

Kaibab 2018 LiDAR Project Report



Prepared by:

Quantum Spatial, Inc
523 Wellington Way, Suite 375
Lexington, KY 40503
859-277-8700

USGS Contract # G16PC00016
Requisition # 0040403787
Task Order # 140G0218F0358
Submitted: June 18, 2019



Contents

1. Summary / Scope	1
1.1. Summary.....	1
1.2. Scope.....	1
1.3. Coverage.....	1
1.4. Duration.....	1
1.5. Issues	1
1.6. Deliverables	2
2. Planning / Equipment	4
2.1. Flight Planning	4
2.2. LiDAR Sensor	4
2.3. Aircraft.....	8
2.4. Time Period.....	9
3. Processing Summary	10
3.1. Flight Logs.....	10
3.2. LiDAR Processing.....	11
3.3. LAS Classification Scheme	12
3.4. Classified LAS Processing	12
3.5. Hydro-Flattened Breakline Creation	13
3.6. Hydro-Flattened Raster DEM Creation.....	13
3.7. Intensity Image Processing.....	13
4. Project Coverage Verification	16
5. Ground Control and Check Point Collection	19
5.1. Calibration Control Point Testing.....	19
5.2. Point Cloud Testing	19
5.3. Digital Elevation Model (DEM) Testing.....	20

List of Figures

Figure 1. Project Boundary	3
Figure 2. Planned Flight Lines - North.....	5
Figure 3. Planned Flight Lines - South	6
Figure 4. Leica ALS80 and Riegl VQ 1560i LiDAR Sensor.....	7
Figure 5. Some of Quantum Spatial's Planes	8
Figure 6. LiDAR Tile Layout - North.....	14
Figure 7. LiDAR Tile Layout - South	15
Figure 8. LiDAR Flightline Coverage - North	17
Figure 9. LiDAR Flightline Coverage - South.....	18
Figure 10. Calibration Control Point Locations	21
Figure 11. QC Checkpoint Locations - NVA.....	22
Figure 12. QC Checkpoint Locations - VVA.....	23

List of Tables

Table 1. Originally Planned LiDAR Specifications	1
Table 2. LiDAR System Specifications	7

1. Summary / Scope

1.1. Summary

This report contains a summary of the Kaibab 2018 LiDAR acquisition task order, issued by the USGS under their Contract G16PC00016 on 6 September 2018. The Albers portion of the task order yielded a QL1 project area covering 2223 square miles over Northern and Southeastern Arizona and a QL2 project area covering 2430 square miles over Northern Arizona. The intent of this document is only to provide specific validation information for the data acquisition/ collection, processing, and production of deliverables completed as specified in the task order.

1.2. Scope

Aerial topographic LiDAR was acquired using state of the art technology along with the necessary surveyed ground control points (GCPs) and airborne GPS and inertial navigation systems. The aerial data collection was designed with the following specifications listed in Table 1 below.

Table 1. Originally Planned LiDAR Specifications

QL	Average Point Density	Flight Altitude (AGL)	Field of View	Minimum Side Overlap	RMSEz
QL1	8 pts / m ²	1800 m	30°	60%	≤ 10 cm
QL2	2 pts / m ²	2100 m	36°	30%	≤ 10 cm

1.3. Coverage

The project boundary covers 4653 square miles and encompasses portions of Northern and Southeastern Arizona. A buffer of 100 meters was created to meet task order specifications. Project extents are shown in Figure 1.

1.4. Duration

LiDAR data was acquired from 10 August 2018 to 7 September 2018 in 50 total lifts. See “Section: 2.5. Time Period” for more details.

1.5. Issues

There were no major issues to report for this project.

1.6. Deliverables

QL1:

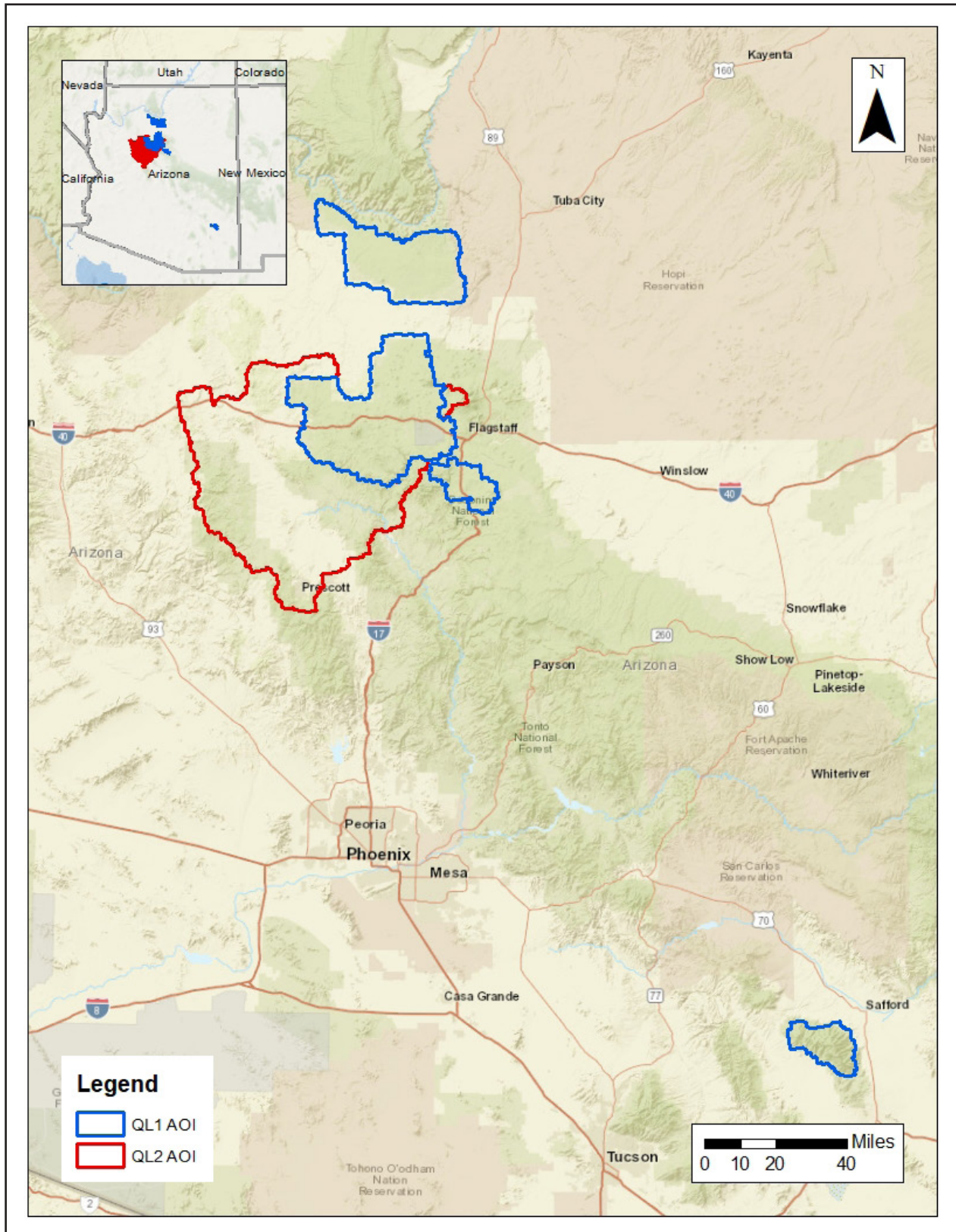
- Classified LiDAR point cloud data tiles in .LAS 1.4 format
- Continuous hydroflattened breaklines in Esri file geodatabase format
- 0.5-meter non-hydroflattened bare earth DEM tiles in GeoTIFF format
- 0.5-meter intensity imagery tiles in GeoTIFF format

QL2:

- Classified LiDAR point cloud data tiles in .LAS 1.4 format
- Continuous hydro-flattened breaklines in Esri file geodatabase format
- 1-meter hydro-flattened bare earth digital elevation model (DEM) tiles in GeoTIFF format
- 1-meter intensity imagery tiles in GeoTIFF format

All geospatial deliverables were produced with a horizontal datum/projection of NAD83 (2011), Albers Equal Area, Meters and a vertical datum/projection of NAVD88, Geoid 12b, Meters. All tiled deliverables have a tile size of 1000 m x 1000 m.

Figure 1. Project Boundary



2. Planning / Equipment

2.1. Flight Planning

Flight planning was based on the unique project requirements and characteristics of the project site. The basis of planning included: required accuracies, type of development, amount / type of vegetation within project area, required data posting, and potential altitude restrictions for flights in project vicinity.

Detailed project flight planning calculations were performed for the project using Leica MissionPro and RiPARAMETER planning software. The entire target area was comprised of 790 planned flight lines (Figure 2 and Figure 3).

2.2. LiDAR Sensor

Quantum Spatial utilized Leica ALS80 and Riegl VQ 1560i LiDAR sensors (Figure 4), serial number(s) 3061, 8170, and 8194 during the project.

The Leica ALS 80 system is capable of collecting data at a maximum frequency of 1,000 kHz. The system utilizes a Multi-Pulse in the Air option (MPIA). The sensor also has the capacity for unlimited range returns from each outbound pulse. The intensity of the returns is also captured during aerial acquisition.

The Riegl 1560i system has a laser pulse repetition rate of up to 2 MHz resulting in more than 1.3 million measurements per second. The system utilizes a Multi-Pulse in the Air option (MPIA). The sensor is also equipped with the ability to measure up to an unlimited number of targets per pulse from the laser.

A brief summary of the aerial acquisition parameters for the project are shown in the LiDAR System Specifications in Table 2.

Figure 2. Planned Flight Lines - North

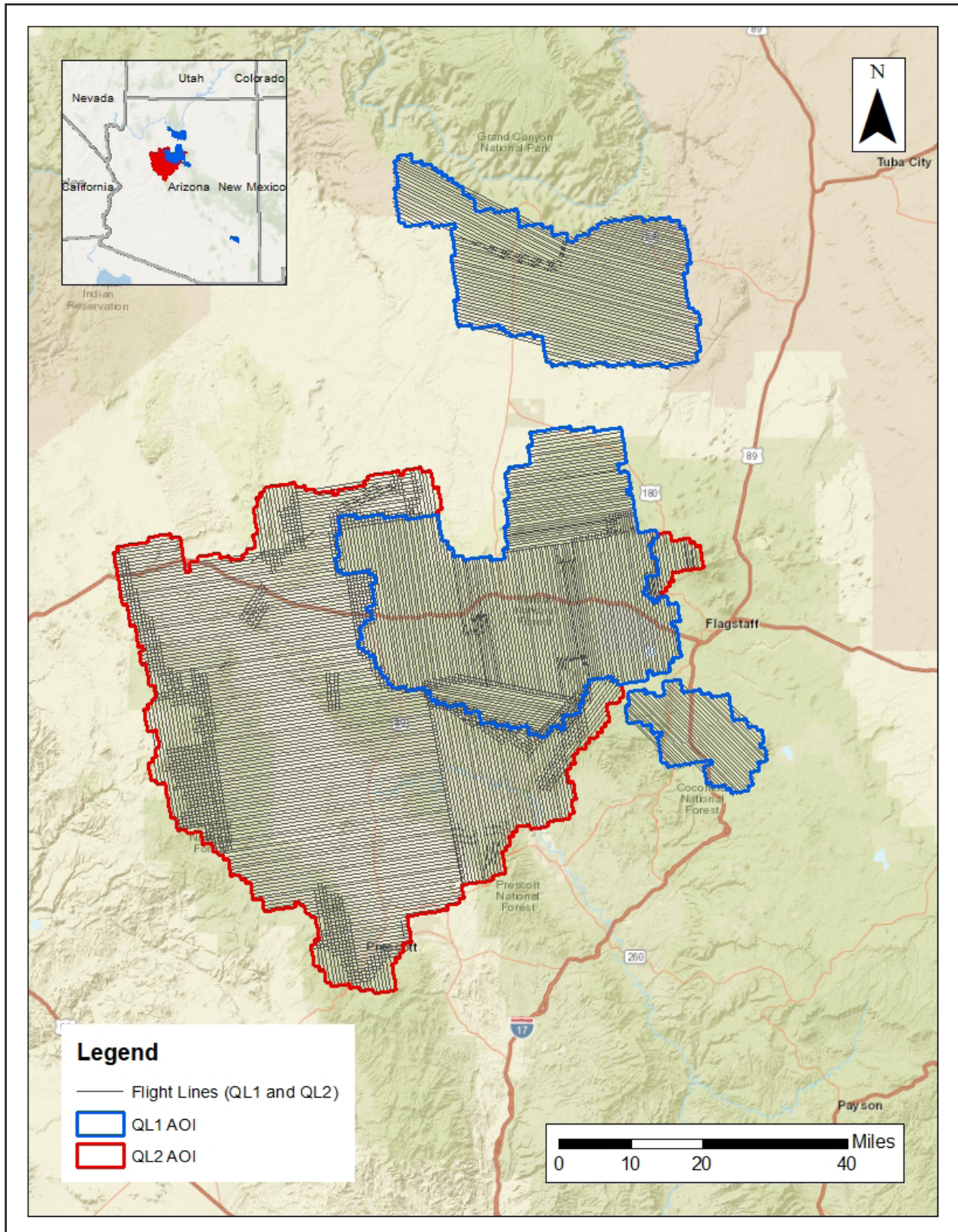


Figure 3. Planned Flight Lines - South

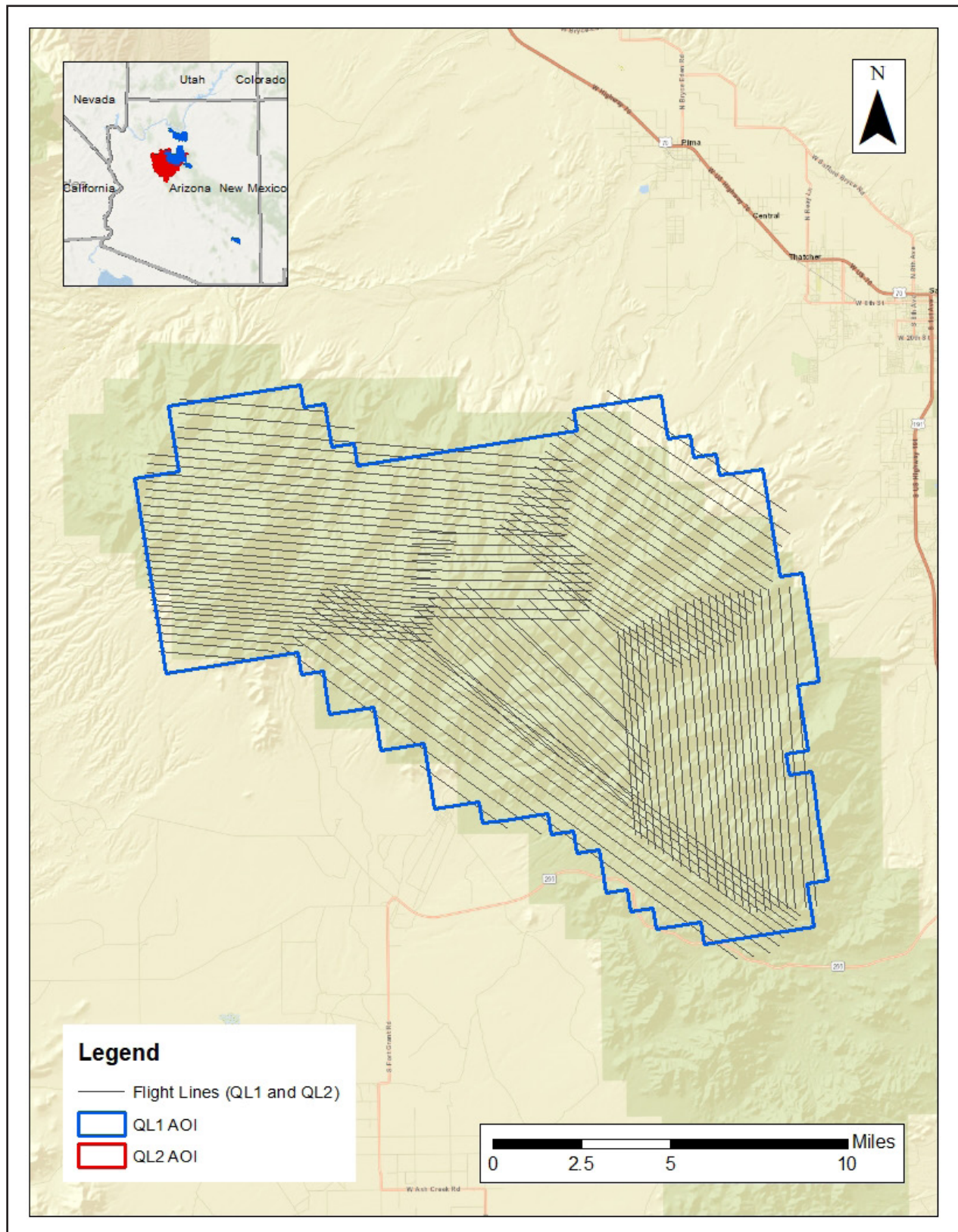
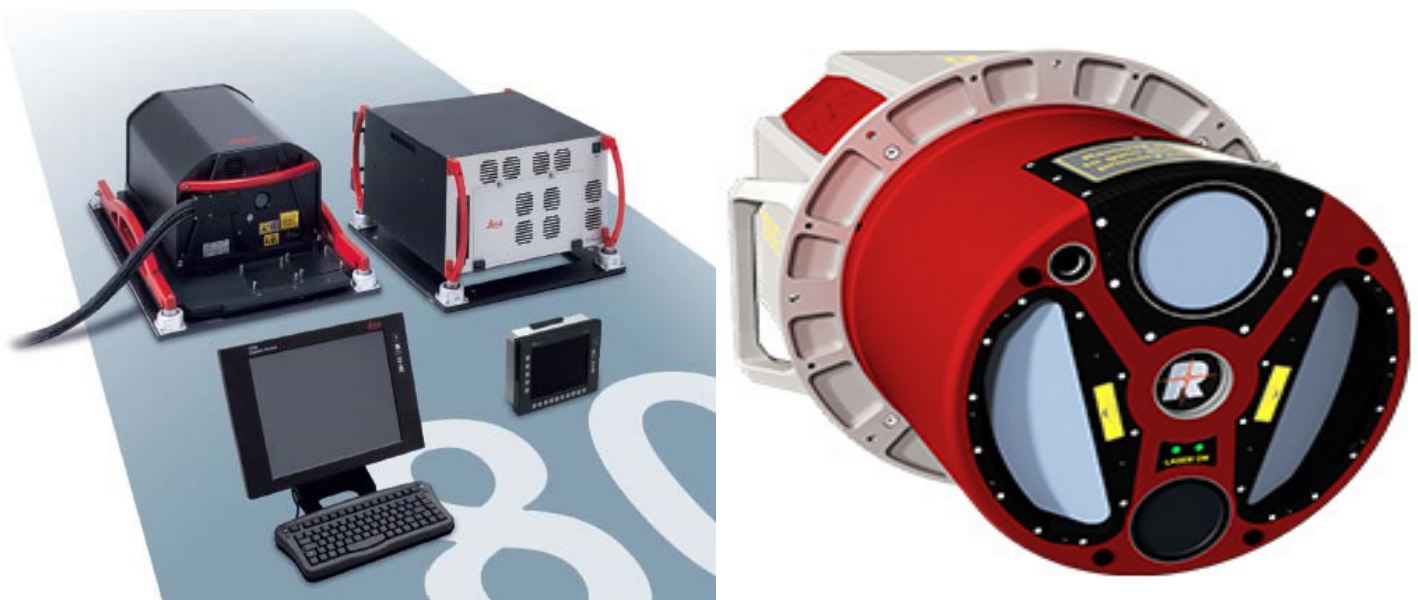


Table 2. LiDAR System Specifications

		ALS80	1560i
Terrain and Aircraft Scanner	Flying Height	2100 m	1738 m
	Recommended Ground Speed	150 kts	140 kts
Scanner	Field of View	36°	58.5°
	Scan Rate Setting Used	46 Hz	30 Hz
Laser	Laser Pulse Rate Used	260 kHz	145.2 kHz
	Multi Pulse in Air Mode	yes	yes
Coverage	Full Swath Width	1365 m	1947 m
	Line Spacing	956 m	661 m
Point Spacing and Density	Average Point Spacing	0.71 m	0.35 m
	Average Point Density	2 pts / m ²	8 pts / m ²

Figure 4. Leica ALS80 and Riegl VQ 1560i LiDAR Sensors


2.3. Aircraft

All flights for the project were accomplished through the use of customized planes. Plane type and tail numbers are listed below.

LiDAR Collection Planes

- Cessna 402 (twin-piston), Tail Numbers: N6255Q, N41GD
- Cessna Caravan (single-turboprop) (C208), Tail Number(s): N704MD

These aircraft provided an ideal, stable aerial base for LiDAR and orthoimagery acquisition. These aerial platforms have relatively fast cruise speeds which are beneficial for project mobilization / demobilization while maintaining relatively slow stall speeds which proved ideal for collection of high-density, consistent data posting using state-of-the-art Riegl and Leica LiDAR systems. Some of Quantum Spatial's operating aircraft can be seen in Figure 5 below.

Figure 5. Some of Quantum Spatial's Planes



2.4. Time Period

Project specific flights were conducted over two months. 50 aircraft lifts were completed. Accomplished lifts are listed below.

- 20180810A (SN3061, N704MD)
- 20180812A (SN3061, N704MD)
- 20180813A (SN3061, N704MD)
- 20180814A (SN3061, N704MD)
- 20180814B (SN3061, N704MD)
- 20180817A (SN3061, N704MD)
- 20180818A (SN3061, N704MD)
- 20180819A (SN3061, N704MD)
- 20180819A (SN8170, N6255Q)
- 20180819A (SN8194, N41GD)
- 20180820A (SN3061, N704MD)
- 20180820A (SN8170, N6255Q)
- 20180820A (SN8194, N41GD)
- 20180820B (SN8194, N41GD)
- 20180821A (SN3061, N704MD)
- 20180821B (SN3061, N704MD)
- 20180823A (SN3061, N704MD)
- 20180823A (SN8194, N41GD)
- 20180824A (SN3061, N704MD)
- 20180824A (SN8170, N6255Q)
- 20180824A (SN8194, N41GD)
- 20180825A (SN8194, N41GD)
- 20180826A (SN3061, N704MD)
- 20180826A (SN8170, N6255Q)
- 20180826A (SN8194, N41GD)
- 20180827A (SN3061, N704MD)
- 20180827A (SN8170, N6255Q)
- 20180827A (SN8194, N41GD)
- 20180827B (SN8194, N41GD)
- 20180827C (SN8194, N41GD)
- 20180828A (SN3061, N704MD)
- 20180828A (SN8170, N6255Q)
- 20180828A (SN8194, N41GD)
- 20180828B (SN3061, N704MD)
- 20180828B (SN8170, N6255Q)
- 20180828B (SN8194, N41GD)
- 20180829A (SN3061, N704MD)
- 20180829A (SN8170, N6255Q)
- 20180829A (SN8194, N41GD)
- 20180829B (SN8194, N41GD)
- 20180830A (SN3061, N704MD)
- 20180830A (SN8170, N6255Q)
- 20180830A (SN8194, N41GD)
- 20180830B (SN8194, N41GD)
- 20180831A (SN3061, N704MD)
- 20180903A (SN3061, N704MD)
- 20180904A (SN3061, N704MD)
- 20180905A (SN3061, N704MD)
- 20180907A (SN8194, N41GD)
- 20180907B (SN8194, N41GD)

3. Processing Summary

3.1. Flight Logs

Flight logs were completed by LIDAR sensor technicians for each mission during acquisition. These logs depict a variety of information, including:

- Job / Project #
- Flight Date / Lift Number
- FOV (Field of View)
- Scan Rate (HZ)
- Pulse Rate Frequency (Hz)
- Ground Speed
- Altitude
- Base Station
- PDOP avoidance times
- Flight Line #
- Flight Line Start and Stop Times
- Flight Line Altitude (AMSL)
- Heading
- Speed
- Returns
- Crab

Notes: (Visibility, winds, ride, weather, temperature, dew point, pressure, etc).

3.2. LiDAR Processing

Inertial Explorer/Applanix + POSPac Mobile Mapping Suite software was used for post-processing of airborne GPS and inertial data (IMU), which is critical to the positioning and orientation of the LiDAR sensor during all flights. Inertial Explorer/POSPac combines aircraft raw trajectory data with stationary GPS base station data yielding a “Smoothed Best Estimate Trajectory (SBET)” necessary for additional post processing software to develop the resulting geo-referenced point cloud from the LiDAR missions.

During the sensor trajectory processing (combining GPS & IMU datasets) certain statistical graphs and tables are generated within the Inertial Explorer/Applanix POSPac processing environment which are commonly used as indicators of processing stability and accuracy. This data for analysis include: Max horizontal / vertical GPS variance, separation plot, altitude plot, PDOP plot, base station baseline length, processing mode, number of satellite vehicles, and mission trajectory.

The generated point cloud is the mathematical three dimensional composite of all returns from all laser pulses as determined from the aerial mission. Laser point data are imported into TerraScan and a manual calibration is performed to assess the system offsets for pitch, roll, heading and scale. At this point this data is ready for analysis, classification, and filtering to generate a bare earth surface model in which the above-ground features are removed from the data set. Point clouds were created using the Leica CloudPro software and the Applanix + POSPac Post Processor software. GeoCue distributive processing software was used in the creation of some files needed in downstream processing, as well as in the tiling of the dataset into more manageable file sizes. TerraScan and TerraModeler software packages were then used for the automated data classification, manual cleanup, and bare earth generation. Project specific macros were developed to classify the ground and remove side overlap between parallel flight lines.

All data was manually reviewed and any remaining artifacts removed using functionality provided by TerraScan and TerraModeler. Global Mapper was used as a final check of the bare earth dataset. GeoCue was used to create the deliverable industry-standard LAS files for both the All Point Cloud Data and the Bare Earth. In-house software was then used to perform final statistical analysis of the classes in the LAS files.

3.3. LAS Classification Scheme

The classification classes are determined by the USGS Version 1.3 specifications and are an industry standard for the classification of LIDAR point clouds. All data starts the process as Class 1 (Unclassified), and then through automated classification routines, the classifications are determined using TerraScan macro processing.

The classes used in the dataset are as follows and have the following descriptions:

- Class 1 – Processed, but Unclassified – These points would be the catch all for points that do not fit any of the other deliverable classes. This would cover features such as vegetation, cars, etc.
- Class 2 – Bare-Earth Ground – This is the bare earth surface
- Class 7 – Low Noise – Low points, manually identified below the surface that could be noise points in point cloud.
- Class 9 – In-land Water – Points found inside of inland lake/ponds
- Class 17 – Bridge Decks – Points falling on bridge decks.
- Class 18 – High Noise – High points, manually identified above the surface that could be noise points in point cloud.
- Class 20 – Ignored Ground – Points found to be close to breakline features. Points are moved to this class from the Class 2 dataset. This class is ignored during the DEM creation process in order to provide smooth transition between the ground surface and hydro flattened surface.

3.4. Classified LAS Processing

The bare earth surface is then manually reviewed to ensure correct classification on the Class 2 (Ground) points. After the bare- earth surface is finalized; it is then used to generate all hydro-breaklines through heads-up digitization.

All ground (ASPRS Class 2) LiDAR data inside of the Lake Pond and Double Line Drain hydro flattening breaklines were then classified to water (ASPRS Class 9) using TerraScan macro functionality. A buffer of 3 feet was also used around each hydro flattened feature to classify these ground (ASPRS Class 2) points to Ignored ground (ASPRS Class 20). All Lake Pond Island and Double Line Drain Island features were checked to ensure that the ground (ASPRS Class 2) points were reclassified to the correct classification after the automated classification was completed.

All overlap data was processed through automated functionality provided by TerraScan to classify the overlapping flight line data to approved classes by USGS. The overlap data was identified using the Overlap Flag, per LAS 1.4 specifications.

All data was manually reviewed and any remaining artifacts removed using functionality provided by TerraScan and TerraModeler. Global Mapper is used as a final check of the bare earth dataset. GeoCue was then used to create the deliverable industry-standard LAS files for all point cloud data. Quantum Spatial's proprietary software was used to perform final statistical analysis of the classes in the LAS files, on a per tile level to verify final classification metrics and full LAS header

information.

3.5. Hydro-Flattened Breakline Processing

Class 2 LiDAR was used to create a bare earth surface model. The surface model was then used to heads-up digitize 2D breaklines of Inland Streams and Rivers with a 100 foot nominal width and Inland Ponds and Lakes of 2 acres or greater surface area.

Elevation values were assigned to all Inland Ponds and Lakes, Inland Pond and Lake Islands, Inland Streams and Rivers and Inland Stream and River Islands using TerraModeler functionality.

Elevation values were assigned to all Inland streams and rivers using Quantum Spatial's proprietary software.

All ground (ASPRS Class 2) LiDAR data inside of the collected inland breaklines were then classified to water (ASPRS Class 9) using TerraScan macro functionality. A buffer of 3 feet was also used around each hydro flattened feature. These points were moved from ground (ASPRS Class 2) to Ignored Ground (ASPRS Class 20).

The breakline files were then translated to Esri file geodatabase format using Esri conversion tools.

Breaklines are reviewed against lidar intensity imagery to verify completeness of capture. All breaklines are then compared to TINs (triangular irregular networks) created from ground only points prior to water classification. The horizontal placement of breaklines is compared to terrain features and the breakline elevations are compared to lidar elevations to ensure all breaklines match the lidar within acceptable tolerances. Some deviation is expected between breakline and lidar elevations due to monotonicity, connectivity, and flattening rules that are enforced on the breaklines. Once completeness, horizontal placement, and vertical variance is reviewed, all breaklines are reviewed for topological consistency and data integrity using a combination of Esri Data Reviewer tools and proprietary tools.

3.6. Hydro-Flattened Raster DEM Processing

Class 2 LiDAR in conjunction with the hydro breaklines were used to create a 0.5-meter (QL1) non-hydro-flattened DEM and a 1-meter (QL2) hydro-flattened Raster DEM. Using automated scripting routines within ArcMap, a GeoTIFF file was created for each tile. Each surface is reviewed using Global Mapper to check for any surface anomalies or incorrect elevations found within the surface.

3.7. Intensity Image Processing

GeoCue software was used to create the deliverable intensity images. All overlap classes were ignored during this process. This helps to ensure a more aesthetically pleasing image. The GeoCue software was then used to verify full project coverage as well. GeoTIFF files with a cell size of 0.5 meter (QL1) and 1 meter (QL2) were then provided as the deliverable for this dataset requirement.

Figure 6. LiDAR Tile Layout - North

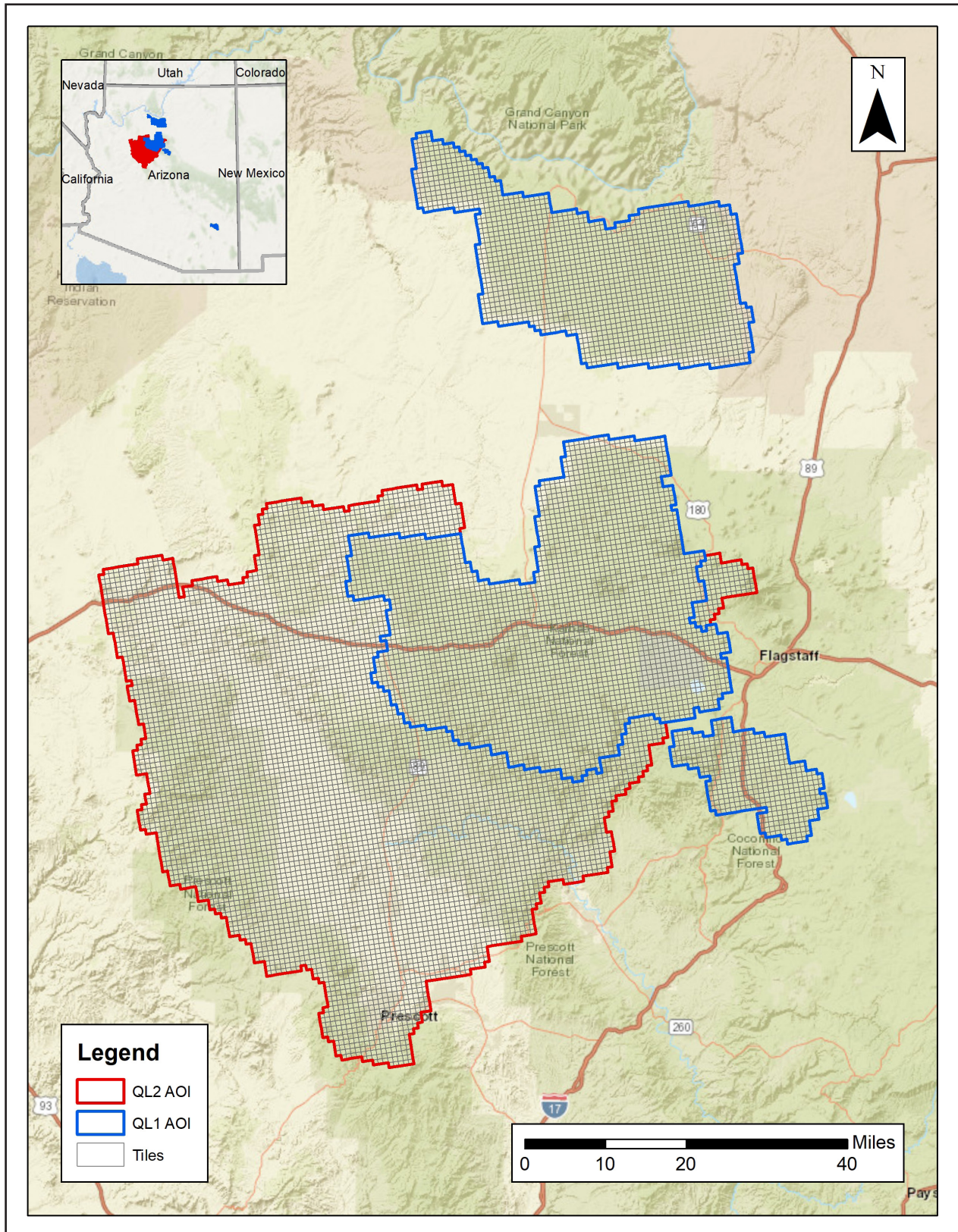
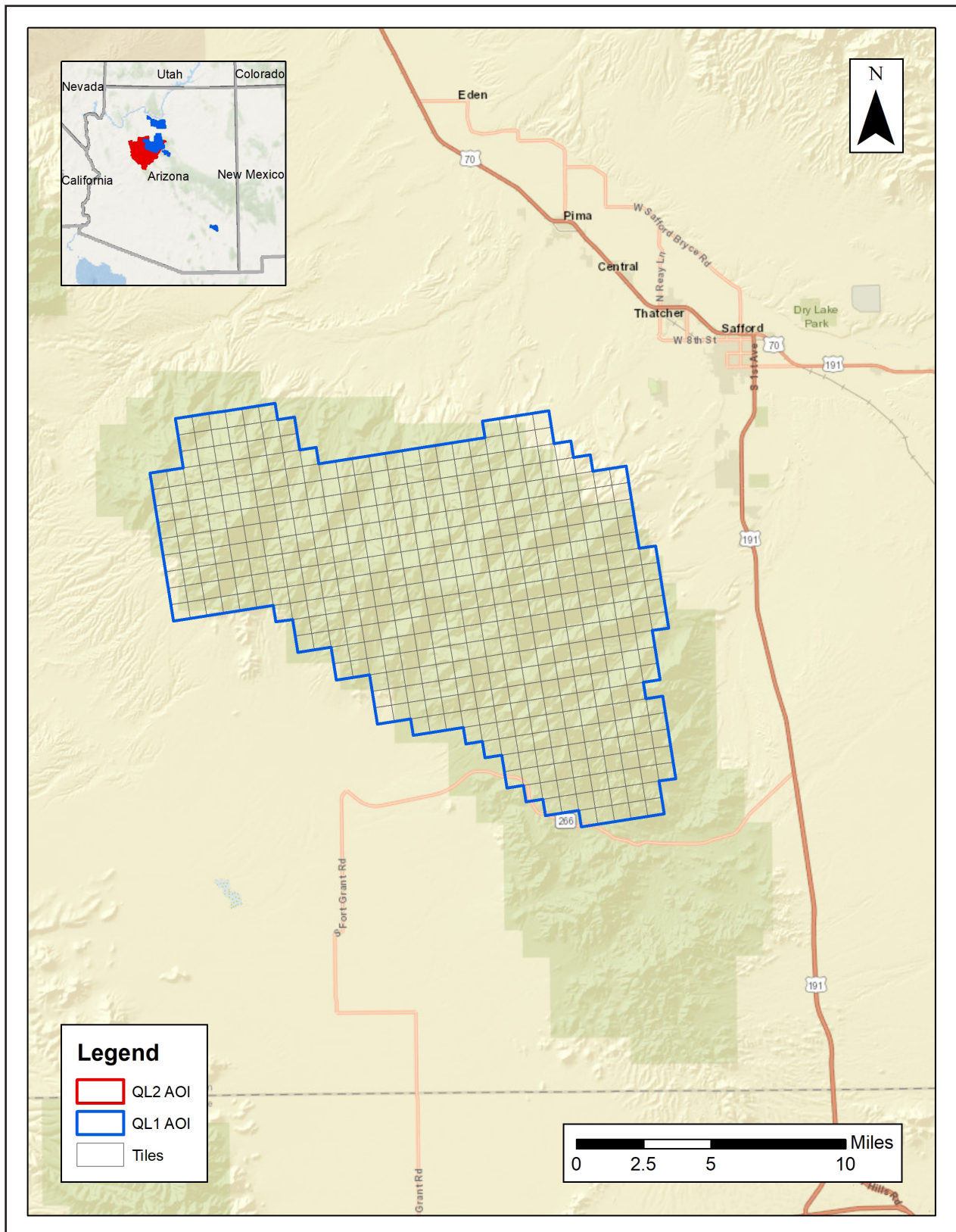


Figure 7. LiDAR Tile Layout - South



4. Project Coverage Verification

Coverage verification was performed by comparing coverage of processed .LAS files captured during project collection to generate project shape files depicting boundaries of specified project areas. Please refer to Figure 8 and Figure 9.

Figure 8. LiDAR Flightline Coverage - North

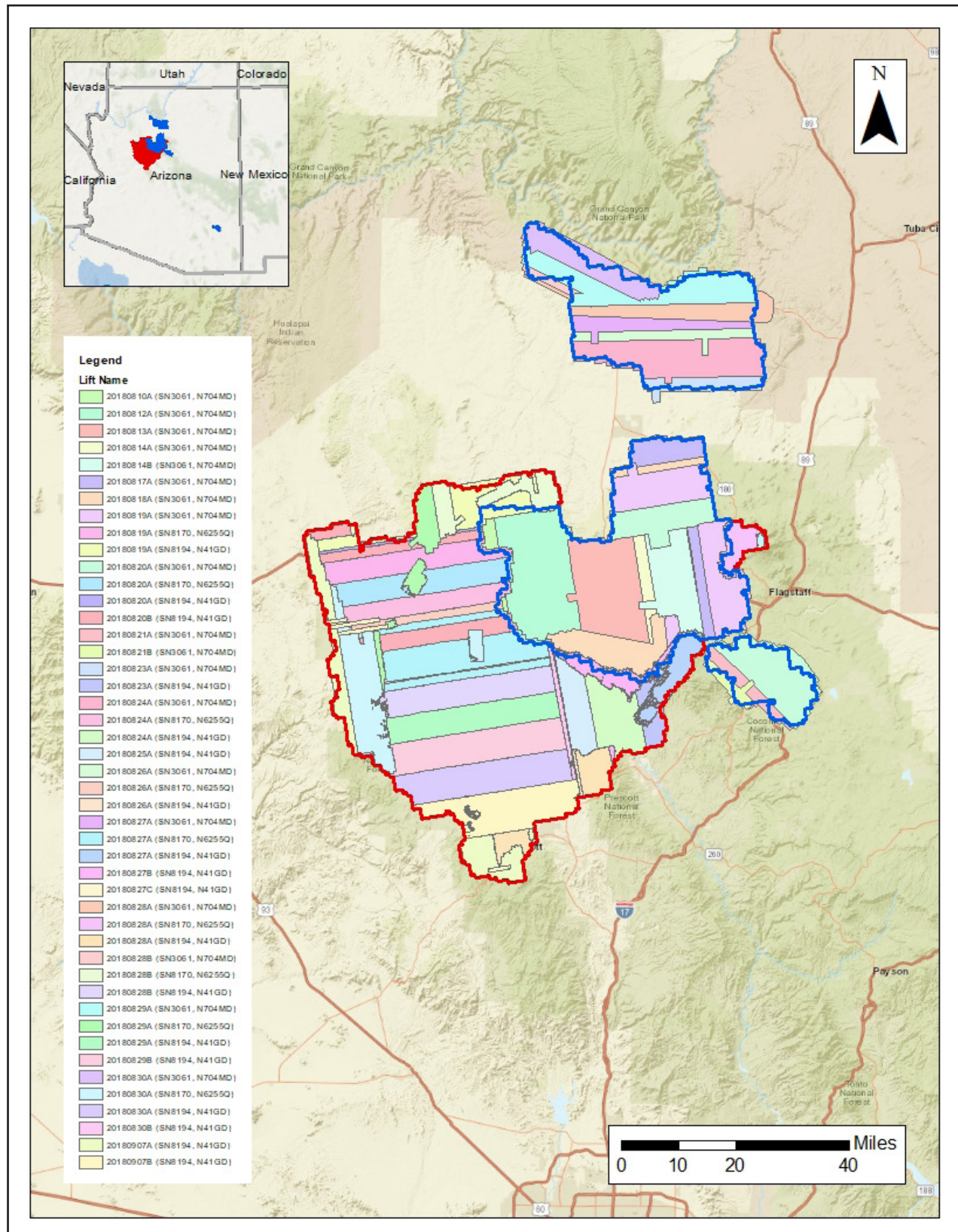
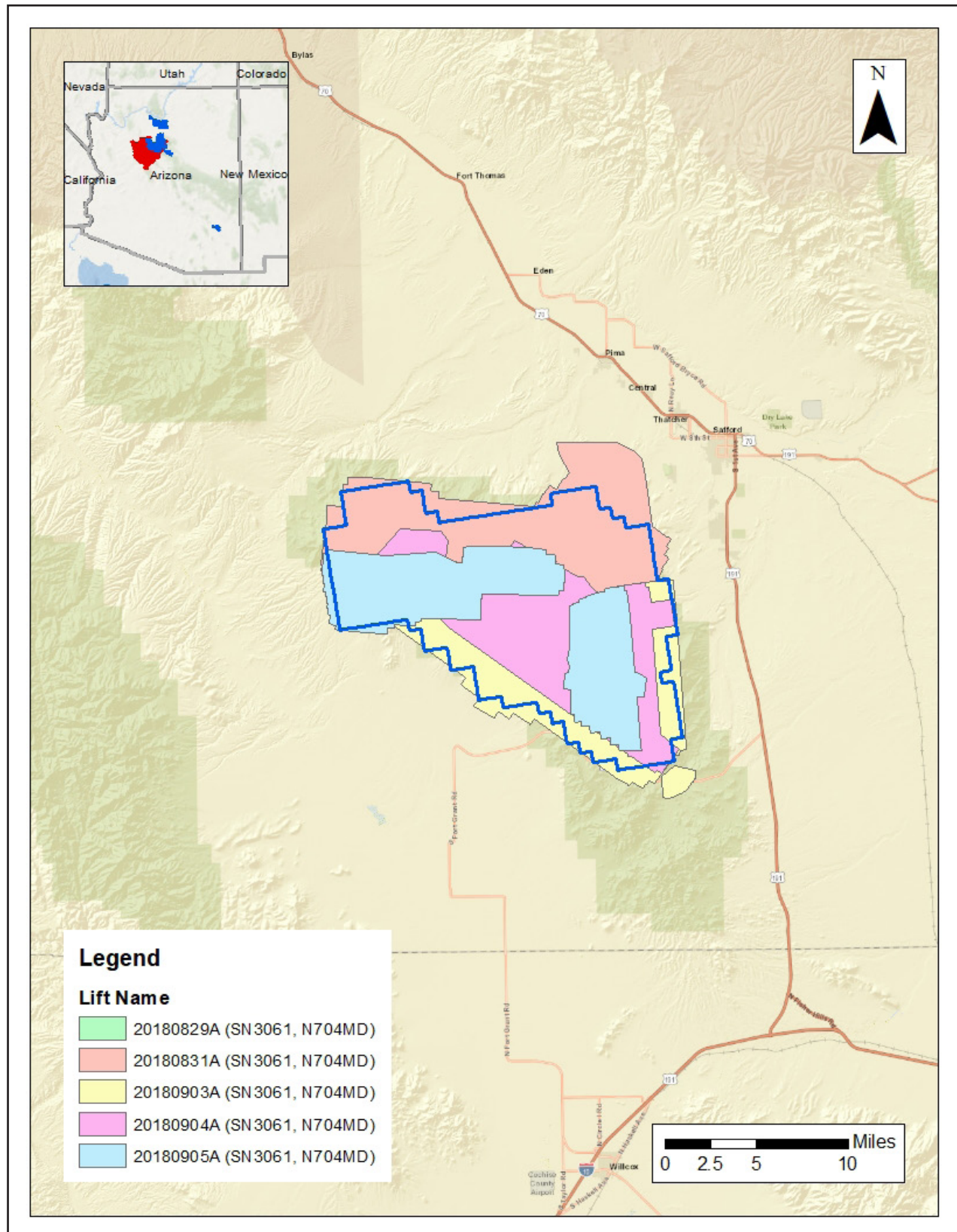


Figure 9. LiDAR Flightline Coverage - South



5. Ground Control and Check Point Collection

A field survey was completed of 111 ground control (calibration) points along with 190 blind QA points in Non-Vegetated and Vegetated land cover classifications (total of 301 points) as an independent test of the accuracy of this project.

A combination of precise GPS surveying methods, including static and RTK observations were used to establish the 3D position of ground calibration points and QA points for the point classes above. GPS was not an appropriate methodology for surveying in the forested areas during the leaf-on conditions for the actual field survey (which was accomplished after the LiDAR acquisition). Therefore the 3D positions for the forested points were acquired using a GPS-derived offset point located out in the open near the forested area, and using precise offset surveying techniques to derive the 3D position of the forested point from the open control point. The explicit goal for these surveys was to develop 3D positions that were three times greater than the accuracy requirement for the elevation surface. In this case of the blind QA points the goal was a positional accuracy of 5 cm in terms of the RMSE.

The required accuracy testing was performed on the LiDAR dataset (both the LiDAR point cloud and derived DEM's) according to the USGS LiDAR Base Specification Version 1.3 (2018).

5.1. Calibration Control Point Testing

Figure 10 shows the location of each bare earth calibration point for the project area. TerraScan was used to perform a quality assurance check using the LiDAR bare earth calibration points. The results of the surface calibration are not an independent assessment of the accuracy of these project deliverables, but the statistical results do provide additional feedback as to the overall quality of the elevation surface.

5.2. Point Cloud Testing

The project specifications require that only Non-Vegetated Vertical Accuracy (NVA) be computed for raw lidar point cloud swath files. The required accuracy (ACCz) is: 19.6 cm at a 95% confidence level, derived according to NSSDA, i.e., based on RMSE of 10 cm in the “bare earth” and “urban” land cover classes. The NVA was tested with 110 checkpoints located in bare earth and urban (non-vegetated) areas. These check points were not used in the calibration or post processing of the lidar point cloud data. The checkpoints were distributed throughout the project area and were surveyed using GPS techniques. See survey report for additional survey methodologies.

Elevations from the unclassified lidar surface were measured for the x,y location of each check point. Elevations interpolated from the lidar surface were then compared to the elevation values of the surveyed control points. AccuracyZ has been tested to meet 19.6 cm or better Non-Vegetated Vertical Accuracy at 95% confidence level using $RMSE(z) \times 1.9600$ as defined by the National Standards for Spatial Data Accuracy (NSSDA); assessed and reported using National Digital Elevation Program (NDEP)/ASRPS Guidelines. See Figure 11.

5.3. Digital Elevation Model (DEM) Testing

The project specifications require the accuracy (ACCz) of the derived DEM be calculated and reported in two ways:

1. The required NVA is: 19.6 cm at a 95% confidence level, derived according to NSSDA, i.e., based on RMSE of 10 cm in the “bare earth” and “urban” land cover classes. This is a required accuracy. The NVA was tested with 110 checkpoints located in bare earth and urban (non-vegetated) areas. See Figure 11.

2. Vegetated Vertical Accuracy (VVA): VVA shall be reported for “brushlands/low trees” and “tall weeds/crops” land cover classes. The target VVA is: 29.4 cm at the 95th percentile, derived according to ASPRS Guidelines, Vertical Accuracy Reporting for Lidar Data, i.e., based on the 95th percentile error in all vegetated land cover classes combined. This is a target accuracy. The VVA was tested with 80 checkpoints located in tall weeds/crops and brushlands/low trees (vegetated) areas. The checkpoints were distributed throughout the project area and were surveyed using GPS techniques. See Figure 12.

AccuracyZ has been tested to meet 19.6 cm or better Non-Vegetated Vertical Accuracy at 95% confidence level using $RMSE(z) \times 1.9600$ as defined by the National Standards for Spatial Data Accuracy (NSSDA); assessed and reported using National Digital Elevation Program (NDEP)/ASRPS Guidelines.

A brief summary of results are listed below. For more information, See the FOCUS on Accuracy report.

Point Class	Target	Measured	Point Count
Calibration	N/A	0.076	111
Raw NVA	0.196 m	0.084	110
NVA	0.196 m	0.085	110
VVA	0.294 m	0.140	80

Figure 10. Calibration Control Point Locations

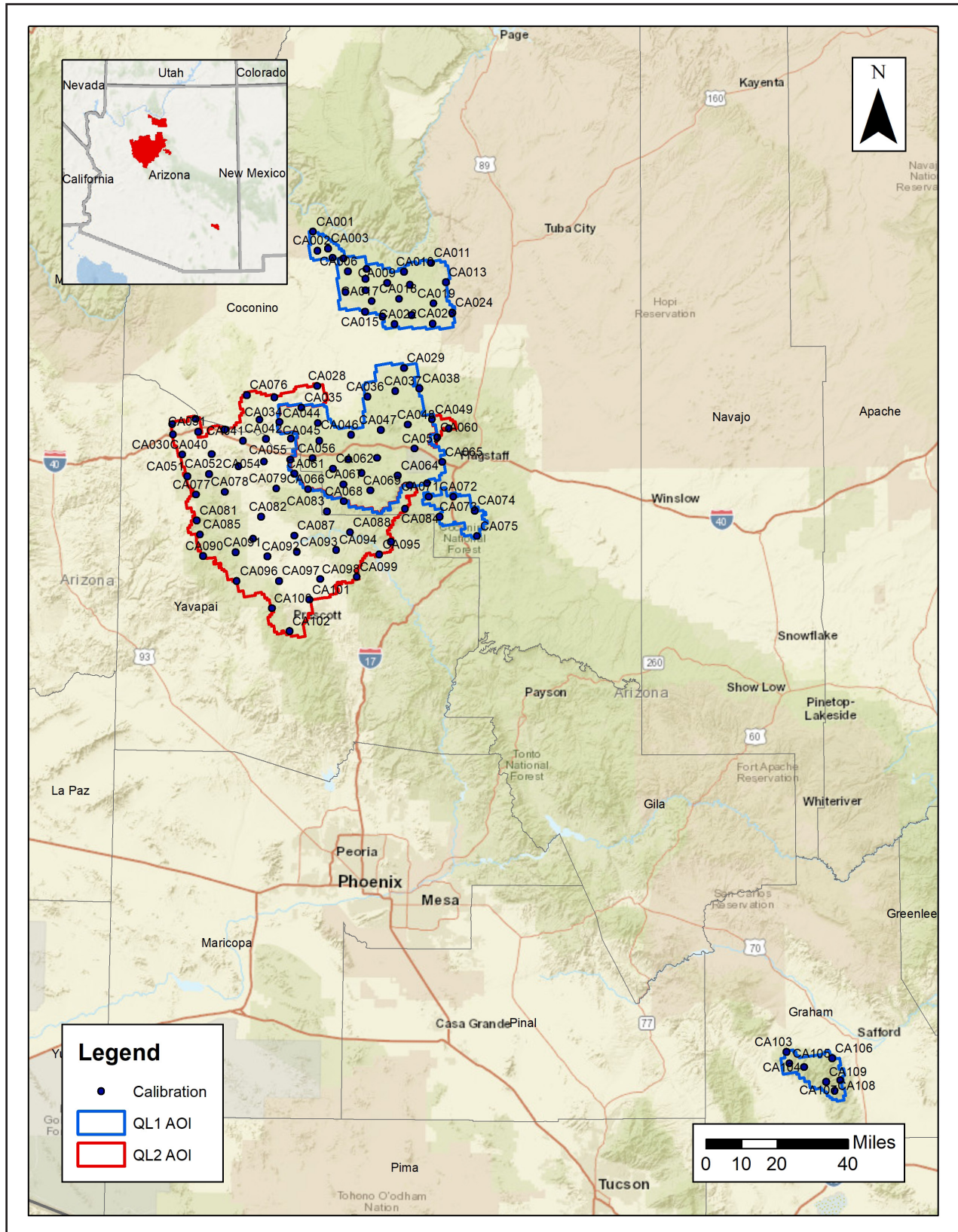


Figure 11. QC Checkpoint Locations - NVA

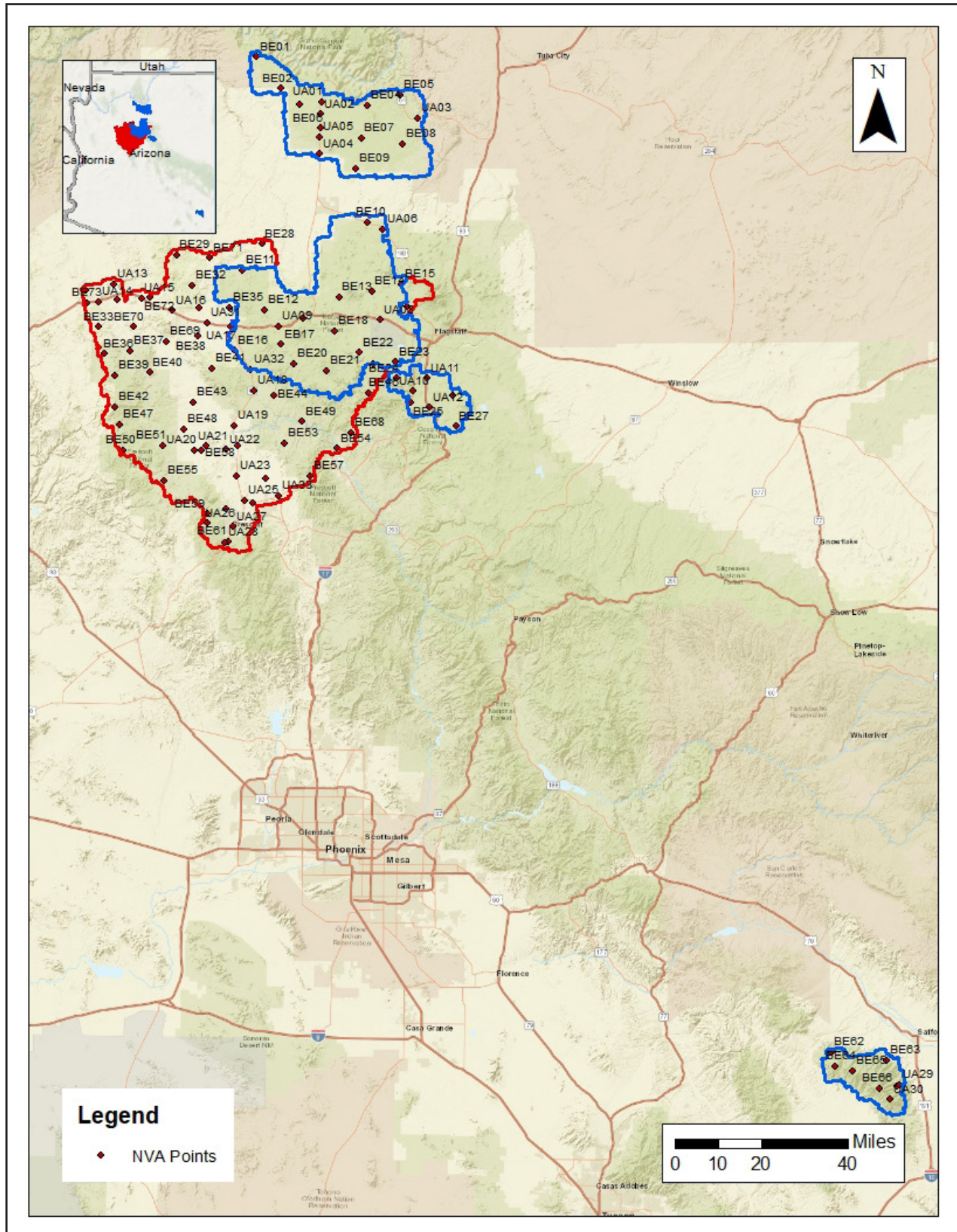
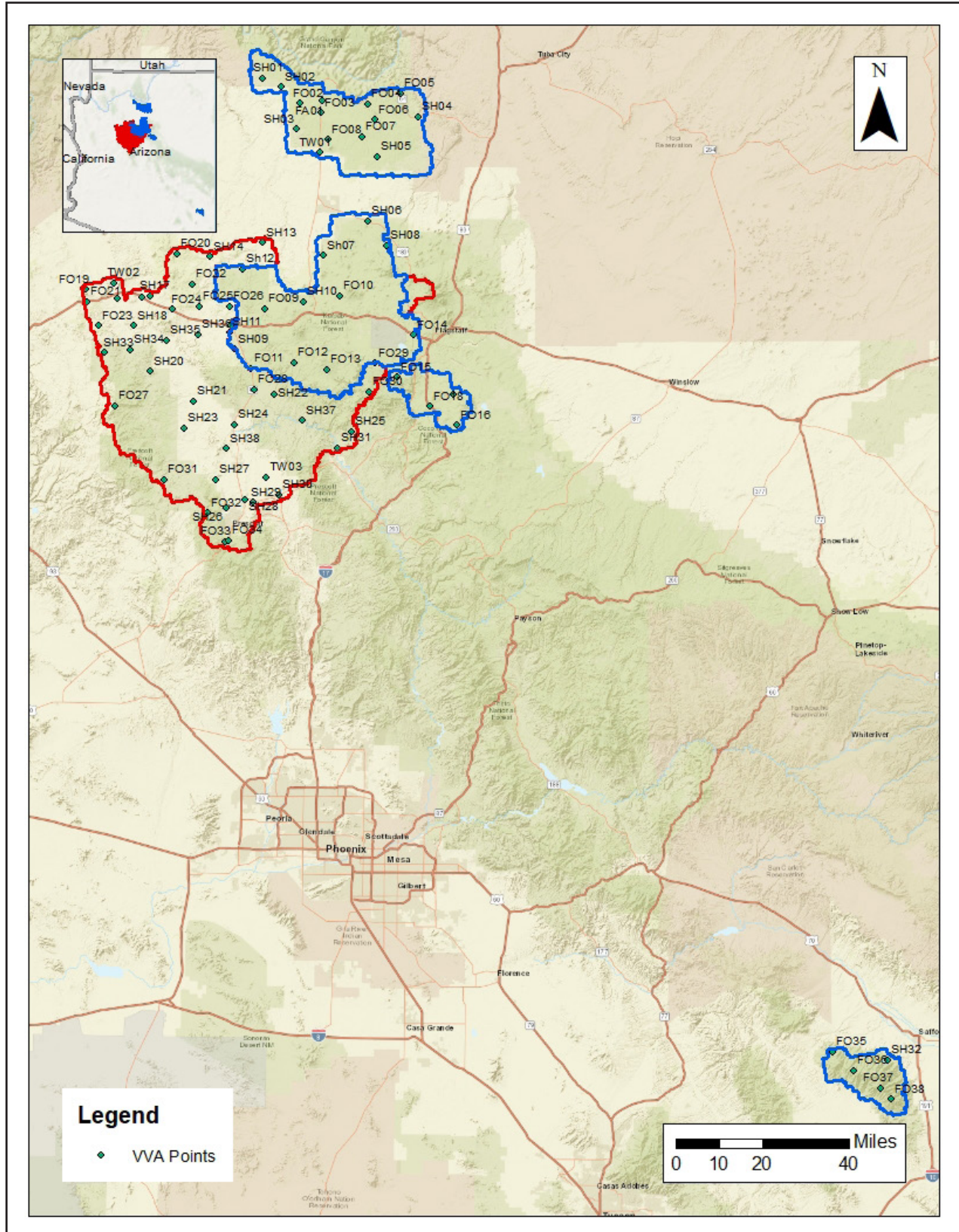


Figure 12. QC Checkpoint Locations - VVA



Project Report Appendices

The following section contains the appendices as listed in the Kaibab 2018 LiDAR Project Report.

Appendix A

Survey Report

Ground Control Survey Report



Pinaleno-Coconino-Kaibab LiDAR Control

AZ Verde Kaibab 2018 B18

USGS Task Order: 140G0218f0358

Contractor: Woolpert, Inc.
Woolpert Project # 78939

September 2018

Ground Control Survey Report

Prepared for Quantum

Pinaleno-Coconino-Kaibab LiDAR Ground Control

Woolpert

4454 Idea Center Boulevard
Dayton, OH 45430-1500
Tel 937.461.5660

Table of Contents

Section 1: Survey Report.....	1-1
Section 2: Ground Control /Geodetic Control Coordinate Listings	2-1
Section 3: Ground Control/Geodetic Logs and Photos	3-1
Section 4: Geodetic Control Information and Resources.....	4-1
Section 5: GPS Control Diagram	5-1

Section 1: Survey Report

Introduction

This report contains a comprehensive outline of the Ground Control Survey that supported the LiDAR acquisition of the AOI's. All surveys were performed in such a way as to achieve ground control accuracies that meet or exceed the National Mapping Accuracy Standards.

Project Area

The project area consists of approximately 4200 square miles encompassing Pinaleno Mountains, Kaibab National Forest, and the Coconino National Forest.

Purpose

The purpose of this survey was to establish three-dimensional coordinates for 111 LiDAR calibration points, 109 NVA LiDAR check points, and 82 VVA check points. The points were collected per the flight layout and were uniformly dispersed over the project area.

Date of Survey

Ground control field operations took place between August 21st and September 11th, 2018.

Monumentation

Prior to aerial imagery acquisition, Woolpert field crews performed a field reconnaissance to verify the existence and suitability of pre-selected existing National Geodetic Survey (NGS) control stations. These existing NSRS control stations were utilized as checks to ensure that quality x, y, and z coordinate values were computed for each of the newly established photogrammetric control stations. Recovery information sheets for the existing NGS control stations can be found in Section 4 of this report. A control diagram showing the ground control stations used to support this mapping project can be found in Section 5 of this report.

Accuracy Standards

The relative vertical accuracy of the LiDAR data will be 10 cm RMSEz with swath overlap (between adjacent swaths) and an absolute vertical accuracy of 15cm RMSE.

GPS Equipment

Woolpert utilized 2 Trimble Navigation R10 Model GNSS dual-frequency GPS receivers, 4 Trimble Navigation R8 Model 3 GNSS dual frequency GPS receivers and 4 TSC3 data collectors for this project.

Methodology

Static GPS

The field crew utilized Static GPS surveying throughout the ground control data collection process. Using Static GPS techniques, observations were performed on a total of 10 ground control points. The survey was conducted using a 1-second epoch rate, in a fixed solution, with each observation lasting at least 20 minutes. Each station was occupied twice to insure the necessary horizontal and vertical accuracies were being met for this project.

Real-Time Kinematic (RTK) GPS

The field crew utilized Real-Time Kinematic (RTK) GPS surveying throughout the ground control data collection process. The survey was conducted using a 1-second epoch rate, in a fixed solution RTK mode, with each observation lasting between 60 to 180 seconds. Each station was occupied twice to insure the necessary horizontal and vertical accuracies were being met for this LiDAR / photogrammetric project.

GPS Data Analysis and Processing

The field crew chief processed all session baselines each day using Trimble Navigation's Trimble Business Center (TBC) Version 4.00 baseline processor with the accompanying broadcast ephemeris. Daily processing ensured the integrity of the network as it was constructed, and allowed the field crews to immediately reschedule observations of poor baselines.

Datum Reference and Final Coordinates

The spatial reference system for the AOI is UTM 12N. The datum is NAD83(2011) 2010.00 epoch horizontal. Orthometric heights were derived using Geoid 12B. Units for both the horizontal and vertical datums will be expressed in meters to three (3) decimal places.

Quality Assurance

Existing NGS published bench marks were surveyed to assure that there were no discrepancies in the field observation data. Close examinations of the residuals showed no distortions in orientation or scale. The ground control data meets positional accuracies necessary to support 2 points per 1.0 meters squared (0.7m GSD) data at 95% confidence level as outlined in the Geospatial Positioning Accuracy Standards, Part 3: National Standard for Spatial Data Accuracy (NSSDA), published by the Federal Geographic Data Committee (FGDC-STD-007.3-1998).

Section 2: Ground Control / Geodetic Control Coordinate Listings

Coordinate System: Grid

HORIZONTAL DATUM: NAD83 2011 (2010.00)

PROJECTION: UTM12 North

VERTICAL DATUM: NAVD88

GEOID MODEL: GEOID12B

UNITS: Meters

Ground Control & Check Points

Point Number	NAD83 2011 (2010.00)		Ortho Height	Description
	Northing	Easting		
BE01	3998986.125	374389.961	1908.396	NVA
BE02	3987094.404	383127.977	1890.387	NVA
BE03	3981082.403	390154.617	1960.467	NVA
BE04	3980808.906	415534.564	2167.505	NVA
BE05	3984832.589	427669.814	2097.479	NVA
BE06	3972358.471	397914.515	1975.042	NVA
BE07	3968641.846	413273.801	2095.353	NVA
BE08	3966490.095	428779.903	2074.599	NVA
BE09	3957179.481	411174.709	1950.844	NVA
BE10	3937237.576	415472.520	1997.260	NVA
BE11	3919284.831	368958.625	1760.850	NVA
BE12	3904397.221	377222.483	1891.837	NVA
BE13	3909289.884	404985.262	2160.266	NVA
BE14	3911620.361	417111.606	2269.802	NVA
BE15	3913982.669	428182.082	2442.028	NVA
BE16	3889471.611	365829.266	1593.201	NVA
BE18	3896560.902	403258.505	2084.542	NVA
BE19	3905924.816	430465.297	2359.958	NVA
BE20	3884580.031	388011.598	1904.141	NVA
BE21	3881834.944	400249.137	2078.873	NVA
BE22	3888585.045	412618.745	2045.125	NVA
BE23	3885119.292	425998.025	2184.286	NVA
BE24	3879024.747	426663.350	2188.904	NVA

Point Number	NAD83 2011 (2010.00)		Ortho Height	Description
	Northing	Easting		
BE25	3869427.827	431333.085	1564.270	NVA
BE26	3872720.368	447406.352	2198.549	NVA
BE27	3861110.623	448521.637	2102.333	NVA
BE28	3929068.916	378887.639	1842.212	NVA
BE28A	3923251.645	380419.873	1863.717	NVA
BE29	3925049.758	344298.048	1900.636	NVA
BE30	3911725.170	310640.723	1787.423	NVA
BE31	3908455.426	322292.805	1579.269	NVA
BE32	3913805.119	350090.941	1760.843	NVA
BE33	3898162.871	315128.409	1821.150	NVA
BE34	3905266.681	352965.065	1575.990	NVA
BE35	3905323.230	364239.743	1641.203	NVA
BE36	3888168.324	317463.498	1776.222	NVA
BE37	3889346.134	327189.497	1616.930	NVA
BE38	3894859.046	352179.687	1538.671	NVA
BE39	3879973.718	321331.752	1826.541	NVA
BE40	3880731.992	334230.828	1642.106	NVA
BE41A	3889305.405	353180.558	1548.675	NVA
BE42	3868233.343	321550.667	1814.808	NVA
BE43	3869941.374	350740.235	1400.091	NVA
BE44	3872414.957	380630.720	1379.737	NVA
BE45	3884211.889	417940.507	2147.127	NVA
BE46	3873630.924	415930.520	2072.741	NVA
BE47	3861877.779	323103.979	1923.928	NVA
BE48	3860008.613	347142.284	1422.008	NVA
BE49A	3862483.546	390208.219	1165.163	NVA
BE50	3852158.085	324412.730	1798.850	NVA
BE51	3853856.840	339195.029	1463.934	NVA
BE52	3854014.275	366957.396	1362.129	NVA
BE53	3854932.449	384766.419	1456.613	NVA
BE54	3852794.688	404318.079	1079.680	NVA
BE55	3840791.407	339824.661	1622.901	NVA
BE56	3841669.225	377541.136	1477.836	NVA
BE57	3842717.769	394139.756	2054.358	NVA
BE58	3852025.596	353675.564	1421.648	NVA
BE59	3828469.779	355668.211	1841.059	NVA
BE60	3832743.801	373770.104	1564.784	NVA
BE61	3818146.104	363580.634	1756.302	NVA

Point Number	NAD83 2011 (2010.00)		Ortho Height	Description
	Northing	Easting		
BE62	3627546.743	588497.921	1540.898	NVA
BE63	3624741.548	609101.066	1518.533	NVA
BE64	3622378.285	589933.773	2615.524	NVA
BE65	3620711.182	596521.762	2696.518	NVA
BE66	3614200.620	606334.349	2796.735	NVA
BE67	3614827.920	612812.825	1600.428	NVA
BE68	3858622.640	409504.119	1338.211	NVA
BE69A	3894746.803	348450.406	1561.917	NVA
BE70	3898169.867	328348.701	1548.446	NVA
BE71	3923957.955	356777.991	1771.050	NVA
BE72	3909353.507	334416.296	1643.901	NVA
BE73	3907227.538	310989.369	1762.108	NVA
CA001	3998957.710	374348.906	1907.493	LiDAR Control
CA002	3990428.996	376326.264	1842.699	LiDAR Control
CA003	3991420.993	380983.943	1900.642	LiDAR Control
CA004	3987099.184	383094.682	1890.915	LiDAR Control
CA005	3986779.414	387966.012	1912.849	LiDAR Control
CA006	3980970.266	390101.221	1958.566	LiDAR Control
CA007	3977594.379	398001.995	2018.865	LiDAR Control
CA008	3982015.173	398457.181	2022.819	LiDAR Control
CA009	3975741.975	407786.804	2110.598	LiDAR Control
CA010	3980835.209	415492.344	2165.192	LiDAR Control
CA011	3984812.221	427686.594	2097.061	LiDAR Control
CA012	3974895.272	418172.302	2244.784	LiDAR Control
CA013	3976100.531	434392.129	1920.033	LiDAR Control
CA014	3971525.564	389033.619	1841.375	LiDAR Control
CA015	3962756.676	397824.643	1876.665	LiDAR Control
CA016	3972356.577	397928.165	1975.855	LiDAR Control
CA017	3967497.109	400902.429	1935.109	LiDAR Control
CA018	3968599.963	413262.595	2094.855	LiDAR Control
CA019	3966512.678	428765.152	2075.133	LiDAR Control
CA020	3960648.693	405816.647	1894.808	LiDAR Control
CA021	3961280.201	418983.732	1997.652	LiDAR Control
CA022	3957207.847	411151.425	1950.910	LiDAR Control
CA023	3957405.597	428564.042	1982.276	LiDAR Control
CA024	3962276.971	437349.144	1985.859	LiDAR Control
CA025	3911727.424	310639.787	1787.390	LiDAR Control
CA026	3914186.878	321071.941	1610.909	LiDAR Control

Point Number	NAD83 2011 (2010.00)		Ortho Height	Description
	Northing	Easting		
CA027	3923960.036	356780.421	1771.102	LiDAR Control
CA028	3929068.838	378886.145	1842.270	LiDAR Control
CA028A	3923253.693	380422.771	1863.836	LiDAR Control
CA029	3937239.242	415470.737	1997.259	LiDAR Control
CA030	3907223.387	310991.393	1762.117	LiDAR Control
CA031	3908457.291	322286.750	1579.174	LiDAR Control
CA032	3909355.768	334413.980	1643.892	LiDAR Control
CA033	3913807.594	350095.986	1760.912	LiDAR Control
CA034	3912844.462	359028.951	1625.841	LiDAR Control
CA035	3919284.589	368955.020	1760.951	LiDAR Control
CA036	3924269.576	399026.238	1968.323	LiDAR Control
CA037	3926839.715	411356.865	2095.614	LiDAR Control
CA038	3928079.876	422405.760	2160.730	LiDAR Control
CA039	3898161.072	315128.527	1821.044	LiDAR Control
CA040	3898175.710	328352.288	1548.547	LiDAR Control
CA041	3904285.383	342621.983	1775.861	LiDAR Control
CA042	3905263.002	352963.862	1575.972	LiDAR Control
CA043	3905330.101	364241.758	1640.926	LiDAR Control
CA044	3912299.111	376520.521	1826.526	LiDAR Control
CA045	3904401.021	377227.115	1891.697	LiDAR Control
CA046	3907065.054	391571.811	2031.117	LiDAR Control
CA047	3909280.587	404983.274	2160.287	LiDAR Control
CA048	3911619.529	417116.242	2269.912	LiDAR Control
CA049	3913984.917	428179.143	2442.085	LiDAR Control
CA050	3909799.637	435303.950	2832.518	LiDAR Control
CA051	3888183.357	317471.556	1776.284	LiDAR Control
CA052	3889340.532	327189.343	1617.236	LiDAR Control
CA053A	3894745.970	348453.557	1561.930	LiDAR Control
CA054	3894853.879	352191.813	1538.564	LiDAR Control
CA055	3895649.163	364090.777	1562.081	LiDAR Control
CA056	3896269.547	373493.651	1687.647	LiDAR Control
CA057	3895832.938	390193.473	2758.265	LiDAR Control
CA058	3896563.365	403256.624	2084.566	LiDAR Control
CA059	3900784.877	420006.752	2203.885	LiDAR Control
CA060	3905921.814	430466.392	2359.878	LiDAR Control
CA061	3889469.472	365827.118	1593.176	LiDAR Control
CA062	3891686.661	383224.162	1989.650	LiDAR Control
CA063	3889723.032	396310.821	2175.191	LiDAR Control

Point Number	NAD83 2011 (2010.00)		Ortho Height	Description
	Northing	Easting		
CA064	3888590.296	412615.011	2045.149	LiDAR Control
CA065	3894695.204	432697.048	2219.733	LiDAR Control
CA066	3882397.337	372105.618	1546.568	LiDAR Control
CA067	3884583.600	388011.116	1904.312	LiDAR Control
CA068	3876948.950	388213.765	1744.713	LiDAR Control
CA069	3881834.072	400252.320	2078.977	LiDAR Control
CA070	3885122.562	425998.738	2184.250	LiDAR Control
CA071	3879019.824	426666.752	2188.761	LiDAR Control
CA072	3879014.223	437805.795	2064.848	LiDAR Control
CA073	3869421.769	431331.444	1564.142	LiDAR Control
CA074	3872718.076	447408.244	2198.583	LiDAR Control
CA075	3861111.030	448519.456	2102.244	LiDAR Control
CA076	3925052.096	344297.627	1900.611	LiDAR Control
CA077	3879966.969	321352.213	1826.454	LiDAR Control
CA078	3880728.223	334223.727	1642.152	LiDAR Control
CA079A	3889307.757	353183.946	1548.715	LiDAR Control
CA080	3884212.907	417937.596	2147.115	LiDAR Control
CA081	3868232.480	321556.074	1814.561	LiDAR Control
CA082	3869939.101	350741.899	1399.970	LiDAR Control
CA082A	3870577.984	356415.264	1370.404	LiDAR Control
CA083	3872418.727	380622.606	1379.865	LiDAR Control
CA084	3873630.811	415929.513	2072.836	LiDAR Control
CA085	3861877.917	323102.308	1923.929	LiDAR Control
CA086	3860013.304	347140.508	1422.025	LiDAR Control
CA087	3861404.952	365882.642	1343.855	LiDAR Control
CA088A	3862479.606	390204.644	1165.148	LiDAR Control
CA089	3858622.476	409506.817	1338.150	LiDAR Control
CA090	3852158.680	324414.872	1798.861	LiDAR Control
CA091	3853856.088	339195.770	1463.934	LiDAR Control
CA092	3852010.926	353682.551	1421.624	LiDAR Control
CA093	3853998.257	366953.062	1362.864	LiDAR Control
CA094	3854934.192	384764.446	1456.605	LiDAR Control
CA095	3852794.477	404319.531	1079.681	LiDAR Control
CA096	3840793.139	339823.426	1623.019	LiDAR Control
CA097	3840918.067	358839.071	1545.677	LiDAR Control
CA098	3841663.875	377536.601	1477.930	LiDAR Control
CA099	3842713.229	394138.105	2054.661	LiDAR Control
CA100	3828472.427	355664.809	1840.978	LiDAR Control

Point Number	NAD83 2011 (2010.00)		Ortho Height	Description
	Northing	Easting		
CA101	3832744.849	373776.175	1564.708	LiDAR Control
CA102	3818137.152	363561.870	1756.659	LiDAR Control
CA103	3627547.590	588481.339	1541.727	LiDAR Control
CA104	3620672.046	596548.187	2697.413	LiDAR Control
CA105	3622364.730	589932.680	2613.783	LiDAR Control
CA106	3624616.178	609363.790	1475.348	LiDAR Control
CA107	3614847.808	612847.347	1601.792	LiDAR Control
CA108	3610051.433	610362.202	2590.054	LiDAR Control
CA109	3614115.922	606424.740	2794.534	LiDAR Control
EB17	3891684.671	383219.694	1989.510	NVA
FA01	3981902.015	398467.621	2016.527	VVA
FO02	3981003.294	390167.727	1960.274	VVA
FO03	3977525.381	398042.557	2018.170	VVA
FO04	3980866.575	415505.452	2163.572	VVA
FO05	3984976.841	427574.169	2101.435	VVA
FO06	3974930.688	418191.045	2245.374	VVA
FO07	3968637.557	413283.872	2096.008	VVA
FO08	3967502.691	400865.521	1937.717	VVA
FO09	3904423.782	377227.052	1889.526	VVA
FO10	3909246.444	404984.373	2160.745	VVA
FO11	3882415.743	372137.144	1546.735	VVA
FO12	3884577.292	388035.910	1902.546	VVA
FO13	3881856.860	400242.027	2080.124	VVA
FO14	3894742.802	432668.456	2214.880	VVA
FO15	3878970.062	426648.261	2189.494	VVA
FO16	3861088.490	448526.010	2102.815	VVA
FO17	3872648.278	447405.343	2198.590	VVA
FO18	3868158.879	438886.791	1989.403	VVA
FO19	3911713.930	310677.038	1789.040	VVA
FO20	3925062.646	344311.610	1901.002	VVA
FO21	3907245.111	311004.189	1762.248	VVA
FO22	3913788.492	350094.148	1760.672	VVA
FO23	3898157.536	315109.181	1821.320	VVA
FO24	3904272.377	342612.800	1776.085	VVA
FO25	3905257.013	352947.590	1576.294	VVA
FO26	3905344.348	364253.240	1640.435	VVA
FO27	3868255.306	321544.118	1817.603	VVA
FO28	3874326.756	373170.901	1443.218	VVA

Point Number	NAD83 2011 (2010.00)		Ortho Height	Description
	Northing	Easting		
FO29	3884230.251	417964.400	2148.086	VVA
FO30	3873610.785	415952.168	2071.403	VVA
FO31	3840782.137	339820.546	1622.952	VVA
FO32	3828485.032	355675.009	1843.659	VVA
FO33	3817464.747	362219.920	1832.185	VVA
FO34	3818200.134	363608.995	1758.420	VVA
FO35	3627576.762	588497.898	1538.955	VVA
FO36	3620631.683	596589.501	2695.879	VVA
FO37	3614058.529	606462.804	2798.176	VVA
FO38	3610031.847	610319.130	2597.600	VVA
SH01	3990468.222	376365.037	1845.652	VVA
SH02	3987120.373	383103.990	1891.202	VVA
SH03	3971452.609	389060.731	1845.355	VVA
SH04	3976123.685	434375.500	1918.057	VVA
SH05	3961303.835	418958.787	1998.307	VVA
SH06	3937248.596	415495.363	1996.511	VVA
SH07	3924300.192	399049.753	1968.592	VVA
SH08	3928094.017	422396.286	2160.880	VVA
SH09	3889461.012	365849.178	1593.266	VVA
SH10	3907073.225	391637.176	2030.079	VVA
SH11	3895651.585	364080.816	1561.938	VVA
SH12	3919290.970	368944.542	1760.651	VVA
SH13	3929049.260	378887.343	1843.526	VVA
SH13A	3923245.074	380423.579	1863.322	VVA
SH14	3923938.545	356780.697	1771.801	VVA
SH15	3908447.380	322291.094	1579.379	VVA
SH16	3908980.937	331226.946	1596.335	VVA
SH17	3909353.830	334398.858	1643.567	VVA
SH18	3898181.740	328334.287	1546.966	VVA
SH19	3898556.814	364645.496	1582.518	VVA
SH20	3880738.868	334221.318	1642.898	VVA
SH21	3869932.689	350751.175	1399.786	VVA
SH22	3872415.218	380598.178	1380.285	VVA
SH23	3860045.819	347116.336	1422.426	VVA
SH24	3861446.633	365884.536	1343.775	VVA
SH25	3858645.036	409499.539	1338.774	VVA
SH26	3830051.539	362855.984	1672.746	VVA
SH27	3840940.501	358845.240	1545.618	VVA

Point Number	NAD83 2011 (2010.00)		Ortho Height	Description
	Northing	Easting		
SH28	3833607.095	369629.135	1523.400	VVA
SH29	3832751.151	373789.074	1564.527	VVA
SH30	3835236.851	382358.084	1536.179	VVA
SH31	3852784.527	404306.321	1079.028	VVA
SH32	3624726.083	609091.530	1519.905	NVA
SH33	3888168.099	317483.199	1776.367	VVA
SH34A	3889356.077	327202.339	1615.372	VVA
SH35A	3894751.888	348456.695	1561.901	VVA
SH36	3894845.392	352197.085	1538.542	VVA
SH37A	3862468.911	390236.353	1164.881	VVA
SH38	3852493.890	362695.607	1435.701	VVA
TW01	3962778.563	397834.499	1876.670	VVA
TW02	3914182.459	321094.915	1611.849	VVA
TW03	3841679.054	377540.620	1477.914	VVA
UA01	3981974.086	398424.267	2021.796	NVA
UA02	3977545.410	398140.861	2019.917	NVA
UA03	3976079.854	434372.773	1919.349	NVA
UA04	3962751.855	397868.570	1877.533	NVA
UA04A	3962732.724	397831.003	1876.405	NVA
UA05	3969141.512	397657.632	1947.054	NVA
UA06	3934638.599	421426.641	2038.769	NVA
UA07	3901548.876	391781.031	2061.978	NVA
UA08	3900784.984	420010.183	2203.891	NVA
UA09	3898445.396	382250.204	1977.187	NVA
UA10	3874252.720	432725.430	1679.697	NVA
UA11	3879015.000	437806.171	2064.865	NVA
UA12	3868138.825	438855.352	1991.965	NVA
UA13	3914189.324	321071.196	1610.857	NVA
UA14	3907584.836	315420.924	1668.022	NVA
UA15	3908957.462	331247.524	1597.014	NVA
UA16	3904289.573	342621.098	1775.795	NVA
UA17	3898544.539	364633.814	1581.957	NVA
UA18	3874329.651	373210.934	1442.866	NVA
UA19	3861406.648	365880.443	1343.765	NVA
UA20	3852334.804	351214.662	1396.210	NVA
UA21	3853660.486	355185.449	1507.789	NVA
UA22	3852465.216	362708.389	1435.102	NVA
UA23	3842554.200	366873.045	1474.667	NVA

Point Number	NAD83 2011 (2010.00)		Ortho Height	Description
	Northing	Easting		
UA24	3830157.401	362854.308	1673.699	NVA
UA25	3833582.907	369646.079	1523.422	NVA
UA26	3824993.554	355928.610	1977.337	NVA
UA26A	3824978.089	355933.964	1976.140	NVA
UA27	3823702.541	365240.373	1621.215	NVA
UA28	3817676.955	362221.742	1832.522	NVA
UA28A	3817501.217	362210.285	1834.868	NVA
UA29	3615561.437	613877.858	1482.102	NVA
UA30	3610070.796	610375.756	2591.021	NVA
UA31	3899546.920	355782.634	1541.122	NVA
UA32	3882152.370	372150.787	1545.678	NVA
UA33	3835266.718	382374.102	1537.175	NVA

Geodetic Control

Point Number	NAD83 2011 (2010.00)		Ortho Height	Description
	Northing	Easting		
6243 CANYON	3992867.793	379274.322	1902.119	DO5607
DOBY	3943462.448	396501.989	1824.765	DN3662
GCN E1	3980584.477	397799.814	2018.791	AE3162
HIRSCH	3918179.850	431368.909	2404.625	DN3666
J 62	3978965.943	430092.025	1949.814	FQ0365
JOE	3846193.572	398874.117	1472.260	DH5789
LONG JIM	3981193.567	397917.138	2015.810	DN3667
PIONEER PARK	3830329.306	363794.288	1676.772	AJ5638
Q 488	3911915.793	324780.833	1612.101	FR0753
R 18	3843349.876	410216.932	1026.381	ES0478
S 430	3622009.540	620405.202	987.141	CY0709
SWIFT	3622098.476	620481.678	985.431	CY0710
V 488	3902120.722	351236.273	1597.410	FR0757

Coordinate System: Geodetic

HORIZONTAL DATUM: NAD83 2011 (2010.00)

VERTICAL DATUM: NAVD88

UNITS: METERS

Ground Control & Check Points

Point Number	NAD83 2011 (2010.00)		Ellipsoid Height	Description
	Latitude	Longitude		
BE01	36°07'38.79457"	-112°23'45.23204"	1885.277	NVA
BE02	36°01'16.85615"	-112°17'49.39599"	1867.358	NVA
BE03	35°58'04.71112"	-112°13'05.71767"	1937.498	NVA
BE04	35°58'04.93416"	-111°56'12.42590"	2144.514	NVA
BE05	36°00'19.03049"	-111°48'09.27398"	2074.367	NVA
BE06	35°53'24.64116"	-112°07'51.91549"	1952.028	NVA
BE07	35°51'29.35900"	-111°57'37.90268"	2072.445	NVA
BE08	35°50'24.02426"	-111°47'19.01801"	2051.560	NVA
BE09	35°45'16.68620"	-111°58'57.00085"	1927.758	NVA
BE10	35°34'30.83781"	-111°55'58.34597"	1974.169	NVA
BE11	35°24'30.04150"	-112°26'35.51931"	1736.492	NVA
BE12	35°16'30.70142"	-112°20'59.91406"	1867.492	NVA
BE13	35°19'20.37272"	-112°02'43.20575"	2136.904	NVA
BE14	35°20'39.89990"	-111°54'43.83119"	2246.691	NVA
BE15	35°21'59.66375"	-111°47'26.03386"	2419.228	NVA
BE16	35°08'21.08669"	-112°28'22.01077"	1568.080	NVA
BE18	35°12'26.64735"	-112°03'46.18700"	2060.879	NVA
BE19	35°17'38.70352"	-111°45'53.09619"	2337.129	NVA
BE20	35°05'52.10460"	-112°13'43.24646"	1879.820	NVA
BE21	35°04'27.63940"	-112°05'38.78907"	2054.794	NVA
BE22	35°08'10.86482"	-111°57'32.99049"	2021.548	NVA
BE23	35°06'22.23448"	-111°48'43.22471"	2160.996	NVA
BE24	35°03'04.58591"	-111°48'15.00351"	2165.439	NVA
BE25	34°57'54.25349"	-111°45'07.82466"	1540.496	NVA
BE26	34°59'44.59959"	-111°34'34.76981"	2175.226	NVA
BE27	34°53'27.93631"	-111°33'48.19538"	2078.905	NVA
BE28	35°29'52.07518"	-112°20'07.19746"	1818.283	NVA
BE28A	35°26'43.96394"	-112°19'03.31329"	1839.766	NVA

Point Number	NAD83 2011 (2010.00)		Ellipsoid Height	Description
	Latitude	Longitude		
BE29	35°27'24.31027"	-112°42'56.86777"	1875.927	NVA
BE30	35°19'51.04838"	-113°05'00.24129"	1761.772	NVA
BE31	35°18'12.67860"	-112°57'16.41308"	1553.722	NVA
BE32	35°21'22.65983"	-112°38'59.70226"	1735.911	NVA
BE33	35°12'34.10218"	-113°01'51.59762"	1795.304	NVA
BE34	35°16'47.14320"	-112°37'00.34604"	1550.863	NVA
BE35	35°16'54.71388"	-112°29'34.21463"	1616.375	NVA
BE36	35°07'11.39835"	-113°00'11.33831"	1750.254	NVA
BE37	35°07'55.79160"	-112°53'48.17897"	1591.047	NVA
BE38	35°11'09.01497"	-112°37'24.68987"	1513.291	NVA
BE39	35°02'48.03675"	-112°57'32.23723"	1800.504	NVA
BE40	35°03'20.56324"	-112°49'03.87793"	1616.139	NVA
BE41A	35°08'09.33328"	-112°36'41.57382"	1523.210	NVA
BE42	34°56'27.27300"	-112°57'14.53850"	1788.552	NVA
BE43	34°57'39.69219"	-112°38'05.43173"	1373.954	NVA
BE44	34°59'14.24711"	-112°18'28.40884"	1354.545	NVA
BE45	35°05'50.53399"	-111°54'01.15555"	2123.607	NVA
BE46	35°00'06.49706"	-111°55'16.67711"	2048.793	NVA
BE47	34°53'02.04934"	-112°56'08.49382"	1897.560	NVA
BE48	34°52'15.44809"	-112°40'20.70592"	1395.660	NVA
BE49A	34°53'55.82003"	-112°12'06.00489"	1139.925	NVA
BE50	34°47'47.50814"	-112°55'09.63702"	1772.238	NVA
BE51	34°48'51.41684"	-112°45'29.35464"	1437.438	NVA
BE52	34°49'10.95178"	-112°27'17.05006"	1336.145	NVA
BE53	34°49'48.57227"	-112°15'36.63669"	1431.126	NVA
BE54	34°48'46.48084"	-112°02'46.15425"	1054.326	NVA
BE55	34°41'47.81512"	-112°44'55.63511"	1596.157	NVA
BE56	34°42'35.07386"	-112°20'14.07301"	1451.890	NVA
BE57	34°43'15.78295"	-112°09'22.15256"	2029.036	NVA
BE58	34°47'59.85490"	-112°35'58.45241"	1395.315	NVA
BE59	34°35'16.44244"	-112°34'25.56810"	1814.532	NVA
BE60	34°37'43.74606"	-112°22'37.48479"	1538.556	NVA
BE61	34°29'45.29028"	-112°29'09.11217"	1729.757	NVA
BE62	32°46'56.22910"	-110°03'17.91874"	1514.485	NVA
BE63	32°45'18.48039"	-109°50'07.19686"	1492.109	NVA
BE64	32°44'07.98930"	-110°02'24.52872"	2589.375	NVA
BE65	32°43'11.85025"	-109°58'12.05900"	2670.535	NVA
BE66	32°39'37.20793"	-109°51'57.83677"	2770.847	NVA

Point Number	NAD83 2011 (2010.00)		Ellipsoid Height	Description
	Latitude	Longitude		
BE67	32°39'55.25979"	-109°47'48.90187"	1574.276	NVA
BE68	34°51'57.35643"	-111°59'24.31783"	1313.222	NVA
BE69A	35°11'03.37160"	-112°39'52.01351"	1536.435	NVA
BE70	35°12'42.78533"	-112°53'09.00747"	1522.689	NVA
BE71	35°26'55.63801"	-112°34'41.25778"	1746.556	NVA
BE72	35°18'49.30936"	-112°49'17.25429"	1618.544	NVA
BE73	35°17'25.38431"	-113°04'42.70516"	1736.350	NVA
CA001	36°07'37.85344"	-112°23'46.85774"	1884.374	LiDAR Control
CA002	36°03'02.03230"	-112°22'22.95519"	1819.592	LiDAR Control
CA003	36°03'36.31274"	-112°19'17.38205"	1877.604	LiDAR Control
CA004	36°01'16.99687"	-112°17'50.72849"	1867.886	LiDAR Control
CA005	36°01'08.68198"	-112°14'35.98287"	1889.857	LiDAR Control
CA006	35°58'01.05062"	-112°13'07.79318"	1935.596	LiDAR Control
CA007	35°56'14.58723"	-112°07'50.84435"	1995.941	LiDAR Control
CA008	35°58'38.21866"	-112°07'34.71708"	1999.887	LiDAR Control
CA009	35°55'17.97404"	-112°01'19.60755"	2087.708	LiDAR Control
CA010	35°58'05.77462"	-111°56'14.12148"	2142.201	LiDAR Control
CA011	36°00'18.37395"	-111°48'08.59706"	2073.949	LiDAR Control
CA012	35°54'53.82451"	-111°54'24.92814"	2221.895	LiDAR Control
CA013	35°55'37.34508"	-111°43'38.16718"	1896.870	LiDAR Control
CA014	35°52'54.13212"	-112°13'45.66244"	1818.222	LiDAR Control
CA015	35°48'13.01108"	-112°07'51.07300"	1853.484	LiDAR Control
CA016	35°53'24.58481"	-112°07'51.37022"	1952.841	LiDAR Control
CA017	35°50'47.98545"	-112°05'50.57956"	1912.041	LiDAR Control
CA018	35°51'27.99618"	-111°57'38.33302"	2071.946	LiDAR Control
CA019	35°50'24.75332"	-111°47'19.61324"	2052.094	LiDAR Control
CA020	35°47'07.47840"	-112°02'31.79551"	1871.708	LiDAR Control
CA021	35°47'32.20158"	-111°53'47.57689"	1974.637	LiDAR Control
CA022	35°45'17.59920"	-111°58'57.93922"	1927.824	LiDAR Control
CA023	35°45'29.12679"	-111°47'24.70072"	1959.192	LiDAR Control
CA024	35°48'09.38989"	-111°41'36.26025"	1962.681	LiDAR Control
CA025	35°19'51.12085"	-113°05'00.28022"	1761.739	LiDAR Control
CA026	35°21'17.83343"	-112°58'09.23838"	1585.511	LiDAR Control
CA027	35°26'55.70679"	-112°34'41.16274"	1746.609	LiDAR Control
CA028	35°29'52.07197"	-112°20'07.25668"	1818.341	LiDAR Control
CA028A	35°26'44.03165"	-112°19'03.19946"	1839.885	LiDAR Control
CA029	35°34'30.89134"	-111°55'58.41742"	1974.168	LiDAR Control
CA030	35°17'25.25103"	-113°04'42.62165"	1736.359	LiDAR Control

Point Number	NAD83 2011 (2010.00)		Ellipsoid Height	Description
	Latitude	Longitude		
CA031	35°18'12.73522"	-112°57'16.65419"	1553.627	LiDAR Control
CA032	35°18'49.38132"	-112°49'17.34763"	1618.535	LiDAR Control
CA033	35°21'22.74286"	-112°38'59.50408"	1735.980	LiDAR Control
CA034	35°20'56.17753"	-112°33'05.08327"	1601.053	LiDAR Control
CA035	35°24'30.03196"	-112°26'35.66209"	1736.593	LiDAR Control
CA036	35°27'24.42787"	-112°06'45.85627"	1944.828	LiDAR Control
CA037	35°28'52.07690"	-111°58'37.74953"	2072.433	LiDAR Control
CA038	35°29'35.65718"	-111°51'19.75409"	2137.815	LiDAR Control
CA039	35°12'34.04390"	-113°01'51.59151"	1795.198	LiDAR Control
CA040	35°12'42.97712"	-112°53'08.87003"	1522.790	LiDAR Control
CA041	35°16'09.64010"	-112°43'48.93642"	1750.539	LiDAR Control
CA042	35°16'47.02319"	-112°37'00.39127"	1550.844	LiDAR Control
CA043	35°16'54.93781"	-112°29'34.13898"	1616.098	LiDAR Control
CA044	35°20'46.82247"	-112°21'31.98050"	1802.301	LiDAR Control
CA045	35°16'30.82680"	-112°20'59.73280"	1867.352	LiDAR Control
CA046	35°18'03.25120"	-112°11'33.30984"	2007.357	LiDAR Control
CA047	35°19'20.07031"	-112°02'43.28057"	2136.926	LiDAR Control
CA048	35°20'39.87429"	-111°54'43.64723"	2246.800	LiDAR Control
CA049	35°21'59.73594"	-111°47'26.15104"	2419.285	LiDAR Control
CA050	35°19'45.64391"	-111°42'42.63421"	2809.849	LiDAR Control
CA051	35°07'11.89131"	-113°00'11.03209"	1750.317	LiDAR Control
CA052	35°07'55.60978"	-112°53'48.18082"	1591.353	LiDAR Control
CA053A	35°11'03.34628"	-112°39'51.88841"	1536.447	LiDAR Control
CA054	35°11'08.85375"	-112°37'24.20725"	1513.185	LiDAR Control
CA055	35°11'40.71323"	-112°29'34.35303"	1537.042	LiDAR Control
CA056	35°12'05.27090"	-112°23'22.97257"	1662.958	LiDAR Control
CA057	35°11'58.18003"	-112°12'22.47196"	2734.363	LiDAR Control
CA058	35°12'26.72662"	-112°03'46.26246"	2060.903	LiDAR Control
CA059	35°14'49.05905"	-111°52'45.33878"	2180.761	LiDAR Control
CA060	35°17'38.60636"	-111°45'53.05193"	2337.049	LiDAR Control
CA061	35°08'21.01624"	-112°28'22.09436"	1568.055	LiDAR Control
CA062	35°09'40.78581"	-112°16'55.91069"	1965.338	LiDAR Control
CA063	35°08'42.22298"	-112°08'17.83051"	2151.261	LiDAR Control
CA064	35°08'11.03408"	-111°57'33.14002"	2021.573	LiDAR Control
CA065	35°11'34.75383"	-111°44'21.43044"	2196.685	LiDAR Control
CA066	35°04'34.45277"	-112°24'10.12048"	1521.432	LiDAR Control
CA067	35°05'52.22026"	-112°13'43.26723"	1879.992	LiDAR Control
CA068	35°01'44.51876"	-112°13'31.55982"	1720.066	LiDAR Control

Point Number	NAD83 2011 (2010.00)		Ellipsoid Height	Description
	Latitude	Longitude		
CA069	35°04'27.61223"	-112°05'38.66302"	2054.897	LiDAR Control
CA070	35°06'22.34081"	-111°48'43.19761"	2160.960	LiDAR Control
CA071	35°03'04.42700"	-111°48'14.86765"	2165.296	LiDAR Control
CA072	35°03'06.93841"	-111°40'55.17686"	2041.441	LiDAR Control
CA073	34°57'54.05646"	-111°45'07.88756"	1540.368	LiDAR Control
CA074	34°59'44.52552"	-111°34'34.69466"	2175.260	LiDAR Control
CA075	34°53'27.94910"	-111°33'48.28142"	2078.816	LiDAR Control
CA076	35°27'24.38591"	-112°42'56.88608"	1875.903	LiDAR Control
CA077	35°02'47.83082"	-112°57'31.42479"	1800.417	LiDAR Control
CA078	35°03'20.43674"	-112°49'04.15539"	1616.185	LiDAR Control
CA079A	35°08'09.41137"	-112°36'41.44150"	1523.249	LiDAR Control
CA080	35°05'50.56618"	-111°54'01.27088"	2123.596	LiDAR Control
CA081	34°56'27.24845"	-112°57'14.32479"	1788.305	LiDAR Control
CA082	34°57'39.61934"	-112°38'05.36467"	1373.834	LiDAR Control
CA082A	34°58'03.30523"	-112°34'22.13198"	1344.376	LiDAR Control
CA083	34°59'14.36603"	-112°18'28.73075"	1354.673	LiDAR Control
CA084	35°00'06.49310"	-111°55'16.71679"	2048.888	LiDAR Control
CA085	34°53'02.05277"	-112°56'08.55971"	1897.562	LiDAR Control
CA086	34°52'15.59934"	-112°40'20.77892"	1395.677	LiDAR Control
CA087	34°53'10.29289"	-112°28'03.60255"	1317.941	LiDAR Control
CA088A	34°53'55.69075"	-112°12'06.14385"	1139.910	LiDAR Control
CA089	34°51'57.35198"	-111°59'24.21149"	1313.161	LiDAR Control
CA090	34°47'47.52878"	-112°55'09.55322"	1772.250	LiDAR Control
CA091	34°48'51.39287"	-112°45'29.32496"	1437.437	LiDAR Control
CA092	34°47'59.38244"	-112°35'58.16833"	1395.291	LiDAR Control
CA093	34°49'10.42992"	-112°27'17.21149"	1336.879	LiDAR Control
CA094	34°49'48.62801"	-112°15'36.71520"	1431.118	LiDAR Control
CA095	34°48'46.47447"	-112°02'46.09704"	1054.327	LiDAR Control
CA096	34°41'47.87064"	-112°44'55.68482"	1596.274	LiDAR Control
CA097	34°42'02.01312"	-112°32'28.61202"	1519.352	LiDAR Control
CA098	34°42'34.89827"	-112°20'14.24845"	1451.983	LiDAR Control
CA099	34°43'15.63498"	-112°09'22.21540"	2029.339	LiDAR Control
CA100	34°35'16.52666"	-112°34'25.70325"	1814.451	LiDAR Control
CA101	34°37'43.78275"	-112°22'37.24699"	1538.480	LiDAR Control
CA102	34°29'44.99080"	-112°29'09.84255"	1730.113	LiDAR Control
CA103	32°46'56.26142"	-110°03'18.55585"	1515.314	LiDAR Control
CA104	32°43'10.57118"	-109°58'11.05863"	2671.431	LiDAR Control
CA105	32°44'07.54948"	-110°02'24.57541"	2587.635	LiDAR Control

Point Number	NAD83 2011 (2010.00)		Ellipsoid Height	Description
	Latitude	Longitude		
CA106	32°45'14.31596"	-109°49'57.15519"	1448.923	LiDAR Control
CA107	32°39'55.89281"	-109°47'47.56810"	1575.637	LiDAR Control
CA108	32°37'21.06728"	-109°49'24.99952"	2564.046	LiDAR Control
CA109	32°39'34.42652"	-109°51'54.40199"	2768.644	LiDAR Control
EB17	35°09'40.71936"	-112°16'56.08623"	1965.197	NVA
FA01	35°58'34.55047"	-112°07'34.24809"	1993.596	VVA
FO02	35°58'02.14936"	-112°13'05.15490"	1937.304	VVA
FO03	35°56'12.36338"	-112°07'49.19388"	1995.246	VVA
FO04	35°58'06.79663"	-111°56'13.61019"	2140.580	VVA
FO05	36°00'23.68652"	-111°48'13.14179"	2078.322	VVA
FO06	35°54'54.97955"	-111°54'24.19352"	2222.484	VVA
FO07	35°51'29.22301"	-111°57'37.49951"	2073.099	VVA
FO08	35°50'48.15316"	-112°05'52.05317"	1914.649	VVA
FO09	35°16'31.56542"	-112°20'59.74754"	1865.181	VVA
FO10	35°19'18.96255"	-112°02'43.22278"	2137.383	VVA
FO11	35°04'35.06449"	-112°24'08.88618"	1521.601	VVA
FO12	35°05'52.02546"	-112°13'42.28504"	1878.226	VVA
FO13	35°04'28.34819"	-112°05'39.07924"	2056.045	VVA
FO14	35°11'36.29192"	-111°44'22.57502"	2191.834	VVA
FO15	35°03'02.80693"	-111°48'15.58169"	2166.027	VVA
FO16	34°53'27.21860"	-111°33'48.01821"	2079.386	VVA
FO17	34°59'42.25925"	-111°34'34.79321"	2175.267	VVA
FO18	34°57'14.80577"	-111°40'09.63451"	1965.803	VVA
FO19	35°19'50.70853"	-113°04'58.79438"	1763.389	VVA
FO20	35°27'24.73607"	-112°42'56.33881"	1876.294	VVA
FO21	35°17'25.96444"	-113°04'42.13336"	1736.491	VVA
FO22	35°21'22.12208"	-112°38'59.56426"	1735.739	VVA
FO23	35°12'33.91636"	-113°01'52.35335"	1795.473	VVA
FO24	35°16'09.21290"	-112°43'49.29077"	1750.764	VVA
FO25	35°16'46.82026"	-112°37'01.03130"	1551.166	VVA
FO26	35°16'55.40575"	-112°29'33.69308"	1615.607	VVA
FO27	34°56'27.98143"	-112°57'14.81343"	1791.348	VVA
FO28	35°00'13.02279"	-112°23'23.62883"	1417.835	VVA
FO29	35°05'51.13699"	-111°54'00.21849"	2124.568	VVA
FO30	35°00'05.84984"	-111°55'15.81585"	2047.455	VVA
FO31	34°41'47.51201"	-112°44'55.79046"	1596.208	VVA
FO32	34°35'16.94091"	-112°34'25.31068"	1817.132	VVA
FO33	34°29'22.52531"	-112°30'02.05455"	1805.592	VVA

Point Number	NAD83 2011 (2010.00)		Ellipsoid Height	Description
	Latitude	Longitude		
FO34	34°29'47.05732"	-112°29'08.03157"	1731.877	VVA
FO35	32°46'57.20384"	-110°03'17.90933"	1512.540	VVA
FO36	32°43'09.24758"	-109°58'09.48682"	2669.899	VVA
FO37	32°39'32.54984"	-109°51'52.96454"	2772.286	VVA
FO38	32°37'20.44681"	-109°49'26.66036"	2571.593	VVA
SH01	36°03'03.32282"	-112°22'21.42804"	1822.545	VVA
SH02	36°01'17.68847"	-112°17'50.36795"	1868.173	VVA
SH03	35°52'51.77575"	-112°13'44.54478"	1822.201	VVA
SH04	35°55'38.09254"	-111°43'38.83759"	1894.893	VVA
SH05	35°47'32.96122"	-111°53'48.57916"	1975.293	VVA
SH06	35°34'31.20250"	-111°55'57.44267"	1973.419	VVA
SH07	35°27'25.43008"	-112°06'44.93724"	1945.097	VVA
SH08	35°29'36.11346"	-111°51'20.13497"	2137.964	VVA
SH09	35°08'20.75230"	-112°28'21.21795"	1568.145	VVA
SH10	35°18'03.54190"	-112°11'30.72604"	2006.321	VVA
SH11	35°11'40.78699"	-112°29'34.74824"	1536.899	VVA
SH12	35°24'30.23403"	-112°26'36.08107"	1736.292	VVA
SH13	35°29'51.43718"	-112°20'07.19865"	1819.597	VVA
SH13A	35°26'43.75232"	-112°19'03.16287"	1839.371	VVA
SH14	35°26'55.00960"	-112°34'41.13820"	1747.306	VVA
SH15	35°18'12.41647"	-112°57'16.47452"	1553.832	VVA
SH16	35°18'35.30119"	-112°51'23.22041"	1570.922	VVA
SH17	35°18'49.30944"	-112°49'17.94478"	1618.210	VVA
SH18	35°12'43.16166"	-112°53'09.58619"	1521.208	VVA
SH19	35°13'15.33843"	-112°29'14.14461"	1557.556	VVA
SH20	35°03'20.78071"	-112°49'04.25813"	1616.931	VVA
SH21	34°57'39.41620"	-112°38'04.99492"	1373.650	VVA
SH22	34°59'14.24177"	-112°18'29.69226"	1355.091	VVA
SH23	34°52'16.64135"	-112°40'21.75204"	1396.079	VVA
SH24	34°53'11.64645"	-112°28'03.55202"	1317.861	VVA
SH25	34°51'58.08190"	-111°59'24.50692"	1313.786	VVA
SH26	34°36'11.32422"	-112°29'44.42823"	1646.304	VVA
SH27	34°42'02.74422"	-112°32'28.38311"	1519.293	VVA
SH28	34°38'09.89802"	-112°25'20.54969"	1497.077	VVA
SH29	34°37'43.99301"	-112°22'36.74393"	1538.300	VVA
SH30	34°39'08.33994"	-112°17'01.52962"	1510.270	VVA
SH31	34°48'46.14707"	-112°02'46.61284"	1053.674	VVA
SH32	32°45'17.98171"	-109°50'07.56980"	1493.483	NVA

Point Number	NAD83 2011 (2010.00)		Ellipsoid Height	Description
	Latitude	Longitude		
SH33	35°07'11.40392"	-113°00'10.56025"	1750.400	VVA
SH34A	35°07'56.12216"	-112°53'47.67925"	1589.490	VVA
SH35A	35°11'03.54002"	-112°39'51.76829"	1536.419	VVA
SH36	35°11'08.58113"	-112°37'23.99341"	1513.163	VVA
SH37A	34°53'55.35600"	-112°12'04.88967"	1139.643	VVA
SH38	34°48'19.57364"	-112°30'03.86459"	1409.623	VVA
TW01	35°48'13.72505"	-112°07'50.69045"	1853.490	VVA
TW02	35°21'17.70490"	-112°58'08.32513"	1586.452	VVA
TW03	34°42'35.39264"	-112°20'14.09842"	1451.968	VVA
UA01	35°58'36.87301"	-112°07'36.01220"	1998.864	NVA
UA02	35°56'13.05030"	-112°07'45.28041"	1996.994	NVA
UA03	35°55'36.66933"	-111°43'38.93337"	1896.186	NVA
UA04	35°48'12.87109"	-112°07'49.32087"	1854.353	NVA
UA04A	35°48'12.23617"	-112°07'50.80866"	1853.224	NVA
UA05	35°51'40.14875"	-112°08'00.67244"	1923.969	NVA
UA06	35°33'08.25150"	-111°52'00.90034"	2015.812	NVA
UA07	35°15'04.30917"	-112°11'22.40843"	2038.164	NVA
UA08	35°14'49.06350"	-111°52'45.20304"	2180.767	NVA
UA09	35°13'19.72109"	-112°17'37.87724"	1952.952	NVA
UA10	35°00'31.20693"	-111°44'14.32660"	1656.114	NVA
UA11	35°03'06.96370"	-111°40'55.16222"	2041.457	NVA
UA12	34°57'14.14797"	-111°40'10.86878"	1968.364	NVA
UA13	35°21'17.91229"	-112°58'09.26980"	1585.460	NVA
UA14	35°17'39.95428"	-113°01'47.65397"	1642.347	NVA
UA15	35°18'34.55208"	-112°51'22.38852"	1571.601	NVA
UA16	35°16'09.77555"	-112°43'48.97435"	1750.474	NVA
UA17	35°13'14.93440"	-112°29'14.59931"	1556.995	NVA
UA18	35°00'13.13483"	-112°23'22.05146"	1417.485	NVA
UA19	34°53'10.34688"	-112°28'03.69013"	1317.851	NVA
UA20	34°48'08.60550"	-112°37'35.46159"	1369.799	NVA
UA21	34°48'53.68619"	-112°35'00.06740"	1481.534	NVA
UA22	34°48'18.64930"	-112°30'03.34481"	1409.023	NVA
UA23	34°42'58.99214"	-112°27'13.84240"	1448.489	NVA
UA24	34°36'14.75903"	-112°29'44.55561"	1647.258	NVA
UA25	34°38'09.12077"	-112°25'19.87097"	1497.099	NVA
UA26	34°33'23.76075"	-112°34'13.22784"	1950.767	NVA
UA26A	34°33'23.26156"	-112°34'13.00840"	1949.570	NVA
UA27	34°32'46.40902"	-112°28'07.21618"	1594.764	NVA

Point Number	NAD83 2011 (2010.00)		Ellipsoid Height	Description
	Latitude	Longitude		
UA28	34°29'29.41326"	-112°30'02.10653"	1805.935	NVA
UA28A	34°29'23.70427"	-112°30'02.45342"	1808.276	NVA
UA29	32°40'18.68163"	-109°47'07.69894"	1455.870	NVA
UA30	32°37'21.69107"	-109°49'24.47125"	2565.014	NVA
UA31	35°13'43.01906"	-112°35'05.23706"	1515.933	NVA
UA32	35°04'26.52359"	-112°24'08.20133"	1520.537	NVA
UA33	34°39'09.31596"	-112°17'00.91541"	1511.268	NVA

Geodetic Control

Point Number	NAD83 2011 (2010.00)		Ellipsoid Height	Description
	Latitude	Longitude		
6243 CANYON	36°04'22.50000"	-112°20'26.50000"	1879.063	DO5607
DOBY	35°37'46.36739"	-112°08'34.81101"	1801.357	DN3662
GCN E1	35°57'51.54371"	-112°08'00.29808"	1995.864	AE3162
HIRSCH	35°24'16.70319"	-111°45'21.02540"	2381.874	DN3666
J 62	35°57'09.26778"	-111°46'30.66272"	1926.734	FQ0365
JOE	34°45'10.32800"	-112°06'17.54256"	1446.832	DH5789
LONG JIM	35°58'11.35364"	-112°07'55.89701"	1992.880	DN3667
PIONEER PARK	34°36'20.78885"	-112°29'07.76090"	1650.342	AJ5638
Q 488	35°20'06.52288"	-112°55'40.61342"	1586.719	FR0753
R 18	34°43'41.84397"	-111°58'50.37091"	1000.725	ES0478
S 430	32°43'45.53555"	-109°42'54.13727"	960.256	CY0709
SWIFT	32°43'48.39287"	-109°42'51.15832"	958.549	CY0710
V 488	35°15'04.14296"	-112°38'06.70338"	1572.171	FR0757

Section 3: Ground/Geodetic Control Logs and Photos

This section contains the station recovery information sheets and photographs regarding the ground control positions established for the project. The stations appear as they are ordered in the final coordinate listing of Section 2.

The data is assembled on the following pages



GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID BE01	Northing (m) 3998986.125	Easting (m) 374389.961	Elevation (m) 1908.396
Point Type NVA	Latitude (N) N36°07'38.79457"	Longitude (W) W112°23'45.23204"	Ellipsoid Height (m) 1885.277
Location Photo ↑ NORTH			







BE01_2018_AZ, 3N, 20180826



BE01_2018_AZ, 3E, 20180826







GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID BE02	Northing (m) 3987094.404	Easting (m) 383127.977	Elevation (m) 1890.387
Point Type NVA	Latitude (N) N36°01'16.85615"	Longitude (W) W112°17'49.39599"	Ellipsoid Height (m) 1867.358
Location Photo  NORTH			
			
BE02_2018_AZ, 3W, 20180826		BE02_2018_AZ, 3N, 20180826	







GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID BE03	Northing (m) 3981082.403	Easting (m) 390154.617	Elevation (m) 1960.467
Point Type	Latitude (N) N35°58'04.71112"	Longitude (W) W112°13'05.71767"	Ellipsoid Height (m) 1937.498
Location Photo  NORTH			
			
BE03_2018_AZ, 3W, 20180826	BE03_2018_AZ, 3N, 20180826		



GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID BE04	Northing (m) 3980808.906	Easting (m) 415534.564	Elevation (m) 2167.505
Point Type NVA	Latitude (N) N35°58'04.93416"	Longitude (W) W111°56'12.42590"	Ellipsoid Height (m) 2144.514
Location Photo  NORTH			
 <p>BE04_2018_CA, 3S, 20180827</p>		 <p>BE04_2018_CA, 3E, 20180827</p>	







GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID BE05	Northing (m) 3984832.589	Easting (m) 427669.814	Elevation (m) 2097.479
Point Type NVA	Latitude (N) N36°00'19.03049"	Longitude (W) W111°48'09.27398"	Ellipsoid Height (m) 2074.367
Location Photo  NORTH			
 <p>BE05_2018_CA, 3W, 20180827</p>		 <p>BE05_2018_CA, 3N, 20180827</p>	







GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID BE06	Northing (m) 3972358.471	Easting (m) 397914.515	Elevation (m) 1975.042
Point Type NVA	Latitude (N) N35°53'24.64116"	Longitude (W) W112°07'51.91549"	Ellipsoid Height (m) 1952.028
Location Photo  NORTH			
			
BE06_2018_AZ_3W_20180825		BE06_2018_AZ_3N_20180825	







GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID BE07	Northing (m) 3968641.846	Easting (m) 413273.801	Elevation (m) 2095.353
Point Type NVA	Latitude (N) N35°51'29.35899"	Longitude (W) W111°57'37.90268"	Ellipsoid Height (m) 2072.445
Location Photo  NORTH			
 <p>BE07_2018_AZ, 3S, 20180828</p>		 <p>BE07_2018_AZ, 3E, 20180828</p>	





GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID BE08	Northing (m) 3966490.095	Easting (m) 428779.903	Elevation (m) 2074.599
Point Type	Latitude (N) N35°50'24.02425"	Longitude (W) W111°47'19.01801"	Ellipsoid Height (m) 2051.560
Location Photo  NORTH			
 <p>BE08_2018_AZ, 3N, 20180828</p>		 <p>BE08_2018_AZ, 3E, 20180828</p>	







GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID BE09	Northing (m) 3957179.481	Easting (m) 411174.709	Elevation (m) 1950.844
Point Type NVA	Latitude (N) N35°45'16.68620"	Longitude (W) W111°58'57.00085"	Ellipsoid Height (m) 1927.758
Location Photo  NORTH			
 <p>BE09_2018_AZ, 3S, 20180828</p>		 <p>BE09_2018_AZ, 3E, 20180828</p>	






GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID BE10	Northing (m) 3937237.576	Easting (m) 415472.520	Elevation (m) 1997.260
Point Type	Latitude (N) N35°34'30.83781"	Longitude (W) W111°55'58.34597"	Ellipsoid Height (m) 1974.169
Location Photo  NORTH			
 <p>BE10_2018_AZ, 3S, 20180906</p>		 <p>BE10_2018_AZ, 3E, 20180906</p>	



GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID BE11	Northing (m) 3919284.831	Easting (m) 368958.625	Elevation (m) 1760.850
Point Type NVA	Latitude (N) N35°24'30.04150"	Longitude (W) W112°26'35.51931"	Ellipsoid Height (m) 1736.492
Location Photo  NORTH			
 BE11_2018_AZ_3S, 20180911		 BE11_2018_AZ_3E, 20180911	







GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID BE12	Northing (m) 3904397.221	Easting (m) 377222.483	Elevation (m) 1891.837
Point Type NVA	Latitude (N) N35°16'30.70142"	Longitude (W) W112°20'59.91406"	Ellipsoid Height (m) 1867.492
Location Photo ↑ NORTH			
<p>BE12_2018_AZ, 3S, 20180829</p>		<p>BE12_2018_AZ, 3E, 20180829</p>	



GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID BE13	Northing (m) 3909289.884	Easting (m) 404985.262	Elevation (m) 2160.266
Point Type NVA	Latitude (N) N35°19'20.37271"	Longitude (W) W112°02'43.20575"	Ellipsoid Height (m) 2136.904
Location Photo  NORTH			
 <p>BE13_2018_AZ, 3W, 201800908</p>		 <p>BE13_2018_AZ, 3N, 201800908</p>	


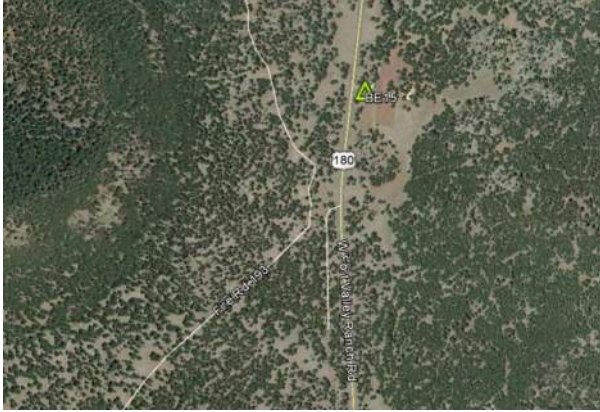




GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID BE14	Northing (m) 3911620.361	Easting (m) 417111.606	Elevation (m) 2269.802
Point Type NVA	Latitude (N) N35°20'39.89990"	Longitude (W) W111°54'43.83119"	Ellipsoid Height (m) 2246.691
Location Photo ↑ NORTH			
<p>BE14_2018_AZ_3W, 20180906</p>		<p>BE14_2018_AZ_3S, 20180906</p>	







GCP OBSERVATION LOG

Project Number 78939		Project Name Kaibab LiDAR Control		Company Woolpert		Field Operator DM/JH	
Coordinate System NAD 1983 (Conus)		Hor. Datum World wide/UTM		Ver. Datum NAVD88		Zone 12 North	
Geoid GEOID12B (Conus)		Station ID BE15		Northing (m) 3913982.669		Easting (m) 428182.082	
Point Type NVA		Latitude (N) N35°21'59.66375"		Longitude (W) W111°47'26.03386"		Elevation (m) 2442.028	
Location Photo  NORTH							
 <p>BE15_2018_AZ_3W, 20180906</p>				 <p>BE15_2018_AZ_3S, 20180906</p>			






GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID BE16	Northing (m) 3889471.611	Easting (m) 365829.266	Elevation (m) 1593.201
Point Type NVA	Latitude (N) N35°08'21.08668"	Longitude (W) W112°28'22.01077"	Ellipsoid Height (m) 1568.080
Location Photo  NORTH			
 <p>BE16_2018_AZ_3W, 20180828</p>		 <p>BE16_2018_AZ_3S, 20180828</p>	







GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID BE18	Northing (m) 3896560.902	Easting (m) 403258.505	Elevation (m) 2084.542
Point Type NVA	Latitude (N) N35°12'26.64735"	Longitude (W) W112°03'46.18700"	Ellipsoid Height (m) 2060.879
Location Photo  NORTH			
 <p>BE18_2018_AZ, 3SW, 20180907</p>		 <p>BE18_2018_AZ, 3NW, 20180907</p>	







GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID BE19	Northing (m) 3905924.816	Easting (m) 430465.297	Elevation (m) 2359.958
Point Type NVA	Latitude (N) N35°17'38.70352"	Longitude (W) W111°45'53.09619"	Ellipsoid Height (m) 2337.129
Location Photo  NORTH			
			
BE19_2018_AZ, 3NW, 20180906	BE19_2018_AZ, 3NE, 20180906		







GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID BE20	Northing (m) 3884580.031	Easting (m) 388011.598	Elevation (m) 1904.141
Point Type NVA	Latitude (N) N35°05'52.10460"	Longitude (W) W112°13'43.24646"	Ellipsoid Height (m) 1879.820
Location Photo  NORTH			
 <p>BE20_2018_AZ, 3W, 201800907</p>		 <p>BE20_2018_AZ, 3N, 201800907</p>	







GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID BE21	Northing (m) 3881834.944	Easting (m) 400249.137	Elevation (m) 2078.873
Point Type NVA	Latitude (N) N35°04'27.63940"	Longitude (W) W112°05'38.78907"	Ellipsoid Height (m) 2054.794
Location Photo  NORTH			
 <p>BE21_2018_AZ, 3W, 201800907</p>		 <p>BE21_2018_AZ, 3N, 201800907</p>	


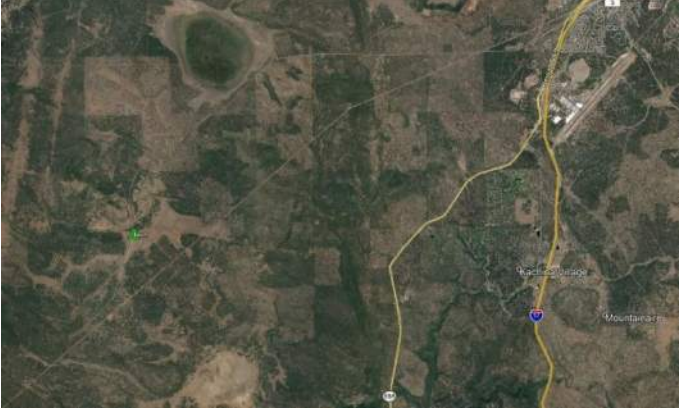



GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID BE22	Northing (m) 3888585.045	Easting (m) 412618.745	Elevation (m) 2045.125
Point Type NVA	Latitude (N) N35°08'10.86481"	Longitude (W) W111°57'32.99049"	Ellipsoid Height (m) 2021.548
Location Photo  NORTH			
 <p>BE22_2018_AZ, 3SW, 20180907</p>		 <p>BE22_2018_AZ, 3NW, 20180907</p>	


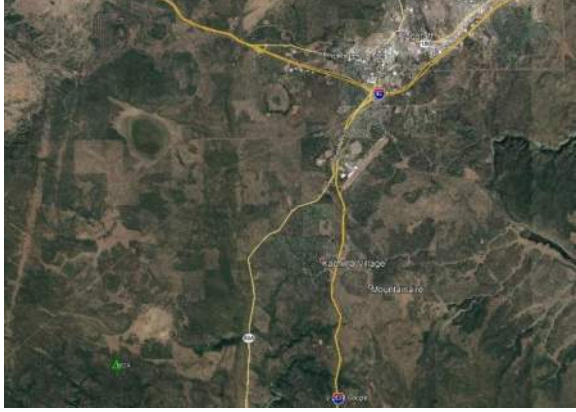




GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID BE23	Northing (m) 3885119.292	Easting (m) 425998.025	Elevation (m) 2184.286
Point Type NVA	Latitude (N) N35°06'22.23447"	Longitude (W) W111°48'43.22471"	Ellipsoid Height (m) 2160.996
Location Photo  NORTH			
 BE23_2018_AZ_3W, 20180830	 BE23_2018_AZ_3S, 20180830		







GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID BE24	Northing (m) 3879024.747	Easting (m) 426663.350	Elevation (m) 2188.904
Point Type NVA	Latitude (N) N35°03'04.58591"	Longitude (W) W111°48'15.00351"	Ellipsoid Height (m) 2165.439
Location Photo  NORTH			
			
BE24_2018_AZ_3S, 20180830		BE24_2018_AZ_3E, 20180830	







GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID BE25	Northing (m) 3869427.827	Easting (m) 431333.085	Elevation (m) 1564.270
Point Type NVA	Latitude (N) N34°57'54.25349"	Longitude (W) W111°45'07.82466"	Ellipsoid Height (m) 1540.496
Location Photo  NORTH			
 BE25_2018_AZ, 3SW, 20180830	 BE25_2018_AZ, 3NW, 20180830		







GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID BE26	Northing (m) 3872720.368	Easting (m) 447406.352	Elevation (m) 2198.549
Point Type NVA	Latitude (N) N34°59'44.59959"	Longitude (W) W111°34'34.76981"	Ellipsoid Height (m) 2175.226
Location Photo  NORTH			
 BE26_2018_AZ, 3S, 20180830	 BE26_2018_AZ, 3E, 20180830		







GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID BE27	Northing (m) 3861110.623	Easting (m) 448521.637	Elevation (m) 2102.333
Point Type NVA	Latitude (N) N34°53'27.93631"	Longitude (W) W111°33'48.19538"	Ellipsoid Height (m) 2078.905
Location Photo  NORTH			
 <p>BE27_2018_AZ, 3W, 20180830</p>		 <p>BE27_2018_AZ, 3S, 20180830</p>	



GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID BE28	Northing (m) 3929068.916	Easting (m) 378887.639	Elevation (m) 1842.212
Point Type NVA	Latitude (N) N35°29'52.07518"	Longitude (W) W112°20'07.19746"	Ellipsoid Height (m) 1818.283
Location Photo  NORTH			
 BE28_2018_AZ_3W, 20180911	 BE28_2018_AZ_3S, 20180911		







GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID BE28A	Northing (m) 3923251.645	Easting (m) 380419.873	Elevation (m) 1863.717
Point Type NVA	Latitude (N) N35°26'43.96394"	Longitude (W) W112°19'03.31329"	Ellipsoid Height (m) 1839.766
Location Photo ↑ NORTH			
<p>BE28A_2018_AZ, 3SW, 20180911</p>		<p>BE28A_2018_AZ, 3SE, 20180911</p>	







GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID BE29	Northing (m) 3925049.758	Easting (m) 344298.048	Elevation (m) 1900.636
Point Type	Latitude (N) N35°27'24.31027"	Longitude (W) W112°42'56.86777"	Ellipsoid Height (m) 1875.927
Location Photo  NORTH			
 <p>BE29_2018_AZ, 3NW, 20180911</p>		 <p>BE29_2018_AZ, 3NE, 20180911</p>	







GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID BE30	Northing (m) 3911725.170	Easting (m) 310640.723	Elevation (m) 1787.423
Point Type NVA	Latitude (N) N35°19'51.04837"	Longitude (W) W113°05'00.24129"	Ellipsoid Height (m) 1761.772
Location Photo  NORTH			
 BE30_2018_AZ, 3S, 20180823		 BE30_2018_AZ, 3E, 20180823	



GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID BE31	Northing (m) 3908455.426	Easting (m) 322292.805	Elevation (m) 1579.269
Point Type NVA	Latitude (N) N35°18'12.67859"	Longitude (W) W112°57'16.41308"	Ellipsoid Height (m) 1553.722
Location Photo  NORTH			
			
BE31_2018_AZ, 3W, 20180824		BE31_2018_AZ, 3N, 20180824	







GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID BE32	Northing (m) 3913805.119	Easting (m) 350090.941	Elevation (m) 1760.843
Point Type	Latitude (N) N35°21'22.65983"	Longitude (W) W112°38'59.70226"	Ellipsoid Height (m) 1735.911
Location Photo ↑ NORTH			
<p>BE32_2018_AZ, 3W, 20180911</p>		<p>BE32_2018_AZ, 3N, 20180911</p>	







GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID BE33	Northing (m) 3898162.871	Easting (m) 315128.409	Elevation (m) 1821.150
Point Type NVA	Latitude (N) N35°12'34.10218"	Longitude (W) W113°01'51.59762"	Ellipsoid Height (m) 1795.304
Location Photo  NORTH			
 <p>BE33_2018_AZ, 3W, 20180910</p>		 <p>BE33_2018_AZ, 3S, 20180910</p>	



GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID BE34	Northing (m) 3905266.681	Easting (m) 352965.065	Elevation (m) 1575.990
Point Type NVA	Latitude (N) N35°16'47.14320"	Longitude (W) W112°37'00.34604"	Ellipsoid Height (m) 1550.863
Location Photo  NORTH			
 <p>BE34_2018_AZ, 3SW, 20180828</p>		 <p>BE34_2018_AZ, 3NW, 20180828</p>	







GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID BE35	Northing (m) 3905323.230	Easting (m) 364239.743	Elevation (m) 1641.203
Point Type NVA	Latitude (N) N35°16'54.71387"	Longitude (W) W112°29'34.21463"	Ellipsoid Height (m) 1616.375
Location Photo  NORTH			
 <p>BE35_2018_AZ, 3W, 20180828</p>		 <p>BE35_2018_AZ, 3S, 20180828</p>	







GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID BE36	Northing (m) 3888168.324	Easting (m) 317463.498	Elevation (m) 1776.222
Point Type NVA	Latitude (N) N35°07'11.39835"	Longitude (W) W113°00'11.33831"	Ellipsoid Height (m) 1750.254
Location Photo  NORTH			
			
BE36_2018_AZ, 3W, 20180825		BE36_2018_AZ, 3N, 20180825	







GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID BE37	Northing (m) 3889346.134	Easting (m) 327189.497	Elevation (m) 1616.930
Point Type NVA	Latitude (N) N35°07'55.79160"	Longitude (W) W112°53'48.17897"	Ellipsoid Height (m) 1591.047
Location Photo  NORTH			
 BE37_2018_AZ, 3W, 20180824		 BE37_2018_AZ, 3N, 20180824	







GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID BE38	Northing (m) 3894859.046	Easting (m) 352179.687	Elevation (m) 1538.671
Point Type NVA	Latitude (N) N35°11'09.01496"	Longitude (W) W112°37'24.68987"	Ellipsoid Height (m) 1513.291
Location Photo  NORTH			
 <p>BE38_2018_AZ, 3SE, 20180828</p>		 <p>BE38_2018_AZ, 3NE, 20180828</p>	







GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID BE39	Northing (m) 3879973.718	Easting (m) 321331.752	Elevation (m) 1826.541
Point Type NVA	Latitude (N) N35°02'48.03675"	Longitude (W) W112°57'32.23723"	Ellipsoid Height (m) 1800.504
Location Photo  NORTH			
 BE39_2018_AZ, 3NW, 20180910	 BE39_2018_AZ, 3NE, 20180910		







GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID BE40	Northing (m) 3880731.992	Easting (m) 334230.828	Elevation (m) 1642.106
Point Type NVA	Latitude (N) N35°03'20.56324"	Longitude (W) W112°49'03.87793"	Ellipsoid Height (m) 1616.139
Location Photo  NORTH			
			
BE40_2018_AZ, 3SW, 20180910	BE40_2018_AZ, 3SE, 20180910		







GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID BE41A	Northing (m) 3889305.405	Easting (m) 353180.558	Elevation (m) 1548.675
Point Type NVA	Latitude (N) N35°08'09.33328"	Longitude (W) W112°36'41.57382"	Ellipsoid Height (m) 1523.209
Location Photo  NORTH			
 <p>BE41A_2018_AZ, 3SW, 20180828</p>		 <p>BE41A_2018_AZ, 3NW, 20180828</p>	







GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID BE42	Northing (m) 3868233.343	Easting (m) 321550.667	Elevation (m) 1814.808
Point Type	Latitude (N) N34°56'27.27300"	Longitude (W) W112°57'14.53850"	Ellipsoid Height (m) 1788.552
Location Photo  NORTH			
 <p>BE42_2018_AZ, 3W, 20180909</p>		 <p>BE42_2018_AZ, 3S, 20180909</p>	







GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID BE43	Northing (m) 3869941.374	Easting (m) 350740.235	Elevation (m) 1400.091
Point Type NVA	Latitude (N) N34°57'39.69219"	Longitude (W) W112°38'05.43173"	Ellipsoid Height (m) 1373.954
Location Photo  NORTH			
			
BE43_2018_AZ_3W, 20180827		BE43_2018_AZ_3S, 20180827	


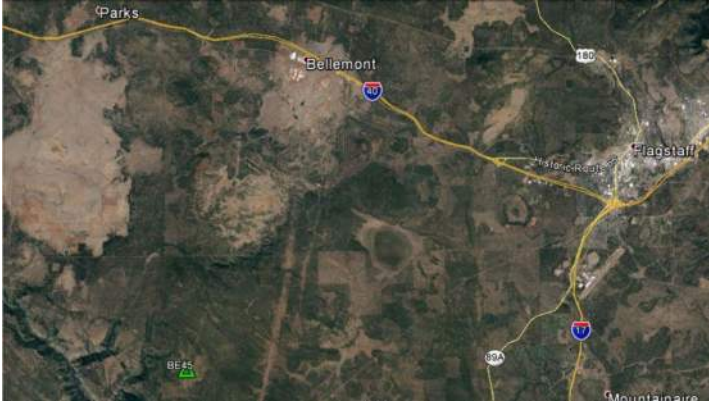




GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID BE44	Northing (m) 3872414.957	Easting (m) 380630.720	Elevation (m) 1379.737
Point Type NVA	Latitude (N) N34°59'14.24710"	Longitude (W) W112°18'28.40884"	Ellipsoid Height (m) 1354.545
Location Photo  NORTH			
 <p>BE44_2018_AZ, 3W, 20180827</p>		 <p>BE44_2018_AZ, 3N, 20180827</p>	







GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID BE45	Northing (m) 3884211.889	Easting (m) 417940.507	Elevation (m) 2147.127
Point Type NVA	Latitude (N) N35°05'50.53399"	Longitude (W) W111°54'01.15555"	Ellipsoid Height (m) 2123.607
Location Photo  NORTH			
			
<p>BE45_2018_AZ_3W, 20180907</p>		<p>BE45_2018_AZ_3S, 20180907</p>	







GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID BE46	Northing (m) 3873630.924	Easting (m) 415930.520	Elevation (m) 2072.741
Point Type NVA	Latitude (N) N35°00'06.49706"	Longitude (W) W111°55'16.67711"	Ellipsoid Height (m) 2048.793
Location Photo  NORTH			
 <p>BE46_2018_AZ, 3NW, 20180907</p>		 <p>BE46_2018_AZ, 3NE, 20180907</p>	







GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID BE47	Northing (m) 3861877.779	Easting (m) 323103.979	Elevation (m) 1923.928
Point Type	Latitude (N) N34°53'02.04933"	Longitude (W) W112°56'08.49382"	Ellipsoid Height (m) 1897.560
Location Photo  NORTH			
 <p>BE47_2018_AZ, 3N, 20180909</p>		 <p>BE47_2018_AZ, 3E, 20180909</p>	







GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID BE48	Northing (m) 3860008.613	Easting (m) 347142.284	Elevation (m) 1422.008
Point Type NVA	Latitude (N) N34°52'15.44809"	Longitude (W) W112°40'20.70592"	Ellipsoid Height (m) 1395.660
Location Photo  NORTH			
 <p>BE48_2018_AZ, 3SW, 20180827</p>		 <p>BE48_2018_AZ, 3SE, 20180827</p>	







GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID BE49A	Northing (m) 3862483.546	Easting (m) 390208.219	Elevation (m) 1165.163
Point Type NVA	Latitude (N) N34°53'55.82003"	Longitude (W) W112°12'06.00489"	Ellipsoid Height (m) 1139.925
Location Photo  NORTH			
 <p>BE49A_2018_AZ, 3NW, 20180905</p>		 <p>BE49A_2018_AZ, 3NE, 20180905</p>	



GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID BE50	Northing (m) 3852158.085	Easting (m) 324412.730	Elevation (m) 1798.850
Point Type	Latitude (N) N34°47'47.50813"	Longitude (W) W112°55'09.63702"	Ellipsoid Height (m) 1772.238
Location Photo  NORTH			
			
BE50_2018_AZ, 3NW, 20180909	BE50_2018_AZ, 3NE, 20180909		







GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID BE51	Northing (m) 3853856.840	Easting (m) 339195.029	Elevation (m) 1463.934
Point Type	Latitude (N) N34°48'51.41684"	Longitude (W) W112°45'29.35464"	Ellipsoid Height (m) 1437.438
Location Photo ↑ NORTH			
<p>BE51_2018_AZ, 3S, 20180909</p>		<p>BE51_2018_AZ, 3E, 20180909</p>	







GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID BE52	Northing (m) 3854014.275	Easting (m) 366957.396	Elevation (m) 1362.129
Point Type NVA	Latitude (N) N34°49'10.95178"	Longitude (W) W112°27'17.05006"	Ellipsoid Height (m) 1336.145
Location Photo  NORTH			
 <p>BE52_2018_AZ, 3SW, 20180827</p>		 <p>BE52_2018_AZ, 3SE, 20180827</p>	







GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID BE53	Northing (m) 3854932.449	Easting (m) 384766.419	Elevation (m) 1456.613
Point Type NVA	Latitude (N) N34°49'48.57227"	Longitude (W) W112°15'36.63669"	Ellipsoid Height (m) 1431.125
Location Photo  NORTH			
 <p>BE53_2018_AZ, 3NW, 20180905</p>		 <p>BE53_2018_AZ, 3NE, 20180905</p>	







GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID BE54	Northing (m) 3852794.688	Easting (m) 404318.079	Elevation (m) 1079.680
Point Type NVA	Latitude (N) N34°48'46.48084"	Longitude (W) W112°02'46.15425"	Ellipsoid Height (m) 1054.326
Location Photo  NORTH			
 <p>BE54_2018_AZ, 3SW, 20180905</p>		 <p>BE54_2018_AZ, 3NW, 20180905</p>	







GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID BE55	Northing (m) 3840791.407	Easting (m) 339824.661	Elevation (m) 1622.901
Point Type	Latitude (N) N34°41'47.81511"	Longitude (W) W112°44'55.63511"	Ellipsoid Height (m) 1596.157
Location Photo  NORTH			
 <p>BE55_2018_AZ, 3SE, 20180909</p>		 <p>BE55_2018_AZ, 3NE, 20180909</p>	







GCP OBSERVATION LOG

Project Number 78939		Project Name Kaibab LiDAR Control		Company Woolpert		Field Operator DM/JH	
Coordinate System NAD 1983 (Conus)		Hor. Datum World wide/UTM		Ver. Datum NAVD88		Zone 12 North	
Geoid GEOID12B (Conus)		Station ID BE56		Northing (m) 3841669.225		Easting (m) 377541.136	
Point Type NVA		Latitude (N) N34°42'35.07386"		Longitude (W) W112°20'14.07301"		Elevation (m) 1477.836	
Location Photo  NORTH							
 <p>BE56_2018_AZ, 3W, 20180826</p>				 <p>BE56_2018_AZ, 3N, 20180826</p>			







GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID BE57	Northing (m) 3842717.769	Easting (m) 394139.756	Elevation (m) 2054.358
Point Type NVA	Latitude (N) N34°43'15.78295"	Longitude (W) W112°09'22.15256"	Ellipsoid Height (m) 2029.036
Location Photo  NORTH			
 <p>BE57_2018_AZ, 3W, 20180905</p>		 <p>BE57_2018_AZ, 3N, 20180905</p>	







GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID BE58	Northing (m) 3852025.596	Easting (m) 353675.564	Elevation (m) 1421.648
Point Type NVA	Latitude (N) N34°47'59.85490"	Longitude (W) W112°35'58.45241"	Ellipsoid Height (m) 1395.315
Location Photo  NORTH			
 <p>BE58_2018_AZ, 3SW, 20180827</p>		 <p>BE58_2018_AZ, 3NW, 20180827</p>	







GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID BE59	Northing (m) 3828469.779	Easting (m) 355668.211	Elevation (m) 1841.059
Point Type NVA	Latitude (N) N34°35'16.44244"	Longitude (W) W112°34'25.56810"	Ellipsoid Height (m) 1814.532
Location Photo  NORTH			
 <p>BE59_2018_AZ_3W, 20180826</p>		 <p>BE59_2018_AZ_3S, 20180826</p>	







GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID BE60	Northing (m) 3832743.801	Easting (m) 373770.104	Elevation (m) 1564.784
Point Type NVA	Latitude (N) N34°37'43.74605"	Longitude (W) W112°22'37.48479"	Ellipsoid Height (m) 1538.556
Location Photo  NORTH			
			
BE60_2018_AZ, 3W, 20180826		BE60_2018_AZ, 3N, 20180826	



GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID BE61	Northing (m) 3818146.104	Easting (m) 363580.634	Elevation (m) 1756.302
Point Type NVA	Latitude (N) N34°29'45.29028"	Longitude (W) W112°29'09.11217"	Ellipsoid Height (m) 1729.757
Location Photo  NORTH			
 <p>BE61_2018_AZ, 3N, 20180826</p>		 <p>BE61_2018_AZ, 3E, 20180826</p>	







GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID BE62	Northing (m) 3627546.743	Easting (m) 588497.921	Elevation (m) 1540.898
Point Type	Latitude (N) N32°46'56.22910"	Longitude (W) W110°03'17.91874"	Ellipsoid Height (m) 1514.485
Location Photo ↑ NORTH			
<p>BE62_2018_AZ, 3S, 20180821</p>		<p>BE62_2018_AZ, 3E, 20180821</p>	







GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID BE63	Northing (m) 3624741.548	Easting (m) 609101.066	Elevation (m) 1518.533
Point Type NVA	Latitude (N) N32°45'18.48039"	Longitude (W) W109°50'07.19686"	Ellipsoid Height (m) 1492.109
Location Photo  NORTH			
 BE63_2018_AZ, 3N, 20180821	 BE63_2018_AZ, 3E, 20180821		







GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID BE64	Northing (m) 3622378.285	Easting (m) 589933.773	Elevation (m) 2615.524
Point Type	Latitude (N) N32°44'07.98930"	Longitude (W) W110°02'24.52872"	Ellipsoid Height (m) 2589.375
Location Photo  NORTH			
			
BE64_2018_AZ, 3S, 20180821	BE64_2018_AZ, 3E, 20180821		







GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID BE65	Northing (m) 3620711.182	Easting (m) 596521.762	Elevation (m) 2696.518
Point Type	Latitude (N) N32°43'11.85025"	Longitude (W) W109°58'12.05900"	Ellipsoid Height (m) 2670.535
Location Photo  NORTH			
			
BE65_2018_AZ, 3W, 20180821	BE65_2018_AZ, 3N, 20180821		







GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID BE66	Northing (m) 3614200.620	Easting (m) 606334.349	Elevation (m) 2796.735
Point Type NVA	Latitude (N) N32°39'37.20793"	Longitude (W) W109°51'57.83677"	Ellipsoid Height (m) 2770.847
Location Photo  NORTH			
			
BE66_2018_AZ, 3W, 20180821		BE66_2018_AZ, 3S, 20180821	







GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID BE67	Northing (m) 3614827.920	Easting (m) 612812.825	Elevation (m) 1600.428
Point Type NVA	Latitude (N) N32°39'55.25978"	Longitude (W) W109°47'48.90187"	Ellipsoid Height (m) 1574.276
Location Photo  NORTH			
			
BE67_2018_AZ, 3S, 20180821		BE67_2018_AZ, 3E, 20180821	



GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID BE68	Northing (m) 3858622.640	Easting (m) 409504.119	Elevation (m) 1338.211
Point Type NVA	Latitude (N) N34°51'57.35643"	Longitude (W) W111°59'24.31783"	Ellipsoid Height (m) 1313.222
Location Photo  NORTH			
 <p>BE68_2018_AZ_3N, 20180905</p>		 <p>BE68_2018_AZ_3E, 20180905</p>	







GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID BE69A	Northing (m) 3894746.803	Easting (m) 348450.406	Elevation (m) 1561.917
Point Type	Latitude (N) N35°11'03.37160"	Longitude (W) W112°39'52.01351"	Ellipsoid Height (m) 1536.434
Location Photo ↑ NORTH			
<p>BE69A_2018_AZ_3W, 20180911</p>		<p>BE69A_2018_AZ_3S, 20180911</p>	







GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID BE70	Northing (m) 3898169.867	Easting (m) 328348.701	Elevation (m) 1548.446
Point Type NVA	Latitude (N) N35°12'42.78533"	Longitude (W) W112°53'09.00747"	Ellipsoid Height (m) 1522.689
Location Photo  NORTH			
 <p>BE70_2018_AZ, 3SE, 20180824</p>		 <p>BE70_2018_AZ, 3NE, 20180824</p>	



GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID BE71	Northing (m) 3923957.955	Easting (m) 356777.991	Elevation (m) 1771.050
Point Type NVA	Latitude (N) N35°26'55.63801"	Longitude (W) W112°34'41.25778"	Ellipsoid Height (m) 1746.556
Location Photo  NORTH			
			
BE71_2018_AZ, 3SE, 20180911	BE71_2018_AZ, 3NE, 20180911		


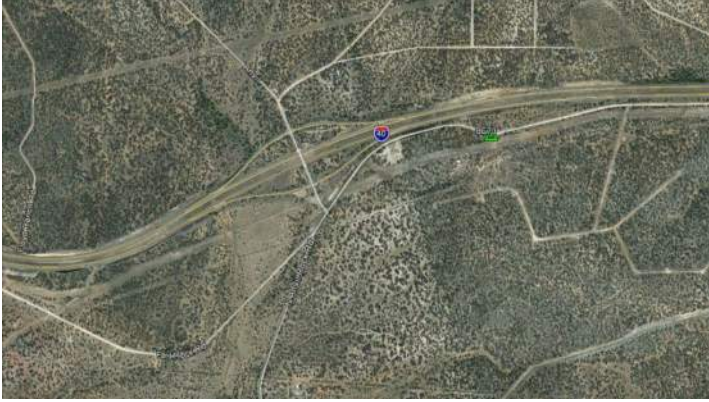




GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID BE72	Northing (m) 3909353.507	Easting (m) 334416.296	Elevation (m) 1643.901
Point Type NVA	Latitude (N) N35°18'49.30936"	Longitude (W) W112°49'17.25429"	Ellipsoid Height (m) 1618.544
Location Photo ↑ NORTH			
<p>BE72_2018_AZ, 3W, 20180824</p>		<p>BE72_2018_AZ, 3N, 20180824</p>	







GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID BE73	Northing (m) 3907227.538	Easting (m) 310989.369	Elevation (m) 1762.108
Point Type NVA	Latitude (N) N35°17'25.38430"	Longitude (W) W113°04'42.70516"	Ellipsoid Height (m) 1736.350
Location Photo  NORTH			
			
BE73_2018_AZ, 3N, 20180824	BE73_2018_AZ, 3E, 20180824		







GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID CA001	Northing (m) 3998957.710	Easting (m) 374348.906	Elevation (m) 1907.493
Point Type CALI	Latitude (N) N36°07'37.85344"	Longitude (W) W112°23'46.85774"	Ellipsoid Height (m) 1884.374
Location Photo  NORTH			
			
CA001_2018_AZ, 3W, 20180826		CA001_2018_AZ, 3S, 20180826	







GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID CA002	Northing (m) 3990428.996	Easting (m) 376326.264	Elevation (m) 1842.699
Point Type CALI	Latitude (N) N36°03'02.03229"	Longitude (W) W112°22'22.95519"	Ellipsoid Height (m) 1819.592
Location Photo  NORTH			
			
CA002_2018_AZ, 3W, 20180826	CA002_2018_AZ, 3N, 20180826		







GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID CA003	Northing (m) 3991420.993	Easting (m) 380983.943	Elevation (m) 1900.642
Point Type CALI	Latitude (N) N36°03'36.31274"	Longitude (W) W112°19'17.38205"	Ellipsoid Height (m) 1877.604
Location Photo  NORTH			
 <p>CA003_2018_CA, 3S, 20180827</p>		 <p>CA003_2018_CA, 3E, 20180827</p>	







GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID CA004	Northing (m) 3987099.184	Easting (m) 383094.682	Elevation (m) 1890.915
Point Type CALI	Latitude (N) N36°01'16.99687"	Longitude (W) W112°17'50.72849"	Ellipsoid Height (m) 1867.886
Location Photo  NORTH			
 <p>CA004_2018_AZ, 3N, 20180826</p>		 <p>CA004_2018_AZ, 3E, 20180826</p>	


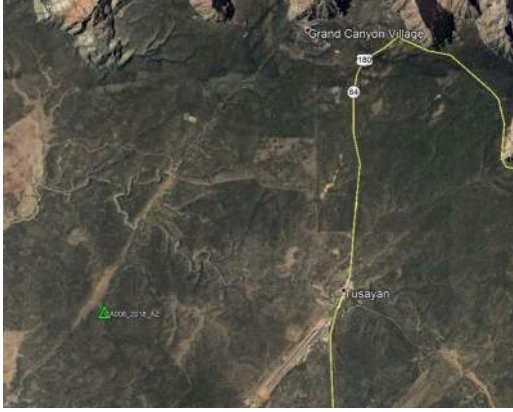




GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID CA005	Northing (m) 3986779.414	Easting (m) 387966.012	Elevation (m) 1912.849
Point Type CALI	Latitude (N) N36°01'08.68198"	Longitude (W) W112°14'35.98287"	Ellipsoid Height (m) 1889.857
Location Photo  NORTH			
 <p>CA005_2018_CA, 3S, 20180827</p>		 <p>CA005_2018_CA, 3E, 20180827</p>	



GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID CA006	Northing (m) 3980970.266	Easting (m) 390101.221	Elevation (m) 1958.566
Point Type	Latitude (N) N35°58'01.05062"	Longitude (W) W112°13'07.79318"	Ellipsoid Height (m) 1935.596
Location Photo  NORTH			
 <p>CA006_2018_AZ, 3S, 20180826</p>		 <p>CA006_2018_AZ, 3E, 20180826</p>	






GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID CA007	Northing (m) 3977594.379	Easting (m) 398001.995	Elevation (m) 2018.865
Point Type CALI	Latitude (N) N35°56'14.58723"	Longitude (W) W112°07'50.84435"	Ellipsoid Height (m) 1995.941
Location Photo ↑ NORTH			
<p>CA007_2018_AZ, 3W, 20180824</p>	<p>CA007_2018_AZ, 2N, 20180824</p>		



GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID CA008	Northing (m) 3982015.173	Easting (m) 398457.181	Elevation (m) 2022.819
Point Type CALI	Latitude (N) N35°58'38.21866"	Longitude (W) W112°07'34.71708"	Ellipsoid Height (m) 1999.887
Location Photo ↑ NORTH			
 <p>CA008_2018_AZ, 3E, 20180824</p>		 <p>CA008_2018_AZ, 2N, 20180824</p>	







GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID CA009	Northing (m) 3975741.975	Easting (m) 407786.804	Elevation (m) 2110.598
Point Type	Latitude (N) N35°55'17.97404"	Longitude (W) W112°01'19.60755"	Ellipsoid Height (m) 2087.708
Location Photo ↑ NORTH			
<p>CA009_2018_AZ, 3N, 20180825</p>		<p>CA009_2018_AZ, 3E, 20180825</p>	



GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID CA010	Northing (m) 3980835.209	Easting (m) 415492.344	Elevation (m) 2165.192
Point Type CALI	Latitude (N) N35°58'05.77462"	Longitude (W) W111°56'14.12148"	Ellipsoid Height (m) 2142.201
Location Photo  NORTH			
 <p>CA010_2018_CA, 3W, 20180827</p>		 <p>CA010_2018_CA, 3S, 20180827</p>	







GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID CA011	Northing (m) 3984812.221	Easting (m) 427686.594	Elevation (m) 2097.061
Point Type CALI	Latitude (N) N36°00'18.37394"	Longitude (W) W111°48'08.59706"	Ellipsoid Height (m) 2073.949
Location Photo ↑ NORTH			
<p>CA011_2018_CA, 3N, 20180827</p>		<p>CA011_2018_CA, 3E, 20180827</p>	







GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID CA012	Northing (m) 3974895.272	Easting (m) 418172.302	Elevation (m) 2244.784
Point Type CALI	Latitude (N) N35°54'53.82451"	Longitude (W) W111°54'24.92814"	Ellipsoid Height (m) 2221.895
Location Photo  NORTH			
			
CA012_2018_CA, 3W, 20180827	CA012_2018_CA, 3N, 20180827		







GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID CA013	Northing (m) 3976100.531	Easting (m) 434392.129	Elevation (m) 1920.033
Point Type CALI	Latitude (N) N35°55'37.34508"	Longitude (W) W111°43'38.16718"	Ellipsoid Height (m) 1896.869
Location Photo  NORTH			
			
CA013_2018_CA, 3W, 20180827		CA013_2018_CA, 3N, 20180827	






GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID CA014	Northing (m) 3971525.564	Easting (m) 389033.619	Elevation (m) 1841.375
Point Type CALI	Latitude (N) N35°52'54.13212"	Longitude (W) W112°13'45.66244"	Ellipsoid Height (m) 1818.222
Location Photo  NORTH			
			
CA014_2018_AZ, 3N, 20180825	CA014_2018_AZ, 3E, 20180825		



GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID CA015	Northing (m) 3962756.676	Easting (m) 397824.643	Elevation (m) 1876.665
Point Type CALI	Latitude (N) N35°48'13.01107"	Longitude (W) W112°07'51.07300"	Ellipsoid Height (m) 1853.484
Location Photo  NORTH			
			
CA015_2018_AZ, 3W, 20180825	CA015_2018_AZ, 3N, 20180825		



GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID CA016	Northing (m) 3972356.577	Easting (m) 397928.165	Elevation (m) 1975.855
Point Type CALI	Latitude (N) N35°53'24.58481"	Longitude (W) W112°07'51.37022"	Ellipsoid Height (m) 1952.841
Location Photo ↑ NORTH			
<p>CA016_2018_AZ, 3N, 20180825</p>		<p>CA016_2018_AZ, 3E, 20180825</p>	







GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID CA017	Northing (m) 3967497.109	Easting (m) 400902.429	Elevation (m) 1935.109
Point Type CALI	Latitude (N) N35°50'47.98545"	Longitude (W) W112°05'50.57956"	Ellipsoid Height (m) 1912.041
Location Photo ↑ NORTH			
<p>CA017_2018_AZ, 3W, 20180825</p>		<p>CA017_2018_AZ, 3N, 20180825</p>	






GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID CA018	Northing (m) 3968599.963	Easting (m) 413262.595	Elevation (m) 2094.855
Point Type CALI	Latitude (N) N35°51'27.99618"	Longitude (W) W111°57'38.33302"	Ellipsoid Height (m) 2071.946
Location Photo  NORTH			
 <p>CA018_2018_AZ, 3W, 20180828</p>		 <p>CA018_2018_AZ, 3S, 20180828</p>	







GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID CA019	Northing (m) 3966512.678	Easting (m) 428765.152	Elevation (m) 2075.133
Point Type	Latitude (N) N35°50'24.75331"	Longitude (W) W111°47'19.61324"	Ellipsoid Height (m) 2052.094
Location Photo  NORTH			
			
CA019_2018_AZ, 3N, 20180828		CA019_2018_AZ, 3E, 20180828	







GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID CA020	Northing (m) 3960648.693	Easting (m) 405816.647	Elevation (m) 1894.808
Point Type CALI	Latitude (N) N35°47'07.47839"	Longitude (W) W112°02'31.79551"	Ellipsoid Height (m) 1871.708
Location Photo  NORTH			
 <p>CA020_2018_AZ, 3S, 20180828</p>		 <p>CA020_2018_AZ, 3E, 20180828</p>	







GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID CA021	Northing (m) 3961280.201	Easting (m) 418983.732	Elevation (m) 1997.652
Point Type CALI	Latitude (N) N35°47'32.20157"	Longitude (W) W111°53'47.57689"	Ellipsoid Height (m) 1974.637
Location Photo  NORTH			
			
CA021_2018_AZ, 3N, 20180828	CA021_2018_AZ, 3E, 20180828		



GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID CA022	Northing (m) 3957207.847	Easting (m) 411151.425	Elevation (m) 1950.910
Point Type CALI	Latitude (N) N35°45'17.59920"	Longitude (W) W111°58'57.93922"	Ellipsoid Height (m) 1927.824
Location Photo  NORTH			
			
CA022_2018_AZ, 3S, 20180828	CA022_2018_AZ, 3E, 20180828		



GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID CA023	Northing (m) 3957405.597	Easting (m) 428564.042	Elevation (m) 1982.276
Point Type	Latitude (N) N35°45'29.12679"	Longitude (W) W111°47'24.70072"	Ellipsoid Height (m) 1959.192
Location Photo ↑ NORTH			
<p>CA023_2018_AZ, 3N, 20180828</p>		<p>CA023_2018_AZ, 3E, 20180828</p>	



GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID CA024	Northing (m) 3962276.971	Easting (m) 437349.144	Elevation (m) 1985.859
Point Type	Latitude (N) N35°48'09.38989"	Longitude (W) W111°41'36.26025"	Ellipsoid Height (m) 1962.681
Location Photo  NORTH			
 <p>CA024_2018_AZ, 3W, 20180828</p>		 <p>CA024_2018_AZ, 3S, 20180828</p>	







GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID CA025	Northing (m) 3911727.424	Easting (m) 310639.787	Elevation (m) 1787.390
Point Type CALIBRATION	Latitude (N) N35°19'51.12085"	Longitude (W) W113°05'00.28022"	Ellipsoid Height (m) 1761.739
Location Photo ↑ NORTH			
<p>CA025_2018_AZ, 3S, 20180823</p>		<p>CA025_2018_AZ, 3E, 20180823</p>	


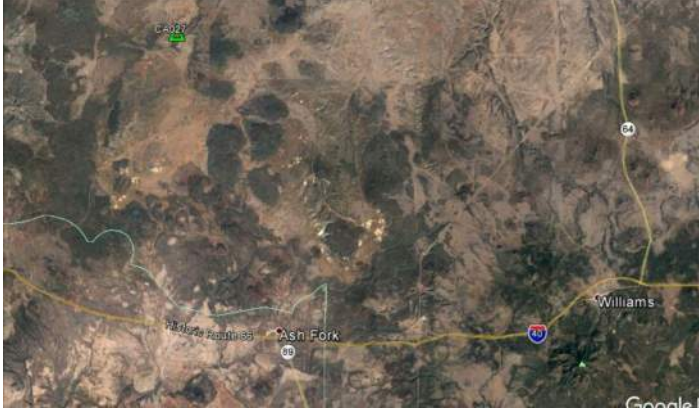




GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID CA026	Northing (m) 3914186.878	Easting (m) 321071.941	Elevation (m) 1610.909
Point Type CALIBRATION	Latitude (N) N35°21'17.83343"	Longitude (W) W112°58'09.23838"	Ellipsoid Height (m) 1585.511
Location Photo  NORTH			
			
CA026_2018_AZ, 3SE, 20180822		CA026_2018_AZ, 3NE, 20180822	







GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID CA027	Northing (m) 3923960.036	Easting (m) 356780.421	Elevation (m) 1771.102
Point Type CALIB	Latitude (N) N35°26'55.70678"	Longitude (W) W112°34'41.16274"	Ellipsoid Height (m) 1746.608
Location Photo  NORTH			
			
CA027_2018_AZ, 3SE, 20180911	CA027_2018_AZ, 3NE, 20180911		







GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID CA028	Northing (m) 3929068.838	Easting (m) 378886.145	Elevation (m) 1842.270
Point Type CALIB	Latitude (N) N35°29'52.07197"	Longitude (W) W112°20'07.25668"	Ellipsoid Height (m) 1818.341
Location Photo  NORTH			
 CA028_2018_AZ_3W, 20180911	 CA028_2018_AZ_3S, 20180911		







GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID CA028A	Northing (m) 3923253.693	Easting (m) 380422.771	Elevation (m) 1863.836
Point Type CALIB	Latitude (N) N35°26'44.03165"	Longitude (W) W112°19'03.19946"	Ellipsoid Height (m) 1839.885
Location Photo  NORTH			
			
CA028A_2018_AZ_3SW_20180911	CA028A_2018_AZ_3SE_20180911		


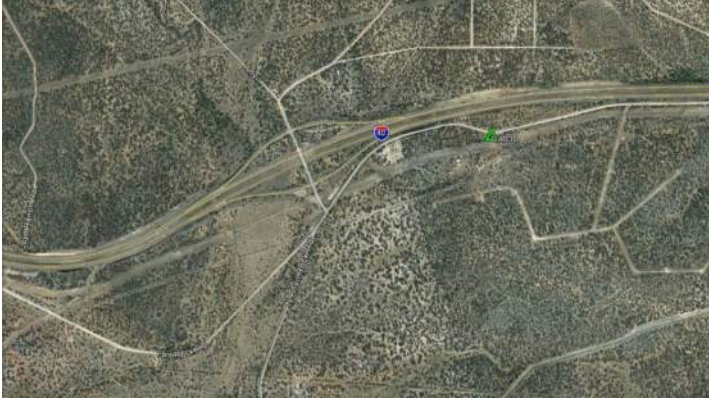




GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH	
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North	Geoid GEOID12B (Conus)
Station ID CA029	Northing (m) 3937239.242	Easting (m) 415470.737	Elevation (m) 1997.259	
Point Type	Latitude (N) N35°34'30.89133"	Longitude (W) W111°55'58.41742"	Ellipsoid Height (m) 1974.168	
Location Photo  NORTH				
 <p>CA029_2018_AZ, 3SW, 20180906</p>		 <p>CA029_2018_AZ, 3SE, 20180906</p>		







GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID CA030	Northing (m) 3907223.387	Easting (m) 310991.393	Elevation (m) 1762.117
Point Type CALIB	Latitude (N) N35°17'25.25102"	Longitude (W) W113°04'42.62165"	Ellipsoid Height (m) 1736.359
Location Photo  NORTH			
			
CA030_2018_AZ, 3S, 20180824		CA030_2018_AZ, 3E, 20180824	







GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID CA031	Northing (m) 3908457.291	Easting (m) 322286.750	Elevation (m) 1579.174
Point Type CALIB	Latitude (N) N35°18'12.73521"	Longitude (W) W112°57'16.65419"	Ellipsoid Height (m) 1553.627
Location Photo  NORTH			
			
CA031_2018_AZ, 3W, 20180824	CA031_2018_AZ, 3N, 20180824		



GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID CA032	Northing (m) 3909355.768	Easting (m) 334413.980	Elevation (m) 1643.892
Point Type CALIB	Latitude (N) N35°18'49.38131"	Longitude (W) W112°49'17.34763"	Ellipsoid Height (m) 1618.535
Location Photo  NORTH			
			
CA032_2018_AZ, 3W, 20180824	CA032_2018_AZ, 3N, 20180824		







GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID CA033	Northing (m) 3913807.594	Easting (m) 350095.986	Elevation (m) 1760.912
Point Type	Latitude (N) N35°21'22.74286"	Longitude (W) W112°38'59.50408"	Ellipsoid Height (m) 1735.980
Location Photo ↑ NORTH			
<p>CA033_2018_AZ, 3W, 20180911</p>		<p>CA033_2018_AZ, 3N, 20180911</p>	





GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID CA034	Northing (m) 3912844.462	Easting (m) 359028.951	Elevation (m) 1625.841
Point Type CALIB	Latitude (N) N35°20'56.17753"	Longitude (W) W112°33'05.08327"	Ellipsoid Height (m) 1601.053
Location Photo  NORTH			
 <p>CA034_2018_AZ, 3W, 20180828</p>		 <p>CA034_2018_AZ, 3N, 20180828</p>	







GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID CA035	Northing (m) 3919284.589	Easting (m) 368955.020	Elevation (m) 1760.951
Point Type CALIB	Latitude (N) N35°24'30.03195"	Longitude (W) W112°26'35.66209"	Ellipsoid Height (m) 1736.593
Location Photo  NORTH			
 CA035_2018_AZ, 3S, 20180911	 CA035_2018_AZ, 3E, 20180911		



GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID CA036	Northing (m) 3924269.576	Easting (m) 399026.238	Elevation (m) 1968.323
Point Type CALIB	Latitude (N) N35°27'24.42787"	Longitude (W) W112°06'45.85627"	Ellipsoid Height (m) 1944.828
Location Photo  NORTH			
 <p>CA036_2018_AZ, 3SW, 20180908</p>		 <p>CA036_2018_AZ, 3NW, 20180908</p>	



GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID CA037	Northing (m) 3926839.715	Easting (m) 411356.865	Elevation (m) 2095.614
Point Type	Latitude (N) N35°28'52.07689"	Longitude (W) W111°58'37.74953"	Ellipsoid Height (m) 2072.433
Location Photo ↑ NORTH			
<p>CA037_2018_AZ, 3N, 20180908</p>		<p>CA037_2018_AZ, 3E, 20180908</p>	







GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID CA038	Northing (m) 3928079.876	Easting (m) 422405.760	Elevation (m) 2160.730
Point Type CALIB	Latitude (N) N35°29'35.65717"	Longitude (W) W111°51'19.75409"	Ellipsoid Height (m) 2137.815
Location Photo ↑ NORTH			
<p>CA038_2018_AZ, 3NW, 20180906</p>		<p>CA038_2018_AZ, 3NE, 20180906</p>	







GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID CA039	Northing (m) 3898161.072	Easting (m) 315128.527	Elevation (m) 1821.044
Point Type CALIB	Latitude (N) N35°12'34.04389"	Longitude (W) W113°01'51.59151"	Ellipsoid Height (m) 1795.198
Location Photo  NORTH			
 <p>CA039_2018_AZ, 3N, 20180910</p>		 <p>CA039_2018_AZ, 3E, 20180910</p>	



GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID CA040	Northing (m) 3898175.710	Easting (m) 328352.288	Elevation (m) 1548.547
Point Type CALIB	Latitude (N) N35°12'42.97712"	Longitude (W) W112°53'08.87003"	Ellipsoid Height (m) 1522.790
Location Photo  NORTH			
 <p>CA040_2018_AZ, 3NW, 20180824</p>		 <p>CA040_2018_AZ, 3NE, 20180824</p>	



GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID CA041	Northing (m) 3904285.383	Easting (m) 342621.983	Elevation (m) 1775.861
Point Type CALIB	Latitude (N) N35°16'09.64010"	Longitude (W) W112°43'48.93642"	Ellipsoid Height (m) 1750.539
Location Photo ↑ NORTH			
<p>CA041_2018_AZ, 3SE, 20180824</p>		<p>CA041_2018_AZ, 3NE, 20180824</p>	



GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID CA042	Northing (m) 3905263.002	Easting (m) 352963.862	Elevation (m) 1575.972
Point Type CALIB	Latitude (N) N35°16'47.02319"	Longitude (W) W112°37'00.39127"	Ellipsoid Height (m) 1550.844
Location Photo  NORTH			
 <p>CA042_2018_AZ, 3SE, 20180828</p>		 <p>CA042_2018_AZ, 3NE, 20180828</p>	





GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID CA043	Northing (m) 3905330.101	Easting (m) 364241.758	Elevation (m) 1640.926
Point Type CALIB	Latitude (N) N35°16'54.93781"	Longitude (W) W112°29'34.13898"	Ellipsoid Height (m) 1616.098
Location Photo ↑ NORTH			
<p>CA043_2018_AZ, 3N, 20180828</p>		<p>CA043_2018_AZ, 3E, 20180828</p>	



GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID CA044	Northing (m) 3912299.111	Easting (m) 376520.521	Elevation (m) 1826.526
Point Type CALIB	Latitude (N) N35°20'46.82246"	Longitude (W) W112°21'31.98050"	Ellipsoid Height (m) 1802.301
Location Photo  NORTH			
 <p>CA044_2018_AZ, 3SW, 20180829</p>		 <p>CA044_2018_AZ, 3NW, 20180829</p>	




GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID CA045	Northing (m) 3904401.021	Easting (m) 377227.115	Elevation (m) 1891.697
Point Type CALIB	Latitude (N) N35°16'30.82680"	Longitude (W) W112°20'59.73280"	Ellipsoid Height (m) 1867.352
Location Photo ↑ NORTH			
<p>CA045_2018_AZ, 3N, 20180829</p>		<p>CA045_2018_AZ, 3E, 20180829</p>	




GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID CA046	Northing (m) 3907065.054	Easting (m) 391571.811	Elevation (m) 2031.117
Point Type CALIB	Latitude (N) N35°18'03.25120"	Longitude (W) W112°11'33.30984"	Ellipsoid Height (m) 2007.357
Location Photo  NORTH			







GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID CA047	Northing (m) 3909280.587	Easting (m) 404983.274	Elevation (m) 2160.287
Point Type CALIB	Latitude (N) N35°19'20.07030"	Longitude (W) W112°02'43.28057"	Ellipsoid Height (m) 2136.926
Location Photo  NORTH			







GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID CA048	Northing (m) 3911619.529	Easting (m) 417116.242	Elevation (m) 2269.912
Point Type CALIB	Latitude (N) N35°20'39.87429"	Longitude (W) W111°54'43.64723"	Ellipsoid Height (m) 2246.800
Location Photo  NORTH			
 <p>CA048_2018_AZ_3W, 20180906</p>		 <p>CA048_2018_AZ_3S, 20180906</p>	







GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID CA049	Northing (m) 3913984.917	Easting (m) 428179.143	Elevation (m) 2442.085
Point Type CALIB	Latitude (N) N35°21'59.73593"	Longitude (W) W111°47'26.15104"	Ellipsoid Height (m) 2419.285
Location Photo  NORTH			
 CA049_2018_AZ, 3W, 20180906	 CA049_2018_AZ, 3S, 20180906		







GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID CA050	Northing (m) 3909799.637	Easting (m) 435303.950	Elevation (m) 2832.518
Point Type CALI	Latitude (N) N35°19'45.64391"	Longitude (W) W111°42'42.63421"	Ellipsoid Height (m) 2809.849
Location Photo  NORTH			
 CA050_2018_AZ, 3W, 20180906	 CA050_2018_AZ, 3N, 20180906		







GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID CA051	Northing (m) 3888183.357	Easting (m) 317471.556	Elevation (m) 1776.284
Point Type CALIB	Latitude (N) N35°07'11.89131"	Longitude (W) W113°00'11.03209"	Ellipsoid Height (m) 1750.317
Location Photo  NORTH			
			
CA051_2018_AZ, 3N, 20180825	CA051_2018_AZ, 3E, 20180825		



GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID CA052	Northing (m) 3889340.532	Easting (m) 327189.343	Elevation (m) 1617.236
Point Type CALIB	Latitude (N) N35°07'55.60977"	Longitude (W) W112°53'48.18082"	Ellipsoid Height (m) 1591.353
Location Photo  NORTH			
 CA052_2018_AZ, 3W, 20180824	 CA052_2018_AZ, 3N, 20180824		







GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID CA053A	Northing (m) 3894745.970	Easting (m) 348453.557	Elevation (m) 1561.930
Point Type	Latitude (N) N35°11'03.34628"	Longitude (W) W112°39'51.88841"	Ellipsoid Height (m) 1536.447
Location Photo ↑ NORTH			
<p>CA053A_2018_AZ, 3W, 20180911</p>		<p>CA053A_2018_AZ, 3N, 20180911</p>	




GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID CA054	Northing (m) 3894853.879	Easting (m) 352191.813	Elevation (m) 1538.564
Point Type CALIB	Latitude (N) N35°11'08.85374"	Longitude (W) W112°37'24.20725"	Ellipsoid Height (m) 1513.185
Location Photo  NORTH			
 <p>CA054_2018_AZ, 3SE, 20180828</p>		 <p>CA054_2018_AZ, 3NE, 20180828</p>	







GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID CA055	Northing (m) 3895649.163	Easting (m) 364090.777	Elevation (m) 1562.081
Point Type CALIB	Latitude (N) N35°11'40.71323"	Longitude (W) W112°29'34.35303"	Ellipsoid Height (m) 1537.042
Location Photo  NORTH			
 <p>CA055_2018_AZ, 3W, 20180828</p>		 <p>CA055_2018_AZ, 3S, 20180828</p>	



GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID CA056	Northing (m) 3896269.547	Easting (m) 373493.651	Elevation (m) 1687.647
Point Type CALIB	Latitude (N) N35°12'05.27090"	Longitude (W) W112°23'22.97257"	Ellipsoid Height (m) 1662.958
Location Photo  NORTH			
 <p>CA056_2018_AZ, 3S, 20180828</p>		 <p>CA056_2018_AZ, 3E, 20180828</p>	




GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID CA057	Northing (m) 3895832.938	Easting (m) 390193.473	Elevation (m) 2758.265
Point Type CALIB	Latitude (N) N35°11'58.18003"	Longitude (W) W112°12'22.47196"	Ellipsoid Height (m) 2734.363
Location Photo ↑ NORTH			
<p>CA057_2018_AZ, 3SW, 201800907</p>		<p>CA057_2018_AZ, 3NW, 201800907</p>	







GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID CA058	Northing (m) 3896563.365	Easting (m) 403256.624	Elevation (m) 2084.566
Point Type CALIB	Latitude (N) N35°12'26.72662"	Longitude (W) W112°03'46.26246"	Ellipsoid Height (m) 2060.903
Location Photo  NORTH			
 <p>CA058_2018_AZ, 3SE, 20180907</p>		 <p>CA058_2018_AZ, 3N, 20180907</p>	


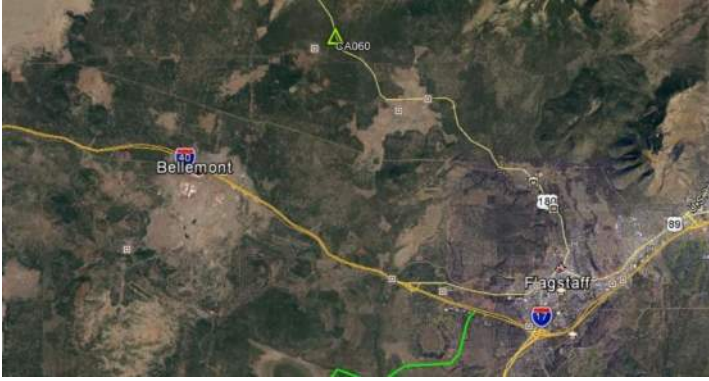




GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID CA059	Northing (m) 3900784.877	Easting (m) 420006.752	Elevation (m) 2203.885
Point Type CALIB	Latitude (N) N35°14'49.05905"	Longitude (W) W111°52'45.33878"	Ellipsoid Height (m) 2180.761
Location Photo  NORTH			
 <p>CA059_2018_AZ, 3N, 20180906</p>		 <p>CA059_2018_AZ, 3E, 20180906</p>	







GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID CA060	Northing (m) 3905921.814	Easting (m) 430466.392	Elevation (m) 2359.878
Point Type CALIB	Latitude (N) N35°17'38.60636"	Longitude (W) W111°45'53.05193"	Ellipsoid Height (m) 2337.049
Location Photo  NORTH			
 CA060_2018_AZ, 3NW, 20180906	 CA060_2018_AZ, 3NE, 20180906		



GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID CA061	Northing (m) 3889469.472	Easting (m) 365827.118	Elevation (m) 1593.176
Point Type CALIB	Latitude (N) N35°08'21.01623"	Longitude (W) W112°28'22.09436"	Ellipsoid Height (m) 1568.055
Location Photo  NORTH			
 <p>CA061_2018_AZ, 3W, 20180828</p>		 <p>CA061_2018_AZ, 3S, 20180828</p>	







GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID CA062	Northing (m) 3891686.661	Easting (m) 383224.162	Elevation (m) 1989.650
Point Type CALIB	Latitude (N) N35°09'40.78580"	Longitude (W) W112°16'55.91069"	Ellipsoid Height (m) 1965.338
Location Photo ↑ NORTH			
<p>CA062_2018_AZ, 3SE, 20180828</p>		<p>CA062_2018_AZ, 3NE, 20180828</p>	


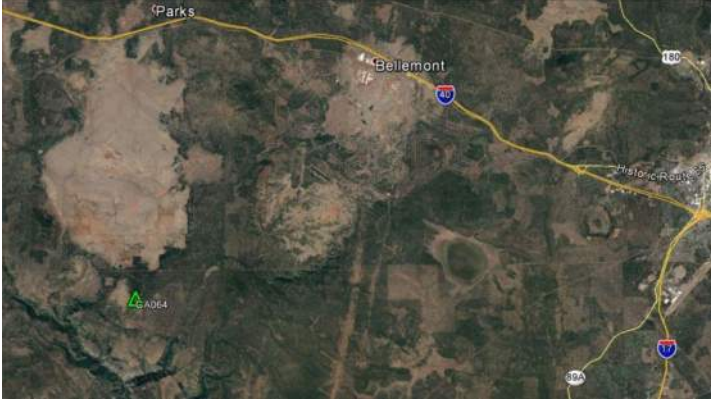




GCP OBSERVATION LOG

Project Number 78939		Project Name Kaibab LiDAR Control		Company Woolpert		Field Operator DM/JH	
Coordinate System NAD 1983 (Conus)		Hor. Datum World wide/UTM		Ver. Datum NAVD88		Zone 12 North	
Geoid GEOID12B (Conus)		Station ID CA063		Northing (m) 3889723.032		Easting (m) 396310.821	
Point Type CALIB		Latitude (N) N35°08'42.22298"		Longitude (W) W112°08'17.83051"		Elevation (m) 2175.191	
Location Photo  NORTH							
 <p>CA063_2018_AZ, 3SW, 201800907</p>				 <p>CA063_2018_AZ, 3SE, 201800907</p>			







GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID CA064	Northing (m) 3888590.296	Easting (m) 412615.011	Elevation (m) 2045.149
Point Type CALIB	Latitude (N) N35°08'11.03408"	Longitude (W) W111°57'33.14002"	Ellipsoid Height (m) 2021.573
Location Photo  NORTH			
 <p>CA064_2018_AZ, 3SE, 20180907</p>		 <p>CA064_2018_AZ, 3NE, 20180907</p>	







GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID CA065	Northing (m) 3894695.204	Easting (m) 432697.048	Elevation (m) 2219.733
Point Type CALIB	Latitude (N) N35°11'34.75382"	Longitude (W) W111°44'21.43044"	Ellipsoid Height (m) 2196.685
Location Photo  NORTH			
 CA065_2018_AZ_3W, 20180906		 CA065_2018_AZ_3S, 20180906	







GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID CA066	Northing (m) 3882397.337	Easting (m) 372105.618	Elevation (m) 1546.568
Point Type CALIB	Latitude (N) N35°04'34.45277"	Longitude (W) W112°24'10.12048"	Ellipsoid Height (m) 1521.432
Location Photo  NORTH			
 <p>CA066_2018_AZ, 3SW, 20180828</p>		 <p>CA066_2018_AZ, 3NW, 20180828</p>	







GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID CA067	Northing (m) 3884583.600	Easting (m) 388011.116	Elevation (m) 1904.312
Point Type CALIB	Latitude (N) N35°05'52.22025"	Longitude (W) W112°13'43.26723"	Ellipsoid Height (m) 1879.992
Location Photo  NORTH			
 <p>CA067_2018_AZ_3W, 201800907</p>		 <p>CA067_2018_AZ_3N, 201800907</p>	







GCP OBSERVATION LOG

Project Number 78939		Project Name Kaibab LiDAR Control		Company Woolpert		Field Operator DM/JH	
Coordinate System NAD 1983 (Conus)		Hor. Datum World wide/UTM		Ver. Datum NAVD88		Zone 12 North	
Geoid GEOID12B (Conus)		Station ID CA068		Northing (m) 3876948.950		Easting (m) 388213.765	
Point Type CALIB		Latitude (N) N35°01'44.51875"		Longitude (W) W112°13'31.55982"		Elevation (m) 1744.713	
Location Photo  NORTH							
 <p>CA068_2018_AZ, 3S, 201800907</p>				 <p>CA068_2018_AZ, 3E, 201800907</p>			



GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID CA069	Northing (m) 3881834.072	Easting (m) 400252.320	Elevation (m) 2078.977
Point Type CALIB	Latitude (N) N35°04'27.61223"	Longitude (W) W112°05'38.66302"	Ellipsoid Height (m) 2054.897
Location Photo  NORTH			
 <p>CA069_2018_AZ, 3W, 201800907</p>		 <p>CA069_2018_AZ, 3N, 201800907</p>	







GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID CA070	Northing (m) 3885122.562	Easting (m) 425998.738	Elevation (m) 2184.250
Point Type CALIB	Latitude (N) N35°06'22.34080"	Longitude (W) W111°48'43.19761"	Ellipsoid Height (m) 2160.960
Location Photo ↑ NORTH			
<p>CA070_2018_AZ_3W, 20180830</p>		<p>CA070_2018_AZ_3S, 20180830</p>	


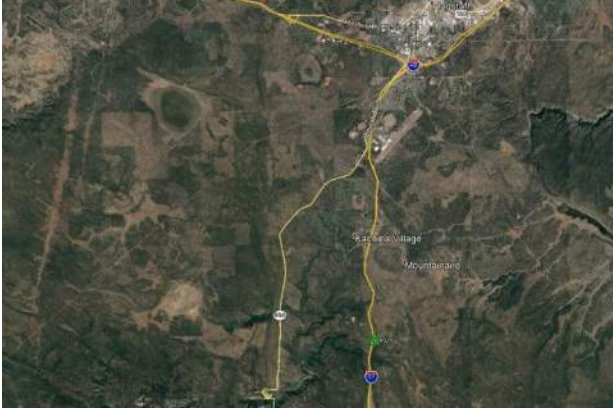




GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID CA071	Northing (m) 3879019.824	Easting (m) 426666.752	Elevation (m) 2188.761
Point Type CALIB	Latitude (N) N35°03'04.42700"	Longitude (W) W111°48'14.86765"	Ellipsoid Height (m) 2165.296
Location Photo  NORTH			
 CA071_2018_AZ, 3W, 20180830	 CA071_2018_AZ, 3N, 20180830		



GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID CA072	Northing (m) 3879014.223	Easting (m) 437805.795	Elevation (m) 2064.848
Point Type CALIB	Latitude (N) N35°03'06.93841"	Longitude (W) W111°40'55.17686"	Ellipsoid Height (m) 2041.441
Location Photo  NORTH			
 CA072_2018_AZ_3W, 20180830	 CA072_2018_AZ_3S, 20180830		


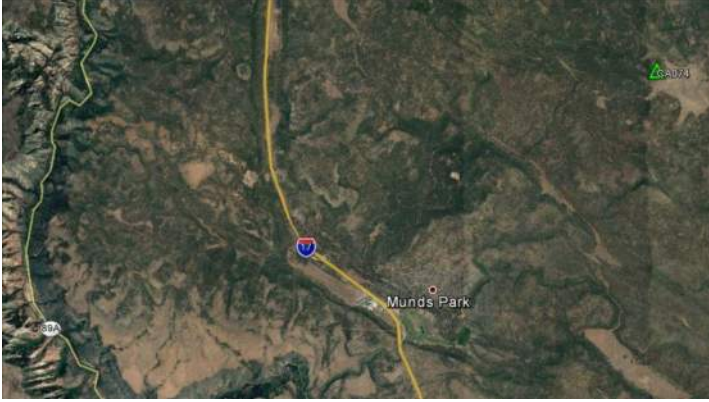




GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID CA073	Northing (m) 3869421.769	Easting (m) 431331.444	Elevation (m) 1564.142
Point Type CALIB	Latitude (N) N34°57'54.05645"	Longitude (W) W111°45'07.88756"	Ellipsoid Height (m) 1540.368
Location Photo ↑ NORTH			
<p>CA073_2018_AZ, 3SW, 20180830</p>		<p>CA073_2018_AZ, 3SE, 20180830</p>	



GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID CA074	Northing (m) 3872718.076	Easting (m) 447408.244	Elevation (m) 2198.583
Point Type CALIB	Latitude (N) N34°59'44.52552"	Longitude (W) W111°34'34.69466"	Ellipsoid Height (m) 2175.260
Location Photo  NORTH			
 <p>CA074_2018_AZ, 3SW, 20180830</p>		 <p>CA074_2018_AZ, 3SE, 20180830</p>	



GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID CA075	Northing (m) 3861111.030	Easting (m) 448519.456	Elevation (m) 2102.244
Point Type CALIB	Latitude (N) N34°53'27.94910"	Longitude (W) W111°33'48.28142"	Ellipsoid Height (m) 2078.816
Location Photo ↑ NORTH			
<p>CA075_2018_AZ, 3N, 20180830</p>		<p>CA075_2018_AZ, 3E, 20180830</p>	







GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID CA076	Northing (m) 3925052.096	Easting (m) 344297.627	Elevation (m) 1900.611
Point Type	Latitude (N) N35°27'24.38591"	Longitude (W) W112°42'56.88608"	Ellipsoid Height (m) 1875.903
Location Photo ↑ NORTH			
<p>CA076_2018_AZ, 3NW, 20180911</p>		<p>CA076_2018_AZ, 3NE, 20180911</p>	



GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID CA077	Northing (m) 3879966.969	Easting (m) 321352.213	Elevation (m) 1826.454
Point Type CALIB	Latitude (N) N35°02'47.83082"	Longitude (W) W112°57'31.42479"	Ellipsoid Height (m) 1800.417
Location Photo  NORTH			
			
CA077_2018_AZ_3W, 20180910	CA077_2018_AZ_3N, 20180910		







GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID CA078	Northing (m) 3880728.223	Easting (m) 334223.727	Elevation (m) 1642.152
Point Type GRAVEL	Latitude (N) N35°03'20.43673"	Longitude (W) W112°49'04.15539"	Ellipsoid Height (m) 1616.184
Location Photo  NORTH			
 CA078_2018_AZ, 3SW, 20180910	 CA078_2018_AZ, 3NW, 20180910		



GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID CA079A	Northing (m) 3889307.757	Easting (m) 353183.946	Elevation (m) 1548.715
Point Type CALIB	Latitude (N) N35°08'09.41137"	Longitude (W) W112°36'41.44150"	Ellipsoid Height (m) 1523.249
Location Photo  NORTH			
 <p>CA079A_2018_AZ, 3SW, 20180828</p>		 <p>CA079A_2018_AZ, 3NW, 20180828</p>	



GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID CA080	Northing (m) 3884212.907	Easting (m) 417937.596	Elevation (m) 2147.115
Point Type CALIB	Latitude (N) N35°05'50.56618"	Longitude (W) W111°54'01.27088"	Ellipsoid Height (m) 2123.596
Location Photo ↑ NORTH			
<p>CA080_2018_AZ, 3N, 20180907</p>		<p>CA080_2018_AZ, 3E, 20180907</p>	







GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID CA081	Northing (m) 3868232.480	Easting (m) 321556.074	Elevation (m) 1814.561
Point Type	Latitude (N) N34°56'27.24844"	Longitude (W) W112°57'14.32479"	Ellipsoid Height (m) 1788.305
Location Photo ↑ NORTH			
<p>CA081_2018_AZ, 3N, 20180909</p>		<p>CA081_2018_AZ, 3E, 20180909</p>	






GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID CA082	Northing (m) 3869939.101	Easting (m) 350741.899	Elevation (m) 1399.970
Point Type CALIB	Latitude (N) N34°57'39.61934"	Longitude (W) W112°38'05.36467"	Ellipsoid Height (m) 1373.834
Location Photo  NORTH			
 <p>CA082_2018_AZ, 3N, 20180827</p>		 <p>CA082_2018_AZ, 3E, 20180827</p>	







GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID CA082A	Northing (m) 3870577.984	Easting (m) 356415.264	Elevation (m) 1370.404
Point Type CALIB	Latitude (N) N34°58'03.30523"	Longitude (W) W112°34'22.13198"	Ellipsoid Height (m) 1344.376
Location Photo  NORTH			
			
CA082-A_2018_AZ, 3SW, 20180827	CA082-A_2018_AZ, 3NW, 20180827		



GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID CA083	Northing (m) 3872418.727	Easting (m) 380622.606	Elevation (m) 1379.865
Point Type CALIB	Latitude (N) N34°59'14.36603"	Longitude (W) W112°18'28.73075"	Ellipsoid Height (m) 1354.673
Location Photo  NORTH			
 CA083_2018_AZ, 3W, 20180827		 CA083_2018_AZ, 3N, 20180827	



GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID CA084	Northing (m) 3873630.811	Easting (m) 415929.513	Elevation (m) 2072.836
Point Type CALIB	Latitude (N) N35°00'06.49310"	Longitude (W) W111°55'16.71679"	Ellipsoid Height (m) 2048.888
Location Photo ↑ NORTH			
<p>CA084_2018_AZ, 3SW, 20180907</p>		<p>CA084_2018_AZ, 3SE, 20180907</p>	



GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID CA085	Northing (m) 3861877.917	Easting (m) 323102.308	Elevation (m) 1923.929
Point Type	Latitude (N) N34°53'02.05276"	Longitude (W) W112°56'08.55971"	Ellipsoid Height (m) 1897.562
Location Photo  NORTH			
 <p>CA085_2018_AZ, 3SW, 20180909</p>		 <p>CA085_2018_AZ, 3NW, 20180909</p>	







GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID CA086	Northing (m) 3860013.304	Easting (m) 347140.508	Elevation (m) 1422.025
Point Type CALIB	Latitude (N) N34°52'15.59934"	Longitude (W) W112°40'20.77892"	Ellipsoid Height (m) 1395.677
Location Photo ↑ NORTH			
<p>CA086_2018_AZ, 3SW, 20180827</p>		<p>CA086_2018_AZ, 3SE, 20180827</p>	







GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID CA087	Northing (m) 3861404.952	Easting (m) 365882.642	Elevation (m) 1343.855
Point Type CALIB	Latitude (N) N34°53'10.29289"	Longitude (W) W112°28'03.60255"	Ellipsoid Height (m) 1317.941
Location Photo  NORTH			
 <p>CA087_2018_AZ, 3S, 20180827</p>		 <p>CA087_2018_AZ, 3E, 20180827</p>	







GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID CA088A	Northing (m) 3862479.606	Easting (m) 390204.644	Elevation (m) 1165.148
Point Type CALIB	Latitude (N) N34°53'55.69075"	Longitude (W) W112°12'06.14385"	Ellipsoid Height (m) 1139.910
Location Photo  NORTH			
 <p>CA088A_2018_AZ, 3NW, 20180905</p>		 <p>CA088A_2018_AZ, 3NE, 20180905</p>	







GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID CA089	Northing (m) 3858622.476	Easting (m) 409506.817	Elevation (m) 1338.150
Point Type CALIB	Latitude (N) N34°51'57.35198"	Longitude (W) W111°59'24.21149"	Ellipsoid Height (m) 1313.161
Location Photo  NORTH			
 <p>CA089_2018_AZ, 3N, 20180905</p>		 <p>CA089_2018_AZ, 3E, 20180905</p>	



GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID CA090	Northing (m) 3852158.680	Easting (m) 324414.872	Elevation (m) 1798.861
Point Type	Latitude (N) N34°47'47.52877"	Longitude (W) W112°55'09.55322"	Ellipsoid Height (m) 1772.250
Location Photo  NORTH			
			
CA090_2018_AZ, 3NW, 20180909	CA090_2018_AZ, 3NE, 20180909		







GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID CA091	Northing (m) 3853856.088	Easting (m) 339195.770	Elevation (m) 1463.934
Point Type	Latitude (N) N34°48'51.39287"	Longitude (W) W112°45'29.32496"	Ellipsoid Height (m) 1437.437
Location Photo ↑ NORTH			
<p>CA091_2018_AZ, 3E, 20180909</p>		<p>CA091_2018_AZ, 2, 20180909</p>	



GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID CA092	Northing (m) 3852010.926	Easting (m) 353682.551	Elevation (m) 1421.624
Point Type CALIB	Latitude (N) N34°47'59.38244"	Longitude (W) W112°35'58.16833"	Ellipsoid Height (m) 1395.291
Location Photo  NORTH			
 <p>CA092_2018_AZ, 3SW, 20180827</p>		 <p>CA092_2018_AZ, 3SE, 20180827</p>	



GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID CA093	Northing (m) 3853998.257	Easting (m) 366953.062	Elevation (m) 1362.864
Point Type CALIB	Latitude (N) N34°49'10.42992"	Longitude (W) W112°27'17.21149"	Ellipsoid Height (m) 1336.879
Location Photo ↑ NORTH			
<p>CA093_2018_AZ, 3SW, 20180827</p>		<p>CA093_2018_AZ, 3NW, 20180827</p>	







GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID CA094	Northing (m) 3854934.192	Easting (m) 384764.446	Elevation (m) 1456.605
Point Type CALIB	Latitude (N) N34°49'48.62801"	Longitude (W) W112°15'36.71520"	Ellipsoid Height (m) 1431.118
Location Photo  NORTH			
 <p>CA094_2018_AZ, 3SW, 20180905</p>		 <p>CA094_2018_AZ, 3SE, 20180905</p>	







GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID CA095	Northing (m) 3852794.477	Easting (m) 404319.531	Elevation (m) 1079.681
Point Type CALIB	Latitude (N) N34°48'46.47447"	Longitude (W) W112°02'46.09704"	Ellipsoid Height (m) 1054.327
Location Photo  NORTH			
 <p>CA095_2018_AZ, 3SW, 20180905</p>		 <p>CA095_2018_AZ, 3NW, 20180905</p>	







GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID CA096	Northing (m) 3840793.139	Easting (m) 339823.426	Elevation (m) 1623.019
Point Type CALIB	Latitude (N) N34°41'47.87063"	Longitude (W) W112°44'55.68482"	Ellipsoid Height (m) 1596.274
Location Photo  NORTH			
 CA096_2018_AZ, 3NW, 20180909	 CA096_2018_AZ, 3NE, 20180909		







GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID CA097	Northing (m) 3840918.067	Easting (m) 358839.071	Elevation (m) 1545.677
Point Type CALIB	Latitude (N) N34°42'02.01312"	Longitude (W) W112°32'28.61202"	Ellipsoid Height (m) 1519.352
Location Photo  NORTH			
			
CA097_2018_AZ, 3NW, 20180826	CA097_2018_AZ, 3NE, 20180826		







GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID CA098	Northing (m) 3841663.875	Easting (m) 377536.601	Elevation (m) 1477.930
Point Type CALIB	Latitude (N) N34°42'34.89827"	Longitude (W) W112°20'14.24845"	Ellipsoid Height (m) 1451.983
Location Photo  NORTH			
 <p>CA098_2018_AZ, 3W, 20180826</p>		 <p>CA098_2018_AZ, 3N, 20180826</p>	







GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID CA099	Northing (m) 3842713.229	Easting (m) 394138.105	Elevation (m) 2054.661
Point Type CALIB	Latitude (N) N34°43'15.63498"	Longitude (W) W112°09'22.21540"	Ellipsoid Height (m) 2029.339
Location Photo  NORTH			
 CA099_2018_AZ, 3S, 20180905	 CA099_2018_AZ, 3E, 20180905		







GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID CA100	Northing (m) 3828472.427	Easting (m) 355664.809	Elevation (m) 1840.978
Point Type CALIB	Latitude (N) N34°35'16.52665"	Longitude (W) W112°34'25.70325"	Ellipsoid Height (m) 1814.451
Location Photo  NORTH			
 <p>CA100_2018_AZ, 3W, 20180826</p>		 <p>CA100_2018_AZ, 3S, 20180826</p>	


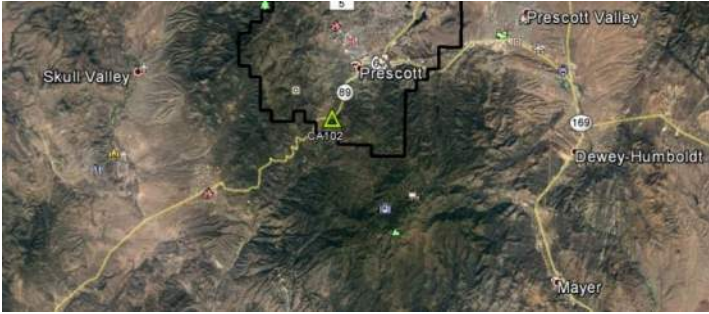




GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID CA101	Northing (m) 3832744.849	Easting (m) 373776.175	Elevation (m) 1564.708
Point Type CALIB	Latitude (N) N34°37'43.78275"	Longitude (W) W112°22'37.24699"	Ellipsoid Height (m) 1538.480
Location Photo  NORTH			
			
CA101_2018_AZ, 3SW, 20180826		CA101_2018_AZ, 3NW, 20180826	



GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID CA102	Northing (m) 3818137.152	Easting (m) 363561.870	Elevation (m) 1756.659
Point Type CALIB	Latitude (N) N34°29'44.99079"	Longitude (W) W112°29'09.84255"	Ellipsoid Height (m) 1730.113
Location Photo  NORTH			
 <p>CA102_2018_AZ, 3W, 20180826</p>		 <p>CA102_2018_AZ, 3N, 20180826</p>	






GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID CA103	Northing (m) 3627547.590	Easting (m) 588481.339	Elevation (m) 1541.727
Point Type	Latitude (N) N32°46'56.26142"	Longitude (W) W110°03'18.55585"	Ellipsoid Height (m) 1515.314
Location Photo ↑ NORTH			
<p>CA103_2018_AZ, 3N, 20180821</p>		<p>CA103_2018_AZ, 3E, 20180821</p>	



GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID CA104	Northing (m) 3620672.046	Easting (m) 596548.187	Elevation (m) 2697.413
Point Type	Latitude (N) N32°43'10.57117"	Longitude (W) W109°58'11.05863"	Ellipsoid Height (m) 2671.431
Location Photo ↑ NORTH			
 <p>CA104_2018_AZ, 3W, 20180821</p>		 <p>CA104_2018_AZ, 3S, 20180821</p>	



GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID CA105	Northing (m) 3622364.730	Easting (m) 589932.680	Elevation (m) 2613.783
Point Type	Latitude (N) N32°44'07.54947"	Longitude (W) W110°02'24.57541"	Ellipsoid Height (m) 2587.635
Location Photo ↑ NORTH			
<p>CA105_2018_AZ, 3S, 20180821</p>		<p>CA105_2018_AZ, 3E, 20180821</p>	



GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID CA106	Northing (m) 3624616.178	Easting (m) 609363.790	Elevation (m) 1475.348
Point Type	Latitude (N) N32°45'14.31596"	Longitude (W) W109°49'57.15519"	Ellipsoid Height (m) 1448.923
Location Photo ↑ NORTH			
<p>CA106_2018_AZ, 3N, 20180821</p>		<p>CA106_2018_AZ, 3E, 20180821</p>	







GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID CA107	Northing (m) 3614847.808	Easting (m) 612847.347	Elevation (m) 1601.792
Point Type CALI	Latitude (N) N32°39'55.89280"	Longitude (W) W109°47'47.56810"	Ellipsoid Height (m) 1575.637
Location Photo ↑ NORTH			
<p>CA107_2018_AZ, 3W, 20180821</p>		<p>CA107_2018_AZ, 3N, 20180821</p>	







GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID CA108	Northing (m) 3610051.433	Easting (m) 610362.202	Elevation (m) 2590.054
Point Type CALI	Latitude (N) N32°37'21.06728"	Longitude (W) W109°49'24.99952"	Ellipsoid Height (m) 2564.046
Location Photo  NORTH			
			
CA108_2018_AZ, 3W, 20180821	CA108_2018_AZ, 3N, 20180821		







GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID CA109	Northing (m) 3614115.922	Easting (m) 606424.740	Elevation (m) 2794.534
Point Type CALI	Latitude (N) N32°39'34.42652"	Longitude (W) W109°51'54.40199"	Ellipsoid Height (m) 2768.644
Location Photo  NORTH			
			
CA109_2018_AZ, 3W, 20180821	CA109_2018_AZ, 3N, 20180821		







GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID EB17	Northing (m) 3891684.671	Easting (m) 383219.694	Elevation (m) 1989.510
Point Type NVA	Latitude (N) N35°09'40.71936"	Longitude (W) W112°16'56.08623"	Ellipsoid Height (m) 1965.197
Location Photo  NORTH			
			
EB17_2018_AZ, 3SE, 20180828	EB17_2018_AZ, 3NE, 20180828		







GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID FA01	Northing (m) 3981902.015	Easting (m) 398467.621	Elevation (m) 2016.527
Point Type VVA	Latitude (N) N35°58'34.55047"	Longitude (W) W112°07'34.24809"	Ellipsoid Height (m) 1993.596
Location Photo  NORTH			
			
FA01_2018_AZ, 3S, 20180824		FA01_2018_AZ, 3S, 20180824	







GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID FO02	Northing (m) 3981003.294	Easting (m) 390167.727	Elevation (m) 1960.274
Point Type	Latitude (N) N35°58'02.14936"	Longitude (W) W112°13'05.15490"	Ellipsoid Height (m) 1937.304
Location Photo  NORTH			
			
FO02_2018_AZ, 3N, 20180826	FO02_2018_AZ, 3E, 20180826		







GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID FO03	Northing (m) 3977525.381	Easting (m) 398042.557	Elevation (m) 2018.170
Point Type VVA	Latitude (N) N35°56'12.36338"	Longitude (W) W112°07'49.19388"	Ellipsoid Height (m) 1995.246
Location Photo  NORTH			
			
FO03_2018_AZ, 3W, 20180824	FO03_2018_AZ, 3S, 20180824		







GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID FO04	Northing (m) 3980866.575	Easting (m) 415505.452	Elevation (m) 2163.572
Point Type VVA	Latitude (N) N35°58'06.79662"	Longitude (W) W111°56'13.61019"	Ellipsoid Height (m) 2140.580
Location Photo  NORTH			
 <p>FO04_2018_CA, 3W, 20180827</p>		 <p>FO04_2018_CA, 3N, 20180827</p>	







GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID FO05	Northing (m) 3984976.841	Easting (m) 427574.169	Elevation (m) 2101.435
Point Type VVA	Latitude (N) N36°00'23.68652"	Longitude (W) W111°48'13.14179"	Ellipsoid Height (m) 2078.322
Location Photo  NORTH			
 <p>FO05_2018_CA, 3W, 20180827</p>		 <p>FO05_2018_CA, 3N, 20180827</p>	







GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID FO06	Northing (m) 3974930.688	Easting (m) 418191.045	Elevation (m) 2245.374
Point Type VVA	Latitude (N) N35°54'54.97955"	Longitude (W) W111°54'24.19352"	Ellipsoid Height (m) 2222.484
Location Photo  NORTH			
 <p>FO06_2018_CA, 3W, 20180827</p>		 <p>FO06_2018_CA, 3N, 20180827</p>	







GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID FO07	Northing (m) 3968637.557	Easting (m) 413283.872	Elevation (m) 2096.008
Point Type VVA	Latitude (N) N35°51'29.22301"	Longitude (W) W111°57'37.49951"	Ellipsoid Height (m) 2073.099
Location Photo  NORTH			
			
FO07_2018_AZ, 3S, 20180828		FO07_2018_AZ, 3E, 20180828	







GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID FO08	Northing (m) 3967502.691	Easting (m) 400865.521	Elevation (m) 1937.717
Point Type VVA	Latitude (N) N35°50'48.15316"	Longitude (W) W112°05'52.05317"	Ellipsoid Height (m) 1914.649
Location Photo  NORTH			
			
FO08_2018_AZ, 3SE, 20180825		FO08_2018_AZ, 3NE, 20180825	



GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID FO09	Northing (m) 3904423.782	Easting (m) 377227.052	Elevation (m) 1889.526
Point Type VVA	Latitude (N) N35°16'31.56542"	Longitude (W) W112°20'59.74754"	Ellipsoid Height (m) 1865.181
Location Photo  NORTH			
 <p>FO09_2018_AZ, 3W, 20180829</p>		 <p>FO09_2018_AZ, 3S, 20180829</p>	



GCP OBSERVATION LOG

Project Number 78939		Project Name Kaibab LiDAR Control		Company Woolpert		Field Operator DM/JH	
Coordinate System NAD 1983 (Conus)		Hor. Datum World wide/UTM		Ver. Datum NAVD88		Zone 12 North	
Geoid GEOID12B (Conus)		Station ID FO10		Northing (m) 3909246.444		Easting (m) 404984.373	
Point Type VVA		Latitude (N) N35°19'18.96255"		Longitude (W) W112°02'43.22278"		Elevation (m) 2160.745	
Ellipsoid Height (m) 2137.383		Location Photo					
<p>FO10_2018_AZ, 3S, 201800908</p>		<p>FO10_2018_AZ, 3E, 201800908</p>					







GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID FO11	Northing (m) 3882415.743	Easting (m) 372137.144	Elevation (m) 1546.735
Point Type VVA	Latitude (N) N35°04'35.06449"	Longitude (W) W112°24'08.88618"	Ellipsoid Height (m) 1521.601
Location Photo ↑ NORTH			
<p>FO11_2018_AZ, 3SW, 20180828</p>		<p>FO11_2018_AZ, 3NW, 20180828</p>	







GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID FO12	Northing (m) 3884577.292	Easting (m) 388035.910	Elevation (m) 1902.546
Point Type VVA	Latitude (N) N35°05'52.02546"	Longitude (W) W112°13'42.28504"	Ellipsoid Height (m) 1878.226
Location Photo  NORTH			
 <p>FO12_2018_AZ, 3SE, 201800907</p>		 <p>FO12_2018_AZ, 3NE, 201800907</p>	







GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID FO13	Northing (m) 3881856.860	Easting (m) 400242.027	Elevation (m) 2080.124
Point Type VVA	Latitude (N) N35°04'28.34819"	Longitude (W) W112°05'39.07924"	Ellipsoid Height (m) 2056.045
Location Photo  NORTH			
 <p>FO13_2018_AZ, 3W, 201800907</p>		 <p>FO13_2018_AZ, 3N, 201800907</p>	


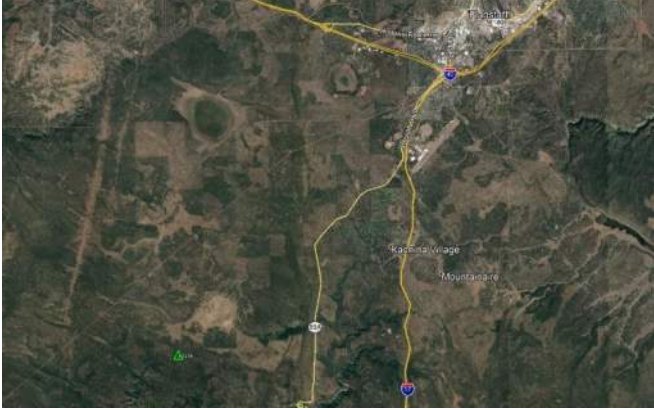




GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID FO14	Northing (m) 3894742.802	Easting (m) 432668.456	Elevation (m) 2214.880
Point Type VVA	Latitude (N) N35°11'36.29192"	Longitude (W) W111°44'22.57502"	Ellipsoid Height (m) 2191.834
Location Photo  NORTH			
 <p>FO14_2018_AZ_3W, 20180906</p>		 <p>FO14_2018_AZ_3N, 20180906</p>	







GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID FO15	Northing (m) 3878970.062	Easting (m) 426648.261	Elevation (m) 2189.494
Point Type VVA	Latitude (N) N35°03'02.80693"	Longitude (W) W111°48'15.58169"	Ellipsoid Height (m) 2166.027
Location Photo  NORTH			
 FO15_2018_AZ, 3S, 20180830	 FO15_2018_AZ, 3E, 20180830		







GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID FO16	Northing (m) 3861088.490	Easting (m) 448526.010	Elevation (m) 2102.815
Point Type VVA	Latitude (N) N34°53'27.21860"	Longitude (W) W111°33'48.01821"	Ellipsoid Height (m) 2079.386
Location Photo  NORTH			
 <p>FO16_2018_AZ, 3W, 20180830</p>		 <p>FO16_2018_AZ, 3S, 20180830</p>	







GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID FO17	Northing (m) 3872648.278	Easting (m) 447405.343	Elevation (m) 2198.590
Point Type VVA	Latitude (N) N34°59'42.25925"	Longitude (W) W111°34'34.79321"	Ellipsoid Height (m) 2175.267
Location Photo  NORTH			
			
FO17_2018_AZ, 3W, 20180830	FO17_2018_AZ, 3N, 20180830		







GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID FO18	Northing (m) 3868158.879	Easting (m) 438886.791	Elevation (m) 1989.403
Point Type VVA	Latitude (N) N34°57'14.80577"	Longitude (W) W111°40'09.63451"	Ellipsoid Height (m) 1965.803
Location Photo  NORTH			
 <p>FO18_2018_AZ, 3NW, 20180830</p>	 <p>FO18_2018_AZ, 3NE, 20180830</p>		







GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID FO19	Northing (m) 3911713.930	Easting (m) 310677.038	Elevation (m) 1789.040
Point Type VVA	Latitude (N) N35°19'50.70852"	Longitude (W) W113°04'58.79438"	Ellipsoid Height (m) 1763.389
Location Photo  NORTH			
			
FO19_2018_AZ, 3S, 20180824		FO19_2018_AZ, 3E, 20180824	


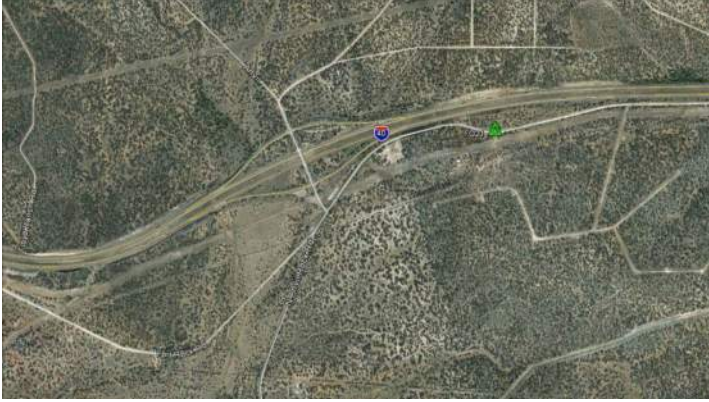




GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID FO20	Northing (m) 3925062.646	Easting (m) 344311.610	Elevation (m) 1901.002
Point Type	Latitude (N) N35°27'24.73607"	Longitude (W) W112°42'56.33881"	Ellipsoid Height (m) 1876.294
Location Photo  NORTH			
 <p>FO20_2018_AZ, 3SE, 20180911</p>		 <p>FO20_2018_AZ, 3NE, 20180911</p>	







GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID FO21	Northing (m) 3907245.111	Easting (m) 311004.189	Elevation (m) 1762.248
Point Type VVA	Latitude (N) N35°17'25.96443"	Longitude (W) W113°04'42.13336"	Ellipsoid Height (m) 1736.491
Location Photo  NORTH			
			
FO21_2018_AZ, 3N, 20180824	FO21_2018_AZ, 3E, 20180824		







GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID FO22	Northing (m) 3913788.492	Easting (m) 350094.148	Elevation (m) 1760.672
Point Type	Latitude (N) N35°21'22.12208"	Longitude (W) W112°38'59.56426"	Ellipsoid Height (m) 1735.739
Location Photo  NORTH			
 <p>FO22_2018_AZ, 3W, 20180911</p>		 <p>FO22_2018_AZ, 3N, 20180911</p>	







GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID FO23	Northing (m) 3898157.536	Easting (m) 315109.181	Elevation (m) 1821.320
Point Type VVA	Latitude (N) N35°12'33.91636"	Longitude (W) W113°01'52.35335"	Ellipsoid Height (m) 1795.473
Location Photo  NORTH			
 <p>FO23_2018_AZ, 3W, 20180910</p>		 <p>FO23_2018_AZ, 3N, 20180910</p>	







GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID FO24	Northing (m) 3904272.377	Easting (m) 342612.800	Elevation (m) 1776.085
Point Type VVA	Latitude (N) N35°16'09.21289"	Longitude (W) W112°43'49.29077"	Ellipsoid Height (m) 1750.764
Location Photo  NORTH			
			
FO24_2018_AZ, 3SW, 20180824	FO24_2018_AZ, 3NW, 20180824		



GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID FO25	Northing (m) 3905257.013	Easting (m) 352947.590	Elevation (m) 1576.294
Point Type VVA	Latitude (N) N35°16'46.82025"	Longitude (W) W112°37'01.03130"	Ellipsoid Height (m) 1551.166
Location Photo  NORTH			
 <p>FO25_2018_AZ, 3W, 20180828</p>		 <p>FO25_2018_AZ, 3S, 20180828</p>	







GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID FO26	Northing (m) 3905344.348	Easting (m) 364253.240	Elevation (m) 1640.435
Point Type VVA	Latitude (N) N35°16'55.40575"	Longitude (W) W112°29'33.69308"	Ellipsoid Height (m) 1615.607
Location Photo ↑ NORTH			
<p>FO26_2018_AZ, 3W, 20180828</p>		<p>FO26_2018_AZ, 3S, 20180828</p>	


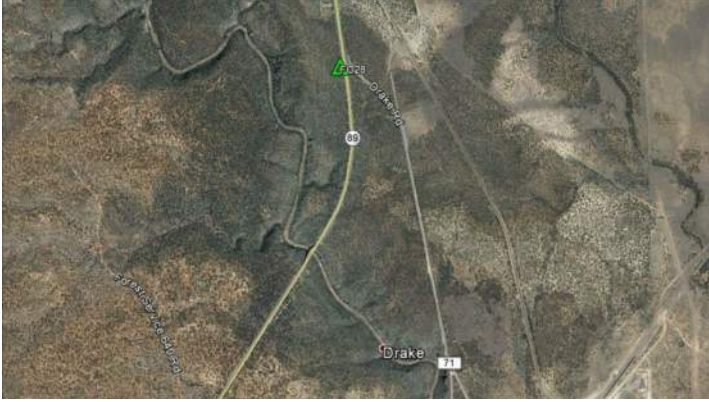




GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID FO27	Northing (m) 3868255.306	Easting (m) 321544.118	Elevation (m) 1817.603
Point Type	Latitude (N) N34°56'27.98142"	Longitude (W) W112°57'14.81343"	Ellipsoid Height (m) 1791.348
Location Photo  NORTH			
 FO27_2018_AZ, 3W, 20180909	 FO27_2018_AZ, 3S, 20180909		







GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID FO28	Northing (m) 3874326.756	Easting (m) 373170.901	Elevation (m) 1443.218
Point Type VVA	Latitude (N) N35°00'13.02279"	Longitude (W) W112°23'23.62883"	Ellipsoid Height (m) 1417.835
Location Photo  NORTH			
			
FO28_2018_AZ, 3W, 20180827	FO28_2018_AZ, 3N, 20180827		







GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID FO29	Northing (m) 3884230.251	Easting (m) 417964.400	Elevation (m) 2148.086
Point Type VVA	Latitude (N) N35°05'51.13699"	Longitude (W) W111°54'00.21849"	Ellipsoid Height (m) 2124.568
Location Photo  NORTH			
 <p>F029_2018_AZ, 3N, 20180907</p>		 <p>F029_2018_AZ, 3ENE, 20180907</p>	







GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID FO30	Northing (m) 3873610.785	Easting (m) 415952.168	Elevation (m) 2071.403
Point Type VVA	Latitude (N) N35°00'05.84984"	Longitude (W) W111°55'15.81585"	Ellipsoid Height (m) 2047.455
Location Photo  NORTH			
 <p>FO30_2018_AZ, 3SE, 20180907</p>		 <p>FO30_2018_AZ, 3NE, 20180907</p>	







GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID FO31	Northing (m) 3840782.137	Easting (m) 339820.546	Elevation (m) 1622.952
Point Type	Latitude (N) N34°41'47.51201"	Longitude (W) W112°44'55.79046"	Ellipsoid Height (m) 1596.208
Location Photo  NORTH			
			
FO31_2018_AZ, 3SW, 20180909	FO31_2018_AZ, 3NE, 20180909		







GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID FO32	Northing (m) 3828485.032	Easting (m) 355675.009	Elevation (m) 1843.659
Point Type VVA	Latitude (N) N34°35'16.94091"	Longitude (W) W112°34'25.31068"	Ellipsoid Height (m) 1817.132
Location Photo  NORTH			
 <p>FO32_2018_AZ, 3N, 20180826</p>		 <p>FO32_2018_AZ, 3E, 20180826</p>	







GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID FO33	Northing (m) 3817464.747	Easting (m) 362219.920	Elevation (m) 1832.185
Point Type VVA	Latitude (N) N34°29'22.52531"	Longitude (W) W112°30'02.05455"	Ellipsoid Height (m) 1805.592
Location Photo  NORTH			
 <p>FO33_2018_AZ, 3NW, 20180826</p>		 <p>FO33_2018_AZ, 3N, 20180826</p>	




GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID FO34	Northing (m) 3818200.134	Easting (m) 363608.995	Elevation (m) 1758.420
Point Type VVA	Latitude (N) N34°29'47.05732"	Longitude (W) W112°29'08.03157"	Ellipsoid Height (m) 1731.877
Location Photo  NORTH			
 <p>FO34_2018_AZ, 3S, 20180826</p>		 <p>FO34_2018_AZ, 3E, 20180826</p>	







GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID FO35	Northing (m) 3627576.762	Easting (m) 588497.898	Elevation (m) 1538.955
Point Type	Latitude (N) N32°46'57.20383"	Longitude (W) W110°03'17.90933"	Ellipsoid Height (m) 1512.540
Location Photo  NORTH			







GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID FO36	Northing (m) 3620631.683	Easting (m) 596589.501	Elevation (m) 2695.879
Point Type	Latitude (N) N32°43'09.24758"	Longitude (W) W109°58'09.48682"	Ellipsoid Height (m) 2669.899
Location Photo  NORTH			
 FO36_2018_AZ, 3S, 20180821		 FO36_2018_AZ, 3E, 20180821	







GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID FO37	Northing (m) 3614058.529	Easting (m) 606462.804	Elevation (m) 2798.176
Point Type VVA	Latitude (N) N32°39'32.54984"	Longitude (W) W109°51'52.96454"	Ellipsoid Height (m) 2772.286
Location Photo  NORTH			
			
FO37_2018_AZ, 3S, 20180821		FO37_2018_AZ, 3E, 20180821	







GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID FO38	Northing (m) 3610031.847	Easting (m) 610319.130	Elevation (m) 2597.600
Point Type VVA	Latitude (N) N32°37'20.44681"	Longitude (W) W109°49'26.66036"	Ellipsoid Height (m) 2571.593
Location Photo  NORTH			
			
FO38_2018_AZ, 3W, 20180821	FO38_2018_AZ, 3S, 20180821		







GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID SH01	Northing (m) 3990468.222	Easting (m) 376365.037	Elevation (m) 1845.652
Point Type VVA	Latitude (N) N36°03'03.32282"	Longitude (W) W112°22'21.42804"	Ellipsoid Height (m) 1822.545
Location Photo  NORTH			
			
SH01_2018_AZ, 3W, 20180826	SH01_2018_AZ, 3N, 20180826		







GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID SH02	Northing (m) 3987120.373	Easting (m) 383103.990	Elevation (m) 1891.202
Point Type VVA	Latitude (N) N36°01'17.68846"	Longitude (W) W112°17'50.36795"	Ellipsoid Height (m) 1868.173
Location Photo  NORTH			
			
SH02_2018_AZ, 3S, 20180826		SH02_2018_AZ, 3E, 20180826	







GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID SH03	Northing (m) 3971452.609	Easting (m) 389060.731	Elevation (m) 1845.355
Point Type VVA	Latitude (N) N35°52'51.77574"	Longitude (W) W112°13'44.54478"	Ellipsoid Height (m) 1822.201
Location Photo  NORTH			
			
SH03_2018_AZ, 3W, 20180825		SH03_2018_AZ, 3S, 20180825	







GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID SH04	Northing (m) 3976123.685	Easting (m) 434375.500	Elevation (m) 1918.057
Point Type VVA	Latitude (N) N35°55'38.09254"	Longitude (W) W111°43'38.83759"	Ellipsoid Height (m) 1894.893
Location Photo  NORTH			
 <p>SH04_2018_CA, 3W, 20180827</p>		 <p>SH04_2018_CA, 3N, 20180827</p>	







GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID SH05	Northing (m) 3961303.835	Easting (m) 418958.787	Elevation (m) 1998.307
Point Type VVA	Latitude (N) N35°47'32.96122"	Longitude (W) W111°53'48.57916"	Ellipsoid Height (m) 1975.293
Location Photo  NORTH			
			
SH05_2018_AZ, 3W, 20180828		SH05_2018_AZ, 3N, 20180828	



GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID SH06	Northing (m) 3937248.596	Easting (m) 415495.363	Elevation (m) 1996.511
Point Type	Latitude (N) N35°34'31.20250"	Longitude (W) W111°55'57.44267"	Ellipsoid Height (m) 1973.419
Location Photo  NORTH			
 <p>SH06_2018_AZ, 3S, 20180906</p>		 <p>SH06_2018_AZ, 3E, 20180906</p>	



GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID SH07	Northing (m) 3924300.192	Easting (m) 399049.753	Elevation (m) 1968.592
Point Type VVA	Latitude (N) N35°27'25.43008"	Longitude (W) W112°06'44.93724"	Ellipsoid Height (m) 1945.097
Location Photo ↑ NORTH			
<p>SH07_2018_AZ, 3SE, 20180908</p>		<p>SH07_2018_AZ, 3NE, 20180908</p>	





GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID SH08	Northing (m) 3928094.017	Easting (m) 422396.286	Elevation (m) 2160.880
Point Type VVA	Latitude (N) N35°29'36.11345"	Longitude (W) W111°51'20.13497"	Ellipsoid Height (m) 2137.964
Location Photo ↑ NORTH			
<p>SH08_2018_AZ, 3S, 20180906</p>		<p>SH08_2018_AZ, 3NW, 20180906</p>	



GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID SH09	Northing (m) 3889461.012	Easting (m) 365849.178	Elevation (m) 1593.266
Point Type VVA	Latitude (N) N35°08'20.75230"	Longitude (W) W112°28'21.21795"	Ellipsoid Height (m) 1568.145
Location Photo  NORTH			
 <p>SH09_2018_AZ, 3S, 20180828</p>		 <p>SH09_2018_AZ, 3E, 20180828</p>	





GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID SH10	Northing (m) 3907073.225	Easting (m) 391637.176	Elevation (m) 2030.079
Point Type VVA	Latitude (N) N35°18'03.54189"	Longitude (W) W112°11'30.72604"	Ellipsoid Height (m) 2006.321
Location Photo ↑ NORTH			
<p>SH10_2018_AZ, 3S, 201800908</p>		<p>SH10_2018_AZ, 3E, 201800908</p>	







GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID SH11	Northing (m) 3895651.585	Easting (m) 364080.816	Elevation (m) 1561.938
Point Type VVA	Latitude (N) N35°11'40.78699"	Longitude (W) W112°29'34.74824"	Ellipsoid Height (m) 1536.899
Location Photo  NORTH			
 SH11_2018_AZ, 3S, 20180828		 SH11_2018_AZ, 3E, 20180828	







GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID SH12	Northing (m) 3919290.970	Easting (m) 368944.542	Elevation (m) 1760.651
Point Type VVA	Latitude (N) N35°24'30.23402"	Longitude (W) W112°26'36.08107"	Ellipsoid Height (m) 1736.292
Location Photo  NORTH			
 SH12_2018_AZ, 3W, 20180911	 SH12_2018_AZ, 3N, 20180911		







GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID SH13	Northing (m) 3929049.260	Easting (m) 378887.343	Elevation (m) 1843.526
Point Type VVA	Latitude (N) N35°29'51.43718"	Longitude (W) W112°20'07.19865"	Ellipsoid Height (m) 1819.597
Location Photo  NORTH			
			
SH13_2018_AZ_3W, 20180911		SH13_2018_AZ_3S, 20180911	






GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID SH13A	Northing (m) 3923245.074	Easting (m) 380423.579	Elevation (m) 1863.322
Point Type VVA	Latitude (N) N35°26'43.75232"	Longitude (W) W112°19'03.16287"	Ellipsoid Height (m) 1839.371
Location Photo  NORTH			
			
SH13A_2018_AZ, 3SW, 20180911	SH13A_2018_AZ, 3SE, 20180911		







GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID SH14	Northing (m) 3923938.545	Easting (m) 356780.697	Elevation (m) 1771.801
Point Type VVA	Latitude (N) N35°26'55.00960"	Longitude (W) W112°34'41.13820"	Ellipsoid Height (m) 1747.306
Location Photo  NORTH			
 <p>SH14_2018_AZ, 3SW, 20180911</p>		 <p>SH14_2018_AZ, 3NW, 20180911</p>	







GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID SH15	Northing (m) 3908447.380	Easting (m) 322291.094	Elevation (m) 1579.379
Point Type VVA	Latitude (N) N35°18'12.41647"	Longitude (W) W112°57'16.47452"	Ellipsoid Height (m) 1553.832
Location Photo  NORTH			
			
SH15_2018_AZ, 3W, 20180824		SH15_2018_AZ, 3N, 20180824	







GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID SH16	Northing (m) 3908980.937	Easting (m) 331226.946	Elevation (m) 1596.335
Point Type VVA	Latitude (N) N35°18'35.30118"	Longitude (W) W112°51'23.22041"	Ellipsoid Height (m) 1570.922
Location Photo  NORTH			
			
SH16_2018_AZ, 3N, 20180822		SH16_2018_AZ, 3E, 20180822	







GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID SH17	Northing (m) 3909353.830	Easting (m) 334398.858	Elevation (m) 1643.567
Point Type VVA	Latitude (N) N35°18'49.30944"	Longitude (W) W112°49'17.94478"	Ellipsoid Height (m) 1618.210
Location Photo  NORTH			
			
SH17_2018_AZ, 3W, 20180824	SH17_2018_AZ, 3N, 20180824		







GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID SH18	Northing (m) 3898181.740	Easting (m) 328334.287	Elevation (m) 1546.966
Point Type VVA	Latitude (N) N35°12'43.16165"	Longitude (W) W112°53'09.58619"	Ellipsoid Height (m) 1521.208
Location Photo  NORTH			
			
SH18_2018_AZ, 3NW, 20180824		SH18_2018_AZ, 3NE, 20180824	







GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID SH19	Northing (m) 3898556.814	Easting (m) 364645.496	Elevation (m) 1582.518
Point Type VVA	Latitude (N) N35°13'15.33842"	Longitude (W) W112°29'14.14461"	Ellipsoid Height (m) 1557.556
Location Photo  NORTH			
			
SH19_2018_AZ, 3S, 20180828	SH19_2018_AZ, 3E, 20180828		







GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID SH20	Northing (m) 3880738.868	Easting (m) 334221.318	Elevation (m) 1642.898
Point Type VVA	Latitude (N) N35°03'20.78071"	Longitude (W) W112°49'04.25813"	Ellipsoid Height (m) 1616.931
Location Photo  NORTH			
 SH20_2018_AZ, 3SW, 20180910	 SH20_2018_AZ, 3SE, 20180910		







GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID SH21	Northing (m) 3869932.689	Easting (m) 350751.175	Elevation (m) 1399.786
Point Type VVA	Latitude (N) N34°57'39.41619"	Longitude (W) W112°38'04.99492"	Ellipsoid Height (m) 1373.650
Location Photo  NORTH			
			
SH21_2018_AZ, 3N, 20180827		SH21_2018_AZ, 3E, 20180827	







GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID SH22	Northing (m) 3872415.218	Easting (m) 380598.178	Elevation (m) 1380.285
Point Type VVA	Latitude (N) N34°59'14.24177"	Longitude (W) W112°18'29.69226"	Ellipsoid Height (m) 1355.091
Location Photo  NORTH			
			
SH22_2018_AZ, 3S, 20180827	SH22_2018_AZ, 3E, 20180827		







GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID SH23	Northing (m) 3860045.819	Easting (m) 347116.336	Elevation (m) 1422.426
Point Type VVA	Latitude (N) N34°52'16.64134"	Longitude (W) W112°40'21.75204"	Ellipsoid Height (m) 1396.079
Location Photo  NORTH			
			
SH23_2018_AZ, 3SW, 20180827	SH23_2018_AZ, 3SE, 20180827		



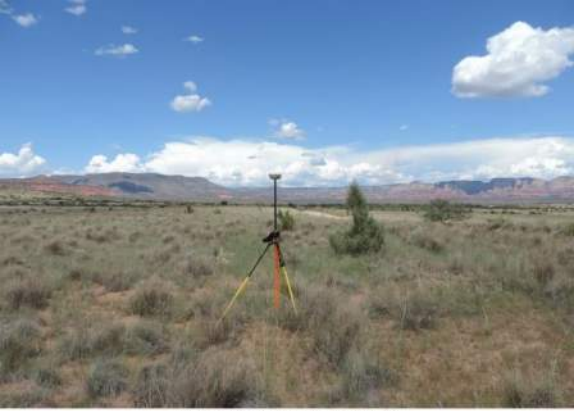



GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID SH24	Northing (m) 3861446.633	Easting (m) 365884.536	Elevation (m) 1343.775
Point Type VVA	Latitude (N) N34°53'11.64644"	Longitude (W) W112°28'03.55202"	Ellipsoid Height (m) 1317.861
Location Photo  NORTH			
			
SH24_2018_AZ, 3W, 20180827		SH24_2018_AZ, 3N, 20180827	



GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID SH25	Northing (m) 3858645.036	Easting (m) 409499.539	Elevation (m) 1338.774
Point Type VVA	Latitude (N) N34°51'58.08190"	Longitude (W) W111°59'24.50692"	Ellipsoid Height (m) 1313.786
Location Photo  NORTH			
 <p>SH25_2018_AZ, 3N, 20180905</p>		 <p>SH25_2018_AZ, 3E, 20180905</p>	




GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID SH26	Northing (m) 3830051.539	Easting (m) 362855.984	Elevation (m) 1672.746
Point Type VVA	Latitude (N) N34°36'11.32421"	Longitude (W) W112°29'44.42823"	Ellipsoid Height (m) 1646.304
Location Photo ↑ NORTH			
<p>SH26_2018_AZ, 3W, 20180826</p>		<p>SH26_2018_AZ, 3S, 20180826</p>	







GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID SH27	Northing (m) 3840940.501	Easting (m) 358845.240	Elevation (m) 1545.618
Point Type VVA	Latitude (N) N34°42'02.74422"	Longitude (W) W112°32'28.38311"	Ellipsoid Height (m) 1519.293
Location Photo  NORTH			
 <p>SH27_2018_AZ, 3W, 20180826</p>		 <p>SH27_2018_AZ, 3S, 20180826</p>	







GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID SH28	Northing (m) 3833607.095	Easting (m) 369629.135	Elevation (m) 1523.400
Point Type VVA	Latitude (N) N34°38'09.89802"	Longitude (W) W112°25'20.54969"	Ellipsoid Height (m) 1497.077
Location Photo  NORTH			
			
SH28_2018_AZ, 3NW, 20180826		SH28_2018_AZ, 3NE, 20180826	







GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID SH29	Northing (m) 3832751.151	Easting (m) 373789.074	Elevation (m) 1564.527
Point Type VVA	Latitude (N) N34°37'43.99301"	Longitude (W) W112°22'36.74393"	Ellipsoid Height (m) 1538.300
Location Photo  NORTH			
			
SH29_2018_AZ, 3W, 20180826		SH29_2018_AZ, 3N, 20180826	







GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID SH30	Northing (m) 3835236.851	Easting (m) 382358.084	Elevation (m) 1536.179
Point Type VVA	Latitude (N) N34°39'08.33993"	Longitude (W) W112°17'01.52962"	Ellipsoid Height (m) 1510.270
Location Photo  NORTH			
			
SH30_2018_AZ, 3W, 20180826	SH30_2018_AZ, 3N, 20180826		







GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID SH31	Northing (m) 3852784.527	Easting (m) 404306.321	Elevation (m) 1079.028
Point Type VVA	Latitude (N) N34°48'46.14706"	Longitude (W) W112°02'46.61284"	Ellipsoid Height (m) 1053.674
Location Photo  NORTH			
 <p>SH31_2018_AZ, 3SW, 20180905</p>		 <p>SH31_2018_AZ, 3NW, 20180905</p>	







GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID SH32	Northing (m) 3624726.083	Easting (m) 609091.530	Elevation (m) 1519.905
Point Type NVA	Latitude (N) N32°45'17.98171"	Longitude (W) W109°50'07.56980"	Ellipsoid Height (m) 1493.482
Location Photo  NORTH			
 SH32_2018_AZ, 3S, 20180821	 SH32_2018_AZ, 3E, 20180821		




GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID SH33	Northing (m) 3888168.099	Easting (m) 317483.199	Elevation (m) 1776.367
Point Type VVA	Latitude (N) N35°07'11.40392"	Longitude (W) W113°00'10.56025"	Ellipsoid Height (m) 1750.400
Location Photo  NORTH			
			
SH33_2018_AZ, 3N, 20180825	SH33_2018_AZ, 3E, 20180825		







GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID SH34	Northing (m) ?	Easting (m) ?	Elevation (m) ?
Point Type	Latitude (N) ?	Longitude (W) ?	Ellipsoid Height (m) ?
Location Photo  NORTH			



GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID SH34A	Northing (m) 3889356.077	Easting (m) 327202.339	Elevation (m) 1615.372
Point Type VVA	Latitude (N) N35°07'56.12216"	Longitude (W) W112°53'47.67925"	Ellipsoid Height (m) 1589.490
Location Photo  NORTH			
 <p>SH34A_2018_AZ_3W, 20180826</p>		 <p>SH34A_2018_AZ_3N, 20180826</p>	






GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID SH35A	Northing (m) 3894751.888	Easting (m) 348456.695	Elevation (m) 1561.901
Point Type	Latitude (N) N35°11'03.54002"	Longitude (W) W112°39'51.76829"	Ellipsoid Height (m) 1536.419
Location Photo ↑ NORTH			
<p>SH35A_2018_AZ_3W, 20180911</p>	<p>SH35A_2018_AZ_3N, 20180911</p>		







GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID SH36	Northing (m) 3894845.392	Easting (m) 352197.085	Elevation (m) 1538.542
Point Type VVA	Latitude (N) N35°11'08.58112"	Longitude (W) W112°37'23.99341"	Ellipsoid Height (m) 1513.163
Location Photo  NORTH			
 <p>SH36_2018_AZ, 3SE, 20180828</p>		 <p>SH36_2018_AZ, 3NE, 20180828</p>	



GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID SH37A	Northing (m) 3862468.911	Easting (m) 390236.353	Elevation (m) 1164.881
Point Type VVA	Latitude (N) N34°53'55.35599"	Longitude (W) W112°12'04.88967"	Ellipsoid Height (m) 1139.643
Location Photo  NORTH			
 <p>SH37A_2018_AZ, 3S, 20180905</p>		 <p>SH37A_2018_AZ, 3E, 20180905</p>	







GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID SH38	Northing (m) 3852493.890	Easting (m) 362695.607	Elevation (m) 1435.701
Point Type VVA	Latitude (N) N34°48'19.57364"	Longitude (W) W112°30'03.86459"	Ellipsoid Height (m) 1409.622
Location Photo  NORTH			
 <p>SH38_2018_AZ, 3W, 20180827</p>		 <p>SH38_2018_AZ, 3S, 20180827</p>	







GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID TW01	Northing (m) 3962778.563	Easting (m) 397834.499	Elevation (m) 1876.670
Point Type VVA	Latitude (N) N35°48'13.72504"	Longitude (W) W112°07'50.69045"	Ellipsoid Height (m) 1853.490
Location Photo  NORTH			
 <p>TW01_2018_AZ, 3W, 20180825</p>		 <p>TW01_2018_AZ, 3N, 20180825</p>	







GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID TW02	Northing (m) 3914182.459	Easting (m) 321094.915	Elevation (m) 1611.849
Point Type VVA	Latitude (N) N35°21'17.70489"	Longitude (W) W112°58'08.32513"	Ellipsoid Height (m) 1586.452
Location Photo  NORTH			
			
TW02_2018_AZ, 3N, 20180822		TW02_2018_AZ, 3E, 20180822	







GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID TW03	Northing (m) 3841679.054	Easting (m) 377540.620	Elevation (m) 1477.914
Point Type VVA	Latitude (N) N34°42'35.39264"	Longitude (W) W112°20'14.09842"	Ellipsoid Height (m) 1451.968
Location Photo  NORTH			
 <p>TW03_2018_AZ, 3S, 20180826</p>		 <p>TW03_2018_AZ, 3E, 20180826</p>	







GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID UA01	Northing (m) 3981974.086	Easting (m) 398424.267	Elevation (m) 2021.796
Point Type NVA	Latitude (N) N35°58'36.87301"	Longitude (W) W112°07'36.01220"	Ellipsoid Height (m) 1998.864
Location Photo  NORTH			
 <p>UA01_2018_AZ, 3S, 20180824</p>		 <p>UA01_2018_AZ, 3E, 20180824</p>	







GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID UA02	Northing (m) 3977545.410	Easting (m) 398140.861	Elevation (m) 2019.917
Point Type NVA	Latitude (N) N35°56'13.05029"	Longitude (W) W112°07'45.28041"	Ellipsoid Height (m) 1996.994
Location Photo  NORTH			
			
UA02_2018_AZ, 3W, 20180824	UA02_2018_AZ, 3N, 20180824		







GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID UA03	Northing (m) 3976079.854	Easting (m) 434372.773	Elevation (m) 1919.349
Point Type NVA	Latitude (N) N35°55'36.66933"	Longitude (W) W111°43'38.93337"	Ellipsoid Height (m) 1896.186
Location Photo  NORTH			
			
UA03_2018_CA, 3W, 20180827		UA03_2018_CA, 3N, 20180827	







GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID UA04	Northing (m) 3962751.855	Easting (m) 397868.570	Elevation (m) 1877.533
Point Type NVA	Latitude (N) N35°48'12.87109"	Longitude (W) W112°07'49.32087"	Ellipsoid Height (m) 1854.353
Location Photo  NORTH			
			
UA04_2018_AZ_3W, 20180825	UA04_2018_AZ_3N, 20180825		







GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID UA04A	Northing (m) 3962732.724	Easting (m) 397831.003	Elevation (m) 1876.405
Point Type NVA	Latitude (N) N35°48'12.23617"	Longitude (W) W112°07'50.80866"	Ellipsoid Height (m) 1853.224
Location Photo  NORTH			
			
UA04A_2018_AZ_3W, 20180825		UA04A_2018_AZ_3N, 20180825	







GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID UA05	Northing (m) 3969141.512	Easting (m) 397657.632	Elevation (m) 1947.054
Point Type NVA	Latitude (N) N35°51'40.14875"	Longitude (W) W112°08'00.67244"	Ellipsoid Height (m) 1923.969
Location Photo  NORTH			
			
UA05_2018_AZ, 3S, 20180825	UA05_2018_AZ, 3E, 20180825		



GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID UA06	Northing (m) 3934638.599	Easting (m) 421426.641	Elevation (m) 2038.769
Point Type	Latitude (N) N35°33'08.25149"	Longitude (W) W111°52'00.90034"	Ellipsoid Height (m) 2015.812
Location Photo  NORTH			
 <p>UA06_2018_AZ, 3NW, 20180906</p>		 <p>UA06_2018_AZ, 3NE, 20180906</p>	







GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID UA07	Northing (m) 3901548.876	Easting (m) 391781.031	Elevation (m) 2061.978
Point Type NVA	Latitude (N) N35°15'04.30917"	Longitude (W) W112°11'22.40843"	Ellipsoid Height (m) 2038.164
Location Photo ↑ NORTH			
<p>UA07_2018_AZ, 3SW, 201800908</p>		<p>UA07_2018_AZ, 3SE, 201800908</p>	







GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID UA08	Northing (m) 3900784.984	Easting (m) 420010.183	Elevation (m) 2203.891
Point Type NVA	Latitude (N) N35°14'49.06350"	Longitude (W) W111°52'45.20304"	Ellipsoid Height (m) 2180.766
Location Photo  NORTH			
 <p>UA08_2018_AZ_3N, 20180906</p>		 <p>UA08_2018_AZ_3E, 20180906</p>	







GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID UA09	Northing (m) 3898445.396	Easting (m) 382250.204	Elevation (m) 1977.187
Point Type NVA	Latitude (N) N35°13'19.72108"	Longitude (W) W112°17'37.87724"	Ellipsoid Height (m) 1952.952
Location Photo  NORTH			
 <p>UA09_2018_AZ_3N, 20180828</p>		 <p>UA09_2018_AZ_3E, 20180828</p>	





GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID UA10	Northing (m) 3874252.720	Easting (m) 432725.430	Elevation (m) 1679.697
Point Type NVA	Latitude (N) N35°00'31.20692"	Longitude (W) W111°44'14.32660"	Ellipsoid Height (m) 1656.114
Location Photo  NORTH			
			
UA10_2018_AZ, 3SE, 20180830	UA10_2018_AZ, 3NE, 20180830		







GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID UA11	Northing (m) 3879015.000	Easting (m) 437806.171	Elevation (m) 2064.865
Point Type NVA	Latitude (N) N35°03'06.96369"	Longitude (W) W111°40'55.16222"	Ellipsoid Height (m) 2041.457
Location Photo  NORTH			
 UA11_2018_AZ_3W, 20180830	 UA11_2018_AZ_3S, 20180830		







GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID UA12	Northing (m) 3868138.825	Easting (m) 438855.352	Elevation (m) 1991.965
Point Type NVA	Latitude (N) N34°57'14.14797"	Longitude (W) W111°40'10.86878"	Ellipsoid Height (m) 1968.364
Location Photo  NORTH			
			
UA12_2018_AZ, 3NW, 20180830	UA12_2018_AZ, 3NE, 20180830		







GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID UA13	Northing (m) 3914189.324	Easting (m) 321071.196	Elevation (m) 1610.857
Point Type NVA	Latitude (N) N35°21'17.91229"	Longitude (W) W112°58'09.26980"	Ellipsoid Height (m) 1585.460
Location Photo  NORTH			
			
UA13_2018_AZ, 3NW, 20180822	UA13_2018_AZ, 3NE, 20180822		







GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID UA14	Northing (m) 3907584.836	Easting (m) 315420.924	Elevation (m) 1668.022
Point Type NVA	Latitude (N) N35°17'39.95428"	Longitude (W) W113°01'47.65397"	Ellipsoid Height (m) 1642.347
Location Photo  NORTH			
			
UA14_2018_AZ, 3S, 20180824		UA14_2018_AZ, 3E, 20180824	







GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID UA15	Northing (m) 3908957.462	Easting (m) 331247.524	Elevation (m) 1597.014
Point Type NVA	Latitude (N) N35°18'34.55208"	Longitude (W) W112°51'22.38852"	Ellipsoid Height (m) 1571.601
Location Photo  NORTH			
			
UA15_2018_AZ, 3N, 20180822		UA15_2018_AZ, 3E, 20180822	







GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID UA16	Northing (m) 3904289.573	Easting (m) 342621.098	Elevation (m) 1775.795
Point Type NVA	Latitude (N) N35°16'09.77555"	Longitude (W) W112°43'48.97435"	Ellipsoid Height (m) 1750.474
Location Photo  NORTH			
 <p>UA16_2018_AZ, 3SE, 20180824</p>		 <p>UA16_2018_AZ, 3NE, 20180824</p>	







GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID UA17	Northing (m) 3898544.539	Easting (m) 364633.814	Elevation (m) 1581.957
Point Type NVA	Latitude (N) N35°13'14.93440"	Longitude (W) W112°29'14.59931"	Ellipsoid Height (m) 1556.995
Location Photo  NORTH			
 <p>UA17_2018_AZ, 3W, 20180828</p>		 <p>UA17_2018_AZ, 3S, 20180828</p>	







GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID UA18	Northing (m) 3874329.651	Easting (m) 373210.934	Elevation (m) 1442.866
Point Type NVA	Latitude (N) N35°00'13.13483"	Longitude (W) W112°23'22.05146"	Ellipsoid Height (m) 1417.485
Location Photo  NORTH			
 UA18_2018_AZ_3W, 20180827	 UA18_2018_AZ_3S, 20180827		







GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID UA19	Northing (m) 3861406.648	Easting (m) 365880.443	Elevation (m) 1343.765
Point Type NVA	Latitude (N) N34°53'10.34687"	Longitude (W) W112°28'03.69013"	Ellipsoid Height (m) 1317.851
Location Photo  NORTH			
 <p>UA19_2018_AZ, 3S, 20180827</p>		 <p>UA19_2018_AZ, 3E, 20180827</p>	







GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID UA20	Northing (m) 3852334.804	Easting (m) 351214.662	Elevation (m) 1396.210
Point Type NVA	Latitude (N) N34°48'08.60550"	Longitude (W) W112°37'35.46159"	Ellipsoid Height (m) 1369.799
Location Photo  NORTH			
 <p>UA20_2018_AZ, 3W, 20180827</p>		 <p>UA20_2018_AZ, 3S, 20180827</p>	




GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID UA21	Northing (m) 3853660.486	Easting (m) 355185.449	Elevation (m) 1507.789
Point Type NVA	Latitude (N) N34°48'53.68619"	Longitude (W) W112°35'00.06740"	Ellipsoid Height (m) 1481.533
Location Photo  NORTH			
			
UA21_2018_AZ, 3SW, 20180827	UA21_2018_AZ, 3NW, 20180827		







GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID UA22	Northing (m) 3852465.216	Easting (m) 362708.389	Elevation (m) 1435.102
Point Type NVA	Latitude (N) N34°48'18.64930"	Longitude (W) W112°30'03.34481"	Ellipsoid Height (m) 1409.023
Location Photo  NORTH			
			
UA22_2018_AZ_3W, 20180827	UA22_2018_AZ_3S, 20180827		



GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID UA23	Northing (m) 3842554.200	Easting (m) 366873.045	Elevation (m) 1474.667
Point Type NVA	Latitude (N) N34°42'58.99214"	Longitude (W) W112°27'13.84240"	Ellipsoid Height (m) 1448.489
Location Photo  NORTH			
			
UA23_2018_AZ, 3N, 20180826	UA23_2018_AZ, 3E, 20180826		







GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID UA24	Northing (m) 3830157.401	Easting (m) 362854.308	Elevation (m) 1673.699
Point Type NVA	Latitude (N) N34°36'14.75903"	Longitude (W) W112°29'44.55561"	Ellipsoid Height (m) 1647.258
Location Photo ↑ NORTH			
<p>UA24_2018_AZ, 3W, 20180826</p>		<p>UA24_2018_AZ, 3S, 20180826</p>	







GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID UA25	Northing (m) 3833582.907	Easting (m) 369646.079	Elevation (m) 1523.422
Point Type NVA	Latitude (N) N34°38'09.12076"	Longitude (W) W112°25'19.87097"	Ellipsoid Height (m) 1497.098
Location Photo  NORTH			
			
UA25_2018_AZ, 3SW, 20180826		UA25_2018_AZ, 3SE, 20180826	







GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID UA26	Northing (m) 3824993.554	Easting (m) 355928.610	Elevation (m) 1977.337
Point Type NVA	Latitude (N) N34°33'23.76075"	Longitude (W) W112°34'13.22784"	Ellipsoid Height (m) 1950.767
Location Photo  NORTH			
 <p>UA26_2018_AZ, 3NW, 20180826</p>		 <p>UA26_2018_AZ, 3NE, 20180826</p>	






GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID UA26A	Northing (m) 3824978.089	Easting (m) 355933.964	Elevation (m) 1976.140
Point Type NVA	Latitude (N) N34°33'23.26156"	Longitude (W) W112°34'13.00840"	Ellipsoid Height (m) 1949.570
Location Photo  NORTH			
 <p>UA26A_2018_AZ, 3N, 20180826</p>		 <p>UA26A_2018_AZ, 3E, 20180826</p>	







GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID UA27	Northing (m) 3823702.541	Easting (m) 365240.373	Elevation (m) 1621.215
Point Type NVA	Latitude (N) N34°32'46.40902"	Longitude (W) W112°28'07.21618"	Ellipsoid Height (m) 1594.764
Location Photo  NORTH			
 <p>UA27_2018_AZ_3W, 20180826</p>		 <p>UA27_2018_AZ_3S, 20180826</p>	







GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID UA28	Northing (m) 3817676.955	Easting (m) 362221.742	Elevation (m) 1832.522
Point Type NVA	Latitude (N) N34°29'29.41326"	Longitude (W) W112°30'02.10653"	Ellipsoid Height (m) 1805.935
Location Photo  NORTH			
 <p>UA28_2018_AZ, 3NW, 20180826</p>		 <p>UA28_2018_AZ, 3NE, 20180826</p>	







GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID UA28A	Northing (m) 3817501.217	Easting (m) 362210.285	Elevation (m) 1834.868
Point Type NVA	Latitude (N) N34°29'23.70426"	Longitude (W) W112°30'02.45342"	Ellipsoid Height (m) 1808.276
Location Photo  NORTH			
 <p>UA28A_2018_AZ, 3SW, 20180826</p>		 <p>UA28A_2018_AZ, 3NW, 20180826</p>	







GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID UA29	Northing (m) 3615561.437	Easting (m) 613877.858	Elevation (m) 1482.102
Point Type NVA	Latitude (N) N32°40'18.68163"	Longitude (W) W109°47'07.69894"	Ellipsoid Height (m) 1455.870
Location Photo  NORTH			
			
UA29_2018_AZ, 3N, 20180821		UA29_2018_AZ, 3E, 20180821	







GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID UA30	Northing (m) 3610070.796	Easting (m) 610375.756	Elevation (m) 2591.021
Point Type NVA	Latitude (N) N32°37'21.69107"	Longitude (W) W109°49'24.47125"	Ellipsoid Height (m) 2565.014
Location Photo  NORTH			
			
UA30_2018_AZ, 3N, 20180821		UA30_2018_AZ, 3E, 20180821	







GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID UA31	Northing (m) 3899546.920	Easting (m) 355782.634	Elevation (m) 1541.122
Point Type NVA	Latitude (N) N35°13'43.01906"	Longitude (W) W112°35'05.23706"	Ellipsoid Height (m) 1515.933
Location Photo  NORTH			
 UA31_2018_AZ, 3SW, 20180828	 UA31_2018_AZ, 3NW, 20180828		







GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID UA32	Northing (m) 3882152.370	Easting (m) 372150.787	Elevation (m) 1545.678
Point Type NVA	Latitude (N) N35°04'26.52359"	Longitude (W) W112°24'08.20133"	Ellipsoid Height (m) 1520.537
Location Photo  NORTH			
 <p>UA32_2018_AZ, 3SW, 20180828</p>		 <p>UA32_2018_AZ, 3SE, 20180828</p>	



GCP OBSERVATION LOG

Project Number 78939	Project Name Kaibab LiDAR Control	Company Woolpert	Field Operator DM/JH
Coordinate System NAD 1983 (Conus)	Hor. Datum World wide/UTM	Ver. Datum NAVD88	Zone 12 North
Station ID UA33	Northing (m) 3835266.718	Easting (m) 382374.102	Elevation (m) 1537.175
Point Type NVA	Latitude (N) N34°39'09.31595"	Longitude (W) W112°17'00.91541"	Ellipsoid Height (m) 1511.268
Location Photo  NORTH			
			
UA33_2018_AZ, 3NW, 20180826	UA33_2018_AZ, 3NE, 20180826		

Section 4: Geodetic Control Information and Resources

This section contains NGS Datasheets and the solutions returned from Online Positioning User Service(OPUS) for the control stations that was used to establish 3-dimensional coordinates for the newly established calibration and check points for the project.

The NGS Data Sheet

See file [dsdata.pdf](#) for more information about the datasheet.

PROGRAM = datasheet95, VERSION = 8.12.5

```

1      National Geodetic Survey,   Retrieval Date = SEPTEMBER 20, 2018
CY0710 *****
CY0710 DESIGNATION - SWIFT
CY0710 PID - CY0710
CY0710 STATE/COUNTY- AZ/GRAHAM
CY0710 COUNTRY - US
CY0710 USGS QUAD - ARTESIA (1966)
CY0710
CY0710 *CURRENT SURVEY CONTROL
CY0710
CY0710* NAD 83(2011) POSITION- 32 43 48.39287(N) 109 42 51.15832(W) ADJUSTED
CY0710* NAD 83(2011) ELLIP HT- 958.549 (meters) (06/27/12) ADJUSTED
CY0710* NAD 83(2011) EPOCH - 2010.00
CY0710* NAVD 88 ORTHO HEIGHT - 985.431 (meters) 3233.03 (feet) ADJUSTED
CY0710
CY0710 GEOID HEIGHT - -26.890 (meters) GEOID12B
CY0710 NAD 83(2011) X - -1,811,969.430 (meters) COMP
CY0710 NAD 83(2011) Y - -5,056,682.184 (meters) COMP
CY0710 NAD 83(2011) Z - 3,429,335.981 (meters) COMP
CY0710 LAPLACE CORR - -4.68 (seconds) DEFLEC12B
CY0710 DYNAMIC HEIGHT - 984.034 (meters) 3228.45 (feet) COMP
CY0710 MODELED GRAVITY - 979,188.1 (mgal) NAVD 88
CY0710
CY0710 VERT ORDER - FIRST CLASS II
CY0710
CY0710 Network accuracy estimates per FGDC Geospatial Positioning Accuracy
CY0710 Standards:
CY0710 FGDC (95% conf, cm) Standard deviation (cm) CorrNE
CY0710 Horiz Ellip SD_N SD_E SD_h (unitless)
CY0710 -----
CY0710 NETWORK 0.67 1.23 0.30 0.24 0.63 -0.03267866
CY0710 -----
CY0710 Click here for local accuracies and other accuracy information.
CY0710
CY0710
CY0710.The horizontal coordinates were established by GPS observations
CY0710.and adjusted by the National Geodetic Survey in June 2012.
CY0710
CY0710.NAD 83(2011) refers to NAD 83 coordinates where the reference frame has
CY0710.been affixed to the stable North American tectonic plate. See
CY0710.NA2011 for more information.
CY0710
CY0710.The horizontal coordinates are valid at the epoch date displayed above
CY0710.which is a decimal equivalence of Year/Month/Day.
CY0710
CY0710.The orthometric height was determined by differential leveling and
CY0710.adjusted by the NATIONAL GEODETIC SURVEY

```

CY0710.in June 1991.

CY0710

CY0710.Significant digits in the geoid height do not necessarily reflect accuracy.

CY0710.GEOID12B height accuracy estimate available [here](#).

CY0710

CY0710.[Photographs](#) are available for this station.

CY0710

CY0710.The X, Y, and Z were computed from the position and the ellipsoidal ht.

CY0710

CY0710.The Laplace correction was computed from DEFLEC12B derived deflections.

CY0710

CY0710.The ellipsoidal height was determined by GPS observations

CY0710.and is referenced to NAD 83.

CY0710

CY0710.The dynamic height is computed by dividing the NAVD 88

CY0710.geopotential number by the normal gravity value computed on the

CY0710.Geodetic Reference System of 1980 (GRS 80) ellipsoid at 45

CY0710.degrees latitude (g = 980.6199 gals.).

CY0710

CY0710.The modeled gravity was interpolated from observed gravity values.

CY0710

CY0710. The following values were computed from the NAD 83(2011) position.

CY0710

CY0710;		North	East	Units	Scale Factor	Converg.
CY0710;SPC AZ E	-	191,913.617	255,767.679	MT	0.99992217	+0 14 40.7
CY0710;SPC AZ E	-	629,637.85	839,132.81	iFT	0.99992217	+0 14 40.7
CY0710;UTM 12	-	3,622,098.476	620,481.678	MT	0.99977899	+0 41 43.0

CY0710

CY0710! Elev Factor x Scale Factor = Combined Factor

CY0710!SPC AZ E - 0.99984953 x 0.99992217 = 0.99977171

CY0710!UTM 12 - 0.99984953 x 0.99977899 = 0.99962855

CY0710

CY0710:		Primary Azimuth Mark	Grid Az
CY0710:SPC AZ E	-	SWIFT AZ MK	222 28 47.9
CY0710:UTM 12	-	SWIFT AZ MK	222 01 45.6

CY0710

CY0710_U.S. NATIONAL GRID SPATIAL ADDRESS: 12SXB2048122098 (NAD 83)

CY0710

CY0710	PID	Reference Object	Distance	Geod. Az
CY0710				dddmss.s
CY0710	CY0712	SWIFT RM 1	13.511 METERS	06924
CY0710	CY0709	S 430	117.322 METERS	22123
CY0710	CC8335	SWIFT AZ MK		2224328.6
CY0710	CY0711	SWIFT RM 2	15.394 METERS	33305

CY0710

CY0710

SUPERSEDED SURVEY CONTROL

CY0710

CY0710	NAD 83(2007)-	32 43 48.39250 (N)	109 42 51.15863 (W)	AD(2007.00)	B
CY0710	ELLIP H (03/25/09)	958.543 (m)		GP(2007.00)	4 1
CY0710	NAD 83(1992)-	32 43 48.39223 (N)	109 42 51.15892 (W)	AD()	B
CY0710	ELLIP H (01/22/07)	958.590 (m)		GP()	4 1
CY0710	NAD 83(1992)-	32 43 48.39259 (N)	109 42 51.15460 (W)	AD()	2

CY0710 NAD 83(1986)- 32 43 48.38534(N) 109 42 51.14952(W) AD() 2
 CY0710 NAD 27 - 32 43 48.13900(N) 109 42 48.85700(W) AD() 2
 CY0710 NAVD 88 985.43 (m) 3233.0 (f) LEVELING 3
 CY0710 NGVD 29 984.73 (m) 3230.7 (f) LEVELING 3
 CY0710 NGVD 29 (07/19/86) 984.6 (m) 3230. (f) VERT ANG

CY0710

CY0710.Superseded values are not recommended for survey control.

CY0710

CY0710.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.

CY0710.See file [dsdata.pdf](#) to determine how the superseded data were derived.

CY0710

CY0710_MARKER: DS = TRIANGULATION STATION DISK

CY0710_SETTING: 7 = SET IN TOP OF CONCRETE MONUMENT

CY0710_STAMPING: SWIFT 1945

CY0710_MARK LOGO: CGS

CY0710_PROJECTION: PROJECTING 3 CENTIMETERS

CY0710_MAGNETIC: N = NO MAGNETIC MATERIAL

CY0710_STABILITY: C = MAY HOLD, BUT OF TYPE COMMONLY SUBJECT TO

CY0710+STABILITY: SURFACE MOTION

CY0710_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR

CY0710+SATELLITE: SATELLITE OBSERVATIONS - October 10, 2008

CY0710

CY0710	HISTORY	- Date	Condition	Report By
CY0710	HISTORY	- 1945	MONUMENTED	CGS
CY0710	HISTORY	- 1979	GOOD	NGS
CY0710	HISTORY	- 1983	GOOD	AZDT
CY0710	HISTORY	- 20060608	GOOD	GEOANA
CY0710	HISTORY	- 20061117	GOOD	INDIV
CY0710	HISTORY	- 20081010	GOOD	GEOCAC

CY0710

CY0710 STATION DESCRIPTION

CY0710

CY0710'DESCRIBED BY COAST AND GEODETIC SURVEY 1945 (RAM)

CY0710'STATION IS ABOUT 7 MILES (AIR LINE) S OF SAFFORD. IT IS

CY0710'AT THE JUNCTION OF THE SWIFT TRAIL WITH U.S. HIGHWAY 666.

CY0710'

CY0710'TO REACH THE STATION FROM THE BUENA VISTA HOTEL IN SAFFORD,

CY0710'GO S AND E ON U.S. HIGHWAY 70 FOR 0.3 MILE TO THE JUNCTION

CY0710'OF U.S. HIGHWAYS 70 AND 666. TURN RIGHT (S) AND GO 7.1

CY0710'MILES TO SWIFT TRAIL JUNCTION. TURN LEFT OFF THE HIGHWAY

CY0710'GOING THROUGH GATE AND THEN GO N ALONG THE E SIDE OF THE

CY0710'FENCE FOR 90 FEET TO STATION. TO REACH THE AZIMUTH MARK

CY0710'TAKE THE SWIFT TRAIL (MACADAM ROAD GOING SW) FOR 3.3 MILES

CY0710'FROM THE SWIFT TRAIL JUNCTION. HERE TAKE A ROAD TURNING

CY0710'OFF TO THE RIGHT FOR 0.1 MILE. THE AZIMUTH MARK IS ABOUT

CY0710'250 FEET N OF HERE.

CY0710'

CY0710'STATION IS 79 FEET ENE OF THE CENTER OF THE NEAREST POINT

CY0710'ON THE SWIFT TRAIL, 59 FEET ENE OF THE CENTER LINE OF U.S.

CY0710'HIGHWAY 666, AND 90 FEET NNW OF THE CENTER OF A DIRT ROAD

CY0710'RUNNING E FROM U.S. HIGHWAY 666. IT IS 24-1/2 FEET N OF

CY0710'A 4 INCH SQUARE WHITE WITNESS POST SET IN THE WIRE RIGHT-OF-WAY

CY0710'FENCE AND 8-1/2 FEET ENE OF THE WIRE RIGHT-OF-WAY FENCE.

CY0710'IT IS MARKED BY A BRONZE STATION DISK SET IN A SQUARE CONCRETE

CY0710'POST WHICH PROJECTS 1 INCH ABOVE THE GROUND AND IS STAMPED

CY0710'SWIFT 1945. UNDERGROUND MARK - 7A.

CY0710'

CY0710'REFERENCE MARK 1 IS ENE OF THE STATION AND AT ABOUT THE
CY0710'SAME LEVEL. IT IS A BRONZE REFERENCE DISK SET IN A SQUARE
CY0710'CONCRETE POST WHICH PROJECTS 2 INCHES ABOVE THE GROUND. IT
CY0710'IS STAMPED SWIFT NO 1 1945.

CY0710'

CY0710'REFERENCE MARK 2 IS NNW OF THE STATION AND AT ABOUT THE
CY0710'SAME LEVEL. IT IS 3-3/4 FEET ENE OF THE RIGHT-OF-WAY FENCE.
CY0710'IT IS A BRONZE REFERENCE DISK SET IN A SQUARE CONCRETE
CY0710'POST WHICH PROJECTS 3 INCHES ABOVE THE GROUND AND IS STAMPED
CY0710'SWIFT NO 2 1945.

CY0710'

CY0710'AZIMUTH MARK IS 3 MILES SW OF THE STATION, ABOUT 50 FEET
CY0710'HIGHER, AND ABOUT 250 FEET N OF THE END OF TRUCK TRAVEL.
CY0710'IT IS 6 FEET NE OF A 4 INCH SQUARE WHITE WITNESS POST. IT
CY0710'IS A BRONZE AZIMUTH DISK SET IN A DRILL HOLE IN A BOULDER
CY0710'WHICH PROJECTS 3 FEET ABOVE THE GROUND AND IS STAMPED SWIFT
CY0710'1945.

CY0710

CY0710 STATION RECOVERY (1979)

CY0710

CY0710'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 1979

CY0710'7.3 MI SOUTH FROM SAFFORD.

CY0710'7.3 MILES SOUTH ALONG U. S. HIGHWAY 666 FROM THE JUNCTION OF U. S.
CY0710'HIGHWAY 70 IN SAFFORD, 0.3 MILE SOUTH OF MILE POST 114, 59 FEET EAST
CY0710'OF THE CENTERLINE OF HIGHWAY 666, 33 FEET NORTHWEST OF THE EXTENDED
CY0710'CENTERLINE OF HIGHWAY 366, 50.5 FEET SOUTH OF RM 2, 44.5 FEET WEST
CY0710'OF RM 1 AND 9 FEET EAST OF THE HIGHWAY RIGHT-OF-WAY FENCE.

CY0710'THE MARK IS 1 FT E FROM A WITNESS POST.

CY0710'THE MARK IS ABOVE LEVEL WITH THE HIGHWAY.

CY0710

CY0710 STATION RECOVERY (1983)

CY0710

CY0710'RECOVERY NOTE BY ARIZONA DEPARTMENT OF TRANSPORTATION 1983 (GH)

CY0710'THE STATION AND ALL MARKS WERE RECOVERED AS DESCRIBED IN 1945. A NEW
CY0710'ROUTE TO THE STATION FOLLOWS.

CY0710'

CY0710'TO REACH THE STATION FROM THE POST OFFICE IN SAFFORD TRAVEL EAST ALONG
CY0710'U.S. HIGHWAY 70 FOR 0.3 MILE TO THE JUNCTION WITH U.S. HIGHWAY 666.

CY0710'TURN RIGHT AND TRAVEL SOUTH ALONG U.S. 666 FOR 7.35 MILES TO THE
CY0710'JUNCTION WITH STATE ROUTE 366 AND THE STATION ON THE LEFT. 90.5 FEET
CY0710'NORTH OF THE HIGHWAY JUNCTION, 9 FEET NORTH OF THE RIGHT OF WAY FENCE
CY0710'AND MARKED WITH A WITNESS POST AND SIGN.

CY0710

CY0710 STATION RECOVERY (2006)

CY0710

CY0710'RECOVERY NOTE BY GEODETIC ANALYSIS LLC 2006 (CRS)

CY0710'RECOVERED AS DESCRIBED. NOTE DEEP 0.5 CM (0.25 INCH) DIAMETER HOLE IN
CY0710'TOP CENTER OF DISK (ELEVATION REFERENCE IS TO TOP OF DISK).

CY0710

CY0710 STATION RECOVERY (2006)

CY0710

CY0710'RECOVERY NOTE BY INDIVIDUAL CONTRIBUTORS 2006 (JJN)

CY0710'MONUMENT FOUND IN GOOD CONDITION. DESCRIPTION TO MONUEMENT WAS FOUND

CY0710'ADEQUATE WITH ONE MINOR CHANGE. HWY 666 IS NOW HWY 191 MONUMENT WAS
 CY0710'FOUND ON EAST SIDE OF HWY AND ON EAST SIDE OF FENCE.

CY0710

CY0710 STATION RECOVERY (2008)

CY0710

CY0710'RECOVERY NOTE BY GEOCACHING 2008 (ACM)

CY0710'RECOVERED IN GOOD CONDITION.

1 National Geodetic Survey, Retrieval Date = SEPTEMBER 20, 2018

CY0709 *****

CY0709 DESIGNATION - S 430

CY0709 PID - CY0709

CY0709 STATE/COUNTY- AZ/GRAHAM

CY0709 COUNTRY - US

CY0709 USGS QUAD - ARTESIA (1966)

CY0709

CY0709 *CURRENT SURVEY CONTROL

CY0709

CY0709* NAD 83(2011) POSITION- 32 43 45.53554(N) 109 42 54.13729(W) ADJUSTED

CY0709* NAD 83(2011) ELLIP HT- 960.259 (meters) (06/27/12) ADJUSTED

CY0709* NAD 83(2011) EPOCH - 2010.00

CY0709* [NAVD 88](#) ORTHO HEIGHT - 987.141 (meters) 3238.65 (feet) ADJUSTED

CY0709

CY0709 GEOID HEIGHT - -26.885 (meters) GEOID12B

CY0709 NAD 83(2011) X - -1,812,059.003 (meters) COMP

CY0709 NAD 83(2011) Y - -5,056,702.177 (meters) COMP

CY0709 NAD 83(2011) Z - 3,429,262.848 (meters) COMP

CY0709 LAPLACE CORR - -4.79 (seconds) DEFLEC12B

CY0709 DYNAMIC HEIGHT - 985.742 (meters) 3234.06 (feet) COMP

CY0709 MODELED GRAVITY - 979,188.1 (mgal) NAVD 88

CY0709

CY0709 VERT ORDER - FIRST CLASS II

CY0709

CY0709 Network accuracy estimates per FGDC Geospatial Positioning Accuracy

CY0709 Standards:

CY0709 FGDC (95% conf, cm) Standard deviation (cm) CorrNE

CY0709 Horiz Ellip SD_N SD_E SD_h (unitless)

CY0709 -----

CY0709 NETWORK 0.79 1.35 0.36 0.27 0.69 -0.02149251

CY0709 -----

CY0709 Click [here](#) for local accuracies and other accuracy information.

CY0709

CY0709

CY0709.The horizontal coordinates were established by GPS observations

CY0709.and adjusted by the National Geodetic Survey in June 2012.

CY0709

CY0709.NAD 83(2011) refers to NAD 83 coordinates where the reference frame has

CY0709.been affixed to the stable North American tectonic plate. See

CY0709.[NA2011](#) for more information.

CY0709

CY0709.The horizontal coordinates are valid at the epoch date displayed above

CY0709.which is a decimal equivalence of Year/Month/Day.

CY0709

CY0709.The orthometric height was determined by differential leveling and

CY0709.adjusted by the NATIONAL GEODETIC SURVEY

CY0709.in June 1991.

CY0709

CY0709.Significant digits in the geoid height do not necessarily reflect accuracy.

CY0709.GEOID12B height accuracy estimate available [here](#).

CY0709

CY0709.The X, Y, and Z were computed from the position and the ellipsoidal ht.

CY0709

CY0709.The Laplace correction was computed from DEFLEC12B derived deflections.

CY0709

CY0709.The ellipsoidal height was determined by GPS observations

CY0709.and is referenced to NAD 83.

CY0709

CY0709.The dynamic height is computed by dividing the NAVD 88

CY0709.geopotential number by the normal gravity value computed on the

CY0709.Geodetic Reference System of 1980 (GRS 80) ellipsoid at 45

CY0709.degrees latitude (g = 980.6199 gals.).

CY0709

CY0709.The modeled gravity was interpolated from observed gravity values.

CY0709

CY0709. The following values were computed from the NAD 83(2011) position.

CY0709

CY0709;		North	East	Units	Scale Factor	Converg.
CY0709;SPC AZ E	-	191,825.272	255,690.494	MT	0.99992209	+0 14 39.1
CY0709;SPC AZ E	-	629,348.01	838,879.57	iFT	0.99992209	+0 14 39.1
CY0709;UTM 12	-	3,622,009.540	620,405.202	MT	0.99977876	+0 41 41.4

CY0709

CY0709! Elev Factor x Scale Factor = Combined Factor

CY0709!SPC AZ E - 0.99984926 x 0.99992209 = 0.99977136

CY0709!UTM 12 - 0.99984926 x 0.99977876 = 0.99962805

CY0709

CY0709_U.S. NATIONAL GRID SPATIAL ADDRESS: 12SXB2040522009(NAD 83)

CY0709

CY0709	-----		
CY0709	PID	Reference Object	Distance Geod. Az
CY0709			dddmss.s
CY0709	CY0710	SWIFT	117.322 METERS 04123
CY0709	-----		

CY0709

SUPERSEDED SURVEY CONTROL

CY0709

CY0709	NAD 83(2007)-	32 43 45.53516(N)	109 42 54.13759(W)	AD(2007.00)	B
CY0709	ELLIP H (03/25/09)	960.255 (m)		GP(2007.00)	4 1
CY0709	NAD 83(1992)-	32 43 45.53490(N)	109 42 54.13788(W)	AD()	B
CY0709	ELLIP H (01/22/07)	960.301 (m)		GP()	4 1
CY0709	NAVD 88	987.14 (m)	3238.6 (f)	LEVELING	3

CY0709

CY0709.Superseded values are not recommended for survey control.

CY0709

CY0709.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.

CY0709.See file [dsdata.pdf](#) to determine how the superseded data were derived.

CY0709

CY0709_MARKER: I = METAL ROD

CY0709_SETTING: 59 = STAINLESS STEEL ROD IN SLEEVE (10 FT.+)

CY0709_STAMPING: S 430 1979

CY0709_MARK LOGO: NGS
 CY0709_PROJECTION: FLUSH
 CY0709_MAGNETIC: I = MARKER IS A STEEL ROD
 CY0709_STABILITY: A = MOST RELIABLE AND EXPECTED TO HOLD
 CY0709+STABILITY: POSITION/ELEVATION WELL
 CY0709_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR
 CY0709+SATELLITE: SATELLITE OBSERVATIONS - October 10, 2008
 CY0709_ROD/PIPE-DEPTH: 9.14 meters
 CY0709_SLEEVE-DEPTH : 7.62 meters

CY0709	HISTORY	- Date	Condition	Report By
CY0709	HISTORY	- 1979	MONUMENTED	NGS
CY0709	HISTORY	- 20060608	GOOD	GEOANA
CY0709	HISTORY	- 20081010	GOOD	GEOCAC

CY0709
 CY0709 STATION DESCRIPTION

CY0709'DESCRIBED BY NATIONAL GEODETIC SURVEY 1979
 CY0709'7.3 MI SOUTH FROM SAFFORD.
 CY0709'7.3 MILES SOUTH ALONG U. S. HIGHWAY 666 FROM THE JUNCTION OF U. S.
 CY0709'HIGHWAY 70 IN SAFFORD, AT THE JUNCTION OF HIGHWAYS 666 AND 366, 307
 CY0709'FEET SOUTHWEST OF THE CENTERLINE OF HIGHWAY 666, 41 FEET NORTHWEST
 CY0709'OF THE CENTERLINE OF HIGHWAY 366 AND A CATTLE GUARD, 12 FEET EAST
 CY0709'OF A POWER POLE, 9.5 FEET SOUTHEAST OF A FENCE AND 5 FEET NORTHEAST
 CY0709'OF A FENCE.
 CY0709'THE MARK IS 2 FT SW FROM A WITNESS POST.
 CY0709'THE MARK IS ABOVE LEVEL WITH HIGHWAY 366.

CY0709
 CY0709 STATION RECOVERY (2006)

CY0709'RECOVERY NOTE BY GEODETIC ANALYSIS LLC 2006 (RAN)
 CY0709'RECOVERED AS DESCRIBED, WITH FOLLOWING MINOR CHANGE. HIGHWAY 666 IS
 CY0709'NOW HIGHWAY 191.

CY0709
 CY0709 STATION RECOVERY (2008)

CY0709'RECOVERY NOTE BY GEOCACHING 2008 (ACM)
 CY0709'RECOVERED AS DESCRIBED, IN GOOD CONDITION. GPS (HH2) CO-ORDINATES N32
 CY0709'43.759' W109 42.903'. *NOTE* THE CATTLE GUARD HAS BEEN REMOVED, BUT
 CY0709'THE HEADWALLS ARE STILL IN PLACE.

1 National Geodetic Survey, Retrieval Date = SEPTEMBER 20, 2018

DO5607	*****						
DO5607	DESIGNATION -	6243 CANYON					
DO5607	PID -	DO5607					
DO5607	STATE/COUNTY-	AZ/COCONINO					
DO5607	COUNTRY -	US					
DO5607	USGS QUAD -	PIUTE POINT (1988)					
DO5607							
DO5607		*CURRENT SURVEY CONTROL					
DO5607							
DO5607*	NAD 83(1986) POSITION-	36 04 22.5 (N)	112 20 26.5 (W)	HD_HELD2			
DO5607*	<u>NAVD 88</u> ORTHO HEIGHT -	1902.119 (meters)	6240.54 (feet)	ADJUSTED			
DO5607							
DO5607	GEOID HEIGHT -	-23.056 (meters)		GEOID12B			
DO5607	DYNAMIC HEIGHT -	1899.662 (meters)	6232.47 (feet)	COMP			

DO5607 MODELED GRAVITY - 979,272.8 (mgal) NAVD 88
DO5607
DO5607 VERT ORDER - SECOND CLASS II
DO5607
DO5607.The horizontal coordinates were established by autonomous hand held GPS
DO5607.observations and have an estimated accuracy of +/- 10 meters.
DO5607.
DO5607.The orthometric height was determined by differential leveling and
DO5607.adjusted by the NATIONAL GEODETIC SURVEY
DO5607.in April 2014.
DO5607
DO5607.No vertical observational check was made to the station.
DO5607
DO5607.Significant digits in the geoid height do not necessarily reflect accuracy.
DO5607.GEOID12B height accuracy estimate available [here](#).
DO5607
DO5607.The dynamic height is computed by dividing the NAVD 88
DO5607.geopotential number by the normal gravity value computed on the
DO5607.Geodetic Reference System of 1980 (GRS 80) ellipsoid at 45
DO5607.degrees latitude (g = 980.6199 gals.).
DO5607
DO5607.The modeled gravity was interpolated from observed gravity values.
DO5607
DO5607;
DO5607;SPC AZ C - North East Units Estimated Accuracy
DO5607;SPC AZ C - 562,686. 175,167. MT (+/- 10 meters HH2 GPS)
DO5607
DO5607_U.S. NATIONAL GRID SPATIAL ADDRESS: 12SUE7927492867(NAD 83)
DO5607
DO5607 SUPERSEDED SURVEY CONTROL
DO5607
DO5607.No superseded survey control is available for this station.
DO5607
DO5607_MARKER: DB = BENCH MARK DISK
DO5607_SETTING: 66 = SET IN ROCK OUTCROP
DO5607_STAMPING: 6243 CANYON
DO5607_MARK LOGO: USGS
DO5607_MAGNETIC: N = NO MAGNETIC MATERIAL
DO5607_STABILITY: A = MOST RELIABLE AND EXPECTED TO HOLD
DO5607+STABILITY: POSITION/ELEVATION WELL
DO5607
DO5607 HISTORY - Date Condition Report By
DO5607 HISTORY - 19030311 MONUMENTED USGS
DO5607
DO5607 STATION DESCRIPTION
DO5607
DO5607'DESCRIBED BY US GEOLOGICAL SURVEY 1903 (JTS)
DO5607'TO REACH FROM EL TOVAR HOTEL TRAVEL 5.05 MI (8.1 KM) SOUTHWEST ALONG
DO5607'ROWES WELL ROAD TO THE INTERSECTION OF FOREST SERVICE ROAD 328, THENCE
DO5607'11.8 MI (19.0 KM) WEST-NORTHWEST TO HOMESTEAD TANK.
DO5607'
DO5607'THE BENCH MARK IS LOCATED 150 FT (45.7 M) NORTH OF THE NORTHWEST
DO5607'CORNER OF THE TANK, 300 FT (91.4 M) NORTHEAST OF FORK IN ROAD TO POND
DO5607'AND 330 FT (100.6 M) NORTHEAST OF US DEPARTMENT OF AGRICULTURE CAP
DO5607'MARKED TOWNSHIP 31 NORTH, RANGE 1 WEST.
DO5607'

DO5607'THE MARK IS ON THE SOUTH SLOPE OF HILL ON TOP OF SANDSTONE OUTCROP, 1
DO5607'FT (0.3 M) WEST OF ROCK CAIRN.

1 National Geodetic Survey, Retrieval Date = SEPTEMBER 20, 2018

DN3662 *****

DN3662 HT_MOD - This is a Height Modernization Survey Station.

DN3662 DESIGNATION - DOBY

DN3662 PID - DN3662

DN3662 STATE/COUNTY- AZ/COCONINO

DN3662 COUNTRY - US

DN3662 USGS QUAD - VALLE TANK (1989)

DN3662

DN3662 *CURRENT SURVEY CONTROL

DN3662

DN3662* NAD 83(2011) POSITION- 35 37 46.36739(N) 112 08 34.81101(W) ADJUSTED

DN3662* NAD 83(2011) ELLIP HT- 1801.357 (meters) (06/27/12) ADJUSTED

DN3662* NAD 83(2011) EPOCH - 2010.00

DN3662* [NAVD 88](#) ORTHO HEIGHT - 1824.76 (meters) 5986.7 (feet) GPS OBS

DN3662

DN3662 NAVD 88 orthometric height was determined with geoid model GEOID09

DN3662 GEOID HEIGHT - -23.387 (meters) GEOID09

DN3662 GEOID HEIGHT - -23.408 (meters) GEOID12B

DN3662 NAD 83(2011) X - -1,956,783.732 (meters) COMP

DN3662 NAD 83(2011) Y - -4,808,620.454 (meters) COMP

DN3662 NAD 83(2011) Z - 3,695,909.432 (meters) COMP

DN3662 LAPLACE CORR - 3.29 (seconds) DEFLEC12B

DN3662

DN3662 Network accuracy estimates per FGDC Geospatial Positioning Accuracy

DN3662 Standards:

	FGDC (95% conf, cm)		Standard deviation (cm)			CorrNE (unitless)
	Horiz	Ellip	SD_N	SD_E	SD_h	
NETWORK	0.69	1.35	0.32	0.23	0.69	0.05958565

DN3662 -----

DN3662 NETWORK 0.69 1.35 0.32 0.23 0.69 0.05958565

DN3662 -----

DN3662 Click [here](#) for local accuracies and other accuracy information.

DN3662

DN3662

DN3662.The horizontal coordinates were established by GPS observations

DN3662.and adjusted by the National Geodetic Survey in June 2012.

DN3662

DN3662.NAD 83(2011) refers to NAD 83 coordinates where the reference frame has

DN3662.been affixed to the stable North American tectonic plate. See

DN3662.[NA2011](#) for more information.

DN3662

DN3662.The horizontal coordinates are valid at the epoch date displayed above

DN3662.which is a decimal equivalence of Year/Month/Day.

DN3662

DN3662.The orthometric height was determined by GPS observations and a

DN3662.high-resolution geoid model using precise GPS observation and

DN3662.processing techniques.

DN3662

DN3662.Significant digits in the geoid height do not necessarily reflect accuracy.

DN3662.GEOID12B height accuracy estimate available [here](#).

DN3662

DN3662.The X, Y, and Z were computed from the position and the ellipsoidal ht.

DN3662

DN3662.The Laplace correction was computed from DEFLEC12B derived deflections.

DN3662

DN3662.The ellipsoidal height was determined by GPS observations

DN3662.and is referenced to NAD 83.

DN3662

DN3662. The following values were computed from the NAD 83(2011) position.

DN3662

DN3662;		North	East	Units	Scale	Factor	Converg.
DN3662;SPC AZ C	-	513,436.708	192,859.694	MT	0.99990518	-0 07	54.7
DN3662;SPC AZ C	-	1,684,503.64	632,741.78	iFT	0.99990518	-0 07	54.7
DN3662;UTM 12	-	3,943,462.448	396,501.989	MT	0.99973200	-0 39	57.3

DN3662

DN3662! - Elev Factor x Scale Factor = Combined Factor

DN3662!SPC AZ C - 0.99971735 x 0.99990518 = 0.99962255

DN3662!UTM 12 - 0.99971735 x 0.99973200 = 0.99944942

DN3662

DN3662_U.S. NATIONAL GRID SPATIAL ADDRESS: 12SUE9650143462(NAD 83)

DN3662

SUPERSEDED SURVEY CONTROL

DN3662

DN3662 NAD 83(2007)- 35 37 46.36693(N) 112 08 34.81121(W) AD(2007.00) A

DN3662 ELLIP H (09/10/11) 1801.373 (m) GP(2007.00) 4 1

DN3662

DN3662.Superseded values are not recommended for survey control.

DN3662

DN3662.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.

DN3662.See file [dsdata.pdf](#) to determine how the superseded data were derived.

DN3662

DN3662_MARKER: DD = SURVEY DISK

DN3662_SETTING: 66 = SET IN ROCK OUTCROP

DN3662_STAMPING: DOBY 2010

DN3662_MARK LOGO: AZ-005

DN3662_MAGNETIC: N = NO MAGNETIC MATERIAL

DN3662_STABILITY: A = MOST RELIABLE AND EXPECTED TO HOLD

DN3662+STABILITY: POSITION/ELEVATION WELL

DN3662_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR

DN3662+SATELLITE: SATELLITE OBSERVATIONS - June , 2010

DN3662

DN3662	HISTORY	- Date	Condition	Report By
DN3662	HISTORY	- 201006	MONUMENTED	AZ-005

DN3662 HISTORY - 201006 MONUMENTED AZ-005

DN3662

STATION DESCRIPTION

DN3662

DN3662'DESCRIBED BY COCONINO COUNTY ARIZONA 2010 (JAC)

DN3662'THE STATION IS LOCATED ABOUT 23.7 MI (38.1 KM) SOUTH OF TUSAYAN, 23.1

DN3662'MI (37.2 KM) EAST-SOUTHEAST OF TIN HOUSE AND 1.7 MI (2.7 KM) SOUTH OF

DN3662'VALLE.

DN3662'

DN3662'TO REACH FROM THE INTERSECTION OF STATE ROUTE 64 AND US HIGHWAY 180,

DN3662'TAKE STATE ROUTE 64 SOUTH FOR 1.5 MI (2.4 KM) TO THE MONUMENT ON THE

DN3662'RIGHT. THE MONUMENT IS A 3.5 INCH (9 CM) COCONINO COUNTY PUBLIC WORKS

DN3662'ALUMINUM CAP PLACED 150 FT (45 M) WEST OF THE CENTERLINE OF STATE

DN3662'ROUTE 64 IN A ROCK OUTCROP.

1 National Geodetic Survey, Retrieval Date = SEPTEMBER 20, 2018

```

DN3666 *****
DN3666 HT_MOD      -   This is a Height Modernization Survey Station.
DN3666 DESIGNATION -   HIRSCH
DN3666 PID         -   DN3666
DN3666 STATE/COUNTY-  AZ/COCONINO
DN3666 COUNTRY     -   US
DN3666 USGS QUAD   -   KENDRICK PEAK (1966)
DN3666
DN3666                      *CURRENT SURVEY CONTROL
DN3666
DN3666* NAD 83(2011) POSITION- 35 24 16.70319(N) 111 45 21.02540(W)  ADJUSTED
DN3666* NAD 83(2011) ELLIP HT- 2381.874 (meters)          (06/27/12)  ADJUSTED
DN3666* NAD 83(2011) EPOCH   - 2010.00
DN3666* NAVD 88 ORTHO HEIGHT - 2404.65 (meters)          7889.3 (feet) GPS OBS
DN3666
DN3666 NAVD 88 orthometric height was determined with geoid model  GEOID09
DN3666 GEOID HEIGHT      -          -22.759 (meters)          GEOID09
DN3666 GEOID HEIGHT      -          -22.751 (meters)          GEOID12B
DN3666 NAD 83(2011) X    - -1,929,796.281 (meters)          COMP
DN3666 NAD 83(2011) Y    - -4,835,640.364 (meters)          COMP
DN3666 NAD 83(2011) Z    -   3,675,929.370 (meters)          COMP
DN3666 LAPLACE CORR      -              1.30 (seconds)        DEFLEC12B
DN3666
DN3666 Network accuracy estimates per FGDC Geospatial Positioning Accuracy
DN3666 Standards:
DN3666          FGDC (95% conf, cm)      Standard deviation (cm)      CorrNE
DN3666          Horiz  Ellip              SD_N   SD_E   SD_h          (unitless)
DN3666 -----
DN3666 NETWORK    0.73   1.45              0.33   0.26   0.74          0.09190485
DN3666 -----
DN3666 Click here for local accuracies and other accuracy information.
DN3666
DN3666
DN3666.The horizontal coordinates were established by GPS observations
DN3666.and adjusted by the National Geodetic Survey in June 2012.
DN3666
DN3666.NAD 83(2011) refers to NAD 83 coordinates where the reference frame has
DN3666.been affixed to the stable North American tectonic plate. See
DN3666.NA2011 for more information.
DN3666
DN3666.The horizontal coordinates are valid at the epoch date displayed above
DN3666.which is a decimal equivalence of Year/Month/Day.
DN3666
DN3666.The orthometric height was determined by GPS observations and a
DN3666.high-resolution geoid model using precise GPS observation and
DN3666.processing techniques.
DN3666
DN3666.Significant digits in the geoid height do not necessarily reflect accuracy.
DN3666.GEOID12B height accuracy estimate available here.
DN3666
DN3666.The X, Y, and Z were computed from the position and the ellipsoidal ht.
DN3666
DN3666.The Laplace correction was computed from DEFLEC12B derived deflections.
DN3666

```

DN3666.The ellipsoidal height was determined by GPS observations
DN3666.and is referenced to NAD 83.

DN3666

DN3666. The following values were computed from the NAD 83(2011) position.

DN3666

DN3666;	North	East	Units	Scale	Factor	Converg.
DN3666;SPC AZ C	- 488,474.075	227,967.441	MT	0.99990263	+0 05	35.4
DN3666;SPC AZ C	- 1,602,605.23	747,924.68	iFT	0.99990263	+0 05	35.4
DN3666;UTM 12	- 3,918,179.850	431,368.909	MT	0.99965805	-0 26	16.5

DN3666

DN3666! - Elev Factor x Scale Factor = Combined Factor

DN3666!SPC AZ C - 0.99962628 x 0.99990263 = 0.99952895

DN3666!UTM 12 - 0.99962628 x 0.99965805 = 0.99928446

DN3666

DN3666_U.S. NATIONAL GRID SPATIAL ADDRESS: 12SVE3136818179(NAD 83)

DN3666

SUPERSEDED SURVEY CONTROL

DN3666

DN3666 NAD 83(2007)- 35 24 16.70274(N) 111 45 21.02563(W) AD(2007.00) A
DN3666 ELLIP H (09/10/11) 2381.891 (m) GP(2007.00) 4 1

DN3666

DN3666.Superseded values are not recommended for survey control.

DN3666

DN3666.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.

DN3666.See file [dsdata.pdf](#) to determine how the superseded data were derived.

DN3666

DN3666_MARKER: DD = SURVEY DISK

DN3666_SETTING: 66 = SET IN ROCK OUTCROP

DN3666_STAMPING: HIRSCH 2010

DN3666_MARK LOGO: AZ-005

DN3666_MAGNETIC: N = NO MAGNETIC MATERIAL

DN3666_STABILITY: A = MOST RELIABLE AND EXPECTED TO HOLD

DN3666+STABILITY: POSITION/ELEVATION WELL

DN3666_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR

DN3666+SATELLITE: SATELLITE OBSERVATIONS - December 22, 2015

DN3666

DN3666 HISTORY - Date Condition Report By

DN3666 HISTORY - 201006 MONUMENTED AZ-005

DN3666 HISTORY - 20151222 GOOD AZDT

DN3666

STATION DESCRIPTION

DN3666

DN3666'DESCRIBED BY COCONINO COUNTY ARIZONA 2010 (JAC)

DN3666'THE STATION IS LOCATED ABOUT 15.4 MI (24.8 KM) NORTH-NORTHWEST OF

DN3666'FLAGSTAFF, 14.7 MI (23.7 KM) NORTHEAST OF PARKS AND 12.3 MI (19.8 KM)

DN3666'NORTH-NORTHEAST OF BELLEMONT.

DN3666'

DN3666'TO REACH FROM THE INTERSECTION OF HISTORIC ROUTE 66 AND US HIGHWAY 180

DN3666'(HUMPHREY STREET) IN DOWNTOWN FLAGSTAFF, TRAVEL NORTH ON HIGHWAY 180

DN3666'FOR 19.8 MI (31.9 KM) TO THE MONUMENT ON THE LEFT SIDE OF THE ROAD.

DN3666'THE MONUMENT IS A 3.5 INCH (9 CM) COCONINO COUNTY PUBLIC WORKS

DN3666'ALUMINUM CAP SET IN A ROCK OUTCROP 80 FT (25 M) WEST OF THE CENTERLINE

DN3666'OF US HIGHWAY 180.

DN3666

DN3666 STATION RECOVERY (2015)

DN3666

DN3666'RECOVERY NOTE BY ARIZONA DEPARTMENT OF TRANSPORTATION 2015 (DLR)

DN3666'RECOVERED IN GOOD CONDITION.

1 National Geodetic Survey, Retrieval Date = SEPTEMBER 20, 2018
 FQ0365 *****
 FQ0365 DESIGNATION - J 62
 FQ0365 PID - FQ0365
 FQ0365 STATE/COUNTY- AZ/COCONINO
 FQ0365 COUNTRY - US
 FQ0365 USGS QUAD - GRANDVIEW POINT NE (1989)
 FQ0365
 FQ0365 *CURRENT SURVEY CONTROL
 FQ0365
 FQ0365* NAD 83(2011) POSITION- 35 57 09.26778(N) 111 46 30.66272(W) ADJUSTED
 FQ0365* NAD 83(2011) ELLIP HT- 1926.734 (meters) (06/27/12) ADJUSTED
 FQ0365* NAD 83(2011) EPOCH - 2010.00
 FQ0365* [NAVD 88](#) ORTHO HEIGHT - 1949.814 (meters) 6397.01 (feet) ADJUSTED
 FQ0365
 FQ0365 GEOID HEIGHT - -23.101 (meters) GEOID12B
 FQ0365 NAD 83(2011) X - -1,918,133.493 (meters) COMP
 FQ0365 NAD 83(2011) Y - -4,801,706.288 (meters) COMP
 FQ0365 NAD 83(2011) Z - 3,725,064.339 (meters) COMP
 FQ0365 LAPLACE CORR - -3.39 (seconds) DEFLEC12B
 FQ0365 DYNAMIC HEIGHT - 1947.219 (meters) 6388.50 (feet) COMP
 FQ0365 MODELED GRAVITY - 979,231.8 (mgal) NAVD 88
 FQ0365
 FQ0365 VERT ORDER - SECOND CLASS II
 FQ0365
 FQ0365 Network accuracy estimates per FGDC Geospatial Positioning Accuracy
 FQ0365 Standards:
 FQ0365 FGDC (95% conf, cm) Standard deviation (cm) CorrNE
 FQ0365 Horiz Ellip SD_N SD_E SD_h (unitless)
 FQ0365 -----
 FQ0365 NETWORK 0.47 1.00 0.21 0.17 0.51 0.07224683
 FQ0365 -----
 FQ0365 Click [here](#) for local accuracies and other accuracy information.
 FQ0365
 FQ0365
 FQ0365.The horizontal coordinates were established by GPS observations
 FQ0365.and adjusted by the National Geodetic Survey in June 2012.
 FQ0365
 FQ0365.NAD 83(2011) refers to NAD 83 coordinates where the reference frame has
 FQ0365.been affixed to the stable North American tectonic plate. See
 FQ0365.[NA2011](#) for more information.
 FQ0365
 FQ0365.The horizontal coordinates are valid at the epoch date displayed above
 FQ0365.which is a decimal equivalence of Year/Month/Day.
 FQ0365
 FQ0365.The orthometric height was determined by differential leveling and
 FQ0365.adjusted by the NATIONAL GEODETIC SURVEY
 FQ0365.in April 2014.
 FQ0365
 FQ0365.No vertical observational check was made to the station.
 FQ0365

FQ0365. Significant digits in the geoid height do not necessarily reflect accuracy.

FQ0365. GEOID12B height accuracy estimate available [here](#).

FQ0365

FQ0365. The X, Y, and Z were computed from the position and the ellipsoidal ht.

FQ0365

FQ0365. The Laplace correction was computed from DEFLEC12B derived deflections.

FQ0365

FQ0365. The ellipsoidal height was determined by GPS observations

FQ0365. and is referenced to NAD 83.

FQ0365

FQ0365. The dynamic height is computed by dividing the NAVD 88

FQ0365. geopotential number by the normal gravity value computed on the

FQ0365. Geodetic Reference System of 1980 (GRS 80) ellipsoid at 45

FQ0365. degrees latitude ($g = 980.6199$ gals.).

FQ0365

FQ0365. The modeled gravity was interpolated from observed gravity values.

FQ0365

FQ0365. The following values were computed from the NAD 83(2011) position.

FQ0365

FQ0365;		North	East	Units	Scale Factor	Converg.
FQ0365;SPC AZ C	-	549,260.390	226,122.952	MT	0.99990201	+0 04 59.0
FQ0365;SPC AZ C	-	1,802,035.40	741,873.20	iFT	0.99990201	+0 04 59.0
FQ0365;UTM 12	-	3,978,965.943	430,092.025	MT	0.99966022	-0 27 18.5

FQ0365

FQ0365! Elev Factor x Scale Factor = Combined Factor

FQ0365!SPC AZ C - 0.99969769 x 0.99990201 = 0.99959973

FQ0365!UTM 12 - 0.99969769 x 0.99966022 = 0.99935801

FQ0365

FQ0365_U.S. NATIONAL GRID SPATIAL ADDRESS: 12SVE3009278965(NAD 83)

FQ0365

FQ0365 SUPERSEDED SURVEY CONTROL

FQ0365

FQ0365	NAD 83(2007)-	35 57 09.26733(N)	111 46 30.66299(W)	AD(2007.00)	A
FQ0365	ELLIP H (09/10/11)	1926.747 (m)		GP(2007.00)	4 1
FQ0365	NAVD 88	1949.82 (m)	6397.0 (f)	LEVELING	3
FQ0365	NAVD 88 (??/??/92)	1949.819 (m)	6397.03 (f)	SUPERSEDED	3 0
FQ0365	NGVD 29 (??/??/92)	1948.850 (m)	6393.85 (f)	ADJ UNCH	2 0

FQ0365

FQ0365. Superseded values are not recommended for survey control.

FQ0365

FQ0365. NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.

FQ0365. See file [dsdata.pdf](#) to determine how the superseded data were derived.

FQ0365

FQ0365_MARKER: DB = BENCH MARK DISK

FQ0365_SETTING: 66 = SET IN ROCK OUTCROP

FQ0365_STAMPING: J 62 1934

FQ0365_MARK LOGO: CGS

FQ0365_STABILITY: A = MOST RELIABLE AND EXPECTED TO HOLD

FQ0365+STABILITY: POSITION/ELEVATION WELL

FQ0365_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR

FQ0365+SATELLITE: SATELLITE OBSERVATIONS - September 22, 2016

FQ0365

FQ0365	HISTORY	- Date	Condition	Report By
FQ0365	HISTORY	- 1934	MONUMENTED	CGS

FQ0365 HISTORY - 20100618 GOOD GRANCN
 FQ0365 HISTORY - 20160922 GOOD AZDT

FQ0365
 FQ0365 STATION DESCRIPTION
 FQ0365

FQ0365'DESCRIBED BY COAST AND GEODETIC SURVEY 1934
 FQ0365'25.8 MI W FROM CAMERON.
 FQ0365'ABOUT 25.8 MILES WEST ALONG STATE HIGHWAY 64 FROM CAMERON, COCONINO
 FQ0365'COUNTY, ABOUT 72 FEET EAST OF A STORM-DITCH, ABOUT 110 FEET EAST OF
 FQ0365'THE CENTER LINE OF THE HIGHWAY, 4.5 FEET NORTH OF A LARGE ROCK MOUND,
 FQ0365'AND IN THE TOP OF THE SOUTH EDGE OF A LARGE LIMESTONE OUTCROP. A
 FQ0365'STANDARD DISK, STAMPED J 62 1934.

FQ0365
 FQ0365 STATION RECOVERY (2010)
 FQ0365
 FQ0365'RECOVERY NOTE BY GRAND CANYON MONITORING AND RESEARCH 2010 (KAK)
 FQ0365'RECOVERED AS DESCRIBED.

FQ0365
 FQ0365 STATION RECOVERY (2016)
 FQ0365
 FQ0365'RECOVERY NOTE BY ARIZONA DEPARTMENT OF TRANSPORTATION 2016 (DLR)
 FQ0365'RECOVERED IN GOOD CONDITION.

1 National Geodetic Survey, Retrieval Date = SEPTEMBER 20, 2018

DH5789 *****
 DH5789 HT_MOD - This is a Height Modernization Survey Station.
 DH5789 DESIGNATION - JOE
 DH5789 PID - DH5789
 DH5789 STATE/COUNTY- AZ/YAVAPAI
 DH5789 COUNTRY - US
 DH5789 USGS QUAD - CLARKDALE (1973)

DH5789
 DH5789 *CURRENT SURVEY CONTROL
 DH5789

DH5789* NAD 83(2011) POSITION- 34 45 10.32800(N) 112 06 17.54256(W) ADJUSTED
 DH5789* NAD 83(2011) ELLIP HT- 1446.832 (meters) (06/27/12) ADJUSTED
 DH5789* NAD 83(2011) EPOCH - 2010.00

DH5789* [NAVD 88](#) ORTHO HEIGHT - 1472.26 (meters) 4830.2 (feet) GPS OBS
 DH5789

DH5789 NAVD 88 orthometric height was determined with geoid model GEOID09
 DH5789 GEOID HEIGHT - -25.407 (meters) GEOID09
 DH5789 GEOID HEIGHT - -25.428 (meters) GEOID12B
 DH5789 NAD 83(2011) X - -1,974,572.216 (meters) COMP
 DH5789 NAD 83(2011) Y - -4,861,598.773 (meters) COMP
 DH5789 NAD 83(2011) Z - 3,616,199.689 (meters) COMP
 DH5789 LAPLACE CORR - -7.02 (seconds) DEFLEC12B

DH5789
 DH5789 Network accuracy estimates per FGDC Geospatial Positioning Accuracy
 DH5789 Standards:

	FGDC (95% conf, cm)		Standard deviation (cm)			CorrNE	
	Horiz	Ellip	SD_N	SD_E	SD_h	(unitless)	
DH5789	-----	-----	-----	-----	-----	-----	
DH5789	NETWORK	0.97	2.53	0.43	0.35	1.29	0.13094620
DH5789	-----	-----	-----	-----	-----	-----	

DH5789 Click [here](#) for local accuracies and other accuracy information.

DH5789

DH5789

DH5789.The horizontal coordinates were established by GPS observations
DH5789.and adjusted by the National Geodetic Survey in June 2012.

DH5789

DH5789.NAD 83(2011) refers to NAD 83 coordinates where the reference frame has
DH5789.been affixed to the stable North American tectonic plate. See

DH5789.[NA2011](#) for more information.

DH5789

DH5789.The horizontal coordinates are valid at the epoch date displayed above
DH5789.which is a decimal equivalence of Year/Month/Day.

DH5789

DH5789.The orthometric height was determined by GPS observations and a
DH5789.high-resolution geoid model using precise GPS observation and
DH5789.processing techniques.

DH5789

DH5789.Significant digits in the geoid height do not necessarily reflect accuracy.
DH5789.GEOID12B height accuracy estimate available [here](#).

DH5789

DH5789.The X, Y, and Z were computed from the position and the ellipsoidal ht.

DH5789

DH5789.The Laplace correction was computed from DEFLEC12B derived deflections.

DH5789

DH5789.The ellipsoidal height was determined by GPS observations

DH5789.and is referenced to NAD 83.

DH5789

DH5789. The following values were computed from the NAD 83(2011) position.

DH5789

DH5789;		North	East	Units	Scale	Factor	Converg.
DH5789;SPC AZ C	-	416,176.781	196,129.211	MT	0.99990366	-0	06 26.2
DH5789;SPC AZ C	-	1,365,409.39	643,468.54	iFT	0.99990366	-0	06 26.2
DH5789;UTM 12	-	3,846,193.572	398,874.117	MT	0.99972604	-0	37 47.5

DH5789

DH5789!
DH5789!SPC AZ C

-	Elev Factor	x	Scale Factor	=	Combined Factor
-	0.99977294	x	0.99990366	=	0.99967662
-	0.99977294	x	0.99972604	=	0.99949904

DH5789!UTM 12

DH5789

DH5789

DH5789_U.S. NATIONAL GRID SPATIAL ADDRESS: 12SUD9887446193(NAD 83)

DH5789

DH5789

SUPERSEDED SURVEY CONTROL

DH5789

DH5789 NAD 83(2007)- 34 45 10.32739(N) 112 06 17.54274(W) AD(2007.00) 0

DH5789 ELLIP H (02/10/07) 1446.861 (m) GP(2007.00)

DH5789 NAD 83(1992)- 34 45 10.32694(N) 112 06 17.54240(W) AD() A

DH5789 ELLIP H (05/31/05) 1446.861 (m) GP() 4 2

DH5789 NAVD 88 (05/31/05) 1472.29 (m) GEOID03 model used GPS OBS

DH5789

DH5789.Superseded values are not recommended for survey control.

DH5789

DH5789.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.

DH5789.See file [dsdata.pdf](#) to determine how the superseded data were derived.

DH5789

DH5789_MARKER: DD = SURVEY DISK

DH5789_SETTING: 7 = SET IN TOP OF CONCRETE MONUMENT

DH5789_STAMPING: 1976 LS4491

DH5789_MARK LOGO: NONE

DH5789_MAGNETIC: O = OTHER; SEE DESCRIPTION

DH5789_STABILITY: C = MAY HOLD, BUT OF TYPE COMMONLY SUBJECT TO

DH5789+STABILITY: SURFACE MOTION

DH5789_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR

DH5789+SATELLITE: SATELLITE OBSERVATIONS - December 15, 2003

DH5789

DH5789	HISTORY	- Date	Condition	Report By
--------	---------	--------	-----------	-----------

DH5789	HISTORY	- 20031215	MONUMENTED	SHEPH
--------	---------	------------	------------	-------

DH5789

DH5789 STATION DESCRIPTION

DH5789

DH5789'DESCRIBED BY SHEPHARD-WESNITZER INC 2003 (MLD)

DH5789'THE STATION IS LOCATED IN JEROME, AZ.

DH5789'

DH5789'TO REACH THE STATION FROM THE INTERSECTION OF STATE HIGHWAY 89A AND

DH5789'THE CEMENT PLANT ROAD, PROCEED WEST ON 89A APPROXIMATELY 3.7 MILES TO

DH5789'NORTH STREET, PROCEED NORTHEAST ON NORTH STREET APPROXIMATELY 250 FT

DH5789'THEN BEARING NORTH AND CONTINUING ON NORTH STREET APPROXIMATELY 200 FT

DH5789'AND THE STATION ON THE LEFT.

DH5789'

DH5789'THE STATION IS APPROXIMATELY 70 FT SOUTH OF THE GATE TO THE JEROME

DH5789'CEMETARY AND 8.5 FT EAST OF A 4-STRAND FENCE. IT IS A 3 INCH BRASS

DH5789'DISK SET IN CONCRETE FLUSH WITH THE GROUND. THE DISK IS EMBOSSED 1976

DH5789'JOE JONES AND ASSOC. LS4491.

DH5789'

DH5789'DESCRIBED BY TRUE NORTH SURVEYS, DEC 2003 (SJS)

1 National Geodetic Survey, Retrieval Date = SEPTEMBER 20, 2018

AJ5638 *****

AJ5638 HT_MOD - This is a Height Modernization Survey Station.

AJ5638 DESIGNATION - PIONEER PARK

AJ5638 PID - AJ5638

AJ5638 STATE/COUNTY- AZ/YAVAPAI

AJ5638 COUNTRY - US

AJ5638 USGS QUAD - PRESCOTT (1973)

AJ5638

*CURRENT SURVEY CONTROL

AJ5638

AJ5638*	NAD 83(2011)	POSITION-	34 36 20.78885(N)	112 29 07.76090(W)	ADJUSTED
---------	--------------	-----------	-------------------	--------------------	----------

AJ5638*	NAD 83(2011)	ELLIP HT-	1650.342 (meters)	(06/27/12)	ADJUSTED
---------	--------------	-----------	-------------------	------------	----------

AJ5638*	NAD 83(2011)	EPOCH	- 2010.00		
---------	--------------	-------	-----------	--	--

AJ5638*	<u>NAVD 88</u>	ORTHO HEIGHT -	1676.77 (meters)	5501.2 (feet)	GPS OBS
---------	----------------	----------------	------------------	---------------	---------

AJ5638

AJ5638	NAVD 88	orthometric height was determined with geoid model	GEOID09
--------	---------	--	---------

AJ5638	GEOID HEIGHT	- -26.405 (meters)	GEOID09
--------	--------------	--------------------	---------

AJ5638	GEOID HEIGHT	- -26.430 (meters)	GEOID12B
--------	--------------	--------------------	----------

AJ5638	NAD 83(2011)	X	- -2,010,439.791 (meters)	COMP
--------	--------------	---	---------------------------	------

AJ5638	NAD 83(2011)	Y	- -4,857,109.957 (meters)	COMP
--------	--------------	---	---------------------------	------

AJ5638	NAD 83(2011)	Z	- 3,602,893.239 (meters)	COMP
--------	--------------	---	--------------------------	------

AJ5638	LAPLACE CORR	- 1.28 (seconds)	DEFLEC12B
--------	--------------	------------------	-----------

AJ5638

AJ5638 Network accuracy estimates per FGDC Geospatial Positioning Accuracy

AJ5638 Standards:

AJ5638	FGDC (95% conf, cm)	Standard deviation (cm)	CorrNE
--------	---------------------	-------------------------	--------

```

AJ5638          Horiz  Ellip          SD_N  SD_E  SD_h          (unitless)
AJ5638 -----
AJ5638 NETWORK    0.64   0.88          0.28   0.24   0.45          0.07437698
AJ5638 -----
AJ5638 Click here for local accuracies and other accuracy information.
AJ5638
AJ5638
AJ5638.The horizontal coordinates were established by GPS observations
AJ5638.and adjusted by the National Geodetic Survey in June 2012.
AJ5638
AJ5638.NAD 83(2011) refers to NAD 83 coordinates where the reference frame has
AJ5638.been affixed to the stable North American tectonic plate. See
AJ5638.NA2011 for more information.
AJ5638
AJ5638.The horizontal coordinates are valid at the epoch date displayed above
AJ5638.which is a decimal equivalence of Year/Month/Day.
AJ5638
AJ5638.The orthometric height was determined by GPS observations and a
AJ5638.high-resolution geoid model using precise GPS observation and
AJ5638.processing techniques.
AJ5638
AJ5638.Significant digits in the geoid height do not necessarily reflect accuracy.
AJ5638.GEOID12B height accuracy estimate available here.
AJ5638
AJ5638.The X, Y, and Z were computed from the position and the ellipsoidal ht.
AJ5638
AJ5638.The Laplace correction was computed from DEFLEC12B derived deflections.
AJ5638
AJ5638.The ellipsoidal height was determined by GPS observations
AJ5638.and is referenced to NAD 83.
AJ5638
AJ5638. The following values were computed from the NAD 83(2011) position.
AJ5638
AJ5638;
AJ5638;          North          East          Units Scale Factor Converg.
AJ5638;SPC AZ C    -   399,991.503   161,190.335   MT   0.99993354   -0 19 23.0
AJ5638;SPC AZ C    -   1,312,308.08   528,839.68   iFT  0.99993354   -0 19 23.0
AJ5638;UTM 12     -   3,830,329.306   363,794.288   MT   0.99982867   -0 50 37.6
AJ5638
AJ5638!          -   Elev Factor x   Scale Factor =   Combined Factor
AJ5638!SPC AZ C    -   0.99974101 x   0.99993354 =   0.99967456
AJ5638!UTM 12     -   0.99974101 x   0.99982867 =   0.99956972
AJ5638
AJ5638_U.S. NATIONAL GRID SPATIAL ADDRESS: 12SUD6379430329(NAD 83)
AJ5638
AJ5638          SUPERSEDED SURVEY CONTROL
AJ5638
AJ5638 NAD 83(2007)- 34 36 20.78851(N)          112 29 07.76094(W) AD(2007.00) 0
AJ5638 ELLIP H (02/10/07) 1650.357 (m)          GP(2007.00)
AJ5638 NAD 83(1992)- 34 36 20.78809(N)          112 29 07.76062(W) AD( ) A
AJ5638 ELLIP H (10/04/01) 1650.358 (m)          GP( ) 3 2
AJ5638 NAVD 88 (10/04/01) 1676.7 (m) GEOID99 model used GPS OBS
AJ5638
AJ5638.Superseded values are not recommended for survey control.
AJ5638

```


AJ5638.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.
 AJ5638.See file [dsdata.pdf](#) to determine how the superseded data were derived.
 AJ5638
 AJ5638_MARKER: DD = SURVEY DISK
 AJ5638_SETTING: 7 = SET IN TOP OF CONCRETE MONUMENT
 AJ5638_STAMPING: PIONEER PARK
 AJ5638_MARK LOGO: AZ-025
 AJ5638_MAGNETIC: M = MARKER EQUIPPED WITH BAR MAGNET
 AJ5638_STABILITY: B = PROBABLY HOLD POSITION/ELEVATION WELL
 AJ5638_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR
 AJ5638+SATELLITE: SATELLITE OBSERVATIONS - January 08, 2014

AJ5638	HISTORY	- Date	Condition	Report By
AJ5638	HISTORY	- 20010205	MONUMENTED	AZ-025
AJ5638	HISTORY	- 20010326	SEE DESCRIPTION	NGS
AJ5638	HISTORY	- 20071019	GOOD	AZ-025
AJ5638	HISTORY	- 20140108	GOOD	GEOCAC

STATION DESCRIPTION

AJ5638'DESCRIBED BY NATIONAL GEODETIC SURVEY 2001 (WRA)
 AJ5638'THE STATION IS LOCATED IN YAVAPAI COUNTY ABOUT 9.8 MILES (15.8 KM)
 AJ5638'SOUTHWEST OF CHINO VALLEY, 4.5 MILES (7.2 KM) NORTHWEST OF THE
 AJ5638'COUNTY COURTHOUSE IN PRESCOTT AND 4.5 MILES (7.2 KM) SOUTHWEST OF
 AJ5638'ERNEST A. LOVE AIRPORT.
 AJ5638'
 AJ5638'TO REACH THE STATION FROM THE INTERSECTION OF IRON SPRINGS ROAD
 AJ5638'AND WILLIAMSON VALLEY ROAD (COUNTY ROAD 5) IN PRESCOTT, GO NORTH
 AJ5638'ON WILLIAMSON VALLEY ROAD 2.5 MILES (4.0 KM) TO PIONEER PARKWAY RD.
 AJ5638'PROCEED EASTERLY ON PIONEER PARKWAY RD. 0.5 MILES (0.8 KM) TO A
 AJ5638'SCENIC OVERLOOK PULLOFF. TAKE PULLOFF 300 FT (91.4 M) TO STATION.
 AJ5638'
 AJ5638'THE STATION IS A YAVAPAI COUNTY 3.5 INCH ALUMINUM DISK SET IN A 10
 AJ5638'INCH ROUND CONCRETE, APPROXIMATELY 4 FT LONG POURED ATOP ROCK,
 AJ5638'MONUMENT PROJECTS 0.5 FT ABOVE GROUND . IT IS 90 FT (27.4 M) WEST OF
 AJ5638'THE END OF CURB, 22.4 FT (6.8 M) SOUTH OF PAVEMENT EDGE, AND 2.7 FT
 AJ5638'(0.8
 AJ5638'M) NORTH OF FENCELINE.

STATION RECOVERY (2007)

AJ5638'RECOVERY NOTE BY YAVAPAI COUNTY ARIZONA 2007 (WRA)
 AJ5638'RECOVERED IN GOOD CONDITION.

STATION RECOVERY (2014)

AJ5638'RECOVERY NOTE BY GEOCACHING 2014 (RFC)
 AJ5638'RECOVERED IN GOOD CONDITION.

1 National Geodetic Survey, Retrieval Date = SEPTEMBER 20, 2018
 FR0753 *****
 FR0753 DESIGNATION - Q 488
 FR0753 PID - FR0753
 FR0753 STATE/COUNTY- AZ/YAVAPAI
 FR0753 COUNTRY - US
 FR0753 USGS QUAD - SELIGMAN WEST (1981)

```

FR0753
FR0753
FR0753
FR0753* NAD 83(2011) POSITION- 35 20 06.52288(N) 112 55 40.61342(W) ADJUSTED
FR0753* NAD 83(2011) ELLIP HT- 1586.719 (meters) (06/27/12) ADJUSTED
FR0753* NAD 83(2011) EPOCH - 2010.00
FR0753* NAVD 88 ORTHO HEIGHT - 1612.101 (meters) 5289.03 (feet) ADJUSTED
FR0753
FR0753 GEOID HEIGHT - -25.395 (meters) GEOID12B
FR0753 NAD 83(2011) X - -2,029,795.608 (meters) COMP
FR0753 NAD 83(2011) Y - -4,798,667.796 (meters) COMP
FR0753 NAD 83(2011) Z - 3,669,179.957 (meters) COMP
FR0753 LAPLACE CORR - 1.63 (seconds) DEFLEC12B
FR0753 DYNAMIC HEIGHT - 1609.997 (meters) 5282.13 (feet) COMP
FR0753 MODELED GRAVITY - 979,271.7 (mgal) NAVD 88
FR0753
FR0753 VERT ORDER - FIRST CLASS II
FR0753
FR0753 Network accuracy estimates per FGDC Geospatial Positioning Accuracy
FR0753 Standards:
FR0753 FGDC (95% conf, cm) Standard deviation (cm) CorrNE
FR0753 Horiz Ellip SD_N SD_E SD_h (unitless)
FR0753 -----
FR0753 NETWORK 0.42 0.78 0.19 0.15 0.40 0.03906828
FR0753 -----
FR0753 Click here for local accuracies and other accuracy information.
FR0753
FR0753
FR0753.The horizontal coordinates were established by GPS observations
FR0753.and adjusted by the National Geodetic Survey in June 2012.
FR0753
FR0753.NAD 83(2011) refers to NAD 83 coordinates where the reference frame has
FR0753.been affixed to the stable North American tectonic plate. See
FR0753.NA2011 for more information.
FR0753
FR0753.The horizontal coordinates are valid at the epoch date displayed above
FR0753.which is a decimal equivalence of Year/Month/Day.
FR0753
FR0753.The orthometric height was determined by differential leveling and
FR0753.adjusted by the NATIONAL GEODETIC SURVEY
FR0753.in June 1991.
FR0753
FR0753.Significant digits in the geoid height do not necessarily reflect accuracy.
FR0753.GEOID12B height accuracy estimate available here.
FR0753
FR0753.The X, Y, and Z were computed from the position and the ellipsoidal ht.
FR0753
FR0753.The Laplace correction was computed from DEFLEC12B derived deflections.
FR0753
FR0753.The ellipsoidal height was determined by GPS observations
FR0753.and is referenced to NAD 83.
FR0753
FR0753.The dynamic height is computed by dividing the NAVD 88
FR0753.geopotential number by the normal gravity value computed on the

```

FR0753.Geodetic Reference System of 1980 (GRS 80) ellipsoid at 45
FR0753.degrees latitude (g = 980.6199 gals.).

FR0753

FR0753.The modeled gravity was interpolated from observed gravity values.

FR0753

FR0753. The following values were computed from the NAD 83(2011) position.

FR0753

FR0753;	North	East	Units	Scale	Factor	Converg.
FR0753;SPC AZ C	- 481,221.992	121,427.556	MT	1.00000412	-0 35	05.7
FR0753;SPC AZ C	- 1,578,812.31	398,384.37	iFT	1.00000412	-0 35	05.7
FR0753;UTM 12	- 3,911,915.793	324,780.833	MT	0.99997837	-1 06	55.2

FR0753!

FR0753!	Elev Factor	x	Scale Factor	=	Combined Factor
FR0753!SPC AZ C	- 0.99975101	x	1.00000412	=	0.99975513
FR0753!UTM 12	- 0.99975101	x	0.99997837	=	0.99972938

FR0753

FR0753_U.S. NATIONAL GRID SPATIAL ADDRESS: 12SUE2478011915(NAD 83)

FR0753

SUPERSEDED SURVEY CONTROL

FR0753

FR0753	NAD 83(2007)-	35 20 06.52222(N)	112 55 40.61365(W)	AD(2007.00)	0
FR0753	ELLIP H (02/10/07)	1586.742 (m)		GP(2007.00)	
FR0753	NAD 83(1992)-	35 20 06.52205(N)	112 55 40.61312(W)	AD()	B
FR0753	ELLIP H (08/22/05)	1586.746 (m)		GP()	3 1
FR0753	NAVD 88	1612.15 (m)	5289.2 (f)	LEVELING	3

FR0753

FR0753.Superseded values are not recommended for survey control.

FR0753

FR0753.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.

FR0753.See file [dsdata.pdf](#) to determine how the superseded data were derived.

FR0753

FR0753_MARKER: DB = BENCH MARK DISK

FR0753_SETTING: 66 = SET IN ROCK OUTCROP

FR0753_STAMPING: Q 488 1982

FR0753_MARK LOGO: NGS

FR0753_MAGNETIC: O = OTHER; SEE DESCRIPTION

FR0753_STABILITY: A = MOST RELIABLE AND EXPECTED TO HOLD

FR0753+STABILITY: POSITION/ELEVATION WELL

FR0753_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR

FR0753+SATELLITE: SATELLITE OBSERVATIONS - September 22, 2016

FR0753

FR0753	HISTORY	- Date	Condition	Report By
FR0753	HISTORY	- 1982	MONUMENTED	NGS
FR0753	HISTORY	- 20050401	GOOD	NGS
FR0753	HISTORY	- 20150714	GOOD	AZDT
FR0753	HISTORY	- 20160922	GOOD	AZDT

FR0753

STATION DESCRIPTION

FR0753

FR0753'DESCRIBED BY NATIONAL GEODETIC SURVEY 1982

FR0753'4.8 KM (3.0 MI) NW FROM SELIGMAN.

FR0753'4.8 KM (3.0 MI) NORTHWEST ALONG THE ATCHISON, TOPEKA, AND SANTA FE

FR0753'RAILROAD FROM THE STATION IN SELIGMAN, 0.3 KM (0.2 MI) NORTHWEST OF

FR0753'THE CROSSING OF FORT ROCK ROAD LEADING SOUTHWEST, IN TOP OF AN OUTCROP

FR0753'FLUSH WITH THE GROUND (VISIBLE IN A TRACK ROAD) BETWEEN THE RAILROAD

FR0753'AND US HIGHWAY 66, AT THE SOUTHEAST END OF A HIGHWAY FILL AND A GUARD
 FR0753'RAIL, 67 METERS (220 FT) NORTHWEST OF SEMIPHORE 431.4, 22.8 METERS (75
 FR0753'FT) NORTHEAST OF THE NORTHEAST RAIL, 3.6 METERS (12 FT) NORTHEAST OF
 FR0753'THE CENTER OF A TRACK ROAD, 27.4 METERS (90 FT) SOUTH OF A JUNIPER
 FR0753'TREE, 18.2 METERS (60 FT) SOUTHEAST OF A JUNIPER TREE AND 10 FEET
 FR0753'BELOW THE HIGHWAY.

FR0753'THE MARK IS 1 METERS SW FROM A WITNESS POST.

FR0753'THE MARK IS 3 M BELOW THE RAILS.

FR0753

FR0753 STATION RECOVERY (2005)

FR0753

FR0753'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 2005

FR0753'RECOVERED AS DESCRIBED

FR0753

FR0753 STATION RECOVERY (2015)

FR0753

FR0753'RECOVERY NOTE BY ARIZONA DEPARTMENT OF TRANSPORTATION 2015 (DLR)

FR0753'RECOVERED IN GOOD CONDITION.

FR0753'STAION IS AT MILEPOST 137.55 ON HISTORIC US66.

FR0753

FR0753 STATION RECOVERY (2016)

FR0753

FR0753'RECOVERY NOTE BY ARIZONA DEPARTMENT OF TRANSPORTATION 2016 (DLR)

FR0753'THE STATION IS ON SR66 AT MILEPOST 137.7 SOUTH OF HIGHWAY.

1 National Geodetic Survey, Retrieval Date = SEPTEMBER 20, 2018

ES0478 *****

ES0478 DESIGNATION - R 18

ES0478 PID - ES0478

ES0478 STATE/COUNTY- AZ/YAVAPAI

ES0478 COUNTRY - US

ES0478 USGS QUAD - CORNVILLE (1968)

ES0478

ES0478 *CURRENT SURVEY CONTROL

ES0478

ES0478* NAD 83(2011) POSITION- 34 43 41.84397(N) 111 58 50.37091(W) ADJUSTED

ES0478* NAD 83(2011) ELLIP HT- 1000.725 (meters) (06/27/12) ADJUSTED

ES0478* NAD 83(2011) EPOCH - 2010.00

ES0478* [NAVD 88](#) ORTHO HEIGHT - 1026.381 (meters) 3367.39 (feet) ADJUSTED

ES0478

ES0478 GEOID HEIGHT - -25.652 (meters) GEOID12B

ES0478 NAD 83(2011) X - -1,964,472.375 (meters) COMP

ES0478 NAD 83(2011) Y - -4,866,969.340 (meters) COMP

ES0478 NAD 83(2011) Z - 3,613,704.414 (meters) COMP

ES0478 LAPLACE CORR - 1.80 (seconds) DEFLEC12B

ES0478 DYNAMIC HEIGHT - 1025.099 (meters) 3363.18 (feet) COMP

ES0478 MODELED GRAVITY - 979,351.9 (mgal) NAVD 88

ES0478

ES0478 VERT ORDER - FIRST CLASS II

ES0478

ES0478 Network accuracy estimates per FGDC Geospatial Positioning Accuracy

ES0478 Standards:

ES0478 FGDC (95% conf, cm) Standard deviation (cm) CorrNE

ES0478 Horiz Ellip SD_N SD_E SD_h (unitless)

ES0478 -----

ES0478 NETWORK 0.41 0.96 0.18 0.15 0.49 0.05951325

ES0478 -----

ES0478 Click [here](#) for local accuracies and other accuracy information.

ES0478

ES0478

ES0478.The horizontal coordinates were established by GPS observations
ES0478.and adjusted by the National Geodetic Survey in June 2012.

ES0478

ES0478.NAD 83(2011) refers to NAD 83 coordinates where the reference frame has
ES0478.been affixed to the stable North American tectonic plate. See
ES0478.[NA2011](#) for more information.

ES0478

ES0478.The horizontal coordinates are valid at the epoch date displayed above
ES0478.which is a decimal equivalence of Year/Month/Day.

ES0478

ES0478.The orthometric height was determined by differential leveling and
ES0478.adjusted by the NATIONAL GEODETIC SURVEY
ES0478.in June 1991.

ES0478

ES0478.Significant digits in the geoid height do not necessarily reflect accuracy.
ES0478.GEOID12B height accuracy estimate available [here](#).

ES0478

ES0478.The X, Y, and Z were computed from the position and the ellipsoidal ht.
ES0478

ES0478.The Laplace correction was computed from DEFLEC12B derived deflections.
ES0478

ES0478.The ellipsoidal height was determined by GPS observations
ES0478.and is referenced to NAD 83.

ES0478

ES0478.The dynamic height is computed by dividing the NAVD 88
ES0478.geopotential number by the normal gravity value computed on the
ES0478.Geodetic Reference System of 1980 (GRS 80) ellipsoid at 45
ES0478.degrees latitude (g = 980.6199 gals.).

ES0478

ES0478.The modeled gravity was interpolated from observed gravity values.
ES0478

ES0478. The following values were computed from the NAD 83(2011) position.
ES0478

ES0478;		North	East	Units	Scale Factor	Converg.
ES0478;SPC AZ C	-	413,436.106	207,499.636	MT	0.99990042	-0 02 11.2
ES0478;SPC AZ C	-	1,356,417.67	680,773.08	iFT	0.99990042	-0 02 11.2
ES0478;UTM 12	-	3,843,349.876	410,216.932	MT	0.99969935	-0 33 31.3

ES0478

ES0478!	-	Elev Factor	x	Scale Factor	=	Combined Factor
ES0478!SPC AZ C	-	0.99984294	x	0.99990042	=	0.99974337
ES0478!UTM 12	-	0.99984294	x	0.99969935	=	0.99954234

ES0478

ES0478_U.S. NATIONAL GRID SPATIAL ADDRESS: 12SVD1021643349(NAD 83)

ES0478

ES0478 SUPERSEDED SURVEY CONTROL

ES0478

ES0478	NAD 83(2007)-	34 43 41.84339(N)	111 58 50.37120(W)	AD(2007.00)	0
ES0478	ELLIP H (02/10/07)	1000.746 (m)		GP(2007.00)	
ES0478	NAD 83(1992)-	34 43 41.84276(N)	111 58 50.37059(W)	AD()	A
ES0478	ELLIP H (09/30/99)	1000.753 (m)		GP()	3 1

ES0478 NAVD 88 1026.38 (m) 3367.4 (f) LEVELING 3
 ES0478 NGVD 29 (??/??/92) 1025.631 (m) 3364.92 (f) ADJ UNCH 1 2

ES0478

ES0478.Superseded values are not recommended for survey control.

ES0478

ES0478.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.

ES0478.See file [dsdata.pdf](#) to determine how the superseded data were derived.

ES0478

ES0478_MARKER: DD = SURVEY DISK

ES0478_SETTING: 66 = SET IN ROCK OUTCROP

ES0478_STAMPING: R 18-1931

ES0478_MARK LOGO: USGS-E

ES0478_MAGNETIC: N = NO MAGNETIC MATERIAL

ES0478_STABILITY: A = MOST RELIABLE AND EXPECTED TO HOLD

ES0478+STABILITY: POSITION/ELEVATION WELL

ES0478_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR

ES0478+SATELLITE: SATELLITE OBSERVATIONS - April 25, 2009

ES0478

HISTORY	- Date	Condition	Report By
HISTORY	- UNK	MONUMENTED	USGS-E
HISTORY	- 1933	GOOD	CGS
HISTORY	- 1982	GOOD	NGS
HISTORY	- 19990121	GOOD	AZ-025
HISTORY	- 20031215	GOOD	SHEPH
HISTORY	- 20050508	GOOD	USPSQD
HISTORY	- 20090425	GOOD	GEOCAC

ES0478

ES0478 STATION DESCRIPTION

ES0478

ES0478'DESCRIBED BY COAST AND GEODETIC SURVEY 1933

ES0478'4.4 MI SE FROM COTTONWOOD.

ES0478'AT SIDE OF HIGHWAY, 0.8 MILES NORTH OF VERDE RIVER HIGHWAY BRIDGE, TOP

ES0478'OF RIDGE, 100 FEET NORTHWEST OF HIGHWAY CENTER-LINE, AT SIDE OF ROCK

ES0478'CAIRN, ON LEDGE OF LIMESTONE PAINTED BLACK U.S.B.M. 3363.9.

ES0478

ES0478 STATION RECOVERY (1982)

ES0478

ES0478'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 1982

ES0478'RECOVERED IN GOOD CONDITION. NEW DESCRIPTION FOLLOWS.

ES0478'2.2 KM (1.4 MI) NORTHEAST ALONG US HIGHWAY 89 ALTERNATE FROM THE

ES0478'JUNCTION OF STATE HIGHWAY 279 IN COTTONWOOD, IN TOP OF A MASSIVE

ES0478'LIMESTONE OUTCROP AT THE TOP OF A SMALL KNOLL, 0.4 KM (0.25 MI) EAST

ES0478'OF A T JUNCTION OF A ROAD LEADING NORTHWEST, 0.6 KM (0.35 MI)

ES0478'SOUTHWEST OF A T JUNCTION OF A PAVED ROAD LEADING EAST, 45.7 METERS

ES0478'(150 FT) SOUTHEAST OF THE HIGHWAY CENTERLINE, 32.0 METERS (105 FT)

ES0478'NORTHWEST OF THE CENTER OF AN ABANDON ROAD, 24.0 METERS (79 FT)

ES0478'SOUTHEAST OF A FENCE, 0.9 METERS (3.0 FT) SOUTH OF A CAIRN.

ES0478'THE MARK IS 0.3 METERS N FROM A WITNESS POST.

ES0478'THE MARK IS 4.0 M ABOVE THE HIGHWAY.

ES0478

ES0478 STATION RECOVERY (1999)

ES0478

ES0478'RECOVERY NOTE BY YAVAPAI COUNTY ARIZONA 1999 (WRA)

ES0478'THE STATION IS LOCATED ABOUT 4.4 MI (7.1 KM) SOUTHEAST OF COTTONWOOD,

ES0478'1 MI (1.6 KM) NORTHEAST OF BRIDGEPORT, 0.8 MI (1.3 KM) NORTHEAST OF A

ES0478'HIGHWAY BRIDGE OVER THE VERDE RIVER, 0.35 MI (0.56 KM) SOUTHWEST OF
 ES0478'CORNVILLE ROAD, 0.25 MI (0.40 KM) NORTHEAST OF ROCKING CHAIR ROAD, AT
 ES0478'US HIGHWAY 89 ALTERNATE MILEPOST 356.7. OWNERSHIP--COCONINO NATIONAL
 ES0478'FOREST. TO REACH THE STATION FROM THE JUNCTION OF U.S. HIGHWAY 89
 ES0478'ALTERNATE AND STATE HIGHWAY 279 IN COTTONWOOD, GO NORTHEAST FOR 2.2 KM
 ES0478'(1.35 MI) ON HIGHWAY 89 ALTERNATE TO THE STATION ON RIGHT, AT THE TOP
 ES0478'OF A SMALL KNOLL. THE STATION IS A DISK SET IN A LIMESTONE OUTCROP.
 ES0478'LOCATED 41.5 M (136.2 FT) SOUTHEAST FROM THE CENTERLINE OF HIGHWAY,
 ES0478'32.0 M (105.0 FT) NORTHWEST FROM THE CENTER OF AN ABANDONED ROAD, 21.7
 ES0478'M (71.2 FT) SOUTHEAST FROM A FENCE, 0.9 M (3.0 FT) SOUTH-SOUTHEAST
 ES0478'FROM A ROCK CAIRN AND 0.3 M (1.0 FT) WEST FROM A WITNESS POST.

ES0478

ES0478 STATION RECOVERY (2003)

ES0478

ES0478'RECOVERY NOTE BY SHEPHARD-WESNITZER INC 2003 (MLD)

ES0478'RECOVERED AS DESCRIBED

ES0478

ES0478 STATION RECOVERY (2005)

ES0478

ES0478'RECOVERY NOTE BY US POWER SQUADRON 2005 (CP)

ES0478'RECOVERED AS DESCRIBED.

ES0478

ES0478 STATION RECOVERY (2009)

ES0478

ES0478'RECOVERY NOTE BY GEOCACHING 2009 (ACM)

ES0478'RECOVERED IN GOOD CONDITION.

1 National Geodetic Survey, Retrieval Date = SEPTEMBER 20, 2018

FR0757 *****

FR0757 DESIGNATION - V 488

FR0757 PID - FR0757

FR0757 STATE/COUNTY- AZ/YAVAPAI

FR0757 COUNTRY - US

FR0757 USGS QUAD - CROOKTON (1973)

FR0757

FR0757 *CURRENT SURVEY CONTROL

FR0757

FR0757* NAD 83(2011) POSITION- 35 15 04.14296(N) 112 38 06.70338(W) ADJUSTED

FR0757* NAD 83(2011) ELLIP HT- 1572.171 (meters) (06/27/12) ADJUSTED

FR0757* NAD 83(2011) EPOCH - 2010.00

FR0757* NAVD 88 ORTHO HEIGHT - 1597.410 (meters) 5240.84 (feet) ADJUSTED

FR0757

FR0757 GEOID HEIGHT - -25.235 (meters) GEOID12B

FR0757 NAD 83(2011) X - -2,007,318.490 (meters) COMP

FR0757 NAD 83(2011) Y - -4,813,935.969 (meters) COMP

FR0757 NAD 83(2011) Z - 3,661,563.562 (meters) COMP

FR0757 LAPLACE CORR - 2.09 (seconds) DEFLEC12B

FR0757 DYNAMIC HEIGHT - 1595.293 (meters) 5233.89 (feet) COMP

FR0757 MODELED GRAVITY - 979,252.6 (mgal) NAVD 88

FR0757

FR0757 VERT ORDER - FIRST CLASS II

FR0757

FR0757 Network accuracy estimates per FGDC Geospatial Positioning Accuracy

FR0757 Standards:

FR0757 FGDC (95% conf, cm) Standard deviation (cm) CorrNE

FR0757 Horiz Ellip SD_N SD_E SD_h (unitless)

```

FR0757 -----
FR0757 NETWORK      0.39   0.73           0.18   0.13   0.37           0.04192193
FR0757 -----
FR0757 Click here for local accuracies and other accuracy information.
FR0757
FR0757
FR0757.The horizontal coordinates were established by GPS observations
FR0757.and adjusted by the National Geodetic Survey in June 2012.
FR0757
FR0757.NAD 83(2011) refers to NAD 83 coordinates where the reference frame has
FR0757.been affixed to the stable North American tectonic plate. See
FR0757.NA2011 for more information.
FR0757
FR0757.The horizontal coordinates are valid at the epoch date displayed above
FR0757.which is a decimal equivalence of Year/Month/Day.
FR0757
FR0757.The orthometric height was determined by differential leveling and
FR0757.adjusted by the NATIONAL GEODETIC SURVEY
FR0757.in June 1991.
FR0757
FR0757.Significant digits in the geoid height do not necessarily reflect accuracy.
FR0757.GEOID12B height accuracy estimate available here.
FR0757
FR0757.The X, Y, and Z were computed from the position and the ellipsoidal ht.
FR0757
FR0757.The Laplace correction was computed from DEFLEC12B derived deflections.
FR0757
FR0757.The ellipsoidal height was determined by GPS observations
FR0757.and is referenced to NAD 83.
FR0757
FR0757.The dynamic height is computed by dividing the NAVD 88
FR0757.geopotential number by the normal gravity value computed on the
FR0757.Geodetic Reference System of 1980 (GRS 80) ellipsoid at 45
FR0757.degrees latitude (g = 980.6199 gals.).
FR0757
FR0757.The modeled gravity was interpolated from observed gravity values.
FR0757
FR0757. The following values were computed from the NAD 83(2011) position.
FR0757
FR0757;
FR0757;          North          East          Units Scale Factor Converg.
FR0757;SPC AZ C   -   471,671.465    147,973.840    MT   0.99995267   -0 24 53.0
FR0757;SPC AZ C   - 1,547,478.56    485,478.48    iFT  0.99995267   -0 24 53.0
FR0757;UTM 12    - 3,902,120.722    351,236.273    MT   0.99987274   -0 56 38.2
FR0757
FR0757!          - Elev Factor x Scale Factor = Combined Factor
FR0757!SPC AZ C   -   0.99975329 x 0.99995267 = 0.99970597
FR0757!UTM 12    -   0.99975329 x 0.99987274 = 0.99962606
FR0757
FR0757_U.S. NATIONAL GRID SPATIAL ADDRESS: 12SUE5123602120 (NAD 83)
FR0757
FR0757          SUPERSEDED SURVEY CONTROL
FR0757
FR0757 NAD 83(2007)- 35 15 04.14230(N)      112 38 06.70363(W) AD(2007.00) 0
FR0757 ELLIP H (02/10/07) 1572.196 (m)          GP(2007.00)

```

FR0757 NAD 83(1992)- 35 15 04.14217(N) 112 38 06.70309(W) AD() B
 FR0757 ELLIP H (08/22/05) 1572.200 (m) GP() 3 1
 FR0757 NAVD 88 1597.41 (m) 5240.8 (f) LEVELING 3
 FR0757

FR0757.Superseded values are not recommended for survey control.

FR0757

FR0757.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.

FR0757.See file [dsdata.pdf](#) to determine how the superseded data were derived.

FR0757

FR0757_MARKER: DB = BENCH MARK DISK

FR0757_SETTING: 66 = SET IN ROCK OUTCROP

FR0757_STAMPING: V 488 1982

FR0757_MARK LOGO: NGS

FR0757_MAGNETIC: O = OTHER; SEE DESCRIPTION

FR0757_STABILITY: A = MOST RELIABLE AND EXPECTED TO HOLD

FR0757+STABILITY: POSITION/ELEVATION WELL

FR0757_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR

FR0757+SATELLITE: SATELLITE OBSERVATIONS - July 09, 2010

FR0757

HISTORY	Date	Condition	Report By
FR0757 HISTORY	- 1982	MONUMENTED	NGS
FR0757 HISTORY	- 20050401	GOOD	NGS
FR0757 HISTORY	- 20100618	GOOD	AZ-015
FR0757 HISTORY	- 20100709	GOOD	GEOCAC

FR0757

STATION DESCRIPTION

FR0757

FR0757'DESCRIBED BY NATIONAL GEODETIC SURVEY 1982

FR0757'23.6 KM (14.7 MI) EAST FROM SELIGMAN.

FR0757'23.6 KM (14.7 MI) EAST ALONG US HIGHWAY 66 FROM THE ATCHISON, TOPEKA

FR0757'AND SANTA FE RAILROAD STATION IN SELIGMAN, IN TOP OF A 3 BY 6 FOOT

FR0757'OUTCROP PROJECTING 6-INCHES ABOVE THE GROUND, 45.7 METERS (150 FT)

FR0757'WEST OF PENE RM 2, 12.1 METERS (40 FT) SOUTH OF THE CENTERLINE OF THE

FR0757'HIGHWAY.

FR0757'THE MARK IS 1 METERS S FROM A WITNESS POST.

FR0757

STATION RECOVERY (2005)

FR0757

FR0757'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 2005

FR0757'RECOVERED AS DESCRIBED

FR0757

STATION RECOVERY (2010)

FR0757

FR0757'RECOVERY NOTE BY MOHAVE COUNTY ARIZONA 2010 (JEF)

FR0757'RECOVERED AS DESCRIBED.

FR0757

STATION RECOVERY (2010)

FR0757

FR0757'RECOVERY NOTE BY GEOCACHING 2010 (RFC)

FR0757'RECOVERED IN GOOD CONDITION.

1 National Geodetic Survey, Retrieval Date = SEPTEMBER 20, 2018

DN3667 *****

DN3667 HT_MOD - This is a Height Modernization Survey Station.

DN3667 DESIGNATION - LONG JIM

DN3667 PID - DN3667

DN3667 STATE/COUNTY- AZ/COCONINO
 DN3667 COUNTRY - US
 DN3667 USGS QUAD - TUSAYAN WEST (1979)
 DN3667
 DN3667 *CURRENT SURVEY CONTROL
 DN3667

DN3667* NAD 83(2011) POSITION- 35 58 11.35364(N) 112 07 55.89699(W) ADJUSTED
 DN3667* NAD 83(2011) ELLIP HT- 1992.938 (meters) (06/27/12) ADJUSTED
 DN3667* NAD 83(2011) EPOCH - 2010.00
 DN3667* [NAVD 88](#) ORTHO HEIGHT - 2015.81 (meters) 6613.5 (feet) GPS OBS
 DN3667

DN3667 NAVD 88 orthometric height was determined with geoid model GEOID09
 DN3667 GEOID HEIGHT - -22.856 (meters) GEOID09
 DN3667 GEOID HEIGHT - -22.930 (meters) GEOID12B
 DN3667 NAD 83(2011) X - -1,947,612.152 (meters) COMP
 DN3667 NAD 83(2011) Y - -4,788,669.662 (meters) COMP
 DN3667 NAD 83(2011) Z - 3,726,652.586 (meters) COMP
 DN3667 LAPLACE CORR - 1.33 (seconds) DEFLEC12B
 DN3667

DN3667 Network accuracy estimates per FGDC Geospatial Positioning Accuracy
 DN3667 Standards:

	FGDC (95% conf, cm)		Standard deviation (cm)			CorrNE (unitless)
	Horiz	Ellip	SD_N	SD_E	SD_h	
-----	-----	-----	-----	-----	-----	-----
DN3667 NETWORK	0.72	1.41	0.33	0.24	0.72	0.11509604
DN3667	-----	-----	-----	-----	-----	-----

DN3667 Click [here](#) for local accuracies and other accuracy information.
 DN3667
 DN3667
 DN3667.The horizontal coordinates were established by GPS observations
 DN3667.and adjusted by the National Geodetic Survey in June 2012.
 DN3667
 DN3667.NAD 83(2011) refers to NAD 83 coordinates where the reference frame has
 DN3667.been affixed to the stable North American tectonic plate. See
 DN3667.[NA2011](#) for more information.
 DN3667
 DN3667.The horizontal coordinates are valid at the epoch date displayed above
 DN3667.which is a decimal equivalence of Year/Month/Day.
 DN3667
 DN3667.The orthometric height was determined by GPS observations and a
 DN3667.high-resolution geoid model using precise GPS observation and
 DN3667.processing techniques.
 DN3667
 DN3667.Significant digits in the geoid height do not necessarily reflect accuracy.
 DN3667.GEOID12B height accuracy estimate available [here](#).
 DN3667
 DN3667.The X, Y, and Z were computed from the position and the ellipsoidal ht.
 DN3667
 DN3667.The Laplace correction was computed from DEFLEC12B derived deflections.
 DN3667
 DN3667.The ellipsoidal height was determined by GPS observations
 DN3667.and is referenced to NAD 83.
 DN3667
 DN3667. The following values were computed from the NAD 83(2011) position.

DN3667
 DN3667;

	North	East	Units	Scale	Factor	Converg.
DN3667;SPC AZ C	- 551,186.015	193,921.824	MT	0.99990465	-0 07 35.7	
DN3667;SPC AZ C	- 1,808,353.07	636,226.46	iFT	0.99990465	-0 07 35.7	
DN3667;UTM 12	- 3,981,193.567	397,917.138	MT	0.99972840	-0 39 54.2	

 DN3667
 DN3667!

	Elev Factor	x	Scale Factor	=	Combined Factor
DN3667!SPC AZ C	- 0.99968731	x	0.99990465	=	0.99959199
DN3667!UTM 12	- 0.99968731	x	0.99972840	=	0.99941579

 DN3667
 DN3667_U.S. NATIONAL GRID SPATIAL ADDRESS: 12SUE9791781193(NAD 83)
 DN3667
 DN3667
 SUPERSEDED SURVEY CONTROL
 DN3667
 DN3667
 DN3667 NAD 83(2007)- 35 58 11.35317(N) 112 07 55.89722(W) AD(2007.00) A
 DN3667 ELLIP H (09/10/11) 1992.953 (m) GP(2007.00) 4 1
 DN3667
 DN3667.Superseded values are not recommended for survey control.
 DN3667
 DN3667.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.
 DN3667.See file [dsdata.pdf](#) to determine how the superseded data were derived.
 DN3667
 DN3667_MARKER: DD = SURVEY DISK
 DN3667_SETTING: 66 = SET IN ROCK OUTCROP
 DN3667_STAMPING: LONG JIM 2010
 DN3667_MARK LOGO: AZ-005
 DN3667_MAGNETIC: N = NO MAGNETIC MATERIAL
 DN3667_STABILITY: A = MOST RELIABLE AND EXPECTED TO HOLD
 DN3667+STABILITY: POSITION/ELEVATION WELL
 DN3667_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR
 DN3667+SATELLITE: SATELLITE OBSERVATIONS - November 05, 2014
 DN3667

HISTORY	Date	Condition	Report By
DN3667 HISTORY	- 201006	MONUMENTED	AZ-005
DN3667 HISTORY	- 20141105	GOOD	INDIV

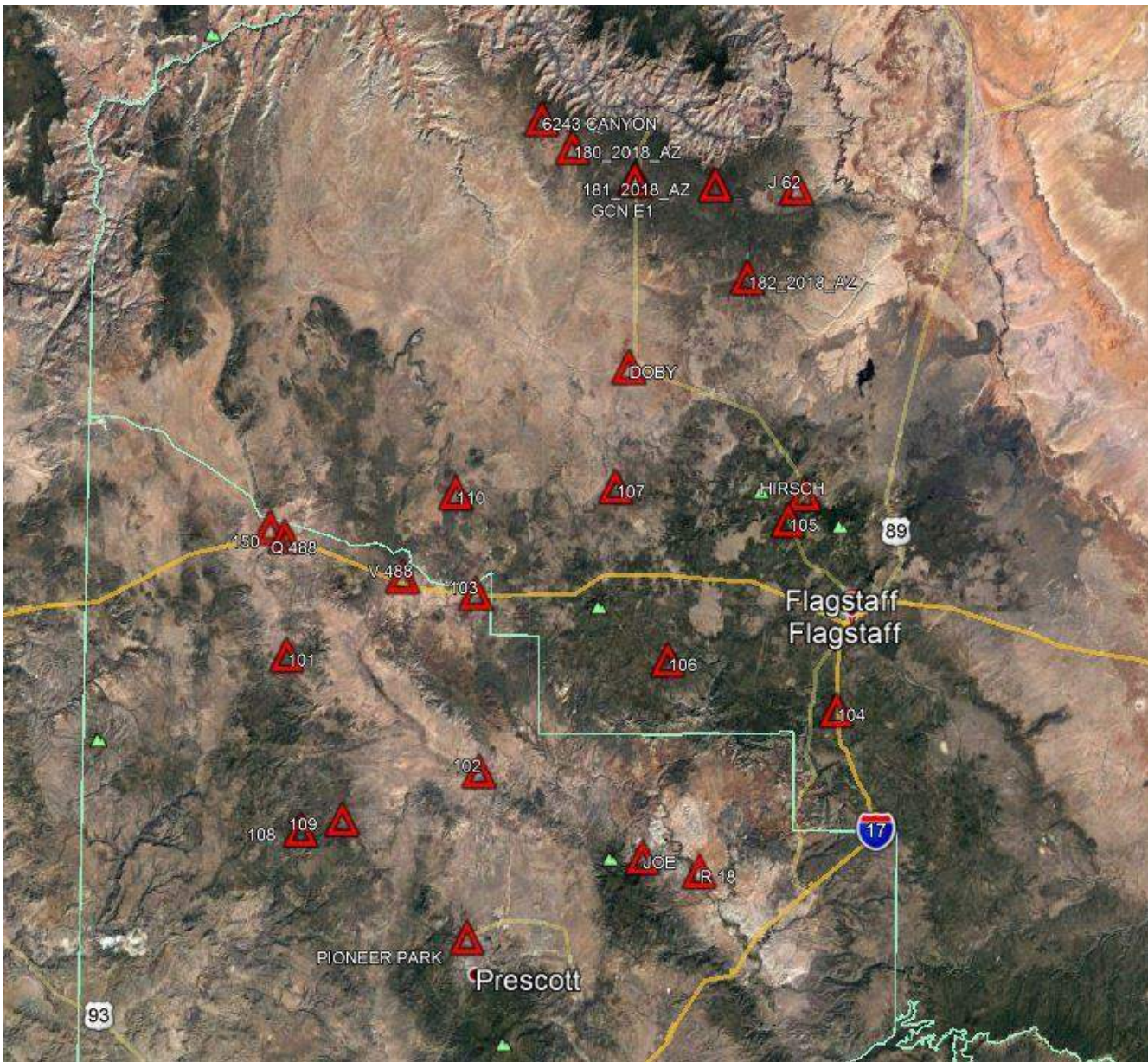
 DN3667
 DN3667
 STATION DESCRIPTION
 DN3667
 DN3667'DESCRIBED BY COCONINO COUNTY ARIZONA 2010 (JAC)
 DN3667'THE STATION IS LOCATED ABOUT 21.8 MI (35.1 KM) NORTH OF VALLE, 5.8 MI
 DN3667'(9.3 KM) SOUTH OF GRAND CANYON AND IN THE TOWN OF TUSAYAN, AZ.
 DN3667'
 DN3667'TO REACH FROM THE INTERSECTION OF US HIGHWAY 180 AND STATE ROUTE 64 IN
 DN3667'VALLE, ARIZONA, TRAVEL NORTH ON STATE ROUTE 64 FOR 20.9 MI (33.6 KM)
 DN3667'TO SOUTH LONG JIM LOOP ROAD ON THE LEFT. TURN LEFT ONTO SOUTH LONG
 DN3667'JIM LOOP ROAD HEADING WEST FOR 0.1 MI (0.2 KM) TO THE STATION ON THE
 DN3667'RIGHT. THE STATION IS A 3.5 INCH (9 CM) COCONINO COUNTY PUBLIC WORKS
 DN3667'ALUMINUM CAP SET IN A ROCK OUTCROP 20 FT (6 M) NORTH OF THE CENTERLINE
 DN3667'OF LONG JIM LOOP.
 DN3667
 DN3667
 STATION RECOVERY (2014)
 DN3667
 DN3667
 DN3667'RECOVERY NOTE BY INDIVIDUAL CONTRIBUTORS 2014 (JAF)
 DN3667'RECOVERED IN GOOD CONDITION.

*** retrieval complete.
Elapsed Time = 00:00:15

Section 5: GPS Control Diagram

This section contains a graphical representation of the new and existing control stations used for the project.

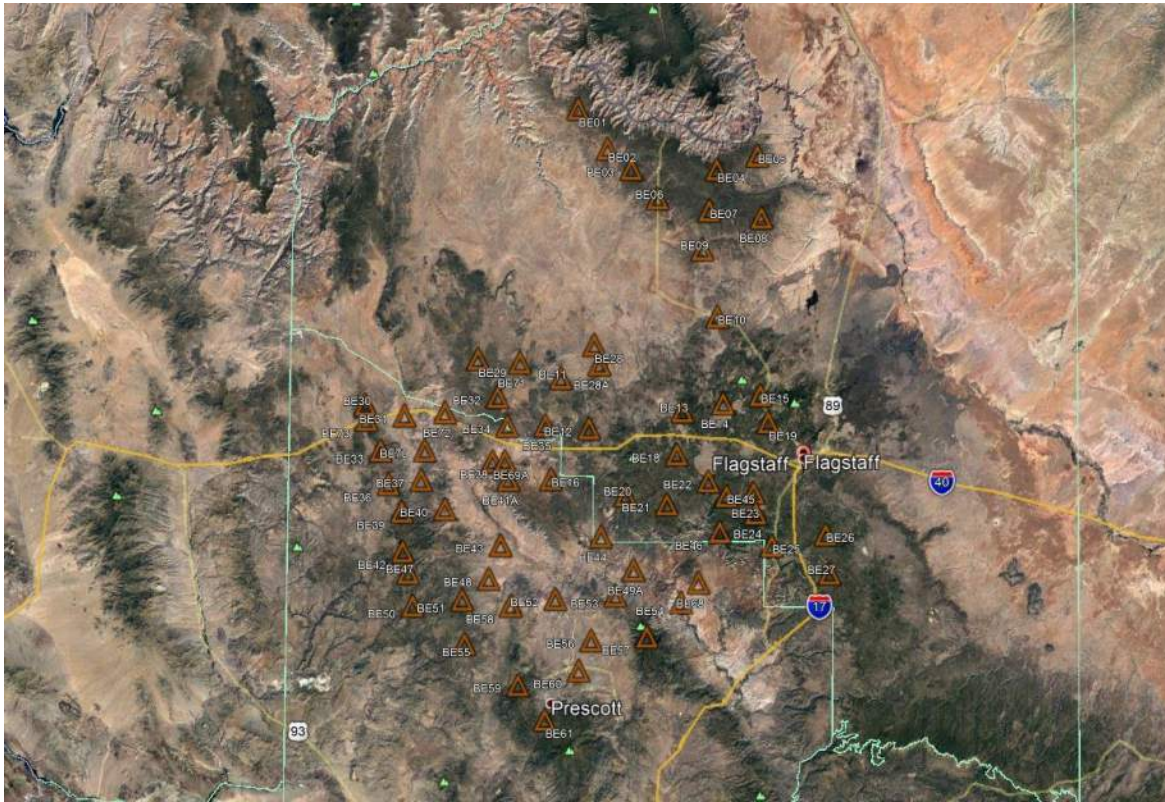
Geodetic Control:



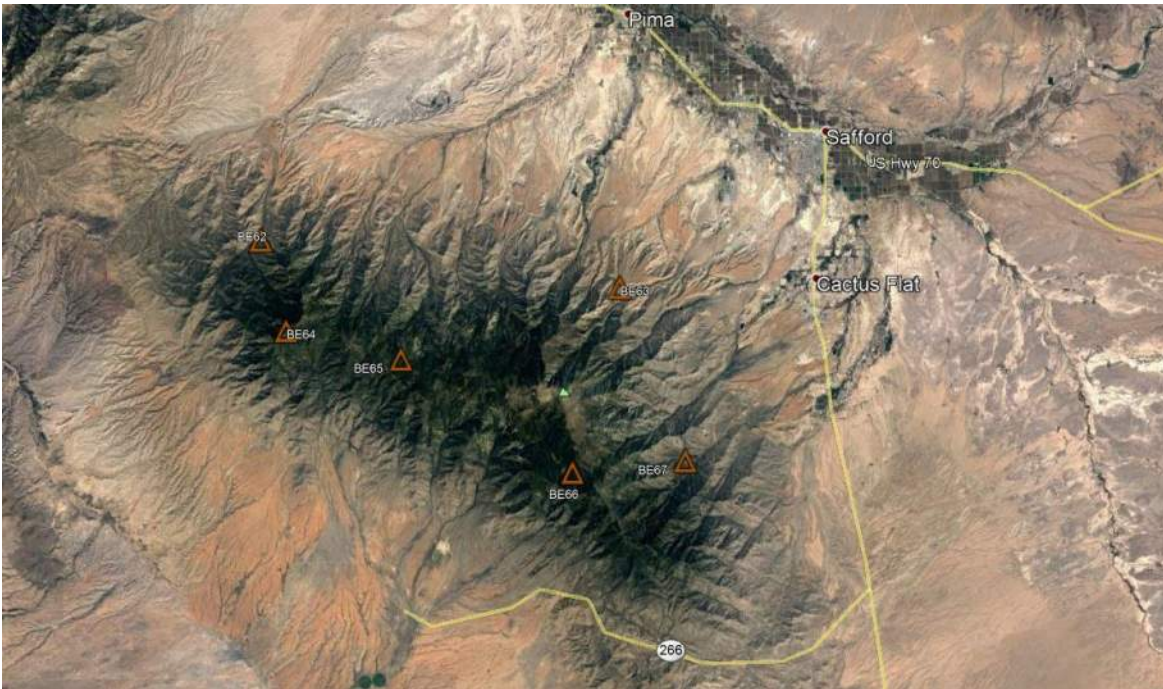


Not to Scale

Bare Earth Points:

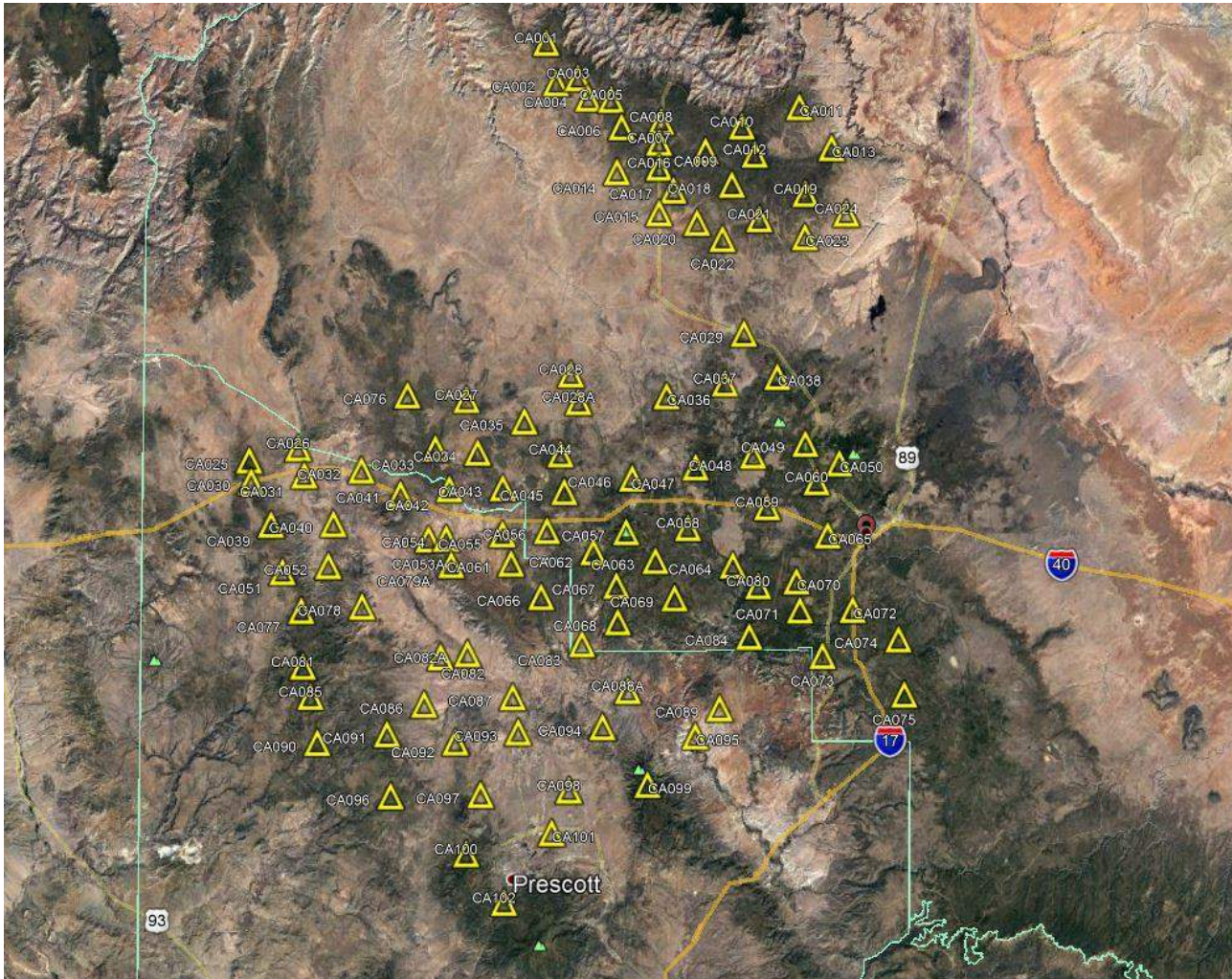


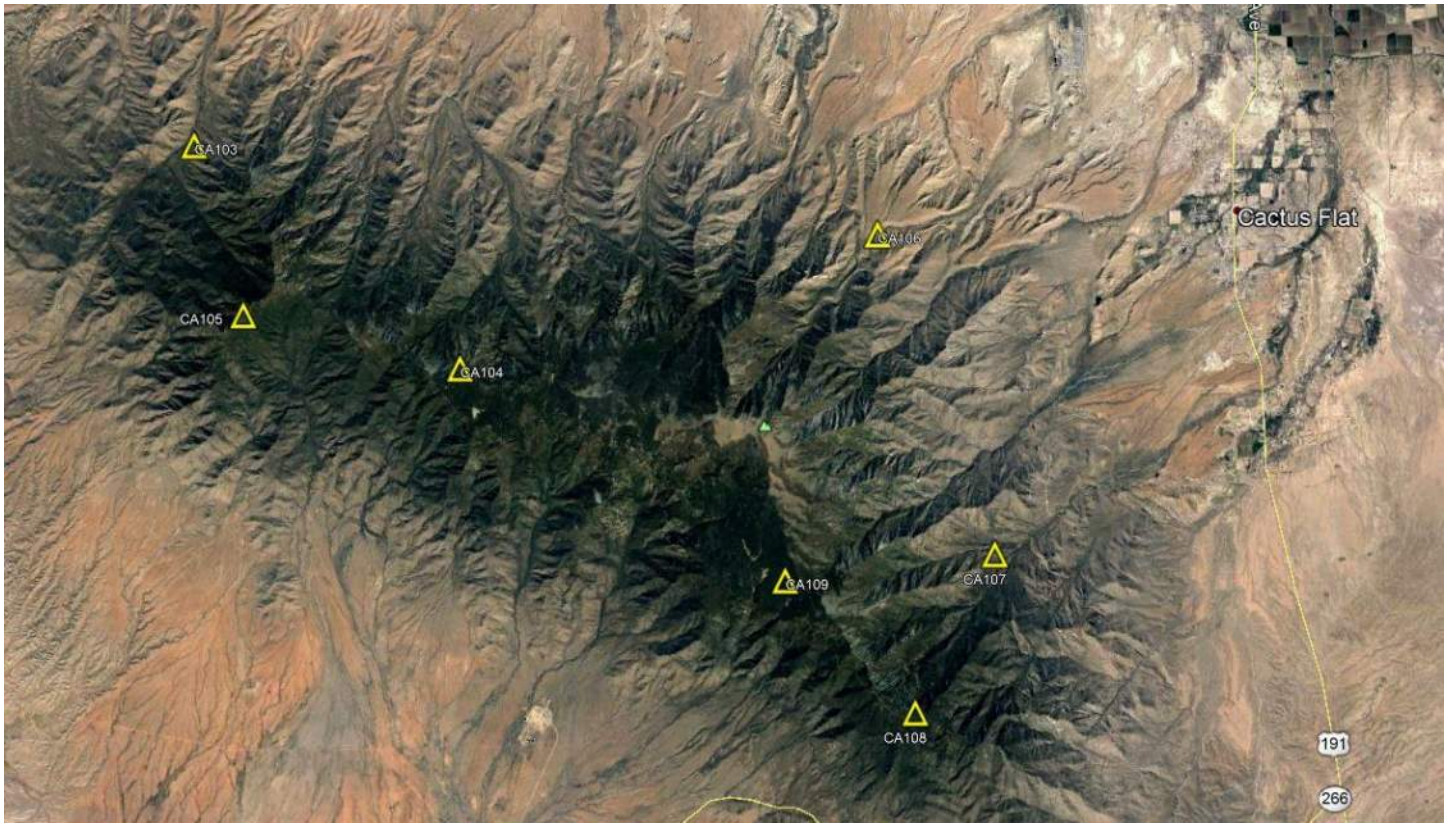
Not to Scale



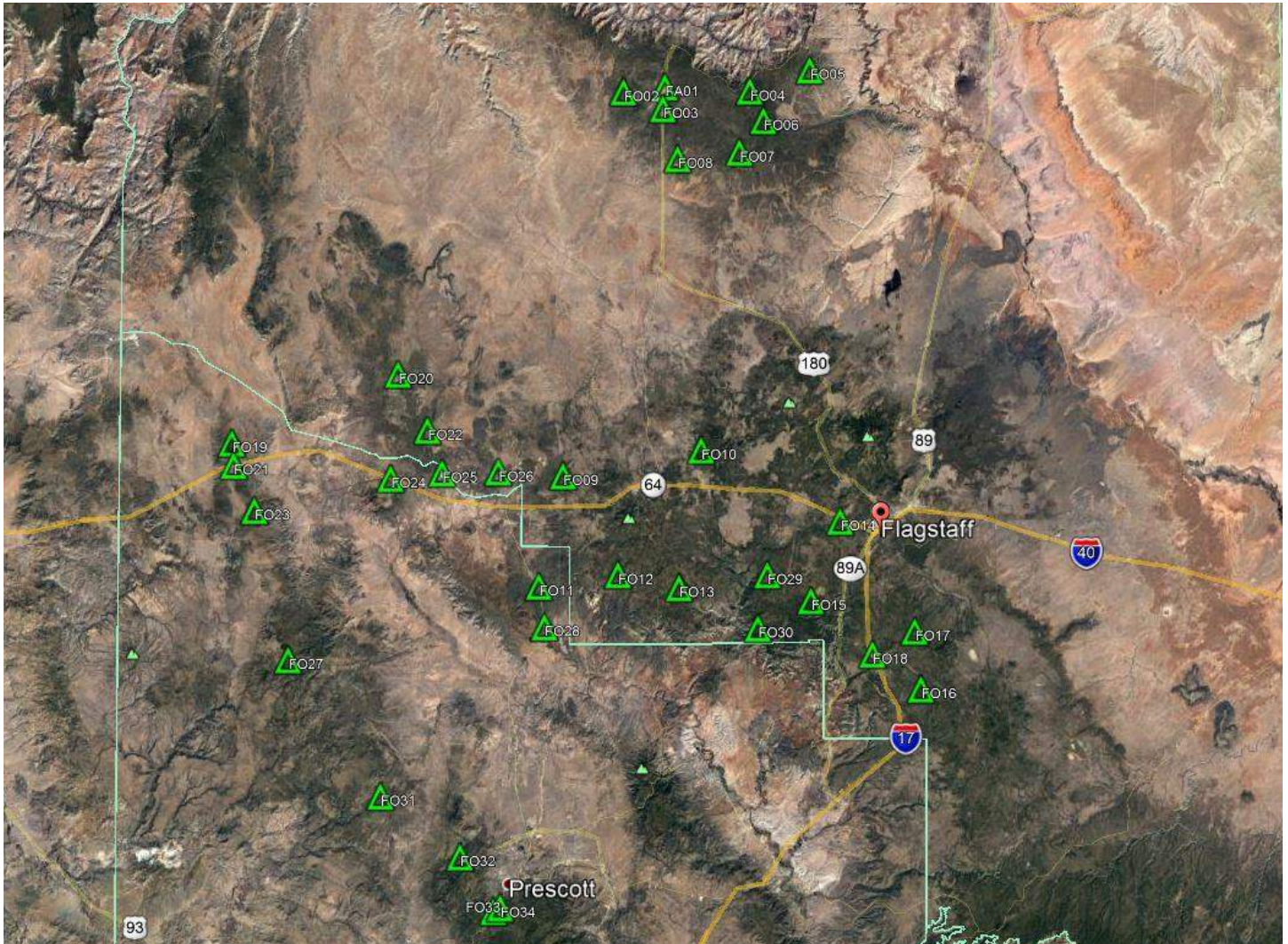
Not to Scale

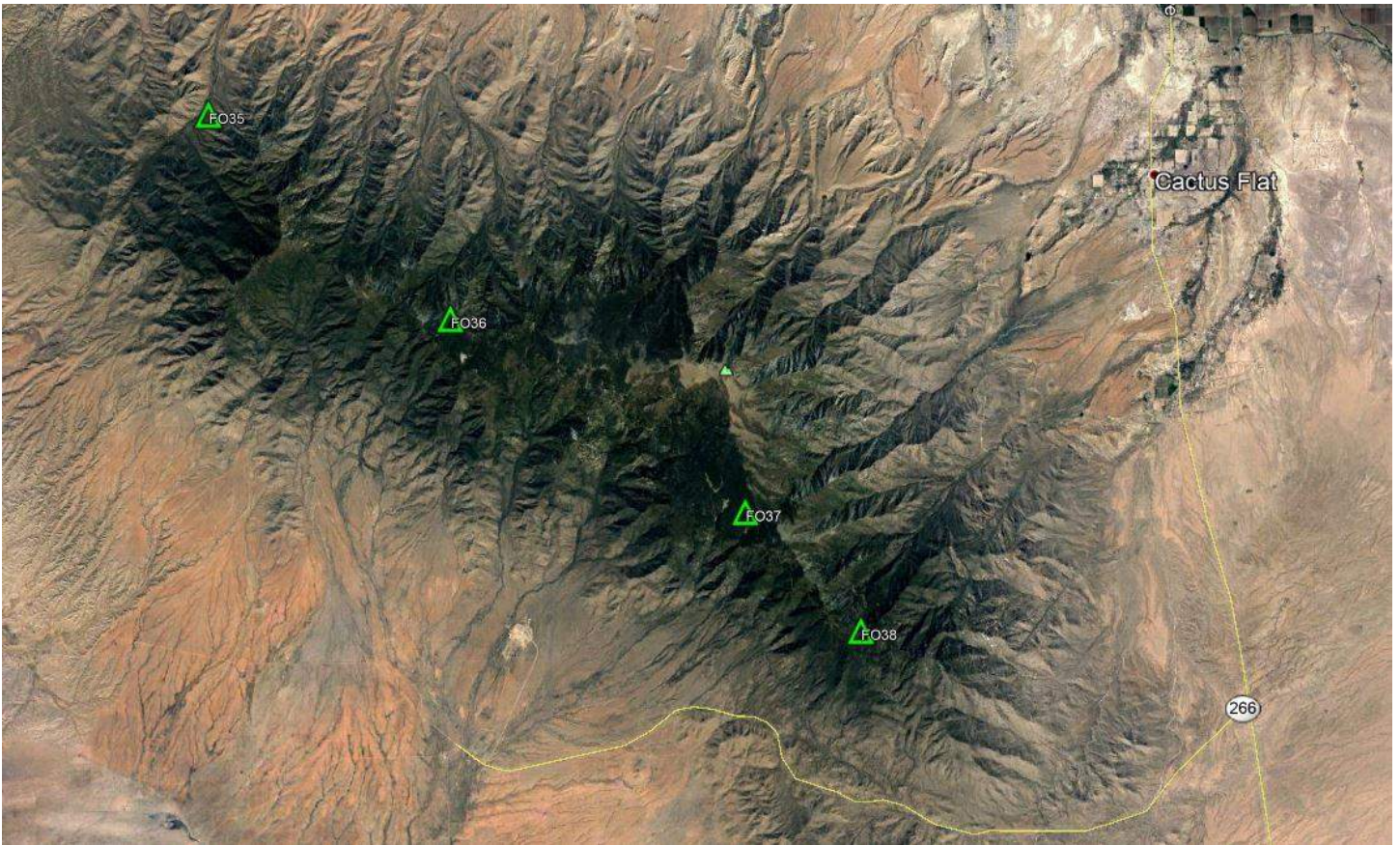
Calibration Points:



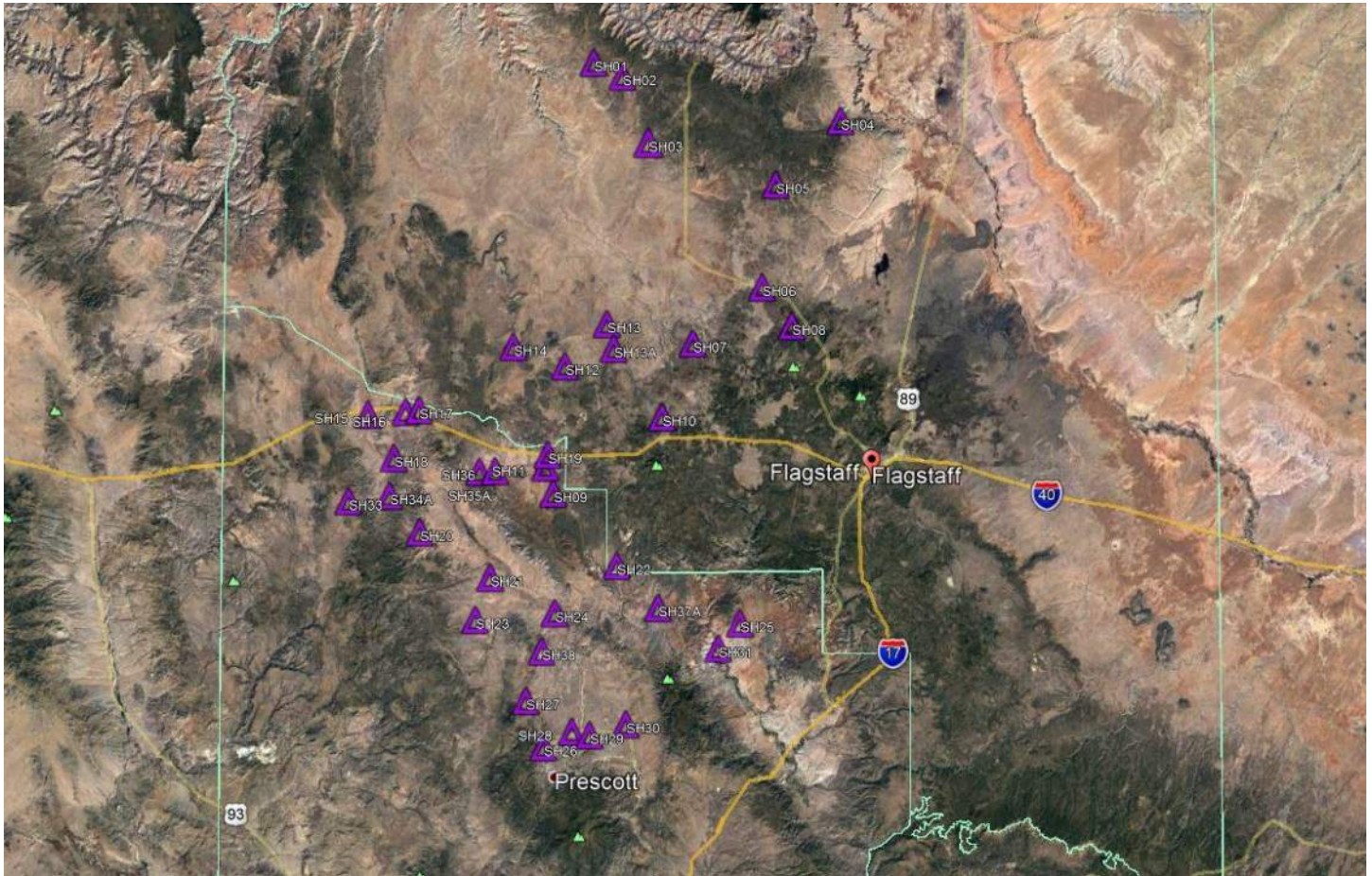


Forest Points:

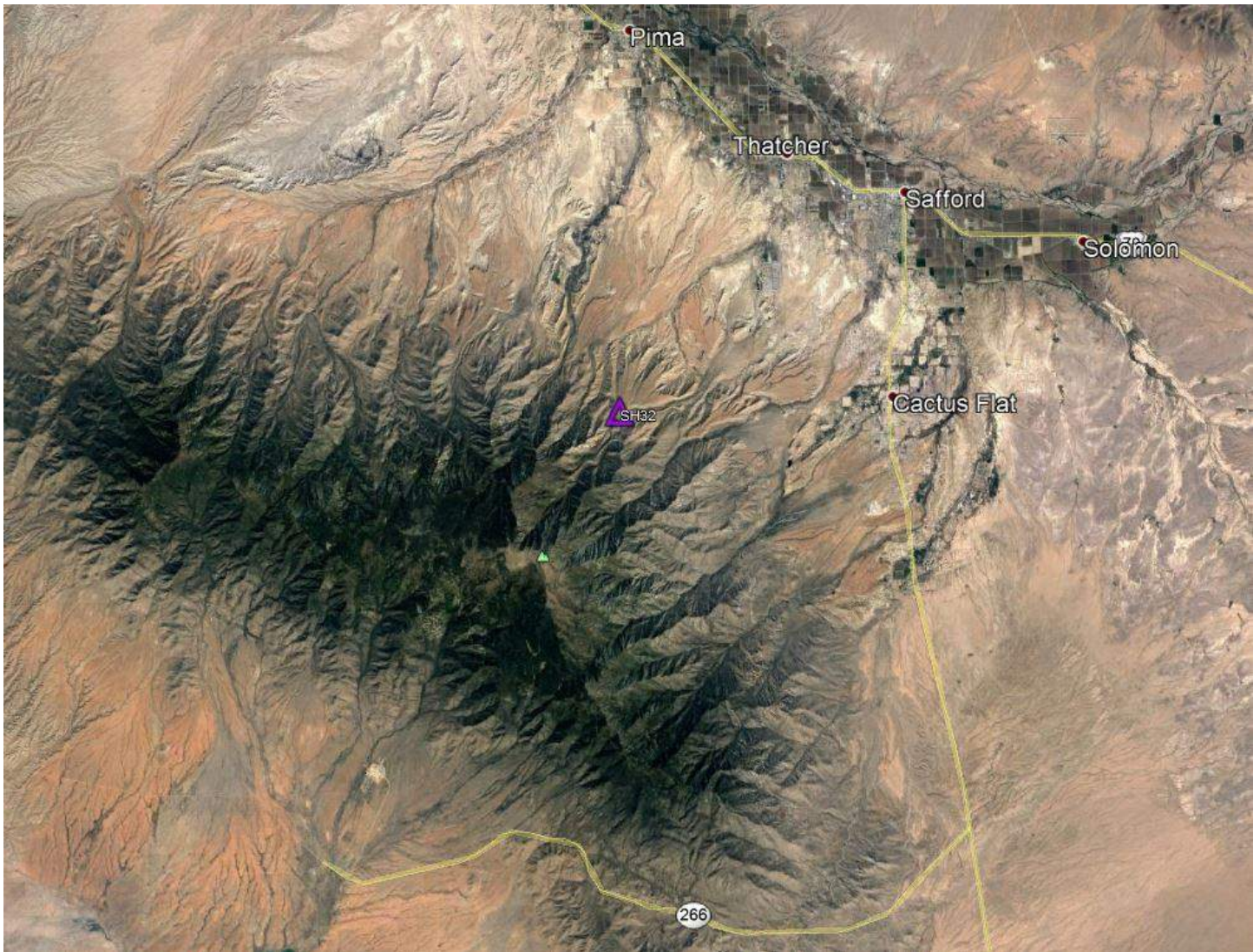




Shrubs:

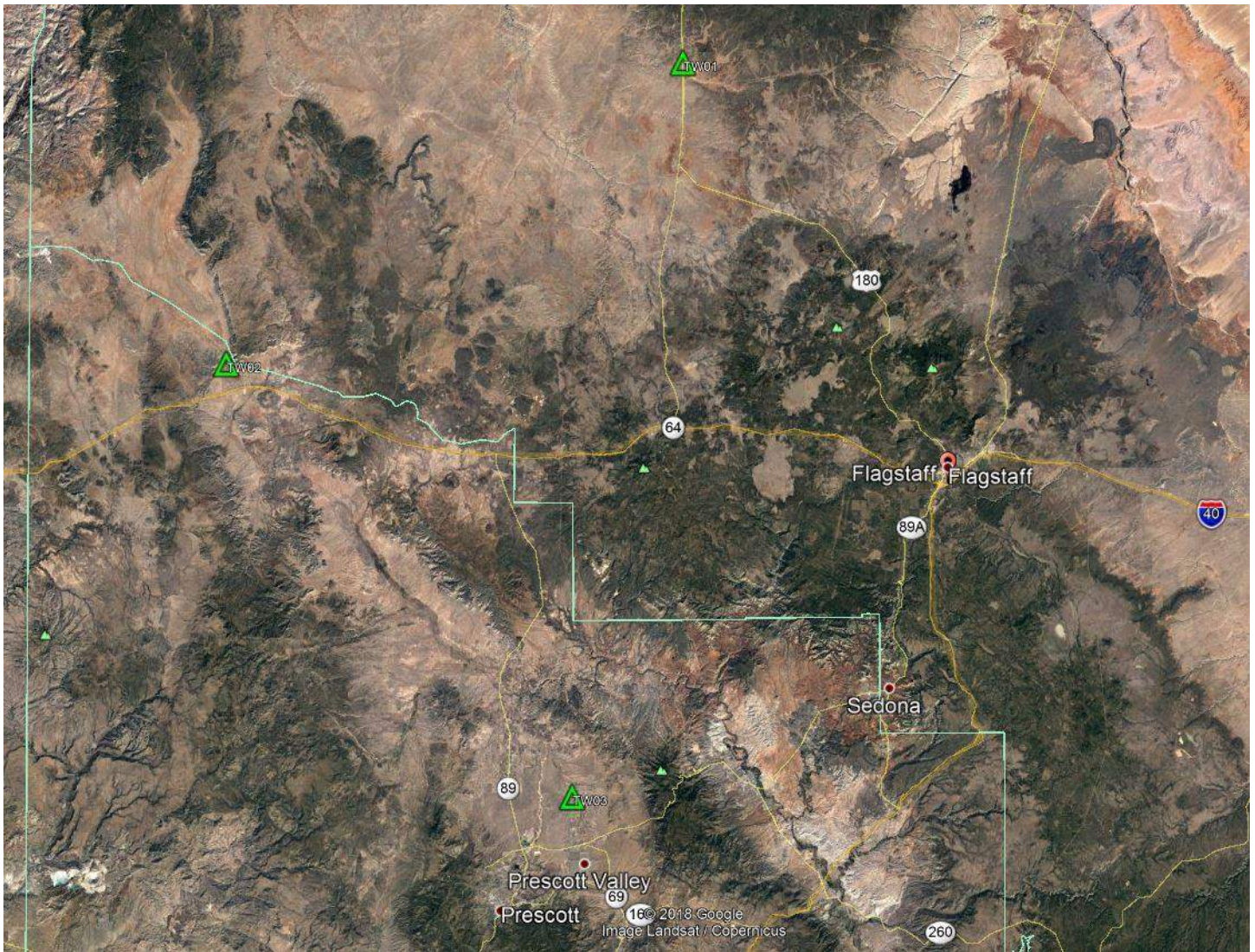


Not to Scale



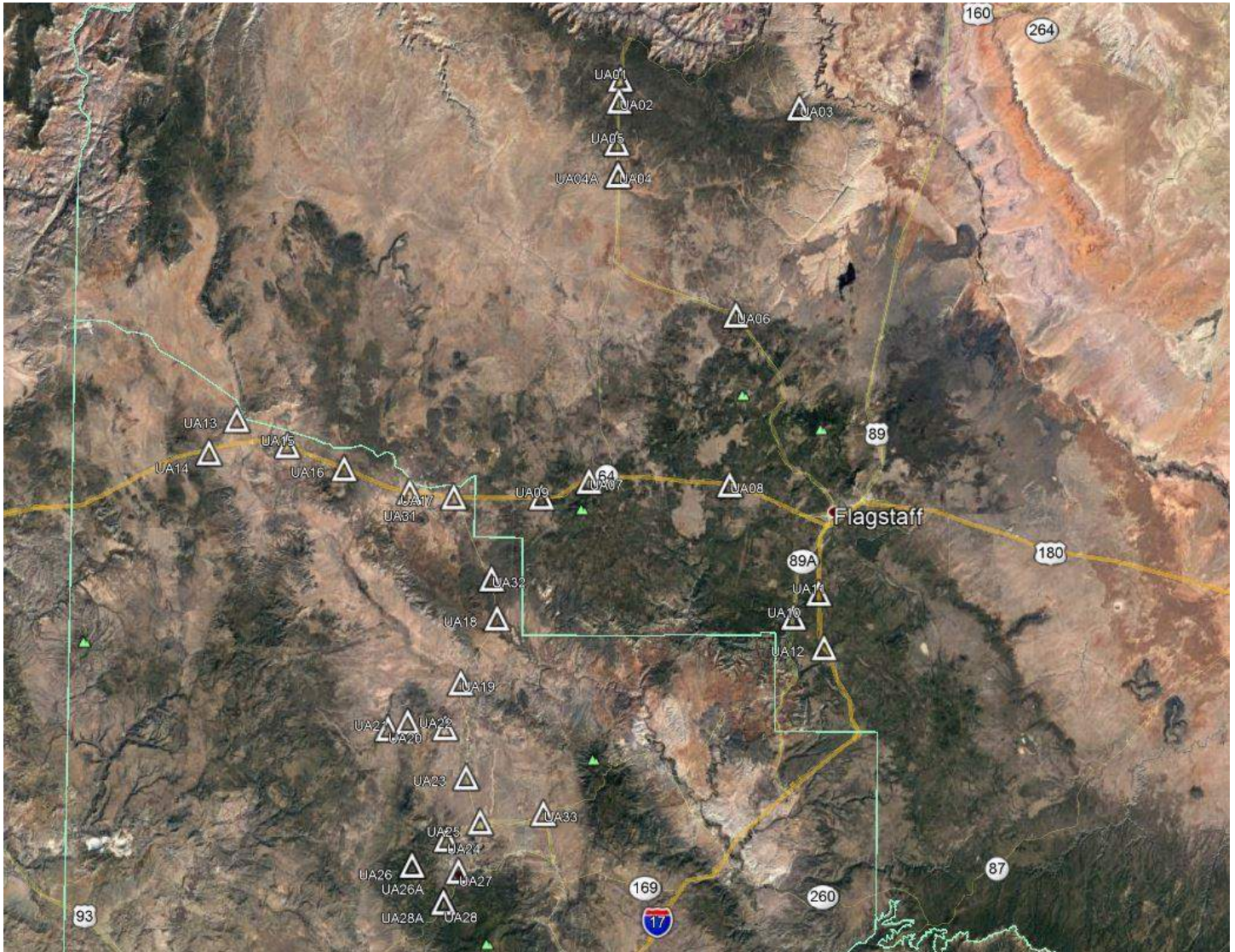
Not to Scale

Tall Weeds:



Not to Scale

Urban Area:



Not to Scale

