* The FSEIS should note the requirement for a construction general stormwater permit, and evaluate the potential effects on downstream waterbodies from stormwater discharges during the initial construction phase.

[12] It does indicate that the vehicle maintenance facility would comply with best management practices pursuant to a stormwater multi-sector general permit (MSGP).

[13] The FEIS stated that given the intermittent nature of the flow, potential beneficial uses of Campo Creek are difficult to characterize

Air Quality

Permits and Permitting Authority

The discussion of air quality standards and regulations indicates that the Campo Band has established the Campo Environmental Protection Agency (CEPA) to "issue permits and oversee the implementation and compliance of environmental standards and regulations…" (p. 3.3-3). EPA has not delegated the authority to issue air permits to CEPA. Thus, EPA retains the authority to issue the pre-construction air permit (if applicable) and the Title V operating (40 CFR Part 71) permit. The DSEIS does not mention that the project will require a Part 71 permit from EPA after a year of commencing operation.

> *Recommendation:* The FSEIS should clarify that EPA retains the authority to issue air permits in association with this project and that the Tribe must submit a Part 71 permit application to EPA within twelve months of commencing operation.

Greenhouse Gas Emissions / Potential Applicability of the PSD/GHG Tailoring Rule

We appreciate the discussion on Greenhouse Gases in Section 4.3.7 but believe this discussion can be improved by providing a quantified estimate of the project's GHG emissions and discussing possible measures to mitigate these impacts. In addition, the DSEIS should identify that the project would be required to report under the Mandatory Reporting of Greenhouse Gases Rule.

We note that EPA has proposed a Prevention of Significant Deterioration (PSD)/ Greenhouse Gas (GHG) Tailoring Rule, which may affect this project. Under this proposed rule, if adopted, new facilities emitting over 25,000 tons of greenhouse gases a year would be considered subject to the PSD requirements and therefore required to demonstrate that the best available control technology is used to minimize GHG emissions.[14] However, more recent developments suggest that the applicability threshold may be set at 75,000 tons per year, rather than 25,000, for calendar years 2011 and 2012 (based on Administrator Jackson's testimony before a Senate subcommittee on March 3, 2010).[15] While these considerations are part of the administrative rulemaking process, it is important to note that more details are expected in the final rule that has yet to be signed and finalized. Thus, if construction of the landfill commences after the GHG Tailoring Rule becomes final, the proposed project may be subject to PSD requirements as a result of its projected GHG emissions[16], regardless of EPA's 2005 non-applicability determination (letter from EPA to Preston Gates & Ellis LLP dated January 19, 2005.)

> *Recommendation:* In the FSEIS, EPA recommends including an estimate of the proposed project's GHG emissions and indicating whether the project would be required to report under the Mandatory Reporting of Greenhouse Gases Rule. We also recommend that possible measures to mitigate these impacts be identified.

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[14] For more information, see R. Bravender's article "EPA to revise GHG permitting limits, will focus on larger sources" in *Environment & Energy News PM*, March 3, 2010. http://www.eenews.net/eenewspm/2010/03/03/1/

[15] See S. Cook's article "Jackson Says Climate Rules Initially to Apply To Sources With Emissions Over 75,000 Tons" in *BNA Daily Environment Report*, March 4, 2010. http://ehscenter.bna.com/pic2/ehs.nsf/id/BNAP-838QP8?OpenDocument

[16] See letter from EPA Administrator Lisa Jackson to the Honorable Jay D. Rockefeller IV dated February 22, 2010 at http://epa.gov/oar/pdfs/LPJ_letter.pdf

A landfill gas (LFG) energy recovery system would be the most effective mitigation measure. By using LFG to produce energy, the project would significantly reduce methane emissions and avoid the need to generate energy from fossil fuels, thus reducing emissions of carbon dioxide, sulfur dioxide, nitrogen oxides, and other pollutants from fossil fuel combustion. The DSEIS states that, depending on economic conditions, such a project would most likely be developed in four to eight years after beginning waste filing operations (p. 2-20). We encourage the project proponents to plan for a LFG energy project as a subsequent project, and include any landfill design alternations that would maximize landfill gas recovery efficiency. EPA's Landfill Methane Outreach Program (LMOP) website[17] includes tools that may be of assistance in this mitigation discussion, including the LFG Energy Benefits calculator, and a LFG Energy cost model. The FSEIS could also identify how a LFG Energy project could reduce odor impacts.

In the event that EPA finalizes the GHG Tailoring Rule, the Tribe will need to submit a new PSD applicability analyses to EPA which discusses GHG emissions from the project, before construction is commenced. If it is determined that a PSD permit would be required before the FSEIS is released, the FSEIS should discuss the process and timing for securing permits and how this may affect the construction time line.

Additional Air-related comments

- The DSEIS indicates that the landfill will receive 138 daily truck trips (round-trip) or 276 individual truck trips per day (p.2-31, p. 4.5-1). The public hearing presentation indicates that 164 haul trips per day will occur. The FSEIS should clarify this information and update any impact analyses that depend on this data, including the air quality analyses.
- The DSEIS concludes that the landfill would not be expected to cause or create odor problems in the surrounding community, provided that it adheres to best management practices (BMPs) with respect to odor control (p. 4.3-18). The owner/operator should consider, as a mitigation measure, providing a complaint mechanism for the public to contact Campo EPA to report odor impacts.
- The DSEIS (p. 3.3-5) refers to the California Ambient Air Quality Standards (CAAQS) as being applicable to the project. While this is clarified in Chapter 4, where it states that California standards are not applicable but are used for the impact assessment, the statement in Chapter 3 should be revised.
- The Air Quality discussion (Section 3.3.2.1) implies the Campo Indian Reservation is in a nonattainment area for the 8-hour ozone standard since it uses the San Diego Air Basin in its assessment. However, the portion of the San Diego Air Basin excludes two reservation areas, Campo Areas #1 and #2, from the nonattainment designation. Thus, the Campo Indian reservation would be considered in attainment for all criteria pollutants. This is not to say that the use of the San Diego Air Basin in the assessment is unreasonable, however.
- Mitigation measures for construction and landfill operation equipment includes the purchase of new equipment, maintenance of equipment, and turning off idling equipment

[17] http://www.epa.gov/lmop/index.html

when not operated for longer than five minutes (p. 4.3-30). If practicable, the project should utilize new, clean equipment meeting the most stringent of applicable federal[18] standards. In general, the project should commit to the best available emissions control technology. Tier 4 engines should be used for landfill construction equipment to the maximum extent feasible[19]. Lacking availability of non-road construction equipment that meets Tier 4 engine standards, the Tribe and project proponents should ensure that best available emissions control technologies are used on all equipment. We also recommend EPA-registered particulate traps and other appropriate controls where suitable to reduce emissions of diesel particulate matter and other pollutants at the site. We recommend commitments to these measures be included in the project description and/or mitigation measures.

Truck Bypass Route

EPA had commented previously regarding the location of the truck bypass route. The Campo Education Center, including outdoor recreation areas, is within 60 feet of the proposed bypass route (Figure 2.1-3) and passes between the back of the school and the baseball field. EPA previously recommended relocating the truck bypass further away from the Campo Education Center. Instead, a health risk analysis was performed for the Campo Education Center concluding that the impact of the haul truck traffic is slightly greater than one in one million, but because this was based on 70 years of continuous exposure, which is deemed rare for this non-residential location, no significant air quality impacts are anticipated (p. 4.3-26). While we agree with this significance level, we continue to recommend all possible avoidance and minimization of diesel particulate matter exposure. The DSEIS identifies the purchase of new trucks for the hauling of waste as a mitigation measure (p. 4.3-7, p. 4.3-30). It is not clear if the applicant would be hauling all or most of the waste disposed in the landfill, therefore the feasibility of this mitigation measure in not revealed.

EPA also previously commented on pedestrian safety concerns from the truck bypass route located close to the Campo Education Center. The DSEIS states that the bypass route would be fenced with a 3' high chain-link fence on both sides of the road and that a crosswalk will be installed (p. 4.11-5). The applicant shall maintain these crosswalk markings and signage for the life of the project.

Recommendation: EPA recommends that the commitment to the purchase of new trucks for the hauling of waste be included in the FSEIS and ROD. Clarify the amount of control that the project proponent has for implementing this measure. In general, the project should prioritize diesel exhaust mitigation measures, including alternative fuels (e.g. LNG) and cleaner engines (post-2007) for all trucks accessing the Campo landfill. The project proponent and the Tribe should work with waste haulers to ensure that these mitigation measures are implemented to the greatest extent feasible.

[18] EPA's website for nonroad mobile sources is http://www.epa.gov/nonroad/.

[19] Diesel engines < 25 hp rated power started phasing in Tier 4 Model Years in 2008. Larger Tier 4 diesel engines will be phased in depending on the rated power (e.g., 25 hp - <75 hp: 2013; 75 hp - < 175 hp: 2012-2013; 175 hp - < 750 hp: 2011 - 2013; and > 750 hp 2011- 2015).

Additional mitigation could include identifying and relocating the air intake for the Campo Education Center away from the bypass route, if applicable. The greatest avoidance would likely come from shifting the truck bypass road location further from the Education Center, and we continue to recommend this be explored.

Recent studies suggest that roadside vegetation may help reduce near-road exposures to traffic-generated pollutants[20]. The Tribe and project proponents should consider exploring the addition of roadside vegetation between the bypass route and the Campo Education Center. Should this mitigation be pursued, we recommend working with a biologist to select the most appropriate vegetation species. EPA is available to provide more information on the benefits and limitations of this potential mitigation measure.

Regarding public safety, consideration may also want to be given to including in-pavement flashing warning lights in the crosswalks, especially if foot traffic is expected to cross during dusk and dawn hours. These systems have lights embedded in the pavement on both sides of the crosswalk and oriented to face oncoming traffic and are activated when a pedestrian wants to cross.

Demand for Solid Waste Disposal Capacity

The DSEIS references the "much needed waste disposal capacity" in San Diego County (p. ES-28), however, no update is provided to the discussion of waste disposal demand in the 1992 FEIS in Section 1.5 (p. 1-13 through 1-14). We understand that the purpose and need for the project is tribal economic development; however, waste disposal demand determines the economic feasibility of the project, which is important for the long-term management of the landfill and the implementation of mitigation measures.

Recommendation: Update the waste disposal demand discussion in the FSEIS, particularly waste demand in San Diego County.

Mitigation Measures

Mitigation measures are identified for the project in Table ES-4-4. Because the DSEIS concludes that some mitigation measures will reduce impacts to less than significant, additional information should be provided regarding their implementation. The Tribe has primary regulatory jurisdiction over the proposed action; therefore, it would be helpful to disclose in the FSEIS how the Tribe will ensure compliance with the mitigation measures identified. Additionally, the project Record of Decision (ROD) must have a clear identification of the mitigation measures adopted as part of the project. The ROD must state "whether all practicable means to avoid or minimize the environmental harm from the alternative selected have been adopted, and if not, why they were not" (40 CFR 1505.2 (c)). The CEQ Regulations also state that mitigation established in the EIS and committed to as part of the decision shall be implemented (40 CFR 1505.3).

[20] Bowker, G.E.; Baldauf, R.W.; Isakov, V.; Khlystov, A.; Petersen, W. Modeling the Effects of Sound Barriers and Vegetation on the Transport and Dispersion of Air Pollutants from Roadways; *Atmos. Environ.* 2007, *41*, 8128-8139., also Fujii, E.; Lawton, J.; Cahill, T.A.; Barnes, D.E.; Hayes, C.; Spada, N.; McPherson, G. *Removal Rates of Particulate Matter onto Vegetation as a Function of Particle Size*; Final Report to the Breathe California of Sacramento Emigrant Trails Health Effects Task Force (HETF) and Sacramento Metropolitan AQMD, 2008.

Recommendation: Provide additional information in the FSEIS regarding implementation of mitigation measures, and include binding commitments where possible. For mitigation measures that the DSEIS determines will reduce impacts to less than significant, we recommend including:

- A description of each mitigation measure adopted.
- The party responsible for implementing each mitigation measure.
- A schedule for the implementation of each mitigation measure.
- The agency or entity responsible for monitoring mitigation measure implementation.
- Criteria for assessing whether each measure has been implemented and effectiveness monitoring
- Enforcement mechanisms

Additionally, since some mitigation measures would involve coordination with non-tribal individuals (i.e. domestic well sampling program, etc.), the FSEIS should identify the mechanism of accountability for these mitigation commitments. Third party mechanisms are one such possibility.

Cumulative Impacts

The DSEIS does not include a cumulative impact assessment for the Quino checkerspot butterfly. The document does recognize the Quino's decline, including the loss of more than 75% of its historic range, and the reductions in populations by more than 95% range-wide (p. 3.4-8). These are key factors that should be discussed in an assessment of cumulative impacts under NEPA. We are aware that portions of the U.S. Mexico border fence have affected Quino habitat, and a discussion of impacts from other past, present, and reasonably foreseeable future actions is required. The Biological Opinion may also include some additional information that could be included in this discussion, although we understand that cumulative effects as defined under the Section 7 consultation regulations are not as comprehensive as defined under NEPA.

Recommendation: In the FSEIS, discuss cumulative effects of past, present, and reasonably foreseeable future actions on the Quino checkerspot butterfly.

Living Resources

Since the release of the DSEIS, the Fish and Wildlife Service has completed their Biological Opinion (BO) (dated 3/12/2010) and has concluded that, with the implementation of the conservation measures, the project will not threaten the continued existence of the Quino checkerspot butterfly.

Recommendation: Update the FSEIS to include avoidance and minimization measures. The FSEIS should include the BO as an Appendix[21] and reflect the formal consultation and final BO and its conclusions and Incidental Take Statement. We also recommend the

[21] The BO Terms and Condition # 1.1 requires all terms and conditions and Conservation Measures in the BO to be incorporated as mandatory requirements in all documents pertinent to implementing project-related activities that affect the Quino checkerspot butterfly ("Quino")

project commit to the conservation recommendation regarding annual surveys within the temporary restricted area within the buffer area adjacent to Phase 19. The following are additional suggestions for updating the DSEIS:

- p. ES-19, lines 13-17 (refer also to USFWS' conclusion and BO);
- p. ES-32-33, Impacts and Mitigation Measures and Table ES-1(include or reference BO Conservation Measures and Reasonable and Prudent Measures);
- p. ES-46, Table ES. 4-4: Rare, Threatened and Endangered Wildlife (include reference to final BO)
- p. 3.4-7, lines 4-5 (formal consultation was also completed and final BO was issued);
- p. 3.4-9, line 19 (BO also includes additional information about Quino);
- p. 4.4-5 Conservation Measures (also include the BO's Incidental Take Statement Reasonable and Prudent Measures)
- p. 4.4-5, line 31 (identify the BO as the Final March 12, 2010 BO);
- p. 4.4-8, line 2 (Insert the following sentence at the end of this line to be consistent with the BO: "The Service will be notified of the relocation in writing (via letter, email, or fax) within 24 hours following the relocation.").
- p. 4.4-11, lines 33-34 (include reference to final BO);
- p. 4.4-13, lines 23-24 (include the final BO as an appendix);
- p. 4.4-14 Table 4.4-1 (include references to BO and its requirements);
- p. 4.4-21, lines16-17 (identify BO as final March 12, 2010 BO);
- p. 5-1, Table 5-2 (include reference to BO under Living Resources discussion of impacts);
- p. 6-1, lines 37-38 (revise to reflect that formal consultation was completed and final BO was issued);
- p. 6-2, lines 1-6 (include reference to BO and implementation of BO's Conservation Measures and Reasonable and Prudent Measures).

Cooperative Agreement between CEPA and Cal/EPA

The DSEIS indicates that the Cooperative agreement with the State of California is "still in force" (p. 3.1-3) but does not provide any status updates for the agreement. The agreement was signed in 1992 and certain elements require updating, at a minimum, the project description in Appendix A and possibly CEPA's Process Agent per Section IX (3). We understand from the State that contact has not yet been initiated.

Recommendation: In the FSEIS, confirm that the Tribe intends to update and abide by the cooperative agreement. We recommend the Tribe contact the State Water Resources Control Board and other appropriate agencies within Cal/EPA as soon as possible to initiate the update process.

Socioeconomic Impacts

The DSEIS does not provide an update on the assessment of impacts to property values and concludes that it is likely that landowner perceptions of property values near the proposed project would suffer but future property values near the project site cannot be predicted with confidence (p. 4.6-4). The DSEIS also concludes that there will be significant noise and visual impacts from the project.

Recommendation: BIA should consider reviewing more recent studies that have looked at the impact of municipal solid waste landfills on property values and provide an update to this impact discussion.

Noise Impacts

The proposed project will result in unavoidable and significant noise impacts for adjacent properties east of the reservation boundary and for several tribal residences and the Campo Education Center off Church Road (p. ES-26). The DSEIS states that sound attenuation walls *should* (italics added) be placed between the haul road and residences where noise levels would exceed acceptable levels provided occupants of the residences in question agree to their installation. In the case of the Campo Education Center and other buildings in the vicinity of the Tribal Center, it states that sound attenuating windows and other noise dampening materials *should* be applied to the areas of the buildings exposed to truck traffic noise. The mitigation for the school is important to prevent acoustical barriers to learning, especially since young children are more susceptible than adults to the effects of background noise on spoken communication[22].

Recommendation: The FSEIS should identify whether this mitigation will in fact occur, who would be responsible for implementing it, and how the measures would be funded. Mitigation for the Campo Education Center should attempt to approach the acoustics standard of the American National Standards Institute (ANSI), and could also include adding insulation, sealing gaps or leaks in windows and doors, installing baffles in vents, and improving the exterior roofing, consistent with radon safety.

Visual Impacts

The DSEIS concludes that significant visual impacts will occur along the eastern edge of the proposed landfill (p. 4.9-2). While revegetation of the eastern berm is included in the RAMP, and this area will receive deeper-rooted species since it is not underlain by the liner system, it is not clear if revegetation of the berm will occur as soon as possible so plant growth can occur early and offer some mitigation for visual impacts. If this was not planned, we recommend it be considered, if feasible.

Minor and Editorial Comments

- On page 2-28 it states that landfill operational activities are anticipated to occur 8-hours per day, 6 days per week but also indicates that workers would be required every day, 7 days a week over the life of the landfill (p. 2-31). Construction of new landfill cells would be 8 hours/day, 5 days per week (p. 4.2-11). Clarification of these hours would be helpful to the reader.
- For clarity, suggest revising the PDF of Appendix C-1 so that the graphed data does not appear on top of the table data.

[22] ANSI S12.60-2002 American National Standard, *Acoustical Performance Criteria, Design Requirements, and Guidelines for Schools*

- The section numbering is missing on page 2-11 for the Primary Liner System, the Leachate Collection and Recovery System (LCRS) Layers and on page 2-13 for the Operations Layer and the Liner Installation sections.
- On page 1-5, we suggest the following wording changes in Table 1.2 regarding EPA:

  "Works with other federal agencies to implement RCRA ~~conformity requirements~~ and regulations promulgated pursuant to RCRA. ~~Reviews and submits recommendations for compliance with landfill design standards~~.The Proposed Action would ~~require conformance~~ be required to comply with 40 CFR ~~Part 241 (Guidelines for Land Disposal of Solid Wastes) and~~ Part 258 (Criteria for Municipal Solid Waste Landfills). For Municipal Solid Waste Landfills in Indian Country, U.S. EPA makes Site-Specific Flexibility determinations. Works with other federal agencies to implement Clean Air Act (CAA) and Clean Water Act (CWA) ~~conformity~~ requirements."

  On p. 1-6, line 23-24, we suggest changing sentence as follows: ~~The U.S. EPA has review through permitting processes and regulatory jurisdiction through citizen suites~~ For Municipal Solid Waste Landfills in Indian Country, U.S. EPA makes Site-Specific Flexibility determinations.
- p. 4.2-6, top of page should read section 4.4.5.2 not 4.4.6.2 for non-wetland Waters of the U.S.