

Statement of Work
Specifications for a
Class III Cultural Resource Inventory
For 6 Land Parcels:
Brigham Road, Leeds, Long Valley, Sand Hollow,
Silver Reef and Toquerville/Westbrook

Schedule of Items

Cultural Resource Inventory to assist the Bureau of Land Management (BLM), St. George Field Office, Utah with a potential Lands Exchange project. A maximum of 1,820 acres, as described in Section IV, in accordance with all terms and conditions of this request for proposal.

Description/Objectives/Statement of Work

I. Background

The St. George Field Office (SGFO) requires assistance with the collection and evaluation of cultural resource data to determine whether the Brigham Road, Leeds, Long Valley, Sand Hollow, Silver Reef and Toquerville/Westbrook Land Parcels are suitable for disposal from federal ownership (hereinafter defined as the Project Area) in Washington County, Utah. The acquired data will be used for compliance with relevant federal laws, including the Federal Land Policy and Management Act, the National Environmental Policy Act (NEPA) and the National Historic Preservation Act (NHPA).

Cultural resources are defined as those fragile and nonrenewable remains of human activity, occupation, or endeavor, including both prehistoric and historic remains, representing a part of the continuum of events from the earliest evidence of people to the present day. These resources consist of: (1) physical man-made artifacts, features, structures, and sites; (2) areas where significant events occurred, even though evidence of the event may no longer remain; and (3) the environment immediately surrounding the actual resource.

II. General Description of the Project Area

The SGFO administers public land in Washington County, situated in the southwestern corner of Utah. These lands are located at the intersection of two major physiographic provinces, the Colorado Plateau and the southern Basin and Range, and within an ecological transition zone between the Mojave Desert, the Great Basin Desert, and the Colorado Plateau. This unique blend of geologic landforms creates varying landscapes and habitat for unusual native plant and animal species, some found only in Washington County. The Virgin River, and its many tributaries, flow through portions of the county and provide the lifeblood to the desert and mountain ecosystems and human populations that reside here.

Prehistoric resources to be expected in the area include, but not limited to, lithic materials, ceramics, thermal features, structural features, etc., or multiple artifact classes. Prehistoric sites may be indicative of pre-ceramic periods and Anasazi occupations. Historic sites and features may consist of miscellaneous small structures, trash and refuse scatters, fences, roads and trails. Most of the historic sites are expected to be associated with farming, ranching, mining or recreational activities. Class III inventories have been documented within the Project Area. The 1,820 acres identified from the Class I analysis is required to complete archaeological survey work needed for a full analysis of the land parcels proposed for exchange.

The above is provided as information only and should not necessarily be used as the basis for formulating a bid or serve in place of the offeror's due diligence. It is the offeror's responsibility prior to submitting a price quotation to inspect the project area and literature to resolve any concern over the nature and extent of potential difficulties regarding terrain, site density, site size, vegetation density, ground cover, boundaries, access and/or any other factors which may affect the offeror's price quotation. If the offeror is unfamiliar with the project location, it is strongly recommended that the area be visited by the potential contractor.

III. Objective

The objective of this contract is to obtain information about the distribution and character of cultural resources in the Project Area. The results of the work covered by this scope will be used in the BLM-SGFO decision making process, and to fulfill other federal legal requirements, including those under Sections 106 and 110 of the NHPA.

IV. Statement of Work

a. General

The Contractor shall (1) conduct a Class III Intensive Archeological Field Inventory consistent with standards in *Secretary of the Interior's Standards and Guidelines for Archaeology and Historic Preservation* (48 FR 44716, September 29, 1983), of approximately 1,820 acres, for the presence or absence of cultural resources; (2) record cultural resources identified during the inventory; (3) conduct preliminary evaluations of all cultural resources against the criteria for listing to the National Register of Historic Places; and (4) provide a report of the findings that includes IMACS or UACS Site Records and other deliverables.

b. Location of the Project Area

The proposed Project Area consists of approximately 1,820 acres of public land in Washington County within 4 land parcels; Brigham Road, Leeds, Sand Hollow and Toquerville/Westbrook. The Long Valley and Silver Reef land parcels will not require a Class III systematic survey inspection; however, 2 potential site

areas within the Long Valley parcel will require a field examination to determine if they qualify as historic properties, and 2 sites located within the Silver Reef parcel will require a re-recording. **Attachment A** displays the locations of the proposed land parcels. Information regarding each individual land parcel is described as follows:

Brigham Road:

The Brigham Road Land Parcel inventory area is located on the St. George 7.5' USGS Topographic Quadrangle in Township 43 South, Range 15 West, Section 7. The inventory unit consists of 0.14 acres and is located north of Brigham Road and east of a commercially developed area. Site density is expected to be low to none. See **Attachment B** for a map of the inventory area.

Leeds:

The Leeds Land Parcel inventory area is located on the Hurricane and Pintura 7.5' USGS Topographic Quadrangles in Township 41 South, Range 13 West in Sections 4 and 5. The inventory unit consists of 413 acres, and is located approximately 1.5 miles northeast of the town of Leeds proper with a small residential area of Leeds located north of the inventory area. Elevations in the inventory area range from 3,600 to 3,960 feet. The terrain ranges from flat to moderate to steep slopes, with two mesas situated within the inventory boundary. A series of two-track roads intersect the area. GIS data indicates that Site 42Ws1735 is located within the Project Area. Site 42Ws298 is displayed on the western boundary edge and may overlap into the Leeds parcel. Refer to the table below.

Site # 42Ws	NRHP Status	Description	Year Recorded
298	Not Evaluated	Lithic Scatter, Ceramic Scatter, Bone	1962
1735	Eligible	Lithic Scatter, Ceramic Scatter	1984

Site 42Ws298 was recorded in 1962 by K. Sweeney of unknown affiliation. The site record consists of a single page with no location map attached. GIS data indicates that the boundary may overlap into the Leeds inventory area. The western edge of the inventory area will require an extensive field examination to determine if the site boundary of 42Ws298 overlaps into the Leeds parcel. If the site is re-discovered, it will require documentation to the specifications as outlined in IV(c); Conduct Class III Inventory and Preparation of Site Records.

Site 42Ws1735 was recorded in 1984 by Kenny Wintch affiliated with Brigham Young University. The site was documented on an older IMACS site form which has since been revised. UTM data is recorded on the site form. The site will

require a revisit and documented to the specifications as outlined in IV(c); Conduct Class III Inventory and Preparation of Site Records.

Based on GIS site location data from previous Class III inventories of the surrounding area and terrain factors, site density within the inventory area is expected to be medium. See **Attachment B** for a map of the inventory area and site locations.

Long Valley:

The Long Valley Land Parcel is located on the Washington Dome 7.5' USGS Topographic Quadrangle in Township 42 South, Range 14 West in Sections 20, 29, 30 and 31. The parcel is situated between Washington Dome and Warner Ridge with elevations ranging from 2,800 to 3,466 feet. The terrain consists of flat to moderately steep toeslopes. A two-track road bisects the middle of the land parcel in a northeast to southwest direction. The entire Long Valley Land Parcel has received a Class III inventory; therefore, no further survey is required. However, two areas located in the northwest area of the land parcel require a follow-up examination to determine if they qualify as prehistoric properties. One area has sandstone slabs on the surface indicating a possible cist (UTMs 281700E, 4109891N), and the other area contains a metate fragment with 3 chert flakes (UTMs 281817E, 4110046N). A follow-up examination of this area will determine if this is an isolated find or a site, if more artifacts are encountered. If any are determined to be an archaeological property, the site will require documentation to the specifications as outlined in IV(c); Conduct Class III Inventory and Preparation of Site Records. See **Attachment B** for the locations of the two areas to be investigated.

Sand Hollow:

The Sand Hollow Land Parcel inventory area is located on the Washington Dome 7.5' USGS Topographic Quadrangle in Township 42 South, Range 14 West in Sections 26, 27, 28, 34 and 35. The inventory unit consists of 1,087 acres and is located immediately south of the Sand HollowResort/ Golf Course and the Sand Hollow Reservoir. Elevations in the inventory area range from 3,060 to 3,820 feet. The terrain ranges from moderate to steep toeslopes in the eastern area to flat to moderate to step sideslopes and toeslopes in the western area. Five two-track 4 wheel-drive roads bisect the middle of the inventory area. Two archaeological sites have been documented within the inventory area; 42Ws4681 and 4682. Refer to the table below.

Site # 42Ws	NRHP Status	Description	Year Recorded
4681	Eligible	Lithic Scatter, Ceramic Scatter	2005
4682	Eligible	Rock Shelters, Lithic Scatter, Ceramic Scatter, Ground Stone, 3 Concentrations of Fire-Cracked Rock	2006

Based on terrain factors and GIS site location data from previous Class III inventories, site density is expected to be low in the eastern portion and medium in the more flat western portion of the inventory area. See **Attachment B** for a map of the inventory area and site locations.

Silver Reef:

The Silver Reef Land Parcel is located on the Pintura 7.5' USGS Topographic Quadrangle in Township 40 South, Range 13 West in Section 31. The parcel is situated between Grapevine Wash and Leeds Creek with elevations ranging from 3,800 to 4,000 feet. The terrain consists of flat to moderately sloped toeslopes. A two-track road runs along the southern portion in a west to east direction and in the western area in a north-south direction. The entire Silver Reef Land Parcel has received a Class III inventory; therefore, no further survey is required. However, two sites (42WS1441 and 1442) will require re-recording on the current IMACS or UACS Site Record format. The original recordings occurred in 1980 and documented on the federal USDOJ-BLM, Utah State Office Antiquities Site Inventory format. This format provides limited site information, and the site sketch maps are lacking detail. These 2 sites will require re-recordings and documented to the specifications as outlined in IV(c); Conduct Class III Inventory and Preparation of Site Records. See **Attachment B** for the locations of the two sites to be investigated.

Toquerville / Westbrook:

The Toquerville / Westbrook Land Parcel inventory area is located on the Hurricane 7.5' USGS Topographic Quadrangle in Township 41 South, Range 13 West, in Sections 10 and 15. The inventory unit consists of 320 acres and is located approximately 1.3 miles northwest of the town of LaVerkin. Elevations in the inventory area range from 3,434 to 3,703 feet. The terrain ranges from a gentle to moderate north trending toeslope located in the southern portion to flat in the northern portion of the inventory area. An unpaved secondary road bisects the area from east to west to about the center, then trends north to south the entire length of the inventory area. Based on terrain factors and GIS site location data from previous Class III inventories, site density is expected to be medium. See **Attachment B** for a map of the inventory area.

c. Conduct Class III Inventory and Preparation of Site Records

(1) The SGFO will provide ArcMap shapefiles of the inventory unit and provide this data to the Contractor prior to the start of fieldwork. The Contractor shall import the ArcMap shapefiles into a GPS unit to precisely locate the inventory unit on the ground, as it will not be flagged by BLM. The total acreage of the Project Area is estimated to be 1,820 acres, but this acreage amount does not limit the Contractor or the BLM to this estimate.

(2) The Contractor shall conduct a literature review/record search, using cultural resource databases on file with the State of Utah's Division of State History and SGFO, to identify previous cultural resource inventories that have been completed within a 1 kilometer radius of the inventory unit and all recorded cultural resources within that radius. The literature review shall also include a review of applicable General Land Office (GLO) maps to identify the locations of historic period structures and linear features, such as roads, telegraph lines, and irrigation ditches. Other published and non-published material shall also be consulted, as appropriate.

(3) The Contractor shall conduct a Class III Inventory using evenly spaced pedestrian transects within the inventory unit, with the transect intervals not to exceed 15 meters (approximately 50 ft.), unless otherwise specified by Washington County (County). The inventory shall result in the identification and recordation of all cultural resources observable on the surface and in exposed subsurface profiles. In addition to the inventory transects, the Contractor shall use an intuitive approach based on professional judgment to ensure that all probable site locations are examined within each inventory unit. The field methods employed will be described in the report to be prepared to document the work conducted under this contract.

(4) Each field crew shall be supervised by a qualified Field Supervisor. A Field Supervisor must have completed one academic year of graduate level education in anthropology or archaeology, or an equivalent of training and experience. In addition, a Field Supervisor must have a minimum of 12 months professional experience and/or specialized training in archaeological field work. This experience shall have included at least six months of work in Great Basin and Southwest, with a portion of that experience occurring in southern Utah. Experience in the identification and documentation of material culture associated with Great Basin and Southwestern aboriginal groups during all cultural periods, and Anglo-American local history including exploration, settlement, farming/ranching and industry is required. Crew personnel should have at least 6 months of general experience in the techniques, procedures and methods of archaeology, and at least half of that experience in the Great Basin and Southwest. A BS/BS degree in archaeology or anthropology is recommended.

(5) The Contractor shall map the results of the Class III inventory, including any areas inventoried outside of the inventory boundary, or non-surveyed areas within the inventory boundary due to precipitous terrain or areas where crew safety is a concern. The boundaries of the area surveyed shall be mapped as a polygon and be submitted with theme attribute tables appropriately completed.

(6) The Contractor shall record all new cultural resources that are identified during the Class III Inventory. The Contractor shall use the Intermountain Antiquities Computer System (IMACS) Site Record forms, or the revised Utah Antiquities Computer System (UACS) Site Record forms if activated; thus, replacing IMACS, and relevant attachments. A permanent datum shall be established and tagged on all sites. Documentation shall also include color digital photographs of the site, a 1:24,000 scale site location map, and a detailed scaled GPS site sketch map. The site record may also include illustrations or rubbings of artifacts. The Class III Inventory and recording of cultural resources shall be done simultaneously, to avoid additional and unnecessary field visits. Field work must be designed and staffed appropriately to ensure that the standards of resource documentation are achieved.

(7) The Contractor shall obtain Smithsonian Trinomial numbers for all new site recordings from the State of Utah Division of State History and include them on the final IMACS or UACS Site Records that are submitted as final deliverables in Portable Document Format (.pdf) to the County.

(8) Cultural resources encountered during inventory shall be recorded as sites or as isolates, defined as follows: A "site" as defined in the *National Register Bulletin No. 16A* is the "location of a significant event, a prehistoric occupation or activity, or a building or structure, whether standing, ruined, or vanished, where the location itself possesses historic, cultural, or archaeological value regardless of any existing structure." For purposes of clarification and uniformity between differing firms, our definition needs refinement. Therefore, historic, prehistoric, or archaeological features or any archaeological or historic anomaly that contains, at a minimum, greater than ten artifacts in a 10-meter diameter area, multiple features, a single feature for which sufficient information is available to raise the possibility that it may be significant, or a combination of a feature and artifacts, shall be considered a site. All other cultural materials that do not meet the above criteria shall be considered isolated artifacts, or occasionally as isolated features and recorded and mapped as such, unless the field director determines a lesser resource to be worthy of recording as a site. Isolated features consist of single features for which so little is known that there is not even a remote possibility that they are significant.

(9) The Contractor shall update the site records from previously recorded cultural resources encountered: 1) when an IMACS site record form was not

used, and/or 2) when changes to the site boundaries, artifact assemblages, features, or other site conditions are observed that require an updated site record to be prepared.

(10) The Contractor shall collect GPS data in the field for all sites. Site boundaries shall be documented as a polygon or a polyline, as appropriate, with actual polygon mapping of boundaries preferred. A polyline may be mapped for linear sites, except when any portion of the linear site varies substantially in width. If this occurs, the linear site shall be mapped as a polygon. If a polyline is recorded, the mapped polyline shall be buffered using GIS to approximate the linear site width. Polygon and polyline shape files shall be submitted with theme attribute tables appropriately completed. GPS locations of site datums shall be obtained for all sites, as well as any notable artifacts, artifact concentrations, or features within a site. These internal site characteristics may be mapped as points, lines, or polygons, as appropriate.

(11) The Contractor shall fully record each site, even if it falls partially outside the project area. An exception is allowed for linear sites, for which full recording shall be conducted for all portions of the site within 400 meters (one-fourth mile) of the Project Area.

(12) The Contractor shall adequately record the geographic position, physical characteristics, and scientific, historic, archeological, architectural, traditional, education, conservation, and interpretative values of each site.

(13) Historic period sites shall be recorded, described, and mapped in terms of the artifacts and features present (i.e., number and types of tin cans, bottles, wood and metal debris, structures, road or trail remnants, or other artifacts or features). In general, recent sites are considered to be historic if they are at least 50 years old. However, all sites likely or possibly 50 years old shall be recorded, even if this age cannot be proven. Historic features; e.g., ditches, foundations, shall be recorded as sites. Isolated historic artifacts, demonstrably 50 years of age or greater, shall be recorded as isolated finds. Historic trail ruts, or other historic routes, may be present within some of the project areas. A search of historic materials, including GLO and other historic map sources, will be necessary to identify these. Evidence of trails will vary: ruts, debris, ruins of structures, and other physical evidence may be found in association. These features shall be recorded and mapped using IMACS or UACS forms as historic sites.

(14) Detail site sketch maps shall be completed by GPS technology and shall include the site boundary, all artifact concentrations, diagnostic artifacts, important individual artifacts, tools, structures, or features. Detail maps of individual features or parts of a site may be required for large or complex sites. Detail maps shall also include a north arrow, scale bar, legend, as well as geographic details of the site area, including all pertinent land features and

prominent contours. A site datum shall be established, mapped using GPS, and depicted on the detail map.

(15) All diagnostic artifacts shall be illustrated or digitally color photographed, and mapped to maintain provenience. Artifacts shall be deemed "diagnostic," either chronologically or functionally (e.g., projectile points, ceramics, scrapers, drills, and ground stone). Diagnostic historic artifacts include all pre-WW II bottles (or identifiable fragments) and any unusual historic debris. All temporal information provided by the artifacts shall be recorded on the IMACS or UACS form. Non-diagnostic artifacts need not be given the same level of documentation. However, digital color photographs and/or illustrations of artifacts like bifaces, biface fragments, point tips, midsections, and expedient tools are encouraged. The provenience of all surface diagnostics and tools shall be indicated on the site sketch maps. No collection shall be done unless special provision with the County is made in advance.

(16) At least two digital color photographs, displaying different aspects, shall be taken of each site recorded. An overall site photo is required, and pertinent diagnostic artifacts shall be photographed or illustrated. All petroglyphs, pictographs, historic inscriptions, stone features, foundations, and unusual features shall be digitally photographed in color. Non-diagnostic isolated finds do not require photos. A photo log shall be completed and included with each IMACS site record. All digital photos included within the IMACS or UACS site form shall be labeled to include site number, direction and description. All digital color photographs shall be submitted as a deliverable with the final report.

(17) Each recorded archaeological or historic site shall be evaluated for inclusion to the National Register of Historic Places (NHRP), against the eligibility criteria set forth in 36 CFR 60 a-d. No artifact collection or testing of sites shall be conducted to make the eligibility determination. The Contractor shall make recommendations concerning site eligibility and include a justification for each site that specifies the specific criteria that are met by the property. For those properties evaluated as satisfying criterion "d", the Contractor shall describe the data sets that are present on site and the research domains or questions could be addressed by those data sets. Unevaluated determinations of site eligibility are unacceptable. Determinations of eligibility will be made by the BLM, in consultation with the SHPO, based on the information provided by the Contractor.

(18) Isolated artifacts and isolated features shall be recorded as points on a 1:24,000 scale map in the report, and be listed and described in a table. The map and table shall be cross-referenced by number. GPS locations shall be obtained for all isolates, which shall be mapped as points or lines, as appropriate.

(19) The Contractor shall convert all corrected (.cor) GPS cultural resource site data files into ArcMap GIS program shapefiles utilizing Projected Coordinate

System NAD_1983_UTM_Zone_12N. Minor spatial editing of GIS shapefiles shall be conducted as appropriate by or with input from the person who collects the data in the field. The shapefile attribute tables shall be edited as appropriate to ensure complete and accurate data as described in the Digital Data Standards (**Attachment C**). All data collection, conversion, and editing shall be conducted using parameters set by the County as determined through consultation with BLM. All GIS shapefiles (.dbf, .prj, .sbn, .sbx, .shp, .shx) shall be submitted as a deliverable with the final report.

(20) A pre-field orientation meeting between the Contractor, Washington County, and the SGFO Archaeologist shall be required prior to the start of fieldwork.

d. Preparing and Submitting Reports

1. The Contractor shall prepare a report of the work accomplished under this contract which shall include:
 - (a) completed Utah SHPO and BLM cover sheets;
 - (b) abstract and management summary
 - (c) introduction
 - (d) a brief environmental overview;
 - (e) a discussion of the research focus;
 - (f) cultural history/context developed through a synthesis of data collected by prior research;
 - (g) detailed descriptions of all field work including methods, results, and topographic maps with the survey areas, and cultural resources located on them;
 - (h) site descriptions;
 - (i) recommendations of eligibility for listing to the National Register of Historic Places for each recorded cultural resource, with rationale; and
 - (j) bibliography of references cited
2. The Contractor shall submit a draft hardcopy of the report and complete IMACS Site Records and/or an electronic version via CD/DVD, or post it to an ftp site accessible to the County for review.
3. The Contractor shall make revisions to the draft report based on comments from the County, and submit a final report upon satisfactory review of the draft report by the County. Submission of the final report to the County shall include two hardcopies of the final report and final versions of the IMACS or UACS Site Records, including newly-recorded sites and updated site records from site re-visits. The Contractor shall also submit deliverables to the County at the same time as the final report. Deliverables shall include (1) a DVD containing a PDF version of the final Cultural Resource Inventory Report; (2) a PDF version of all complete IMACS or UACS Site Records which includes at a minimum; site forms and attachments, site location map, site sketch map, photographs and/or illustrations, and encoding form; (3) a digital

Photo Log with color digital photographs organized by single frame in jpeg format, labeled and organized by ascending site number; and (4) two GIS shapefiles; one of all cultural resource site locations recorded and/or updated, and one of project Class III survey information with complete attribute table data conforming to Digital Data Standards (**Attachment C**). The final Cultural Resource Report shall be of publication quality and formatted in accordance with the current *American Antiquity* Style Guide, and *The Chicago Manual of Style* (13th ed., The University of Chicago Press, 1982).

e. Field Work and Report Submittals

Upon issuance of the Notice of Award, the Contractor will schedule a pre-work meeting with Washington County and BLM, in St. George within 7 days. The function of the pre-work meeting is to identify key contact personnel within the Washington County Commission and the BLM for this project. Also, any questions brought by the Contractor will be answered to complete satisfaction and clarity. Any archaeological materials (i.e. site records, etc.) which may be needed for project purposes will be provided to the Contractor.

The contract period shall be 120 days starting from the day after the pre-work meeting. The field inventory shall be completed within 60 days starting from the day after the pre-work meeting. A draft report and site records will be submitted to the County at least 30 days prior to the end of the contracting period. The draft report and site records will be returned to the Contractor within 10 calendar days. The Contractor will have the remaining contracting time (20 days) to submit the final report and all project materials as defined in IV(d). If the final report is found to be deficient in form or content, the County may return it for revision. Any additional costs incurred in producing an acceptable report shall be borne by the Contractor.

f. Permits

The Principal Investigator and all Field Supervisors shall hold a valid BLM Cultural Resource Use Permit for public lands in Utah for the project area. In addition, a Fieldwork Authorization must be obtained from the SGFO Authorized Officer at least 7 days prior to the start of field work.

g. Safety Concerns

Standard safety precautions for field surveys in rugged terrain and variable field conditions (temperature extremes, rugged terrain) are recommended. The Contractor should be aware that venomous reptiles may be present in the project area, and that field conditions require that sufficient water be carried to prevent dehydration and other heat-related problems. Vehicle access to designated parking/staging areas is primarily via unimproved two-track routes, through deep, sandy soils. These routes may be impassable to vehicles when wet. Vehicles with four wheel drive capabilities

are required to negotiate these routes and it is recommended that each vehicle carry, at a minimum, a tow chain, two spare tires, and other basic survival type supplies and equipment. Reliable cellular phone service may not be available in the Project Area.

h. Other Concerns

Although unlikely, if human remains or Native American Graves Protection and Repatriation Act (NAGPRA) objects are discovered during field work, the contractor shall notify the BLM's Authorized Officer immediately and comply with any other applicable provisions of NAGPRA or Utah State Statutes. Inventory may continue in sites/areas not associated with the location of the human remains or objects.

V. Performance Period

Work shall be performed between August 11, 2014 to December 08, 2014.

VI. Acceptance of Work

The County will provide written notification to the BLM that the final deliverables have been received and are accepted by Washington County.

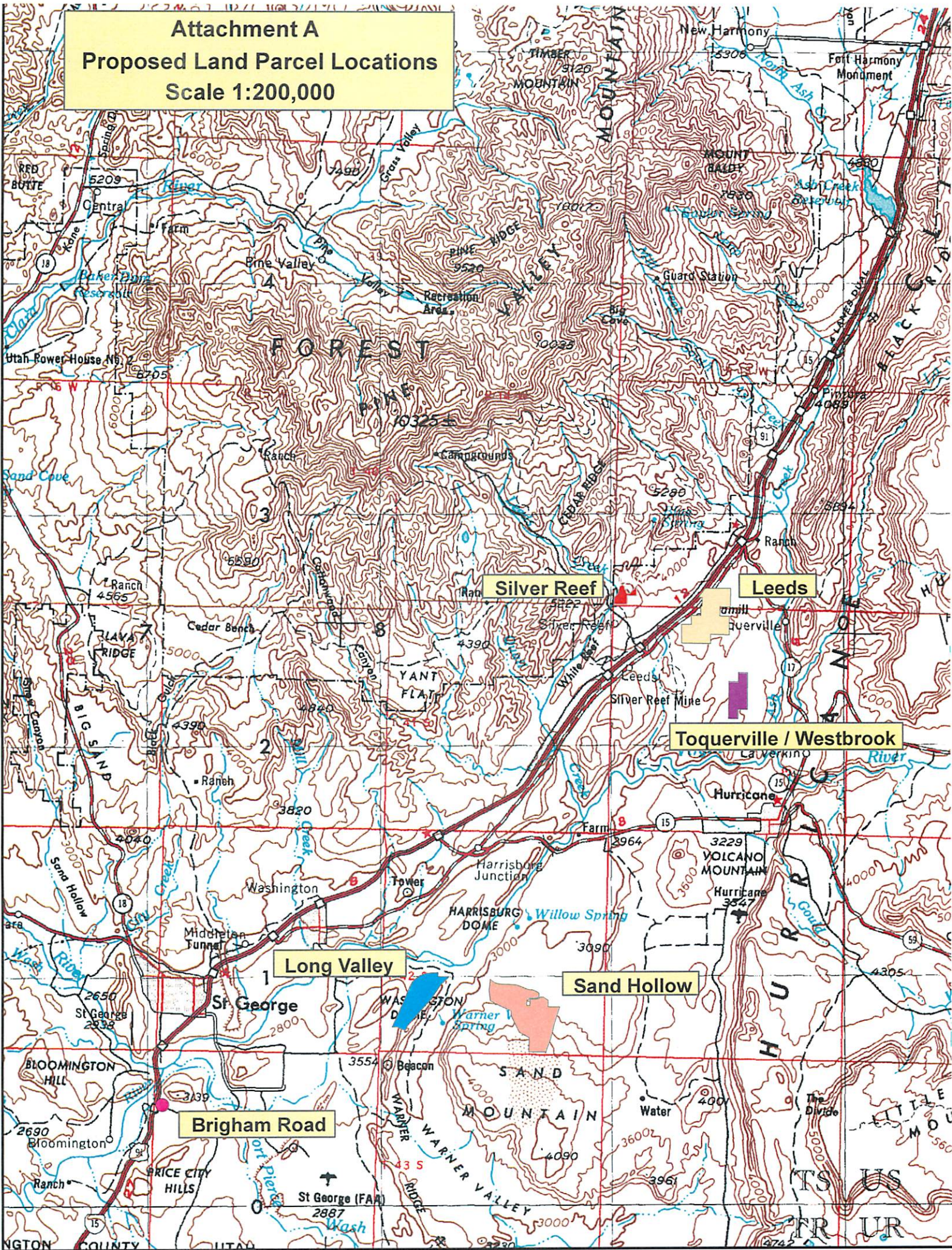
VII. Payment Schedule:

The Contractor shall be paid a firm-fixed price for the services performed under the contract with payments made as follows:

- (a) 35% payment upon completion of Class III Inventory;
- (b) 35% payment upon delivery of draft final report including site forms and associated documentation; and
- (c) 30% payment upon acceptance of final Report and all other deliverables.

Attachment A

Attachment A
Proposed Land Parcel Locations
Scale 1:200,000



Attachment B

Attachment B
Brigham Road Land Parcel Inventory Area Map
Scale 1:2,000
0.14 Acres



Attachment B
Leeds Land Parcel Inventory Area Map
Scale 1:10,000
413 Acres

02

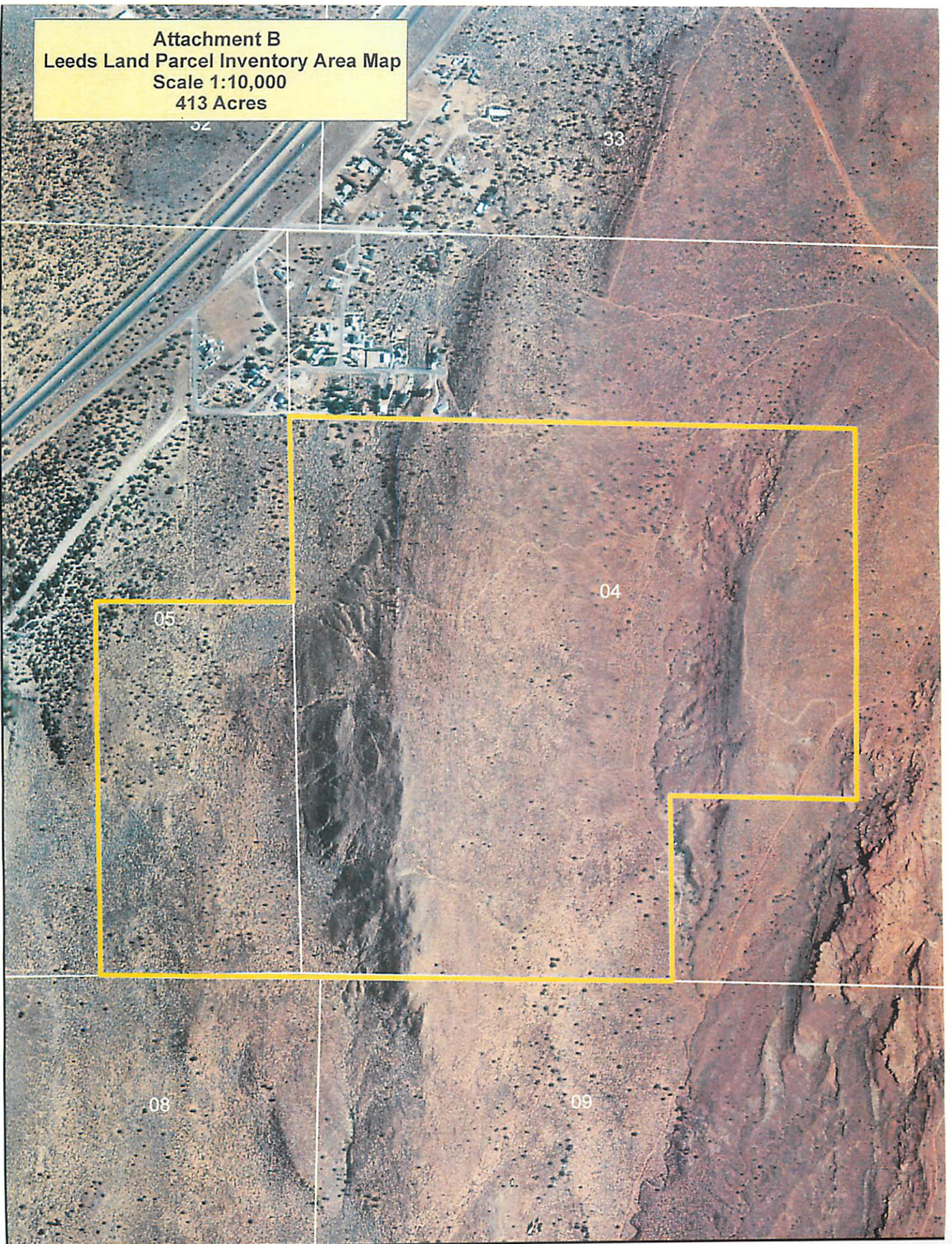
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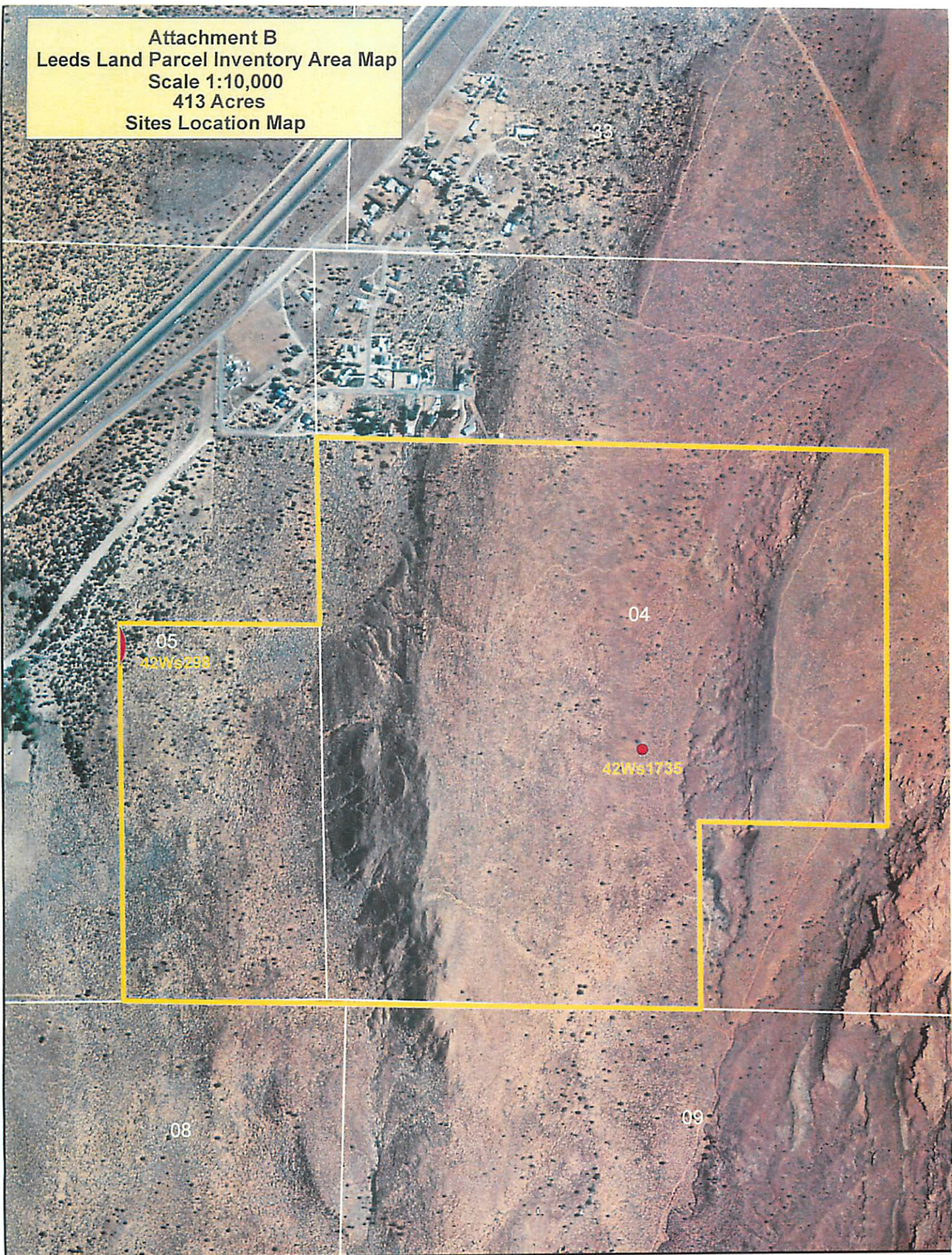
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08

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Attachment B
Leeds Land Parcel Inventory Area Map
Scale 1:10,000
413 Acres
Sites Location Map



Attachment B
Long Valley Land Parcel Boundary Map
Scale 1:15,000
616 Acres
Possible Site Locations

19

20

Metate Fragment / 3 Chert Flakes

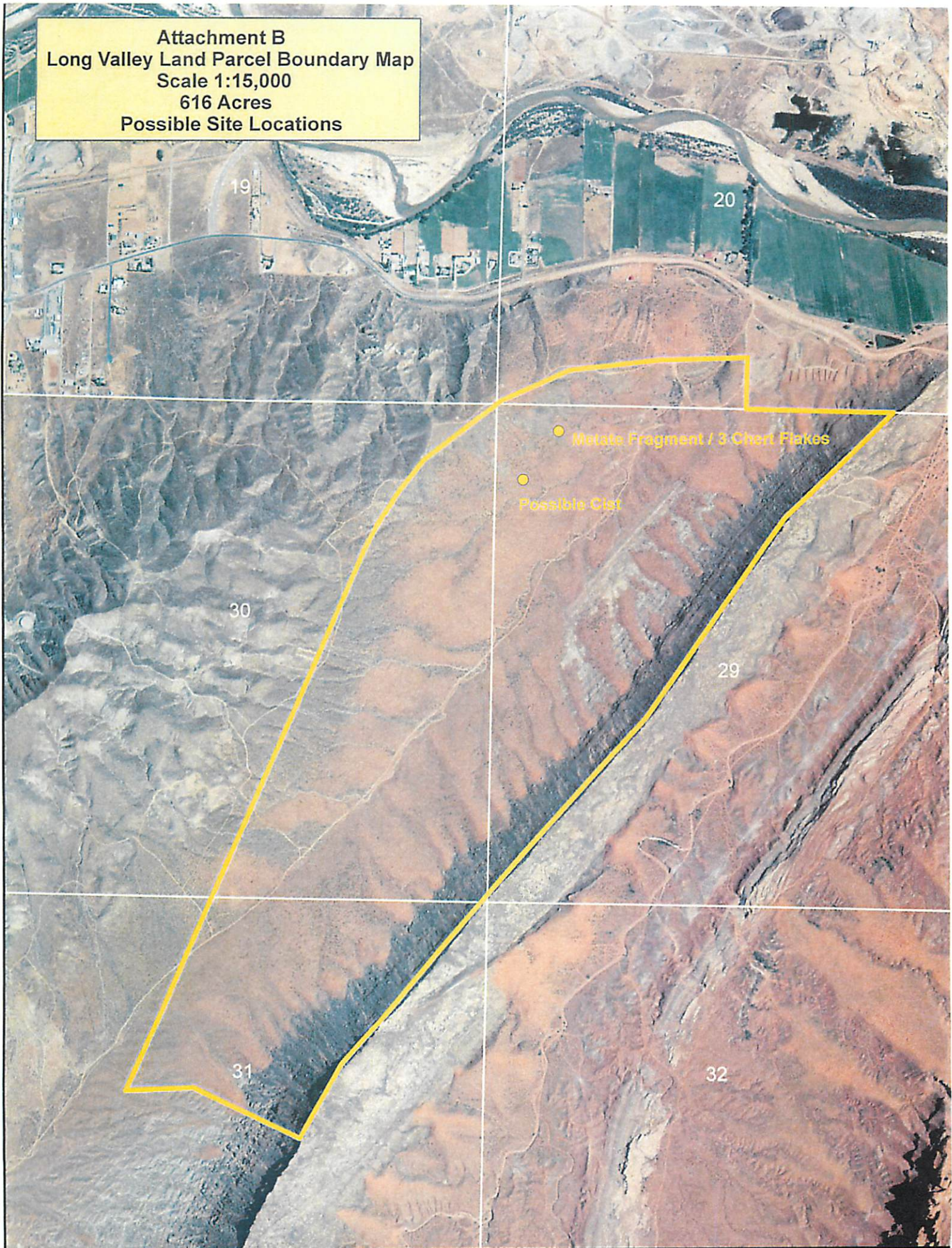
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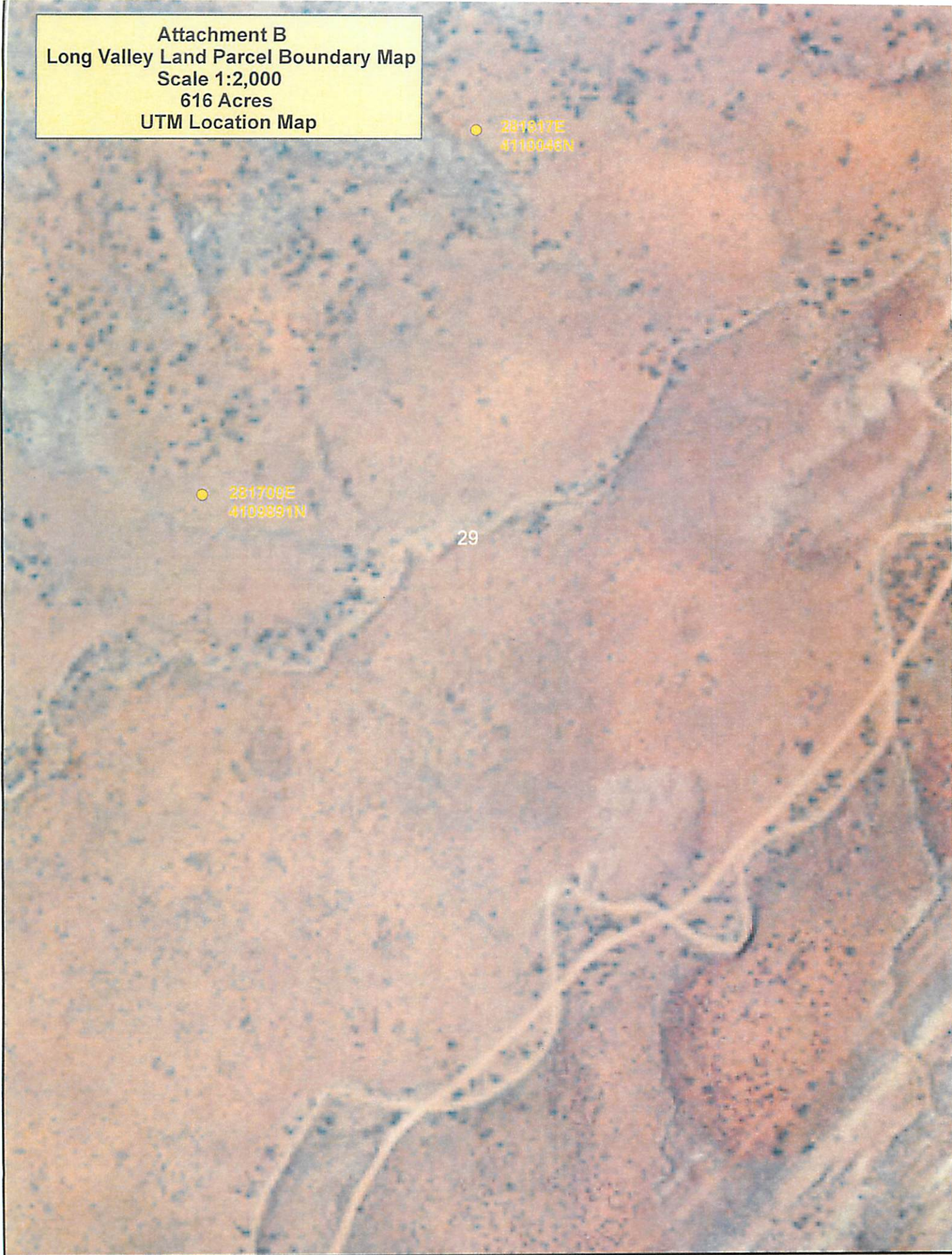


Attachment B
Long Valley Land Parcel Boundary Map
Scale 1:2,000
616 Acres
UTM Location Map

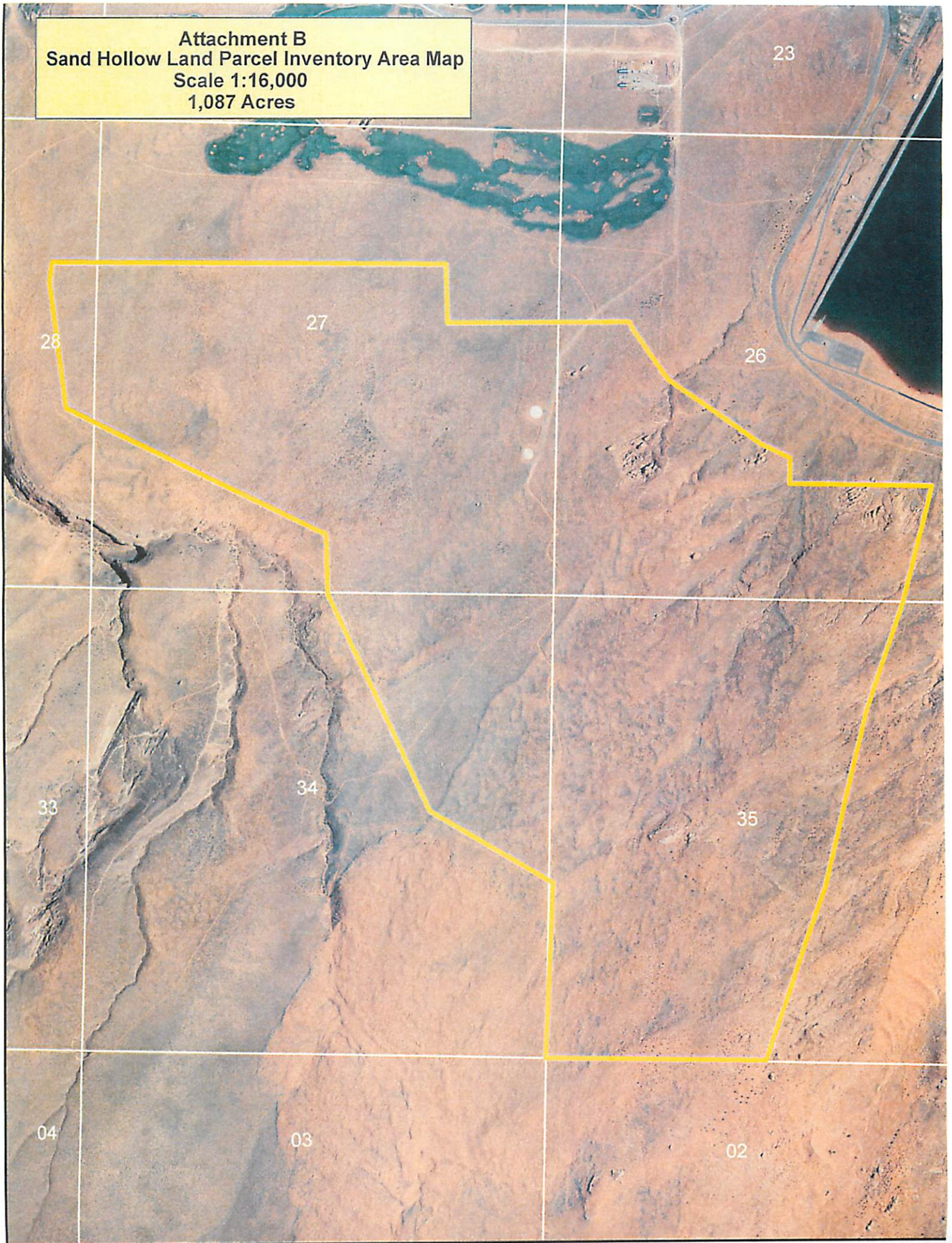
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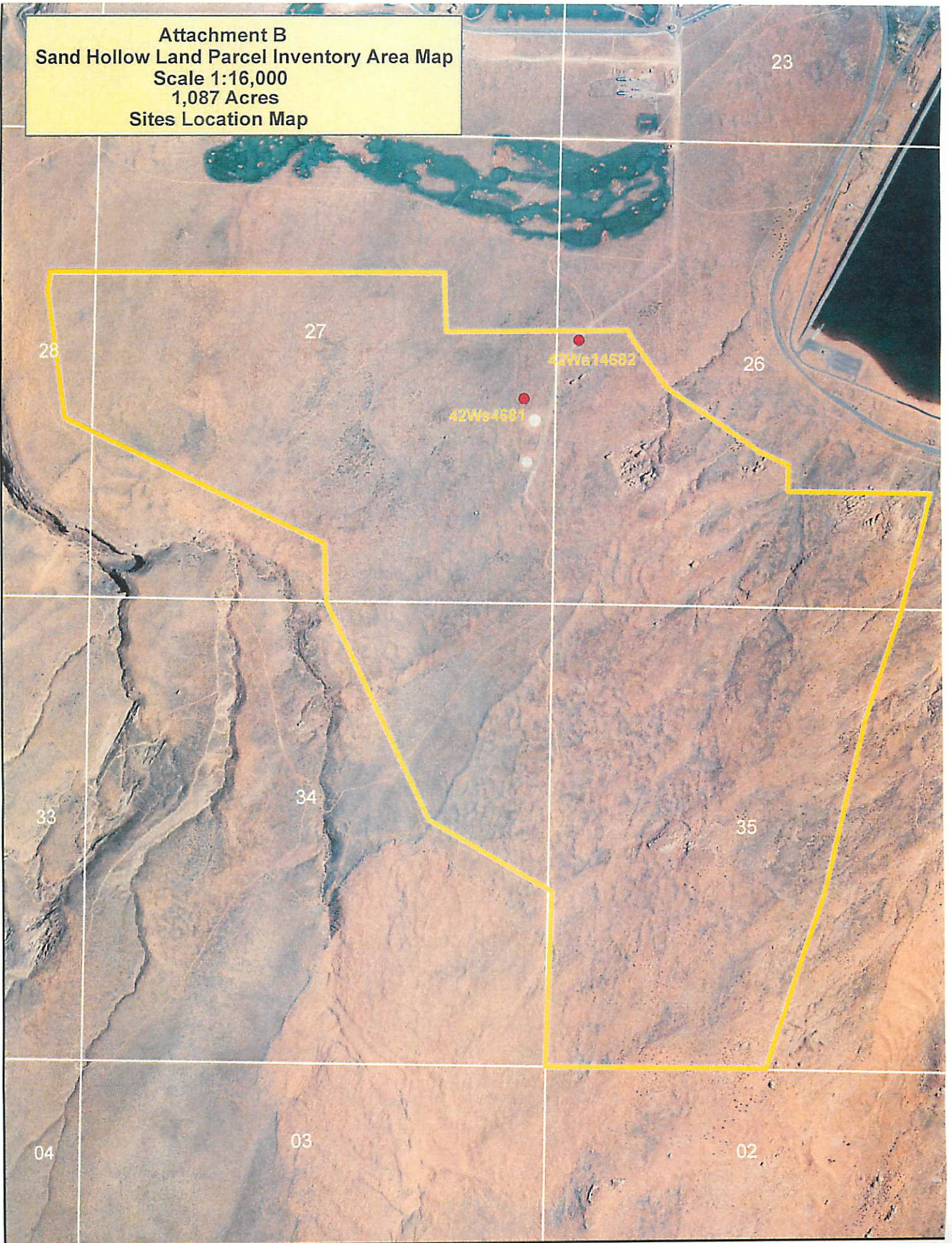
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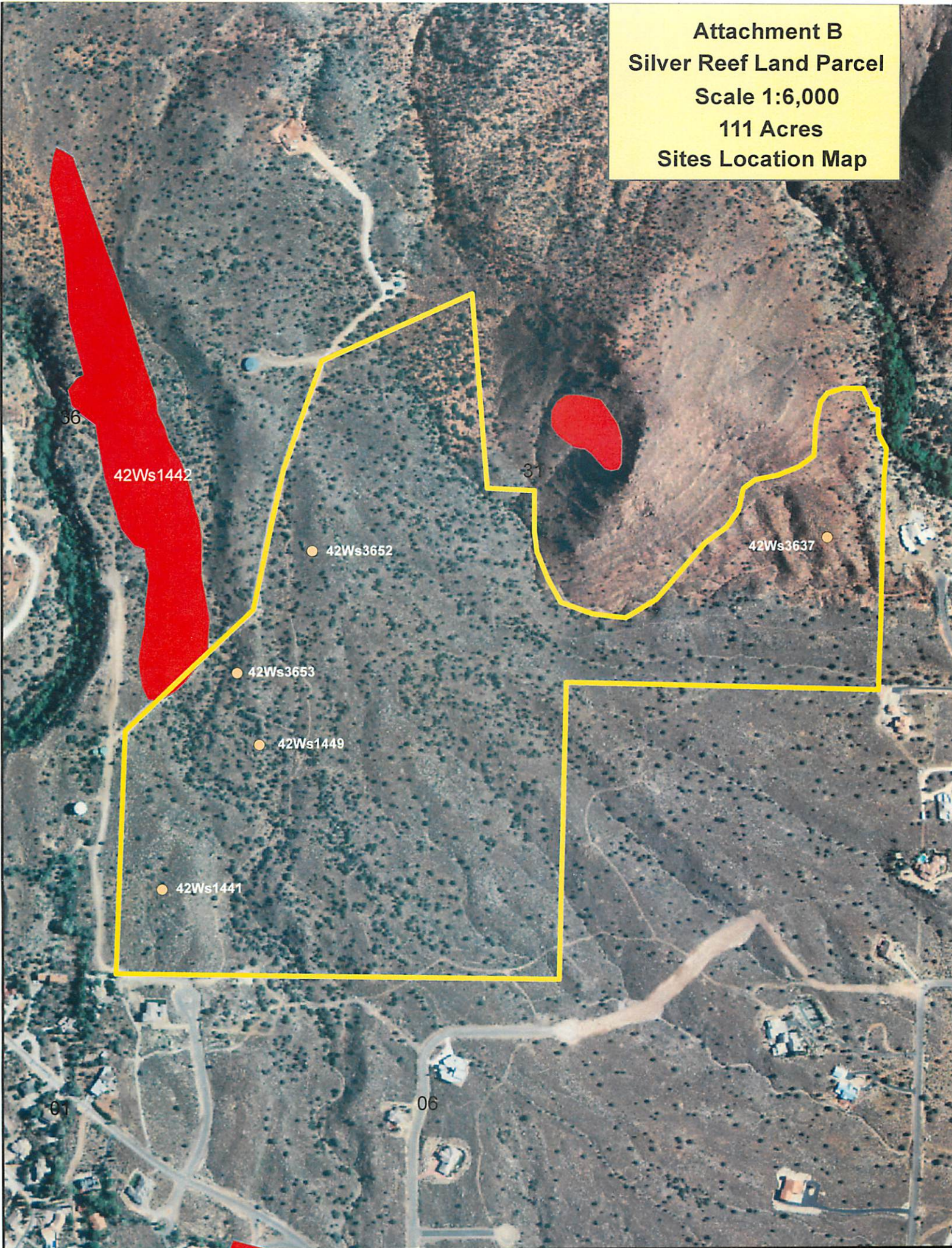
Attachment B
Sand Hollow Land Parcel Inventory Area Map
Scale 1:16,000
1,087 Acres



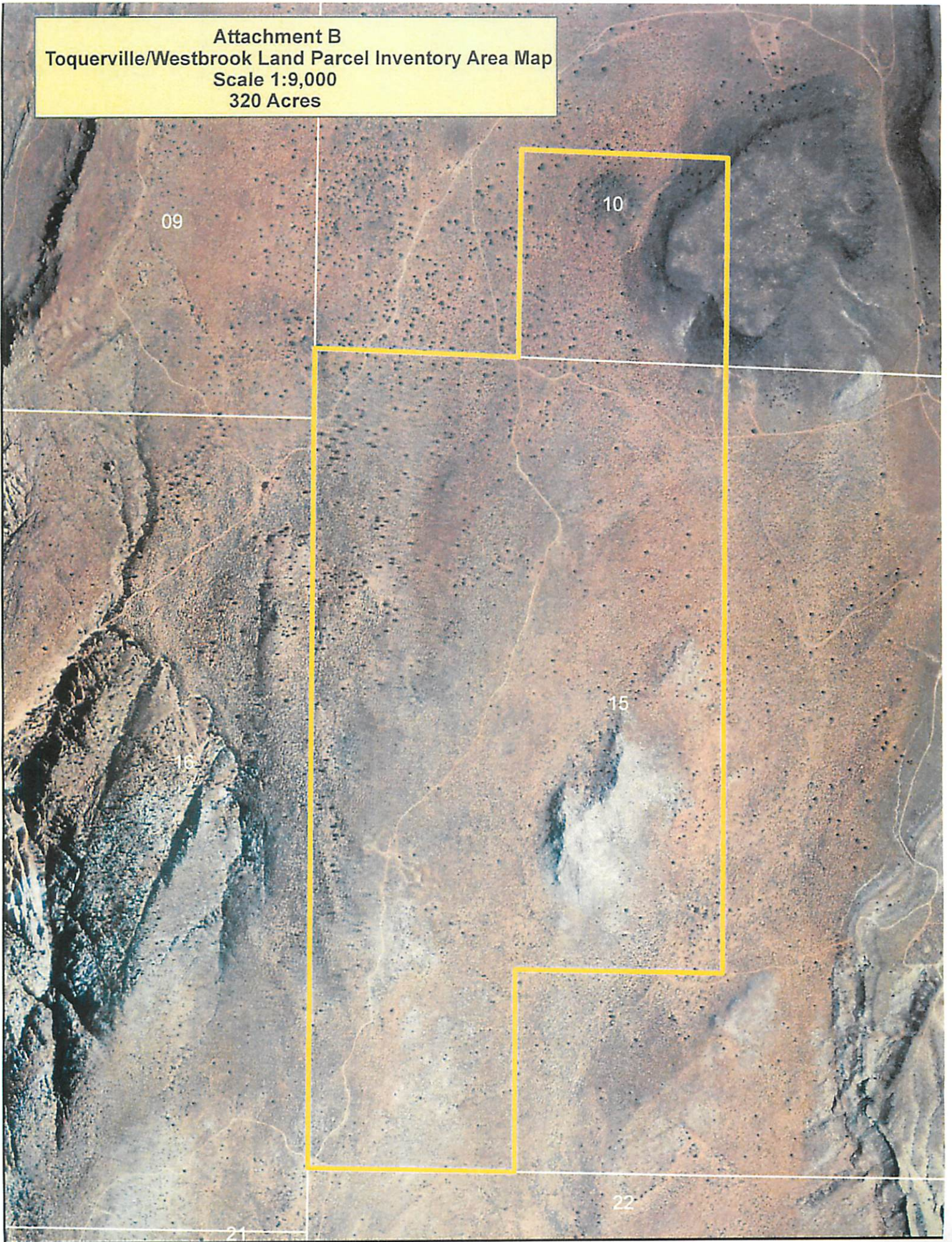
Attachment B
Sand Hollow Land Parcel Inventory Area Map
Scale 1:16,000
1,087 Acres
Sites Location Map



Attachment B
Silver Reef Land Parcel
Scale 1:6,000
111 Acres
Sites Location Map



Attachment B
Toquerville/Westbrook Land Parcel Inventory Area Map
Scale 1:9,000
320 Acres



Attachment C

Utah Bureau of Land Management

Digital Data Standards

May 2012

Reports

Reports will include all cover pages, site forms, a table of isolated resources, photographs and maps. Reports and all associated documentation shall be clear, legible and printed on high quality paper.

Standard forms to be included in the report:

Utah SHPO Coversheet

UT-8110-3 BLM Cover Page

UT-8110-X Photo Log

Digital Data Submission

In addition to the required "hard copy" of the report and associated documentation, an identical digital copy will also be submitted. Paper documents are considered the standard for archival purposes, however, digital copies allow documents to be easily searched, reduce impacts to archival paper copies from less handling, and provide a backup in the event the paper document is lost or destroyed.

Reports

Reports shall be formatted in Portable Document Format (PDF) with Optical Character Recognition (OCR) PDF files preferred as they allow the document to be searchable. The PDF report should be a mirror image of the paper submission. IMACS site forms will not be included with the report file, but submitted as separate files. The PDF report file name will consist of the State Antiquities Project number (no hyphens or land status identifiers).

Example: U95IG456.pdf

IMACS Site Forms

Each IMACS site form will be submitted as a separate PDF file. The PDF site form should also be identical to the paper site form submitted. The file should include all relevant parts of the IMACS form: encoding form, site sketch, artifact illustrations, photographs and site map. The naming convention for site PDF files shall be the Smithsonian Trinomial with county abbreviations capitalized. No leading zeros.

Amendments or updates for the same site will consist of the Smithsonian Trinomial followed by a hyphen and a sequential number.

Example: 42BE205.pdf or 42BE205-1.pdf

Photos

Photographs relating to the site and/or report shall be embedded in the appropriate PDF version of the report and site form. In addition, a separate image file must be included with the final data submitted in the form of a .jpg or .TIFF file.

GIS Shape Files

GIS Data must be submitted in the form of shapefiles (preferred) or a personal geodatabase. Shapefiles should consist of one shapefile of the area inventoried and a separate shapefile of all sites recorded. The project number and all site numbers should be included in the corresponding attribute tables in the shapefile. In other words, all points, lines and polygons depicted in the shapefile should have a project number or site number in the tabular data which identifies that feature. Naming convention will be the project number proceeded by either an "s" or "p" to indicate either site or project.

Example: sU11BL456.shp Or pU11BL456.shp

Maps

Maps related to the site and/or report shall be embedded in the appropriate PDF version of the site and/or report. If the size or scale of the map is such that including the map in the PDF document would in some way be detrimental to the document, the map may be submitted as a separate PDF file. All map images should be properly displayed to the scale listed on the Map. For example a 1:24,000 scaled map should be free from distortions that alter the accuracy of the scaling.

Maps must be appropriately labeled and include at a *minimum* the following information: Map Title/Project Name, Project Number, legend, north star, scale, firm name/authors name, date map produced, and a *clear* depiction of the area surveyed and/or sites recorded.

Maps depicting the GPS'd location of sites and project boundaries on the appropriate USGS 7.5' Quadrangle shall be included in the report. Good quality hand drawn site sketch maps or GPS produced site maps are acceptable.

Digital Media Format

Data must be submitted on high quality CDs or DVDs along with the required number of hard copy documents requested. **A total of two copies of either the CD or DVD's are required – one to be sent to the SHPO and one copy for BLM records.** A third option may be the BLM FTP site once that becomes available.

Files should be organized in the following manner:

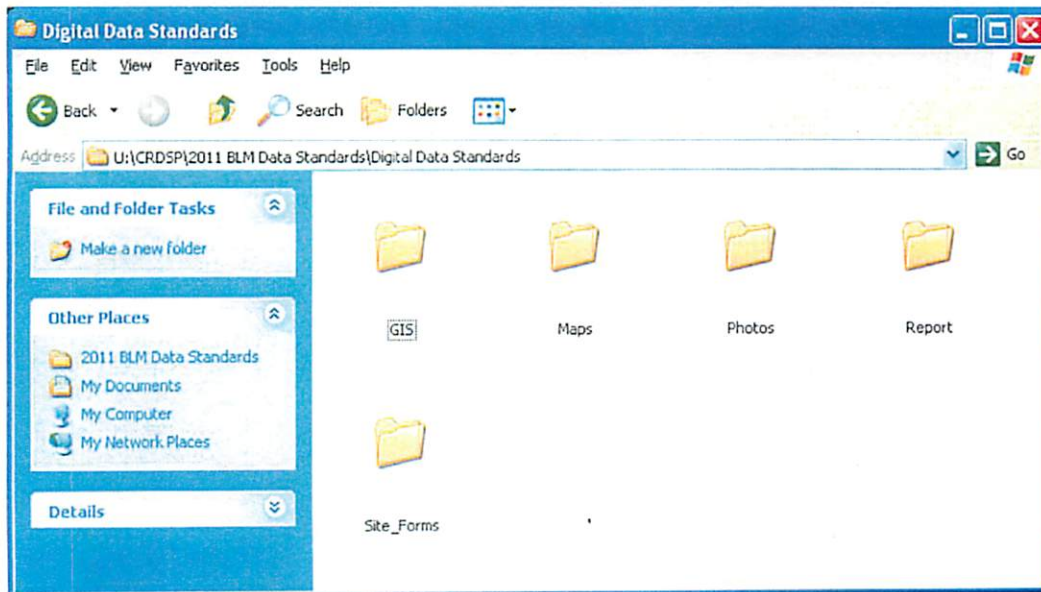
Reports and appendices to be placed in a folder named "Report"

IMACS forms to be placed in a folder named "Site_Forms"

GIS Data to be placed in a folder named "GIS"

Photos to be placed in a folder named "Photos"

Maps to be placed in a folder named "Maps"



GPS/GIS STANDARDS

Field Observation Standards

- Site boundaries shall be recorded as polygons. Acreage cannot be calculated for linear or point features in GIS. In addition, a polygon best represents the size and shape of a site.
- For linear sites, a single linear feature down the centerline may be appropriate with the width of the feature noted in the site form and/or metadata. If possible, a linear site may be recorded as a line in the field then appropriately buffered and converted to a polygon using GIS.
- At a *minimum*, a site datum (located near the approximate center of the site) and site boundary must be recorded with a GPS unit for each site. Features and other site detail may be recorded with a GPS unit, however, how such details are recorded is at the archaeologists discretion.

Projection Standards

- All horizontal position data shall be reported in the NAD 1983 datum in UTM coordinates in the appropriate zone.

Accuracy Standards

Any type or model of GPS unit may be used so long as it meets the following standards:

- The positional accuracy should be within +/- 3 meters.
- GPS data will require real time or post processed differential correction to ensure data accuracy. Data must be differentially processed using a base station closer than 200 miles.
- PDOP less than or equal to 6.
- Minimum of 4 satellites (3D) for every position.
- In situations where GPS observations are not practical or possible due to geography, vegetation, satellite availability, or the presence of hazardous materials, the recorder should locate the resource using GPS offset equipment and capabilities, map coordinates, or a combination of GPS and other techniques. Such non-GPS methods must be described in the site form, report, and/or metadata.

Feature Attribute Standards

- Points, lines, or polygon boundaries for cultural resources must be associated with attributes that describe these cultural resources.

Submitted data must conform to the attribute names assigned for the CURES database. Data should be collected using the same attribute names or the names may be assigned later. A base BLM data dictionary with these specific fields is available upon request.

BLM Standard Data Dictionary

(See attached)

The Utah BLM has created a standardized Base Data Dictionary to be used when recording any geographic field data. The purpose of a required data dictionary would be to standardize site and project location information that can easily be incorporated into our existing geodatabase and to reduce confusion among archaeologists working within multiple Field Office boundaries.

The data dictionary was designed as a *base* meaning that so long as the fields included in our data dictionary are incorporated, an archaeologist would be allowed to create additional features and attributes within the same data dictionary for mapping purposes or to create consistency within the archaeologist's own data.

PHOTOGRAPH STANDARDS

Printed Photographs

The Utah BLM subscribes to the guidelines established by the Utah Division of State History (http://history.utah.gov/archaeology/laws_rules_and_related/photos.html) for submission of photographic images. Photos should be embedded in reports and site forms, however, in addition a separate printed copy of all photographs associated with site forms should be printed, labeled, and

submitted in an archival plastic sleeve attached to the site form. Photographs may be printed by a commercial lab or printed using high quality inks and photographic paper, so long as the image is of publishable quality. Photos printed this way must still be submitted in an archival plastic sleeve as to avoid damage to the photos from handling. A maximum of two photos per page with captions is acceptable. Photographs may be back to back, so long as the caption is visible without having to remove the photo. Captions should include at a minimum the site number, project number, date, direction facing, and a brief description.

Digital Images

In addition, a digital copy of each photograph should be submitted with other digital documentation in the appropriately labeled folder (Photos). Photographs may be submitted in either JPEG or TIFF formats and numbered using the site or isolate number, a hyphen followed by a sequential number.

Photographs should be recorded on a photo log (see attached) to be included with the report. The photo log includes the image number, date photo taken, direction facing when photo is taken, site number, and a brief description of the subject. It is beneficial to record the UTM locations of site overview photo points for the purpose of site monitoring, however, it can be time consuming and cumbersome. Therefore adding UTM coordinates for photo points is *optional* but encouraged.

Attachment 1. Utah BLM Base Data Dictionary

Inventory Boundary “Mapped Extent of Inventory”

TempID “Temporary Project Number”

State_Project_Number “Antiquities State Project Number”

Level of Inventory “Level of Effort”

- A. Class III
- B. Class II
- C. Other

Inventory Line “Mapped Linear Inventory”

TempID “Temporary Project Number”

State_Project_Number “Antiquities State Project Number”

Maximum_Entity_Width “Maximum width of linear inventory in Meters”

Level of Inventory “Level of Effort”

- A. Class III
- B. Class II
- C. Other

Site Boundary “Mapped Extent of Site”

TempID “Temporary Field Identification Number”

Smith_Tri “Smithsonian Trinomial”

State_Project_Number “Antiquities State Project Number”

NR “National Register Status”

- A. NR Listed Site
- B. Nominated to NR
- C. NR Quality
- D. Non-Significant
- E. Other
- F. Reg. w/District
- G. NR site - absent
- H. Historic Landmark
- I. Determined Elig.
- J. Disputed Elig.
- O. Other Register
- Z. Undetermined

Date_Entered “Date Recorded”

Comment

Site Line “Linear Site Centerline”

TempID “Temporary Field Identification Number”

Smith_Tri “Smithsonian Trinomial”

State_Project_Number “Antiquities State Project Number”

Maximum_Entity_Width “Maximum width of linear site in Meters”

NR “National Register Status”

- A. NR Listed Site
- B. Nominated to NR
- C. NR Quality
- D. Non-Significant
- E. Other
- F. Reg. w/District
- G. NR site - absent
- H. Historic Landmark
- I. Determined Elig.
- J. Disputed Elig.
- O. Other Register
- Z. Undetermined

Date_Entered “Date Recorded”

Comment

Attachment 2. Photo Log

Form UT-8110-X
March 2011

UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
UTAH STATE OFFICE

Appendix X, Page X

CULTURAL RESOURCE PHOTOGRAPH LOG

Field Office: _____

Recorder Name: _____

Project No. : _____

No.	Date	Direction	Site Number	Subject & UTM Coordinates*

*UTM Coordinates required for site overview photos, optional for all other photos.