



January 21, 2022

Survey Report of
LiDAR Calibration & Quality Control Points

USGS Contract: G16PC00016

AZ_PimaCounty_2020_D21

USGS Task Order: 140G0221F0219

Presented to:



Presented By:



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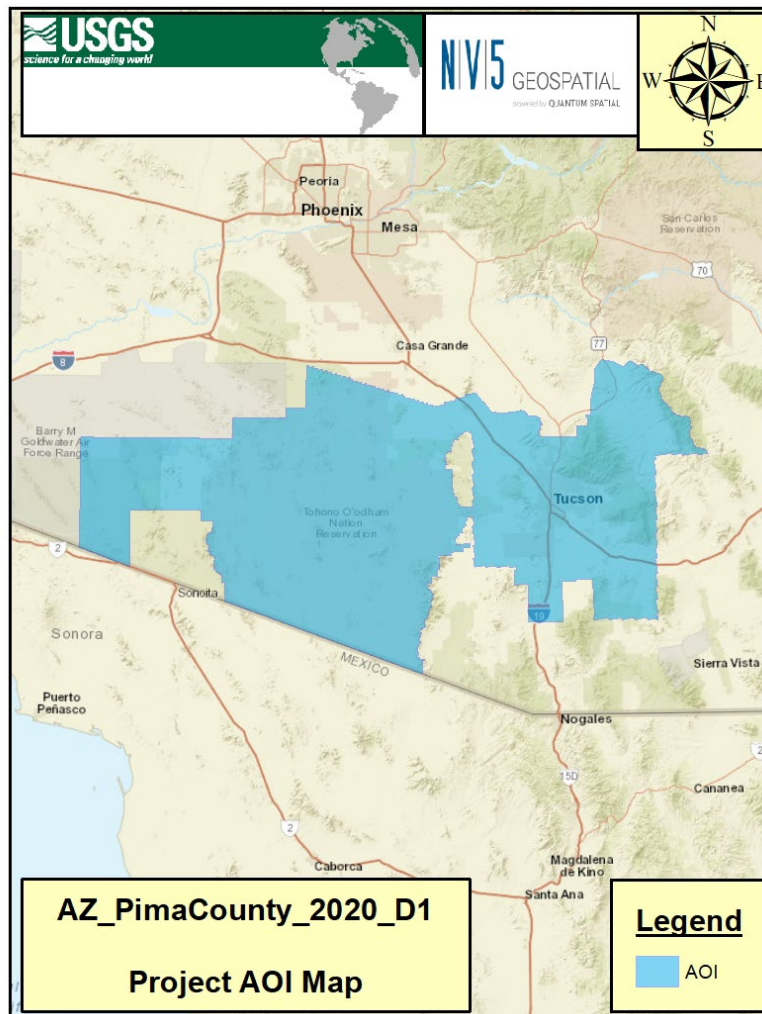
- **VVA – FOREST POINTS.....235**
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Introduction

NV5 Geospatial, Inc. was contracted by USGS under task order 140G0221F0219 to survey LiDAR calibration and quality control points in support of the AZ_PimaCounty_2020_D21 project. The project consisted of 9,051 square miles in Graham, Maricopa, Pima, and Pinal Counties, Arizona. This is the report of the technical approach used and detail of each point surveyed. A portion of the ground survey was subcontracted to FGS-Surveyors and included in this report.

Project Area

The Project Area, shown in the figure below, consist of approximately 9,051 square miles.



Technical Approach to Land Cover Validation Point Selection

Referencing ASPRS Positional Accuracy Standards for Digital Geospatial Data (Edition 1, Version 1.0, - November, 2014) table C.1 Recommended Number of Checkpoints based on Area, NV5 Geospatial calculated the total number of checkpoints required for the entire project area. It was determined that 181 Non-Vegetated Vertical Accuracy (NVA) and 129 Vegetated Vertical Accuracy (VVA) points were required for the project area.

To ensure that checkpoints were distributed generally proportionate among the various vegetated land cover types, NV5 Geospatial used existing USGS Land Cover data to divide both the NVA and VVA categories among the various types, calculating the approximate number of required points in each representative type proportionate to the total project area. The resulting point classes are detailed below:

NVA Class	# of Points	VVA Class	# of Points
Bare Earth	162	Forested	10
Urban Area	29	Tall Weeds/Crops	10
		Brushland	118

NV5 Geospatial has adopted the philosophy that each vegetative class must be well distributed throughout the project area. While points in varying classes may be near to one another, points of a single vegetative class may not. Proposed point locations are selected with this distribution methodology in mind; however, access to the entire AOI limited the distribution.

Survey Accuracy Requirements

Given that the survey accuracy of calibration and quality control check points should be 3 times more accurate than the required accuracy of the data set, NV5 Geospatial requires that calibration and NVA points are better than 3 centimeters RMSE, both horizontally and vertically, and that VVA points be better than 5 centimeters RMSE, both horizontally and vertically. The surveyed accuracy of each point must be determined through redundant measurements and/or network adjustment using procedures and methodologies that reliably and consistently result in the aforementioned accuracies.

Due to variances in reference control accuracy and adjustment, NV5 Geospatial requires that the survey methodology used be explained, so that it can be repeated if necessary.

Field Survey Methodology

Date Range: July 2, 2021 – December 18, 2021

Equipment Used:

Field crews used Trimble R7, R8, R10, and R12 dual frequency GNSS receivers as base stations and rovers.

GNSS Methodology:

A combination of RTK, RTN, and static GNSS surveying methods were used during this project. The Leica Smartnet RTN network was used where assessable. Where GNSS network or cellular data coverage didn't exist, one of two methods was used. Either temporary marks were established and used as base stations for radio RTK surveys or Trimble CenterPoint RTX was used. The data was downloaded, and baselines processed to temporary mark base stations and existing NGS stations. Coordinates for the temporary marks were derived with the NGS OPUS-Projects program using multiple sessions of data for each station. The permanent RTN station positions and existing NGS stations were also checked with the OPUS program. Additional NGS and OPUS control points were located with Trimble CenterPoint RTX. The network was adjusted holding the RTN, existing NGS stations, and temporary mark stations as control referenced to NGS NSRS.

All the GNSS and conventional information was downloaded, processed, and analyzed using Trimble Business Center processing software. A network was formed and adjusted.

Overall Project Accuracy Statement

All point coordinates have been reported in the North American Datum of 1983 (2011). Arizona State Plane – Central Zone coordinates in international feet horizontally. Elevations are relative to the North American Vertical Datum of 1988 (NAVD 88) which were derived using the Geoid 18 model and are reported in international feet.

Calibration Points

Average Horizontal RMSE is 0.02 ift.
Average Elevation RMSE is 0.05 ift.
Average 3 dimensional RMSE is 0.05 ift.

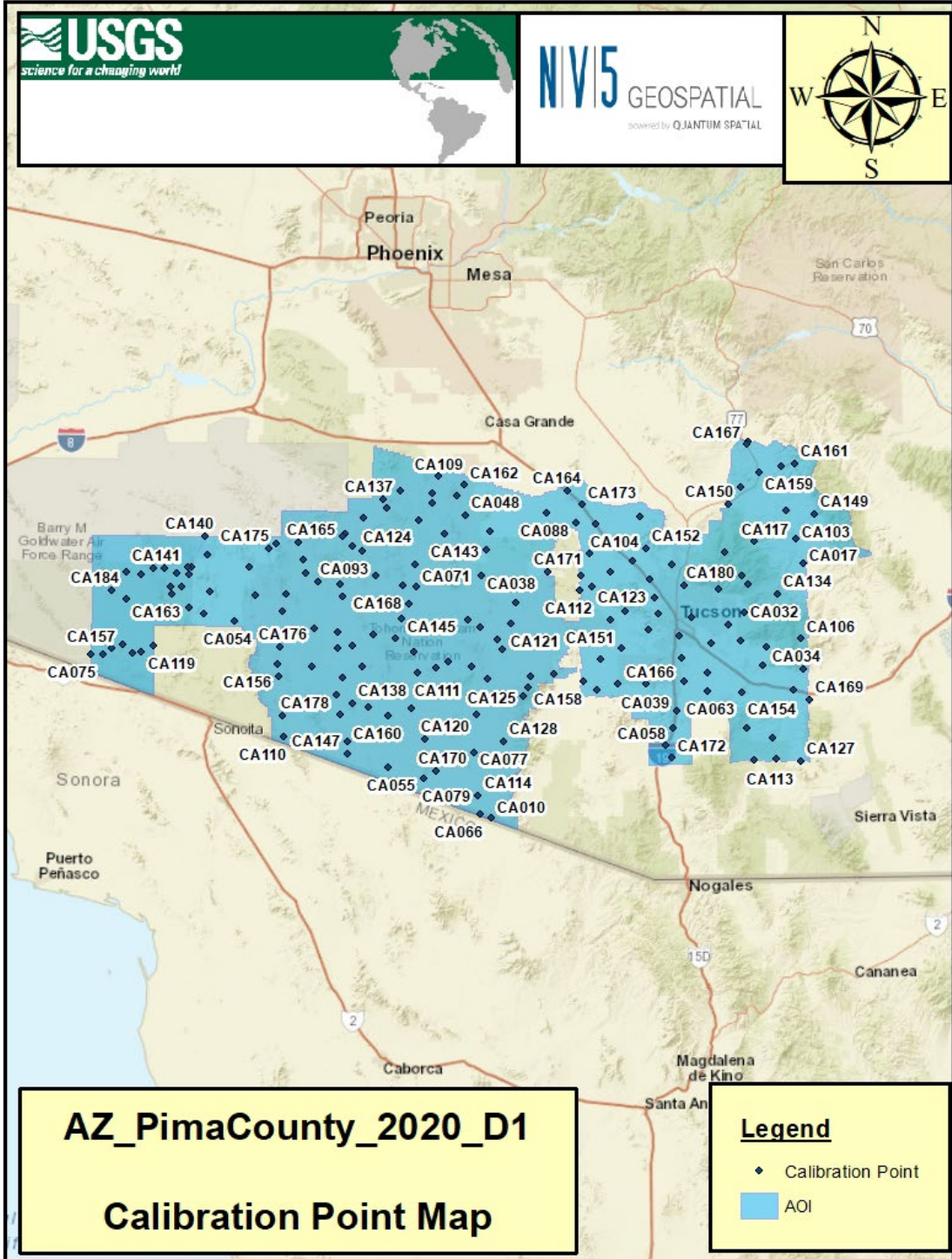
NVA Points

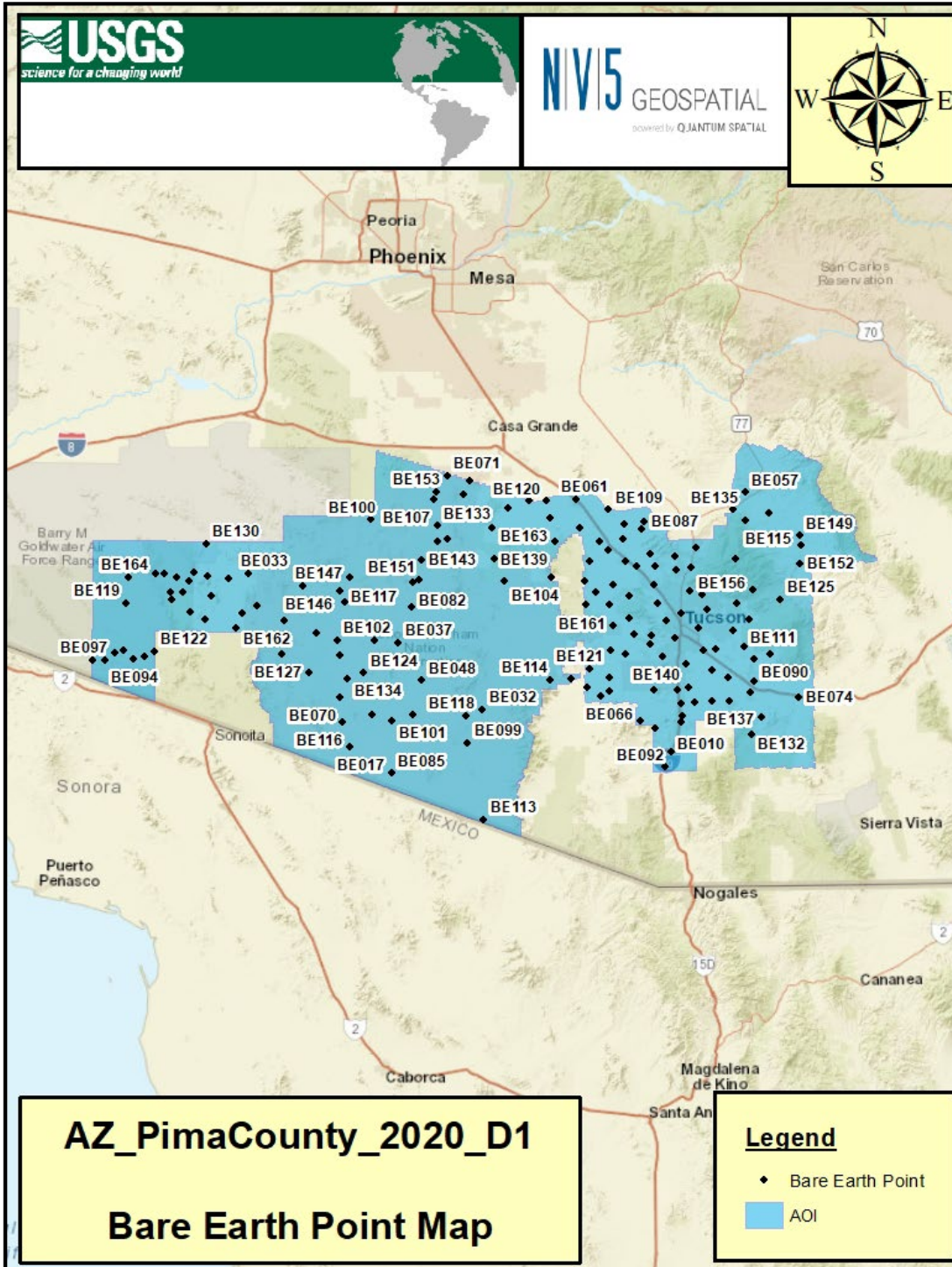
Average Horizontal RMSE is 0.01 ift.
Average Elevation RMSE is 0.04 ift.
Average 3 dimensional RMSE is 0.04 ift.

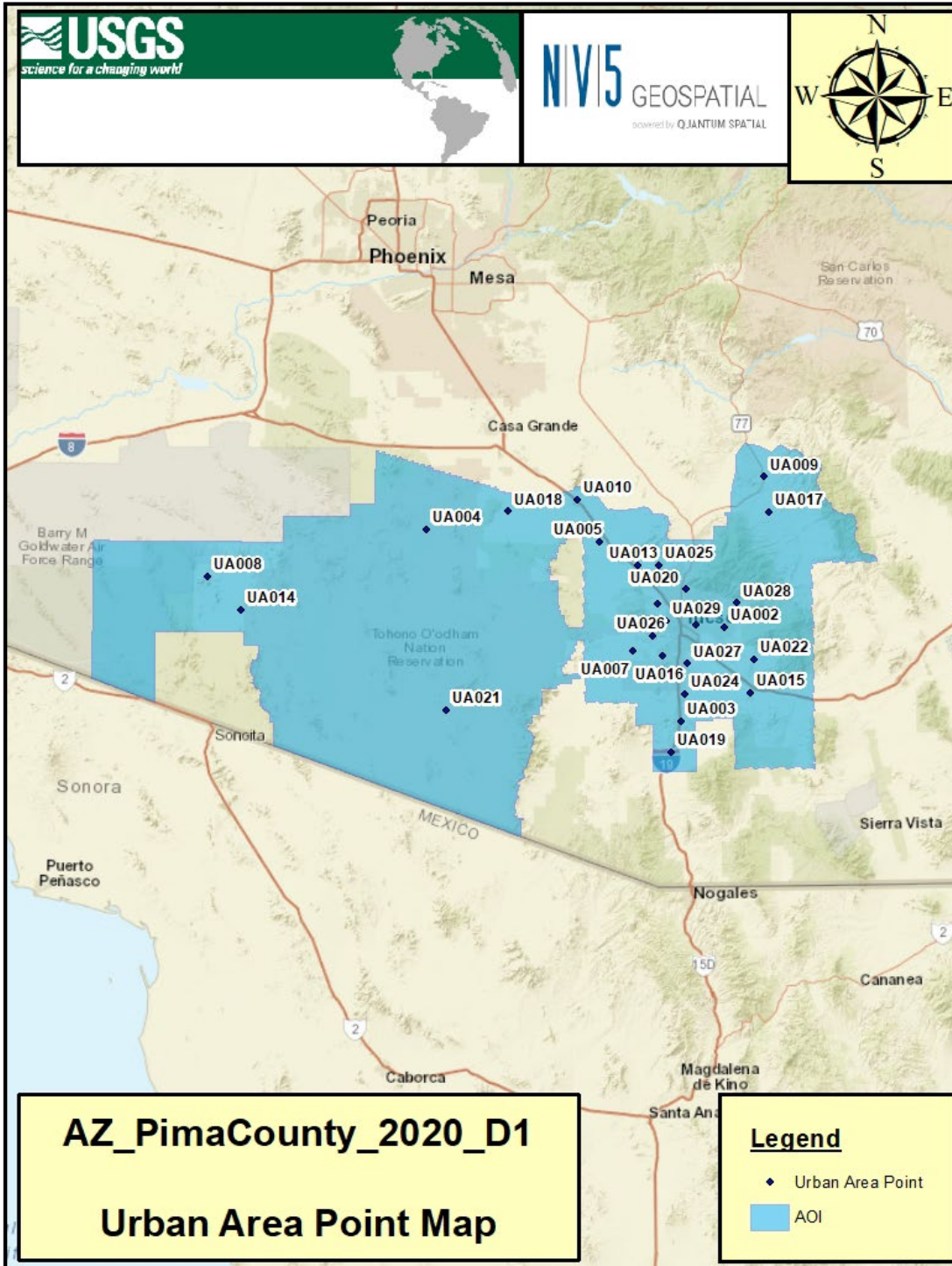
VVA Points

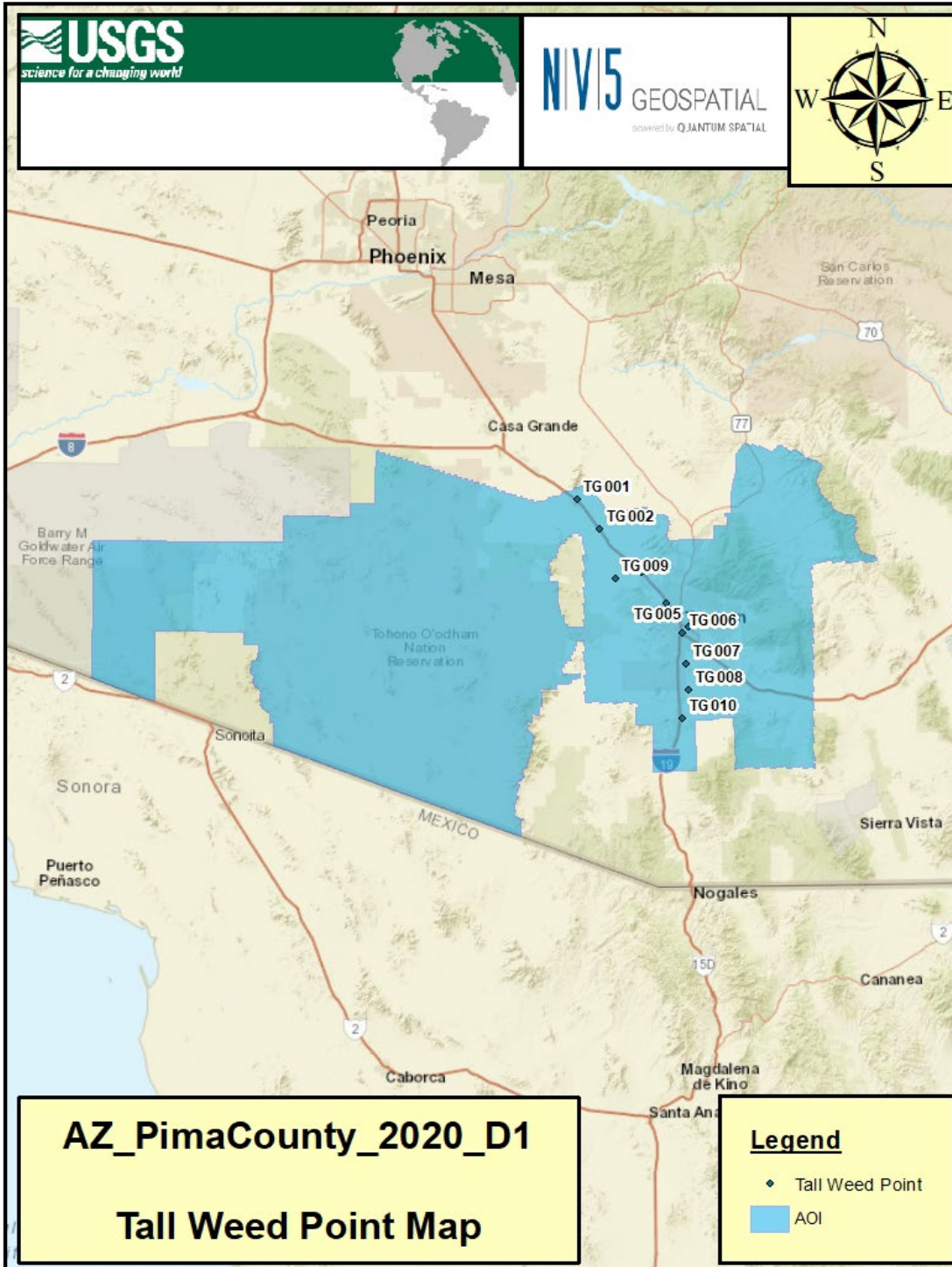
Average Horizontal RMSE is 0.02 ift.
Average Elevation RMSE is 0.05 ift.
Average 3 dimensional RMSE is 0.05 ift.

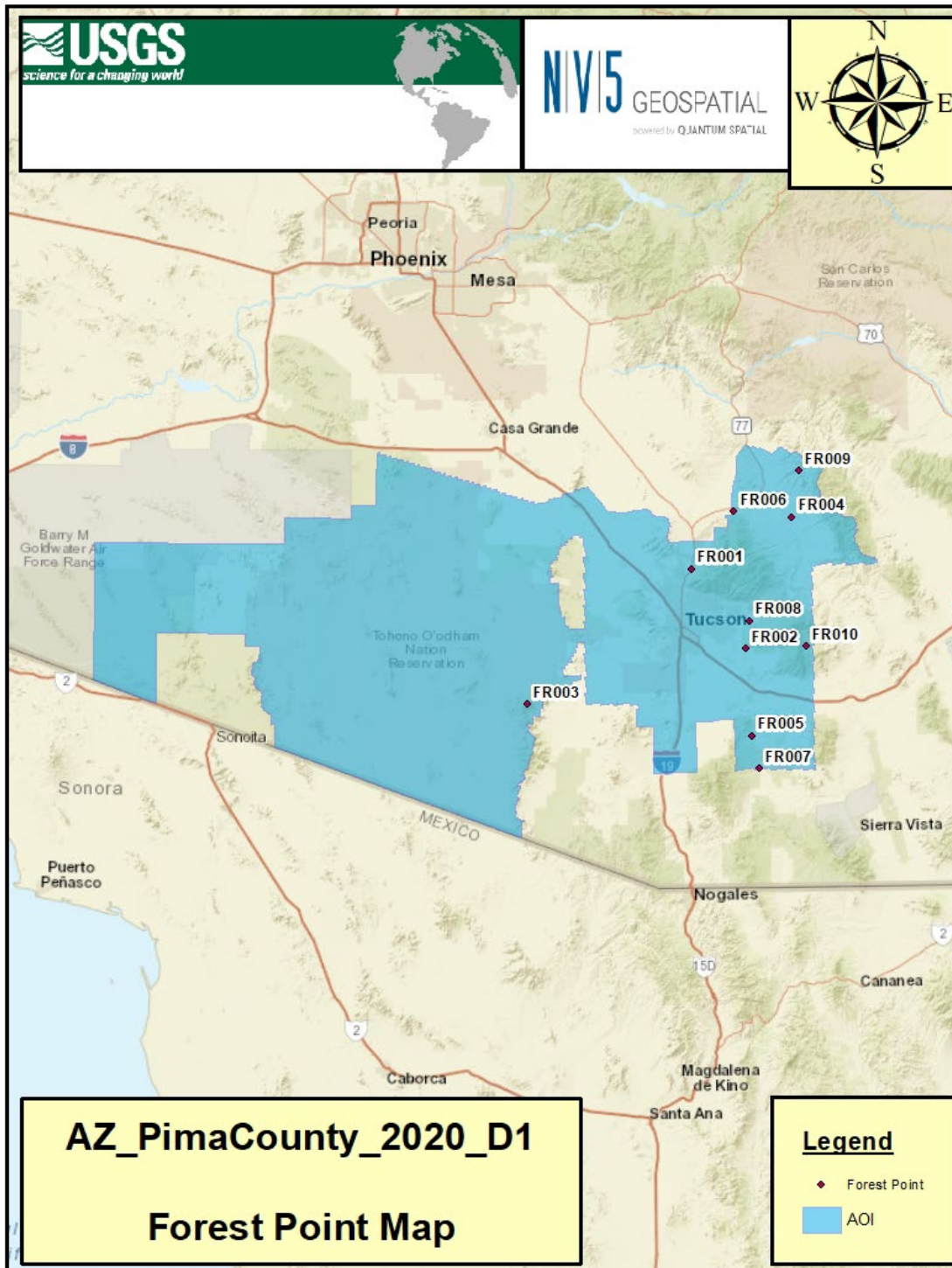
PROJECT AOI & POINT LOCATION MAPS

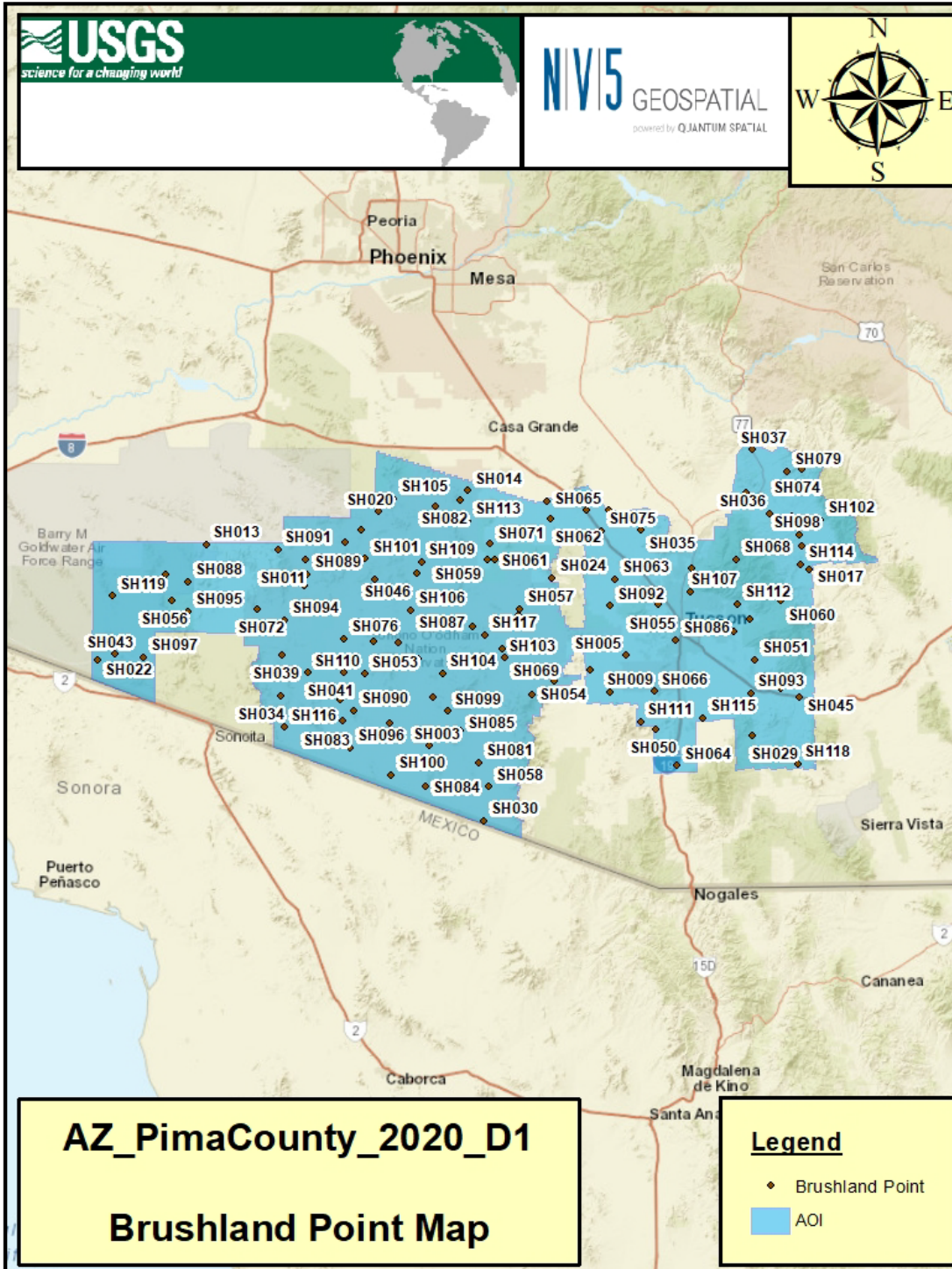












FINAL POINT COORDINATES

CALIBRATION POINT COORDINATES

Horizontal Datum - NAD83(2011)
ARIZONA STATE PLANE - CENTRAL ZONE
Vertical Datum - NAVD 88
Geoid - GEOID18
Units – International Feet

Point ID	Northing (ift)	Easting (ift)	Elev. (ift)
CA001	444190.09	730799.23	2219.75
CA002	298718.70	1109446.65	4379.80
CA003	271382.83	1113815.63	4573.88
CA004	452428.65	401674.38	1582.41
CA005	310692.97	985920.29	2914.07
CA006	435155.21	745439.44	2347.41
CA007	601921.73	685194.83	1556.99
CA008	508904.41	351769.51	1324.87
CA009	358240.54	891306.38	3287.76
CA010	198502.22	758402.44	2694.09
CA011	413919.98	299758.68	1006.99
CA012	375194.76	493981.55	2192.19
CA013	578211.07	828320.44	1713.65
CA014	599898.03	715942.23	1610.30
CA015	488715.75	1078594.59	4354.95
CA016	383494.78	1147112.70	4254.83
CA017	515792.23	1147886.01	2913.29
CA018	326437.37	740506.27	2629.36
CA019	413138.16	338217.96	1103.22
CA020	564945.44	888747.95	1901.97
CA021	334971.08	659036.97	2036.45
CA022	580519.87	1125996.21	2652.99
CA023	378330.84	837534.12	2826.87
CA024	590204.09	685446.83	1566.24
CA025	502929.08	527708.60	2227.13
CA026	408353.17	772253.24	2521.65
CA027	454869.56	926411.84	2665.85
CA028	554658.34	757111.89	1646.62
CA029	331585.18	990566.24	2806.00

CA030	460502.12	383520.06	1677.03
CA031	434609.99	538775.08	1975.98
CA032	453593.49	1073951.65	2673.92
CA033	368696.51	874357.51	2742.88
CA034	410851.57	1101707.55	3204.95
CA035	350931.27	567048.09	1774.90
CA036	499928.76	1070476.16	6597.67
CA037	421962.17	639696.10	2445.31
CA038	500054.65	746341.52	1819.93
CA038a	466874.20	789909.16	2024.34
CA039	364744.22	917083.78	3588.06
CA040	410301.51	568016.48	1959.35
CA041	511049.98	386623.43	1618.54
CA042	605982.27	646613.54	1968.24
CA043	357169.26	1135852.08	3859.74
CA044	482622.97	1041646.91	2785.12
CA045	473948.65	573548.87	2042.49
CA046	372639.65	574602.03	1865.58
CA047	402466.34	276534.35	917.55
CA048	574845.64	726462.32	1567.85
CA049	492401.71	543637.76	2246.98
CA050	471841.40	961855.86	2351.64
CA051	568662.31	669502.96	1675.16
CA052	499606.56	614677.45	2149.25
CA053	326482.24	571075.36	1768.73
CA054	442910.59	439850.90	1745.28
CA055	261254.05	630767.62	2113.85
CA056	393054.04	706264.83	2733.04
CA057	374462.56	808034.85	3200.98
CA058	288382.47	976053.39	3026.77
CA059	310720.03	1076720.68	4497.38
CA060	572746.71	944230.88	2771.69
CA061	510364.36	457724.07	1796.92
CA063	355841.77	1028009.37	2871.10
CA064	465488.17	656225.23	1928.25
CA065	528807.80	1050396.20	8346.46
CA066	203426.11	745966.81	2554.36
CA067	486099.78	373646.43	1648.03
CA068	485682.00	359209.30	1470.70
CA069	432333.34	955091.79	2634.61

CA070	551737.59	576897.12	2255.41
CA071	486683.31	665739.53	1781.14
CA072	480548.56	408436.63	1820.93
CA073	476865.06	361278.13	1524.15
CA074	397904.80	996836.48	2591.11
CA075	402677.88	261039.10	810.20
CA076	609552.79	1069313.28	3605.54
CA077	279640.08	737705.82	2541.67
CA078	388696.05	1097116.24	3688.91
CA079	247486.30	674302.21	2335.27
CA080	378364.91	1027925.24	2838.32
CA081	349608.14	798617.99	6784.28
CA082	511192.55	381965.71	1546.36
CA083	335947.97	606536.19	1849.87
CA084	536606.79	586205.47	2216.60
CA085	500495.00	870996.07	2051.87
CA086	486179.04	883876.73	2068.96
CA087	416240.94	1033358.45	2787.14
CA088	565819.32	865131.71	1820.77
CA089	454898.60	499275.50	2115.62
CA090	504863.82	908098.30	2004.92
CA091	408993.04	921363.12	2443.64
CA092	532386.15	753247.53	1710.14
CA093	530367.06	599115.02	2247.31
CA094	395884.11	894619.10	2534.65
CA094a	395873.91	894628.22	2535.40
CA095	667153.20	1078934.51	2322.01
CA096	326044.71	631180.17	1902.56
CA097	424362.03	993416.90	2483.59
CA098	368259.20	999451.54	2652.36
CA099	403555.26	313003.91	1074.02
CA100	385744.67	690207.33	2482.05
CA101	513013.15	663784.52	1714.96
CA102	386640.29	597961.84	2117.85
CA103	545842.29	1138678.40	2776.48
CA104	526845.79	881008.55	1914.49
CA105	500922.65	382287.63	1715.98
CA106	421493.28	1144479.76	4203.05
CA107	418228.06	1069229.12	2919.88
CA108	386179.61	535289.04	1942.03

CA109	623455.72	692800.96	1463.52
CA110	299878.76	500326.33	1751.57
CA111	379476.64	667916.41	2143.60
CA112	482067.58	869390.94	2094.85
CA113	269846.15	1086446.14	4736.52
CA114	226065.50	743040.45	2480.25
CA115	405881.16	662348.89	2151.25
CA116	427166.25	612171.59	2596.82
CA117	542035.10	1085776.56	4278.68
CA118	636257.98	1119953.81	3830.15
CA119	405540.57	323205.57	1049.90
CA120	296825.21	677238.96	2088.45
CA121	440606.44	784003.11	2191.93
CA122	489428.64	571589.87	2135.99
CA123	495879.92	956279.93	2159.71
CA124	571187.93	600811.70	2107.35
CA125	370885.26	755125.54	2828.61
CA126	430259.30	567986.72	1982.45
CA127	269697.76	1144735.54	4974.61
CA128	294043.70	774244.66	3054.40
CA129	519015.00	934369.70	2047.44
CA130	525750.97	405675.27	1471.92
CA131	540344.20	490873.27	2627.49
CA132	583698.27	629720.64	2236.88
CA133	451945.74	967422.58	2560.38
CA134	477716.68	1114762.95	4353.38
CA135	519734.52	524835.31	2271.72
CA136	412563.39	586663.05	2148.39
CA137	594963.31	624471.12	2076.80
CA138	341206.44	585854.18	1864.60
CA139	419763.12	766249.11	2417.65
CA140	548714.71	402694.31	1314.01
CA141	508968.49	339167.73	1487.63
CA142	474754.51	465188.92	1929.66
CA143	551604.95	701296.96	1726.54
CA144	447424.72	1008224.43	2503.12
CA145	446780.09	647075.44	2131.10
CA146	503777.69	366888.58	1487.50
CA147	278531.03	580379.86	1761.35
CA148	438583.97	1054469.56	2868.57

CA149	577077.74	1161871.73	3972.60
CA150	588580.13	1054792.34	4476.64
CA151	444403.46	907819.60	2257.45
CA152	534240.97	952401.05	2683.79
CA153	549234.62	573894.61	2265.85
CA154	354912.30	1070553.32	3529.64
CA155	514079.42	983979.53	2713.85
CA156	389947.08	493270.60	2196.92
CA157	409308.98	286531.70	1013.48
CA158	360505.73	804646.66	3794.49
CA159	628787.90	1092450.63	2351.44
CA160	293800.84	580452.52	1764.67
CA161	639598.55	1137140.94	3643.57
CA162	612494.61	725558.02	1473.88
CA163	470906.45	304944.11	851.94
CA164	605805.33	853552.17	1749.18
CA165	541101.58	519623.59	2399.87
CA166	364864.30	951351.97	3442.95
CA167	663055.17	1076689.06	2216.70
CA168	488004.83	648644.55	1875.82
CA169	345708.20	1154987.11	4307.45
CA170	256747.87	689830.49	2331.56
CA171	504620.14	829613.13	2666.21
CA172	273275.70	983892.35	3136.22
CA173	588032.79	872198.25	1815.72
CA175	533581.07	482415.12	2426.77
CA176	411403.60	495961.73	2265.65
CA178	326320.42	498372.91	1912.30
CA179	477651.03	503646.29	2219.19
CA180	487731.29	999710.83	2757.19
CA181	386637.18	734600.74	3216.11
CA182	501693.13	323347.52	883.23
CA183	504719.54	305376.65	756.99
CA184	481746.30	286384.16	971.98

BARE EARTH POINT COORDINATES

Horizontal Datum - NAD83(2011)
ARIZONA STATE PLANE - CENTRAL ZONE
Vertical Datum - NAVD 88
Geoid - GEOID18
Units – International Feet

Point ID	Northing (ift)	Easting (ift)	Elev. (ift)
BE001	349211.98	989397.99	2818.31
BE002	486212.52	883834.16	2068.21
BE003	623205.13	729151.04	1490.78
BE004	332638.26	991047.81	2800.82
BE005	503982.27	580183.23	2157.09
BE006	453107.37	1074138.34	2669.03
BE007	495956.56	956243.55	2162.60
BE008	317627.96	958359.62	3566.67
BE009	441239.65	1011305.30	2513.75
BE010	288721.31	977137.04	2985.60
BE012	422238.30	951325.65	2501.57
BE013	365146.46	985897.72	2794.32
BE014	497935.72	658534.36	1797.28
BE015	494962.19	905524.43	2045.87
BE016	326324.14	989439.87	2828.97
BE017	294787.65	580345.50	1766.01
BE018	416204.02	1033552.52	2789.34
BE020	584614.61	1099298.33	3328.05
BE021	465157.23	1021960.11	2486.75
BE022	426802.03	610769.60	2563.52
BE023	375629.78	1080245.66	3337.80
BE024	514253.69	984086.27	2712.20
BE025	379081.21	853918.77	2702.26
BE026	481622.95	408289.49	1845.44
BE027	364882.78	955905.85	3370.14
BE028	519044.39	958158.13	2544.19
BE029	487789.57	1000219.69	2772.38
BE030	488701.55	1078667.91	4359.91
BE031	565492.75	756691.64	1613.19

BE032	341311.58	744365.91	2648.59
BE033	509769.26	455379.89	1774.84
BE034	538920.14	899295.08	1924.34
BE035	331854.22	1089302.83	3999.38
BE036	438644.39	1053914.17	2853.64
BE037	423874.18	640241.01	2414.90
BE038	485579.21	359116.88	1470.41
BE039	334868.70	607463.60	1850.16
BE040	428949.58	982773.43	2417.22
BE041	433285.03	953636.82	2640.42
BE042	409325.69	1100602.58	3237.60
BE043	470502.12	901636.43	2146.16
BE044	410728.20	289115.95	1002.53
BE045	476994.92	360666.80	1523.62
BE046	459890.00	990050.95	2336.71
BE047	548870.38	689144.59	1598.98
BE048	377253.43	669436.04	2150.26
BE049	590096.75	775364.61	1568.60
BE050	504297.46	365463.90	1468.67
BE051	357922.91	891305.36	3292.95
BE052	469098.76	465876.95	1951.28
BE053	599247.75	823813.79	1655.97
BE054	368970.01	874517.16	2739.11
BE055	408588.42	568354.93	1958.63
BE056	462390.88	382102.59	1669.95
BE057	609472.46	1069266.35	3610.89
BE058	407155.45	325840.95	1047.57
BE059	380129.26	1048795.66	3029.00
BE060	486137.04	373639.07	1647.70
BE061	600841.35	860808.94	1777.30
BE063	541135.20	1009045.38	3077.95
BE064	527344.93	1056646.22	7773.72
BE065	334369.17	658444.76	2034.65
BE066	327792.98	939076.99	4163.62
BE067	548449.31	888800.32	1899.05
BE068	500375.59	870910.68	2051.71
BE069	433738.71	932023.21	2423.56
BE070	355834.14	568334.18	1782.48
BE071	629739.08	700338.45	1409.65
BE072	569633.67	919238.89	2291.08

BE073	472828.25	1058984.90	2753.18
BE074	356864.49	1135918.78	3856.27
BE075	510940.77	387253.26	1630.45
BE076	523714.60	877669.30	1932.91
BE077	390057.57	1027690.48	2836.09
BE078	403486.54	312982.38	1074.80
BE079	509015.59	351200.46	1324.25
BE080	380244.88	901910.56	2850.72
BE081	460822.47	446412.91	1793.31
BE082	468088.85	656878.04	1907.09
BE083	551820.94	701272.50	1725.36
BE084	413844.97	299744.46	1008.10
BE085	262379.31	631788.23	2106.92
BE086	606816.73	721560.17	1540.85
BE087	572662.38	944137.44	2768.24
BE088	519070.04	934537.08	2046.49
BE089	414536.18	1016990.83	2671.49
BE090	403557.03	1080673.13	3127.89
BE091	451595.53	498939.30	2105.22
BE092	270054.87	969463.21	3054.27
BE093	397982.53	996711.24	2588.91
BE094	402594.60	276992.78	921.69
BE095	414442.94	902464.66	2388.94
BE096	349784.03	1006713.50	2736.75
BE097	402792.60	261915.56	816.86
BE098	471865.30	960927.99	2382.68
BE099	299755.02	725738.83	2450.56
BE100	576006.38	605709.51	2059.51
BE101	326479.76	632153.01	1906.10
BE102	427293.21	564268.93	1955.58
BE103	352071.60	1049606.39	3206.00
BE104	500051.31	772075.76	1891.80
BE105	549495.42	833761.32	1984.28
BE106	452097.28	401005.72	1578.38
BE107	600526.45	684708.49	1561.35
BE108	503071.67	429774.32	1571.26
BE109	588240.10	899689.51	2065.85
BE110	505402.90	404854.99	1772.93
BE111	418291.09	1068725.30	2909.91
BE112	362215.26	1075261.42	3452.13

BE113	205380.04	745850.70	2544.98
BE114	378063.13	828147.06	2943.34
BE115	574958.70	1069314.86	4439.40
BE116	325560.39	571325.59	1769.75
BE117	474634.15	573547.88	2046.52
BE118	333975.63	724046.60	2477.36
BE119	472503.13	303764.18	844.69
BE120	598995.26	802273.60	1618.24
BE121	392083.40	877312.58	2544.36
BE122	413083.19	337802.38	1101.74
BE123	387346.85	529595.66	1973.33
BE124	386630.57	597135.92	2108.37
BE125	477131.21	1113071.46	4287.40
BE126	516916.60	1002372.15	2646.82
BE126a	516856.49	1002403.04	2647.15
BE127	409585.95	495934.67	2252.13
BE128	531018.00	982026.58	2957.32
BE129	435316.54	539627.02	1972.54
BE130	545631.19	402379.17	1325.61
BE131	508919.89	340227.89	1454.13
BE132	310816.54	1076917.09	4492.09
BE133	568179.96	688405.87	1582.58
BE134	378483.63	577381.75	1912.14
BE135	588352.73	1054883.97	4483.63
BE136	545022.24	1138449.40	2784.97
BE137	351772.77	1028009.56	2899.90
BE138	481984.91	926347.51	2368.24
BE139	527478.79	758475.99	1736.93
BE140	407260.72	966944.24	2585.30
BE141	368213.38	999752.96	2649.64
BE142	409370.64	921631.83	2434.02
BE143	525876.14	669239.41	1654.79
BE144	551898.87	918195.41	2199.96
BE145	524079.05	921160.29	2006.96
BE146	487748.34	567913.67	2144.09
BE147	493961.98	521368.62	2187.30
BE148	454790.13	926454.92	2667.29
BE149	556268.09	1136209.26	2729.89
BE150	565787.59	864988.39	1819.62
BE151	501381.54	666078.62	1750.43

BE152	521740.96	1137135.89	2872.18
BE153	610697.63	687755.75	1531.76
BE154	364444.08	901987.93	3351.61
BE155	534083.24	952254.00	2679.69
BE156	482706.79	1016126.43	2847.54
BE157	444356.95	905937.18	2257.45
BE158	450595.12	972233.43	2481.63
BE159	563512.65	940436.75	2607.02
BE160	500219.64	380694.07	1702.36
BE161	470170.33	872046.20	2127.57
BE162	441301.00	439918.96	1757.91
BE163	578262.85	828566.01	1713.85
BE164	505096.61	306088.02	759.78

URBAN AREA POINT COORDINATES

Horizontal Datum - NAD83(2011)
ARIZONA STATE PLANE - CENTRAL ZONE
Vertical Datum - NAVD 88
Geoid - GEOID18
Units – International Feet

Point ID	Northing (ift)	Easting (ift)	Elev. (ift)
UA001	446153.65	1008197.37	2503.48
UA002	442634.05	1043318.00	2678.67
UA003	326259.04	990278.56	2812.17
UA004	563839.87	674591.04	1658.50
UA005	548347.98	888803.93	1900.49
UA006	471826.74	960906.67	2382.02
UA007	413181.33	930029.17	2425.26
UA008	505462.79	404841.39	1774.61
UA009	628650.53	1092221.91	2372.28
UA010	600503.38	860888.49	1785.60
UA011	538300.42	1015692.28	3174.92
UA012	380277.75	1048856.56	3030.09
UA013	519060.01	936280.62	2053.74
UA014	464204.46	445217.04	1774.28
UA015	362274.18	1075207.48	3452.23
UA016	407323.45	966807.09	2585.47
UA017	585386.58	1099147.19	3314.86
UA018	586103.90	775288.29	1588.68
UA019	288698.24	977147.99	2984.19
UA020	490639.26	996474.45	2777.71
UA021	340084.23	700146.66	2328.35
UA022	403586.52	1079888.09	3115.88
UA023	465258.45	1022029.34	2494.46
UA024	359832.75	994772.52	2687.86
UA025	518931.57	961935.86	2604.63
UA026	432432.35	954851.80	2633.53
UA027	397861.10	997299.47	2593.77
UA028	472917.78	1059070.85	2755.77
UA029	450615.84	971949.24	2494.75

TALL WEED POINT COORDINATES

Horizontal Datum - NAD83(2011)
 ARIZONA STATE PLANE - CENTRAL ZONE
 Vertical Datum - NAVD 88
 Geoid - GEOID18
 Units – International Feet

Point ID	Northing (ift)	Easting (ift)	Elev. (ift)
TG001	600782.43	860848.31	5830.55
TG002	564159.79	889351.22	6245.51
TG003	509922.20	941439.92	6809.47
TG004	471982.08	972489.98	7347.06
TG005	443807.51	999478.78	7937.11
TG006	435944.32	991360.77	7919.72
TG007	397661.00	996721.06	8483.43
TG008	365505.23	998975.17	8729.97
TG009	503007.91	908298.55	2012.30
TG010	330580.86	991973.48	9127.28

FOREST POINT COORDINATES

Horizontal Datum - NAD83(2011)
 ARIZONA STATE PLANE - CENTRAL ZONE
 Vertical Datum - NAVD 88
 Geoid - GEOID18
 Units – International Feet

Point ID	Northing (ift)	Easting (ift)	Elev. (ift)
FR001	516806.49	1002355.65	2646.10
FR002	418242.37	1069141.07	2917.09
FR003	349591.19	798670.16	6787.07
FR004	581109.71	1126782.41	2614.63
FR005	310647.48	1076995.72	4521.00
FR006	588380.64	1055004.50	4486.88
FR007	270039.36	1086325.20	4742.26
FR008	453248.35	1074138.99	2672.21
FR009	638803.05	1135436.29	3560.89
FR010	421467.91	1144330.24	4203.81

BRUSHLAND POINT COORDINATES

Horizontal Datum - NAD83(2011)
ARIZONA STATE PLANE - CENTRAL ZONE
Vertical Datum - NAVD 88
Geoid - GEOID18
Units – International Feet

Point ID	Northing (ift)	Easting (ift)	Elev. (ift)
SH001	563542.37	594198.35	2127.40
SH002	380233.45	901832.64	2850.75
SH003	297379.26	677331.84	2088.58
SH004	426980.59	608643.74	2516.11
SH005	409197.40	921764.83	2437.30
SH006	453666.70	1073909.98	2673.88
SH007	392099.93	877381.04	2544.09
SH008	495386.86	523056.49	2187.20
SH009	364405.09	902057.86	3356.96
SH010	549167.44	573931.01	2264.14
SH011	527599.18	525277.88	2317.81
SH012	609455.76	1069206.39	3607.32
SH013	546095.48	402406.46	1322.60
SH014	612615.27	725468.15	1473.23
SH015	488143.04	649248.27	1870.14
SH016	295034.22	775824.33	3069.03
SH017	515853.63	1147805.04	2910.10
SH018	325579.81	629696.11	1896.78
SH019	424309.05	640288.56	2432.84
SH020	586599.11	616059.60	2029.56
SH021	481923.80	926377.65	2369.59
SH022	403685.58	268450.52	864.04
SH023	378293.45	832268.21	2885.43
SH025	368253.43	1111756.50	3539.37
SH026	355204.22	568180.63	1781.07
SH027	508930.53	351589.68	1323.56
SH028	519118.43	936822.72	2057.87
SH029	310764.09	1076790.25	4496.23
SH030	205291.69	745964.30	2546.85
SH031	599377.40	823043.84	1653.58

SH032	480576.00	408381.61	1819.32
SH033	502622.67	611031.38	2161.91
SH034	359190.49	493999.03	2144.78
SH035	563463.88	940379.20	2604.63
SH036	584640.94	1099414.51	3323.65
SH037	662944.91	1076696.79	2228.08
SH038	580609.75	1125969.54	2655.71
SH039	409638.85	495834.84	2253.25
SH040	592934.32	685596.39	1562.11
SH041	388700.34	572894.24	1926.77
SH042	404721.47	663672.02	2161.32
SH043	410783.16	289059.98	1001.61
SH044	438715.75	1053766.52	2849.74
SH045	357339.26	1135697.74	3848.79
SH046	511023.44	663046.43	1720.14
SH047	458060.21	788533.56	2058.53
SH048	588370.74	900297.26	2072.54
SH049	511721.62	389824.01	1632.38
SH050	317736.94	957824.10	3582.97
SH051	403616.54	1080659.17	3125.85
SH052	351807.91	1027976.77	2900.16
SH053	386502.25	597968.45	2117.22
SH054	360786.26	805162.10	3770.54
SH055	471836.89	961072.58	2370.05
SH056	477050.08	360555.22	1524.15
SH057	466817.17	789608.84	2022.41
SH058	247031.96	751996.36	2588.58
SH059	526804.98	750553.66	1728.97
SH060	477157.79	1113171.05	4285.79
SH061	526824.72	758545.84	1737.50
SH062	578260.97	828641.89	1713.71
SH063	502997.02	908115.09	2011.71
SH064	273313.38	984165.26	3142.95
SH065	587923.75	872274.74	1815.75
SH066	364819.94	956003.14	3369.00
SH067	545067.18	1138383.04	2796.13
SH068	527650.74	1057266.38	7924.08
SH069	406128.22	771934.08	2538.29
SH070	441164.90	1011403.05	2515.26
SH071	546778.67	753271.85	1664.90

SH072	466910.84	465995.71	1952.82
SH073	578045.30	674188.82	1629.30
SH074	639505.63	1138088.95	3672.21
SH075	562946.23	890520.50	1911.45
SH076	430047.96	572789.36	2023.23
SH077	611301.25	665349.43	1766.67
SH078	516995.31	1002373.23	2647.18
SH079	636217.33	1119990.17	3832.25
SH080	358351.25	682484.94	2225.36
SH081	276934.01	738966.39	2550.00
SH082	600524.29	716415.20	1612.63
SH083	327971.35	570627.53	1768.93
SH084	247519.18	673482.90	2338.91
SH085	316247.22	716887.81	2594.29
SH086	428758.48	982612.86	2425.79
SH087	444356.35	730909.56	2213.06
SH088	500086.49	380278.01	1692.72
SH089	509795.91	526974.70	2244.75
SH090	341162.82	585372.33	1866.40
SH091	540325.72	490905.40	2630.71
SH092	470517.54	901597.18	2145.83
SH093	362078.55	1075263.72	3449.67
SH094	452655.61	498948.44	2104.43
SH095	463600.92	380555.57	1653.81
SH096	295718.06	580351.77	1768.14
SH097	406756.21	324997.02	1046.03
SH098	557883.66	1135714.46	2718.73
SH099	340546.39	700427.31	2337.40
SH100	261575.85	630920.27	2113.22
SH101	528474.20	598783.38	2239.17
SH102	577066.80	1161973.77	3975.92
SH103	418101.93	767627.24	2431.76
SH104	387476.84	694231.28	2521.19
SH105	602833.60	633665.27	2011.88
SH106	464690.26	655594.86	1937.01
SH107	487731.55	1000160.06	2769.06
SH108	585212.89	775222.14	1579.23
SH109	524831.63	668365.00	1661.22
SH110	387800.10	527792.36	1982.74
SH111	327765.83	939204.79	4160.63

SH112	473025.47	1059268.39	2757.02
SH113	574792.20	726173.06	1568.18
SH114	521765.24	1137264.76	2871.13
SH115	331880.77	1016427.58	2939.34
SH116	320645.97	499130.58	1877.85
SH117	434882.27	746152.99	2341.90
SH118	275309.53	1133799.90	4971.56
SH119	482734.66	286972.43	902.95

NVA-VVA LOCATION AND ACCURACY DATA SHEETS

BARE EARTH POINT LOG SHEETS

Point ID	BE001
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Sahuarita

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
349211.980	989397.990	2818.310

Operator	GC
Receiver Model	Trimble R10
Receiver S/N	0387
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	10-12-2021
RMSE Hz	0.004 ft
RMSE Z	0.012 ft
GPS Method	RTN

PHOTOS



Point ID	BE002
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	West of Avra

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
486212.517	883834.163	2068.212

Operator	BW
Receiver Model	Trimble R10-2
Receiver S/N	235
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-08-2021
RMSE Hz	0.017 ft
RMSE Z	0.054 ft
GPS Method	RTX

PHOTOS



Point ID	BE003
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pinal
Quad	Silver Reef Mountains

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System	SP Arizona Central
	NAD83(2011)
	NAVD88
	GEOID18
	International Feet

Northing	Easting	Elevation
623205.135	729151.036	1490.771

Operator	AT
Receiver Model	Trimble R12
Receiver S/N	1672
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-15-2021
RMSE Hz	0.015 ft
RMSE Z	0.054 ft
GPS Method	RTX

PHOTOS



Point ID	BE004
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Sahuarita

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System	SP Arizona Central
	NAD83(2011)
	NAVD88
	GEOID18
	International Feet

Northing	Easting	Elevation
332638.260	991047.810	2800.820

Operator	GC
Receiver Model	Trimble R10
Receiver S/N	0387
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	10-12-2021
RMSE Hz	0.004 ft
RMSE Z	0.007 ft
GPS Method	RTN

PHOTOS



Point ID	BE005
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	West of Ventana

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

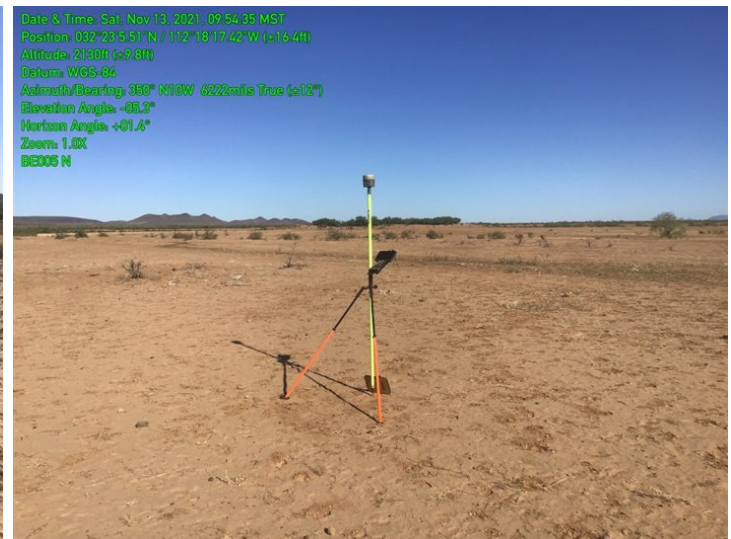
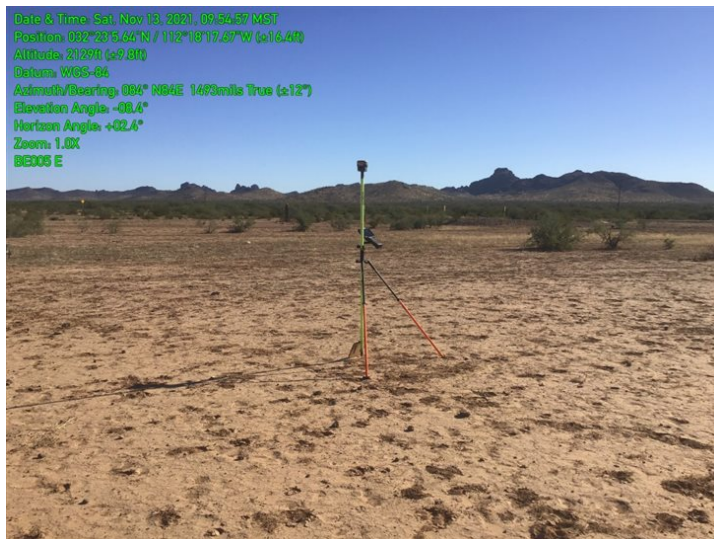
Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
503982.272	580183.227	2157.077

Operator	JL
Receiver Model	Trimble R10
Receiver S/N	84
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-13-2021
RMSE Hz	0.015 ft
RMSE Z	0.064 ft
GPS Method	RTX

PHOTOS



Point ID	BE006
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Tanque Verde Peak

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
453107.370	1074138.340	2669.030

Operator	TC
Receiver Model	Trimble R10
Receiver S/N	0385
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	10-13-2021
RMSE Hz	0.017 ft
RMSE Z	0.005 ft
GPS Method	RTN

PHOTOS



Point ID	BE007
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Jaynes

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
495956.557	956243.549	2162.592

Operator	AT
Receiver Model	Trimble R12
Receiver S/N	1672
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-10-2021
RMSE Hz	0.015 ft
RMSE Z	0.049 ft
GPS Method	RTX

PHOTOS



Point ID	BE008
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Esperanza Mill

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
317627.957	958359.618	3566.667

Operator	AT
Receiver Model	Trimble R12
Receiver S/N	1672
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-06-2021
RMSE Hz	0.010 ft
RMSE Z	0.015 ft
GPS Method	RTN

PHOTOS



Point ID	BE009
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Tucson

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System	SP Arizona Central
	NAD83(2011)
	NAVD88
	GEOID18
	International Feet

Northing	Easting	Elevation
441239.650	1011305.300	2513.750

Operator	TC
Receiver Model	Trimble R10
Receiver S/N	0385
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	10-13-2021
RMSE Hz	0.004 ft
RMSE Z	0.007 ft
GPS Method	RTN

PHOTOS



Point ID	BE010
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Esperanza Mill

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
288721.310	977137.040	2985.600

Operator	GC
Receiver Model	Trimble R10
Receiver S/N	0387
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	10-12-2021
RMSE Hz	0.012 ft
RMSE Z	0.017 ft
GPS Method	RTN

PHOTOS



Point ID	BE012
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Cat Mountain

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System	SP Arizona Central
	NAD83(2011)
	NAVD88
	GEOID18
	International Feet

Northing	Easting	Elevation
422238.300	951325.650	2501.570

Operator	GC
Receiver Model	Trimble R10
Receiver S/N	0387
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	10-14-2021
RMSE Hz	0.004 ft
RMSE Z	0.008 ft
GPS Method	RTN

PHOTOS



Point ID	BE013
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Tucson SW

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
365146.458	985897.717	2794.314

Operator	AT
Receiver Model	Trimble R12
Receiver S/N	1672
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-06-2021
RMSE Hz	0.010 ft
RMSE Z	0.018 ft
GPS Method	RTN

PHOTOS



Point ID	BE014
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Santa Rosa

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

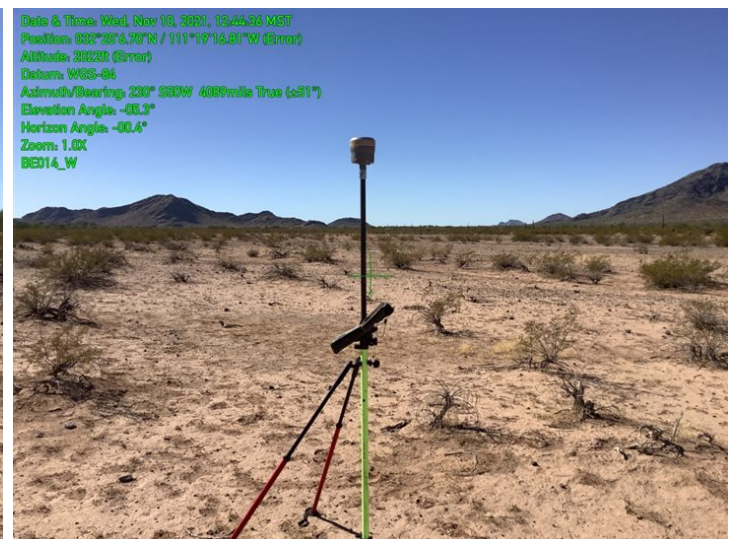
Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
497935.718	658534.360	1797.287

Operator	BW
Receiver Model	Trimble R10-2
Receiver S/N	235
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-10-2021
RMSE Hz	0.019 ft
RMSE Z	0.065 ft
GPS Method	RTX

PHOTOS



Point ID	BE015
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	West of Avra

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System	SP Arizona Central
	NAD83(2011)
	NAVD88
	GEOID18
	International Feet

Northing	Easting	Elevation
494962.190	905524.430	2045.870

Operator	TC
Receiver Model	Trimble R10
Receiver S/N	0385
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	10-14-2021
RMSE Hz	0.006 ft
RMSE Z	0.012 ft
GPS Method	RTN

PHOTOS



Point ID	BE016
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Sahuarita

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
326324.140	989439.870	2828.970

Operator	GC
Receiver Model	Trimble R10
Receiver S/N	0387
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	10-12-2021
RMSE Hz	0.004 ft
RMSE Z	0.002 ft
GPS Method	RTN

PHOTOS



Point ID	BE017
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Papago Farms

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

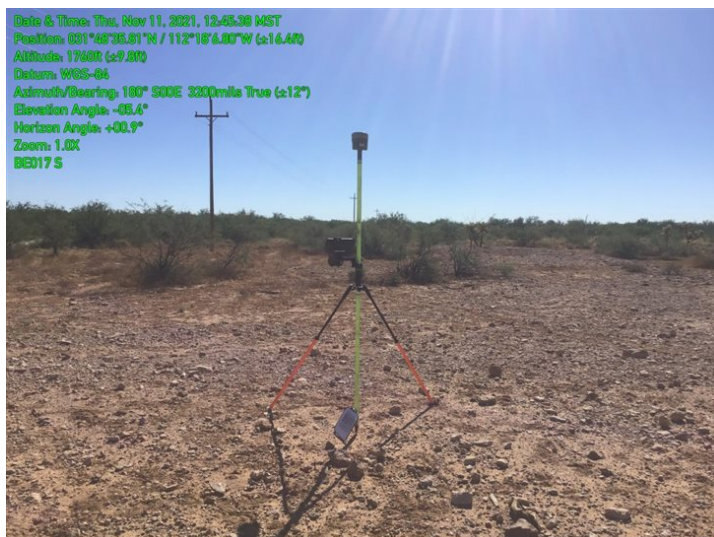
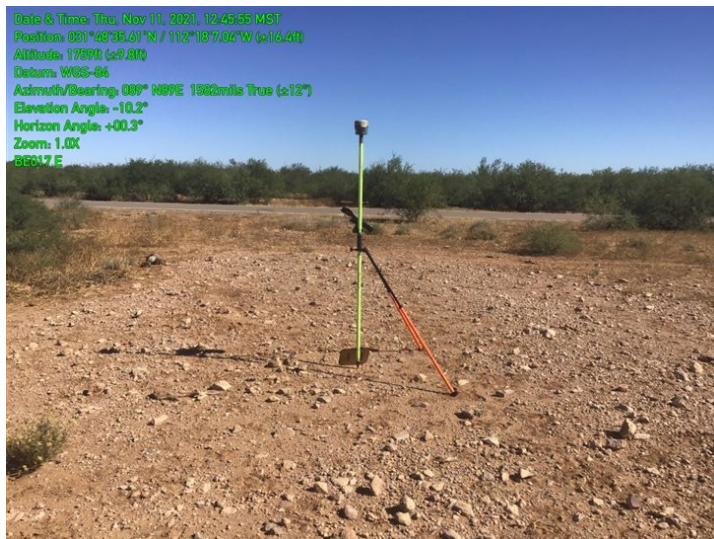
Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
294787.647	580345.498	1765.994

Operator	JL
Receiver Model	Trimble R10
Receiver S/N	84
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-11-2021
RMSE Hz	0.013 ft
RMSE Z	0.047 ft
GPS Method	RTX

PHOTOS



Point ID	BE018
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Tucson East

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System	SP Arizona Central
	NAD83(2011)
	NAVD88
	GEOID18
	International Feet

Northing	Easting	Elevation
416204.020	1033552.520	2789.340

Operator	TC
Receiver Model	Trimble R10
Receiver S/N	0385
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	10-14-2021
RMSE Hz	0.008 ft
RMSE Z	0.005 ft
GPS Method	RTN

PHOTOS



Point ID	BE020
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pinal
Quad	Peppersauce Wash

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
584614.606	1099298.334	3328.041

Operator	BW
Receiver Model	Trimble R10-2
Receiver S/N	235
Antenna Height	6.004 ft

Date (MM-DD-YYYY)	11-06-2021
RMSE Hz	0.015 ft
RMSE Z	0.049 ft
GPS Method	RTX

PHOTOS



Point ID	BE021
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Sabino Canyon

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

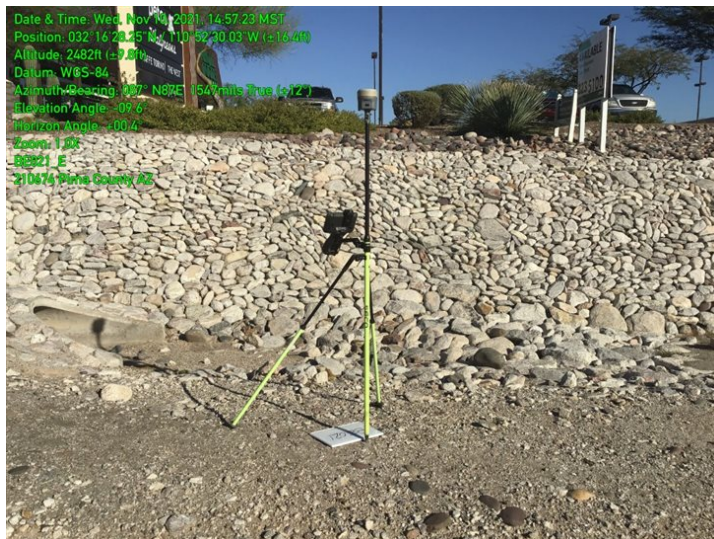
Coordinate System	SP Arizona Central
	NAD83(2011)
	NAVD88
	GEOID18
	International Feet

Northing	Easting	Elevation
465157.231	1021960.114	2486.745

Operator	AT
Receiver Model	Trimble R12
Receiver S/N	1672
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-10-2021
RMSE Hz	0.015 ft
RMSE Z	0.064 ft
GPS Method	RTX

PHOTOS



Point ID	BE022
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Maish Vaya

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

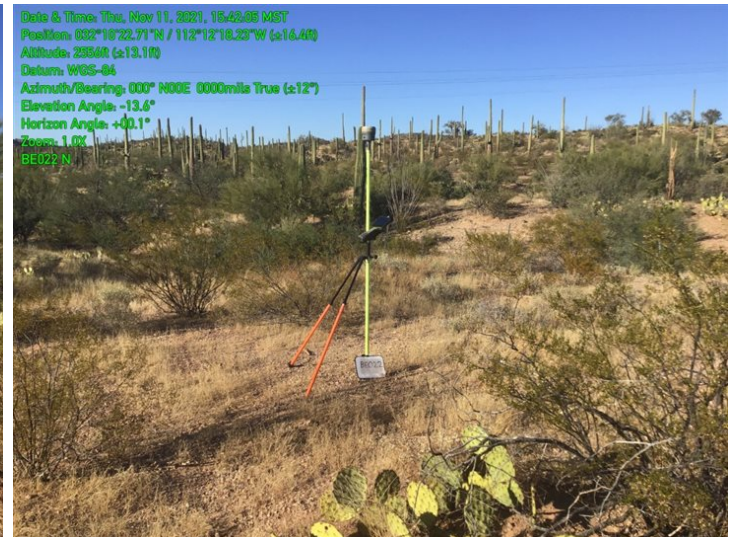
Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
426802.035	610769.599	2563.510

Operator	JL
Receiver Model	Trimble R10
Receiver S/N	84
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-11-2021
RMSE Hz	0.031 ft
RMSE Z	0.057 ft
GPS Method	RTX

PHOTOS



Point ID	BE023
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Vail

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
375629.776	1080245.661	3337.785

Operator	AT
Receiver Model	Trimble R12
Receiver S/N	1672
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-05-2021
RMSE Hz	0.010 ft
RMSE Z	0.015 ft
GPS Method	RTN

PHOTOS



Point ID	BE024
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Oro Valley

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System	SP Arizona Central
	NAD83(2011)
	NAVD88
	GEOID18
	International Feet

Northing	Easting	Elevation
514253.690	984086.270	2712.200

Operator	TC
Receiver Model	Trimble R10
Receiver S/N	0385
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	10-15-2021
RMSE Hz	0.004 ft
RMSE Z	0.008 ft
GPS Method	RTN

PHOTOS



Point ID	BE025
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	San Pedro

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

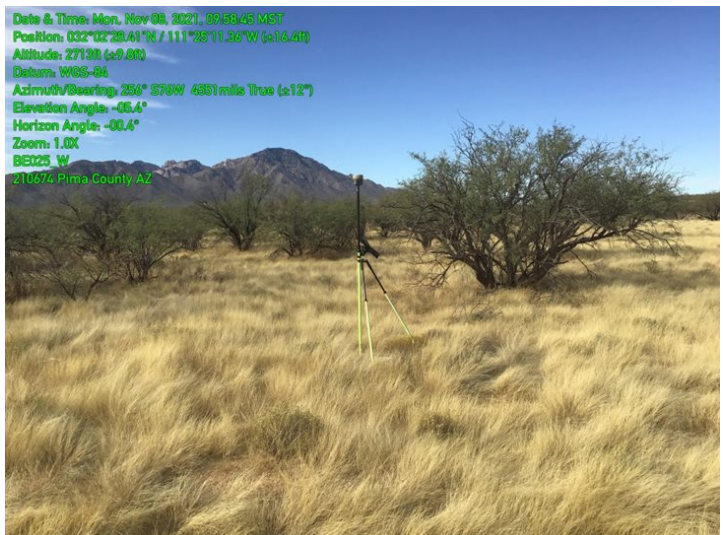
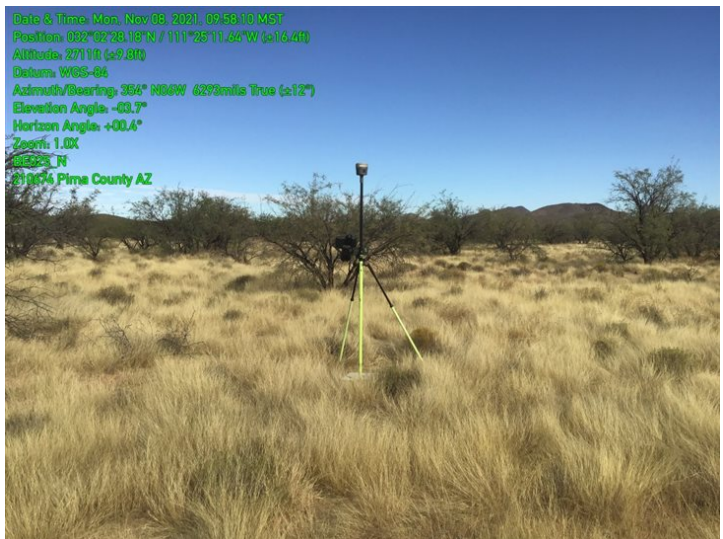
Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
379081.212	853918.768	2702.254

Operator	AT
Receiver Model	Trimble R12
Receiver S/N	1672
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-08-2021
RMSE Hz	0.008 ft
RMSE Z	0.010 ft
GPS Method	RTN

PHOTOS



Point ID	BE026
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Ajo South

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System	SP Arizona Central
	NAD83(2011)
	NAVD88
	GEOID18
	International Feet

Northing	Easting	Elevation
481622.945	408289.495	1845.446

Operator	JL
Receiver Model	Trimble R10
Receiver S/N	84
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-06-2021
RMSE Hz	0.015 ft
RMSE Z	0.049 ft
GPS Method	RTX

PHOTOS



Point ID	BE027
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	San Xavier Mission

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

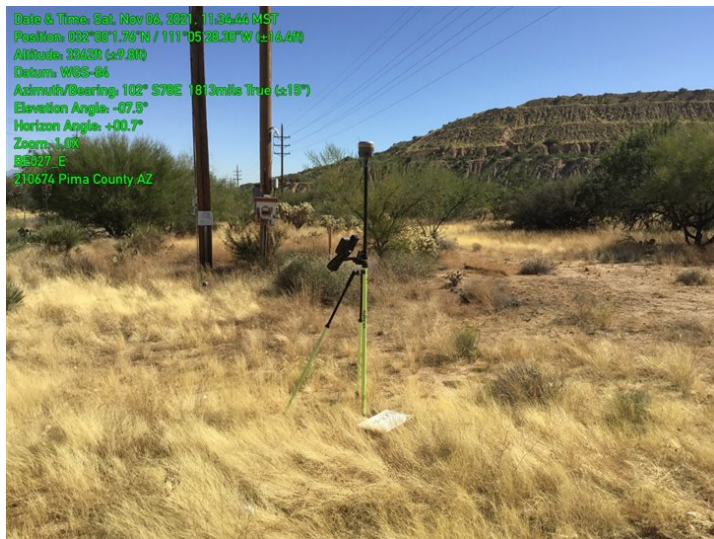
Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
364882.783	955905.849	3370.148

Operator	AT
Receiver Model	Trimble R12
Receiver S/N	1672
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-06-2021
RMSE Hz	0.010 ft
RMSE Z	0.027 ft
GPS Method	RTN

PHOTOS



Point ID	BE028
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Ruelas Canyon

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

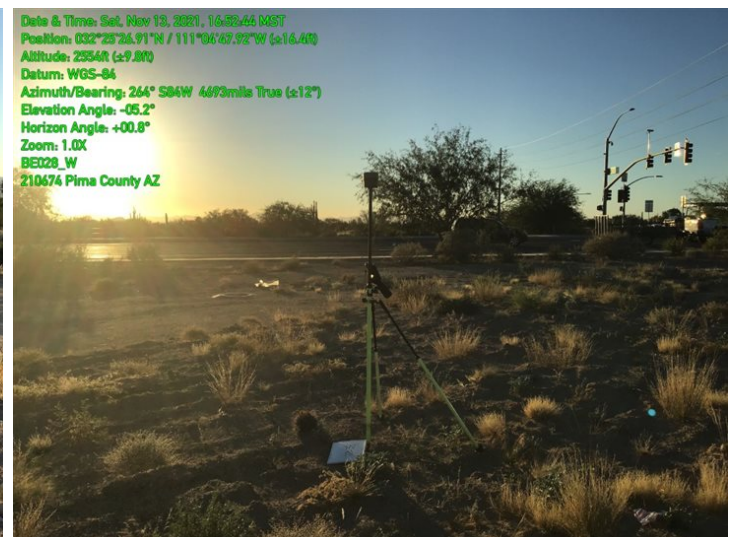
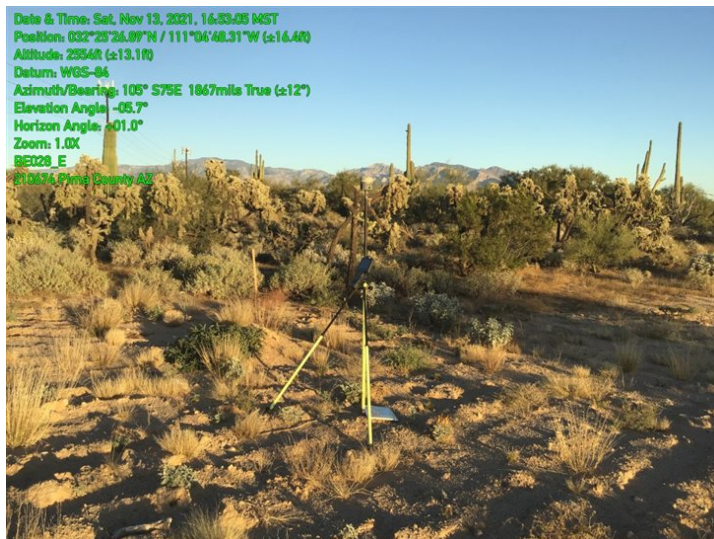
Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
519044.386	958158.130	2544.190

Operator	AT
Receiver Model	Trimble R12
Receiver S/N	1672
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-13-2021
RMSE Hz	0.015 ft
RMSE Z	0.040 ft
GPS Method	RTX

PHOTOS



Point ID	BE029
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Tucson North

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System	SP Arizona Central
	NAD83(2011)
	NAVD88
	GEOID18
	International Feet

Northing	Easting	Elevation
487789.570	1000219.690	2772.380

Operator	TC
Receiver Model	Trimble R10
Receiver S/N	0385
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	10-15-2021
RMSE Hz	0.006 ft
RMSE Z	0.008 ft
GPS Method	RTN

PHOTOS



Point ID	BE030
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Agua Caliente Hill

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

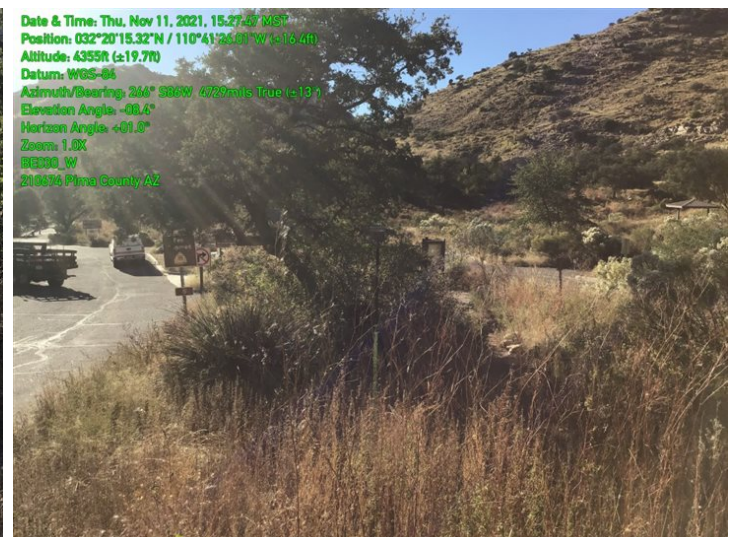
Coordinate System	SP Arizona Central
	NAD83(2011)
	NAVD88
	GEOID18
	International Feet

Northing	Easting	Elevation
488701.550	1078667.908	4359.905

Operator	AT
Receiver Model	Trimble R12
Receiver S/N	1672
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-11-2021
RMSE Hz	0.017 ft
RMSE Z	0.065 ft
GPS Method	RTX

PHOTOS



Point ID	BE031
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pinal
Quad	Greene Reservoir

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

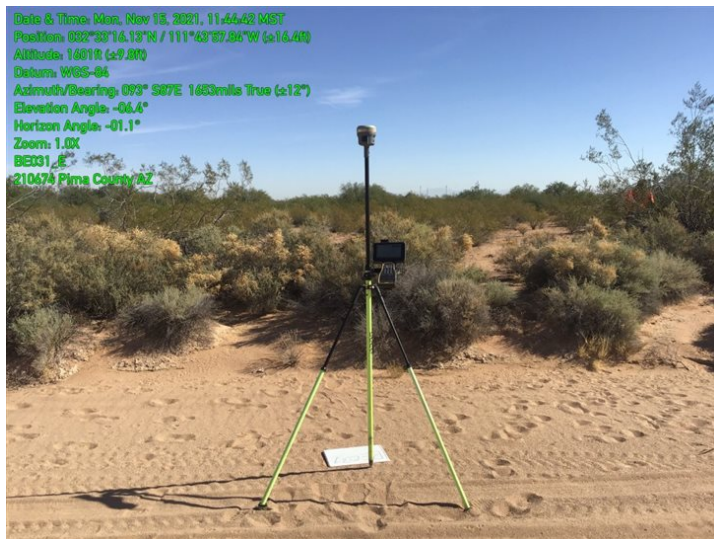
Coordinate System	SP Arizona Central
	NAD83(2011)
	NAVD88
	GEOID18
	International Feet

Northing	Easting	Elevation
565492.750	756691.641	1613.186

Operator	AT
Receiver Model	Trimble R12
Receiver S/N	1672
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-15-2021
RMSE Hz	0.019 ft
RMSE Z	0.050 ft
GPS Method	RTX

PHOTOS



Point ID	BE032
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Sells East

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
341311.576	744365.914	2648.579

Operator	AT
Receiver Model	Trimble R12
Receiver S/N	1672
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-08-2021
RMSE Hz	0.015 ft
RMSE Z	0.045 ft
GPS Method	RTX

PHOTOS



Point ID	BE033
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Burro Gap

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System	SP Arizona Central
	NAD83(2011)
	NAVD88
	GEOID18
	International Feet

Northing	Easting	Elevation
509769.261	455379.891	1774.823

Operator	JL
Receiver Model	Trimble R10
Receiver S/N	84
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-10-2021
RMSE Hz	0.019 ft
RMSE Z	0.062 ft
GPS Method	RTX

PHOTOS



Point ID	BE034
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	West of Marana

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
538920.144	899295.084	1924.357

Operator	BW
Receiver Model	Trimble R10-2
Receiver S/N	235
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-08-2021
RMSE Hz	0.019 ft
RMSE Z	0.047 ft
GPS Method	RTX

PHOTOS



Point ID	BE035
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Mount Fagan

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System	SP Arizona Central
	NAD83(2011)
	NAVD88
	GEOID18
	International Feet

Northing	Easting	Elevation
331854.219	1089302.829	3999.360

Operator	AT
Receiver Model	Trimble R12
Receiver S/N	1672
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-05-2021
RMSE Hz	0.008 ft
RMSE Z	0.018 ft
GPS Method	RTN

PHOTOS



Point ID	BE036
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Tucson East

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System	SP Arizona Central
	NAD83(2011)
	NAVD88
	GEOID18
	International Feet

Northing	Easting	Elevation
438644.390	1053914.170	2853.640

Operator	TC
Receiver Model	Trimble R10
Receiver S/N	0385
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	10-13-2021
RMSE Hz	0.013 ft
RMSE Z	0.013 ft
GPS Method	RTN

PHOTOS



Point ID	BE037
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Gurli Put Vo

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
423874.183	640241.010	2414.879

Operator	BW
Receiver Model	Trimble R10-2
Receiver S/N	235
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-10-2021
RMSE Hz	0.017 ft
RMSE Z	0.057 ft
GPS Method	RTX

PHOTOS



Point ID	BE038
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Temporal Pass

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
485579.215	359116.878	1470.420

Operator	JL
Receiver Model	Trimble R10
Receiver S/N	84
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-05-2021
RMSE Hz	0.013 ft
RMSE Z	0.033 ft
GPS Method	RTX

PHOTOS



Point ID	BE039
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Kupk

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
334868.698	607463.595	1850.161

Operator	JL
Receiver Model	Trimble R10
Receiver S/N	84
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-12-2021
RMSE Hz	0.015 ft
RMSE Z	0.064 ft
GPS Method	RTX

PHOTOS



Point ID	BE040
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Cat Mountain

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
428949.577	982773.429	2417.234

Operator	AT
Receiver Model	Trimble R12
Receiver S/N	1672
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-06-2021
RMSE Hz	0.012 ft
RMSE Z	0.025 ft
GPS Method	RTN

PHOTOS



Point ID	BE041
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Cat Mountain

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System	SP Arizona Central
	NAD83(2011)
	NAVD88
	GEOID18
	International Feet

Northing	Easting	Elevation
433285.030	953636.820	2640.420

Operator	GC
Receiver Model	Trimble R10
Receiver S/N	0387
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	10-14-2021
RMSE Hz	0.002 ft
RMSE Z	0.002 ft
GPS Method	RTN

PHOTOS



Point ID	BE042
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Rincon Peak

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

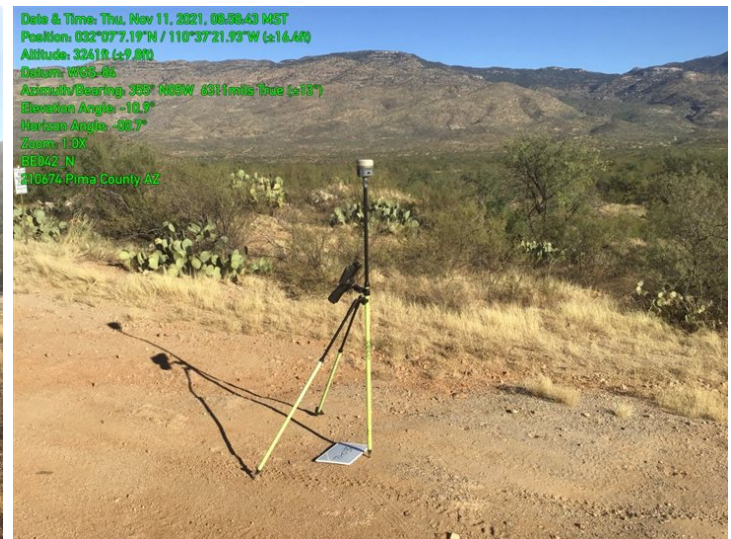
Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
409325.685	1100602.581	3237.595

Operator	AT
Receiver Model	Trimble R12
Receiver S/N	1672
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-11-2021
RMSE Hz	0.015 ft
RMSE Z	0.065 ft
GPS Method	RTX

PHOTOS



Point ID	BE043
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	West of Avra

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System	SP Arizona Central
	NAD83(2011)
	NAVD88
	GEOID18
	International Feet

Northing	Easting	Elevation
470502.120	901636.430	2146.160

Operator	GC
Receiver Model	Trimble R10
Receiver S/N	0387
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	10-15-2021
RMSE Hz	0.006 ft
RMSE Z	0.025 ft
GPS Method	RTN

PHOTOS



Point ID	BE044
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Agua Dulce Mountains

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
410728.202	289115.950	1002.513

Operator	JL
Receiver Model	Trimble R10
Receiver S/N	84
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-06-2021
RMSE Hz	0.013 ft
RMSE Z	0.054 ft
GPS Method	RTX

PHOTOS



Point ID	BE045
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Temporal Pass

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
476994.925	360666.802	1523.609

Operator	JL
Receiver Model	Trimble R10
Receiver S/N	84
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-05-2021
RMSE Hz	0.015 ft
RMSE Z	0.059 ft
GPS Method	RTX

PHOTOS



Point ID	BE046
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Tucson North

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
459890.001	990050.945	2336.722

Operator	AT
Receiver Model	Trimble R12
Receiver S/N	1672
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-10-2021
RMSE Hz	0.017 ft
RMSE Z	0.065 ft
GPS Method	RTX

PHOTOS



Point ID	BE047
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pinal
Quad	North Komelik

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System	SP Arizona Central
	NAD83(2011)
	NAVD88
	GEOID18
	International Feet

Northing	Easting	Elevation
548870.383	689144.585	1598.990

Operator	AT
Receiver Model	Trimble R12
Receiver S/N	1672
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-15-2021
RMSE Hz	0.017 ft
RMSE Z	0.057 ft
GPS Method	RTX

PHOTOS



Point ID	BE048
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Vainom Kug

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
377253.427	669436.039	2150.259

Operator	JL
Receiver Model	Trimble R10
Receiver S/N	84
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-12-2021
RMSE Hz	0.013 ft
RMSE Z	0.059 ft
GPS Method	RTX

PHOTOS



Point ID	BE049
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pinal
Quad	Greene Reservoir

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

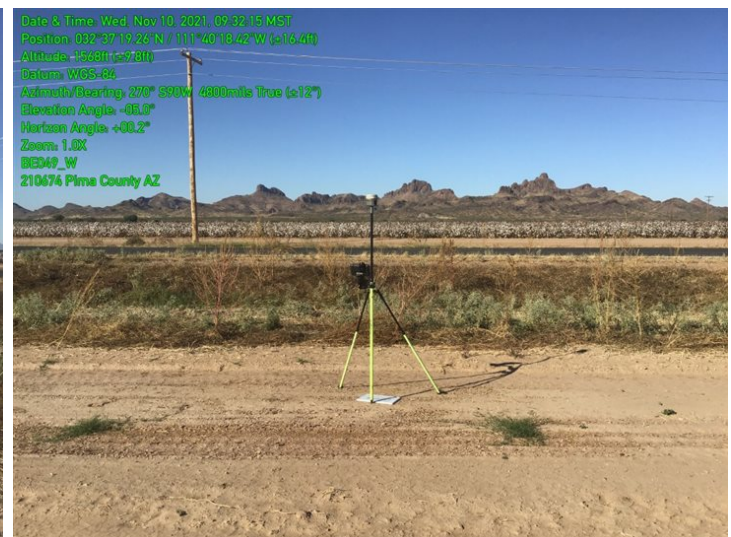
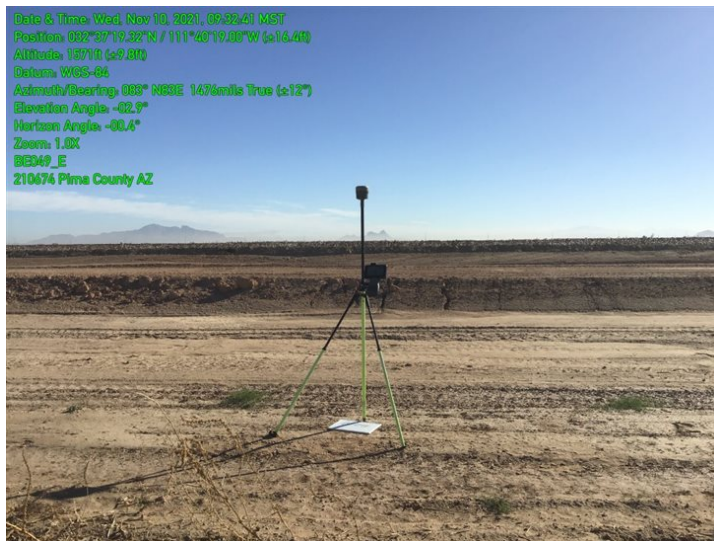
Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
590096.750	775364.609	1568.606

Operator	AT
Receiver Model	Trimble R12
Receiver S/N	1672
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-10-2021
RMSE Hz	0.015 ft
RMSE Z	0.050 ft
GPS Method	RTX

PHOTOS



Point ID	BE050
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Growler Peak

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System	SP Arizona Central
	NAD83(2011)
	NAVD88
	GEOID18
	International Feet

Northing	Easting	Elevation
504297.455	365463.898	1468.652

Operator	JL
Receiver Model	Trimble R10
Receiver S/N	84
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-05-2021
RMSE Hz	0.015 ft
RMSE Z	0.057 ft
GPS Method	RTX

PHOTOS



Point ID	BE051
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Stevens Mountain

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System	SP Arizona Central
	NAD83(2011)
	NAVD88
	GEOID18
	International Feet

Northing	Easting	Elevation
357922.910	891305.360	3292.950

Operator	GC
Receiver Model	Trimble R10
Receiver S/N	0387
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	10-15-2021
RMSE Hz	0.002 ft
RMSE Z	0.005 ft
GPS Method	RTN

PHOTOS



Point ID	BE052
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Sikort Chuapo

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
469098.759	465876.953	1951.286

Operator	JL
Receiver Model	Trimble R10
Receiver S/N	84
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-08-2021
RMSE Hz	0.013 ft
RMSE Z	0.042 ft
GPS Method	RTX

PHOTOS



Point ID	BE053
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pinal
Quad	Eloy South

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

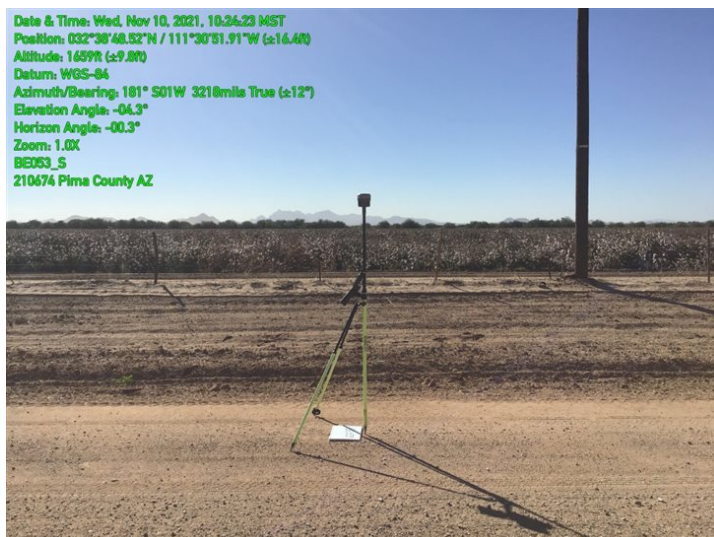
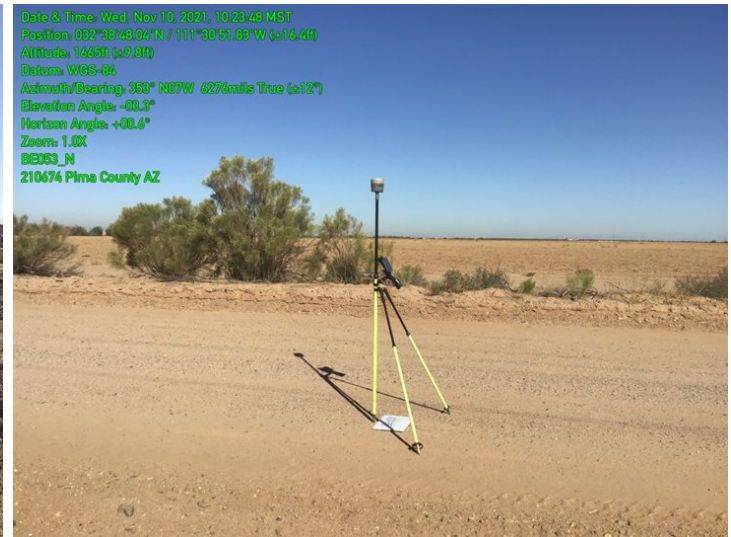
Coordinate System	SP Arizona Central
	NAD83(2011)
	NAVD88
	GEOID18
	International Feet

Northing	Easting	Elevation
599247.748	823813.791	1655.974

Operator	AT
Receiver Model	Trimble R12
Receiver S/N	1672
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-10-2021
RMSE Hz	0.017 ft
RMSE Z	0.060 ft
GPS Method	RTX

PHOTOS



Point ID	BE054
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Three Points

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System	SP Arizona Central
	NAD83(2011)
	NAVD88
	GEOID18
	International Feet

Northing	Easting	Elevation
368970.010	874517.160	2739.110

Operator	GC
Receiver Model	Trimble R10
Receiver S/N	0387
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	10-14-2021
RMSE Hz	0.010 ft
RMSE Z	0.008 ft
GPS Method	RTN

PHOTOS



Point ID	BE055
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Pisinimo

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
408588.424	568354.928	1958.615

Operator	JL
Receiver Model	Trimble R10
Receiver S/N	84
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-11-2021
RMSE Hz	0.012 ft
RMSE Z	0.044 ft
GPS Method	RTX

PHOTOS



Point ID	BE056
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Chico Shunie

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System	SP Arizona Central
	NAD83(2011)
	NAVD88
	GEOID18
	International Feet

Northing	Easting	Elevation
462390.879	382102.592	1669.957

Operator	JL
Receiver Model	Trimble R10
Receiver S/N	84
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-06-2021
RMSE Hz	0.019 ft
RMSE Z	0.055 ft
GPS Method	RTX

PHOTOS



Point ID	BE057
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pinal
Quad	Mammoth

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
609472.459	1069266.353	3610.883

Operator	AT
Receiver Model	Trimble R12
Receiver S/N	1672
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-13-2021
RMSE Hz	0.017 ft
RMSE Z	0.042 ft
GPS Method	RTX

PHOTOS



Point ID	BE058
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Agua Dulce Mountains

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

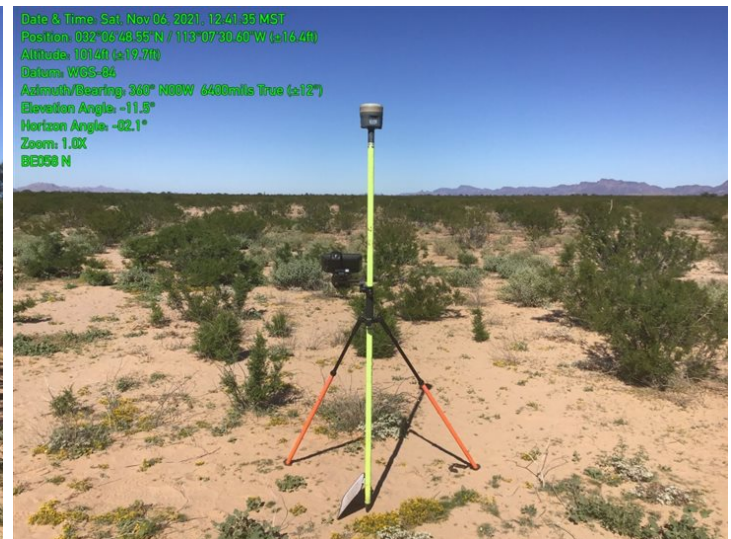
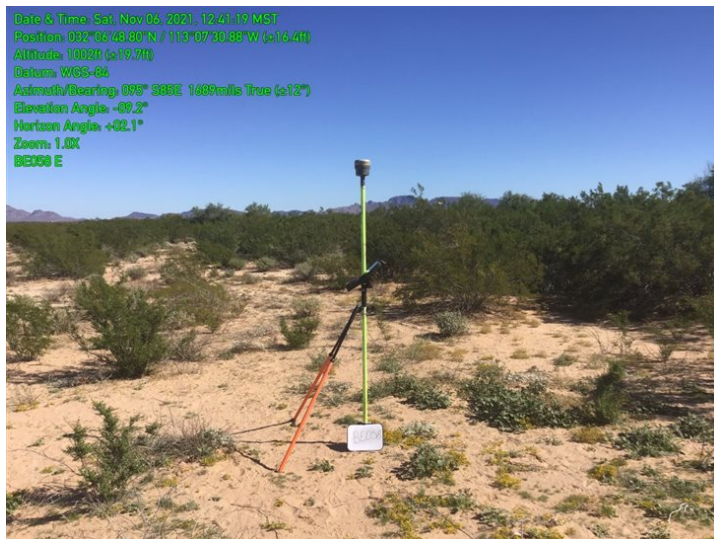
Coordinate System	SP Arizona Central
	NAD83(2011)
	NAVD88
	GEOID18
	International Feet

Northing	Easting	Elevation
407155.450	325840.952	1047.585

Operator	JL
Receiver Model	Trimble R10
Receiver S/N	84
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-06-2021
RMSE Hz	0.013 ft
RMSE Z	0.055 ft
GPS Method	RTX

PHOTOS



Point ID	BE059
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Tucson SE

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System	SP Arizona Central
	NAD83(2011)
	NAVD88
	GEOID18
	International Feet

Northing	Easting	Elevation
380129.260	1048795.660	3029.000

Operator	GC
Receiver Model	Trimble R10
Receiver S/N	0387
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	10-13-2021
RMSE Hz	0.010 ft
RMSE Z	0.002 ft
GPS Method	RTN

PHOTOS



Point ID	BE060
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Chico Shunie

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
486137.038	373639.072	1647.717

Operator	JL
Receiver Model	Trimble R10
Receiver S/N	84
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-05-2021
RMSE Hz	0.015 ft
RMSE Z	0.042 ft
GPS Method	RTX

PHOTOS



Point ID	BE061
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pinal
Quad	Newman Peak

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

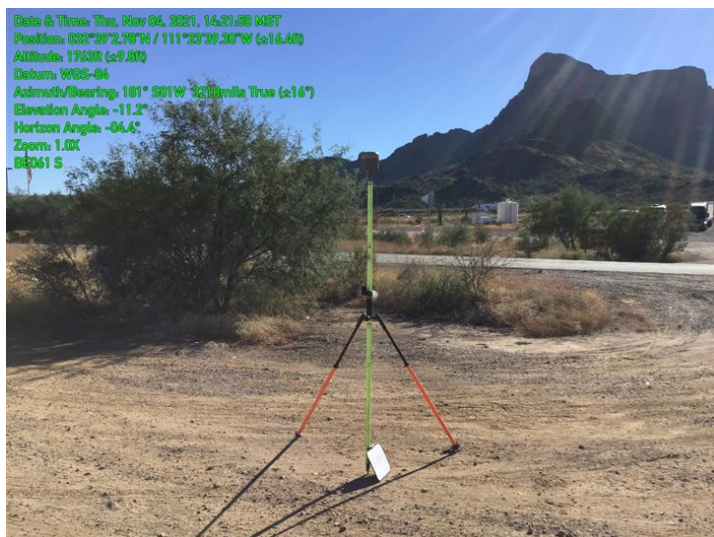
Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
600841.345	860808.945	1777.290

Operator	JL
Receiver Model	Trimble R10
Receiver S/N	84
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-04-2021
RMSE Hz	0.008 ft
RMSE Z	0.013 ft
GPS Method	RTN

PHOTOS



Point ID	BE063
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Oro Valley

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

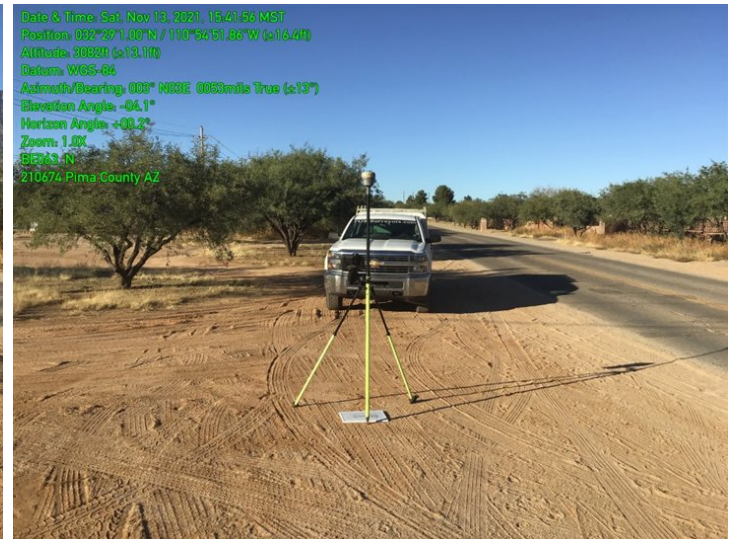
Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
541135.203	1009045.380	3077.956

Operator	AT
Receiver Model	Trimble R12
Receiver S/N	1672
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-13-2021
RMSE Hz	0.015 ft
RMSE Z	0.060 ft
GPS Method	RTX

PHOTOS



Point ID	BE064
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Mount Lemmon

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
527344.934	1056646.216	7773.704

Operator	AT
Receiver Model	Trimble R12
Receiver S/N	1672
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-12-2021
RMSE Hz	0.015 ft
RMSE Z	0.059 ft
GPS Method	RTX

PHOTOS



Point ID	BE065
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Gu Oidak

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System	SP Arizona Central
	NAD83(2011)
	NAVD88
	GEOID18
	International Feet

Northing	Easting	Elevation
334369.168	658444.760	2034.639

Operator	JL
Receiver Model	Trimble R10
Receiver S/N	84
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-12-2021
RMSE Hz	0.013 ft
RMSE Z	0.044 ft
GPS Method	RTX

PHOTOS



Point ID	BE066
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Samaniego Peak

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

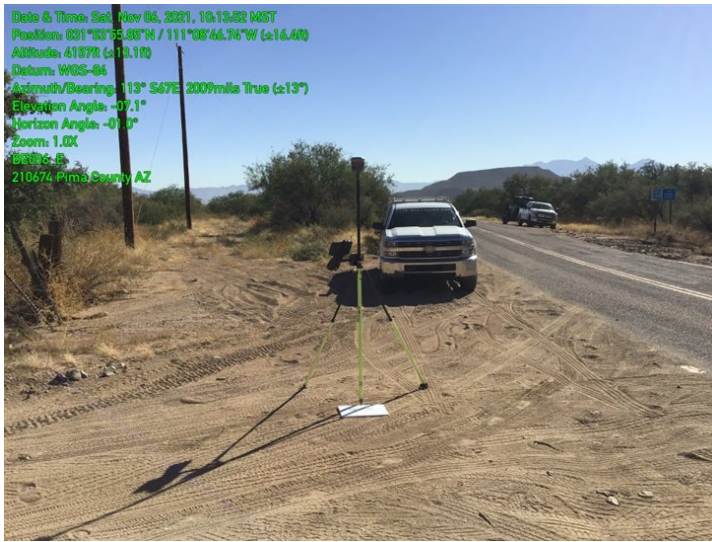
Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
327792.980	939076.990	4163.612

Operator	AT
Receiver Model	Trimble R12
Receiver S/N	1672
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-06-2021
RMSE Hz	0.010 ft
RMSE Z	0.013 ft
GPS Method	RTN

PHOTOS



Point ID	BE067
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pinal
Quad	Red Rock

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
548449.315	888800.321	1899.032

Operator	BW
Receiver Model	Trimble R10-2
Receiver S/N	235
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-08-2021
RMSE Hz	0.017 ft
RMSE Z	0.044 ft
GPS Method	RTX

PHOTOS



Point ID	BE068
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	West of Avra

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
500375.588	870910.679	2051.703

Operator	BW
Receiver Model	Trimble R10-2
Receiver S/N	235
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-08-2021
RMSE Hz	0.015 ft
RMSE Z	0.054 ft
GPS Method	RTX

PHOTOS



Point ID	BE069
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Brown Mountain

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

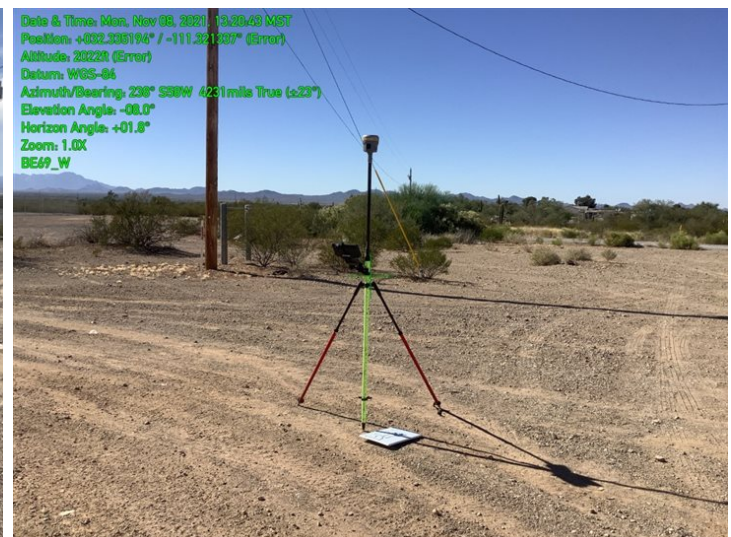
Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
433738.705	932023.214	2423.547

Operator	BW
Receiver Model	Trimble R10-2
Receiver S/N	235
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-08-2021
RMSE Hz	0.015 ft
RMSE Z	0.062 ft
GPS Method	RTX

PHOTOS



Point ID	BE070
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Kom Vo

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

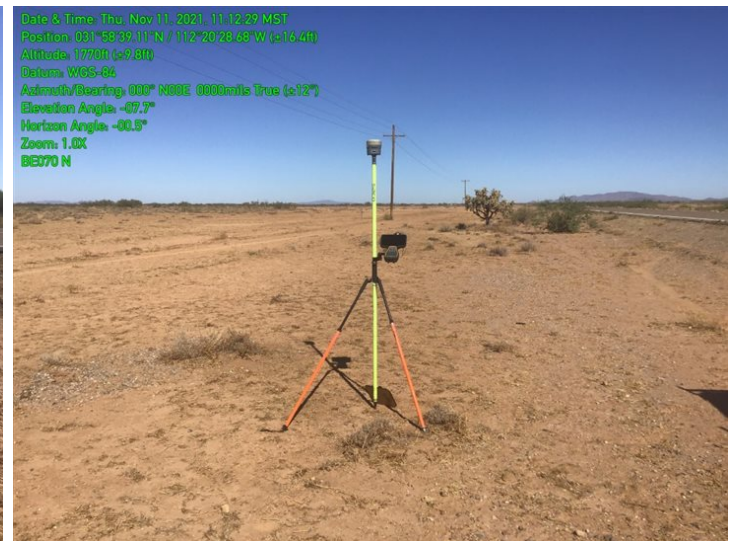
Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
355834.142	568334.182	1782.484

Operator	JL
Receiver Model	Trimble R10
Receiver S/N	84
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-11-2021
RMSE Hz	0.013 ft
RMSE Z	0.065 ft
GPS Method	RTX

PHOTOS



Point ID	BE071
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pinal
Quad	Vaiva Vo

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
629739.085	700338.446	1409.636

Operator	JL
Receiver Model	Trimble R10
Receiver S/N	84
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-15-2021
RMSE Hz	0.013 ft
RMSE Z	0.059 ft
GPS Method	RTX

PHOTOS



Point ID	BE072
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pinal
Quad	Desert Peak

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

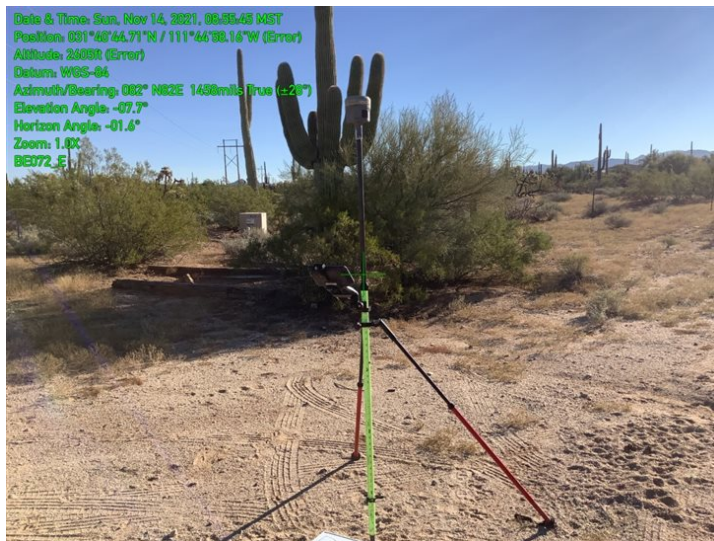
Coordinate System	SP Arizona Central
	NAD83(2011)
	NAVD88
	GEOID18
	International Feet

Northing	Easting	Elevation
569633.667	919238.894	2291.083

Operator	BW
Receiver Model	Trimble R10-2
Receiver S/N	235
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-14-2021
RMSE Hz	0.019 ft
RMSE Z	0.059 ft
GPS Method	RTX

PHOTOS



Point ID	BE073
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Sabino Canyon

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
472828.250	1058984.900	2753.180

Operator	TC
Receiver Model	Trimble R10
Receiver S/N	0385
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	10-13-2021
RMSE Hz	0.017 ft
RMSE Z	0.013 ft
GPS Method	RTN

PHOTOS



Point ID	BE074
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	The Narrows

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
356864.487	1135918.779	3856.276

Operator	AT
Receiver Model	Trimble R12
Receiver S/N	1672
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-03-2021
RMSE Hz	0.010 ft
RMSE Z	0.013 ft
GPS Method	RTN

PHOTOS



Point ID	BE075
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Childs Mountain

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

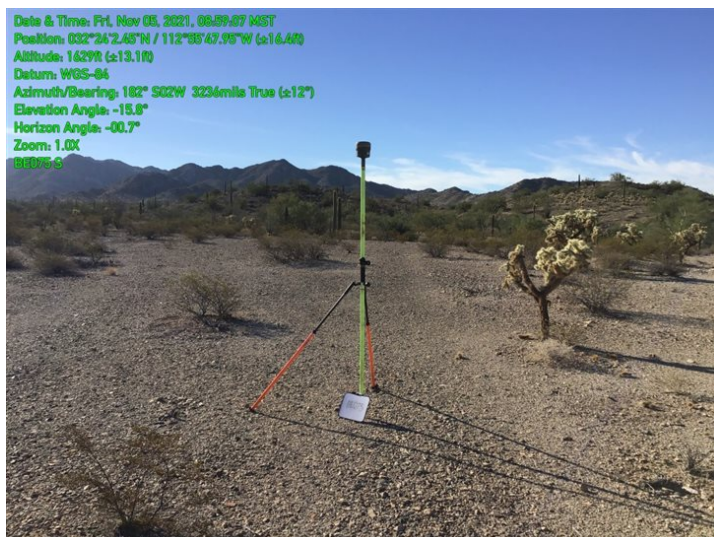
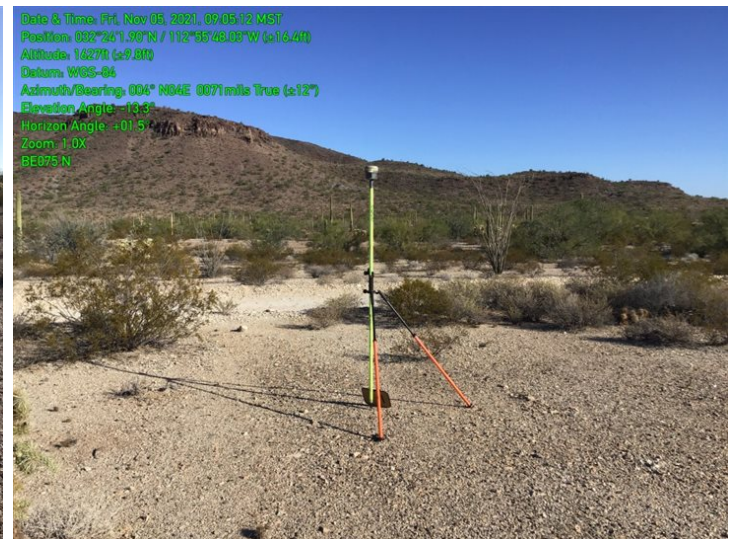
Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
510940.768	387253.261	1630.440

Operator	JL
Receiver Model	Trimble R10
Receiver S/N	84
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-05-2021
RMSE Hz	0.019 ft
RMSE Z	0.060 ft
GPS Method	RTX

PHOTOS



Point ID	BE076
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	West of Marana

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
523714.602	877669.297	1932.904

Operator	BW
Receiver Model	Trimble R10-2
Receiver S/N	235
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-08-2021
RMSE Hz	0.017 ft
RMSE Z	0.064 ft
GPS Method	RTX

PHOTOS



Point ID	BE077
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Tucson SE

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System	SP Arizona Central
	NAD83(2011)
	NAVD88
	GEOID18
	International Feet

Northing	Easting	Elevation
390057.570	1027690.480	2836.090

Operator	GC
Receiver Model	Trimble R10
Receiver S/N	0387
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	10-13-2021
RMSE Hz	0.004 ft
RMSE Z	0.010 ft
GPS Method	RTN

PHOTOS



Point ID	BE078
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Agua Dulce Mountains

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
403486.538	312982.381	1074.787

Operator	JL
Receiver Model	Trimble R10
Receiver S/N	84
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-06-2021
RMSE Hz	0.013 ft
RMSE Z	0.059 ft
GPS Method	RTX

PHOTOS



Point ID	BE079
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Growler Peak

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
509015.586	351200.457	1324.249

Operator	JL
Receiver Model	Trimble R10
Receiver S/N	84
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-05-2021
RMSE Hz	0.013 ft
RMSE Z	0.062 ft
GPS Method	RTX

PHOTOS



Point ID	BE080
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Three Points

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System	SP Arizona Central
	NAD83(2011)
	NAVD88
	GEOID18
	International Feet

Northing	Easting	Elevation
380244.880	901910.560	2850.720

Operator	GC
Receiver Model	Trimble R10
Receiver S/N	0387
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	10-15-2021
RMSE Hz	0.002 ft
RMSE Z	0.008 ft
GPS Method	RTN

PHOTOS



Point ID	BE081
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Sikort Chuapo

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System	SP Arizona Central
	NAD83(2011)
	NAVD88
	GEOID18
	International Feet

Northing	Easting	Elevation
460822.475	446412.908	1793.307

Operator	JL
Receiver Model	Trimble R10
Receiver S/N	84
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-08-2021
RMSE Hz	0.015 ft
RMSE Z	0.079 ft
GPS Method	RTX

PHOTOS



Point ID	BE082
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Santa Rosa

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
468088.846	656878.039	1907.080

Operator	BW
Receiver Model	Trimble R10-2
Receiver S/N	235
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-10-2021
RMSE Hz	0.015 ft
RMSE Z	0.054 ft
GPS Method	RTX

PHOTOS



Point ID	BE083
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pinal
Quad	North Komelik

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System	SP Arizona Central
	NAD83(2011)
	NAVD88
	GEOID18
	International Feet

Northing	Easting	Elevation
551820.938	701272.502	1725.374

Operator	AT
Receiver Model	Trimble R12
Receiver S/N	1672
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-15-2021
RMSE Hz	0.019 ft
RMSE Z	0.052 ft
GPS Method	RTX

PHOTOS



Point ID	BE084
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	North of Agua Dulce Mountains

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

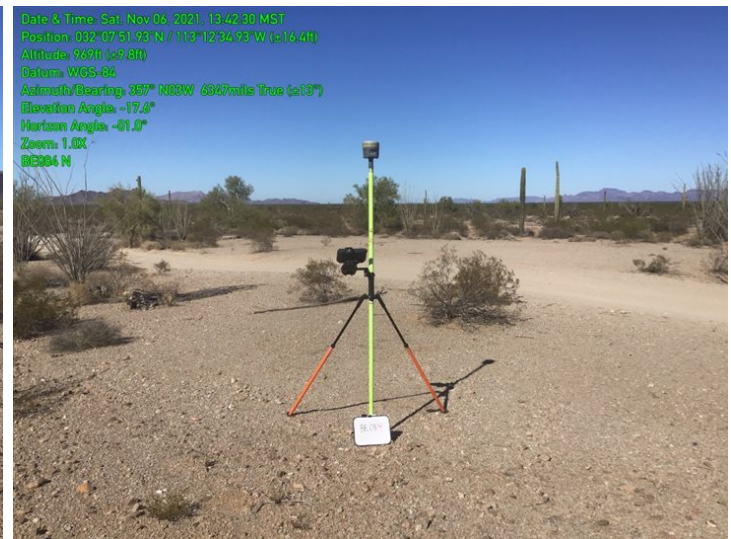
Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
413844.966	299744.457	1008.114

Operator	JL
Receiver Model	Trimble R10
Receiver S/N	84
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-06-2021
RMSE Hz	0.013 ft
RMSE Z	0.042 ft
GPS Method	RTX

PHOTOS



Point ID	BE085
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	La Lesna Mountains

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

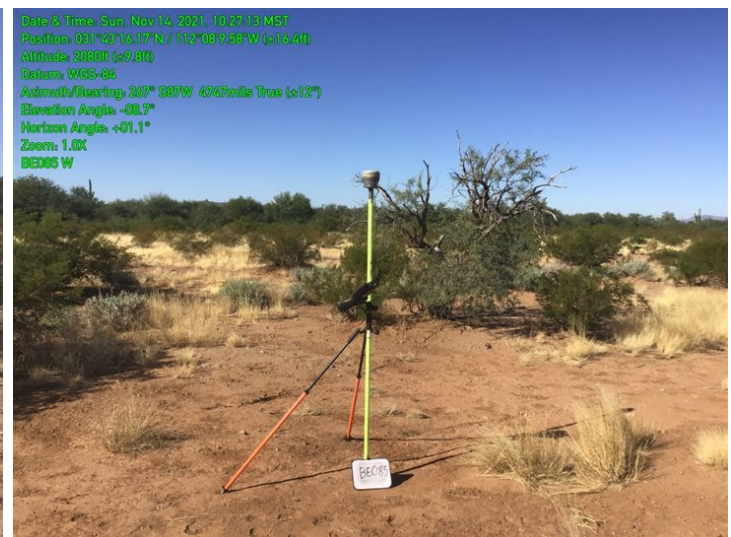
Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
262379.312	631788.226	2106.916

Operator	JL
Receiver Model	Trimble R10
Receiver S/N	84
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-14-2021
RMSE Hz	0.012 ft
RMSE Z	0.040 ft
GPS Method	RTX

PHOTOS



Point ID	BE086
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pinal
Quad	Silver Reef Mountains

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System	SP Arizona Central
	NAD83(2011)
	NAVD88
	GEOID18
	International Feet

Northing	Easting	Elevation
606816.726	721560.175	1540.850

Operator	AT
Receiver Model	Trimble R12
Receiver S/N	1672
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-15-2021
RMSE Hz	0.015 ft
RMSE Z	0.060 ft
GPS Method	RTX

PHOTOS



Point ID	BE087
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pinal
Quad	Tortolita Mountains

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

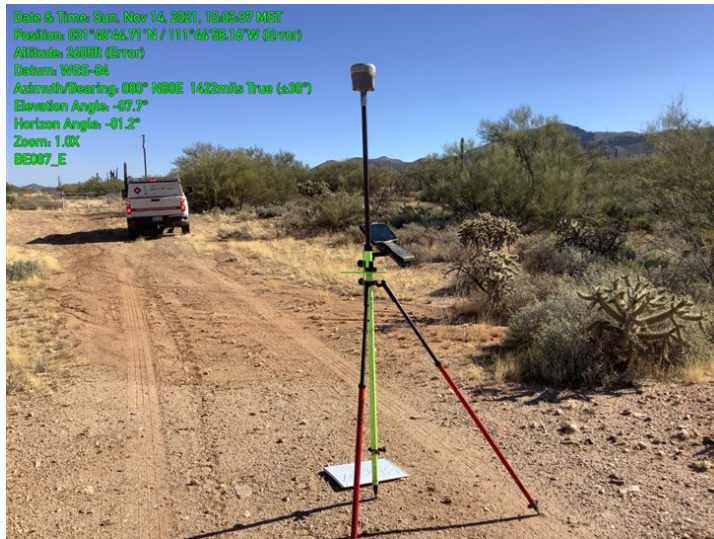
Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
572662.376	944137.439	2768.232

Operator	BW
Receiver Model	Trimble R10-2
Receiver S/N	235
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-14-2021
RMSE Hz	0.017 ft
RMSE Z	0.044 ft
GPS Method	RTX

PHOTOS



Point ID	BE088
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Marana

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
519070.040	934537.080	2046.490

Operator	TC
Receiver Model	Trimble R10
Receiver S/N	0385
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	10-12-2021
RMSE Hz	0.004 ft
RMSE Z	0.028 ft
GPS Method	RTN

PHOTOS



Point ID	BE089
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Tucson

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System	SP Arizona Central
	NAD83(2011)
	NAVD88
	GEOID18
	International Feet

Northing	Easting	Elevation
414536.180	1016990.830	2671.490

Operator	GC
Receiver Model	Trimble R10
Receiver S/N	0387
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	10-13-2021
RMSE Hz	0.002 ft
RMSE Z	0.012 ft
GPS Method	RTN

PHOTOS



Point ID	BE090
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Vail

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

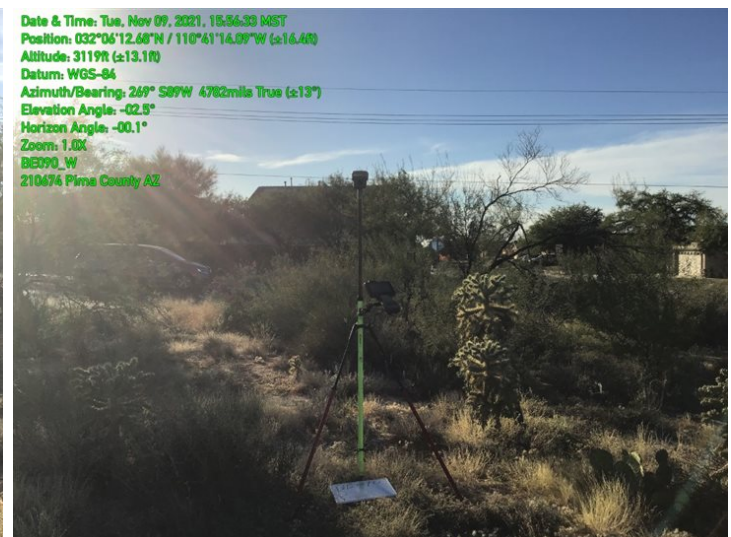
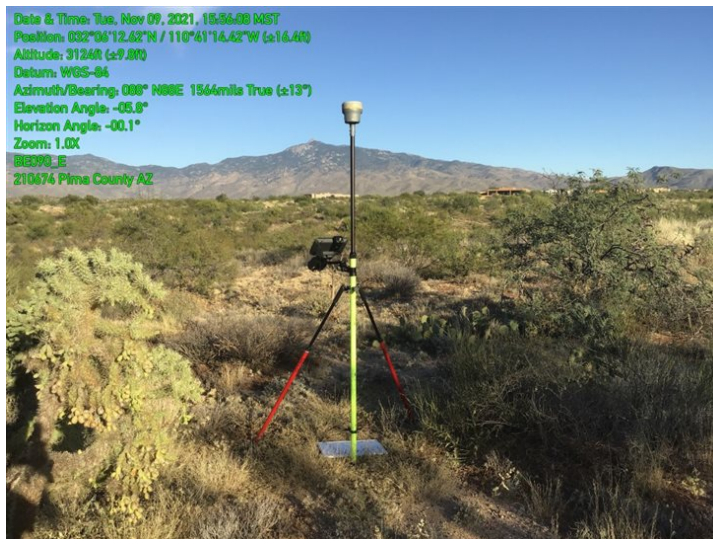
Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
403557.030	1080673.133	3127.874

Operator	AT
Receiver Model	Trimble R12
Receiver S/N	1672
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-09-2021
RMSE Hz	0.017 ft
RMSE Z	0.059 ft
GPS Method	RTX

PHOTOS



Point ID	BE091
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Hotason Vo

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
451595.531	498939.297	2105.217

Operator	JL
Receiver Model	Trimble R10
Receiver S/N	84
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-08-2021
RMSE Hz	0.013 ft
RMSE Z	0.054 ft
GPS Method	RTX

PHOTOS



Point ID	BE092
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Amado

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
270054.873	969463.210	3054.259

Operator	AT
Receiver Model	Trimble R12
Receiver S/N	1672
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-05-2021
RMSE Hz	0.006 ft
RMSE Z	0.008 ft
GPS Method	RTK

PHOTOS



Point ID	BE093
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Tucson SW

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
397982.530	996711.240	2588.910

Operator	GC
Receiver Model	Trimble R10
Receiver S/N	0387
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	10-13-2021
RMSE Hz	0.010 ft
RMSE Z	0.020 ft
GPS Method	RTN

PHOTOS



Point ID	BE094
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	O'Neill Hills

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
402594.598	276992.783	921.677

Operator	JL
Receiver Model	Trimble R10
Receiver S/N	84
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-06-2021
RMSE Hz	0.013 ft
RMSE Z	0.049 ft
GPS Method	RTX

PHOTOS



Point ID	BE095
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Cocoraque Butte

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
414442.937	902464.656	2388.936

Operator	GR
Receiver Model	Trimble R8 Model 2
Receiver S/N	3666
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	07-10-2021
RMSE Hz	0.028 ft
RMSE Z	0.057 ft
GPS Method	RTN

PHOTOS



Point ID	BE096
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Sahuarita

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
349784.030	1006713.500	2736.750

Operator	GC
Receiver Model	Trimble R10
Receiver S/N	0387
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	10-13-2021
RMSE Hz	0.013 ft
RMSE Z	0.007 ft
GPS Method	RTN

PHOTOS



Point ID	BE097
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	O'Neill Hills

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

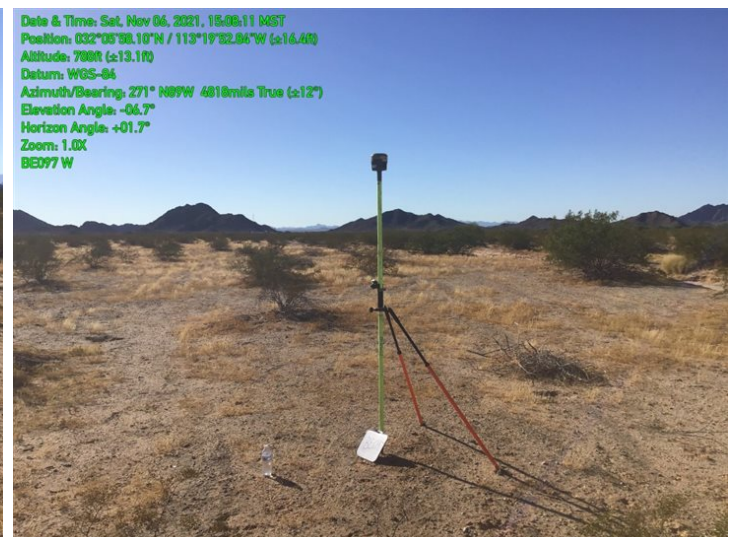
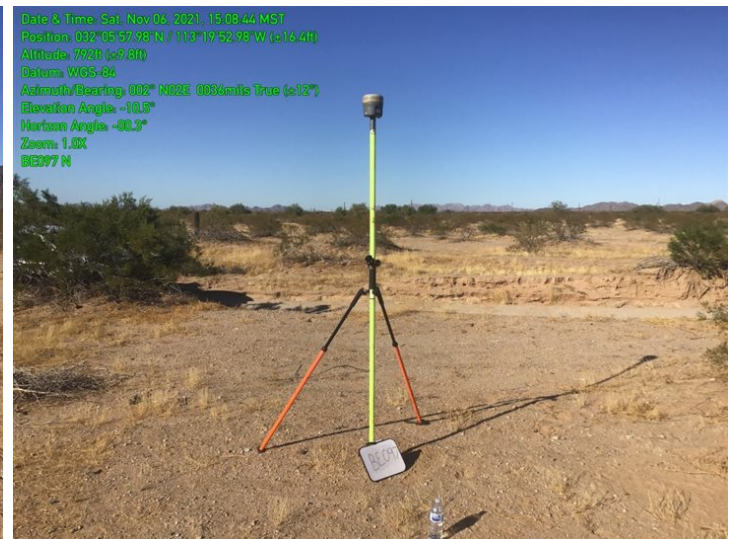
Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
402792.596	261915.562	816.873

Operator	JL
Receiver Model	Trimble R10
Receiver S/N	84
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-06-2021
RMSE Hz	0.015 ft
RMSE Z	0.054 ft
GPS Method	RTX

PHOTOS



Point ID	BE098
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Jaynes

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
471865.300	960927.990	2382.680

Operator	TC
Receiver Model	Trimble R10
Receiver S/N	0385
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	10-14-2021
RMSE Hz	0.008 ft
RMSE Z	0.005 ft
GPS Method	RTN

PHOTOS



Point ID	BE099
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Topawa

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

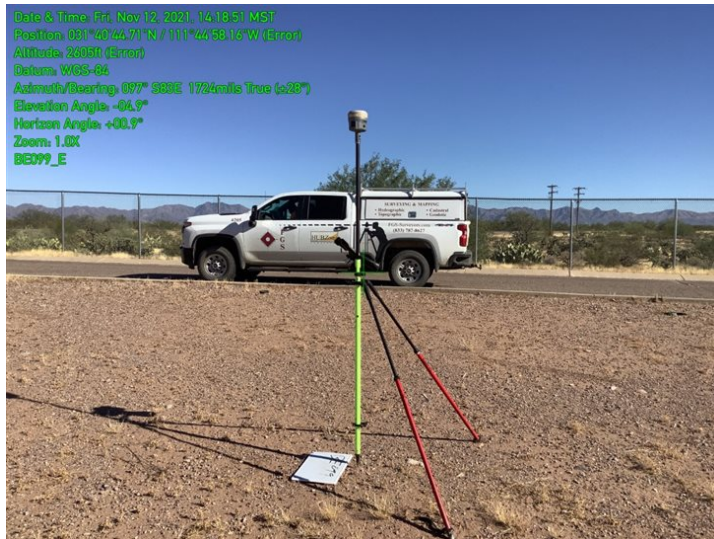
Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
299755.021	725738.834	2450.554

Operator	AT
Receiver Model	Trimble R12
Receiver S/N	1672
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-08-2021
RMSE Hz	0.017 ft
RMSE Z	0.072 ft
GPS Method	RTX

PHOTOS



Point ID	BE100
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Maricopa
Quad	Copperosity Hills

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

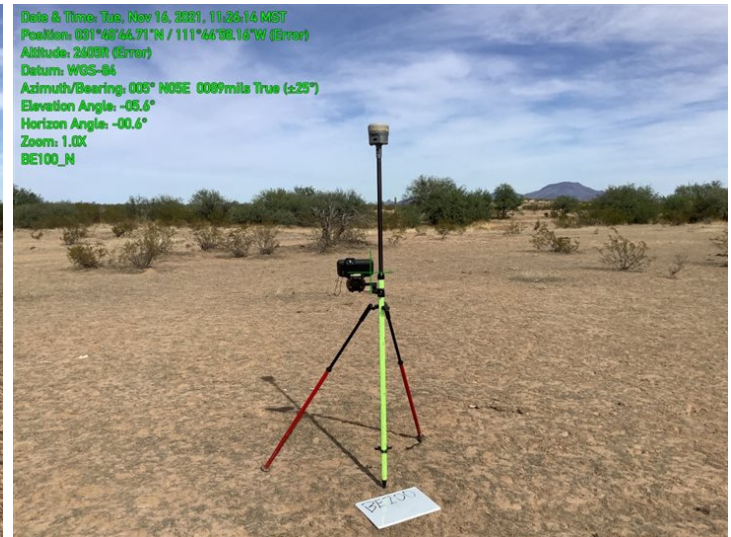
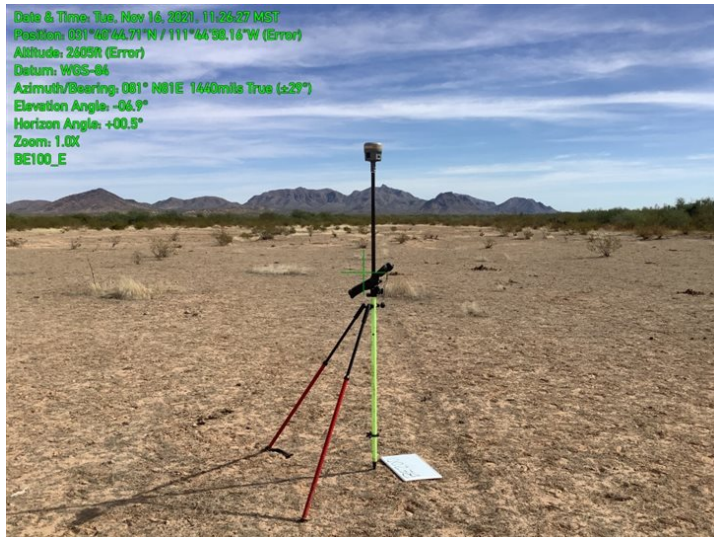
Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
576006.381	605709.505	2059.511

Operator	BW
Receiver Model	Trimble R10-2
Receiver S/N	235
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-16-2021
RMSE Hz	0.017 ft
RMSE Z	0.064 ft
GPS Method	RTX

PHOTOS



Point ID	BE101
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Kupk

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
326479.759	632153.010	1906.112

Operator	JL
Receiver Model	Trimble R10
Receiver S/N	84
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-12-2021
RMSE Hz	0.015 ft
RMSE Z	0.065 ft
GPS Method	RTX

PHOTOS



Point ID	BE102
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Wahak Hotrontk

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
427293.209	564268.933	1955.564

Operator	JL
Receiver Model	Trimble R10
Receiver S/N	84
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-11-2021
RMSE Hz	0.013 ft
RMSE Z	0.040 ft
GPS Method	RTX

PHOTOS



Point ID	BE103
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Corona De Tucson

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System	SP Arizona Central
	NAD83(2011)
	NAVD88
	GEOID18
	International Feet

Northing	Easting	Elevation
352071.600	1049606.390	3206.010

Operator	AT
Receiver Model	Trimble R12
Receiver S/N	1672
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-05-2021
RMSE Hz	0.004 ft
RMSE Z	0.008 ft
GPS Method	RTN

PHOTOS



Point ID	BE104
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Queens Well

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
500051.313	772075.757	1891.801

Operator	GR
Receiver Model	Trimble R8 Model 2
Receiver S/N	3666
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	07-09-2021
RMSE Hz	0.041 ft
RMSE Z	0.106 ft
GPS Method	RTN

PHOTOS



Point ID	BE105
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pinal
Quad	Samaniego Hills

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
549495.415	833761.316	1984.276

Operator	GR
Receiver Model	Trimble R8 Model 2
Receiver S/N	3666
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	07-08-2021
RMSE Hz	0.026 ft
RMSE Z	0.067 ft
GPS Method	RTN

PHOTOS



Point ID	BE106
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Bates Well

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System	SP Arizona Central
	NAD83(2011)
	NAVD88
	GEOID18
	International Feet

Northing	Easting	Elevation
452097.278	401005.721	1578.383

Operator	JL
Receiver Model	Trimble R10
Receiver S/N	84
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-06-2021
RMSE Hz	0.015 ft
RMSE Z	0.057 ft
GPS Method	RTX

PHOTOS



Point ID	BE107
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pinal
Quad	Vaiva Vo

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System	SP Arizona Central
	NAD83(2011)
	NAVD88
	GEOID18
	International Feet

Northing	Easting	Elevation
600526.446	684708.491	1561.335

Operator	JL
Receiver Model	Trimble R10
Receiver S/N	84
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-15-2021
RMSE Hz	0.013 ft
RMSE Z	0.050 ft
GPS Method	RTX

PHOTOS



Point ID	BE108
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Ajo North

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
503071.669	429774.321	1571.243

Operator	JL
Receiver Model	Trimble R10
Receiver S/N	84
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-10-2021
RMSE Hz	0.015 ft
RMSE Z	0.057 ft
GPS Method	RTX

PHOTOS



Point ID	BE109
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pinal
Quad	Red Rock

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
588240.100	899689.510	2065.850

Operator	TC
Receiver Model	Trimble R10
Receiver S/N	0385
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	10-12-2021
RMSE Hz	0.012 ft
RMSE Z	0.008 ft
GPS Method	RTN

PHOTOS



Point ID	BE110
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Ajo North

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System	SP Arizona Central
	NAD83(2011)
	NAVD88
	GEOID18
	International Feet

Northing	Easting	Elevation
505402.904	404854.994	1772.933

Operator	JL
Receiver Model	Trimble R10
Receiver S/N	84
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-05-2021
RMSE Hz	0.015 ft
RMSE Z	0.044 ft
GPS Method	RTX

PHOTOS



Point ID	BE111
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Tanque Verde Peak

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

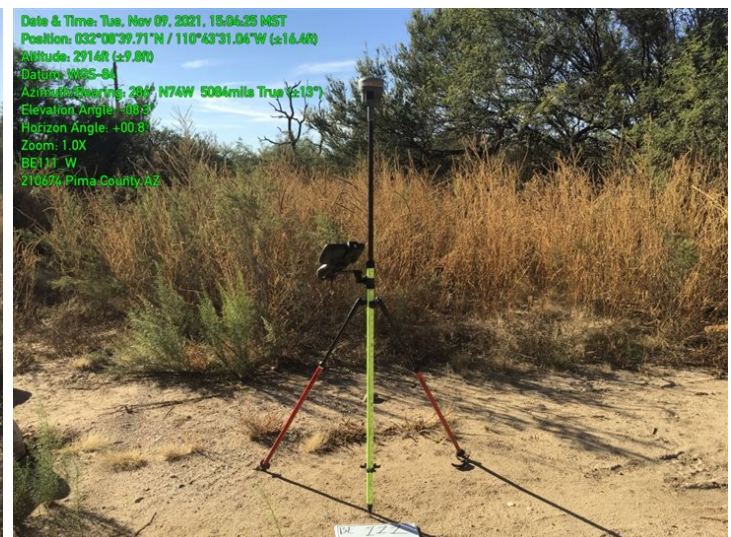
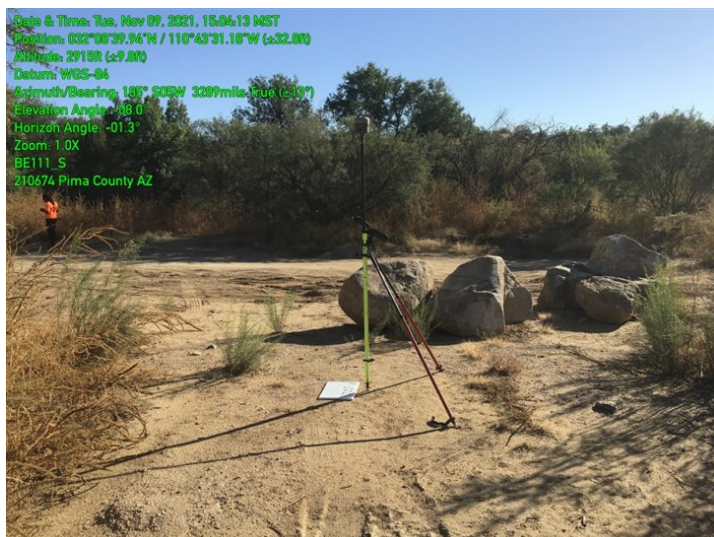
Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
418291.091	1068725.297	2909.918

Operator	AT
Receiver Model	Trimble R12
Receiver S/N	1672
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-09-2021
RMSE Hz	0.017 ft
RMSE Z	0.069 ft
GPS Method	RTX

PHOTOS



Point ID	BE112
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Mount Fagan

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System	SP Arizona Central
	NAD83(2011)
	NAVD88
	GEOID18
	International Feet

Northing	Easting	Elevation
362215.260	1075261.417	3452.142

Operator	AT
Receiver Model	Trimble R12
Receiver S/N	1672
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-03-2021
RMSE Hz	0.013 ft
RMSE Z	0.037 ft
GPS Method	RTN

PHOTOS



Point ID	BE113
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	San Miguel

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
205380.039	745850.697	2544.984

Operator	BW
Receiver Model	Trimble R10-2
Receiver S/N	235
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-12-2021
RMSE Hz	0.017 ft
RMSE Z	0.055 ft
GPS Method	RTX

PHOTOS



Point ID	BE114
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Pan Tak

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
378063.128	828147.056	2943.340

Operator	AT
Receiver Model	Trimble R12
Receiver S/N	1672
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-08-2021
RMSE Hz	0.013 ft
RMSE Z	0.027 ft
GPS Method	RTN

PHOTOS



Point ID	BE115
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pinal
Quad	Campo Bonito

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System	SP Arizona Central
	NAD83(2011)
	NAVD88
	GEOID18
	International Feet

Northing	Easting	Elevation
574958.700	1069314.863	4439.397

Operator	MN
Receiver Model	Trimble R8 Model 2
Receiver S/N	3666
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	07-05-2021
RMSE Hz	0.018 ft
RMSE Z	0.043 ft
GPS Method	RTN

PHOTOS



Point ID	BE116
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Kom Vo

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
325560.390	571325.585	1769.760

Operator	JL
Receiver Model	Trimble R10
Receiver S/N	84
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-11-2021
RMSE Hz	0.013 ft
RMSE Z	0.042 ft
GPS Method	RTX

PHOTOS



Point ID	BE117
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Vaya Chin

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

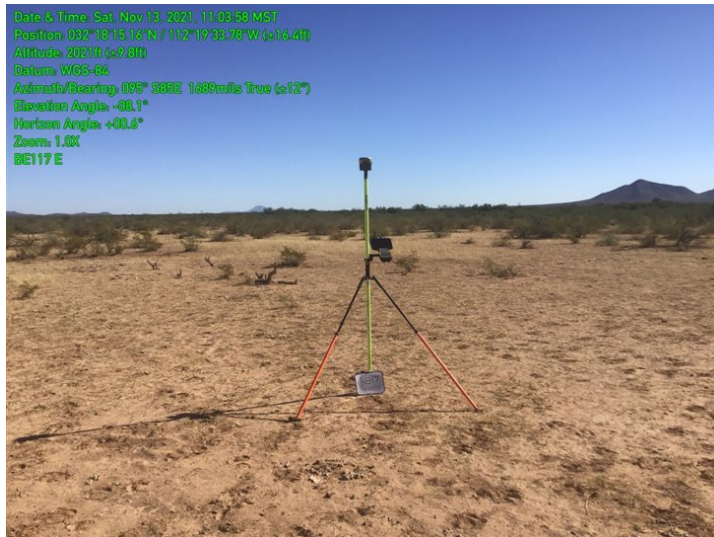
Coordinate System	SP Arizona Central
	NAD83(2011)
	NAVD88
	GEOID18
	International Feet

Northing	Easting	Elevation
474634.154	573547.885	2046.516

Operator	JL
Receiver Model	Trimble R10
Receiver S/N	84
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-13-2021
RMSE Hz	0.015 ft
RMSE Z	0.064 ft
GPS Method	RTX

PHOTOS



Point ID	BE118
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Sells East

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

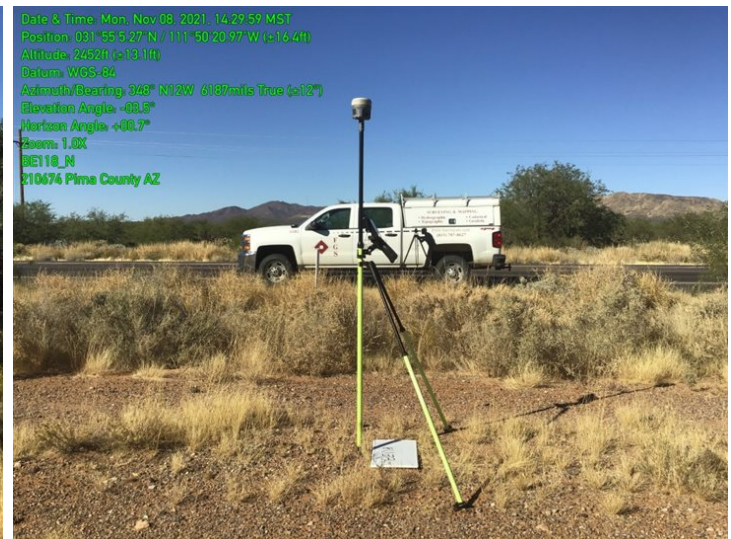
Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
333975.629	724046.596	2477.365

Operator	AT
Receiver Model	Trimble R12
Receiver S/N	1672
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-08-2021
RMSE Hz	0.017 ft
RMSE Z	0.059 ft
GPS Method	RTX

PHOTOS



Point ID	BE119
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Saguaro Gap Well

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

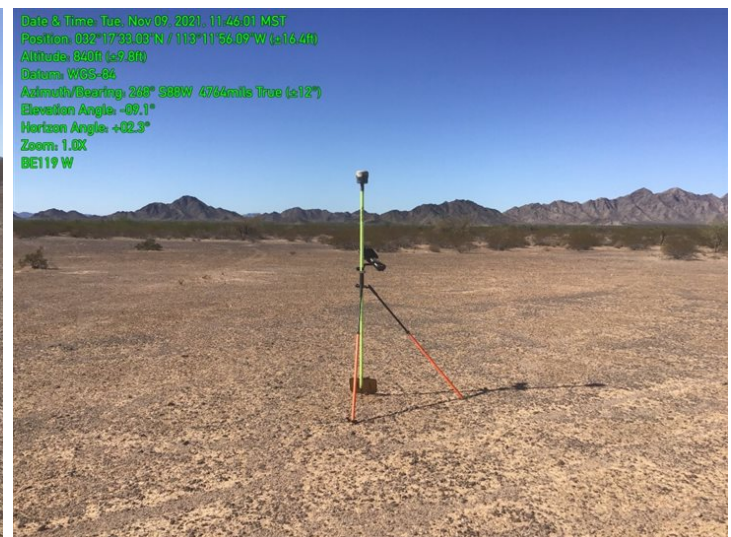
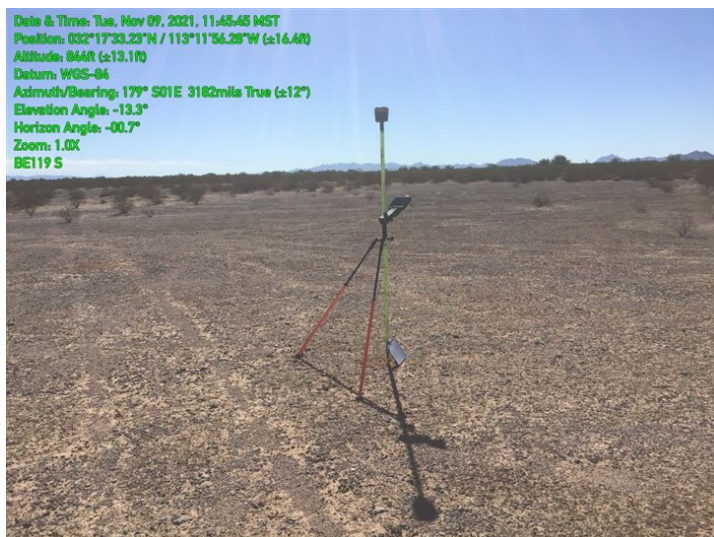
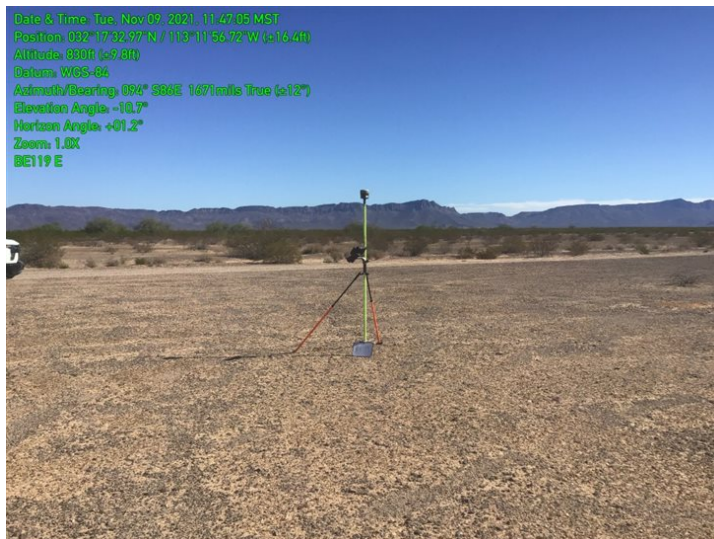
Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
472503.130	303764.177	844.675

Operator	JL
Receiver Model	Trimble R10
Receiver S/N	84
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-09-2021
RMSE Hz	0.012 ft
RMSE Z	0.072 ft
GPS Method	RTX

PHOTOS



Point ID	BE120
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pinal
Quad	Eloy South

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

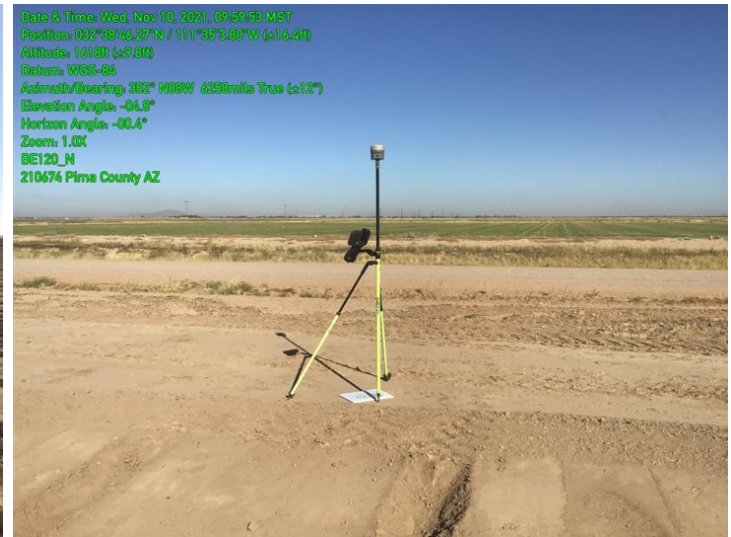
Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
598995.258	802273.599	1618.245

Operator	AT
Receiver Model	Trimble R12
Receiver S/N	1672
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-10-2021
RMSE Hz	0.017 ft
RMSE Z	0.042 ft
GPS Method	RTX

PHOTOS



Point ID	BE121
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Three Points

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System	SP Arizona Central
	NAD83(2011)
	NAVD88
	GEOID18
	International Feet

Northing	Easting	Elevation
392083.400	877312.580	2544.360

Operator	GC
Receiver Model	Trimble R10
Receiver S/N	0387
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	10-14-2021
RMSE Hz	0.004 ft
RMSE Z	0.003 ft
GPS Method	RTN

PHOTOS



Point ID	BE122
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Palo Verde Camp

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

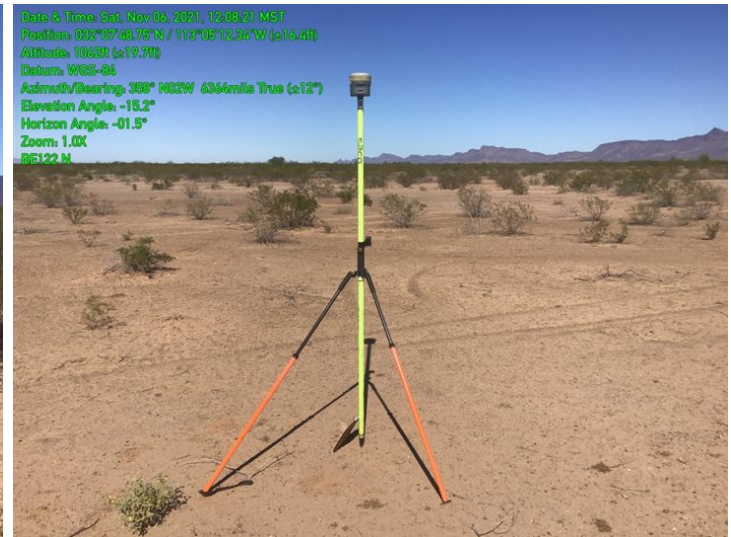
Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
413083.194	337802.376	1101.752

Operator	JL
Receiver Model	Trimble R10
Receiver S/N	84
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-06-2021
RMSE Hz	0.012 ft
RMSE Z	0.040 ft
GPS Method	RTX

PHOTOS



Point ID	BE123
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	West of Pisinimo

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

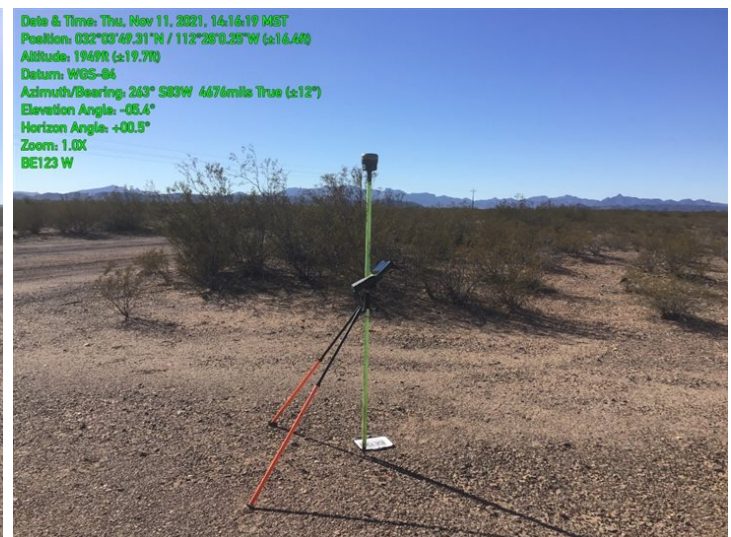
Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
387346.847	529595.658	1973.323

Operator	JL
Receiver Model	Trimble R10
Receiver S/N	84
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-11-2021
RMSE Hz	0.021 ft
RMSE Z	0.057 ft
GPS Method	RTX

PHOTOS



Point ID	BE124
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Ben Nevis Mountain

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

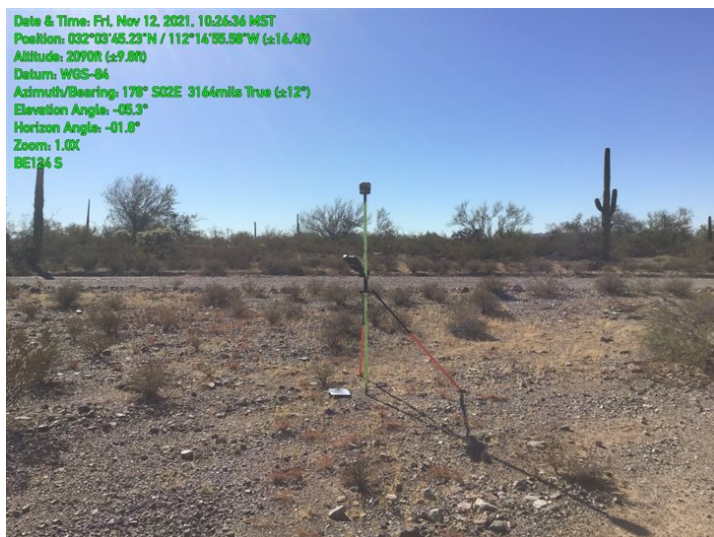
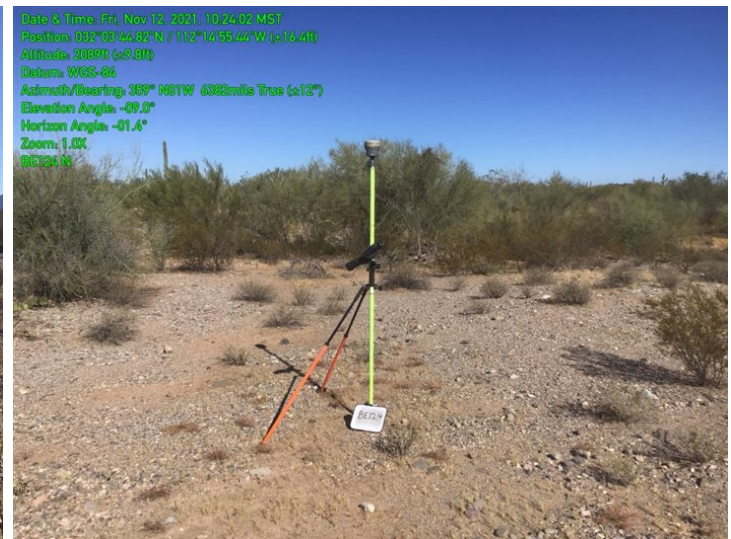
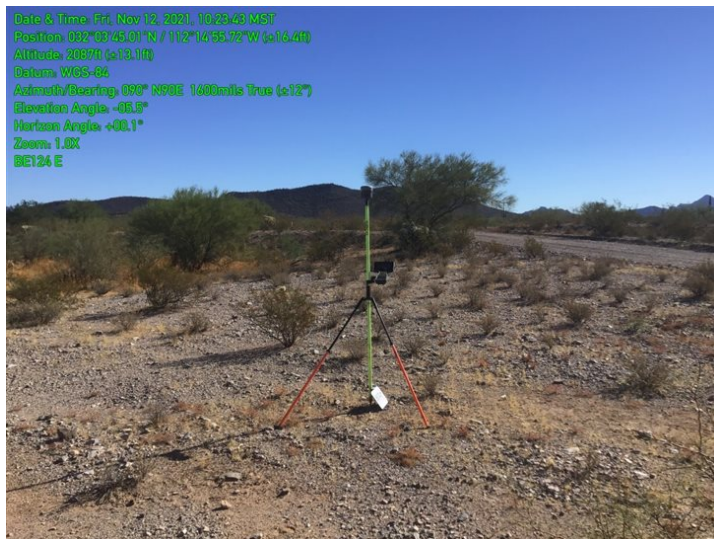
Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
386630.566	597135.917	2108.373

Operator	JL
Receiver Model	Trimble R10
Receiver S/N	84
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-12-2021
RMSE Hz	0.017 ft
RMSE Z	0.052 ft
GPS Method	RTX

PHOTOS



Point ID	BE125
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Piety Hill

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System	SP Arizona Central
	NAD83(2011)
	NAVD88
	GEOID18
	International Feet

Northing	Easting	Elevation
477131.211	1113071.458	4287.392

Operator	AT
Receiver Model	Trimble R12
Receiver S/N	1672
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-11-2021
RMSE Hz	0.017 ft
RMSE Z	0.059 ft
GPS Method	RTX

PHOTOS



Point ID	BE126
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Oro Valley

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System	SP Arizona Central
	NAD83(2011)
	NAVD88
	GEOID18
	International Feet

Northing	Easting	Elevation
516916.600	1002372.150	2646.820

Operator	TC
Receiver Model	Trimble R10
Receiver S/N	0385
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	10-15-2021
RMSE Hz	0.004 ft
RMSE Z	0.020 ft
GPS Method	RTN

PHOTOS



Point ID	BE126a
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Oro Valley

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
516856.491	1002403.035	2647.146

Operator	BW
Receiver Model	Trimble R10-2
Receiver S/N	235
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-11-2021
RMSE Hz	0.017 ft
RMSE Z	0.062 ft
GPS Method	RTX

PHOTOS



Point ID	BE127
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Gu Vo

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
409585.954	495934.665	2252.116

Operator	JL
Receiver Model	Trimble R10
Receiver S/N	84
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-10-2021
RMSE Hz	0.017 ft
RMSE Z	0.057 ft
GPS Method	RTX

PHOTOS



Point ID	BE128
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Ruelas Canyon

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

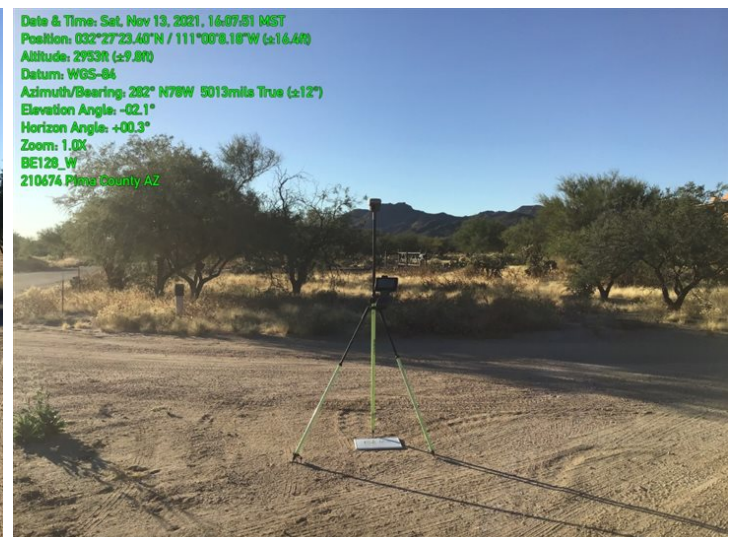
Coordinate System	SP Arizona Central
	NAD83(2011)
	NAVD88
	GEOID18
	International Feet

Northing	Easting	Elevation
531017.999	982026.584	2957.313

Operator	AT
Receiver Model	Trimble R12
Receiver S/N	1672
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-13-2021
RMSE Hz	0.015 ft
RMSE Z	0.049 ft
GPS Method	RTX

PHOTOS



Point ID	BE129
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	West of Wahak Hotrontk

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
435316.544	539627.022	1972.549

Operator	JL
Receiver Model	Trimble R10
Receiver S/N	84
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-11-2021
RMSE Hz	0.015 ft
RMSE Z	0.059 ft
GPS Method	RTX

PHOTOS



Point ID	BE130
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Childs Mountain

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
545631.191	402379.167	1325.614

Operator	BW
Receiver Model	Trimble R10-2
Receiver S/N	235
Antenna Height	5.709 ft

Date (MM-DD-YYYY)	11-04-2021
RMSE Hz	0.012 ft
RMSE Z	0.030 ft
GPS Method	RTX

PHOTOS



Point ID	BE131
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Growler Peak

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System	SP Arizona Central
	NAD83(2011)
	NAVD88
	GEOID18
	International Feet

Northing	Easting	Elevation
508919.893	340227.892	1454.121

Operator	JL
Receiver Model	Trimble R10
Receiver S/N	84
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-05-2021
RMSE Hz	0.013 ft
RMSE Z	0.057 ft
GPS Method	RTX

PHOTOS



Point ID	BE132
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Empire Ranch

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

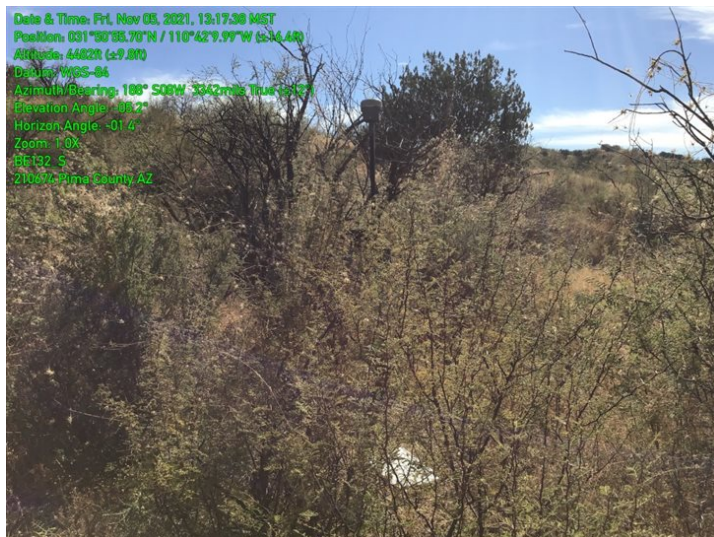
Coordinate System	SP Arizona Central
	NAD83(2011)
	NAVD88
	GEOID18
	International Feet

Northing	Easting	Elevation
310816.540	1076917.087	4492.093

Operator	AT
Receiver Model	Trimble R12
Receiver S/N	1672
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-05-2021
RMSE Hz	0.012 ft
RMSE Z	0.022 ft
GPS Method	RTN

PHOTOS



Point ID	BE133
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pinal
Quad	North Komelik

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

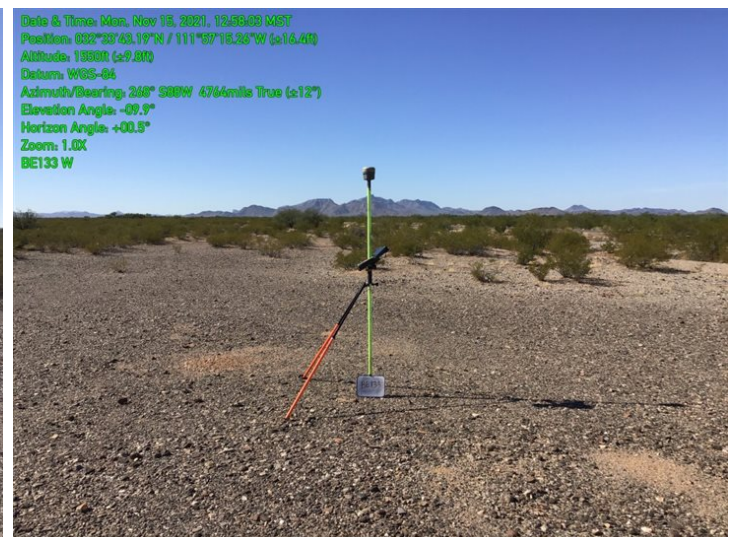
Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
568179.960	688405.865	1582.562

Operator	JL
Receiver Model	Trimble R10
Receiver S/N	84
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-15-2021
RMSE Hz	0.013 ft
RMSE Z	0.064 ft
GPS Method	RTX

PHOTOS



Point ID	BE134
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Pisinimo

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
378483.626	577381.745	1912.133

Operator	JL
Receiver Model	Trimble R10
Receiver S/N	84
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-11-2021
RMSE Hz	0.013 ft
RMSE Z	0.049 ft
GPS Method	RTX

PHOTOS



Point ID	BE135
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pinal
Quad	Oracle

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

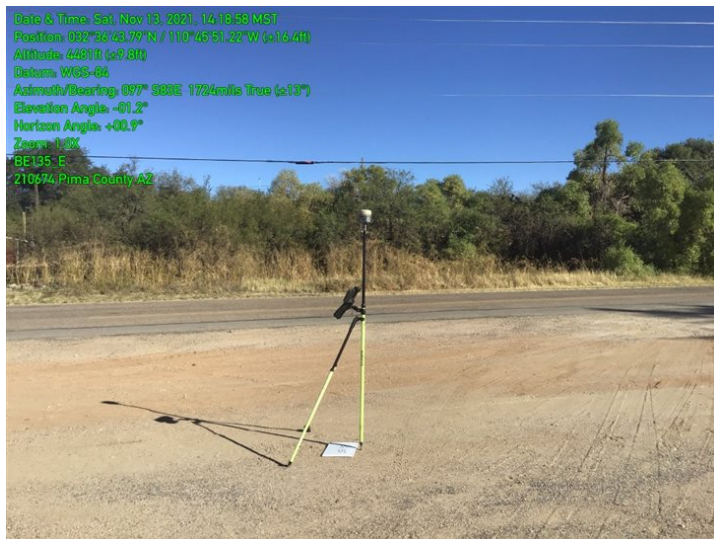
Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
588352.726	1054883.975	4483.612

Operator	AT
Receiver Model	Trimble R12
Receiver S/N	1672
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-13-2021
RMSE Hz	0.015 ft
RMSE Z	0.044 ft
GPS Method	RTX

PHOTOS



Point ID	BE136
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Redington

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System	SP Arizona Central
	NAD83(2011)
	NAVD88
	GEOID18
	International Feet

Northing	Easting	Elevation
545022.243	1138449.396	2784.970

Operator	BW
Receiver Model	Trimble R10-2
Receiver S/N	235
Antenna Height	6.004 ft

Date (MM-DD-YYYY)	11-06-2021
RMSE Hz	0.017 ft
RMSE Z	0.045 ft
GPS Method	RTX

PHOTOS



Point ID	BE137
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Corona De Tucson

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System	SP Arizona Central
	NAD83(2011)
	NAVD88
	GEOID18
	International Feet

Northing	Easting	Elevation
351772.770	1028009.560	2899.900

Operator	GC
Receiver Model	Trimble R10
Receiver S/N	0387
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	10-13-2021
RMSE Hz	0.006 ft
RMSE Z	0.002 ft
GPS Method	RTN

PHOTOS



Point ID	BE138
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Avra

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
481984.907	926347.513	2368.238

Operator	AT
Receiver Model	Trimble R12
Receiver S/N	1672
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-12-2021
RMSE Hz	0.017 ft
RMSE Z	0.057 ft
GPS Method	RTX

PHOTOS



Point ID	BE139
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Gap Tank

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
527478.789	758475.991	1736.934

Operator	GR
Receiver Model	Trimble R8 Model 2
Receiver S/N	3666
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	07-09-2021
RMSE Hz	0.040 ft
RMSE Z	0.095 ft
GPS Method	Fast-Static

PHOTOS



Point ID	BE140
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	San Xavier Mission

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

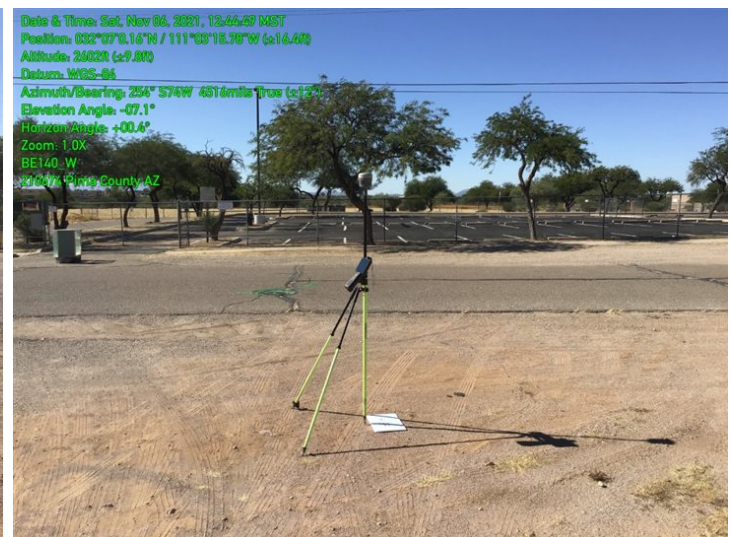
Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
407260.719	966944.239	2585.295

Operator	AT
Receiver Model	Trimble R12
Receiver S/N	1672
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-06-2021
RMSE Hz	0.010 ft
RMSE Z	0.015 ft
GPS Method	RTN

PHOTOS



Point ID	BE141
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Tucson SW

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System	SP Arizona Central
	NAD83(2011)
	NAVD88
	GEOID18
	International Feet

Northing	Easting	Elevation
368213.380	999752.960	2649.640

Operator	GC
Receiver Model	Trimble R10
Receiver S/N	0387
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	10-12-2021
RMSE Hz	0.004 ft
RMSE Z	0.003 ft
GPS Method	RTN

PHOTOS



Point ID	BE142
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	San Xavier Mission SW

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System	SP Arizona Central
	NAD83(2011)
	NAVD88
	GEOID18
	International Feet

Northing	Easting	Elevation
409370.640	921631.830	2434.020

Operator	GC
Receiver Model	Trimble R10
Receiver S/N	0387
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	10-14-2021
RMSE Hz	0.006 ft
RMSE Z	0.002 ft
GPS Method	RTN

PHOTOS



Point ID	BE143
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Drew Spring Well

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System	SP Arizona Central
	NAD83(2011)
	NAVD88
	GEOID18
	International Feet

Northing	Easting	Elevation
525876.140	669239.407	1654.777

Operator	BW
Receiver Model	Trimble R10-2
Receiver S/N	235
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-10-2021
RMSE Hz	0.015 ft
RMSE Z	0.040 ft
GPS Method	RTX

PHOTOS



Point ID	BE144
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pinal
Quad	Desert Peak

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System	SP Arizona Central
	NAD83(2011)
	NAVD88
	GEOID18
	International Feet

Northing	Easting	Elevation
551898.868	918195.407	2199.955

Operator	GR
Receiver Model	Trimble R8 Model 2
Receiver S/N	3666
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	07-07-2021
RMSE Hz	0.024 ft
RMSE Z	0.061 ft
GPS Method	RTN

PHOTOS



Point ID	BE145
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Marana

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

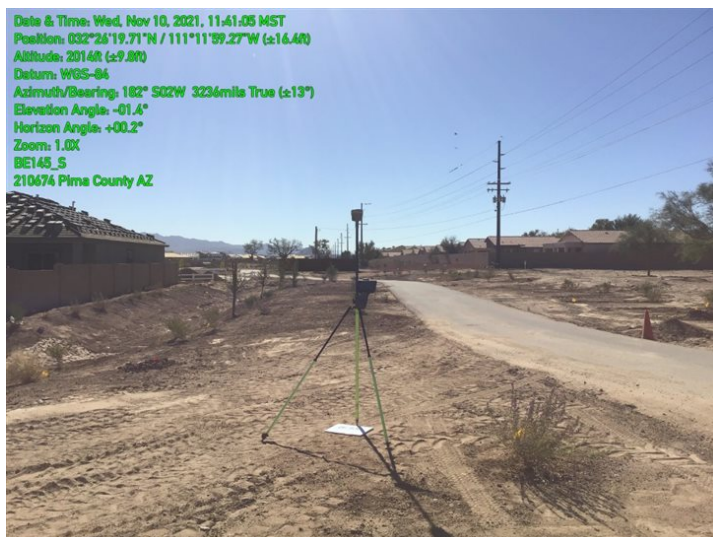
Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
524079.054	921160.292	2006.942

Operator	AT
Receiver Model	Trimble R12
Receiver S/N	1672
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-10-2021
RMSE Hz	0.015 ft
RMSE Z	0.067 ft
GPS Method	RTX

PHOTOS



Point ID	BE146
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Vaya Chin

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
487748.345	567913.668	2144.101

Operator	JL
Receiver Model	Trimble R10
Receiver S/N	84
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-13-2021
RMSE Hz	0.019 ft
RMSE Z	0.059 ft
GPS Method	RTX

PHOTOS



Point ID	BE147
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Hickiwan

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

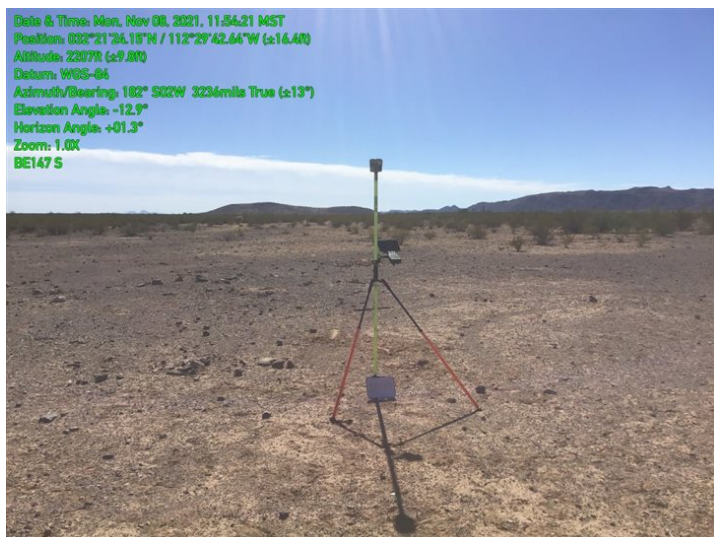
Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
493961.978	521368.616	2187.300

Operator	JL
Receiver Model	Trimble R10
Receiver S/N	84
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-08-2021
RMSE Hz	0.013 ft
RMSE Z	0.050 ft
GPS Method	RTX

PHOTOS



Point ID	BE148
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Brown Mountain

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
454790.135	926454.922	2667.277

Operator	AT
Receiver Model	Trimble R12
Receiver S/N	1672
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-06-2021
RMSE Hz	0.013 ft
RMSE Z	0.023 ft
GPS Method	RTN

PHOTOS



Point ID	BE149
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pinal
Quad	Peppersauce Wash

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
556268.092	1136209.262	2729.889

Operator	MN
Receiver Model	Trimble R8 Model 2
Receiver S/N	3666
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	07-05-2021
RMSE Hz	0.027 ft
RMSE Z	0.060 ft
GPS Method	Fast-Static

PHOTOS



Point ID	BE150
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pinal
Quad	Samaniego Hills

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

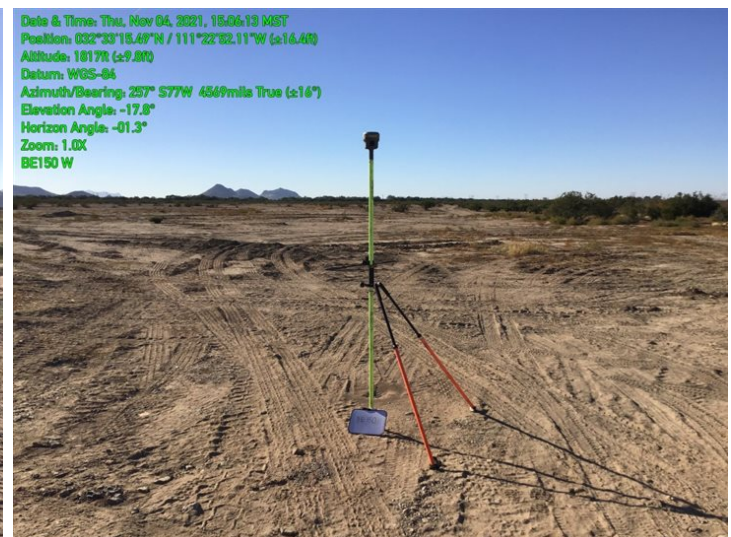
Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
565787.586	864988.385	1819.610

Operator	JL
Receiver Model	Trimble R10
Receiver S/N	84
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-04-2021
RMSE Hz	0.006 ft
RMSE Z	0.010 ft
GPS Method	RTN

PHOTOS



Point ID	BE151
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Drew Spring Well

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

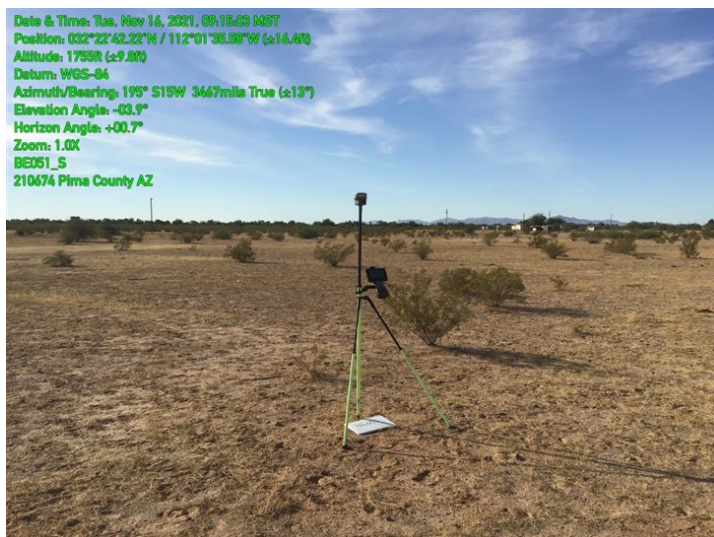
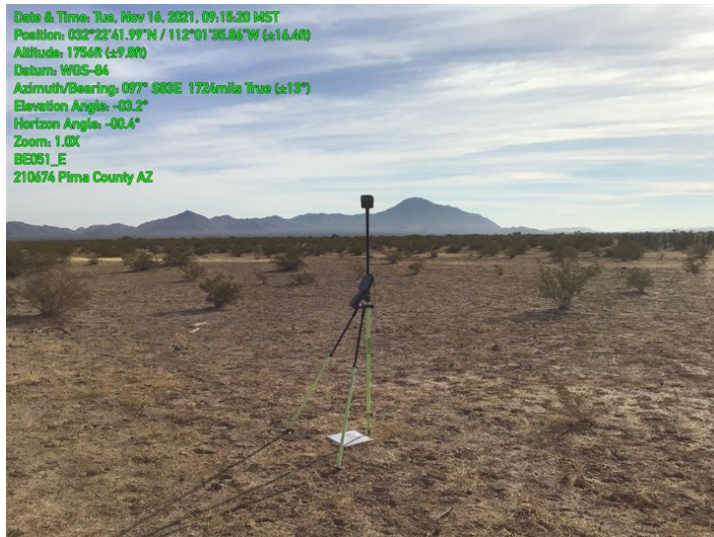
Coordinate System	SP Arizona Central
	NAD83(2011)
	NAVD88
	GEOID18
	International Feet

Northing	Easting	Elevation
501381.541	666078.618	1750.427

Operator	AT
Receiver Model	Trimble R12
Receiver S/N	1672
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-16-2021
RMSE Hz	0.017 ft
RMSE Z	0.049 ft
GPS Method	RTX

PHOTOS



Point ID	BE152
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Redington

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

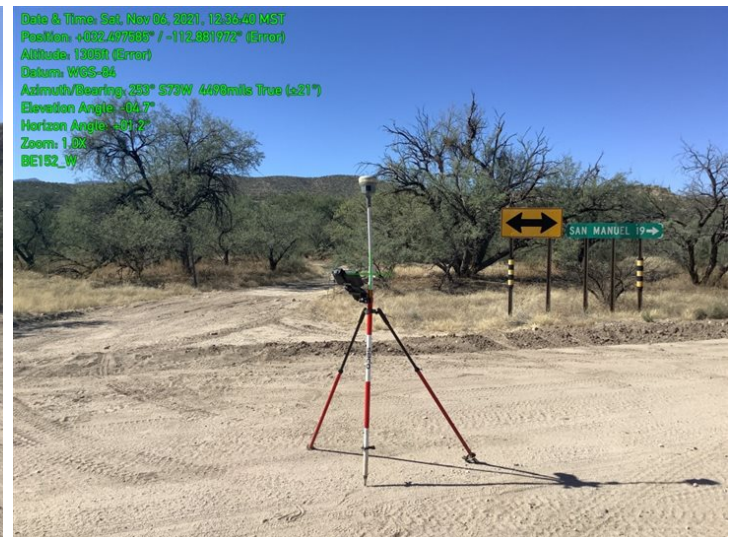
Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
521740.960	1137135.895	2872.175

Operator	BW
Receiver Model	Trimble R10-2
Receiver S/N	235
Antenna Height	6.004 ft

Date (MM-DD-YYYY)	11-06-2021
RMSE Hz	0.017 ft
RMSE Z	0.049 ft
GPS Method	RTX

PHOTOS



Point ID	BE153
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pinal
Quad	Vaiva Vo

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

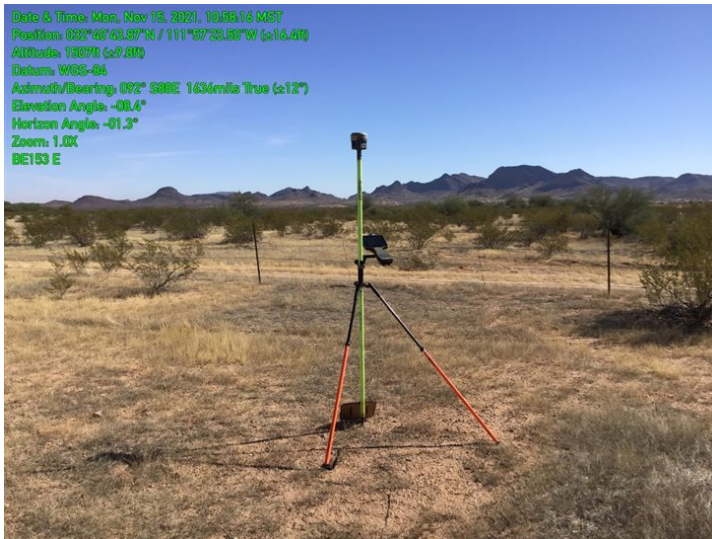
Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
610697.633	687755.749	1531.742

Operator	JL
Receiver Model	Trimble R10
Receiver S/N	84
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-15-2021
RMSE Hz	0.013 ft
RMSE Z	0.055 ft
GPS Method	RTX

PHOTOS



Point ID	BE154
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Three Points

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System	SP Arizona Central
	NAD83(2011)
	NAVD88
	GEOID18
	International Feet

Northing	Easting	Elevation
364444.080	901987.930	3351.610

Operator	GC
Receiver Model	Trimble R10
Receiver S/N	0387
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	10-15-2021
RMSE Hz	0.004 ft
RMSE Z	0.002 ft
GPS Method	RTN

PHOTOS



Point ID	BE155
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Ruelas Canyon

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
534083.242	952254.005	2679.701

Operator	AT
Receiver Model	Trimble R12
Receiver S/N	1672
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-13-2021
RMSE Hz	0.015 ft
RMSE Z	0.054 ft
GPS Method	RTX

PHOTOS



Point ID	BE156
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Tucson North

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
482706.793	1016126.434	2847.543

Operator	AT
Receiver Model	Trimble R12
Receiver S/N	1672
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-10-2021
RMSE Hz	0.015 ft
RMSE Z	0.050 ft
GPS Method	RTX

PHOTOS



Point ID	BE157
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Cocoraque Butte

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System	SP Arizona Central
	NAD83(2011)
	NAVD88
	GEOID18
	International Feet

Northing	Easting	Elevation
444356.951	905937.181	2257.438

Operator	AT
Receiver Model	Trimble R12
Receiver S/N	1672
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-06-2021
RMSE Hz	0.012 ft
RMSE Z	0.020 ft
GPS Method	RTN

PHOTOS



Point ID	BE158
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Cat Mountain

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
450595.121	972233.427	2481.621

Operator	AT
Receiver Model	Trimble R12
Receiver S/N	1672
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-10-2021
RMSE Hz	0.017 ft
RMSE Z	0.045 ft
GPS Method	RTX

PHOTOS



Point ID	BE159
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pinal
Quad	Desert Peak

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
563512.655	940436.754	2607.024

Operator	BW
Receiver Model	Trimble R10-2
Receiver S/N	235
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-14-2021
RMSE Hz	0.017 ft
RMSE Z	0.050 ft
GPS Method	RTX

PHOTOS



Point ID	BE160
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Chico Shunie

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

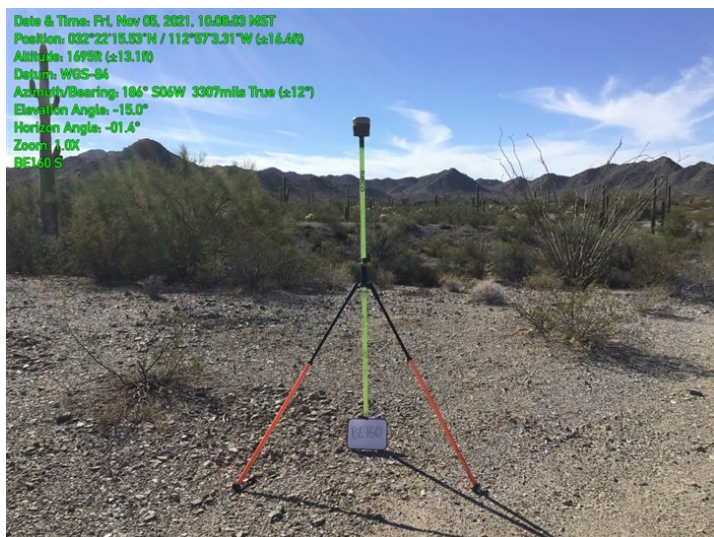
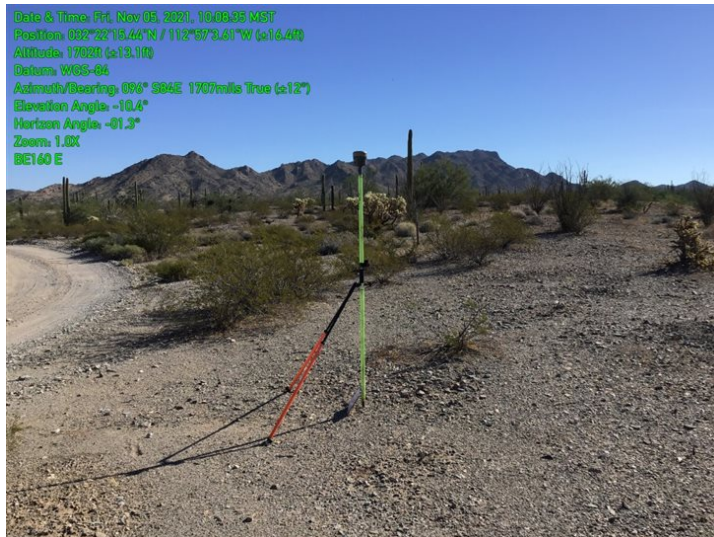
Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
500219.643	380694.070	1702.352

Operator	JL
Receiver Model	Trimble R10
Receiver S/N	84
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-05-2021
RMSE Hz	0.015 ft
RMSE Z	0.049 ft
GPS Method	RTX

PHOTOS



Point ID	BE161
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	West of Avra

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
470170.332	872046.205	2127.571

Operator	GR
Receiver Model	Trimble R8 Model 2
Receiver S/N	3666
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	07-08-2021
RMSE Hz	0.027 ft
RMSE Z	0.059 ft
GPS Method	RTN

PHOTOS



Point ID	BE162
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Armenta Well

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
441301.004	439918.957	1757.913

Operator	JL
Receiver Model	Trimble R10
Receiver S/N	84
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-08-2021
RMSE Hz	0.015 ft
RMSE Z	0.055 ft
GPS Method	RTX

PHOTOS



Point ID	BE163
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pinal
Quad	Samaniego Hills

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

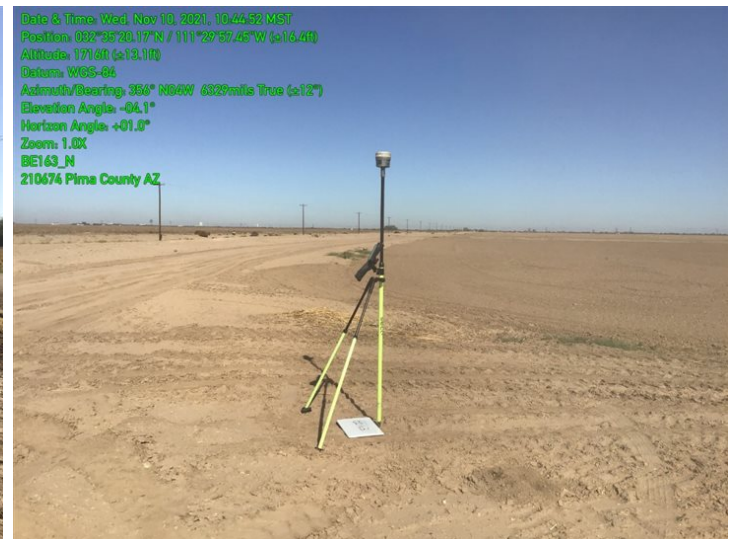
Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
578262.846	828566.011	1713.848

Operator	AT
Receiver Model	Trimble R12
Receiver S/N	1672
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-10-2021
RMSE Hz	0.015 ft
RMSE Z	0.050 ft
GPS Method	RTX

PHOTOS



Point ID	BE164
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	West of Growler Peak

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

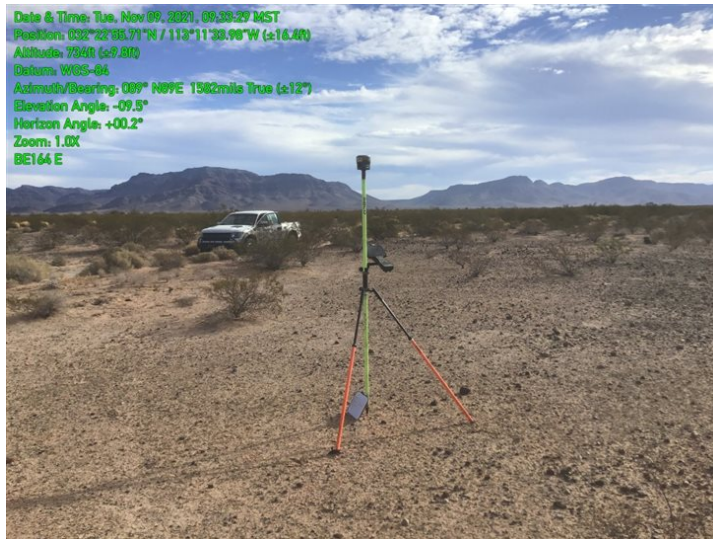
Coordinate System	SP Arizona Central
	NAD83(2011)
	NAVD88
	GEOID18
	International Feet

Northing	Easting	Elevation
505096.613	306088.023	759.783

Operator	JL
Receiver Model	Trimble R10
Receiver S/N	84
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-09-2021
RMSE Hz	0.015 ft
RMSE Z	0.052 ft
GPS Method	RTX

PHOTOS



URBAN AREA POINT LOG SHEETS

Point ID	UA001
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Tucson

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
446153.650	1008197.370	2503.480

Operator	TC
Receiver Model	Trimble R10
Receiver S/N	0385
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	10-13-2021
RMSE Hz	0.006 ft
RMSE Z	0.013 ft
GPS Method	RTN

PHOTOS



Point ID	UA002
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Tucson East

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
442634.054	1043317.997	2678.669

Operator	MN
Receiver Model	Trimble R8 Model 2
Receiver S/N	3666
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	07-02-2021
RMSE Hz	0.023 ft
RMSE Z	0.057 ft
GPS Method	RTN

PHOTOS



Point ID	UA003
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Sahuarita

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System	SP Arizona Central
	NAD83(2011)
	NAVD88
	GEOID18
	International Feet

Northing	Easting	Elevation
326259.040	990278.560	2812.170

Operator	GC
Receiver Model	Trimble R10
Receiver S/N	0387
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	10-12-2021
RMSE Hz	0.010 ft
RMSE Z	0.007 ft
GPS Method	RTN

PHOTOS



Point ID	UA004
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pinal
Quad	North Komelik

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
563839.874	674591.042	1658.494

Operator	JL
Receiver Model	Trimble R10
Receiver S/N	84
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-15-2021
RMSE Hz	0.013 ft
RMSE Z	0.064 ft
GPS Method	RTX

PHOTOS



Point ID	UA005
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pinal
Quad	Red Rock

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

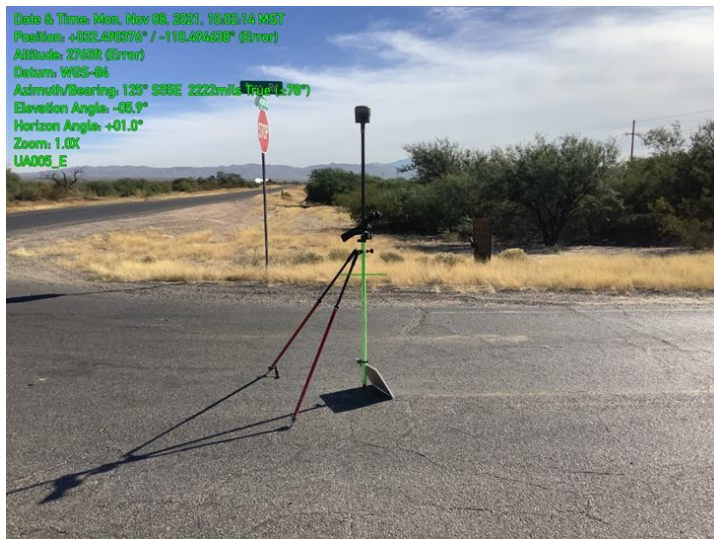
Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
548347.977	888803.929	1900.492

Operator	BW
Receiver Model	Trimble R10-2
Receiver S/N	235
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-08-2021
RMSE Hz	0.017 ft
RMSE Z	0.040 ft
GPS Method	RTX

PHOTOS



Point ID	UA006
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Jaynes

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System	SP Arizona Central
	NAD83(2011)
	NAVD88
	GEOID18
	International Feet

Northing	Easting	Elevation
471826.740	960906.670	2382.020

Operator	TC
Receiver Model	Trimble R10
Receiver S/N	0385
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	10-14-2021
RMSE Hz	0.006 ft
RMSE Z	0.003 ft
GPS Method	RTN

PHOTOS



Point ID	UA007
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Brown Mountain

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System	SP Arizona Central
	NAD83(2011)
	NAVD88
	GEOID18
	International Feet

Northing	Easting	Elevation
413181.330	930029.170	2425.260

Operator	GC
Receiver Model	Trimble R10
Receiver S/N	0387
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	10-14-2021
RMSE Hz	0.008 ft
RMSE Z	0.002 ft
GPS Method	RTN

PHOTOS



Point ID	UA008
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Ajo North

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
505462.787	404841.389	1774.610

Operator	JL
Receiver Model	Trimble R10
Receiver S/N	84
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-05-2021
RMSE Hz	0.017 ft
RMSE Z	0.049 ft
GPS Method	RTX

PHOTOS



Point ID	UA009
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pinal
Quad	Mammoth

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
628650.530	1092221.906	2372.290

Operator	BW
Receiver Model	Trimble R10-2
Receiver S/N	235
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-11-2021
RMSE Hz	0.017 ft
RMSE Z	0.054 ft
GPS Method	RTX

PHOTOS



Point ID	UA010
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pinal
Quad	Newman Peak

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
600503.377	860888.490	1785.607

Operator	JL
Receiver Model	Trimble R10
Receiver S/N	84
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-04-2021
RMSE Hz	0.010 ft
RMSE Z	0.017 ft
GPS Method	RTN

PHOTOS



Point ID	UA011
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Oro Valley

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
538300.416	1015692.277	3174.924

Operator	MN
Receiver Model	Trimble R8 Model 2
Receiver S/N	3666
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	07-07-2021
RMSE Hz	0.016 ft
RMSE Z	0.034 ft
GPS Method	RTN

PHOTOS



Point ID	UA012
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Tucson SE

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
380277.750	1048856.560	3030.090

Operator	GC
Receiver Model	Trimble R10
Receiver S/N	0387
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	10-13-2021
RMSE Hz	0.008 ft
RMSE Z	0.007 ft
GPS Method	RTN

PHOTOS



Point ID	UA013
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Marana

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System	SP Arizona Central
	NAD83(2011)
	NAVD88
	GEOID18
	International Feet

Northing	Easting	Elevation
519060.010	936280.620	2053.740

Operator	TC
Receiver Model	Trimble R10
Receiver S/N	0385
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	10-12-2021
RMSE Hz	0.015 ft
RMSE Z	0.008 ft
GPS Method	RTN

PHOTOS



Point ID	UA014
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Sikort Chuapo

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
464204.459	445217.039	1774.278

Operator	JL
Receiver Model	Trimble R10
Receiver S/N	84
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-08-2021
RMSE Hz	0.013 ft
RMSE Z	0.052 ft
GPS Method	RTX

PHOTOS



Point ID	UA015
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Mount Fagan

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System	SP Arizona Central
	NAD83(2011)
	NAVD88
	GEOID18
	International Feet

Northing	Easting	Elevation
362274.175	1075207.480	3452.244

Operator	AT
Receiver Model	Trimble R12
Receiver S/N	1672
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-03-2021
RMSE Hz	0.013 ft
RMSE Z	0.033 ft
GPS Method	RTN

PHOTOS



Point ID	UA016
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	San Xavier Mission

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
407323.451	966807.094	2585.463

Operator	AT
Receiver Model	Trimble R12
Receiver S/N	1672
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-09-2021
RMSE Hz	0.015 ft
RMSE Z	0.040 ft
GPS Method	RTX

PHOTOS



Point ID	UA017
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pinal
Quad	Peppersauce Wash

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
585386.583	1099147.186	3314.862

Operator	BW
Receiver Model	Trimble R10-2
Receiver S/N	235
Antenna Height	6.004 ft

Date (MM-DD-YYYY)	11-06-2021
RMSE Hz	0.015 ft
RMSE Z	0.047 ft
GPS Method	RTX

PHOTOS



Point ID	UA018
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pinal
Quad	Greene Reservoir

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

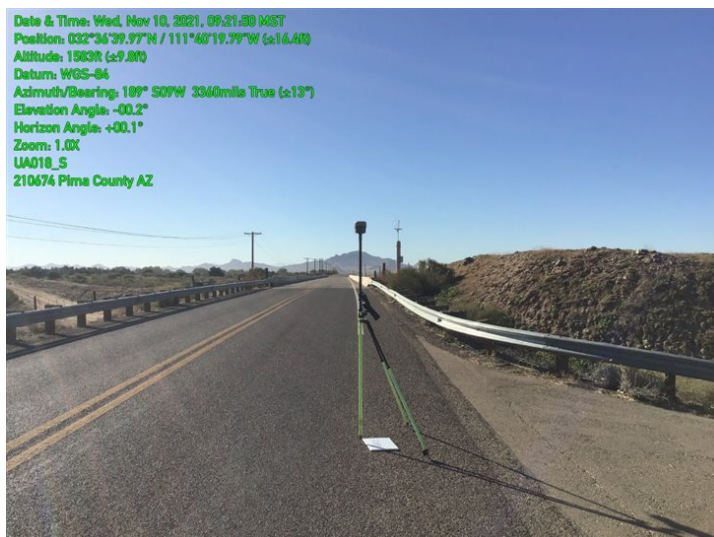
Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
586103.904	775288.285	1588.684

Operator	AT
Receiver Model	Trimble R12
Receiver S/N	1672
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-10-2021
RMSE Hz	0.015 ft
RMSE Z	0.059 ft
GPS Method	RTX

PHOTOS



Point ID	UA019
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Esperanza Mill

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
288698.240	977147.990	2984.190

Operator	GC
Receiver Model	Trimble R10
Receiver S/N	0387
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	10-12-2021
RMSE Hz	0.010 ft
RMSE Z	0.028 ft
GPS Method	RTN

PHOTOS



Point ID	UA020
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Tucson North

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
490639.260	996474.453	2777.706

Operator	MN
Receiver Model	Trimble R8 Model 2
Receiver S/N	3666
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	07-02-2021
RMSE Hz	0.029 ft
RMSE Z	0.079 ft
GPS Method	RTN

PHOTOS



Point ID	UA021
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Sells West

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
340084.226	700146.661	2328.333

Operator	AT
Receiver Model	Trimble R12
Receiver S/N	1672
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-08-2021
RMSE Hz	0.017 ft
RMSE Z	0.052 ft
GPS Method	RTX

PHOTOS



Point ID	UA022
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Vail

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
403586.524	1079888.091	3115.866

Operator	AT
Receiver Model	Trimble R12
Receiver S/N	1672
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-09-2021
RMSE Hz	0.017 ft
RMSE Z	0.064 ft
GPS Method	RTX

PHOTOS



Point ID	UA023
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Sabino Canyon

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
465258.453	1022029.337	2494.455

Operator	AT
Receiver Model	Trimble R12
Receiver S/N	1672
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-10-2021
RMSE Hz	0.015 ft
RMSE Z	0.082 ft
GPS Method	RTX

PHOTOS



Point ID	UA024
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Sahuarita

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
359832.751	994772.521	2687.856

Operator	MN
Receiver Model	Trimble R8 Model 2
Receiver S/N	3666
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	07-06-2021
RMSE Hz	0.028 ft
RMSE Z	0.058 ft
GPS Method	RTN

PHOTOS



Point ID	UA025
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Ruelas Canyon

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System	SP Arizona Central
	NAD83(2011)
	NAVD88
	GEOID18
	International Feet

Northing	Easting	Elevation
518931.567	961935.862	2604.629

Operator	MN
Receiver Model	Trimble R8 Model 2
Receiver S/N	3666
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	07-02-2021
RMSE Hz	0.026 ft
RMSE Z	0.060 ft
GPS Method	RTN

PHOTOS



Point ID	UA026
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Cat Mountain

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
432432.350	954851.800	2633.530

Operator	GC
Receiver Model	Trimble R10
Receiver S/N	0387
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	10-14-2021
RMSE Hz	0.012 ft
RMSE Z	0.015 ft
GPS Method	RTN

PHOTOS



Point ID	UA027
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Tucson SW

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System	SP Arizona Central
	NAD83(2011)
	NAVD88
	GEOID18
	International Feet

Northing	Easting	Elevation
397861.100	997299.470	2593.770

Operator	GC
Receiver Model	Trimble R10
Receiver S/N	0387
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	10-13-2021
RMSE Hz	0.008 ft
RMSE Z	0.020 ft
GPS Method	RTN

PHOTOS



Point ID	UA028
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Sabino Canyon

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System	SP Arizona Central
	NAD83(2011)
	NAVD88
	GEOID18
	International Feet

Northing	Easting	Elevation
472917.780	1059070.850	2755.770

Operator	TC
Receiver Model	Trimble R10
Receiver S/N	0385
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	10-13-2021
RMSE Hz	0.004 ft
RMSE Z	0.008 ft
GPS Method	RTN

PHOTOS



Point ID	UA029
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Cat Mountain

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
450615.839	971949.236	2494.764

Operator	AT
Receiver Model	Trimble R12
Receiver S/N	1672
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-10-2021
RMSE Hz	0.015 ft
RMSE Z	0.044 ft
GPS Method	RTX

PHOTOS



TALL WEEDS POINT LOG SHEETS

Point ID	TG001
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pinal
Quad	Newman Peak

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
600782.431	860848.307	1777.153

Operator	SS
Receiver Model	Trimble R12i
Receiver S/N	1153
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	12-17-2021
RMSE Hz	0.024 ft
RMSE Z	0.051 ft
GPS Method	RTN

PHOTOS



Point ID	TG002
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pinal
Quad	Red Rock

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
564159.794	889351.219	1903.630

Operator	SS
Receiver Model	Trimble R12i
Receiver S/N	1153
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	12-17-2021
RMSE Hz	0.028 ft
RMSE Z	0.031 ft
GPS Method	RTN

PHOTOS



Point ID	TG003
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Marana

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System	SP Arizona Central
	NAD83(2011)
	NAVD88
	GEOID18
	International Feet

Northing	Easting	Elevation
509922.199	941439.920	2075.525

Operator	SS
Receiver Model	Trimble R12i
Receiver S/N	1153
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	12-18-2021
RMSE Hz	0.032 ft
RMSE Z	0.061 ft
GPS Method	RTN

PHOTOS



Point ID	TG004
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Jaynes

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System	SP Arizona Central
	NAD83(2011)
	NAVD88
	GEOID18
	International Feet

Northing	Easting	Elevation
471982.083	972489.982	2239.384

Operator	SS
Receiver Model	Trimble R12i
Receiver S/N	1153
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	12-17-2021
RMSE Hz	0.018 ft
RMSE Z	0.044 ft
GPS Method	RTN

PHOTOS



Point ID	TG005
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Tucson

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System	SP Arizona Central
	NAD83(2011)
	NAVD88
	GEOID18
	International Feet

Northing	Easting	Elevation
443807.506	999478.783	2419.231

Operator	SS
Receiver Model	Trimble R12i
Receiver S/N	1153
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	12-17-2021
RMSE Hz	0.013 ft
RMSE Z	0.017 ft
GPS Method	RTN

PHOTOS



Point ID	TG006
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Tucson

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System	SP Arizona Central
	NAD83(2011)
	NAVD88
	GEOID18
	International Feet

Northing	Easting	Elevation
435944.318	991360.770	2413.930

Operator	SS
Receiver Model	Trimble R12i
Receiver S/N	1153
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	12-18-2021
RMSE Hz	0.017 ft
RMSE Z	0.027 ft
GPS Method	RTN

PHOTOS



Point ID	TG007
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Tucson SW

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
397660.998	996721.062	2585.750

Operator	SS
Receiver Model	Trimble R12i
Receiver S/N	1153
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	12-18-2021
RMSE Hz	0.022 ft
RMSE Z	0.053 ft
GPS Method	RTN

PHOTOS



Point ID	TG008
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Tucson SW

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System	SP Arizona Central
	NAD83(2011)
	NAVD88
	GEOID18
	International Feet

Northing	Easting	Elevation
365505.226	998975.165	2660.896

Operator	SS
Receiver Model	Trimble R12i
Receiver S/N	1153
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	12-18-2021
RMSE Hz	0.023 ft
RMSE Z	0.043 ft
GPS Method	RTN

PHOTOS



Point ID	TG009
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Marana

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
503007.910	908298.550	2012.300

Operator	TC
Receiver Model	Trimble R10
Receiver S/N	0385
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	10-14-2021
RMSE Hz	0.006 ft
RMSE Z	0.013 ft
GPS Method	RTN

PHOTOS



Point ID	TG010
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Sahuarita

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

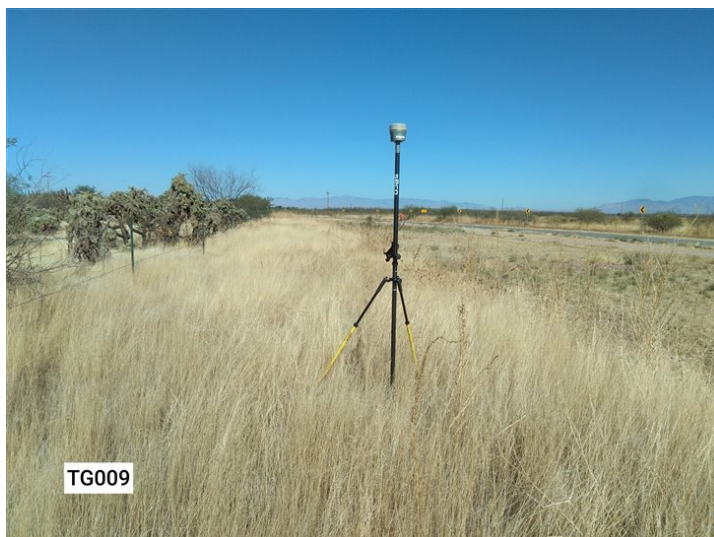
Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
330580.857	991973.477	2781.995

Operator	SS
Receiver Model	Trimble R12i
Receiver S/N	1153
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	12-18-2021
RMSE Hz	0.031 ft
RMSE Z	0.045 ft
GPS Method	RTN

PHOTOS



FOREST POINT LOG SHEETS

Point ID	FR001
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Oro Valley

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System	SP Arizona Central
	NAD83(2011)
	NAVD88
	GEOID18
	International Feet

Northing	Easting	Elevation
516806.492	1002355.648	2646.083

Operator	BW
Receiver Model	Trimble R10-2
Receiver S/N	235
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-11-2021
RMSE Hz	0.019 ft
RMSE Z	0.087 ft
GPS Method	RTX

PHOTOS



Point ID	FR002
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Tanque Verde Peak

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
418242.375	1069141.067	2917.077

Operator	AT
Receiver Model	Trimble R12
Receiver S/N	1672
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-09-2021
RMSE Hz	0.031 ft
RMSE Z	0.037 ft
GPS Method	RTN

PHOTOS



Point ID	FR003
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Kitt Peak

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
349591.189	798670.165	6787.073

Operator	AT
Receiver Model	Trimble R12
Receiver S/N	1672
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-08-2021
RMSE Hz	0.025 ft
RMSE Z	0.090 ft
GPS Method	RTX

PHOTOS



Point ID	FR004
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pinal
Quad	Peppersauce Wash

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
581109.706	1126782.413	2614.646

Operator	BW
Receiver Model	Trimble R10-2
Receiver S/N	235
Antenna Height	6.004 ft

Date (MM-DD-YYYY)	11-06-2021
RMSE Hz	0.017 ft
RMSE Z	0.077 ft
GPS Method	RTX

PHOTOS



Point ID	FR005
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Empire Ranch

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

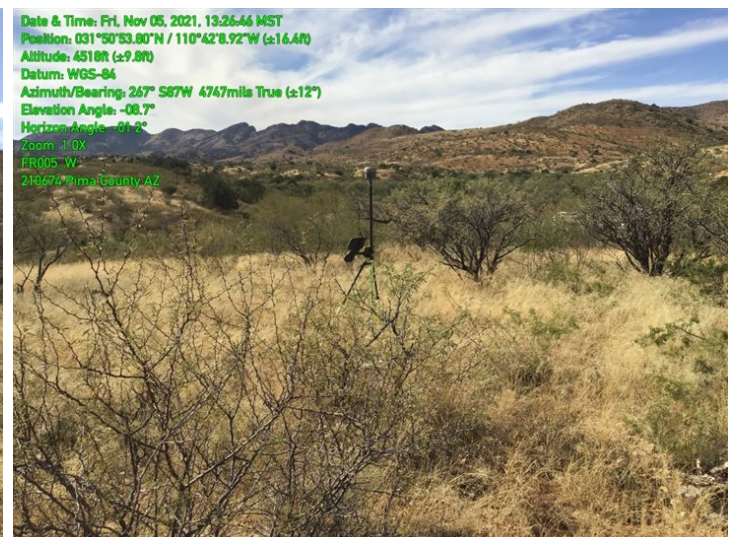
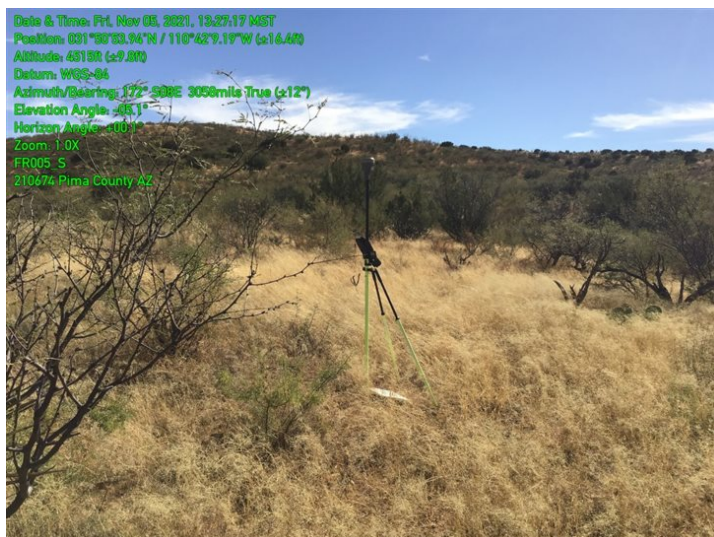
Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
310647.479	1076995.717	4520.994

Operator	AT
Receiver Model	Trimble R12
Receiver S/N	1672
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-05-2021
RMSE Hz	0.010 ft
RMSE Z	0.028 ft
GPS Method	RTN

PHOTOS



Point ID	FR006
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pinal
Quad	Oracle

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
588380.645	1055004.500	4486.860

Operator	AT
Receiver Model	Trimble R12
Receiver S/N	1672
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-13-2021
RMSE Hz	0.015 ft
RMSE Z	0.057 ft
GPS Method	RTX

PHOTOS



Point ID	FR007
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Sonoita

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
270039.356	1086325.197	4742.267

Operator	AT
Receiver Model	Trimble R12
Receiver S/N	1672
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-04-2021
RMSE Hz	0.021 ft
RMSE Z	0.104 ft
GPS Method	RTX

PHOTOS



Point ID	FR008
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Tanque Verde Peak

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System	SP Arizona Central
	NAD83(2011)
	NAVD88
	GEOID18
	International Feet

Northing	Easting	Elevation
453248.350	1074138.990	2672.210

Operator	TC
Receiver Model	Trimble R10
Receiver S/N	0385
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	10-13-2021
RMSE Hz	0.010 ft
RMSE Z	0.018 ft
GPS Method	RTN

PHOTOS



Point ID	FR009
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pinal
Quad	Clark Ranch

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
638803.054	1135436.289	3560.883

Operator	BW
Receiver Model	Trimble R10-2
Receiver S/N	235
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-11-2021
RMSE Hz	0.033 ft
RMSE Z	0.094 ft
GPS Method	RTX

PHOTOS



Point ID	FR010
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Happy Valley

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

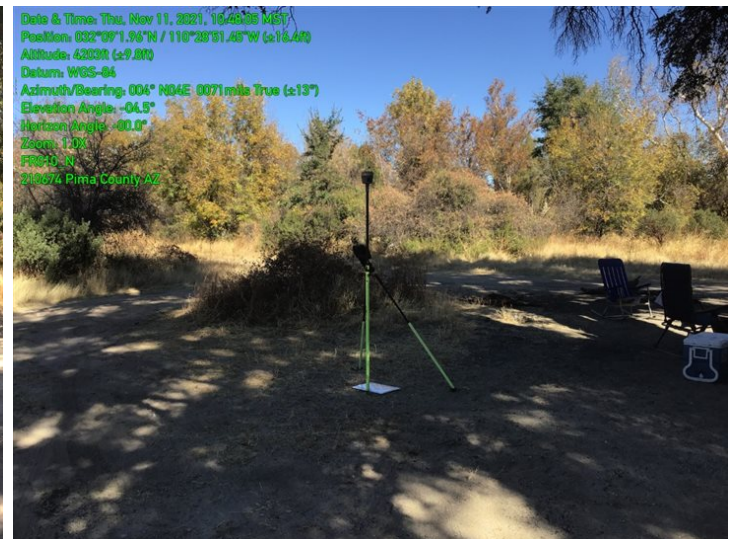
Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
421467.912	1144330.237	4203.816

Operator	AT
Receiver Model	Trimble R12
Receiver S/N	1672
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-11-2021
RMSE Hz	0.019 ft
RMSE Z	0.054 ft
GPS Method	RTX

PHOTOS



BRUSHLAND POINT LOG SHEETS

Point ID	SH001
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Maricopa
Quad	Kaka

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

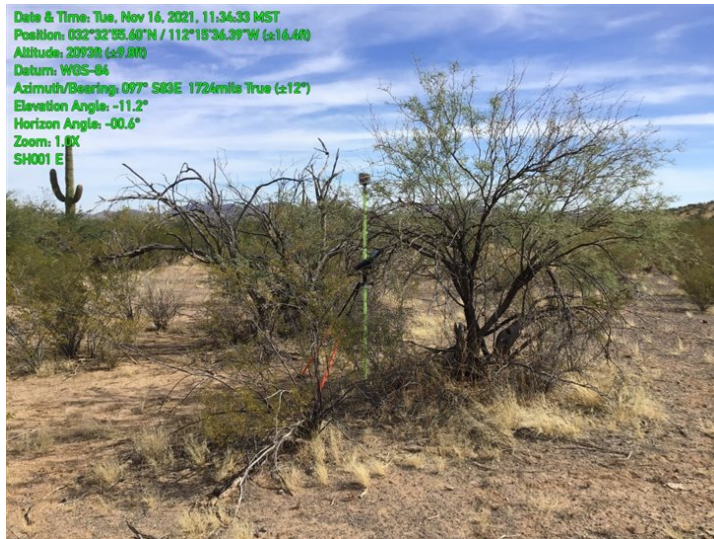
Coordinate System	SP Arizona Central
	NAD83(2011)
	NAVD88
	GEOID18
	International Feet

Northing	Easting	Elevation
563542.369	594198.346	2127.385

Operator	JL
Receiver Model	Trimble R10
Receiver S/N	84
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-16-2021
RMSE Hz	0.013 ft
RMSE Z	0.055 ft
GPS Method	RTX

PHOTOS



Point ID	SH002
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Three Points

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System	SP Arizona Central
	NAD83(2011)
	NAVD88
	GEOID18
	International Feet

Northing	Easting	Elevation
380233.450	901832.640	2850.750

Operator	GC
Receiver Model	Trimble R10
Receiver S/N	0387
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	10-15-2021
RMSE Hz	0.012 ft
RMSE Z	0.008 ft
GPS Method	RTN

PHOTOS



Point ID	SH003
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Cowlic

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
297379.257	677331.841	2088.593

Operator	JL
Receiver Model	Trimble R10
Receiver S/N	84
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-14-2021
RMSE Hz	0.031 ft
RMSE Z	0.067 ft
GPS Method	RTX

PHOTOS



Point ID	SH004
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Maish Vaya

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
426980.592	608643.743	2516.093

Operator	JL
Receiver Model	Trimble R10
Receiver S/N	84
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-11-2021
RMSE Hz	0.017 ft
RMSE Z	0.060 ft
GPS Method	RTX

PHOTOS



Point ID	SH005
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	San Xavier Mission SW

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
409197.400	921764.830	2437.300

Operator	GC
Receiver Model	Trimble R10
Receiver S/N	0387
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	10-14-2021
RMSE Hz	0.004 ft
RMSE Z	0.008 ft
GPS Method	RTN

PHOTOS



Point ID	SH006
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Tanque Verde Peak

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System	SP Arizona Central
	NAD83(2011)
	NAVD88
	GEOID18
	International Feet

Northing	Easting	Elevation
453666.700	1073909.980	2673.880

Operator	TC
Receiver Model	Trimble R10
Receiver S/N	0385
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	10-13-2021
RMSE Hz	0.004 ft
RMSE Z	0.005 ft
GPS Method	RTN

PHOTOS



Point ID	SH007
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Three Points

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System	SP Arizona Central
	NAD83(2011)
	NAVD88
	GEOID18
	International Feet

Northing	Easting	Elevation
392099.930	877381.040	2544.090

Operator	GC
Receiver Model	Trimble R10
Receiver S/N	0387
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	10-14-2021
RMSE Hz	0.002 ft
RMSE Z	0.007 ft
GPS Method	RTN

PHOTOS



Point ID	SH008
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Hickiwan

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

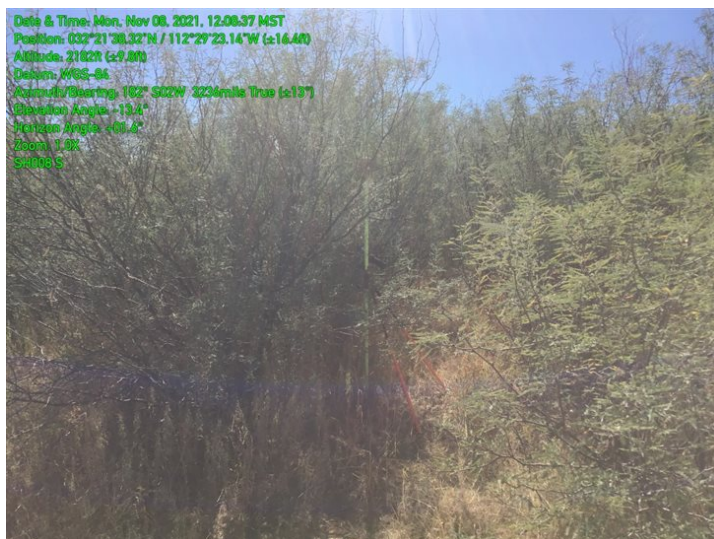
Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
495386.858	523056.487	2187.198

Operator	JL
Receiver Model	Trimble R10
Receiver S/N	84
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-08-2021
RMSE Hz	0.013 ft
RMSE Z	0.057 ft
GPS Method	RTX

PHOTOS



Point ID	SH009
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Three Points

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System	SP Arizona Central
	NAD83(2011)
	NAVD88
	GEOID18
	International Feet

Northing	Easting	Elevation
364405.090	902057.860	3356.960

Operator	GC
Receiver Model	Trimble R10
Receiver S/N	0387
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	10-15-2021
RMSE Hz	0.010 ft
RMSE Z	0.023 ft
GPS Method	RTN

PHOTOS



Point ID	SH010
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Maricopa
Quad	Kaka

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

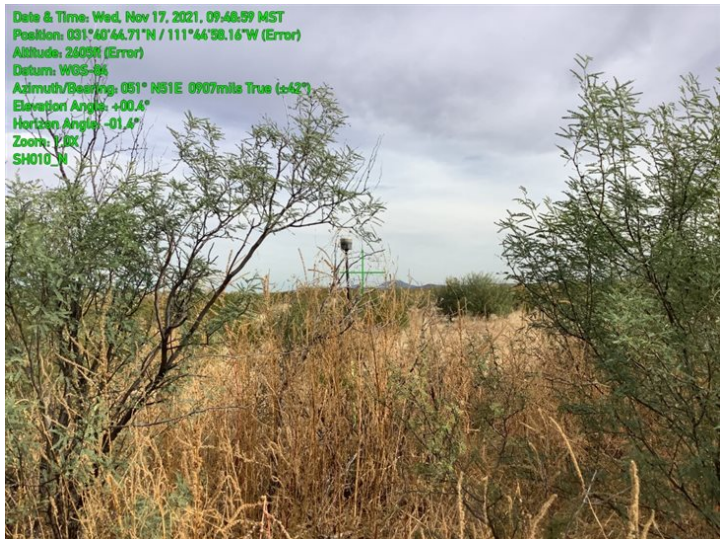
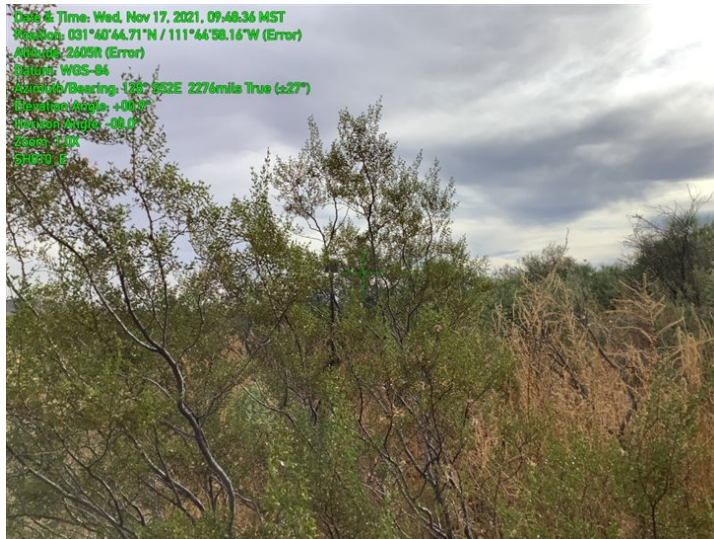
Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
549167.442	573931.005	2264.150

Operator	BW
Receiver Model	Trimble R10-2
Receiver S/N	235
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-17-2021
RMSE Hz	0.013 ft
RMSE Z	0.044 ft
GPS Method	RTX

PHOTOS



Point ID	SH011
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Cimarron Peak

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

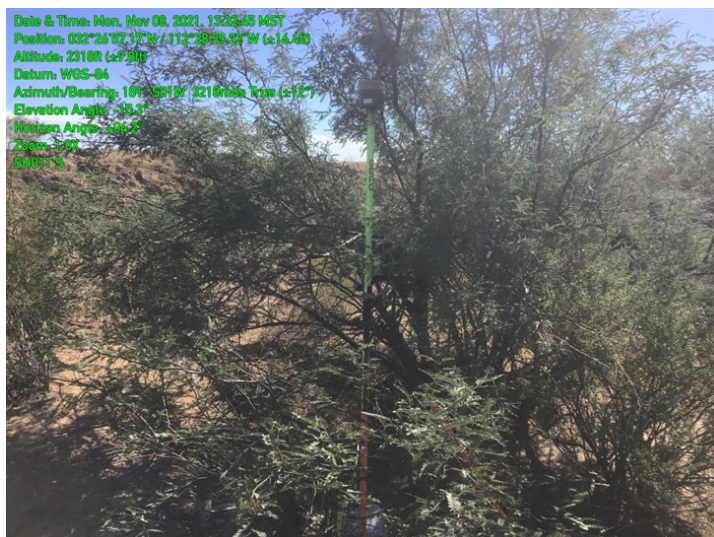
Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
527599.182	525277.875	2317.825

Operator	JL
Receiver Model	Trimble R10
Receiver S/N	84
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-08-2021
RMSE Hz	0.013 ft
RMSE Z	0.059 ft
GPS Method	RTX

PHOTOS



Point ID	SH012
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pinal
Quad	Mammoth

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

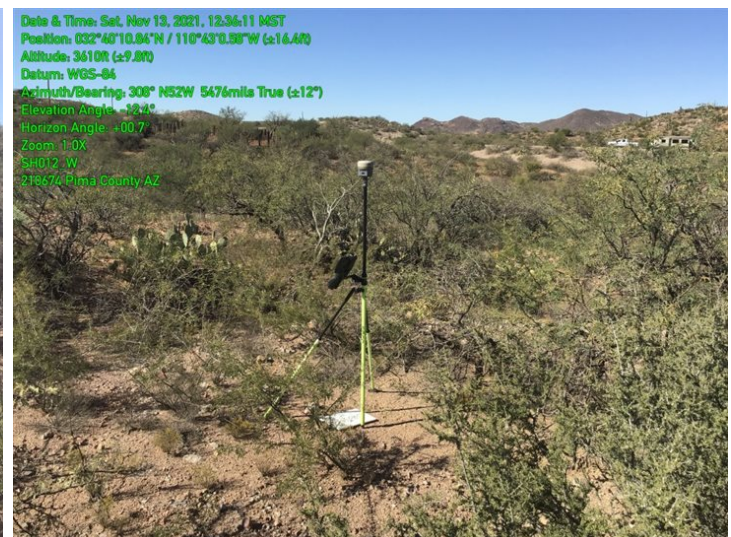
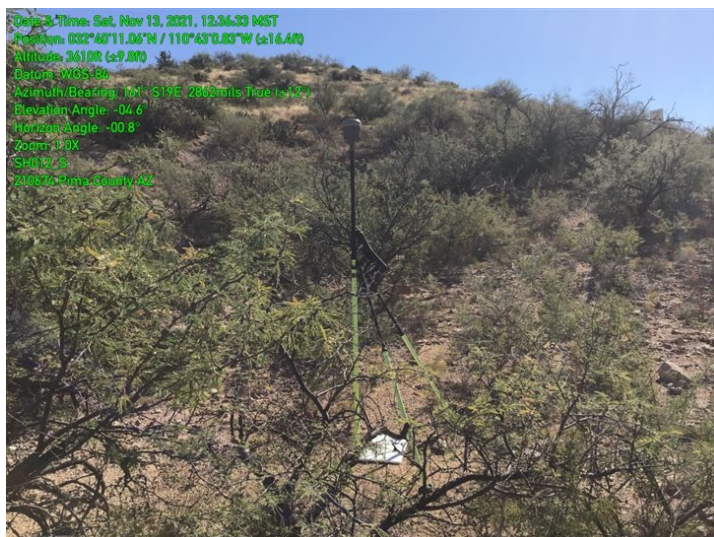
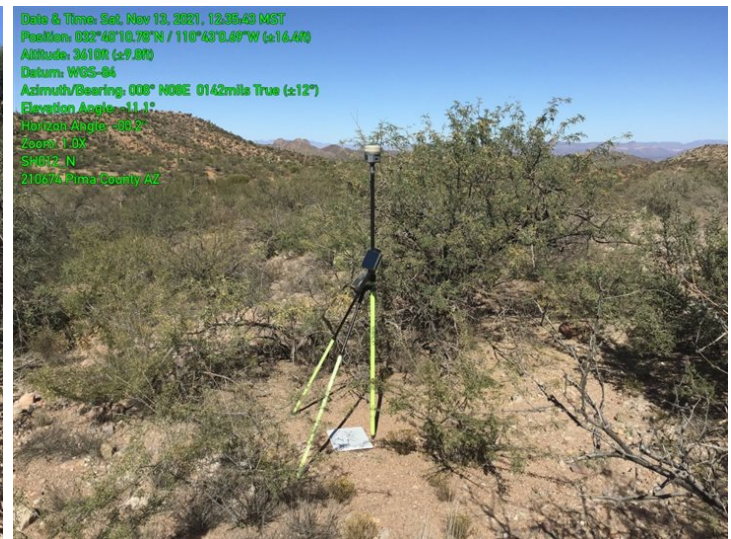
Coordinate System	SP Arizona Central
	NAD83(2011)
	NAVD88
	GEOID18
	International Feet

Northing	Easting	Elevation
609455.758	1069206.386	3607.320

Operator	AT
Receiver Model	Trimble R12
Receiver S/N	1672
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-13-2021
RMSE Hz	0.015 ft
RMSE Z	0.037 ft
GPS Method	RTX

PHOTOS



Point ID	SH013
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Childs Mountain

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
546095.479	402406.462	1322.605

Operator	BW
Receiver Model	Trimble R10-2
Receiver S/N	235
Antenna Height	5.709 ft

Date (MM-DD-YYYY)	11-04-2021
RMSE Hz	0.013 ft
RMSE Z	0.045 ft
GPS Method	RTX

PHOTOS



Point ID	SH014
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pinal
Quad	Silver Reef Mountains

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System	SP Arizona Central
	NAD83(2011)
	NAVD88
	GEOID18
	International Feet

Northing	Easting	Elevation
612615.272	725468.154	1473.222

Operator	AT
Receiver Model	Trimble R12
Receiver S/N	1672
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-15-2021
RMSE Hz	0.015 ft
RMSE Z	0.050 ft
GPS Method	RTX

PHOTOS



Point ID	SH015
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Santa Rosa

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
488143.042	649248.271	1870.144

Operator	BW
Receiver Model	Trimble R10-2
Receiver S/N	235
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-10-2021
RMSE Hz	0.017 ft
RMSE Z	0.052 ft
GPS Method	RTX

PHOTOS



Point ID	SH016
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Chiuli Shaik

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

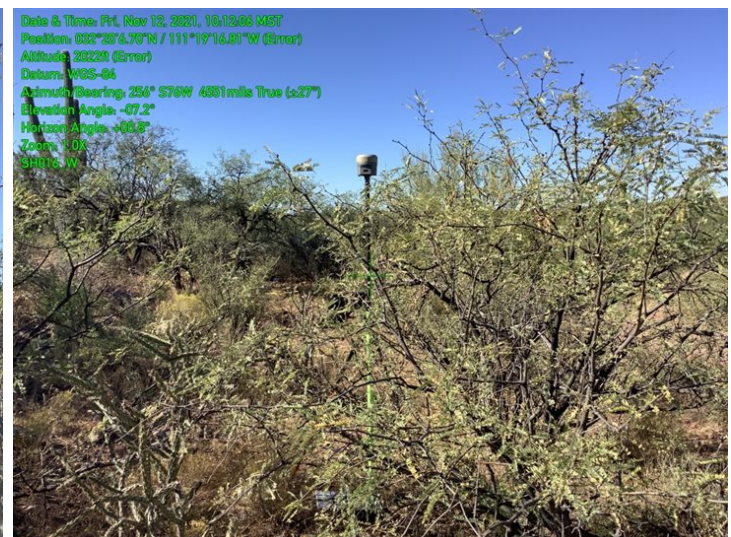
Coordinate System	SP Arizona Central
	NAD83(2011)
	NAVD88
	GEOID18
	International Feet

Northing	Easting	Elevation
295034.220	775824.325	3069.026

Operator	BW
Receiver Model	Trimble R10-2
Receiver S/N	235
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-12-2021
RMSE Hz	0.017 ft
RMSE Z	0.085 ft
GPS Method	RTX

PHOTOS



Point ID	SH017
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Redington

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
515853.626	1147805.041	2910.118

Operator	BW
Receiver Model	Trimble R10-2
Receiver S/N	235
Antenna Height	5.348 ft

Date (MM-DD-YYYY)	11-06-2021
RMSE Hz	0.017 ft
RMSE Z	0.065 ft
GPS Method	RTX

PHOTOS



Point ID	SH018
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Kupk

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
325579.807	629696.108	1896.788

Operator	JL
Receiver Model	Trimble R10
Receiver S/N	84
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-12-2021
RMSE Hz	0.015 ft
RMSE Z	0.064 ft
GPS Method	RTX

PHOTOS



Point ID	SH019
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Gurli Put Vo

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
424309.054	640288.556	2432.825

Operator	BW
Receiver Model	Trimble R10-2
Receiver S/N	235
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-10-2021
RMSE Hz	0.015 ft
RMSE Z	0.050 ft
GPS Method	RTX

PHOTOS



Point ID	SH020
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pinal
Quad	Copperosity Hills

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

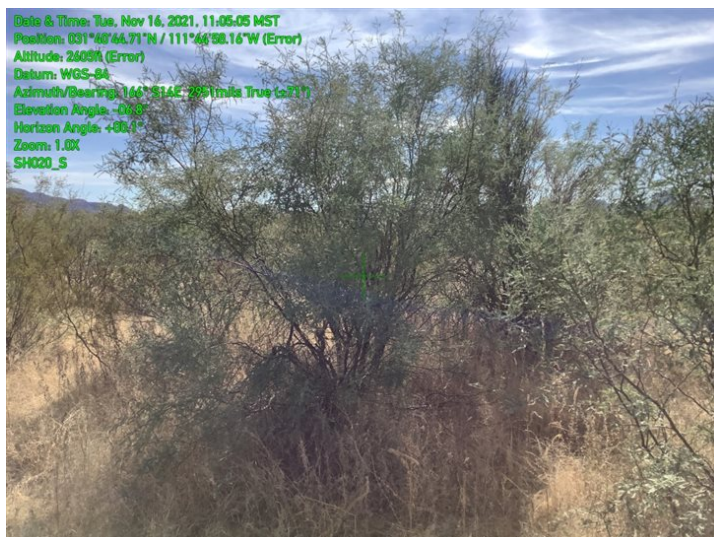
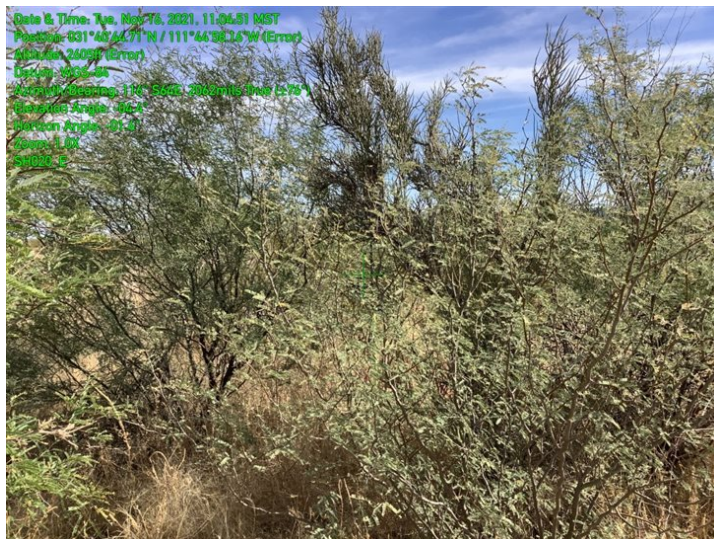
Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
586599.115	616059.595	2029.547

Operator	BW
Receiver Model	Trimble R10-2
Receiver S/N	235
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-16-2021
RMSE Hz	0.017 ft
RMSE Z	0.072 ft
GPS Method	RTX

PHOTOS



Point ID	SH021
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Avra

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
481923.799	926377.650	2369.596

Operator	AT
Receiver Model	Trimble R12
Receiver S/N	1672
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-12-2021
RMSE Hz	0.015 ft
RMSE Z	0.045 ft
GPS Method	RTX

PHOTOS



Point ID	SH022
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	O'Neill Hills

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
403685.580	268450.522	864.052

Operator	JL
Receiver Model	Trimble R10
Receiver S/N	84
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-06-2021
RMSE Hz	0.015 ft
RMSE Z	0.067 ft
GPS Method	RTX

PHOTOS



Point ID	SH023
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	San Pedro

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

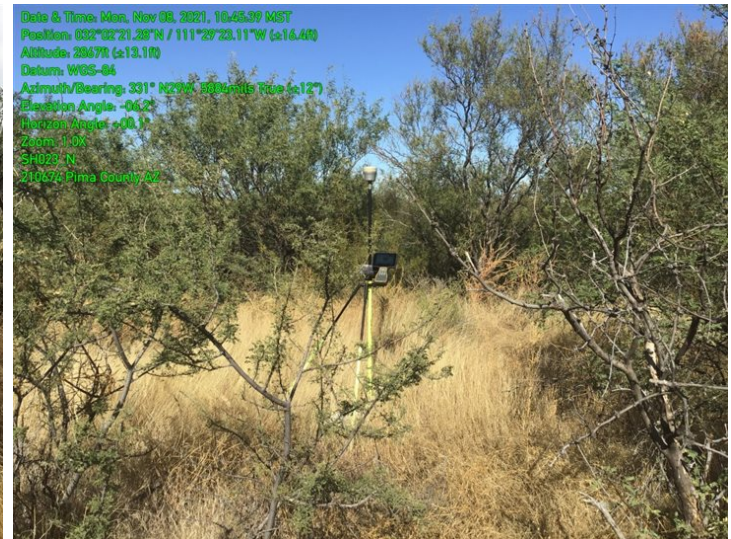
Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
378293.453	832268.207	2885.446

Operator	AT
Receiver Model	Trimble R12
Receiver S/N	1672
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-08-2021
RMSE Hz	0.013 ft
RMSE Z	0.023 ft
GPS Method	RTN

PHOTOS



Point ID	SH025
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Rincon Peak

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
368253.435	1111756.498	3539.380

Operator	AT
Receiver Model	Trimble R12
Receiver S/N	1672
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-03-2021
RMSE Hz	0.012 ft
RMSE Z	0.015 ft
GPS Method	RTN

PHOTOS



Point ID	SH026
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Kom Vo

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
355204.224	568180.633	1781.056

Operator	JL
Receiver Model	Trimble R10
Receiver S/N	84
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-11-2021
RMSE Hz	0.012 ft
RMSE Z	0.047 ft
GPS Method	RTX

PHOTOS



Point ID	SH027
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Growler Peak

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System	SP Arizona Central
	NAD83(2011)
	NAVD88
	GEOID18
	International Feet

Northing	Easting	Elevation
508930.530	351589.678	1323.547

Operator	JL
Receiver Model	Trimble R10
Receiver S/N	84
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-05-2021
RMSE Hz	0.013 ft
RMSE Z	0.055 ft
GPS Method	RTX

PHOTOS



Point ID	SH028
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Marana

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
519118.430	936822.720	2057.870

Operator	TC
Receiver Model	Trimble R10
Receiver S/N	0385
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	10-12-2021
RMSE Hz	0.008 ft
RMSE Z	0.017 ft
GPS Method	RTN

PHOTOS



Point ID	SH029
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Empire Ranch

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
310764.089	1076790.246	4496.220

Operator	AT
Receiver Model	Trimble R12
Receiver S/N	1672
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-05-2021
RMSE Hz	0.008 ft
RMSE Z	0.012 ft
GPS Method	RTN

PHOTOS



Point ID	SH030
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	San Miguel

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
205291.691	745964.302	2546.834

Operator	BW
Receiver Model	Trimble R10-2
Receiver S/N	235
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-12-2021
RMSE Hz	0.025 ft
RMSE Z	0.060 ft
GPS Method	RTX

PHOTOS



Point ID	SH031
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pinal
Quad	Eloy South

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
599377.404	823043.838	1653.563

Operator	AT
Receiver Model	Trimble R12
Receiver S/N	1672
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-10-2021
RMSE Hz	0.017 ft
RMSE Z	0.059 ft
GPS Method	RTX

PHOTOS



Point ID	SH032
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Ajo South

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
480576.005	408381.615	1819.327

Operator	JL
Receiver Model	Trimble R10
Receiver S/N	84
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-06-2021
RMSE Hz	0.015 ft
RMSE Z	0.032 ft
GPS Method	RTX

PHOTOS



Point ID	SH033
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Ventana

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System	SP Arizona Central
	NAD83(2011)
	NAVD88
	GEOID18
	International Feet

Northing	Easting	Elevation
502622.668	611031.383	2161.909

Operator	AT
Receiver Model	Trimble R12
Receiver S/N	1672
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-16-2021
RMSE Hz	0.015 ft
RMSE Z	0.062 ft
GPS Method	RTX

PHOTOS



Point ID	SH034
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Pia Oik

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

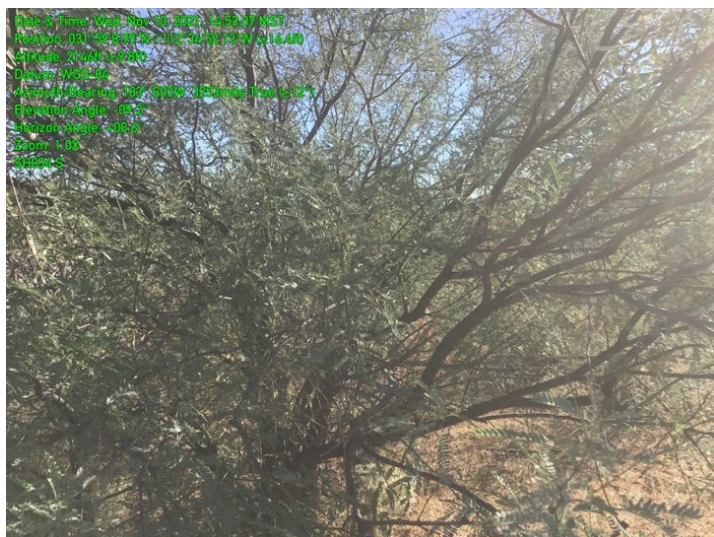
Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
359190.495	493999.026	2144.774

Operator	JL
Receiver Model	Trimble R10
Receiver S/N	84
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-10-2021
RMSE Hz	0.017 ft
RMSE Z	0.050 ft
GPS Method	RTX

PHOTOS



Point ID	SH035
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pinal
Quad	Desert Peak

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
563463.882	940379.201	2604.626

Operator	BW
Receiver Model	Trimble R10-2
Receiver S/N	235
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-14-2021
RMSE Hz	0.019 ft
RMSE Z	0.054 ft
GPS Method	RTX

PHOTOS



Point ID	SH036
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pinal
Quad	Peppersauce Wash

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
584640.939	1099414.508	3323.668

Operator	BW
Receiver Model	Trimble R10-2
Receiver S/N	235
Antenna Height	6.004 ft

Date (MM-DD-YYYY)	11-06-2021
RMSE Hz	0.015 ft
RMSE Z	0.044 ft
GPS Method	RTX

PHOTOS



Point ID	SH037
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pinal
Quad	Lookout Mountain

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

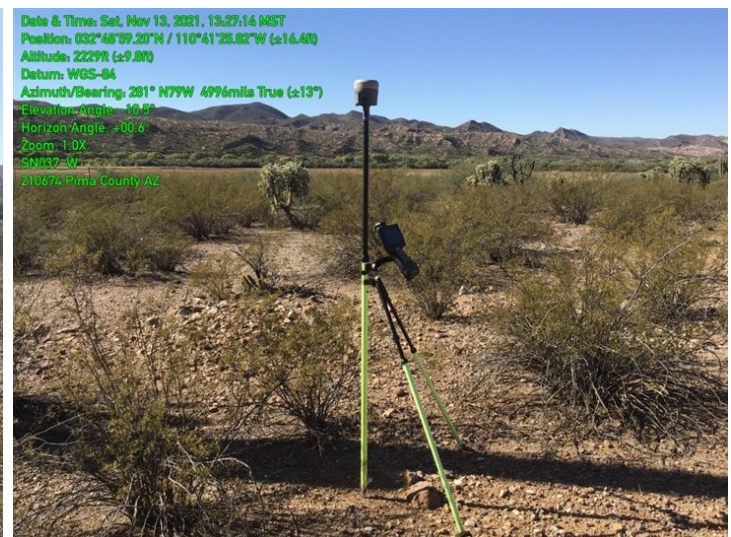
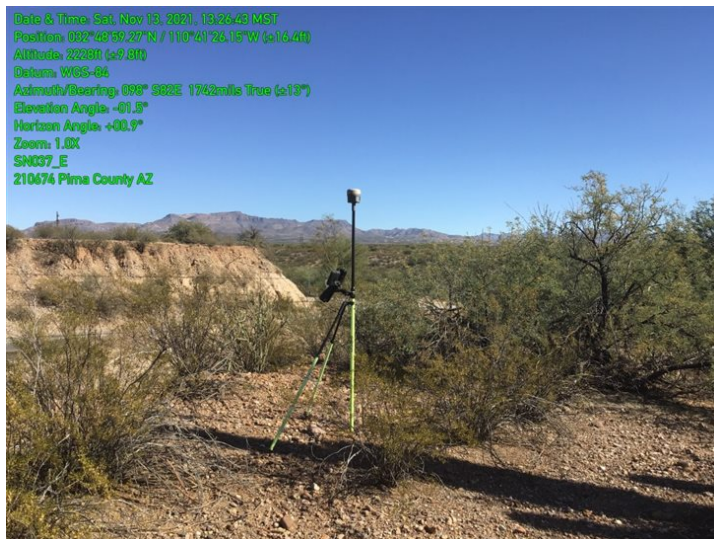
Coordinate System	SP Arizona Central
	NAD83(2011)
	NAVD88
	GEOID18
	International Feet

Northing	Easting	Elevation
662944.908	1076696.793	2228.081

Operator	AT
Receiver Model	Trimble R12
Receiver S/N	1672
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-13-2021
RMSE Hz	0.015 ft
RMSE Z	0.047 ft
GPS Method	RTX

PHOTOS



Point ID	SH038
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pinal
Quad	Peppersauce Wash

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

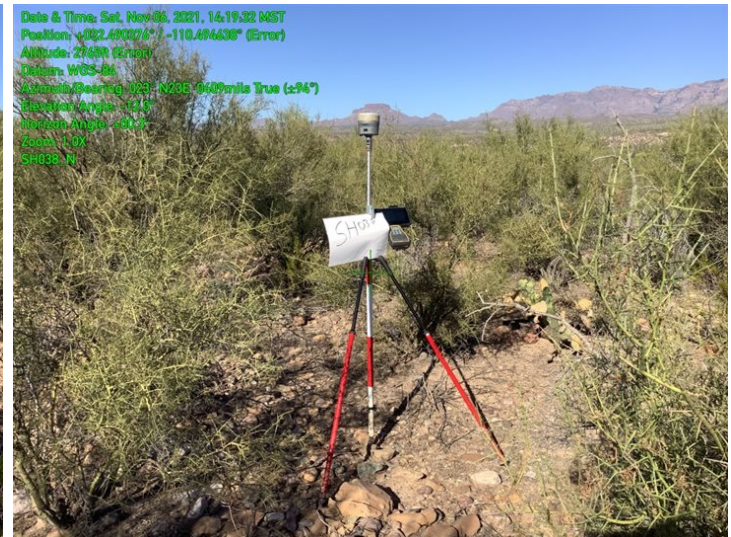
Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
580609.749	1125969.537	2655.712

Operator	BW
Receiver Model	Trimble R10-2
Receiver S/N	235
Antenna Height	6.004 ft

Date (MM-DD-YYYY)	11-06-2021
RMSE Hz	0.015 ft
RMSE Z	0.044 ft
GPS Method	RTX

PHOTOS



Point ID	SH039
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Gu Vo

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

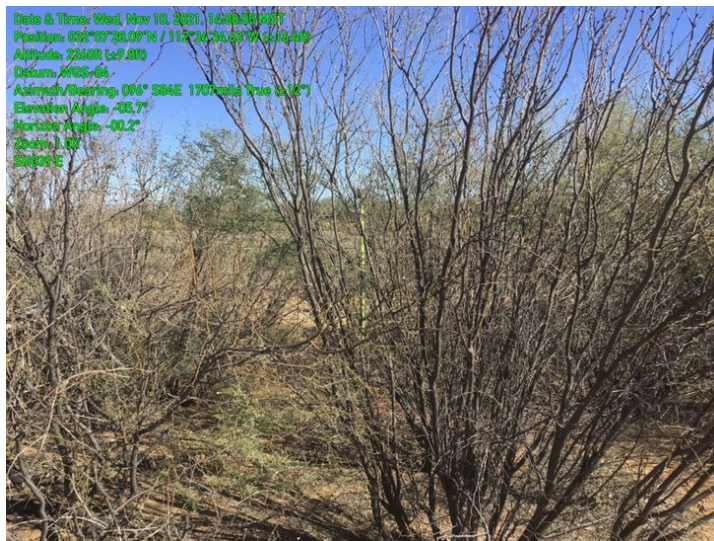
Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
409638.851	495834.841	2253.251

Operator	JL
Receiver Model	Trimble R10
Receiver S/N	84
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-10-2021
RMSE Hz	0.015 ft
RMSE Z	0.057 ft
GPS Method	RTX

PHOTOS



Point ID	SH040
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pinal
Quad	Vaiva Vo

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

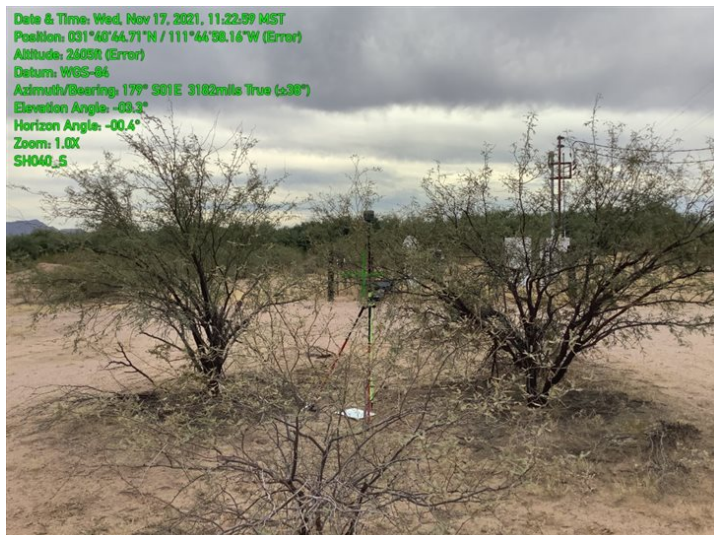
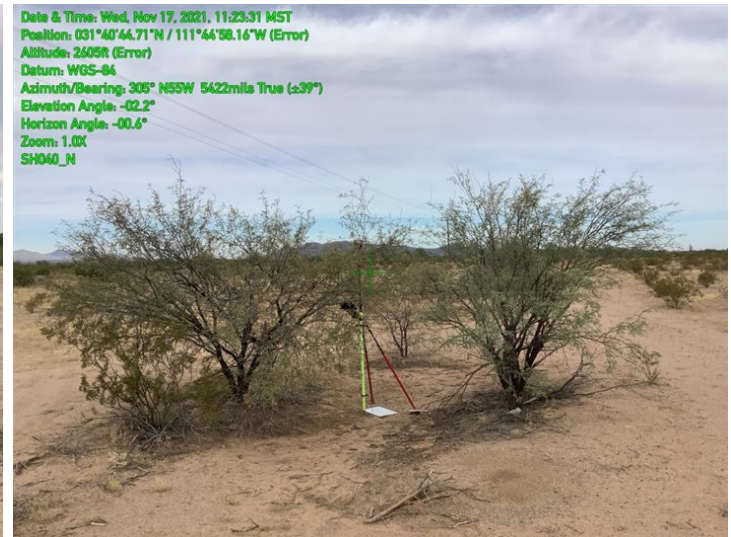
Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
592934.319	685596.387	1562.106

Operator	BW
Receiver Model	Trimble R10-2
Receiver S/N	235
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-17-2021
RMSE Hz	0.013 ft
RMSE Z	0.077 ft
GPS Method	RTX

PHOTOS



Point ID	SH041
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Pisinimo

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

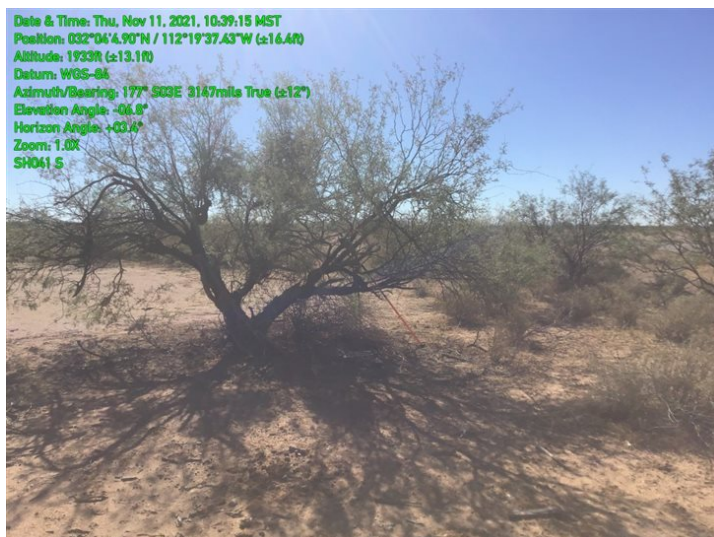
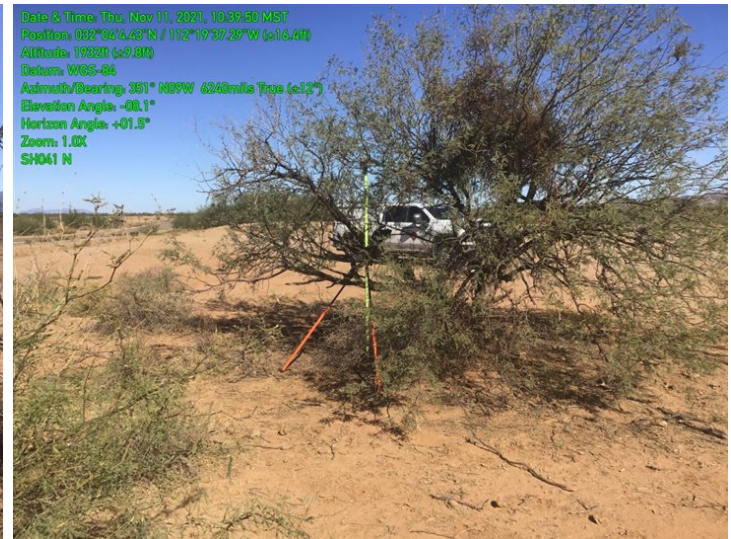
Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
388700.335	572894.237	1926.772

Operator	JL
Receiver Model	Trimble R10
Receiver S/N	84
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-11-2021
RMSE Hz	0.019 ft
RMSE Z	0.055 ft
GPS Method	RTX

PHOTOS



Point ID	SH042
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Vainom Kug

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
404721.471	663672.022	2161.319

Operator	JL
Receiver Model	Trimble R10
Receiver S/N	84
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-12-2021
RMSE Hz	0.017 ft
RMSE Z	0.045 ft
GPS Method	RTX

PHOTOS



Point ID	SH043
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Agua Dulce Mountains

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System	SP Arizona Central
	NAD83(2011)
	NAVD88
	GEOID18
	International Feet

Northing	Easting	Elevation
410783.157	289059.981	1001.601

Operator	JL
Receiver Model	Trimble R10
Receiver S/N	84
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-06-2021
RMSE Hz	0.013 ft
RMSE Z	0.054 ft
GPS Method	RTX

PHOTOS



Point ID	SH044
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Tucson East

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
438715.750	1053766.520	2849.740

Operator	TC
Receiver Model	Trimble R10
Receiver S/N	0385
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	10-14-2021
RMSE Hz	0.010 ft
RMSE Z	0.020 ft
GPS Method	RTN

PHOTOS



Point ID	SH045
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	The Narrows

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
357339.260	1135697.742	3848.789

Operator	AT
Receiver Model	Trimble R12
Receiver S/N	1672
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-03-2021
RMSE Hz	0.012 ft
RMSE Z	0.018 ft
GPS Method	RTN

PHOTOS



Point ID	SH046
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Drew Spring Well

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System	SP Arizona Central
	NAD83(2011)
	NAVD88
	GEOID18
	International Feet

Northing	Easting	Elevation
511023.436	663046.429	1720.138

Operator	BW
Receiver Model	Trimble R10-2
Receiver S/N	235
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-10-2021
RMSE Hz	0.015 ft
RMSE Z	0.075 ft
GPS Method	RTX

PHOTOS



Point ID	SH048
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pinal
Quad	Red Rock

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
588370.740	900297.260	2072.540

Operator	TC
Receiver Model	Trimble R10
Receiver S/N	0385
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	10-12-2021
RMSE Hz	0.004 ft
RMSE Z	0.005 ft
GPS Method	RTN

PHOTOS



Point ID	SH049
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Childs Mountain

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

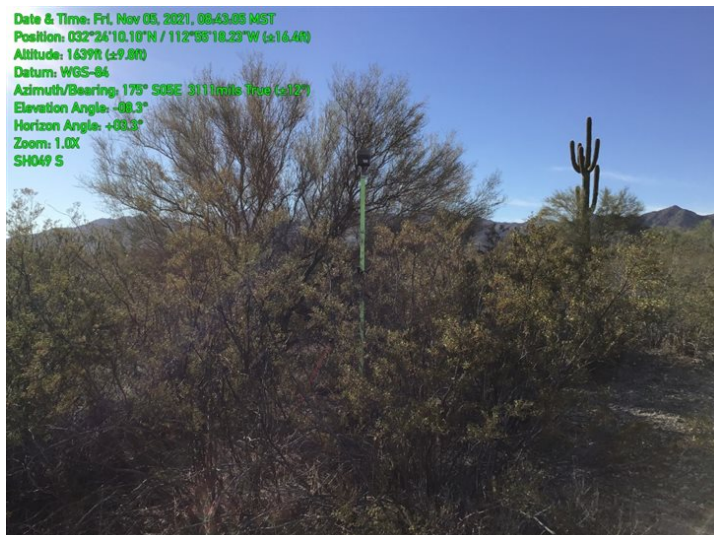
Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
511721.617	389824.011	1632.392

Operator	JL
Receiver Model	Trimble R10
Receiver S/N	84
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-05-2021
RMSE Hz	0.015 ft
RMSE Z	0.052 ft
GPS Method	RTX

PHOTOS



Point ID	SH050
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Esperanza Mill

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

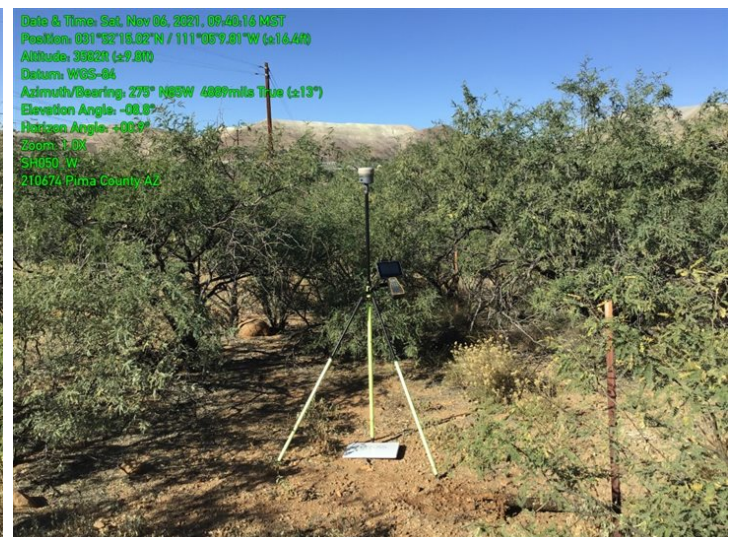
Coordinate System	SP Arizona Central
	NAD83(2011)
	NAVD88
	GEOID18
	International Feet

Northing	Easting	Elevation
317736.941	957824.101	3582.956

Operator	AT
Receiver Model	Trimble R12
Receiver S/N	1672
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-06-2021
RMSE Hz	0.010 ft
RMSE Z	0.013 ft
GPS Method	RTN

PHOTOS



Point ID	SH051
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Vail

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

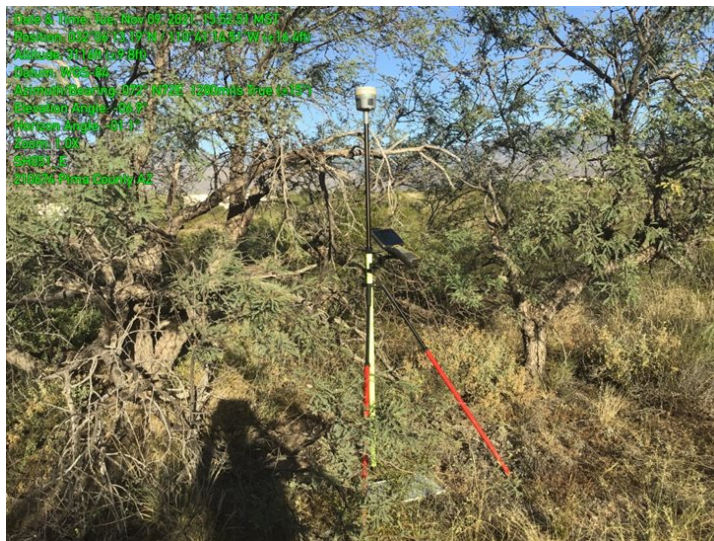
Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
403616.544	1080659.166	3125.843

Operator	AT
Receiver Model	Trimble R12
Receiver S/N	1672
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-09-2021
RMSE Hz	0.017 ft
RMSE Z	0.074 ft
GPS Method	RTX

PHOTOS



Point ID	SH052
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Corona De Tucson

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
351807.910	1027976.770	2900.160

Operator	GC
Receiver Model	Trimble R10
Receiver S/N	0387
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	10-13-2021
RMSE Hz	0.006 ft
RMSE Z	0.018 ft
GPS Method	RTN

PHOTOS



Point ID	SH053
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Ben Nevis Mountain

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
386502.250	597968.450	2117.238

Operator	JL
Receiver Model	Trimble R10
Receiver S/N	84
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-12-2021
RMSE Hz	0.015 ft
RMSE Z	0.067 ft
GPS Method	RTX

PHOTOS



Point ID	SH054
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Kitt Peak

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

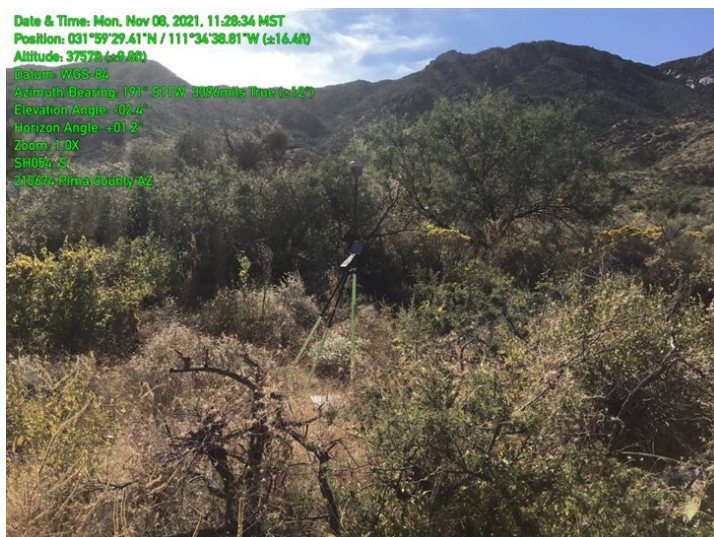
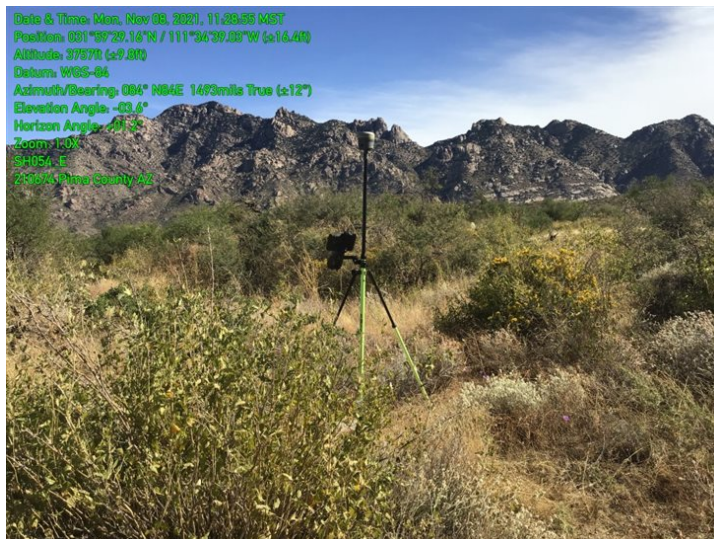
Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
360786.258	805162.099	3770.541

Operator	AT
Receiver Model	Trimble R12
Receiver S/N	1672
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-08-2021
RMSE Hz	0.013 ft
RMSE Z	0.059 ft
GPS Method	RTX

PHOTOS



Point ID	SH055
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Jaynes

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System	SP Arizona Central
	NAD83(2011)
	NAVD88
	GEOID18
	International Feet

Northing	Easting	Elevation
471836.890	961072.580	2370.050

Operator	TC
Receiver Model	Trimble R10
Receiver S/N	0385
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	10-14-2021
RMSE Hz	0.006 ft
RMSE Z	0.008 ft
GPS Method	RTN

PHOTOS



Point ID	SH056
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Temporal Pass

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
477050.084	360555.218	1524.137

Operator	JL
Receiver Model	Trimble R10
Receiver S/N	84
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-05-2021
RMSE Hz	0.017 ft
RMSE Z	0.079 ft
GPS Method	RTX

PHOTOS



Point ID	SH057
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Queens Well

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
466817.173	789608.841	2022.408

Operator	AT
Receiver Model	Trimble R12
Receiver S/N	1672
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-17-2021
RMSE Hz	0.015 ft
RMSE Z	0.052 ft
GPS Method	RTX

PHOTOS



Point ID	SH058
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Aguirre Peak

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

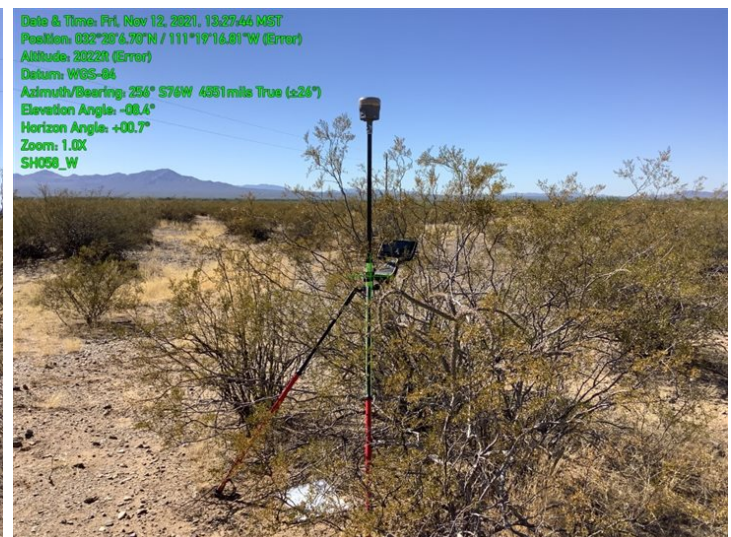
Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
247031.957	751996.358	2588.593

Operator	BW
Receiver Model	Trimble R10-2
Receiver S/N	235
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-12-2021
RMSE Hz	0.015 ft
RMSE Z	0.047 ft
GPS Method	RTX

PHOTOS



Point ID	SH059
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Santa Rosa Mountains NE

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
526804.982	750553.663	1728.976

Operator	AT
Receiver Model	Trimble R12
Receiver S/N	1672
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-15-2021
RMSE Hz	0.015 ft
RMSE Z	0.065 ft
GPS Method	RTX

PHOTOS



Point ID	SH060
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Piety Hill

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

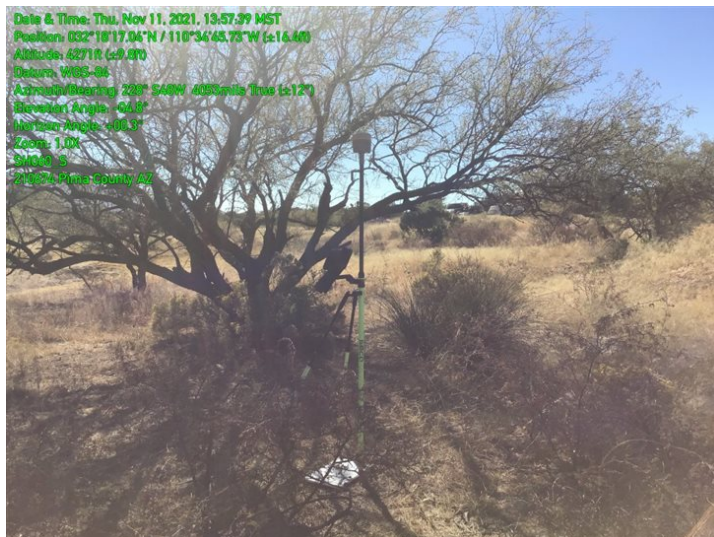
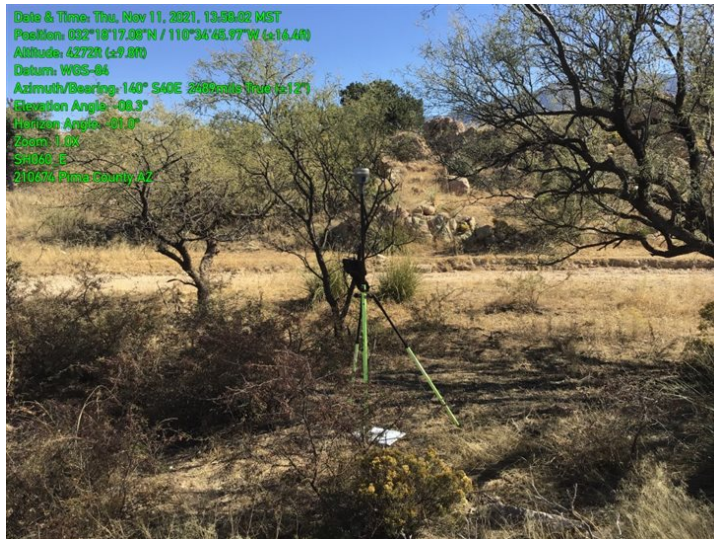
Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
477157.788	1113171.049	4285.787

Operator	AT
Receiver Model	Trimble R12
Receiver S/N	1672
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-11-2021
RMSE Hz	0.017 ft
RMSE Z	0.057 ft
GPS Method	RTX

PHOTOS



Point ID	SH061
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Gap Tank

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

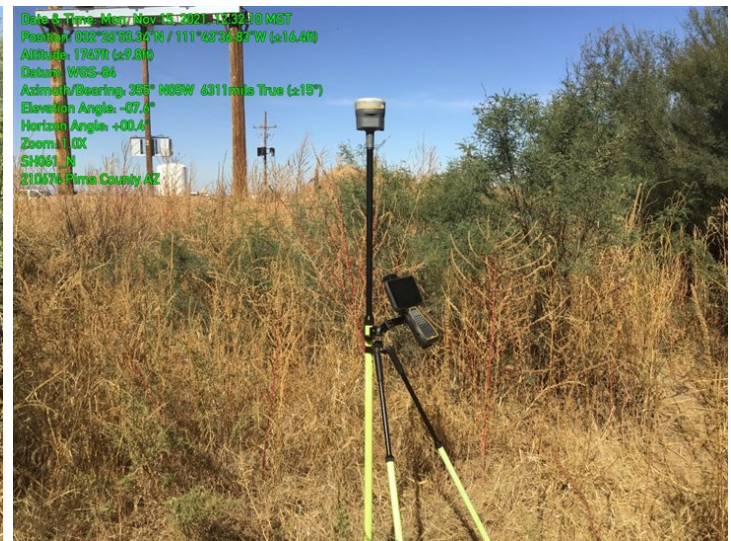
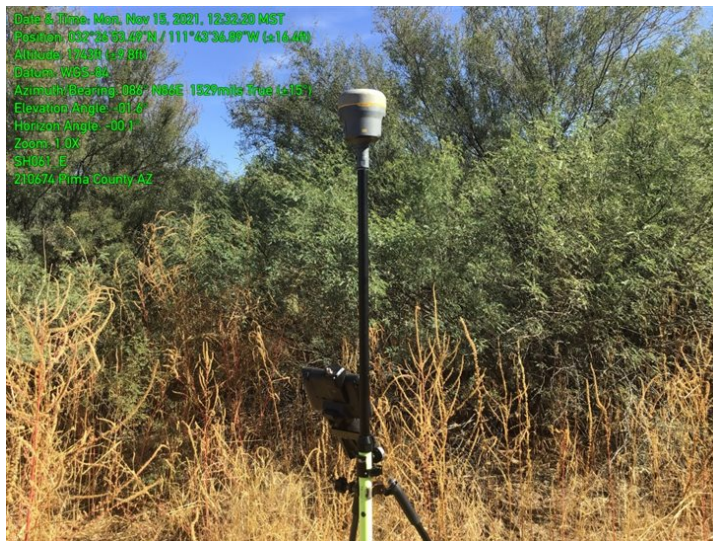
Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
526824.722	758545.844	1737.490

Operator	AT
Receiver Model	Trimble R12
Receiver S/N	1672
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-15-2021
RMSE Hz	0.015 ft
RMSE Z	0.084 ft
GPS Method	RTX

PHOTOS



Point ID	SH062
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pinal
Quad	Samaniego Hills

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

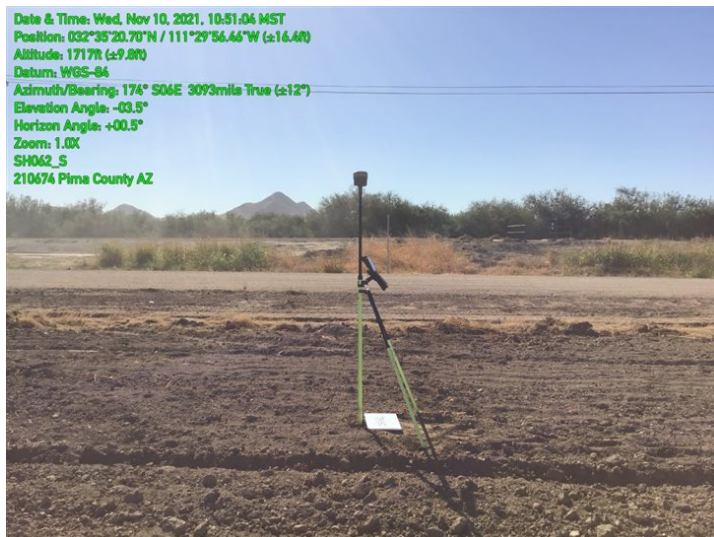
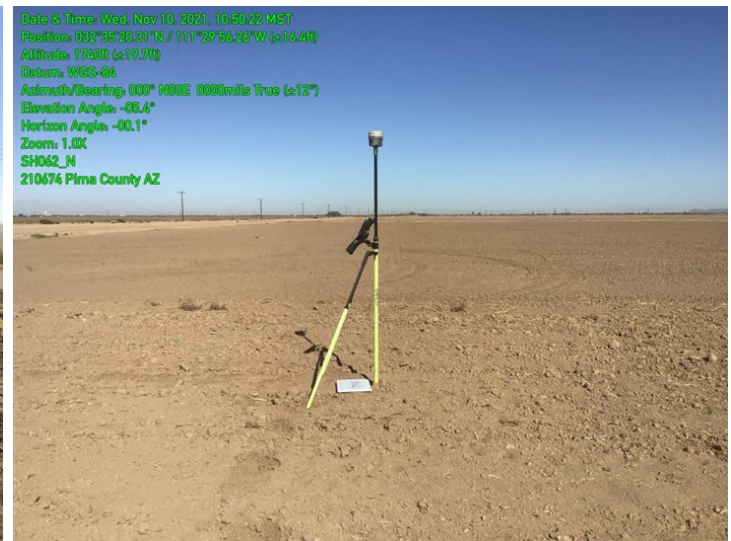
Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
578260.970	828641.886	1713.714

Operator	AT
Receiver Model	Trimble R12
Receiver S/N	1672
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-10-2021
RMSE Hz	0.015 ft
RMSE Z	0.042 ft
GPS Method	RTX

PHOTOS



Point ID	SH063
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Marana

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
502997.020	908115.090	2011.710

Operator	TC
Receiver Model	Trimble R10
Receiver S/N	0385
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	10-14-2021
RMSE Hz	0.010 ft
RMSE Z	0.017 ft
GPS Method	RTN

PHOTOS



Point ID	SH064
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Amado

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
273313.383	984165.263	3142.936

Operator	AT
Receiver Model	Trimble R12
Receiver S/N	1672
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-11-2021
RMSE Hz	0.010 ft
RMSE Z	0.015 ft
GPS Method	RTN

PHOTOS



Point ID	SH065
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pinal
Quad	Red Rock

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
587923.750	872274.740	1815.750

Operator	TC
Receiver Model	Trimble R10
Receiver S/N	0385
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	10-12-2021
RMSE Hz	0.010 ft
RMSE Z	0.010 ft
GPS Method	RTN

PHOTOS



Point ID	SH066
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	San Xavier Mission

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
364819.941	956003.140	3369.006

Operator	AT
Receiver Model	Trimble R12
Receiver S/N	1672
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-06-2021
RMSE Hz	0.010 ft
RMSE Z	0.023 ft
GPS Method	RTN

PHOTOS



Point ID	SH067
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Redington

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
545067.182	1138383.043	2796.119

Operator	BW
Receiver Model	Trimble R10-2
Receiver S/N	235
Antenna Height	6.004 ft

Date (MM-DD-YYYY)	11-06-2021
RMSE Hz	0.017 ft
RMSE Z	0.054 ft
GPS Method	RTX

PHOTOS



Point ID	SH068
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Mount Lemmon

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

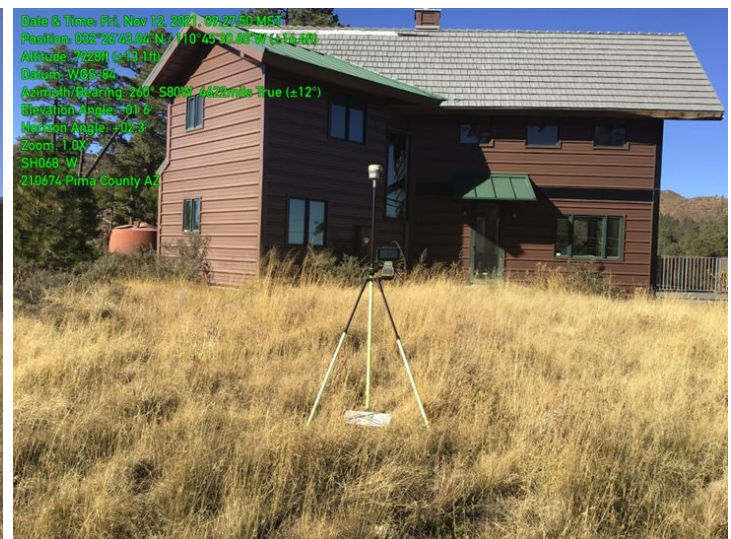
Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
527650.738	1057266.384	7924.091

Operator	AT
Receiver Model	Trimble R12
Receiver S/N	1672
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-12-2021
RMSE Hz	0.017 ft
RMSE Z	0.080 ft
GPS Method	RTX

PHOTOS



Point ID	SH069
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Haivana Nakya

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
406128.216	771934.079	2538.274

Operator	BW
Receiver Model	Trimble R10-2
Receiver S/N	235
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-13-2021
RMSE Hz	0.021 ft
RMSE Z	0.064 ft
GPS Method	RTX

PHOTOS



Point ID	SH070
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Tucson

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
441164.900	1011403.050	2515.260

Operator	TC
Receiver Model	Trimble R10
Receiver S/N	0385
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	10-13-2021
RMSE Hz	0.002 ft
RMSE Z	0.010 ft
GPS Method	RTN

PHOTOS



Point ID	SH071
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Greene Reservoir

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
546778.674	753271.846	1664.905

Operator	AT
Receiver Model	Trimble R12
Receiver S/N	1672
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-15-2021
RMSE Hz	0.019 ft
RMSE Z	0.050 ft
GPS Method	RTX

PHOTOS



Point ID	SH072
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Sikort Chuapo

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
466910.841	465995.714	1952.825

Operator	JL
Receiver Model	Trimble R10
Receiver S/N	84
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-08-2021
RMSE Hz	0.013 ft
RMSE Z	0.033 ft
GPS Method	RTX

PHOTOS



Point ID	SH073
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pinal
Quad	Kohatk

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
578045.300	674188.821	1629.311

Operator	JL
Receiver Model	Trimble R10
Receiver S/N	84
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-15-2021
RMSE Hz	0.015 ft
RMSE Z	0.042 ft
GPS Method	RTX

PHOTOS



Point ID	SH074
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pinal
Quad	Rhodes Peak

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
639505.629	1138088.951	3672.195

Operator	BW
Receiver Model	Trimble R10-2
Receiver S/N	235
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-11-2021
RMSE Hz	0.017 ft
RMSE Z	0.067 ft
GPS Method	RTX

PHOTOS



Point ID	SH075
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pinal
Quad	Red Rock

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System	SP Arizona Central
	NAD83(2011)
	NAVD88
	GEOID18
	International Feet

Northing	Easting	Elevation
562946.230	890520.500	1911.450

Operator	TC
Receiver Model	Trimble R10
Receiver S/N	0385
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	10-12-2021
RMSE Hz	0.008 ft
RMSE Z	0.010 ft
GPS Method	RTN

PHOTOS



Point ID	SH076
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Wahak Hotrontk

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
430047.955	572789.360	2023.228

Operator	JL
Receiver Model	Trimble R10
Receiver S/N	84
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-11-2021
RMSE Hz	0.015 ft
RMSE Z	0.070 ft
GPS Method	RTX

PHOTOS



Point ID	SH077
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pinal
Quad	Vekol Mountains NE

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
611301.253	665349.428	1766.670

Operator	BW
Receiver Model	Trimble R10-2
Receiver S/N	235
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-16-2021
RMSE Hz	0.017 ft
RMSE Z	0.050 ft
GPS Method	RTX

PHOTOS



Point ID	SH078
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Oro Valley

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System	SP Arizona Central
	NAD83(2011)
	NAVD88
	GEOID18
	International Feet

Northing	Easting	Elevation
516995.310	1002373.230	2647.180

Operator	TC
Receiver Model	Trimble R10
Receiver S/N	0385
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	10-15-2021
RMSE Hz	0.004 ft
RMSE Z	0.007 ft
GPS Method	RTN

PHOTOS



Point ID	SH079
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pinal
Quad	Clark Ranch

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
636217.333	1119990.174	3832.251

Operator	BW
Receiver Model	Trimble R10-2
Receiver S/N	235
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-11-2021
RMSE Hz	0.015 ft
RMSE Z	0.037 ft
GPS Method	RTX

PHOTOS



Point ID	SH080
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Sells West

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

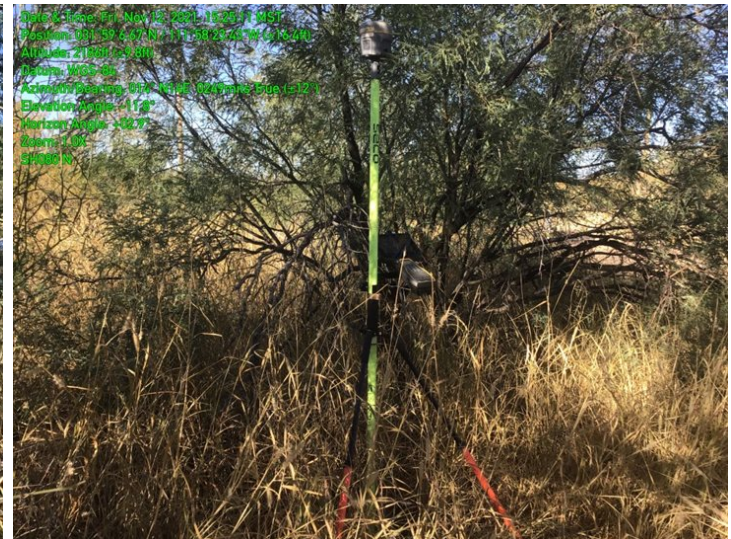
Coordinate System	SP Arizona Central
	NAD83(2011)
	NAVD88
	GEOID18
	International Feet

Northing	Easting	Elevation
358351.246	682484.944	2225.374

Operator	JL
Receiver Model	Trimble R10
Receiver S/N	84
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-12-2021
RMSE Hz	0.017 ft
RMSE Z	0.049 ft
GPS Method	RTX

PHOTOS



Point ID	SH081
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Topawa

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
276934.008	738966.394	2550.003

Operator	AT
Receiver Model	Trimble R12
Receiver S/N	1672
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-08-2021
RMSE Hz	0.017 ft
RMSE Z	0.064 ft
GPS Method	RTX

PHOTOS



Point ID	SH082
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pinal
Quad	Silver Reef Mountains

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
600524.290	716415.200	1612.631

Operator	AT
Receiver Model	Trimble R12
Receiver S/N	1672
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-15-2021
RMSE Hz	0.015 ft
RMSE Z	0.070 ft
GPS Method	RTX

PHOTOS



Point ID	SH083
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Kom Vo

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

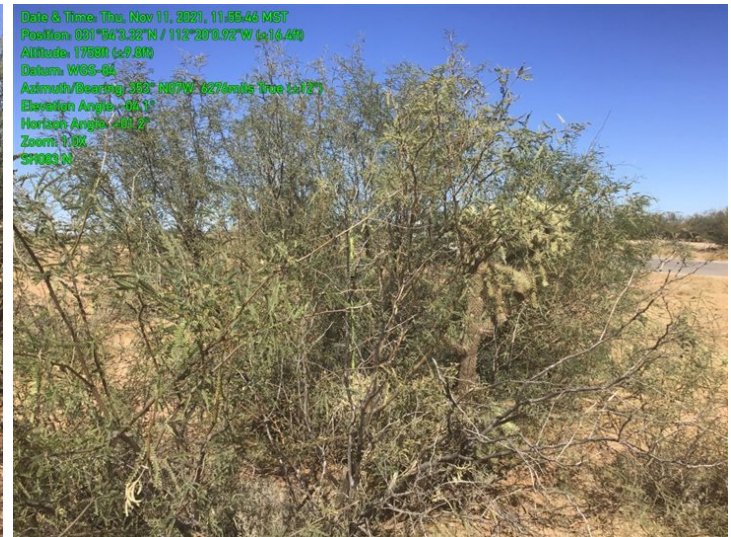
Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
327971.348	570627.529	1768.924

Operator	JL
Receiver Model	Trimble R10
Receiver S/N	84
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-11-2021
RMSE Hz	0.013 ft
RMSE Z	0.055 ft
GPS Method	RTX

PHOTOS



Point ID	SH084
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Tecolote Ranch

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
247519.183	673482.904	2338.894

Operator	JL
Receiver Model	Trimble R10
Receiver S/N	84
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-14-2021
RMSE Hz	0.013 ft
RMSE Z	0.049 ft
GPS Method	RTX

PHOTOS



Point ID	SH085
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Topawa

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

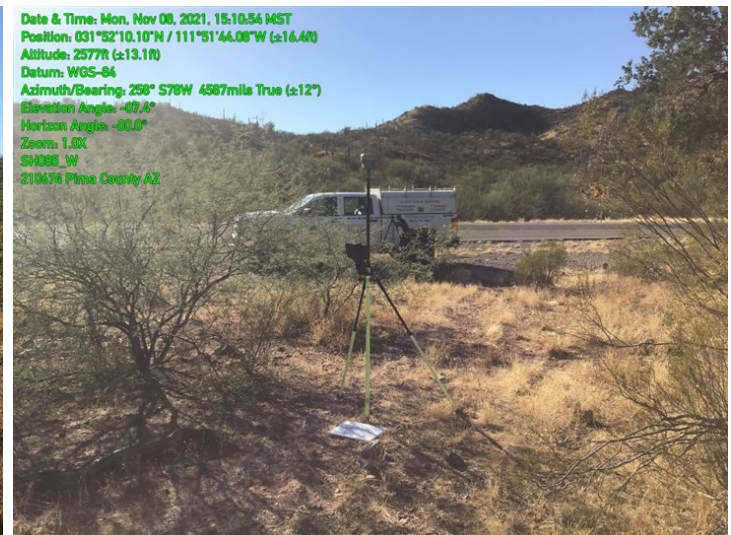
Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
316247.222	716887.806	2594.288

Operator	AT
Receiver Model	Trimble R12
Receiver S/N	1672
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-08-2021
RMSE Hz	0.017 ft
RMSE Z	0.065 ft
GPS Method	RTX

PHOTOS



Point ID	SH086
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Cat Mountain

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
428758.478	982612.862	2425.797

Operator	AT
Receiver Model	Trimble R12
Receiver S/N	1672
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-06-2021
RMSE Hz	0.012 ft
RMSE Z	0.023 ft
GPS Method	RTN

PHOTOS



Point ID	SH087
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Sil Nakya

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
444356.354	730909.560	2213.071

Operator	BW
Receiver Model	Trimble R10-2
Receiver S/N	235
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-13-2021
RMSE Hz	0.015 ft
RMSE Z	0.045 ft
GPS Method	RTX

PHOTOS



Point ID	SH088
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Chico Shunie

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

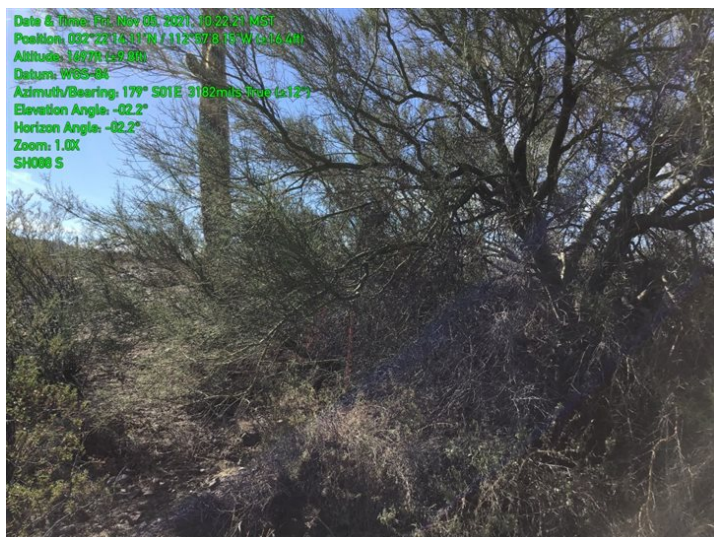
Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
500086.492	380278.010	1692.717

Operator	JL
Receiver Model	Trimble R10
Receiver S/N	84
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-05-2021
RMSE Hz	0.021 ft
RMSE Z	0.044 ft
GPS Method	RTX

PHOTOS



Point ID	SH089
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Cimarron Peak

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
509795.913	526974.704	2244.741

Operator	JL
Receiver Model	Trimble R10
Receiver S/N	84
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-08-2021
RMSE Hz	0.015 ft
RMSE Z	0.054 ft
GPS Method	RTX

PHOTOS



Point ID	SH090
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Kom Vo

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
341162.818	585372.326	1866.388

Operator	JL
Receiver Model	Trimble R10
Receiver S/N	84
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-12-2021
RMSE Hz	0.015 ft
RMSE Z	0.069 ft
GPS Method	RTX

PHOTOS



Point ID	SH091
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Coffeepot Mountain

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

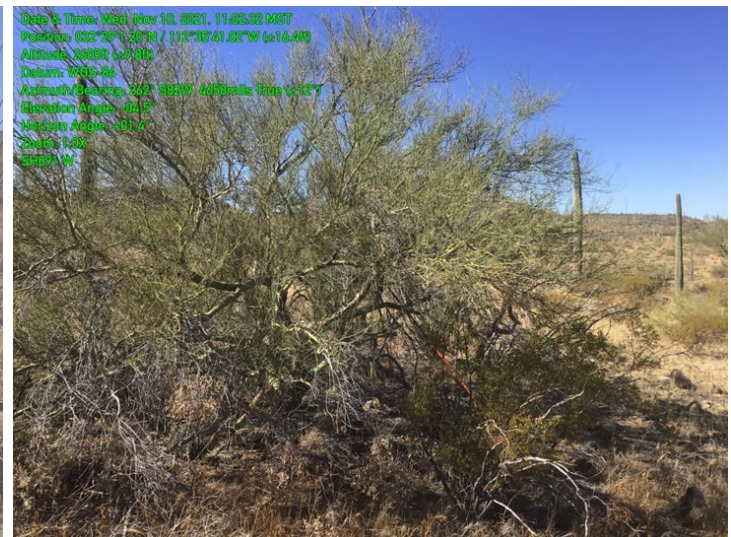
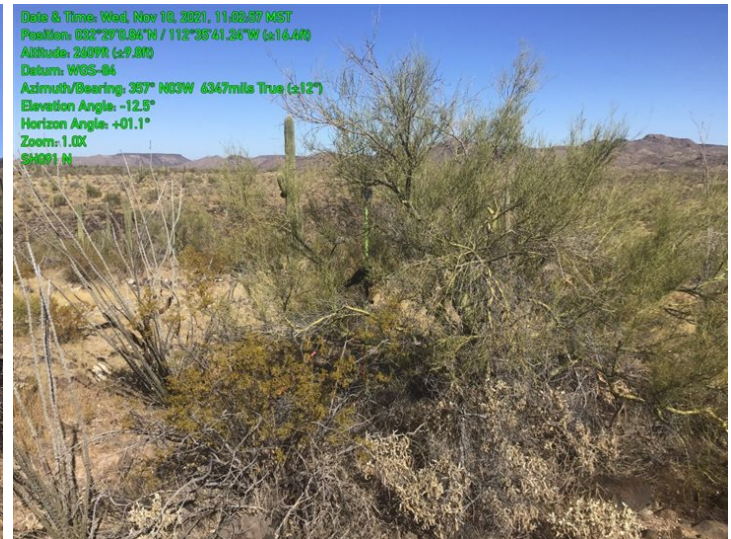
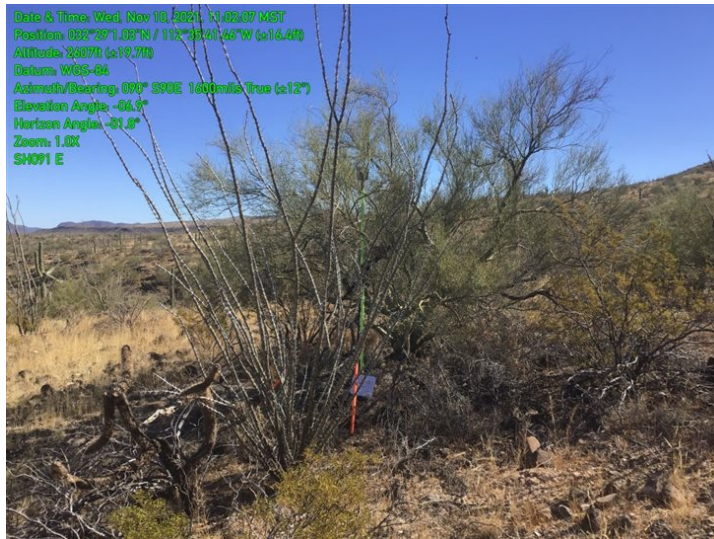
Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
540325.724	490905.400	2630.722

Operator	JL
Receiver Model	Trimble R10
Receiver S/N	84
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-10-2021
RMSE Hz	0.050 ft
RMSE Z	0.062 ft
GPS Method	RTX

PHOTOS



Point ID	SH092
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	West of Avra

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
470517.540	901597.180	2145.830

Operator	GC
Receiver Model	Trimble R10
Receiver S/N	0387
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	10-15-2021
RMSE Hz	0.006 ft
RMSE Z	0.002 ft
GPS Method	RTN

PHOTOS



Point ID	SH093
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Mount Fagan

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
362078.549	1075263.718	3449.669

Operator	AT
Receiver Model	Trimble R12
Receiver S/N	1672
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-03-2021
RMSE Hz	0.012 ft
RMSE Z	0.030 ft
GPS Method	RTN

PHOTOS



Point ID	SH094
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Hotason Vo

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
452655.605	498948.437	2104.413

Operator	JL
Receiver Model	Trimble R10
Receiver S/N	84
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-08-2021
RMSE Hz	0.013 ft
RMSE Z	0.059 ft
GPS Method	RTX

PHOTOS



Point ID	SH095
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Chico Shunie

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
463600.922	380555.566	1653.796

Operator	JL
Receiver Model	Trimble R10
Receiver S/N	84
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-06-2021
RMSE Hz	0.013 ft
RMSE Z	0.037 ft
GPS Method	RTX

PHOTOS



Point ID	SH096
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Papago Farms

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

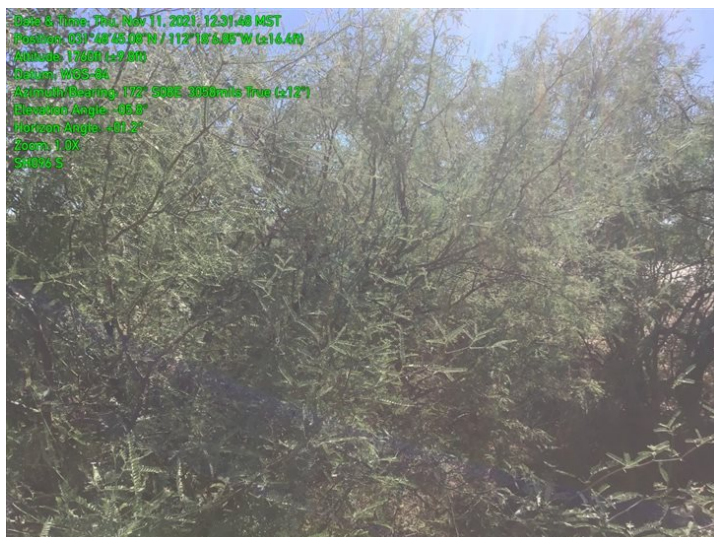
Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
295718.060	580351.767	1768.153

Operator	JL
Receiver Model	Trimble R10
Receiver S/N	84
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-11-2021
RMSE Hz	0.012 ft
RMSE Z	0.038 ft
GPS Method	RTX

PHOTOS



Point ID	SH097
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Agua Dulce Mountains

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
406756.211	324997.023	1046.017

Operator	JL
Receiver Model	Trimble R10
Receiver S/N	84
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-06-2021
RMSE Hz	0.010 ft
RMSE Z	0.038 ft
GPS Method	RTX

PHOTOS



Point ID	SH098
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pinal
Quad	Peppersauce Wash

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
557883.663	1135714.456	2718.737

Operator	BW
Receiver Model	Trimble R10-2
Receiver S/N	235
Antenna Height	6.004 ft

Date (MM-DD-YYYY)	11-06-2021
RMSE Hz	0.017 ft
RMSE Z	0.057 ft
GPS Method	RTX

PHOTOS



Point ID	SH099
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Sells West

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
340546.392	700427.313	2337.385

Operator	AT
Receiver Model	Trimble R12
Receiver S/N	1672
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-08-2021
RMSE Hz	0.017 ft
RMSE Z	0.059 ft
GPS Method	RTX

PHOTOS



Point ID	SH100
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	La Lesna Mountains

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System	SP Arizona Central
	NAD83(2011)
	NAVD88
	GEOID18
	International Feet

Northing	Easting	Elevation
261575.852	630920.272	2113.225

Operator	JL
Receiver Model	Trimble R10
Receiver S/N	84
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-14-2021
RMSE Hz	0.021 ft
RMSE Z	0.059 ft
GPS Method	RTX

PHOTOS



Point ID	SH101
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Ventana

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
528474.197	598783.377	2239.173

Operator	JL
Receiver Model	Trimble R10
Receiver S/N	84
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-13-2021
RMSE Hz	0.015 ft
RMSE Z	0.049 ft
GPS Method	RTX

PHOTOS



Point ID	SH102
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Graham
Quad	Kielberg Canyon

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

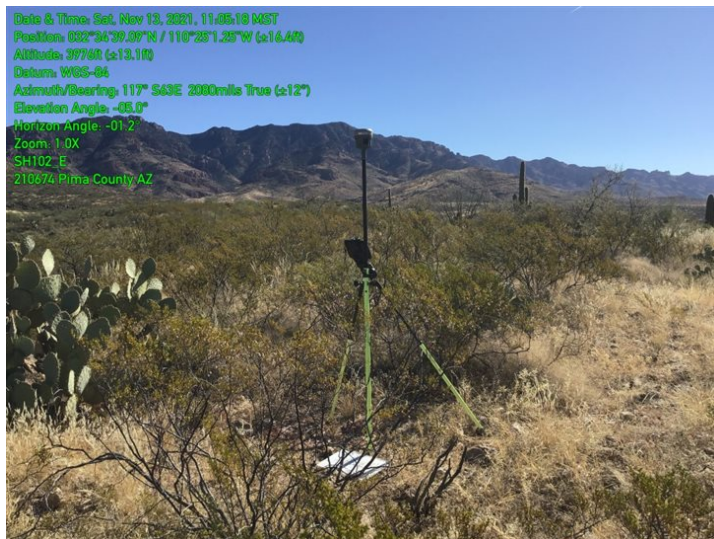
Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
577066.798	1161973.771	3975.925

Operator	AT
Receiver Model	Trimble R12
Receiver S/N	1672
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-13-2021
RMSE Hz	0.015 ft
RMSE Z	0.049 ft
GPS Method	RTX

PHOTOS



Point ID	SH103
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Black Hills

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

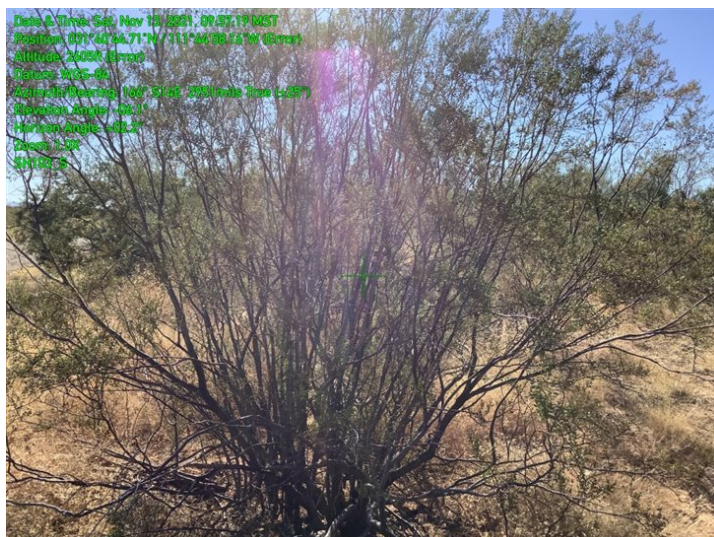
Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
418101.930	767627.240	2431.752

Operator	BW
Receiver Model	Trimble R10-2
Receiver S/N	235
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-13-2021
RMSE Hz	0.019 ft
RMSE Z	0.049 ft
GPS Method	RTX

PHOTOS



Point ID	SH104
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Ko Vaya

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

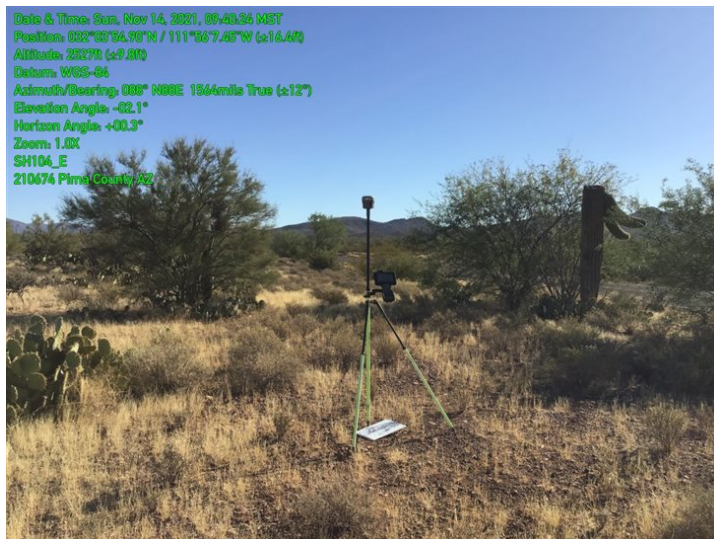
Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
387476.838	694231.281	2521.181

Operator	AT
Receiver Model	Trimble R12
Receiver S/N	1672
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-14-2021
RMSE Hz	0.019 ft
RMSE Z	0.050 ft
GPS Method	RTX

PHOTOS



Point ID	SH105
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pinal
Quad	Little Table Top

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

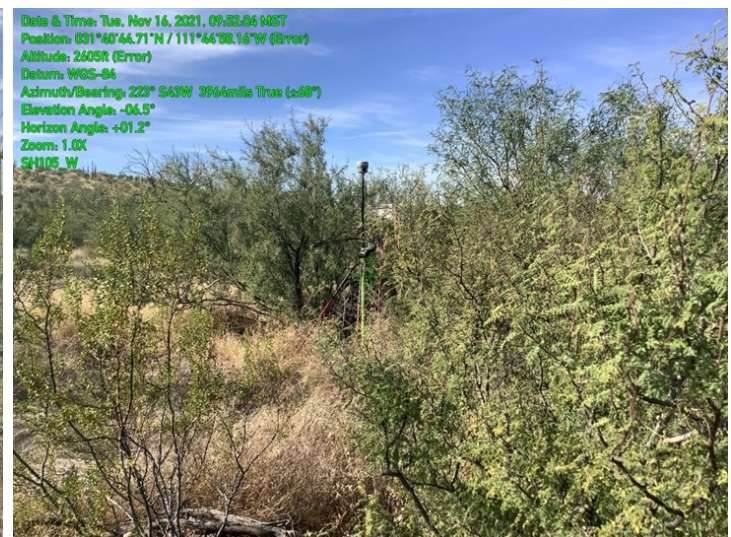
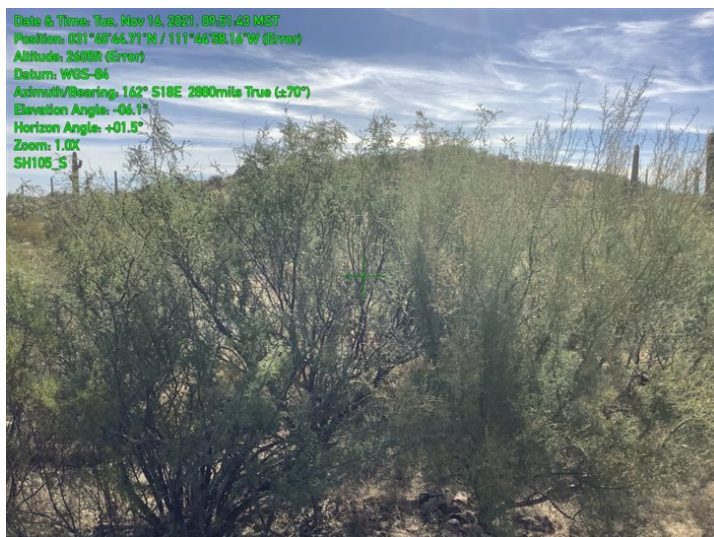
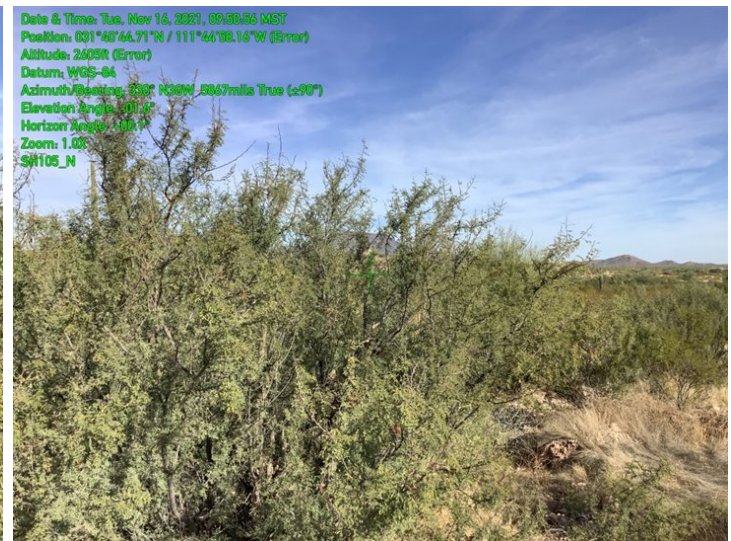
Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
602833.603	633665.268	2011.877

Operator	BW
Receiver Model	Trimble R10-2
Receiver S/N	235
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-16-2021
RMSE Hz	0.017 ft
RMSE Z	0.050 ft
GPS Method	RTX

PHOTOS



Point ID	SH106
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Santa Rosa

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
464690.265	655594.863	1936.998

Operator	BW
Receiver Model	Trimble R10-2
Receiver S/N	235
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-10-2021
RMSE Hz	0.017 ft
RMSE Z	0.065 ft
GPS Method	RTX

PHOTOS



Point ID	SH107
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Tucson North

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
487731.550	1000160.060	2769.060

Operator	TC
Receiver Model	Trimble R10
Receiver S/N	0385
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	10-15-2021
RMSE Hz	0.006 ft
RMSE Z	0.002 ft
GPS Method	RTN

PHOTOS



Point ID	SH108
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pinal
Quad	Greene Reservoir

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
585212.888	775222.137	1579.245

Operator	AT
Receiver Model	Trimble R12
Receiver S/N	1672
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-10-2021
RMSE Hz	0.015 ft
RMSE Z	0.055 ft
GPS Method	RTX

PHOTOS



Point ID	SH109
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Drew Spring Well

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
524831.632	668364.995	1661.207

Operator	BW
Receiver Model	Trimble R10-2
Receiver S/N	235
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-10-2021
RMSE Hz	0.015 ft
RMSE Z	0.038 ft
GPS Method	RTX

PHOTOS



Point ID	SH110
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	West of Pisinimo

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
387800.103	527792.360	1982.743

Operator	JL
Receiver Model	Trimble R10
Receiver S/N	84
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-11-2021
RMSE Hz	0.015 ft
RMSE Z	0.054 ft
GPS Method	RTX

PHOTOS



Point ID	SH111
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Samaniego Peak

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
327765.834	939204.787	4160.614

Operator	AT
Receiver Model	Trimble R12
Receiver S/N	1672
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-06-2021
RMSE Hz	0.010 ft
RMSE Z	0.012 ft
GPS Method	RTN

PHOTOS



Point ID	SH112
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Sabino Canyon

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
473025.470	1059268.390	2757.020

Operator	TC
Receiver Model	Trimble R10
Receiver S/N	0385
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	10-13-2021
RMSE Hz	0.006 ft
RMSE Z	0.005 ft
GPS Method	RTN

PHOTOS



Point ID	SH113
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pinal
Quad	Silver Reef Mountains SE

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

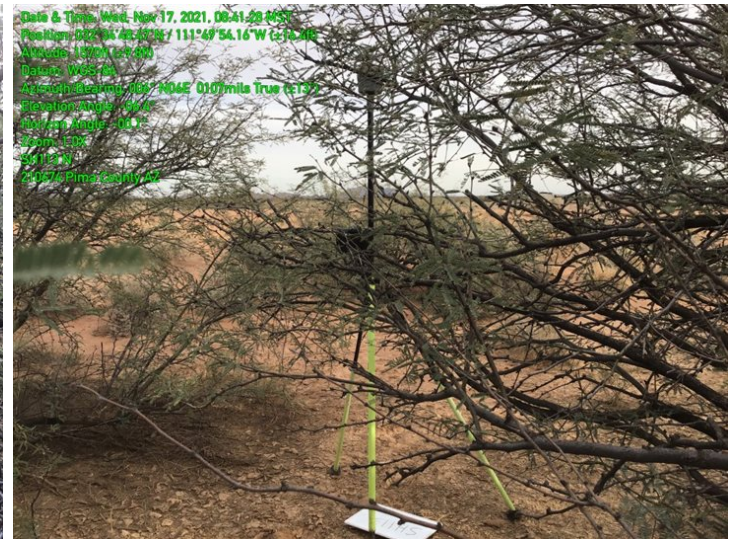
Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
574792.202	726173.058	1568.169

Operator	AT
Receiver Model	Trimble R12
Receiver S/N	1672
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-17-2021
RMSE Hz	0.015 ft
RMSE Z	0.054 ft
GPS Method	RTX

PHOTOS



Point ID	SH114
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Redington

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
521765.238	1137264.757	2871.125

Operator	BW
Receiver Model	Trimble R10-2
Receiver S/N	235
Antenna Height	6.004 ft

Date (MM-DD-YYYY)	11-06-2021
RMSE Hz	0.017 ft
RMSE Z	0.052 ft
GPS Method	RTX

PHOTOS



Point ID	SH115
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Sahuarita

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
331880.771	1016427.582	2939.331

Operator	AT
Receiver Model	Trimble R12
Receiver S/N	1672
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-05-2021
RMSE Hz	0.012 ft
RMSE Z	0.018 ft
GPS Method	RTN

PHOTOS



Point ID	SH116
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Pia Oik

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

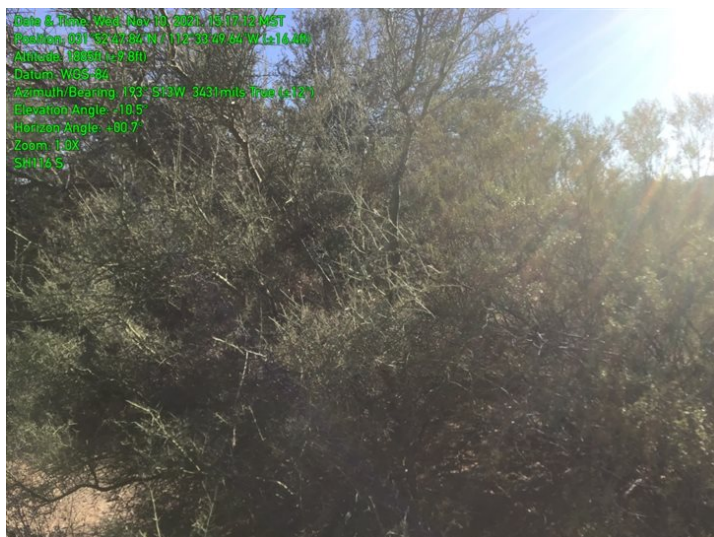
Coordinate System	SP Arizona Central
	NAD83(2011)
	NAVD88
	GEOID18
	International Feet

Northing	Easting	Elevation
320645.969	499130.580	1877.858

Operator	JL
Receiver Model	Trimble R10
Receiver S/N	84
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-10-2021
RMSE Hz	0.015 ft
RMSE Z	0.069 ft
GPS Method	RTX

PHOTOS



Point ID	SH117
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Sil Nakya

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

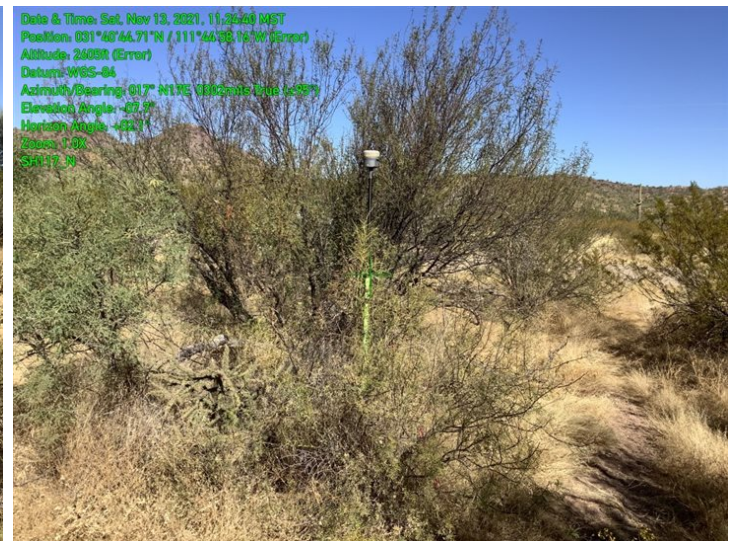
Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
434882.266	746152.989	2341.896

Operator	BW
Receiver Model	Trimble R10-2
Receiver S/N	235
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-13-2021
RMSE Hz	0.015 ft
RMSE Z	0.055 ft
GPS Method	RTX

PHOTOS



Point ID	SH118
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Elgin

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
275309.528	1133799.896	4971.549

Operator	AT
Receiver Model	Trimble R12
Receiver S/N	1672
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-04-2021
RMSE Hz	0.012 ft
RMSE Z	0.018 ft
GPS Method	RTN

PHOTOS



Point ID	SH119
Project No.	37174
Project Name	USGS - Pima AZ
State	Arizona
County	Pima
Quad	Granite Mountains South

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
SP Arizona Central
NAD83(2011)
NAVD88
GEOID18
International Feet

Northing	Easting	Elevation
482734.657	286972.426	902.956

Operator	JL
Receiver Model	Trimble R10
Receiver S/N	84
Antenna Height	6.562 ft

Date (MM-DD-YYYY)	11-09-2021
RMSE Hz	0.013 ft
RMSE Z	0.038 ft
GPS Method	RTX

PHOTOS

