

CA_Riverside_2019_B19

Survey Report

Contract Number: G16PC00044

Task Order Number: 140G0219F0110



Government Point-of-Contact (POC)

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Overview

Digital Aerial Solutions, LLC (DAS) with contract number G16PC00044 was contracted by the United States Geological Survey under task order number 140G0219F0110 collect a high resolution LiDAR data set covering 1613 square miles affecting Riverside in California. Each of these categories was spread out as evenly as possible throughout the Area of Interest (AOI). The survey was completed using the Global Positioning System (GPS). Each observation was identified in the field and surveyed utilizing GPS receivers, collecting GNSS and GLONASS information and utilizing a Leica Smart-Net RTK network. In accordance with section C.2.e.ii of the task order, the spatial reference system used was:

Spatial Reference System:

Coordinate System: Albers Equal Area

Horizontal Datum: North American Datum 1983 (2011)

Vertical Datum: North American Vertical Datum of 1988

Units: Meters

Geoid Model: Geoid12B

Section C.1.b.viii of the task order outlines the ground control minimum requirements and specifications for this LiDAR project. 20 Supplemental ground control points were collected and used to support the airborne GPS solution and positional accuracy. DAS also collected more than the required number of Non-Vegetated Vertical Accuracy (NVA) and Vegetated Vertical Accuracy (VVA) Quality Checkpoints as stated in the task order. These checkpoints serve as an independent delivery to the client and were not incorporated into the vertical solution.

Glossary of Terms

Term	-	Definition
ATTN	-	Attention
BE	-	Bare Earth Checkpoint (see NVA)
CTRL	-	Control
DAS	-	Digital Aerial Solutions, LLC
Ellip	-	Ellipsoid Height
FIPS	-	Federal Information Processing Standard
GPS	-	Global Positioning Systems
UT	-	Urban Terrain(see NVA)
HV	-	High Vegetation(see VVA)
ID	-	Identification
LV	-	Low Vegetation (see VVA)
LiDAR	-	Light Detection and Ranging
MV	-	Medium Vegetation (see VVA)
NAD83	-	North American Datum of 1983
NAVD88	-	North American Vertical Datum of 1988
NGS	-	National Geodetic Survey
NGTOC	-	National Geospatial Technical Operations Center
NVA	-	Non-Vegetated Vertical Accuracy
Ortho	-	Orthometric Height
POC	-	Point of Contact
RTK	-	Real Time Kinematics
USGS	-	United States Geological Survey
VP	-	Vice President
VVA	-	Vegetated Vertical Accuracy

Supplemental Ground Control

The Map shows the overall distribution of the Supplemental Ground Control throughout the AOI. The following tables contain a list of the control using Easting, Northing, and Orthometric height. The coordinate system displayed is Albers Equal Area, North American Datum 1983 (2011), North American Vertical Datum of 1988, Geoid12B and using Meters for measurement.

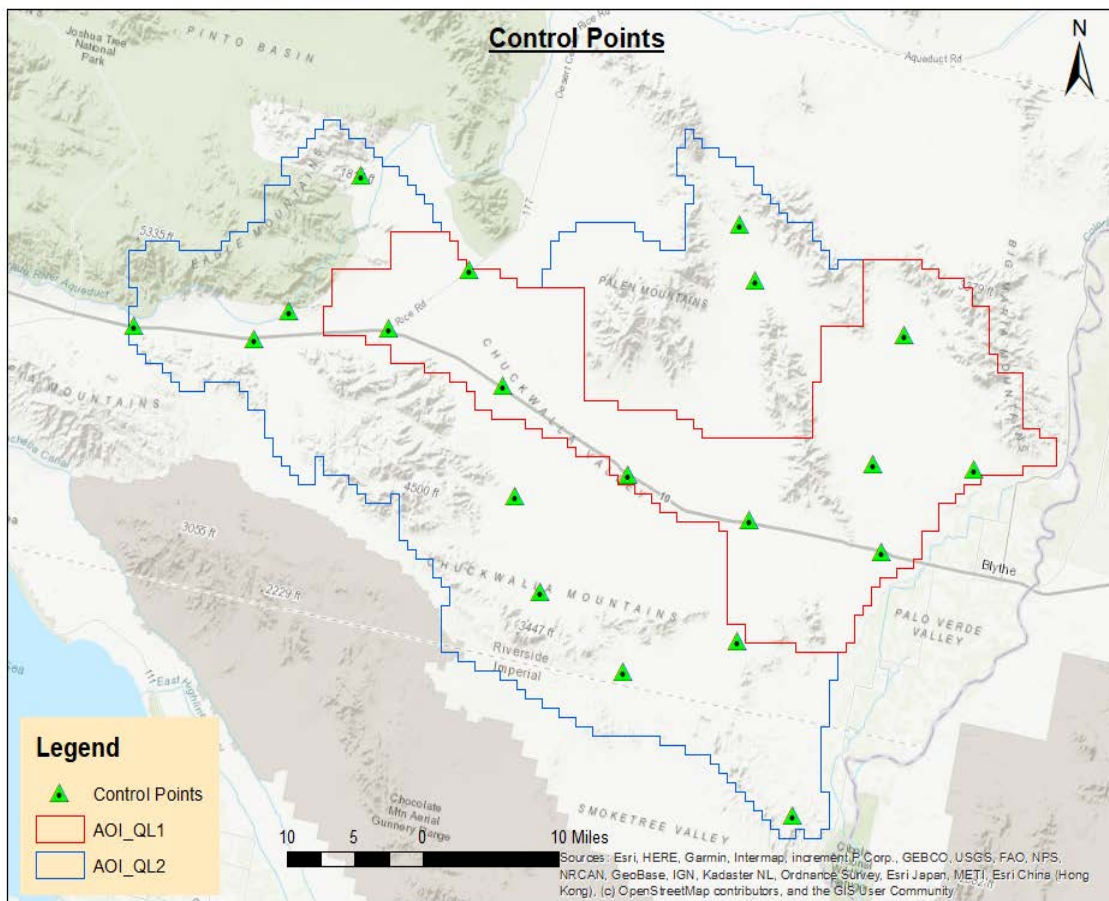


TABLE: Ground Control Points

Point ID	Easting	Northing	Ortho
GS0002	-1789095.626	1363571.877	426.2548981
GS0014	-1784987.424	1366561.202	420.1871298
GS0026	-1773108.376	1364580.192	273.9811408
GS0055	-1758192.314	1346703.049	309.3925539
GS0062	-1744698.15	1349032.092	116.3543252
GS0087	-1731775.378	1331085.261	177.7658591
GS0094	-1745270.185	1327870.222	304.473644
GS0108	-1755169.219	1336435.823	360.1549064
GS0115	-1725157.202	1312516.805	195.079289
GS0124	-1703752.399	1349533.262	133.8440811
GS0131	-1711998.781	1363988.856	240.8814307
GS0138	-1729656.642	1369801.319	253.1881307
GS0145	-1731557.51	1375713.102	322.3161353
GS0005	-1803302.617	1364906.672	521.1688917
GS0030	-1763562.138	1370876.305	161.8373
GS0036	-1776394.763	1381076.74	370.0880905
GS0044	-1759533.796	1358461.329	209.4663622
GS0069	-1714728.023	1340704.257	119.2598882
GS0078	-1730357.84	1344161.91	120.9809282
GS0103	-1715666.339	1350149.76	155.4059724

GS0002



Point ID: GS0002

Northing: 1363571.877 Meters

Easting: -1789095.626 Meters

Orthometric Height: 426.2548981 Meters

Latitude: 33° 40' 31.76255" N

Longitude: 115° 34' 07.54974" W

Ellipsoid Height: 393.6469 Meters

GS0014



Point ID: GS0014

Northing: 1366561.202 Meters

Easting: -1784987.424 Meters

Orthometric Height: 420.1871298 Meters

Latitude: 33° 42' 33.10669" N

Longitude: 115° 31' 54.15875" W

Ellipsoid Height: 387.6938 Meters

GS0026



Point ID: GS0026

Northing: 1364580.192 Meters

Easting: -1773108.376 Meters

Orthometric Height: 273.9811408 Meters

Latitude: 33° 42' 48.46798" N

Longitude: 115° 24' 03.44662" W

Ellipsoid Height: 241.3115 Meters

GS0055



Point ID: GS0055

Northing: 1346703.049 Meters

Easting: -1758192.314 Meters

Orthometric Height: 309.3925539 Meters

Latitude: 33° 35' 01.14393" N

Longitude: 115° 12' 11.49286" W

Ellipsoid Height: 276.5296 Meters

GS0062



Point ID: GS0062

Northing: 1349032.092 Meters

Easting: -1744698.15 Meters

Orthometric Height: 116.3543252 Meters

Latitude: 33° 37' 41.66428" N

Longitude: 115° 03' 53.20366" W

Ellipsoid Height: 83.3106 Meters

GS0087



Point ID: GS0087

Northing: 1331085.261 Meters

Easting: -1731775.378 Meters

Orthometric Height: 177.7658591 Meters

Latitude: 33° 29' 37.33184" N

Longitude: 114° 53' 19.72129" W

Ellipsoid Height: 144.7619 Meters

GS0094



Point ID: GS0094

Northing: 1327870.222 Meters

Easting: -1745270.185 Meters

Orthometric Height: 304.473644 Meters

Latitude: 33° 26' 29.54851" N

Longitude: 115° 01' 30.67229" W

Ellipsoid Height: 271.4614 Meters

GS0108



Point ID: GS0108

Northing: 1336435.823 Meters

Easting: -1755169.219 Meters

Orthometric Height: 360.1549064 Meters

Latitude: 33° 29' 56.45310" N

Longitude: 115° 08' 55.57516" W

Ellipsoid Height: 327.2476 Meters

GS0115



Point ID: GS0115

Northing: 1312516.805 Meters

Easting: -1725157.202 Meters

Orthometric Height: 195.079289 Meters

Latitude: 33° 20' 32.45254" N

Longitude: 114° 46' 44.38562" W

Ellipsoid Height: 161.913 Meters

GS0124



Point ID: GS0124

Northing: 1349533.262 Meters

Easting: -1703752.399 Meters

Orthometric Height: 133.8440811 Meters

Latitude: 33° 42' 17.48314" N

Longitude: 114° 37' 47.70941" W

Ellipsoid Height: 101.2819 Meters

GS0131



Point ID: GS0131

Northing: 1363988.856 Meters

Easting: -1711998.781 Meters

Orthometric Height: 240.8814307 Meters

Latitude: 33° 49' 02.37903" N

Longitude: 114° 44' 54.81710" W

Ellipsoid Height: 208.5926 Meters

GS0138



Point ID: GS0138

Northing: 1369801.319 Meters

Easting: -1729656.642 Meters

Orthometric Height: 253.1881307 Meters

Latitude: 33° 50' 13.87911" N

Longitude: 114° 56' 57.85663" W

Ellipsoid Height: 220.7925 Meters

GS0145



Point ID: GS0145

Northing: 1375713.102 Meters

Easting: -1731557.51 Meters

Orthometric Height: 322.3161353 Meters

Latitude: 33° 53' 08.42409" N

Longitude: 114° 58' 56.80833" W

Ellipsoid Height: 290.0644 Meters

GS0005



Point ID: GS0005

Northing: 1364906.672 Meters

Easting: -1803302.617 Meters

Orthometric Height: 521.1688917 Meters

Latitude: 33° 39' 39.88788" N

Longitude: 115° 43' 21.85446" W

Ellipsoid Height: 488.6378 Meters

GS0030



Point ID: GS0030

Northing: 1370876.305 Meters

Easting: -1763562.138 Meters

Orthometric Height: 161.8373 Meters

Latitude: 33° 47' 09.37645" N

Longitude: 115° 18' 47.41579" W

Ellipsoid Height: 129.1239 Meters

GS0036



Point ID: GS0036

Northing: 1381076.74 Meters

Easting: -1776394.763 Meters

Orthometric Height: 370.0880905 Meters

Latitude: 33° 51' 07.42576" N

Longitude: 115° 28' 20.61175" W

Ellipsoid Height: 337.7591 Meters

GS0044



Point ID: GS0044

Northing: 1358461.329 Meters

Easting: -1759533.796 Meters

Orthometric Height: 209.4663622 Meters

Latitude: 33° 41' 03.67721" N

Longitude: 115° 14' 35.15768" W

Ellipsoid Height: 176.6026 Meters

GS0069



Point ID: GS0069

Northing: 1340704.257 Meters

Easting: -1714728.023 Meters

Orthometric Height: 119.2598882 Meters

Latitude: 33° 36' 29.35377" N

Longitude: 114° 43' 41.07665" W

Ellipsoid Height: 86.4411 Meters

GS0078



Point ID: GS0078

Northing: 1344161.91 Meters

Easting: -1730357.84 Meters

Orthometric Height: 120.9809282 Meters

Latitude: 33° 36' 39.53344" N

Longitude: 114° 54' 06.30416" W

Ellipsoid Height: 88.003 Meters

GS0103



Point ID: GS0103

Northing: 1350149.76 Meters

Easting: -1715666.339 Meters

Orthometric Height: 155.4059724 Meters

Latitude: 33° 41' 21.93000" N

Longitude: 114° 45' 29.38059" W

Ellipsoid Height: 122.7436 Meters

Non-Vegetated Vertical Accuracy Checkpoints Bare Earth

The Map shows the overall distribution of the Non-Vegetated Vertical Accuracy Checkpoint, Bare Earth throughout the AOI. The following tables contain a list of the control using Easting, Northing, and Orthometric height. The coordinate system displayed is Albers Equal Area, North American Datum 1983 (2011), North American Vertical Datum of 1988, Geoid12B and using Meters for measurement.

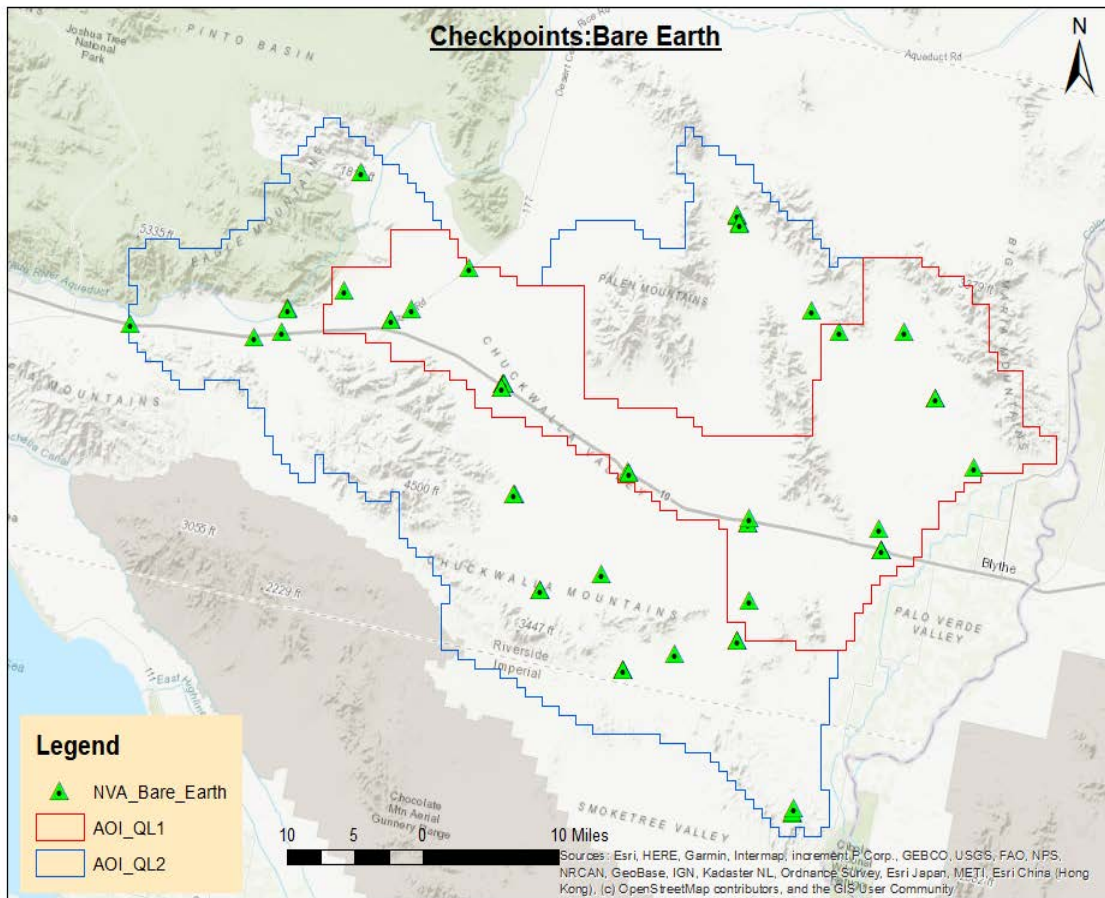


TABLE: Bare Earth

Point ID	Easting	Northing	Ortho
GS0003	-1789098.539	1363540.551	426.3385657
GS0008	-1803707.458	1364940.797	517.6420901
GS0012	-1785823.991	1364062.961	418.462521
GS0016	-1785024.188	1366598.272	425.5271794
GS0017	-1785019.412	1366560.145	421.3230068
GS0019	-1778456.125	1368506.381	306.8606893
GS0027	-1770401.499	1366469.96	209.1044305
GS0029	-1763514.379	1370896.786	161.3500998
GS0031	-1772894.551	1365353.608	254.9353955
GS0034	-1772868.978	1365401.79	253.7929988
GS0038	-1776401.129	1381121.409	371.7903064
GS0045	-1759571.142	1358476.479	209.2608058
GS0046	-1759568.191	1358521.624	208.4539434
GS0048	-1759500.012	1358527.657	207.4730161
GS0050	-1759469.267	1358461.648	207.9983734
GS0053	-1759689.561	1358076.062	216.4880299
GS0054	-1759680.93	1358033.535	216.9929531
GS0057	-1758208.519	1346663.765	309.8370272
GS0058	-1758232.017	1346690.889	310.2863454
GS0063	-1744716.691	1349043.641	116.2242971
GS0065	-1744675.213	1349017.676	115.9083607
GS0066	-1730470.629	1343531.369	119.2268704
GS0068	-1730439.497	1343551.656	119.2550808
GS0070	-1714752.061	1340712.066	119.0348092
GS0072	-1714744.57	1340661.368	119.0946081

GS0073	-1714728.874	1340640.378	119.2609136
GS0082	-1730402.756	1344118.048	120.6023226
GS0085	-1730333.773	1335250.09	155.9047094
GS0089	-1731736.166	1331072.29	178.0073178
GS0091	-1731787.946	1331041.101	178.0695045
GS0092	-1739139.316	1329603.876	239.8127033
GS0096	-1745294.568	1327822.977	303.504867
GS0097	-1745301.385	1327852.597	305.0455282
GS0098	-1745310.512	1327879.001	305.1771987
GS0099	-1715029.752	1343000.213	123.1882655
GS0111	-1755135.961	1336410.93	359.8890431
GS0112	-1755134.677	1336440.099	359.2574592
GS0113	-1747868.729	1338099.474	230.9146558
GS0116	-1725164.608	1312540.286	194.7549512
GS0117	-1725157.022	1312567.796	194.0186951
GS0120	-1725022.589	1313103.816	175.4205975
GS0126	-1703749.663	1349595.744	134.3127957
GS0128	-1708238.573	1356977.643	189.9698041
GS0130	-1708222.892	1357014.55	190.5580933
GS0132	-1712013.746	1364021.105	240.9368164
GS0136	-1719624.927	1364079.834	246.5595862
GS0143	-1731777.196	1376543.189	333.9093622
GS0144	-1731754.183	1376548.285	333.825024
GS0147	-1731535.824	1375699.198	322.1012481
GS0149	-1731560.01	1375669.205	321.891316
GS0150	-1722902.526	1366292.168	281.2101943

GS0003



Point ID: GS0003

Northing: 1363540.551 Meters

Easting: -1789098.539 Meters

Orthometric Height: 426.3385657 Meters

Latitude: 33° 40' 30.75517" N

Longitude: 115° 34' 07.41083" W

Ellipsoid Height: 393.7305 Meters

GS0008



Point ID: GS0008

Northing: 1364940.797 Meters

Easting: -1803707.458 Meters

Orthometric Height: 517.6420901 Meters

Latitude: 33° 39' 38.27543" N

Longitude: 115° 43' 37.61532" W

Ellipsoid Height: 485.1116 Meters

GS0012



Point ID: GS0012

Northing: 1364062.961 Meters

Easting: -1785823.991 Meters

Orthometric Height: 418.462521 Meters

Latitude: 33° 41' 08.79291" N

Longitude: 115° 32' 06.24627" W

Ellipsoid Height: 385.8852 Meters

GS0016



Point ID: GS0016

Northing: 1366598.272 Meters

Easting: -1785024.188 Meters

Orthometric Height: 425.5271794 Meters

Latitude: 33° 42' 34.03434" N

Longitude: 115° 31' 55.86244" W

Ellipsoid Height: 393.036 Meters

GS0017



Point ID: GS0017

Northing: 1366560.145 Meters

Easting: -1785019.412 Meters

Orthometric Height: 421.3230068 Meters

Latitude: 33° 42' 32.86297" N

Longitude: 115° 31' 55.37518" W

Ellipsoid Height: 388.8302 Meters

GS0019



Point ID: GS0019

Northing: 1368506.381 Meters

Easting: -1778456.125 Meters

Orthometric Height: 306.8606893 Meters

Latitude: 33° 44' 17.35462" N

Longitude: 115° 27' 59.50315" W

Ellipsoid Height: 274.3099 Meters

GS0027



Point ID: GS0027

Northing: 1366469.96 Meters

Easting: -1770401.499 Meters

Orthometric Height: 209.1044305 Meters

Latitude: 33° 44' 05.77361" N

Longitude: 115° 22' 34.72189" W

Ellipsoid Height: 176.3815 Meters

GS0029



Point ID: GS0029

Northing: 1370896.786 Meters

Easting: -1763514.379 Meters

Orthometric Height: 161.3500998 Meters

Latitude: 33° 47' 10.33338" N

Longitude: 115° 18' 45.74623" W

Ellipsoid Height: 128.6372 Meters

GS0031



Point ID: GS0031

Northing: 1365353.608 Meters

Easting: -1772894.551 Meters

Orthometric Height: 254.9353955 Meters

Latitude: 33° 43' 14.27015" N

Longitude: 115° 24' 01.38935" W

Ellipsoid Height: 222.2561 Meters

GS0034



Point ID: GS0034

Northing: 1365401.79 Meters

Easting: -1772868.978 Meters

Orthometric Height: 253.7929988 Meters

Latitude: 33° 43' 15.95762" N

Longitude: 115° 24' 00.79182" W

Ellipsoid Height: 221.1128 Meters

GS0038



Point ID: GS0038

Northing: 1381121.409 Meters

Easting: -1776401.129 Meters

Orthometric Height: 371.7903064 Meters

Latitude: 33° 51' 08.79312" N

Longitude: 115° 28' 21.21215" W

Ellipsoid Height: 339.4618 Meters

GS0045



Point ID: GS0045

Northing: 1358476.479 Meters

Easting: -1759571.142 Meters

Orthometric Height: 209.2608058 Meters

Latitude: 33° 41' 03.91343" N

Longitude: 115° 14' 36.70731" W

Ellipsoid Height: 176.3985 Meters

GS0046



Point ID: GS0046

Northing: 1358521.624 Meters

Easting: -1759568.191 Meters

Orthometric Height: 208.4539434 Meters

Latitude: 33° 41' 05.35769" N

Longitude: 115° 14' 36.94927" W

Ellipsoid Height: 175.5907 Meters

GS0048



Point ID: GS0048

Northing: 1358527.657 Meters

Easting: -1759500.012 Meters

Orthometric Height: 207.4730161 Meters

Latitude: 33° 41' 05.98996" N

Longitude: 115° 14' 34.38514" W

Ellipsoid Height: 174.6087 Meters

GS0050



Point ID: GS0050

Northing: 1358461.648 Meters

Easting: -1759469.267 Meters

Orthometric Height: 207.9983734 Meters

Latitude: 33° 41' 04.10551" N

Longitude: 115° 14' 32.68847" W

Ellipsoid Height: 175.1338 Meters

GS0053



Point ID: GS0053

Northing: 1358076.062 Meters

Easting: -1759689.561 Meters

Orthometric Height: 216.4880299 Meters

Latitude: 33° 40' 50.50585" N

Longitude: 115° 14' 38.09421" W

Ellipsoid Height: 183.6289 Meters

GS0054



Point ID: GS0054

Northing: 1358033.535 Meters

Easting: -1759680.93 Meters

Orthometric Height: 216.9929531 Meters

Latitude: 33° 40' 49.21931" N

Longitude: 115° 14' 37.42926" W

Ellipsoid Height: 184.1341 Meters

GS0057



Point ID: GS0057

Northing: 1346663.765 Meters

Easting: -1758208.519 Meters

Orthometric Height: 309.8370272 Meters

Latitude: 33° 34' 59.79871" N

Longitude: 115° 12' 11.80493" W

Ellipsoid Height: 276.9748 Meters

GS0058



Point ID: GS0058

Northing: 1346690.889 Meters

Easting: -1758232.017 Meters

Orthometric Height: 310.2863454 Meters

Latitude: 33° 35' 00.50313" N

Longitude: 115° 12' 12.91652" W

Ellipsoid Height: 277.4251 Meters

GS0063



Point ID: GS0063

Northing: 1349043.641 Meters

Easting: -1744716.691 Meters

Orthometric Height: 116.2242971 Meters

Latitude: 33° 37' 41.90995" N

Longitude: 115° 03' 54.00354" W

Ellipsoid Height: 83.1811 Meters

GS0065



Point ID: GS0065

Northing: 1349017.676 Meters

Easting: -1744675.213 Meters

Orthometric Height: 115.9083607 Meters

Latitude: 33° 37' 41.35627" N

Longitude: 115° 03' 52.21309" W

Ellipsoid Height: 82.865 Meters

GS0066



Point ID: GS0066

Northing: 1343531.369 Meters

Easting: -1730470.629 Meters

Orthometric Height: 119.2268704 Meters

Latitude: 33° 36' 18.89408" N

Longitude: 114° 54' 05.75639" W

Ellipsoid Height: 86.2376 Meters

GS0068



Point ID: GS0068

Northing: 1343551.656 Meters

Easting: -1730439.497 Meters

Orthometric Height: 119.2550808 Meters

Latitude: 33° 36' 19.73327" N

Longitude: 114° 54' 04.72085" W

Ellipsoid Height: 86.2665 Meters

GS0070



Point ID: GS0070

Northing: 1340712.066 Meters

Easting: -1714752.061 Meters

Orthometric Height: 119.0348092 Meters

Latitude: 33° 36' 29.44887" N

Longitude: 114° 43' 42.05723" W

Ellipsoid Height: 86.2164 Meters

GS0072



Point ID: GS0072

Northing: 1340661.368 Meters

Easting: -1714744.57 Meters

Orthometric Height: 119.0946081 Meters

Latitude: 33° 36' 27.89383" N

Longitude: 114° 43' 41.38245" W

Ellipsoid Height: 86.2747 Meters

GS0073



Point ID: GS0073

Northing: 1340640.378 Meters

Easting: -1714728.874 Meters

Orthometric Height: 119.2609136 Meters

Latitude: 33° 36' 27.32948" N

Longitude: 114° 43' 40.62062" W

Ellipsoid Height: 86.4411 Meters

GS0082



Point ID: GS0082

Northing: 1344118.048 Meters

Easting: -1730402.756 Meters

Orthometric Height: 120.6023226 Meters

Latitude: 33° 36' 37.86165" N

Longitude: 114° 54' 07.68567" W

Ellipsoid Height: 87.6233 Meters

GS0085



Point ID: GS0085

Northing: 1335250.09 Meters

Easting: -1730333.773 Meters

Orthometric Height: 155.9047094 Meters

Latitude: 33° 31' 58.10958" N

Longitude: 114° 52' 56.66160" W

Ellipsoid Height: 122.8966 Meters

GS0089



Point ID: GS0089

Northing: 1331072.29 Meters

Easting: -1731736.166 Meters

Orthometric Height: 178.0073178 Meters

Latitude: 33° 29' 37.17150" N

Longitude: 114° 53' 18.12191" W

Ellipsoid Height: 145.0036 Meters

GS0091



Point ID: GS0091

Northing: 1331041.101 Meters

Easting: -1731787.946 Meters

Orthometric Height: 178.0695045 Meters

Latitude: 33° 29' 35.85637" N

Longitude: 114° 53' 19.86174" W

Ellipsoid Height: 145.066 Meters

GS0092



Point ID: GS0092

Northing: 1329603.876 Meters

Easting: -1739139.316 Meters

Orthometric Height: 239.8127033 Meters

Latitude: 33° 28' 03.56108" N

Longitude: 114° 57' 49.81794" W

Ellipsoid Height: 206.7791 Meters

GS0096



Point ID: GS0096

Northing: 1327822.977 Meters

Easting: -1745294.568 Meters

Orthometric Height: 303.504867 Meters

Latitude: 33° 26' 27.89960" N

Longitude: 115° 01' 31.23755" W

Ellipsoid Height: 270.4921 Meters

GS0097



Point ID: GS0097

Northing: 1327852.597 Meters

Easting: -1745301.385 Meters

Orthometric Height: 305.0455282 Meters

Latitude: 33° 26' 28.79167" N

Longitude: 115° 01' 31.72756" W

Ellipsoid Height: 272.0333 Meters

GS0098



Point ID: GS0098

Northing: 1327879.001 Meters

Easting: -1745310.512 Meters

Orthometric Height: 305.1771987 Meters

Latitude: 33° 26' 29.56733" N

Longitude: 115° 01' 32.28096" W

Ellipsoid Height: 272.1648 Meters

GS0099



Point ID: GS0099

Northing: 1343000.213 Meters

Easting: -1715029.752 Meters

Orthometric Height: 123.1882655 Meters

Latitude: 33° 37' 40.01211" N

Longitude: 114° 44' 10.20387" W

Ellipsoid Height: 90.4072 Meters

GS0111



Point ID: GS0111

Northing: 1336410.93 Meters

Easting: -1755135.961 Meters

Orthometric Height: 359.8890431 Meters

Latitude: 33° 29' 55.88150" N

Longitude: 115° 08' 54.10965" W

Ellipsoid Height: 326.9822 Meters

GS0112



Point ID: GS0112

Northing: 1336440.099 Meters

Easting: -1755134.677 Meters

Orthometric Height: 359.2574592 Meters

Latitude: 33° 29' 56.81097" N

Longitude: 115° 08' 54.28830" W

Ellipsoid Height: 326.3503 Meters

GS0113



Point ID: GS0113

Northing: 1338099.474 Meters

Easting: -1747868.729 Meters

Orthometric Height: 230.9146558 Meters

Latitude: 33° 31' 36.00323" N

Longitude: 115° 04' 29.43620" W

Ellipsoid Height: 197.9156 Meters

GS0116



Point ID: GS0116

Northing: 1312540.286 Meters

Easting: -1725164.608 Meters

Orthometric Height: 194.7549512 Meters

Latitude: 33° 20' 33.14799" N

Longitude: 114° 46' 44.84782" W

Ellipsoid Height: 161.5886 Meters

GS0117



Point ID: GS0117

Northing: 1312567.796 Meters

Easting: -1725157.022 Meters

Orthometric Height: 194.0186951 Meters

Latitude: 33° 20' 34.06569" N

Longitude: 114° 46' 44.76845" W

Ellipsoid Height: 160.8534 Meters

GS0120



Point ID: GS0120

Northing: 1313103.816 Meters

Easting: -1725022.589 Meters

Orthometric Height: 175.4205975 Meters

Latitude: 33° 20' 51.86209" N

Longitude: 114° 46' 43.73342" W

Ellipsoid Height: 142.2602 Meters

GS0126



Point ID: GS0126

Northing: 1349595.744 Meters

Easting: -1703749.663 Meters

Orthometric Height: 134.3127957 Meters

Latitude: 33° 42' 19.47523" N

Longitude: 114° 37' 48.08046" W

Ellipsoid Height: 101.7529 Meters

GS0128



Point ID: GS0128

Northing: 1356977.643 Meters

Easting: -1708238.573 Meters

Orthometric Height: 189.9698041 Meters

Latitude: 33° 45' 44.55221" N

Longitude: 114° 41' 36.70012" W

Ellipsoid Height: 157.5367 Meters

GS0130



Point ID: GS0130

Northing: 1357014.55 Meters

Easting: -1708222.892 Meters

Orthometric Height: 190.5580933 Meters

Latitude: 33° 45' 45.81727" N

Longitude: 114° 41' 36.38051" W

Ellipsoid Height: 158.1274 Meters

GS0132



Point ID: GS0132

Northing: 1364021.105 Meters

Easting: -1712013.746 Meters

Orthometric Height: 240.9368164 Meters

Latitude: 33° 49' 03.30346" N

Longitude: 114° 44' 55.63948" W

Ellipsoid Height: 208.6487 Meters

GS0136



Point ID: GS0136

Northing: 1364079.834 Meters

Easting: -1719624.927 Meters

Orthometric Height: 246.5595862 Meters

Latitude: 33° 48' 16.98770" N

Longitude: 114° 49' 48.38499" W

Ellipsoid Height: 214.183 Meters

GS0143



Point ID: GS0143

Northing: 1376543.189 Meters

Easting: -1731777.196 Meters

Orthometric Height: 333.9093622 Meters

Latitude: 33° 53' 33.23066" N

Longitude: 114° 59' 11.70800" W

Ellipsoid Height: 301.6775 Meters

GS0144



Point ID: GS0144

Northing: 1376548.285 Meters

Easting: -1731754.183 Meters

Orthometric Height: 333.825024 Meters

Latitude: 33° 53' 33.53870" N

Longitude: 114° 59' 10.86330" W

Ellipsoid Height: 301.5933 Meters

GS0147



Point ID: GS0147

Northing: 1375699.198 Meters

Easting: -1731535.824 Meters

Orthometric Height: 322.1012481 Meters

Latitude: 33° 53' 08.12370" N

Longitude: 114° 58' 55.86695" W

Ellipsoid Height: 289.8494 Meters

GS0149



Point ID: GS0149

Northing: 1375669.205 Meters

Easting: -1731560.01 Meters

Orthometric Height: 321.891316 Meters

Latitude: 33° 53' 07.02201" N

Longitude: 114° 58' 56.56295" W

Ellipsoid Height: 289.6377 Meters

GS0150



Point ID: GS0150

Northing: 1366292.168 Meters

Easting: -1722902.526 Meters

Orthometric Height: 281.2101943 Meters

Latitude: 33° 49' 06.06219" N

Longitude: 114° 52' 11.31435" W

Ellipsoid Height: 248.8412 Meters

Non-Vegetated Vertical Accuracy Checkpoints Urban Terrain

The Map shows the overall distribution of the Non-Vegetated Vertical Accuracy Checkpoint, Urban Terrain throughout the AOI. The following tables contain a list of the control using Easting, Northing, and Orthometric height. The coordinate system displayed is Albers Equal Area, North American Datum 1983 (2011), North American Vertical Datum of 1988, Geoid12B and using Meters for measurement.

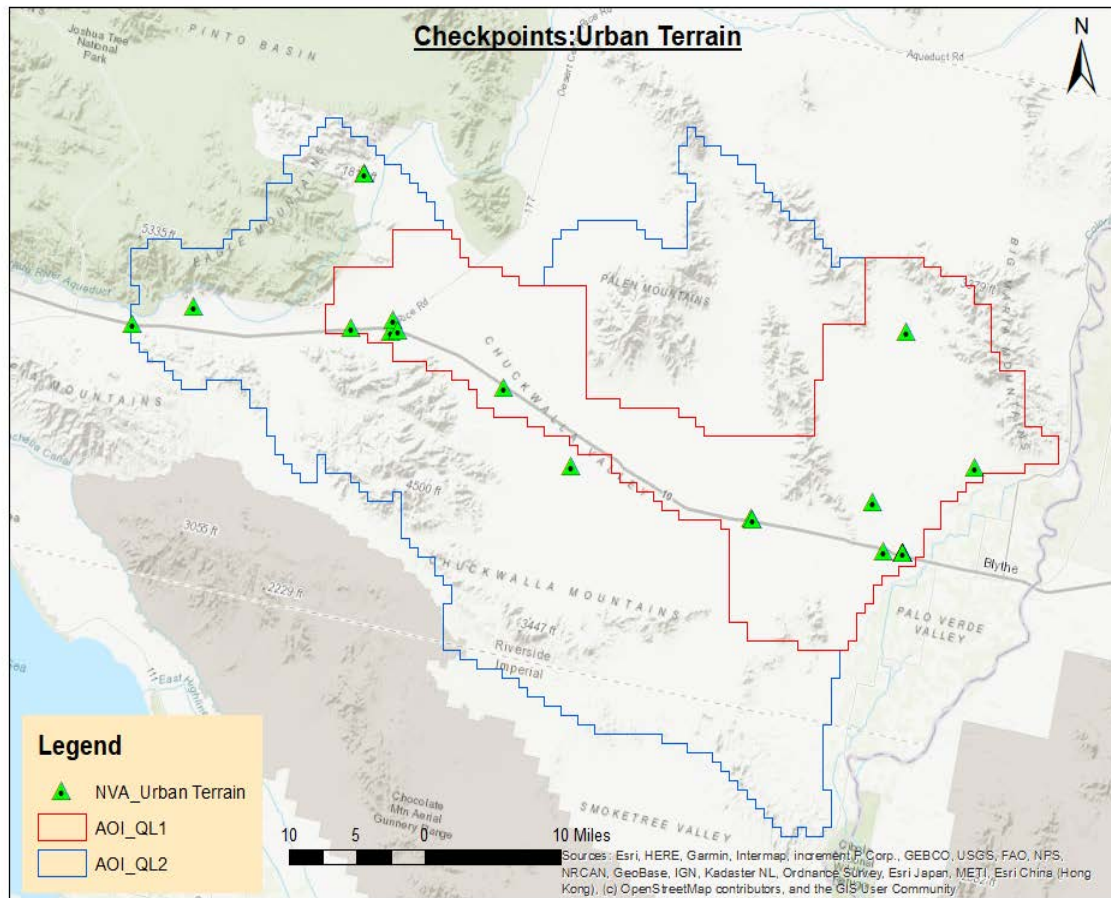


TABLE: Urban Terrain

Point ID	Easting	Northing	Ortho
GS0009	-1803743.468	1364927.33	517.9873379
GS0010	-1796473.502	1366824.651	421.7492911
GS0021	-1777877.38	1364491.14	342.4289557
GS0023	-1773148.963	1364084.274	286.253537
GS0035	-1772895.182	1365411.297	254.2446024
GS0039	-1776216.147	1381041.938	365.5307169
GS0040	-1776184.957	1381034.383	364.7070656
GS0041	-1772309.296	1364257.9	270.4862987
GS0051	-1759658.993	1358066.52	216.5795173
GS0060	-1751711.36	1349667.458	164.3271015
GS0075	-1714689.658	1340613.844	119.3202605
GS0080	-1730359.456	1344121.82	120.8305275
GS0084	-1730266.88	1343963.591	121.0722359
GS0101	-1716031.029	1345791.157	145.5835867
GS0127	-1703807.795	1349568.617	135.9692143
GS0134	-1711962.519	1364031.121	241.5392786

GS0009



Point ID: GS0009

Northing: 1364927.33 Meters

Easting: -1803743.468 Meters

Orthometric Height: 517.9873379 Meters

Latitude: 33° 39' 37.61162" N

Longitude: 115° 43' 38.88430" W

Ellipsoid Height: 485.457 Meters

GS0010



Point ID: GS0010

Northing: 1366824.651 Meters

Easting: -1796473.502 Meters

Orthometric Height: 421.7492911 Meters

Latitude: 33° 41' 25.64407" N

Longitude: 115° 39' 15.98108" W

Ellipsoid Height: 389.2405 Meters

GS0021



Point ID: GS0021

Northing: 1364491.14 Meters

Easting: -1777877.38 Meters

Orthometric Height: 342.4289557 Meters

Latitude: 33° 42' 14.46196" N

Longitude: 115° 27' 05.39533" W

Ellipsoid Height: 309.8322 Meters

GS0023



Point ID: GS0023

Northing: 1364084.274 Meters

Easting: -1773148.963 Meters

Orthometric Height: 286.253537 Meters

Latitude: 33° 42' 32.55394" N

Longitude: 115° 24' 01.06855" W

Ellipsoid Height: 253.5904 Meters

GS0035



Point ID: GS0035

Northing: 1365411.297 Meters

Easting: -1772895.182 Meters

Orthometric Height: 254.2446024 Meters

Latitude: 33° 43' 16.08641" N

Longitude: 115° 24' 01.87106" W

Ellipsoid Height: 221.5646 Meters

GS0039



Point ID: GS0039

Northing: 1381041.938 Meters

Easting: -1776216.147 Meters

Orthometric Height: 365.5307169 Meters

Latitude: 33° 51' 07.49881" N

Longitude: 115° 28' 13.48132" W

Ellipsoid Height: 333.1943 Meters

GS0040



Point ID: GS0040

Northing: 1381034.383 Meters

Easting: -1776184.957 Meters

Orthometric Height: 364.7070656 Meters

Latitude: 33° 51' 07.46492" N

Longitude: 115° 28' 12.22442" W

Ellipsoid Height: 332.3694 Meters

GS0041



Point ID: GS0041

Northing: 1364257.9 Meters

Easting: -1772309.296 Meters

Orthometric Height: 270.4862987 Meters

Latitude: 33° 42' 43.51703" N

Longitude: 115° 23' 30.28250" W

Ellipsoid Height: 237.8071 Meters

GS0051



Point ID: GS0051

Northing: 1358066.52 Meters

Easting: -1759658.993 Meters

Orthometric Height: 216.5795173 Meters

Latitude: 33° 40' 50.40273" N

Longitude: 115° 14' 36.84836" W

Ellipsoid Height: 183.7198 Meters

GS0060



Point ID: GS0060

Northing: 1349667.458 Meters

Easting: -1751711.36 Meters

Orthometric Height: 164.3271015 Meters

Latitude: 33° 37' 16.60064" N

Longitude: 115° 08' 26.67059" W

Ellipsoid Height: 131.3128 Meters

GS0075



Point ID: GS0075

Northing: 1340613.844 Meters

Easting: -1714689.658 Meters

Orthometric Height: 119.3202605 Meters

Latitude: 33° 36' 26.73835" N

Longitude: 114° 43' 38.91536" W

Ellipsoid Height: 86.4997 Meters

GS0080



Point ID: GS0080

Northing: 1344121.82 Meters

Easting: -1730359.456 Meters

Orthometric Height: 120.8305275 Meters

Latitude: 33° 36' 38.25656" N

Longitude: 114° 54' 06.05657" W

Ellipsoid Height: 87.8517 Meters

GS0084



Point ID: GS0084

Northing: 1343963.591 Meters

Easting: -1730266.88 Meters

Orthometric Height: 121.0722359 Meters

Latitude: 33° 36' 33.84705" N

Longitude: 114° 54' 01.28998" W

Ellipsoid Height: 88.0935 Meters

GS0101



Point ID: GS0101

Northing: 1345791.157 Meters

Easting: -1716031.029 Meters

Orthometric Height: 145.5835867 Meters

Latitude: 33° 39' 01.89033" N

Longitude: 114° 45' 09.94940" W

Ellipsoid Height: 112.852 Meters

GS0127



Point ID: GS0127

Northing: 1349568.617 Meters

Easting: -1703807.795 Meters

Orthometric Height: 135.9692143 Meters

Latitude: 33° 42' 18.25291" N

Longitude: 114° 37' 50.10394" W

Ellipsoid Height: 103.4068 Meters

GS0134



Point ID: GS0134

Northing: 1364031.121 Meters

Easting: -1711962.519 Meters

Orthometric Height: 241.5392786 Meters

Latitude: 33° 49' 03.94341" N

Longitude: 114° 44' 53.74876" W

Ellipsoid Height: 209.2527 Meters

Vegetated Vertical Accuracy Checkpoints Low Vegetation

The Map shows the overall distribution of the Vegetated Vertical Accuracy Checkpoint, Low Vegetation throughout the AOI. The following tables contain a list of the control using Easting, Northing, and Orthometric height. The coordinate system displayed is Albers Equal Area, North American Datum 1983 (2011), North American Vertical Datum of 1988, Geoid12B and using Meters for measurement.

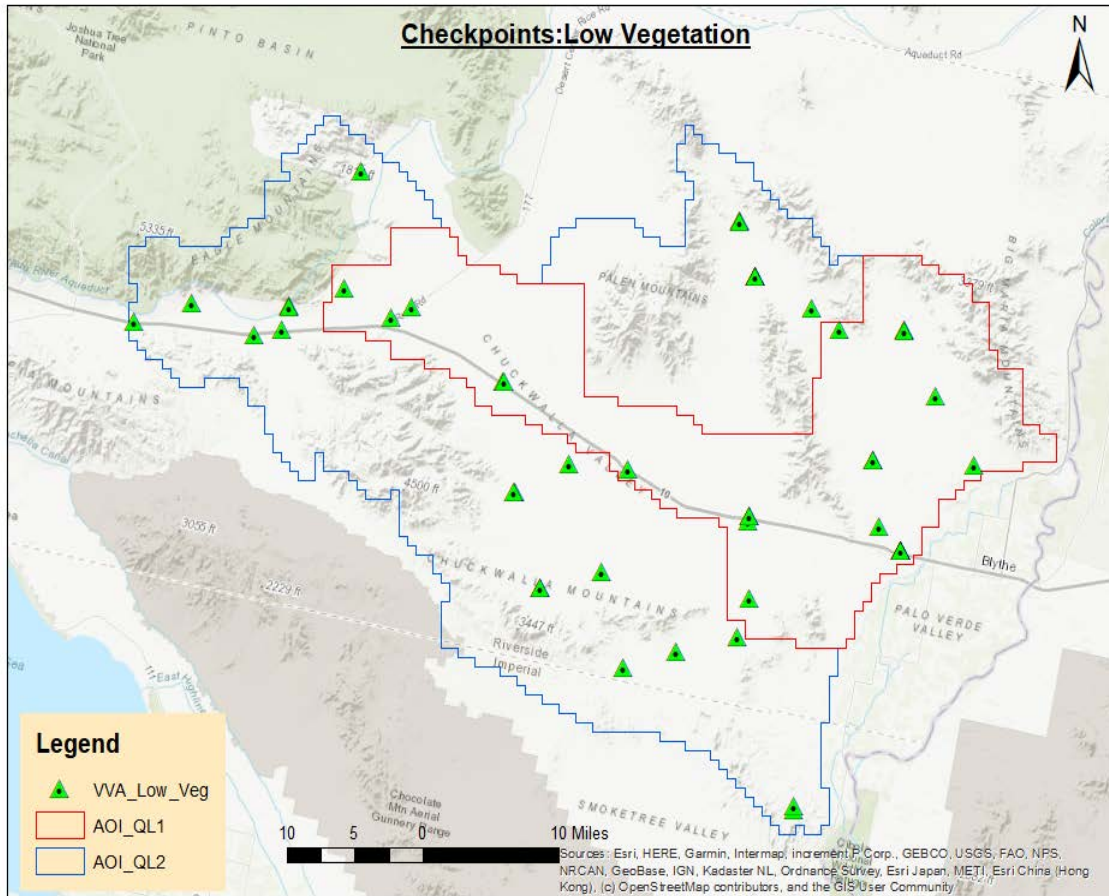


TABLE: Low Vegetation

Point ID	Easting	Northing	Ortho
GS0004	-1789070.309	1363556.385	426.2571026
GS0006	-1803339.611	1364923.097	519.743571
GS0011	-1796490.227	1366865.191	422.793273
GS0013	-1785832.559	1364100.71	418.0456431
GS0015	-1784981.534	1366597.647	421.3444524
GS0018	-1784972.813	1366512.134	418.2205007
GS0020	-1778437.477	1368525.051	306.6506743
GS0028	-1770442.965	1366498.793	209.3436775
GS0032	-1772872.985	1365345.58	254.8947189
GS0037	-1776377.312	1381101.483	370.9155049
GS0047	-1759543.534	1358538.026	208.1583605
GS0049	-1759474.235	1358505.16	207.5883745
GS0056	-1758180.418	1346672.691	309.2508761
GS0059	-1758239.437	1346730.604	310.0371676
GS0061	-1751673.801	1349691.918	163.5294329
GS0064	-1744743.572	1349051.52	116.2913213
GS0067	-1730450.873	1343523.905	119.3036665
GS0079	-1730327.062	1344155.246	120.6184929
GS0081	-1730389.216	1344087.639	120.4035236
GS0086	-1730374.252	1335286.696	156.7044651
GS0088	-1731739.751	1331103.874	177.8006994
GS0093	-1739114.15	1329594.759	239.6757899

GS0095	-1745269.348	1327836.494	303.6679675
GS0100	-1715013.138	1342988.772	123.0154597
GS0104	-1715697.897	1350143.974	155.7758816
GS0105	-1715700.215	1350178.644	155.8553153
GS0109	-1755186.444	1336410.784	360.9213193
GS0110	-1755164.29	1336397.896	360.6104604
GS0114	-1747896.283	1338099.872	231.326458
GS0118	-1725134.593	1312571.972	193.2268395
GS0121	-1725069.246	1313121.721	176.5129743
GS0125	-1703736.7	1349567.656	134.0804668
GS0129	-1708212.427	1356981.853	190.0049156
GS0133	-1711990.371	1364027.803	241.2560506
GS0135	-1711963.982	1363999.898	241.6152584
GS0137	-1719620.587	1364105.735	247.2207551
GS0139	-1729667.428	1369779.9	253.1148367
GS0140	-1729685.047	1369797.447	253.5056115
GS0141	-1729699.748	1369813.73	253.5313801
GS0142	-1729693.162	1369835.527	253.6647195
GS0146	-1731540.339	1375729.133	322.4475144
GS0148	-1731539.372	1375675.975	321.5609
GS0151	-1722927.828	1366309.834	280.9201908
GS0152	-1712434.18	1340465.45	119.4322262

GS0004



Point ID: GS0004

Northing: 1363556.385 Meters

Easting: -1789070.309 Meters

Orthometric Height: 426.2571026 Meters

Latitude: 33° 40' 31.44064" N

Longitude: 115° 34' 06.45697" W

Ellipsoid Height: 393.6492 Meters

GS0006



Point ID: GS0006

Northing: 1364923.097 Meters

Easting: -1803339.611 Meters

Orthometric Height: 519.743571 Meters

Latitude: 33° 39' 40.16017" N

Longitude: 115° 43' 23.40183" W

Ellipsoid Height: 487.2127 Meters

GS0011



Point ID: GS0011

Northing: 1366865.191 Meters

Easting: -1796490.227 Meters

Orthometric Height: 422.793273 Meters

Latitude: 33° 41' 26.81196" N

Longitude: 115° 39' 16.94677" W

Ellipsoid Height: 390.2859 Meters

GS0013



Point ID: GS0013

Northing: 1364100.71 Meters

Easting: -1785832.559 Meters

Orthometric Height: 418.0456431 Meters

Latitude: 33° 41' 09.92741" N

Longitude: 115° 32' 06.87560" W

Ellipsoid Height: 385.4688 Meters

GS0015



Point ID: GS0015

Northing: 1366597.647 Meters

Easting: -1784981.534 Meters

Orthometric Height: 421.3444524 Meters

Latitude: 33° 42' 34.29513" N

Longitude: 115° 31' 54.22412" W

Ellipsoid Height: 388.8526 Meters

GS0018



Point ID: GS0018

Northing: 1366512.134 Meters

Easting: -1784972.813 Meters

Orthometric Height: 418.2205007 Meters

Latitude: 33° 42' 31.65487" N

Longitude: 115° 31' 53.20757" W

Ellipsoid Height: 385.7248 Meters

GS0020



Point ID: GS0020

Northing: 1368525.051 Meters

Easting: -1778437.477 Meters

Orthometric Height: 306.6506743 Meters

Latitude: 33° 44' 18.06587" N

Longitude: 115° 27' 58.93730" W

Ellipsoid Height: 274.1 Meters

GS0028



Point ID: GS0028

Northing: 1366498.793 Meters

Easting: -1770442.965 Meters

Orthometric Height: 209.3436775 Meters

Latitude: 33° 44' 06.41291" N

Longitude: 115° 22' 36.53923" W

Ellipsoid Height: 176.6222 Meters

GS0032



Point ID: GS0032

Northing: 1365345.58 Meters

Easting: -1772872.985 Meters

Orthometric Height: 254.8947189 Meters

Latitude: 33° 43' 14.15772" N

Longitude: 115° 24' 00.49953" W

Ellipsoid Height: 222.2145 Meters

GS0037



Point ID: GS0037

Northing: 1381101.483 Meters

Easting: -1776377.312 Meters

Orthometric Height: 370.9155049 Meters

Latitude: 33° 51' 08.32067" N

Longitude: 115° 28' 20.13951" W

Ellipsoid Height: 338.5862 Meters

GS0047



Point ID: GS0047

Northing: 1358538.026 Meters

Easting: -1759543.534 Meters

Orthometric Height: 208.1583605 Meters

Latitude: 33° 41' 06.03526" N

Longitude: 115° 14' 36.13380" W

Ellipsoid Height: 175.2948 Meters

GS0049



Point ID: GS0049

Northing: 1358505.16 Meters

Easting: -1759474.235 Meters

Orthometric Height: 207.5883745 Meters

Latitude: 33° 41' 05.44687" N

Longitude: 115° 14' 33.22087" W

Ellipsoid Height: 174.724 Meters

GS0056



Point ID: GS0056

Northing: 1346672.691 Meters

Easting: -1758180.418 Meters

Orthometric Height: 309.2508761 Meters

Latitude: 33° 35' 00.26232" N

Longitude: 115° 12' 10.79981" W

Ellipsoid Height: 276.3879 Meters

GS0059



Point ID: GS0059

Northing: 1346730.604 Meters

Easting: -1758239.437 Meters

Orthometric Height: 310.0371676 Meters

Latitude: 33° 35' 01.70911" N

Longitude: 115° 12' 13.51166" W

Ellipsoid Height: 277.1759 Meters

GS0061



Point ID: GS0061

Northing: 1349691.918 Meters

Easting: -1751673.801 Meters

Orthometric Height: 163.5294329 Meters

Latitude: 33° 37' 17.61519" N

Longitude: 115° 08' 25.42395" W

Ellipsoid Height: 130.5145 Meters

GS0064



Point ID: GS0064

Northing: 1349051.52 Meters

Easting: -1744743.572 Meters

Orthometric Height: 116.2913213 Meters

Latitude: 33° 37' 41.98612" N

Longitude: 115° 03' 55.09417" W

Ellipsoid Height: 83.2477 Meters

GS0067



Point ID: GS0067

Northing: 1343523.905 Meters

Easting: -1730450.873 Meters

Orthometric Height: 119.3036665 Meters

Latitude: 33° 36' 18.78407" N

Longitude: 114° 54' 04.94226" W

Ellipsoid Height: 86.3154 Meters

GS0079



Point ID: GS0079

Northing: 1344155.246 Meters

Easting: -1730327.062 Meters

Orthometric Height: 120.6184929 Meters

Latitude: 33° 36' 39.51891" N

Longitude: 114° 54' 05.07401" W

Ellipsoid Height: 87.6408 Meters

GS0081



Point ID: GS0081

Northing: 1344087.639 Meters

Easting: -1730389.216 Meters

Orthometric Height: 120.4035236 Meters

Latitude: 33° 36' 36.98715" N

Longitude: 114° 54' 06.93241" W

Ellipsoid Height: 87.4243 Meters

GS0086



Point ID: GS0086

Northing: 1335286.696 Meters

Easting: -1730374.252 Meters

Orthometric Height: 156.7044651 Meters

Latitude: 33° 31' 59.00874" N

Longitude: 114° 52' 58.49230" W

Ellipsoid Height: 123.696 Meters

GS0088



Point ID: GS0088

Northing: 1331103.874 Meters

Easting: -1731739.751 Meters

Orthometric Height: 177.8006994 Meters

Latitude: 33° 29' 38.14674" N

Longitude: 114° 53' 18.50226" W

Ellipsoid Height: 144.7965 Meters

GS0093



Point ID: GS0093

Northing: 1329594.759 Meters

Easting: -1739114.15 Meters

Orthometric Height: 239.6757899 Meters

Latitude: 33° 28' 03.43384" N

Longitude: 114° 57' 48.78555" W

Ellipsoid Height: 206.6416 Meters

GS0095



Point ID: GS0095

Northing: 1327836.494 Meters

Easting: -1745269.348 Meters

Orthometric Height: 303.6679675 Meters

Latitude: 33° 26' 28.48830" N

Longitude: 115° 01' 30.37881" W

Ellipsoid Height: 270.6546 Meters

GS0100



Point ID: GS0100

Northing: 1342988.772 Meters

Easting: -1715013.138 Meters

Orthometric Height: 123.0154597 Meters

Latitude: 33° 37' 39.75540" N

Longitude: 114° 44' 09.47969" W

Ellipsoid Height: 90.2336 Meters

GS0104



Point ID: GS0104

Northing: 1350143.974 Meters

Easting: -1715697.897 Meters

Orthometric Height: 155.7758816 Meters

Latitude: 33° 41' 21.54776" N

Longitude: 114° 45' 30.54633" W

Ellipsoid Height: 123.1137 Meters

GS0105



Point ID: GS0105

Northing: 1350178.644 Meters

Easting: -1715700.215 Meters

Orthometric Height: 155.8553153 Meters

Latitude: 33° 41' 22.62866" N

Longitude: 114° 45' 30.90109" W

Ellipsoid Height: 123.1937 Meters

GS0109



Point ID: GS0109

Northing: 1336410.784 Meters

Easting: -1755186.444 Meters

Orthometric Height: 360.9213193 Meters

Latitude: 33° 29' 55.55118" N

Longitude: 115° 08' 56.03803" W

Ellipsoid Height: 328.0151 Meters

GS0110



Point ID: GS0110

Northing: 1336397.896 Meters

Easting: -1755164.29 Meters

Orthometric Height: 360.6104604 Meters

Latitude: 33° 29' 55.28709" N

Longitude: 115° 08' 55.09066" W

Ellipsoid Height: 327.7041 Meters

GS0114



Point ID: GS0114

Northing: 1338099.872 Meters

Easting: -1747896.283 Meters

Orthometric Height: 231.326458 Meters

Latitude: 33° 31' 35.83872" N

Longitude: 115° 04' 30.49295" W

Ellipsoid Height: 198.3276 Meters

GS0118



Point ID: GS0118

Northing: 1312571.972 Meters

Easting: -1725134.593 Meters

Orthometric Height: 193.2268395 Meters

Latitude: 33° 20' 34.33970" N

Longitude: 114° 46' 43.94416" W

Ellipsoid Height: 160.0614 Meters

GS0121



Point ID: GS0121

Northing: 1313121.721 Meters

Easting: -1725069.246 Meters

Orthometric Height: 176.5129743 Meters

Latitude: 33° 20' 52.13283" N

Longitude: 114° 46' 45.65155" W

Ellipsoid Height: 143.3526 Meters

GS0125



Point ID: GS0125

Northing: 1349567.656 Meters

Easting: -1703736.7 Meters

Orthometric Height: 134.0804668 Meters

Latitude: 33° 42' 18.66881" N

Longitude: 114° 37' 47.36914" W

Ellipsoid Height: 101.52 Meters

GS0129



Point ID: GS0129

Northing: 1356981.853 Meters

Easting: -1708212.427 Meters

Orthometric Height: 190.0049156 Meters

Latitude: 33° 45' 44.84990" N

Longitude: 114° 41' 35.72866" W

Ellipsoid Height: 157.5728 Meters

GS0133



Point ID: GS0133

Northing: 1364027.803 Meters

Easting: -1711990.371 Meters

Orthometric Height: 241.2560506 Meters

Latitude: 33° 49' 03.66270" N

Longitude: 114° 44' 54.79306" W

Ellipsoid Height: 208.9693 Meters

GS0135



Point ID: GS0135

Northing: 1363999.898 Meters

Easting: -1711963.982 Meters

Orthometric Height: 241.6152584 Meters

Latitude: 33° 49' 02.94768" N

Longitude: 114° 44' 53.56525" W

Ellipsoid Height: 209.3276 Meters

GS0137



Point ID: GS0137

Northing: 1364105.735 Meters

Easting: -1719620.587 Meters

Orthometric Height: 247.2207551 Meters

Latitude: 33° 48' 17.83347" N

Longitude: 114° 49' 48.41802" W

Ellipsoid Height: 214.8453 Meters

GS0139



Point ID: GS0139

Northing: 1369779.9 Meters

Easting: -1729667.428 Meters

Orthometric Height: 253.1148367 Meters

Latitude: 33° 50' 13.13385" N

Longitude: 114° 56' 58.10459" W

Ellipsoid Height: 220.7176 Meters

GS0140



Point ID: GS0140

Northing: 1369797.447 Meters

Easting: -1729685.047 Meters

Orthometric Height: 253.5056115 Meters

Latitude: 33° 50' 13.57555" N

Longitude: 114° 56' 58.91739" W

Ellipsoid Height: 221.109 Meters

GS0141



Point ID: GS0141

Northing: 1369813.73 Meters

Easting: -1729699.748 Meters

Orthometric Height: 253.5313801 Meters

Latitude: 33° 50' 13.99597" N

Longitude: 114° 56' 59.60830" W

Ellipsoid Height: 221.1355 Meters

GS0142



Point ID: GS0142

Northing: 1369835.527 Meters

Easting: -1729693.162 Meters

Orthometric Height: 253.6647195 Meters

Latitude: 33° 50' 14.72637" N

Longitude: 114° 56' 59.52458" W

Ellipsoid Height: 221.2693 Meters

GS0146



Point ID: GS0146

Northing: 1375729.133 Meters

Easting: -1731540.339 Meters

Orthometric Height: 322.4475144 Meters

Latitude: 33° 53' 09.04005" N

Longitude: 114° 58' 56.27331" W

Ellipsoid Height: 290.1962 Meters

GS0148



Point ID: GS0148

Northing: 1375675.975 Meters

Easting: -1731539.372 Meters

Orthometric Height: 321.5609 Meters

Latitude: 33° 53' 07.36768" N

Longitude: 114° 58' 55.82261" W

Ellipsoid Height: 289.308 Meters

GS0151



Point ID: GS0151

Northing: 1366309.834 Meters

Easting: -1722927.828 Meters

Orthometric Height: 280.9201908 Meters

Latitude: 33° 49' 06.45943" N

Longitude: 114° 52' 12.42242" W

Ellipsoid Height: 248.551 Meters

Vegetated Vertical Accuracy Checkpoints Medium Vegetation

The Map shows the overall distribution of the Vegetated Vertical Accuracy Checkpoint, Medium Vegetation throughout the AOI. The following tables contain a list of the control using Easting, Northing, and Orthometric height. The coordinate system displayed is Albers Equal Area, North American Datum 1983 (2011), North American Vertical Datum of 1988, Geoid12B and using Meters for measurement.

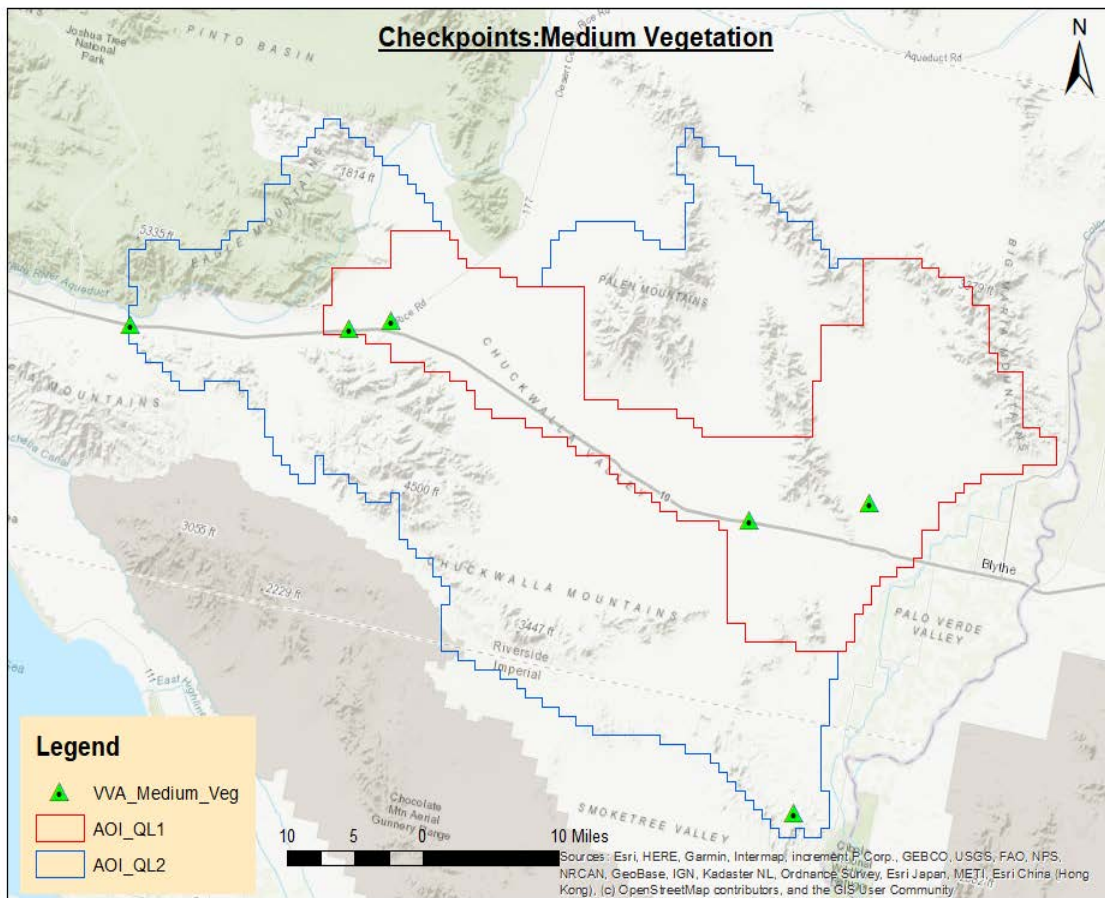


TABLE: Medium Vegetation

Point ID	Easting	Northing	Ortho
GS0007	-1803728.192	1364991.806	517.0231106
GS0022	-1777816.062	1364521.406	340.4787909
GS0033	-1772855.123	1365375.512	254.180127
GS0083	-1730299.833	1343960.915	120.4948311
GS0102	-1716059.271	1345797.629	145.9123916
GS0119	-1725128.643	1312608.153	191.8894684

GS0007



Point ID: GS0007

Northing: 1364991.806 Meters

Easting: -1803728.192 Meters

Orthometric Height: 517.0231106 Meters

Latitude: 33° 39' 39.74630" N

Longitude: 115° 43' 38.81939" W

Ellipsoid Height: 484.4937 Meters

GS0022



Point ID: GS0022

Northing: 1364521.406 Meters

Easting: -1777816.062 Meters

Orthometric Height: 340.4787909 Meters

Latitude: 33° 42' 15.81853" N

Longitude: 115° 27' 03.28770" W

Ellipsoid Height: 307.8814 Meters

GS0033



Point ID: GS0033

Northing: 1365375.512 Meters

Easting: -1772855.123 Meters

Orthometric Height: 254.180127 Meters

Latitude: 33° 43' 15.21891" N

Longitude: 115° 24' 00.05263" W

Ellipsoid Height: 221.5003 Meters

GS0083



Point ID: GS0083

Northing: 1343960.915 Meters

Easting: -1730299.833 Meters

Orthometric Height: 120.4948311 Meters

Latitude: 33° 36' 33.55264" N

Longitude: 114° 54' 02.53128" W

Ellipsoid Height: 87.515 Meters

GS0102



Point ID: GS0102

Northing: 1345797.629 Meters

Easting: -1716059.271 Meters

Orthometric Height: 145.9123916 Meters

Latitude: 33° 39' 01.91637" N

Longitude: 114° 45' 11.08143" W

Ellipsoid Height: 113.1809 Meters

GS0119



Point ID: GS0119

Northing: 1312608.153 Meters

Easting: -1725128.643 Meters

Orthometric Height: 191.8894684 Meters

Latitude: 33° 20' 35.52117" N

Longitude: 114° 46' 43.99355" W

Ellipsoid Height: 158.7243 Meters

Vegetated Vertical Accuracy Checkpoints High Vegetation

The Map shows the overall distribution of the Vegetated Vertical Accuracy Checkpoint, High Vegetation throughout the AOI. The following tables contain a list of the control using Easting, Northing, and Orthometric height. The coordinate system displayed is Albers Equal Area, North American Datum 1983 (2011), North American Vertical Datum of 1988, Geoid12B and using Meters for measurement.

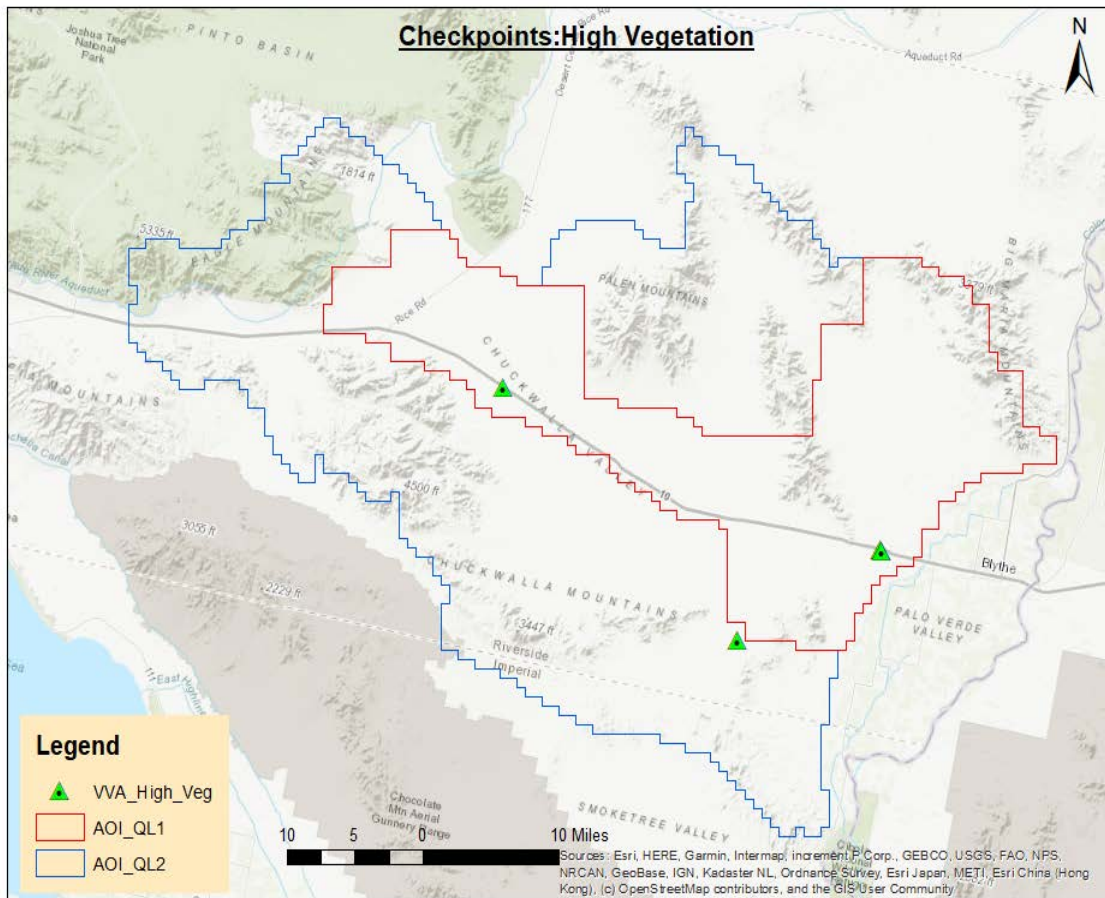


TABLE: High Vegetation

Point ID	Easting	Northing	Ortho
GS0052	-1759634.69	1358078.467	215.4430081
GS0071	-1714765.178	1340679.663	119.0413549
GS0074	-1714714.265	1340589.509	119.3316985
GS0090	-1731757.878	1331038.042	178.2861648

GS0052



Point ID: GS0052

Northing: 1358078.467 Meters

Easting: -1759634.69 Meters

Orthometric Height: 215.4430081 Meters

Latitude: 33° 40' 50.93741" N

Longitude: 115° 14' 36.01146" W

Ellipsoid Height: 182.5828 Meters

GS0071



Point ID: GS0071

Northing: 1340679.663 Meters

Easting: -1714765.178 Meters

Orthometric Height: 119.0413549 Meters

Latitude: 33° 36' 28.34202" N

Longitude: 114° 43' 42.31187" W

Ellipsoid Height: 86.222 Meters

GS0074



Point ID: GS0074

Northing: 1340589.509 Meters

Easting: -1714714.265 Meters

Orthometric Height: 119.3316985 Meters

Latitude: 33° 36' 25.81395" N

Longitude: 114° 43' 39.67191" W

Ellipsoid Height: 86.5107 Meters

GS0090



Point ID: GS0090

Northing: 1331038.042 Meters

Easting: -1731757.878 Meters

Orthometric Height: 178.2861648 Meters

Latitude: 33° 29' 35.95111" N

Longitude: 114° 53' 18.68840" W

Ellipsoid Height: 145.2829 Meters