

# Ground Control Survey Report

## Horizontal & Vertical Control, Coordinates and NGS Data Sheets for AZ\_ Navajo Corridor\_2020\_D20 Project

**CONTRACT:** G16PC00029

**CONTRACTOR:** Merrick-Surdex JV

**TASK ORDER NUMBER:** 140G0220F0292

**TASK NAME:** AZ\_Navajo Corridor\_2020\_D20

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**Contractor Job Number:** J65220694

Submitted to:



Submitted by:





ARIZONA NAVAJO CORRIDOR  
LIDAR MAPPING PROJECT  
GROUND CONTROL SURVEY REPORT

JOB NO. 65220694  
DATE OCTOBER 2020

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**USGS ARIZONA NAVAJO CORRIDOR  
LIDAR MAPPING PROJECT  
GROUND CONTROL SURVEY REPORT**

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## I. INTRODUCTION

This report summarizes the results of a ground control survey requested by USGS. The survey was conducted in Navajo County in Arizona. The purpose of the survey of ground control and check points for LIDAR (Light Detection and Ranging) mapping of an area of interest covering approximately 366 square miles. .

Ground control field observations were performed by Merrick & Company personnel. Field effort commenced on October 5th, 2020 through October 6th, 2020. Equipment used for this project included one Trimble R10 GNSS receiver with RTX service provided by Trimble (A satellite-based service using worldwide continuously operating reference stations). Horizontal and vertical measurements were verified by recovering and observing coordinates from the Trimble R10 GNSS receivers with the RTX service to 6 NGS (National Geodetic Survey) ground stations. The quality of LiDAR data was verified with 62 checkpoints. These checkpoints were utilized to verify confidence levels of the LIDAR datasets.

## II. HORIZONTAL AND VERTICAL CONTROL

The coordinate system for this project is UTM ZONE 12 NORTH based on North American Datum of 1983 (NAD83), adjustment of 2011. The geodetic network was tied to CORS (Continuously Operating Reference Stations) via RTX and NGS ground stations. RTX coordinates are observed in International Terrestrial Reference Frame datum with the realization year of 2014 (ITRF (2014)).

Coordinate values measured utilizing the RTX network were converted into NAD83(2011) values using the HTDP (Horizontal Time Dependent Positioning) program version 3.2.9. NAVD 88 elevations were computed using Geoid 18. HTDP program is provided by the National Geodetic Survey. The following existing NGS control points were used as horizontal checks to control this survey:

<b>NGS Primary Horizontal Control Checkpoints</b>		
<b>PT# (NGS NAME)</b>	<b>RECORD POSITION NAD-83 (2011)</b>	
	<b>LATITUDE</b>	<b>LONGITUDE</b>
B 252	35°02'10.95167"N	110°44'08.60334"W
B 505	34°54'49.70661"N	110°09'19.96760"W
K 346	34°55'33.02628"N	110°08'39.94403"W
SHELL 2	35°00'20.20484"N	110°38'18.64331"W
T 503	35°01'53.88482"N	110°42'54.72107"W
WINSLOW RESET	35°02'25.85202"N	110°44'45.12737"W

<b>NGS Primary Control Horizontal NAD-83 (2011) Comparisons: Record Versus Measured</b>		
<b>PT# (NGS NAME)</b>	<b>NORTH (meters)</b>	<b>EAST (meters)</b>
B 252	+0.029	-0.014
B 505	+0.050	-0.008
K 346	+0.061	-0.003
SHELL 2	+0.056	-0.032
T 503	+0.024	-0.030
WINSLOW RESET	+0.056	-0.051

<b>NGS Primary Vertical Control checks Comparisons: Record Versus Measured</b>		
<b>PT# (NGS NAME)</b>	<b>RECORD</b>	<b>MEASURED</b>
	<b>NAVD 88 elevation in meters</b>	<b>Difference in meters</b>
B 252	1499.562	-0.052
B 505	1578.291	-0.071
K 346	1595.974	-0.065
SHELL 2	1481.725	-0.069
T 503	1488.008	-0.014
WINSLOW RESET	1512.512	-0.024

### III. JOB SUMMARY AND EQUIPMENT

The coordinate system is UTM Zone 12 North. The units are in meters. The projection parameters are as follows:

UTM ZONE 12 NORTH  
PROJECTION: TRANSVERSE MERCATOR  
LATITUDE OF ORIGIN = N 0° 00' 00.000000"  
LONGITUDE OF ORIGIN = W 111° 00' 00.000000"  
FALSE NORTHING =0.000 meters  
FALSE EASTING =500000.000 meters  
SCALE FACTOR =0.9996000000

The data collected was converted and checked with published ground station coordinates. The specifications for accuracy with RTX are 2 centimeters horizontally and 5 centimeters vertically. Existing NGS published control stations were surveyed to assure that there were no discrepancies in the field observation data. Close examinations of the residuals showed no distortions in orientation or scale.

Satellite data was collected using one Trimble R10 receiver. The coordinates were processed using Trimble Business Center (Version 5.32).

## USGS NAVAJO CORRIDOR

65220694

OCTOBER 2020

PT#	NAD83(2011)		ELLIPSOID	UTM ZONE 12 NORTH		NAVD 88	CODE	NOTE
	LATITUDE	LONGITUDE	HEIGHT	NORTHING	EASTING	ELEVATION		
			METERS	METERS	METERS	METERS		
						GEOID 18		
1001	35°06'07.16710"N	110°41'32.50581"W	1446.475	3884396.842	528037.579	1470.632	LIPT	NVA
1002	34°59'08.69134"N	110°25'52.18614"W	1501.181	3871610.299	551916.627	1525.385	LIPT	NVA
1003	34°52'44.89972"N	110°12'35.15674"W	1536.151	3859924.95	572216.85	1560.514	LIPT	NVA
1004	34°57'45.87847"N	110°24'01.58589"W	1489.307	3869075.646	554735.926	1513.533	LIPT	NVA
1004A	34°58'11.47841"N	110°26'01.12068"W	1482.933	3869846.573	551700.102	1507.165	LIPT	NVA
1005	34°53'34.23571"N	110°26'21.70279"W	1529.838	3861303.264	551226.045	1554.175	LIPT	NVA
1006	34°55'34.48833"N	110°32'32.55560"W	1496.592	3864959.724	541796.485	1520.907	LIPT	NVA
1007	35°00'49.46966"N	110°19'48.74777"W	1564.249	3874771.906	561109.914	1588.336	LIPT	NVA
1008	35°02'46.14191"N	110°44'31.65143"W	1485.232	3878191.394	523518.292	1509.399	LIPT	NVA
1009	34°57'22.02920"N	110°19'04.99650"W	1508.293	3868389.171	562262.359	1532.522	LIPT	NVA
1010	34°52'06.81438"N	110°09'29.93384"W	1559.923	3858790.026	576928.735	1584.278	LIPT	NVA
1011	34°57'32.20031"N	110°38'51.06247"W	1493.035	3868546.904	532180.752	1517.258	LIPT	NVA
1012	34°58'25.21617"N	110°43'32.39512"W	1520.833	3870157.666	525041.543	1544.999	LIPT	NVA
1013	34°53'32.25225"N	110°22'32.83576"W	1533.241	3861276.524	557035.335	1557.576	LIPT	NVA
1014	34°58'59.73636"N	110°20'29.61135"W	1546.078	3871384.662	560096.548	1570.241	LIPT	NVA
1015	35°04'59.27049"N	110°33'21.71277"W	1582.926	3882352.131	540471.999	1607.008	LIPT	NVA
1016	34°54'35.32965"N	110°09'29.94322"W	1529.548	3863365.051	576890.052	1553.871	LIPT	NVA
1016A	34°54'24.28332"N	110°11'08.31857"W	1520.453	3863004.12	574396.41	1544.786	LIPT	NVA
1017	35°00'53.49529"N	110°38'14.82864"W	1460.491	3874751.01	533077.162	1484.695	LIPT	NVA
1017A	35°02'47.21099"N	110°39'10.15802"W	1467.637	3878249.022	531662.751	1491.812	LIPT	NVA
1018	34°55'25.47937"N	110°15'33.23874"W	1530.563	3864837.049	567659.521	1554.871	LIPT	NVA
1019	34°56'16.48153"N	110°07'56.30870"W	1582.859	3866501.355	579239.146	1607.135	LIPT	NVA
1020	34°54'45.64238"N	110°19'23.52199"W	1504.022	3863568.497	561825.107	1528.342	LIPT	NVA
1021	34°58'34.26793"N	110°31'31.43718"W	1489.223	3870504.988	543320.822	1513.487	LIPT	NVA
1022	34°53'38.95792"N	110°16'36.45789"W	1529.635	3861543.935	566079.236	1553.988	LIPT	NVA
1023	34°52'49.60322"N	110°05'05.91298"W	1552.059	3860166.9	583619.974	1576.378	LIPT	NVA
1024	34°56'15.89363"N	110°15'18.40738"W	1546.475	3866392.856	568024.26	1570.752	LIPT	NVA

## USGS NAVAJO CORRIDOR

65220694

OCTOBER 2020

PT#	NAD83(2011)		ELLIPSOID	UTM ZONE 12 NORTH		NAVD 88	CODE	NOTE
	LATITUDE	LONGITUDE	HEIGHT	NORTHING	EASTING	ELEVATION		
			METERS	METERS	METERS	METERS		
						GEOID 18		
1025	35°03'13.05751"N	110°35'34.83511"W	1517.338	3879065.84	537114.394	1541.491	LIPT	NVA
2001	35°06'03.51303"N	110°41'35.02793"W	1446.347	3884284.081	527974.075	1470.505	LIPT	VVA
2002	34°59'08.97233"N	110°25'53.74352"W	1500.522	3871618.73	551877.095	1524.726	LIPT	VVA
2002A	34°57'46.92061"N	110°23'59.69572"W	1489.207	3869108.037	554783.667	1513.433	LIPT	VVA
2003	34°53'37.11223"N	110°26'19.59003"W	1529.715	3861392.173	551279.173	1554.052	LIPT	VVA
2004	34°55'33.67529"N	110°32'31.23244"W	1496.948	3864934.832	541830.17	1521.263	LIPT	VVA
2005	35°00'47.39287"N	110°19'47.63510"W	1563.922	3874708.119	561138.543	1588.01	LIPT	VVA
2006	35°02'47.85108"N	110°44'33.99219"W	1485.585	3878243.892	523458.856	1509.752	LIPT	VVA
2007	34°57'22.40060"N	110°19'07.38556"W	1507.944	3868400.199	562201.69	1532.173	LIPT	VVA
2008	34°52'07.85754"N	110°09'29.74944"W	1559.289	3858822.2	576933.147	1583.644	LIPT	VVA
2009	34°58'30.37811"N	110°43'26.35983"W	1518.074	3870317.098	525194.134	1542.241	LIPT	VVA
2010	35°00'54.87987"N	110°38'14.64340"W	1460.51	3874793.679	533081.702	1484.713	LIPT	VVA
2010A	35°02'42.07870"N	110°39'11.73923"W	1467.92	3878090.783	531623.243	1492.096	LIPT	VVA
2011	34°56'15.90051"N	110°07'52.21890"W	1583.695	3866484.357	579343.051	1607.972	LIPT	VVA
2011A	34°54'50.44159"N	110°09'19.45930"W	1553.008	3863832.818	577152.169	1577.324	LIPT	VVA
2012	34°58'35.04817"N	110°31'31.77170"W	1490.429	3870528.983	543312.226	1514.693	LIPT	VVA
2013	34°53'38.49685"N	110°16'26.24670"W	1527.585	3861531.607	566338.509	1551.939	LIPT	VVA
2014	34°52'47.58570"N	110°05'04.15893"W	1552.509	3860105.156	583665.07	1576.828	LIPT	VVA
2015	35°03'19.26014"N	110°35'27.19200"W	1517.035	3879257.704	537307.221	1541.185	LIPT	VVA
3001	35°06'01.59625"N	110°41'34.92316"W	1446.879	3884225.042	527976.91	1471.037	LIPT	CAL
3002	34°59'08.18205"N	110°25'51.86697"W	1502.338	3871594.657	551924.809	1526.542	LIPT	CAL
3002A	34°57'46.60507"N	110°24'00.33216"W	1490.115	3869098.219	554767.586	1514.341	LIPT	CAL
3003	34°53'39.27454"N	110°26'19.10093"W	1528.741	3861458.852	551291.213	1553.077	LIPT	CAL
3004	34°55'31.58021"N	110°32'16.17190"W	1495.504	3864872.051	542212.565	1519.822	LIPT	CAL
3005	35°00'47.39473"N	110°19'49.41703"W	1563.316	3874707.873	561093.381	1587.404	LIPT	CAL
3006	35°02'46.09229"N	110°44'23.94165"W	1483.34	3878190.372	523713.612	1507.507	LIPT	CAL
3007	34°52'04.01556"N	110°09'27.03492"W	1563.141	3858704.427	577003.061	1587.496	LIPT	CAL

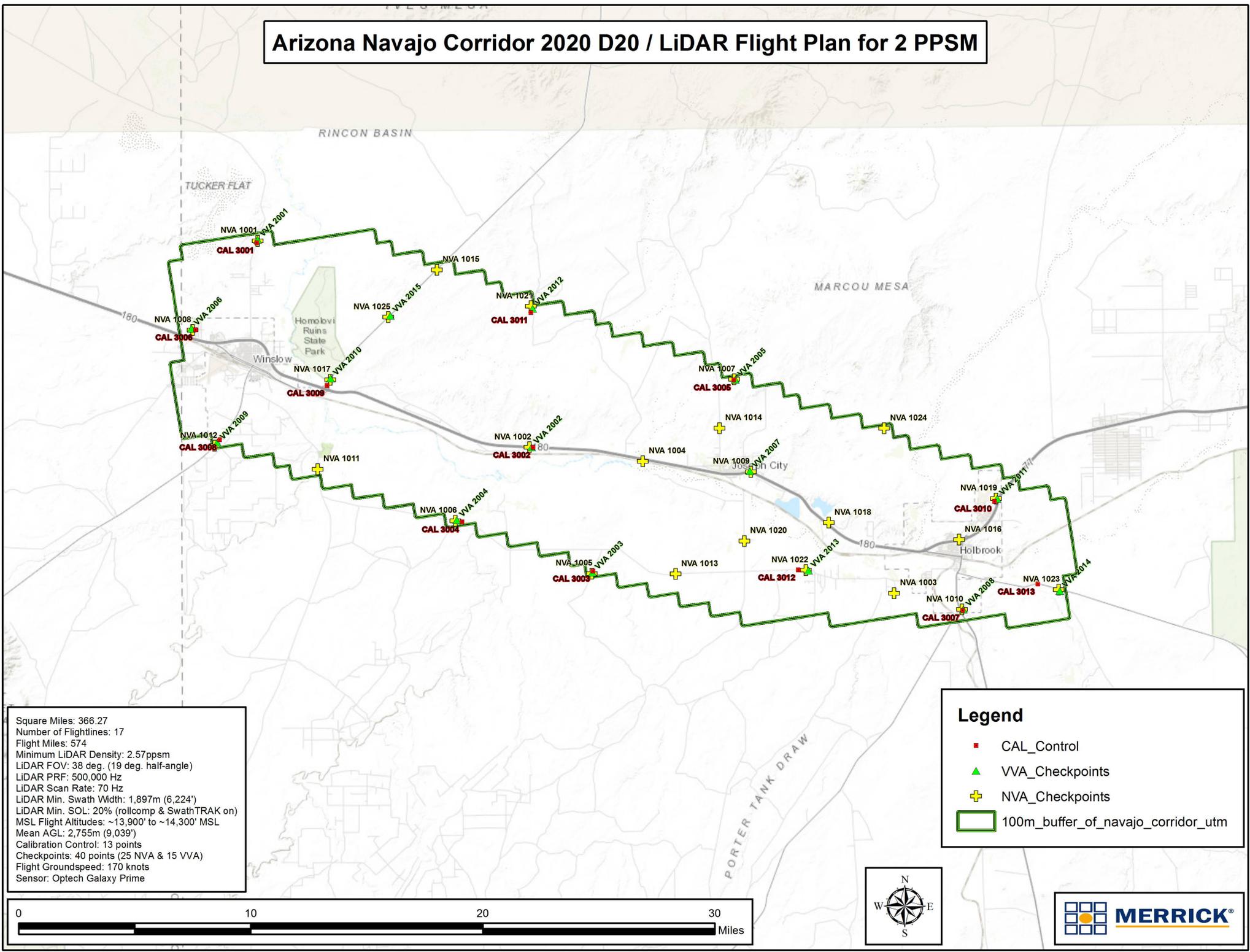
## USGS NAVAJO CORRIDOR

65220694

OCTOBER 2020

PT#	NAD83(2011)		ELLIPSOID	UTM ZONE 12 NORTH		NAVD 88	CODE	NOTE
	LATITUDE	LONGITUDE	HEIGHT	NORTHING	EASTING	ELEVATION		
			METERS	METERS	METERS	METERS		
						GEOID 18		
3008	34°58'38.81627"N	110°43'19.25539"W	1516.559	3870577.531	525373.548	1540.728	LIPT	CAL
3009	35°00'38.94265"N	110°38'21.22309"W	1457.387	3874302.132	532916.726	1481.594	LIPT	CAL
3009A	35°02'42.89770"N	110°39'12.31158"W	1467.638	3878115.961	531608.655	1491.814	LIPT	CAL
3010	34°56'12.03738"N	110°07'55.21675"W	1583.404	3866364.691	579268.034	1607.683	LIPT	CAL
3010A	34°54'49.68787"N	110°09'20.81905"W	1551.766	3863809.309	577117.861	1576.083	LIPT	CAL
3011	34°58'35.01664"N	110°31'31.11903"W	1490.344	3870528.09	543328.779	1514.608	LIPT	CAL
3012	34°53'39.16423"N	110°16'54.70068"W	1521.065	3861546.959	565616.17	1545.418	LIPT	CAL
3013	34°53'03.11023"N	110°06'02.94888"W	1537.378	3860569.876	582168.348	1561.706	LIPT	CAL
B252	35°02'10.95262"N	110°44'08.60388"W	1475.342	3877108.922	524105.038	1499.51	MFBC	NGS GROUND STATION
B505	34°54'49.70822"N	110°09'19.96788"W	1553.903	3863810.118	577139.454	1578.22	MFBC	NGS GROUND STATION
K346	34°55'33.02827"N	110°08'39.94414"W	1571.612	3865153.228	578143.657	1595.909	MFBC	NGS GROUND STATION
SHELL2	35°00'20.20667"N	110°38'18.64456"W	1457.444	3873725.211	532984.166	1481.656	MFBC	NGS GROUND STATION
T503	35°01'53.88560"N	110°42'54.72226"W	1463.822	3876588.325	525978.445	1487.994	MFIR	NGS GROUND STATION
WINSLOWRESET	35°02'25.85339"N	110°44'45.12826"W	1488.321	3877565.534	523178.468	1512.488	MFBC	NGS GROUND STATION

# Arizona Navajo Corridor 2020 D20 / LiDAR Flight Plan for 2 PPSM



Square Miles: 366.27  
 Number of Flightlines: 17  
 Flight Miles: 574  
 Minimum LiDAR Density: 2.57ppsm  
 LiDAR FOV: 38 deg. (19 deg. half-angle)  
 LiDAR PRF: 500,000 Hz  
 LiDAR Scan Rate: 70 Hz  
 LiDAR Min. Swath Width: 1,897m (6,224')  
 LiDAR Min. SOL: 20% (rollcomp & SwathTRAK on)  
 MSL Flight Altitudes: ~13,900' to ~14,300' MSL  
 Mean AGL: 2,755m (9,039')  
 Calibration Control: 13 points  
 Checkpoints: 40 points (25 NVA & 15 VVA)  
 Flight Groundspeed: 170 knots  
 Sensor: Optech Galaxy Prime

### Legend

- CAL\_Control
- ▲ VVA\_Checkpoints
- + NVA\_Checkpoints
- 100m\_buffer\_of\_navajo\_corridor\_utm





DATASHEETS Data Sheet Retrieval  
The NGS Data Sheet

See file dsdata.pdf for more information about the datasheet.

PROGRAM = datasheet95, VERSION = 8.12.5.10

Starting Datasheet Retrieval...

1 National Geodetic Survey, Retrieval Date = OCTOBER 12, 2020

FQ0075 \*\*\*\*\*

FQ0075 DESIGNATION - WINSLOW RESET

FQ0075 PID - FQ0075

FQ0075 STATE/COUNTY- AZ/NAVAJO

FQ0075 COUNTRY - US

FQ0075 USGS QUAD - WINSLOW (2018)

FQ0075

FQ0075 \*CURRENT SURVEY CONTROL

FQ0075

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FQ0075\* NAD 83(2011) POSITION- 35 02 25.85202(N) 110 44 45.12737(W) ADJUSTED

FQ0075\* NAD 83(2011) ELLIP HT- 1488.342 (meters) (06/27/12) ADJUSTED

FQ0075\* NAD 83(2011) EPOCH - 2010.00

FQ0075\* NAVD 88 ORTHO HEIGHT - 1512.512 (meters) 4962.30 (feet) ADJUSTED

FQ0075

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FQ0075 GEOID HEIGHT - -24.167 (meters) GEOID18

FQ0075 NAD 83(2011) X - -1,852,258.652 (meters) COMP

FQ0075 NAD 83(2011) Y - -4,890,017.349 (meters) COMP

FQ0075 NAD 83(2011) Z - 3,642,402.389 (meters) COMP

FQ0075 LAPLACE CORR - -0.12 (seconds) DEFLEC18

FQ0075 DYNAMIC HEIGHT - 1510.519 (meters) 4955.76 (feet) COMP

FQ0075 MODELED GRAVITY - 979,263.2 (mgal) NAVD 88

FQ0075

FQ0075 VERT ORDER - FIRST CLASS II

FQ0075

FQ0075 Network accuracy estimates per FGDC Geospatial Positioning Accuracy

FQ0075 Standards:

FQ0075 FGDC (95% conf, cm) Standard deviation (cm) CorrNE

FQ0075 Horiz Ellip SD\_N SD\_E SD\_h (unitless)

FQ0075 -----

FQ0075 NETWORK 1.24 2.16 0.51 0.50 1.10 -0.10004884

FQ0075 -----

FQ0075 [Click here for local accuracies and other accuracy information.](#)

FQ0075

FQ0075

FQ0075.The horizontal coordinates were established by GPS observations

FQ0075.and adjusted by the National Geodetic Survey in June 2012.

FQ0075

FQ0075.NAD 83(2011) refers to NAD 83 coordinates where the reference frame has

FQ0075.been affixed to the stable North American tectonic plate. See

FQ0075.NA2011 for more information.

FQ0075

FQ0075.The horizontal coordinates are valid at the epoch date displayed above

FQ0075.which is a decimal equivalence of Year/Month/Day.

FQ0075

FQ0075.The orthometric height was determined by differential leveling and

FQ0075.adjusted by the NATIONAL GEODETIC SURVEY

FQ0075.in June 1991.

FQ0075

FQ0075.Significant digits in the geoid height do not necessarily reflect accuracy.

FQ0075.GEOID18 height accuracy estimate available here.

FQ0075

FQ0075.Click photographs - Photos may exist for this station.

FQ0075

FQ0075.The X, Y, and Z were computed from the position and the ellipsoidal ht.

FQ0075

FQ0075.The Laplace correction was computed from DEFLEC18 derived deflections.

FQ0075

FQ0075.The ellipsoidal height was determined by GPS observations

FQ0075.and is referenced to NAD 83.

FQ0075

FQ0075.The dynamic height is computed by dividing the NAVD 88

FQ0075.geopotential number by the normal gravity value computed on the

FQ0075.Geodetic Reference System of 1980 (GRS 80) ellipsoid at 45

FQ0075.degrees latitude (g = 980.6199 gals.).

FQ0075

FQ0075.The modeled gravity was interpolated from observed gravity values.

FQ0075

FQ0075. The following values were computed from the NAD 83(2011) position.

FQ0075

FQ0075; North East Units Scale Factor Converg.

FQ0075;SPC AZ E - 448,221.836 160,516.755 MT 0.99993440 -0 19 57.2

FQ0075;SPC AZ E - 1,470,544.08 526,629.77 iFT 0.99993440 -0 19 57.2

FQ0075;UTM 12 - 3,877,565.492 523,178.490 MT 0.99960662 +0 08 45.3

FQ0075

FQ0075! - Elev Factor x Scale Factor = Combined Factor

FQ0075!SPC AZ E - 0.99976644 x 0.99993440 = 0.99970085

FQ0075!UTM 12 - 0.99976644 x 0.99960662 = 0.99937315

FQ0075

FQ0075: Primary Azimuth Mark

Grid Az

FQ0075:SPC AZ E - SALT

172 57 26.7

FQ0075:UTM 12 - SALT

172 28 44.2

FQ0075

FQ0075\_U.S. NATIONAL GRID SPATIAL ADDRESS: 12SWD2317877565(NAD 83)

FQ0075

FQ0075|-----|

FQ0075| PID Reference Object Distance Geod. Az |

FQ0075| dddmms.s |

FQ0075| FQ0743 RNG WINSLOW RADIO INW APPROX. 1.8 KM 0474948.7 |

FQ0075| FQ0076 WINSLOW RM 1 10.677 METERS 10903 |

FQ0075| FQ0750 WINSLOW RADIO STA KVNC N MAST APPROX. 7.3 KM 1122604.1 |

FQ0075| FQ0749 WINSLOW RADIO STA KVNC S MAST APPROX. 7.3 KM 1133943.7 |

FQ0075| ES1104 SALT APPROX. 8.3 KM 1723729.5 |

FQ0075| FQ0073 WINSLOW RM 2 10.821 METERS 24917 |

FQ0075| FQ0754 WINSLOW AF STA RADAR DOME APPROX. 8.9 KM 2990637.7 |

FQ0075|-----|

FQ0075

FQ0075 SUPERSEDED SURVEY CONTROL

FQ0075

FQ0075 NAD 83(2007)- 35 02 25.85149(N) 110 44 45.12780(W) AD(2007.00) 0

FQ0075 ELLIP H (02/10/07) 1488.362 (m) GP(2007.00)

FQ0075 ELLIP H (08/22/01) 1488.371 (m) GP( ) 4 1  
FQ0075 ELLIP H (12/16/97) 1488.426 (m) GP( ) 4 1  
FQ0075 NAD 83(1992)- 35 02 25.85131(N) 110 44 45.12985(W) AD( ) 2  
FQ0075 NAD 83(1986)- 35 02 25.84563(N) 110 44 45.13316(W) AD( ) 2  
FQ0075 NAVD 88 1512.51 (m) 4962.3 (f) LEVELING 3  
FQ0075 NGVD 29 (??/??/??) 1511.79 (m) 4959.9 (f) RESET 3

FQ0075  
FQ0075.Superseded values are not recommended for survey control.

FQ0075  
FQ0075.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.  
FQ0075.See file dsdata.pdf to determine how the superseded data were derived.

FQ0075  
FQ0075\_MARKER: DS = TRIANGULATION STATION DISK  
FQ0075\_SETTING: 7 = SET IN TOP OF CONCRETE MONUMENT  
FQ0075\_STAMPING: WINSLOW RESET 1958  
FQ0075\_MARK LOGO: CGS  
FQ0075\_PROJECTION: PROJECTING 15 CENTIMETERS  
FQ0075\_MAGNETIC: N = NO MAGNETIC MATERIAL  
FQ0075\_STABILITY: C = MAY HOLD, BUT OF TYPE COMMONLY SUBJECT TO  
FQ0075+STABILITY: SURFACE MOTION  
FQ0075\_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR  
FQ0075+SATELLITE: SATELLITE OBSERVATIONS - January 24, 2016

FQ0075  
FQ0075 HISTORY - Date Condition Report By  
FQ0075 HISTORY - 1964 MONUMENTED AZHD  
FQ0075 HISTORY - 1964 SEE DESCRIPTION AZHD  
FQ0075 HISTORY - 1967 GOOD USA  
FQ0075 HISTORY - 1968 GOOD CGS  
FQ0075 HISTORY - 1971 SEE DESCRIPTION AZHD  
FQ0075 HISTORY - 1982 GOOD NGS  
FQ0075 HISTORY - 1983 GOOD NGS  
FQ0075 HISTORY - 19951128 GOOD USPSQD  
FQ0075 HISTORY - 19970528 GOOD NGS  
FQ0075 HISTORY - 20030730 GOOD USPSQD  
FQ0075 HISTORY - 20160124 GOOD AZDT

FQ0075  
FQ0075 STATION DESCRIPTION

FQ0075  
FQ0075'DESCRIBED BY ARIZONA HIGHWAY DEPARTMENT (NOW AZDT) 1964  
FQ0075'3.0 MI W FROM WINSLOW.  
FQ0075'ABOUT 3.0 MI. W. ALONG U. S. HIGHWAY 66 FROM THE POST OFFICE AT  
FQ0075'WINSLOW 0.5 MI. E. OF THE COCONINO NAVAJO COUNTY LINE, 250 FEET S. OF  
FQ0075'THE CENTER LINE OF HIGHWAY 66, ON THE RIGHT-OF-WAY OF THE SANTA FE  
FQ0075'RAILROAD, 11 FEET SW. OF A WITNESS POST, 7 FEET S. OF A FENCE, AND SET  
FQ0075'IN THE TOP OF A CONCRETE POST FLUSH WITH THE GROUND.

FQ0075  
FQ0075 STATION RECOVERY (1964)

FQ0075  
FQ0075'RECOVERY NOTE BY ARIZONA HIGHWAY DEPARTMENT (NOW AZDT) 1964  
FQ0075'LETTER OF ARIZONA HIGHWAY DEPT. DATED SEPT. 10, 1964--  
FQ0075'  
FQ0075'THE STATION SURFACE MARK WAS FOUND TIPPED OVER DUE TO  
FQ0075'CONSTRUCTION ALONG THE RAILROAD. THE UNDERGROUND MARK WAS  
FQ0075'RECOVERED AND FOUND UNDISTURBED. THE SURFACE MARK WAS RESET

FQ0075'OVER THE UNDERGROUND MARK AND STAMPED RESET 1958.

FQ0075'

FQ0075'REFERENCE MARK 1 WAS NOT DISTURBED, BUT REFERENCE MARK 2 APPEARED

FQ0075'TO HAVE HAD TRACKED EQUIPMENT DRIVEN OVER IT.

FQ0075'

FQ0075'A NEW ELEVATION WAS DETERMINED BY THE ARIZONA HIGHWAY DEPT.

FQ0075

FQ0075 STATION RECOVERY (1967)

FQ0075

FQ0075'RECOVERY NOTE BY US ARMY 1967 (EMB)

FQ0075'WINSLOW RESET 1958-GOOD FD STD. USC AND GS BRASS DISK SET

FQ0075'IN 12 IN CONC POST.

FQ0075'

FQ0075'WINSLOW 1 1958-GOOD FD STD. USC AND GS BRASS DISK SET IN 12 IN

FQ0075'CONC POST.

FQ0075'

FQ0075'WINSLOW 2 1958-EVIDENTLY HAS BEEN HIT AND MOVED SLIGHTLY.

FQ0075'

FQ0075'MEAS. DIST. STA. TO R.M. 1 = 34.99 FT (REC=35.03 FT)

FQ0075'

FQ0075'MEAS. DIST. STA. TO R.M. 2 = 35.57 FT (REC=35.50 FT)

FQ0075'

FQ0075'TO REACH STATION FROM POST OFFICE AT WINSLOW, ARIZ GO WEST

FQ0075'ALONG 3RD STREET (OR U.S. 66) 3.1 MILES TO APPROX. MIDDLE OF A CUT

FQ0075'IN ROADWAY. STATION IS S. 250 FT FROM HWY 66, 7 FT S OF R/W

FQ0075'FENCE ON SFRR PROP. AND IS WITNESSED BY A GREEN STEEL FENCE

FQ0075'POST WITH A STD. USC AND GS SURVEY MARKER SIGN 6 FT FROM STATION.

FQ0075'STATION IS NOT MARKED RESET 1964 PER RECOVERY LETTER FROM

FQ0075'ARIZ. HIGHWAY DEPARTMENT.

FQ0075

FQ0075 STATION RECOVERY (1968)

FQ0075

FQ0075'RECOVERY NOTE BY COAST AND GEODETIC SURVEY 1968 (EP)

FQ0075'RECOVERED AS DESCRIBED BY J.J. CAIN, 1964 AND LETTER OF

FQ0075'ARIZONA HIGHWAY DEPARTMENT DATED 10 SEPT. 1965.

FQ0075'

FQ0075'AIRLINE DISTANCE AND DIRECTION FROM NEAREST TOWN--3 MILES WEST OF

FQ0075'WINSLOW.

FQ0075

FQ0075 STATION RECOVERY (1971)

FQ0075

FQ0075'RECOVERY NOTE BY ARIZONA HIGHWAY DEPARTMENT (NOW AZDT) 1971 (JHW)

FQ0075'GENERAL LOCATION BETWEEN THE SANTA FE RAILROAD AND U.S. 66 ON

FQ0075'THE WEST SIDE OF THE TOWN OF WINSLOW. TO REACH FROM MILEPOST

FQ0075'251, U.S. 66, WESTERLY ON 66 FOR 0.5 MILES, REVERSE DIRECTION,

FQ0075'BACK TO THE EAST BETWEEN THE HIGHWAY AND THE RAILROAD FOR

FQ0075'0.2 MILES AND TO THE STATION, LOCATED ABOUT 5 FT SOUTHEAST OF A

FQ0075'USC AND GS WITNESS POST, 7 FT SOUTH OF A FENCE, AND 45 FT NORTH

FQ0075'OF A BANK OVERLOOKING THE RAILROAD. THE STATION IS A STANDARD

FQ0075'USC AND GS TRIANGULATION BRASS CAP, SET IN A 12 IN CYLINDRICAL

FQ0075'CONCRETE POST, UP 0.4 FT AND STAMPED, WINSLOW RESET 1958.

FQ0075'R.M. 1 IS ABOUT 35 FT SOUTHEAST OF THE STATION, IS 3 FT SOUTH OF

FQ0075'A FENCE LINE, SET IN A 12 IN CYLINDRICAL CONCRETE POST, UP

FQ0075'0.05 FT, AND STAMPED, WINSLOW NO 1 1958. R.M. 2 IS, AS IS

FQ0075'R.M. 1, A STANDARD USC AND GS REFERENCE MARK BRASS CAP, SET IN  
FQ0075'A 12 IN CYLINDRICAL CONCRETE POST, UP 0.8 FT, LOCATED ABOUT  
FQ0075'35 FT WESTERLY OF THE MAIN STATION AND ABOUT 3 FT NORTH  
FQ0075'OF THE CENTER OF THE TELEPHONE LINE. IT IS STAMPED,  
FQ0075'WINSLOW NO 2 1958.

FQ0075

FQ0075 STATION RECOVERY (1982)

FQ0075

FQ0075'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 1982 (PMC)

FQ0075'STATION AND REFERENCE MARKS WERE RECOVERED IN GOOD CONDITION. TO  
FQ0075'REACH THE STATION FROM THE POST OFFICE IN WINSLOW, GO WEST ON 3RD  
FQ0075'ST. FOR 3.0 MILES. TURN LEFT OFF ROAD JUST PRIOR TO REACHING THE  
FQ0075'RAILROAD OVERPASS. FOLLOW THIS DIRT ACCESS ROAD UNDER THE  
FQ0075'OVERPASS. FROM THE OVERPASS (UNDERNEATH) CONTINUE ON THE DIRT ROAD  
FQ0075'FOR 0.1 MILE TO THE STATION ON THE RIGHT.

FQ0075'

FQ0075'THE STATION MARK, STAMPED WINSLOW RESET 1958, IS A STANDARD DISK SET  
FQ0075'IN THE TOP OF A 12-INCH ROUND CONCRETE MONUMENT THAT IS 3 INCHES  
FQ0075'ABOVE GROUND LEVEL. IT IS 6 FEET SE OF A WITNESS SIGN POST.

FQ0075'

FQ0075'REFERENCE MARK NO. 1, STAMPED WINSLOW NO 1 1958 IS A STANDARD DISK  
FQ0075'SET IN THE TOP OF A ROUND MONUMENT THAT PROJECTS 2 INCHES. IT IS 39  
FQ0075'FEET EAST OF THE WITNESS SIGN POST.

FQ0075'

FQ0075'REFERENCE MARK NO. 2, STAMPED WINSLOW NO 2 1958 IS A STANDARD DISK  
FQ0075'SET IN THE TOP OF A ROUND MONUMENT THAT PROJECTS 10 INCHES. IT IS  
FQ0075'36 FEET SSW OF THE WITNESS POST, AND 11.8 FEET ENE OF A POWER POLE.

FQ0075'

FQ0075'ALSO BMS.

FQ0075'

FQ0075'AIRLINE DISTANCE AND DIRECTION FROM NEAREST TOWN--ABOUT 3 MILES WEST  
FQ0075'OF WINSLOW.

FQ0075

FQ0075 STATION RECOVERY (1983)

FQ0075

FQ0075'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 1983

FQ0075'RECOVERED IN GOOD CONDITION, NEW DESCRIPTION FOLLOWS. 5.0 KM (3.1 MI)  
FQ0075'WESTERLY ALONG U.S. HIGHWAY 66 AND INTERSTATE HIGHWAY 40 FROM THE  
FQ0075'POST OFFICE IN WINSLOW, 0.2 KM (0.1 MI) NORTHWEST OF MILEPOST 251,  
FQ0075'76.2 METERS (250.0 FT) SOUTHWEST OF THE CENTERLINE OF THE EAST BOUND  
FQ0075'LANES OF THE HIGHWAY, 11.3 METERS (37.1 FT) NORTHEAST OF A UTILITY  
FQ0075'POLE AND 10.7 METERS (35.1 FT) NORTHWEST OF REFERENCE MARK 1.  
FQ0075'THE MARK IS 3.4 METERS SW FROM A WITNESS POST.

FQ0075'THE MARK IS 2.5 M ABOVE THE HIGHWAY.

FQ0075

FQ0075 STATION RECOVERY (1995)

FQ0075

FQ0075'RECOVERY NOTE BY US POWER SQUADRON 1995

FQ0075'RECOVERED IN GOOD CONDITION.

FQ0075

FQ0075 STATION RECOVERY (1997)

FQ0075

FQ0075'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 1997 (WCW)

FQ0075'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 28 MAY 1997 (WCW) .

FQ0075'RECOVERED IN GOOD CONDITION AS PER 1982 DESCRIPTION WITH 1983 TIES  
FQ0075'WITH NOTE. THE STATION IS LOCATED AT A.T. AND S.F. RAILROAD  
FQ0075'MILEPOST 288.6.

FQ0075

STATION RECOVERY (2003)

FQ0075

FQ0075

FQ0075'RECOVERY NOTE BY US POWER SQUADRON 2003 (DPM)

FQ0075'RECOVERED IN GOOD CONDITION.

FQ0075

FQ0075

STATION RECOVERY (2016)

FQ0075

FQ0075'RECOVERY NOTE BY ARIZONA DEPARTMENT OF TRANSPORTATION 2016 (DLR)

FQ0075'RECOVERED IN GOOD CONDITION.

\*\*\* retrieval complete.

Elapsed Time = 00:00:02

DATASHEETS Data Sheet Retrieval  
The NGS Data Sheet

See file dsdata.pdf for more information about the datasheet.

PROGRAM = datasheet95, VERSION = 8.12.5.10

Starting Datasheet Retrieval...

1 National Geodetic Survey, Retrieval Date = OCTOBER 12, 2020

FQ0527 \*\*\*\*\*

FQ0527 DESIGNATION - T 503

FQ0527 PID - FQ0527

FQ0527 STATE/COUNTY- AZ/NAVAJO

FQ0527 COUNTRY - US

FQ0527 USGS QUAD - WINSLOW (2018)

FQ0527

FQ0527 \*CURRENT SURVEY CONTROL

FQ0527

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FQ0527\* NAD 83(2011) POSITION- 35 01 53.88482(N) 110 42 54.72107(W) ADJUSTED

FQ0527\* NAD 83(2011) ELLIP HT- 1463.831 (meters) (06/27/12) ADJUSTED

FQ0527\* NAD 83(2011) EPOCH - 2010.00

FQ0527\* NAVD 88 ORTHO HEIGHT - 1488.008 (meters) 4881.91 (feet) ADJUSTED

FQ0527

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FQ0527 GEOID HEIGHT - -24.172 (meters) GEOID18

FQ0527 NAD 83(2011) X - -1,849,833.930 (meters) COMP

FQ0527 NAD 83(2011) Y - -4,891,518.442 (meters) COMP

FQ0527 NAD 83(2011) Z - 3,641,581.512 (meters) COMP

FQ0527 LAPLACE CORR - -0.30 (seconds) DEFLEC18

FQ0527 DYNAMIC HEIGHT - 1486.047 (meters) 4875.47 (feet) COMP

FQ0527 MODELED GRAVITY - 979,264.7 (mgal) NAVD 88

FQ0527

FQ0527 VERT ORDER - FIRST CLASS II

FQ0527

FQ0527 Network accuracy estimates per FGDC Geospatial Positioning Accuracy

FQ0527 Standards:

FQ0527 FGDC (95% conf, cm) Standard deviation (cm) CorrNE

FQ0527 Horiz Ellip SD\_N SD\_E SD\_h (unitless)

FQ0527 -----

FQ0527 NETWORK 1.48 2.35 0.64 0.57 1.20 -0.00793849

FQ0527 -----

FQ0527 [Click here for local accuracies and other accuracy information.](#)

FQ0527

FQ0527

FQ0527.The horizontal coordinates were established by GPS observations

FQ0527.and adjusted by the National Geodetic Survey in June 2012.

FQ0527

FQ0527.NAD 83(2011) refers to NAD 83 coordinates where the reference frame has

FQ0527.been affixed to the stable North American tectonic plate. See

FQ0527.NA2011 for more information.

FQ0527

FQ0527.The horizontal coordinates are valid at the epoch date displayed above

FQ0527.which is a decimal equivalence of Year/Month/Day.

FQ0527

FQ0527.The orthometric height was determined by differential leveling and

FQ0527.adjusted by the NATIONAL GEODETIC SURVEY

FQ0527.in June 1991.

FQ0527

FQ0527.Significant digits in the geoid height do not necessarily reflect accuracy.

FQ0527.GEOID18 height accuracy estimate available here.

FQ0527

FQ0527.Click photographs - Photos may exist for this station.

FQ0527

FQ0527.The X, Y, and Z were computed from the position and the ellipsoidal ht.

FQ0527

FQ0527.The Laplace correction was computed from DEFLEC18 derived deflections.

FQ0527

FQ0527.The ellipsoidal height was determined by GPS observations

FQ0527.and is referenced to NAD 83.

FQ0527

FQ0527.The dynamic height is computed by dividing the NAVD 88

FQ0527.geopotential number by the normal gravity value computed on the

FQ0527.Geodetic Reference System of 1980 (GRS 80) ellipsoid at 45

FQ0527.degrees latitude ( $g = 980.6199$  gals.).

FQ0527

FQ0527.The modeled gravity was interpolated from observed gravity values.

FQ0527

FQ0527. The following values were computed from the NAD 83(2011) position.

FQ0527

FQ0527;

	North	East	Units	Scale Factor	Converg.
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FQ0527;SPC AZ E	- 447,220.974	163,309.391	MT	0.99993086	-0 18 53.6
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FQ0527;SPC AZ E	- 1,467,260.41	535,791.97	iFT	0.99993086	-0 18 53.6
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FQ0527;UTM 12	- 3,876,588.301	525,978.475	MT	0.99960832	+0 09 48.5
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FQ0527

FQ0527! - Elev Factor x Scale Factor = Combined Factor

FQ0527!SPC AZ E - 0.99977028 x 0.99993086 = 0.99970116

FQ0527!UTM 12 - 0.99977028 x 0.99960832 = 0.99937869

FQ0527

FQ0527\_U.S. NATIONAL GRID SPATIAL ADDRESS: 12SWD2597876588(NAD 83)

FQ0527

FQ0527 SUPERSEDED SURVEY CONTROL

FQ0527

FQ0527 NAD 83(2007)- 35 01 53.88429(N) 110 42 54.72150(W) AD(2007.00) 0

FQ0527 ELLIP H (02/10/07) 1463.852 (m) GP( ) 4 1

FQ0527 ELLIP H (08/22/01) 1463.876 (m) GP( ) 4 1

FQ0527 NAD 83(1992)- 35 01 53.88392(N) 110 42 54.72093(W) AD( ) 3

FQ0527 ELLIP H (12/16/97) 1463.917 (m) GP( ) 4 1

FQ0527 NAVD 88 1488.01 (m) 4881.9 (f) LEVELING 3

FQ0527

FQ0527.Superseded values are not recommended for survey control.

FQ0527

FQ0527.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.

FQ0527.See file dsdata.pdf to determine how the superseded data were derived.

FQ0527

FQ0527\_MARKER: F = FLANGE-ENCASED ROD

FQ0527\_SETTING: 49 = STAINLESS STEEL ROD W/O SLEEVE (10 FT.+)

FQ0527\_STAMPING: T 503 1983

FQ0527\_MARK LOGO: NGS

FQ0527\_PROJECTION: FLUSH

FQ0527\_MAGNETIC: N = NO MAGNETIC MATERIAL

FQ0527\_STABILITY: B = PROBABLY HOLD POSITION/ELEVATION WELL  
FQ0527\_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR  
FQ0527+SATELLITE: SATELLITE OBSERVATIONS - February 20, 2017  
FQ0527\_ROD/PIPE-DEPTH: 1.8 meters

FQ0527  
FQ0527 HISTORY - Date Condition Report By  
FQ0527 HISTORY - 1983 MONUMENTED NGS  
FQ0527 HISTORY - 19970528 GOOD NGS  
FQ0527 HISTORY - 20030730 GOOD USPSQD  
FQ0527 HISTORY - 20100621 GOOD GEOCAC  
FQ0527 HISTORY - 20170220 GOOD AZDT

FQ0527  
FQ0527 STATION DESCRIPTION

FQ0527  
FQ0527 DESCRIBED BY NATIONAL GEODETIC SURVEY 1983  
FQ0527 IN WINSLOW.  
FQ0527 IN WINSLOW, AT THE INTERSECTION OF WEST THIRD AND FLEMING STREETS,  
FQ0527 27.0 METERS (88.6 FT) NORTHWEST OF THE CENTERLINE OF INDIANA AVENUE,  
FQ0527 18.7 METERS (61.4 FT) NORTHEAST OF THE CENTERLINE OF THE NORTHWEST  
FQ0527 BOUND LANES OF WEST THIRD STREET, 8.3 METERS (27.2 FT) SOUTHWEST OF  
FQ0527 THE CENTER OF FLEMING STREET AND 1.0 METER (3.3 FT) NORTHWEST OF  
FQ0527 UTILITY POLE NUMBER 45. REFUSAL WAS REACHED AT 6.0 FT. ACCESS  
FQ0527 TO THE DATUM POINT IS THROUGH A 5-INCH LOGO CAP.  
FQ0527 THE MARK IS 0.3 METERS SW FROM A WITNESS POST.  
FQ0527 THE MARK IS 0.3 M ABOVE WEST THIRD STREET.

FQ0527  
FQ0527 STATION RECOVERY (1997)

FQ0527  
FQ0527 RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 1997 (WCW)  
FQ0527 RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 28 MAY 1997 (WCW) .  
FQ0527 RECOVERED IN GOOD CONDITION AS DESCRIBED WITH NOTES. TO REACH FROM  
FQ0527 THE POST OFFICE AT THE JUNCTION OF WESTBOUND INTERSTATE 40 BUSINESS  
FQ0527 (US HIGHWAY 66, THIRD STREET) AND STATE HIGHWAY 87 (WILLIAMSON AVE) ,  
FQ0527 GO WEST THEN NORTHWEST ON THIRD STREET FOR 1.8 KM (1.10 MI) TO THE  
FQ0527 STATION ON RIGHT AS DESCRIBED. THE STATION IS LOCATED 1.1 KM (0.70  
FQ0527 MI) EAST FROM INTERSTATE HIGHWAY 40 EXIT 252. THE STATION IS  
FQ0527 OBSTRUCTED BY A UTILITY POLE 1 M (3.3 FT) TO THE SOUTHWEST.

FQ0527  
FQ0527 STATION RECOVERY (2003)

FQ0527  
FQ0527 RECOVERY NOTE BY US POWER SQUADRON 2003 (DPM)  
FQ0527 RECOVERED IN GOOD CONDITION.

FQ0527  
FQ0527 STATION RECOVERY (2010)

FQ0527  
FQ0527 RECOVERY NOTE BY GEOCACHING 2010 (ACM)  
FQ0527 RECOVERED IN GOOD CONDITION.

FQ0527  
FQ0527 STATION RECOVERY (2017)

FQ0527  
FQ0527 RECOVERY NOTE BY ARIZONA DEPARTMENT OF TRANSPORTATION 2017 (DLR)  
FQ0527 RECOVERED IN GOOD CONDITION.

\*\*\* retrieval complete.

Elapsed Time = 00:00:02

DATASHEETS Data Sheet Retrieval  
The NGS Data Sheet

See file dsdata.pdf for more information about the datasheet.

PROGRAM = datasheet95, VERSION = 8.12.5.10

Starting Datasheet Retrieval...

1 National Geodetic Survey, Retrieval Date = OCTOBER 12, 2020

FQ0102 \*\*\*\*\*

FQ0102 FBN - This is a Federal Base Network Control Station.

FQ0102 DESIGNATION - SHELL 2

FQ0102 PID - FQ0102

FQ0102 STATE/COUNTY- AZ/NAVAJO

FQ0102 COUNTRY - US

FQ0102 USGS QUAD - WINSLOW (2018)

FQ0102

FQ0102 \*CURRENT SURVEY CONTROL

FQ0102

FQ0102\* NAD 83(2011) POSITION- 35 00 20.20484(N) 110 38 18.64331(W) ADJUSTED

FQ0102\* NAD 83(2011) ELLIP HT- 1457.518 (meters) (06/27/12) ADJUSTED

FQ0102\* NAD 83(2011) EPOCH - 2010.00

FQ0102\* NAVD 88 ORTHO HEIGHT - 1481.725 (meters) 4861.29 (feet) ADJUSTED

FQ0102

FQ0102 GEOID HEIGHT - -24.212 (meters) GEOID18

FQ0102 NAD 83(2011) X - -1,843,867.390 (meters) COMP

FQ0102 NAD 83(2011) Y - -4,895,535.836 (meters) COMP

FQ0102 NAD 83(2011) Z - 3,639,213.051 (meters) COMP

FQ0102 LAPLACE CORR - -0.22 (seconds) DEFLEC18

FQ0102 DYNAMIC HEIGHT - 1479.761 (meters) 4854.85 (feet) COMP

FQ0102 MODELED GRAVITY - 979,257.2 (mgal) NAVD 88

FQ0102

FQ0102 VERT ORDER - FIRST CLASS II

FQ0102

FQ0102 Network accuracy estimates per FGDC Geospatial Positioning Accuracy

FQ0102 Standards:

FQ0102 FGDC (95% conf, cm) Standard deviation (cm) CorrNE

FQ0102 Horiz Ellip SD\_N SD\_E SD\_h (unitless)

FQ0102 -----

FQ0102 NETWORK 0.37 0.86 0.16 0.14 0.44 -0.02218665

FQ0102 -----

FQ0102 Click here for local accuracies and other accuracy information.

FQ0102

FQ0102

FQ0102.The horizontal coordinates were established by GPS observations

FQ0102.and adjusted by the National Geodetic Survey in June 2012.

FQ0102

FQ0102.NAD 83(2011) refers to NAD 83 coordinates where the reference frame has

FQ0102.been affixed to the stable North American tectonic plate. See

FQ0102.NA2011 for more information.

FQ0102

FQ0102.The horizontal coordinates are valid at the epoch date displayed above

FQ0102.which is a decimal equivalence of Year/Month/Day.

FQ0102

FQ0102.The orthometric height was determined by differential leveling and

FQ0102.adjusted by the NATIONAL GEODETIC SURVEY

FQ0102.in June 1991.

FQ0102

FQ0102.Significant digits in the geoid height do not necessarily reflect accuracy.

FQ0102.GEOID18 height accuracy estimate available here.

FQ0102

FQ0102.Click photographs - Photos may exist for this station.

FQ0102

FQ0102.The X, Y, and Z were computed from the position and the ellipsoidal ht.

FQ0102

FQ0102.The Laplace correction was computed from DEFLEC18 derived deflections.

FQ0102

FQ0102.The ellipsoidal height was determined by GPS observations

FQ0102.and is referenced to NAD 83.

FQ0102

FQ0102.The dynamic height is computed by dividing the NAVD 88

FQ0102.geopotential number by the normal gravity value computed on the

FQ0102.Geodetic Reference System of 1980 (GRS 80) ellipsoid at 45

FQ0102.degrees latitude (g = 980.6199 gals.).

FQ0102

FQ0102.The modeled gravity was interpolated from observed gravity values.

FQ0102

FQ0102. The following values were computed from the NAD 83(2011) position.

FQ0102

FQ0102; North East Units Scale Factor Converg.

FQ0102;SPC AZ E - 444,298.533 170,293.181 MT 0.99992285 -0 16 14.5

FQ0102;SPC AZ E - 1,457,672.35 558,704.66 iFT 0.99992285 -0 16 14.5

FQ0102;SPC AZ C - 444,943.360 330,024.099 MT 1.00006769 +0 43 59.9

FQ0102;SPC AZ C - 1,459,787.93 1,082,756.23 iFT 1.00006769 +0 43 59.9

FQ0102;UTM 12 - 3,873,725.155 532,984.198 MT 0.99961341 +0 12 26.5

FQ0102

FQ0102! - Elev Factor x Scale Factor = Combined Factor

FQ0102!SPC AZ E - 0.99977127 x 0.99992285 = 0.99969414

FQ0102!SPC AZ C - 0.99977127 x 1.00006769 = 0.99983894

FQ0102!UTM 12 - 0.99977127 x 0.99961341 = 0.99938477

FQ0102

FQ0102: Primary Azimuth Mark

Grid Az

FQ0102:SPC AZ E - SHELL 2 AZ MK 082 11 41.2

FQ0102:SPC AZ C - SHELL 2 AZ MK 081 11 26.8

FQ0102:UTM 12 - SHELL 2 AZ MK 081 43 00.2

FQ0102

FQ0102\_U.S. NATIONAL GRID SPATIAL ADDRESS: 12SWD3298473725(NAD 83)

FQ0102

FQ0102|-----|

FQ0102| PID Reference Object Distance Geod. Az |

FQ0102| dddmmss.s |

FQ0102| CD4883 SHELL 2 RM 3 8.943 METERS 07430 |

FQ0102| CD4880 SHELL AZ MK 0815456.8 |

FQ0102| FQ0105 SHELL 2 AZ MK 0815526.7 |

FQ0102| CD4884 SHELL 2 RM 6 10.319 METERS 11443 |

FQ0102| FQ0104 SHELL 2 RM 5 9.662 METERS 11609 |

FQ0102| FQ0103 SHELL 2 RM 4 8.661 METERS 17940 |

FQ0102| FQ0748 WINSLOW EAST MUNICIPAL TANK APPROX. 5.2 KM 2860657.7 |

FQ0102| FQ0742 SHELL 35.348 METERS 35501 |

FQ0102|-----|

FQ0102

FQ0102 SUPERSEDED SURVEY CONTROL

FQ0102

FQ0102 NAD 83(2007)- 35 00 20.20429(N) 110 38 18.64373(W) AD(2007.00) 0

FQ0102 ELLIP H (02/10/07) 1457.534 (m) GP(2007.00)

FQ0102 ELLIP H (09/30/99) 1457.552 (m) GP( ) 3 1

FQ0102 NAD 83(1992)- 35 00 20.19863(N) 110 38 18.64613(W) AD( ) B

FQ0102 NAD 83(1992)- 35 00 20.20391(N) 110 38 18.64323(W) AD( ) A

FQ0102 ELLIP H (09/30/92) 1457.611 (m) GP( ) 2 1

FQ0102 NAD 83(1986)- 35 00 20.19863(N) 110 38 18.64613(W) AD( ) 2

FQ0102 NAD 27 - 35 00 20.11900(N) 110 38 16.17200(W) AD( ) 2

FQ0102 NAVD 88 1481.73 (m) 4861.3 (f) LEVELING 3

FQ0102 NGVD 29 (??/??/92) 1480.979 (m) 4858.85 (f) ADJ UNCH 1 2

FQ0102 NGVD 29 1480.98 (m) 4858.8 (f) LEVELING 3

FQ0102

FQ0102.Superseded values are not recommended for survey control.

FQ0102

FQ0102.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.

FQ0102.See file dsdata.pdf to determine how the superseded data were derived.

FQ0102

FQ0102\_MARKER: DS = TRIANGULATION STATION DISK

FQ0102\_SETTING: 7 = SET IN TOP OF CONCRETE MONUMENT

FQ0102\_STAMPING: SHELL 2 1953

FQ0102\_MARK LOGO: CGS

FQ0102\_PROJECTION: PROJECTING 8 CENTIMETERS

FQ0102\_MAGNETIC: N = NO MAGNETIC MATERIAL

FQ0102\_STABILITY: C = MAY HOLD, BUT OF TYPE COMMONLY SUBJECT TO

FQ0102+STABILITY: SURFACE MOTION

FQ0102\_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR

FQ0102+SATELLITE: SATELLITE OBSERVATIONS - February 20, 2017

FQ0102

FQ0102 HISTORY - Date Condition Report By

FQ0102 HISTORY - 1953 MONUMENTED CGS

FQ0102 HISTORY - 1959 GOOD CGS

FQ0102 HISTORY - 1959 GOOD CGS

FQ0102 HISTORY - 1967 GOOD USACE

FQ0102 HISTORY - 1979 GOOD AZDT

FQ0102 HISTORY - 1983 GOOD NGS

FQ0102 HISTORY - 19920203 GOOD NGS

FQ0102 HISTORY - 19951128 GOOD USPSQD

FQ0102 HISTORY - 19951210 GOOD CHANCE

FQ0102 HISTORY - 19981119 GOOD NGS

FQ0102 HISTORY - 20030730 GOOD USPSQD

FQ0102 HISTORY - 20040224 GOOD MSAM

FQ0102 HISTORY - 20170220 GOOD AZDT

FQ0102

FQ0102 STATION DESCRIPTION

FQ0102

FQ0102'DESCRIBED BY COAST AND GEODETIC SURVEY 1953 (LGT)

FQ0102'STATION IS LOCATED 3.5 MI. E ALONG U.S. HIGHWAY 66 FROM THE

FQ0102'POST OFFICE IN WINSLOW, ON THE S SIDE OF THE HIGHWAY, 100

FQ0102'YDS. S-SE OF A TEXACO SERVICE STATION, 18 FT. S OF THE PROPOSED

FQ0102'RIGHT-OF-WAY FENCE, AND 4 FT. NW OF A WITNESS POST. THERE

FQ0102'IS AN UNDERGROUND MARK CONSISTING OF A STANDARD DISK SET IN FQ0102'THE TOP OF A SQUARE BLOCK OF CONCRETE. THE SURFACE MARK FQ0102'IS A STANDARD DISK, STAMPED SHELL 2 1953 AND SET IN THE TOP FQ0102'OF A SQUARE BLOCK OF CONCRETE PROJECTING ABOUT 3 IN. ABOVE FQ0102'THE GROUND.

FQ0102'

FQ0102'REFERENCE MARK 3 IS AT ABOUT THE SAME ELEVATION AS THE STATION. FQ0102'IT IS A STANDARD REFERENCE-MARK DISK, STAMPED SHELL 2 NO 3 FQ0102'1953 AND SET IN THE TOP OF A SQUARE BLOCK OF CONCRETE PROJECTING FQ0102'ABOUT 5 IN. ABOVE THE GROUND.

FQ0102'

FQ0102'REFERENCE MARK 4 IS AT ABOUT THE SAME ELEVATION AS THE STATION. FQ0102'IT IS A STANDARD REFERENCE-MARK DISK, STAMPED SHELL 2 NO 4 FQ0102'1953 AND SET IN THE TOP OF A SQUARE BLOCK OF CONCRETE PROJECTING FQ0102'ABOUT 1 IN. ABOVE THE GROUND.

FQ0102'

FQ0102'THE AZIMUTH MARK IS 0.7 MI. E OF THE STATION, AND 39 FT. N OF FQ0102'THE CENTER LINE OF U.S. HIGHWAY 66. IT IS A STANDARD AZIMUTH-MARK FQ0102'DISK, STAMPED SHELL 1936 AND SET IN THE TOP OF A CONCRETE FQ0102'POST PROJECTING ABOUT 1 IN. ABOVE THE GROUND.

FQ0102

FQ0102                    STATION RECOVERY (1959)

FQ0102

FQ0102'RECOVERY NOTE BY COAST AND GEODETIC SURVEY 1959 (SLH) FQ0102'THE STATION MARK, REFERENCE MARK NO. 4 AND THE AZIMUTH MARK FQ0102'WERE RECOVERED AND FOUND IN GOOD CONDITION. REFERENCE MARK NO. FQ0102'3 HAD BEEN DUG OUT BY ROAD EQUIPMENT. REFERENCE MARK NO. 5 FQ0102'WAS ESTABLISHED.

FQ0102'

FQ0102'THE STATION IS 3.4 MILES EAST OF WINSLOW ON THE RIGHT-OF-WAY FQ0102'OF U.S. HIGHWAY 66 AND ACROSS THE HIGHWAY FROM THE MINNETONKA FQ0102'TRADING POST.

FQ0102'

FQ0102'THE STATION MARK, STAMPED SHELL 2 1953, IS A STANDARD DISK FQ0102'SET IN THE TOP OF A 12 INCH SQUARE CONCRETE POST THAT PROJECTS FQ0102'16 INCHES. IT IS 136 FEET SOUTH OF THE CENTER OF U.S. HIGHWAY FQ0102'66, 19 FEET NORTH OF THE RIGHT-OF-WAY FENCE AND 11.0 FEET FQ0102'NORTHEAST OF THE WITNESS POST.

FQ0102'

FQ0102'REFERENCE MARK NO. 4, STAMPED SHELL 2 NO 4 1953, IS A STANDARD FQ0102'DISK SET IN THE TOP OF A 12 INCH SQUARE CONCRETE POST THAT FQ0102'PROJECTS 1 INCH. IT IS 21.2 FEET SOUTH OF THE WITNESS POST FQ0102'AND 9 FEET SOUTH OF THE RIGHT-OF-WAY FENCE.

FQ0102'

FQ0102'REFERENCE MARK NO. 5, STAMPED SHELL 2 NO 5 1953, IS A STANDARD FQ0102'DISK SET IN THE TOP OF A 12 SQUARE CONCRETE POST THAT PROJECTS FQ0102'4 INCHES. IT IS 36.1 FEET EAST OF THE WITNESS POST AND 3 FEET FQ0102'NORTH OF THE RIGHT-OF-WAY FENCE.

FQ0102'

FQ0102'THE AZIMUTH MARK, STAMPED SHELL 2 1953, IS A STANDARD DISK FQ0102'SET IN THE TOP OF A 12 INCH SQUARE CONCRETE POST THAT PROJECTS FQ0102'1 FOOT. IT IS 86 FEET WEST OF THE CENTER OF A WIRE GATE, FQ0102'33 FEET NORTH OF THE CENTER OF A MACADAM ROAD (OLD U.S. HIGHWAY FQ0102'66) AND 2.5 FEET NORTH OF AN EAST-WEST FENCE LINE.

FQ0102'

FQ0102'TO REACH THE STATION FROM THE POST OFFICE IN WINSLOW GO SOUTH  
FQ0102'FOR ONE BLOCK TO U.S. HIGHWAY 66, TURN LEFT AND GO EAST ON U.S.  
FQ0102'HIGHWAY 66 FOR 3.4 MILES TO THE STATION AND REFERENCE MARKS  
FQ0102'ON THE RIGHT.

FQ0102'

FQ0102'TO REACH THE AZIMUTH MARK FROM THE STATION GO EAST ON U.S.  
FQ0102'HIGHWAY 66 FOR 0.5 MILE TO A MACADAM ROAD LEFT, TURN LEFT,  
FQ0102'LEAVE THE HIGHWAY AND CONTINUE EAST ON THE MACADAM FOR 0.25  
FQ0102'MILE TO THE AZIMUTH MARK ON THE LEFT.

FQ0102

FQ0102 STATION RECOVERY (1959)

FQ0102

FQ0102'RECOVERY NOTE BY COAST AND GEODETIC SURVEY 1959

FQ0102'3.0 MI E FROM WINSLOW.

FQ0102'3.4 MILES EAST ALONG U.S. HIGHWAY 66 FROM THE INTERSECTION OF  
FQ0102'WILLIAMSON STREET AND U.S. HIGHWAY 66, WHICH IS ONE BLOCK SOUTH OF THE  
FQ0102'POST OFFICE AT WINSLOW, LOCATED SOUTH OF THE MINNETONKA TRADING POST,  
FQ0102'136 FEET SOUTH OF THE CENTER OF HIGHWAY 66, 19 FEET NORTH OF THE  
FQ0102'RIGHT-OF-WAY FENCE, 11 FEET NORTHEAST OF THE WITNESS POST, SET IN THE  
FQ0102'TOP OF A 12 INCH SQUARE CONCRETE POST THAT PROJECTS 1 INCH.

FQ0102

FQ0102 STATION RECOVERY (1967)

FQ0102

FQ0102'RECOVERY NOTE BY US ARMY CORPS OF ENGINEERS 1967 (EMB)

FQ0102'SHELL 2 1953-GOOD-STA. IS SET ON SIDE OF A SMALL DITCH AND IS

FQ0102'SLOWLY BEING UNCOVERED BY WASHING AWAY OF GROUND.

FQ0102'

FQ0102'SHELL 2 NO 4 1953-GOOD - FD. STD. USC AND GS BRASS DISK

FQ0102'IN 8 IN SQ. CONC. POST.

FQ0102'

FQ0102'SHELL 2 NO 5 1959-D. DESTROYED. CONC. MON. HAS BEEN BROKEN ABOUT

FQ0102'5 INCHES FROM TOP.

FQ0102'

FQ0102'TO REACH THE STATION FROM THE POST OFFICE AT WINSLOW, ARIZ.

FQ0102'GO 1 BLOCK SOUTH TO HWY 66 (EASTBOUND) GO 3.6 MILES EAST ON HWY

FQ0102'66 TO THE MINNETONKA TRADING POST AND UNION 76 SERVICE STA.

FQ0102'AT THE POLACCA RD. WHICH HEADS NORTH FROM HWY 66. STA IS

FQ0102'130 FT PLUS OR MINUS S OF CENTERLINE HWY 66 AND 20 FT NORTH OF A

FQ0102'BARBED WIRE FENCE. 10 FT FROM A GREEN STEEL FENCE POST WITH

FQ0102'A STD. USC AND GS SURVEY MARKER SIGN.

FQ0102'

FQ0102'(MEAS 28.36 FROM STA. TO R.M. 4)

FQ0102

FQ0102 STATION RECOVERY (1979)

FQ0102

FQ0102'RECOVERY NOTE BY ARIZONA DEPARTMENT OF TRANSPORTATION 1979 (GH)

FQ0102'THE STATION IS 3.4 MILES EAST OF WINSLOW ON THE RIGHT OF WAY OF US HWY

FQ0102'66 AND ACROSS THE HIGHWAY FROM THE MINNETONKA TRADING POST.

FQ0102'

FQ0102'THE STATION MARK, REFERENCE MARK NO. 4 AND THE AZIMUTH MARK WERE

FQ0102'RECOVERED AND FOUND IN GOOD CONDITION. REFERENCE MARK 5 HAS BEEN

FQ0102'DESTROYED. REFERENCE MARK 6 WAS ESTABLISHED.

FQ0102'

FQ0102'REFERENCE MARK 6, STAMPED---SHELL 2 NGS RM 6---,IS A STANDARD DISK SET  
FQ0102'IN THE TOP OF A SQUARE CONCRETE POST FLUSH WITH THE GROUND. IT IS 33.  
FQ0102'9 FEET ESE OF THE STATION.

FQ0102'

FQ0102'THE TO REACH THE STATION DESCRIPTION IS ACCURATE. A DRIVE STATION.

FQ0102

FQ0102 STATION RECOVERY (1983)

FQ0102

FQ0102'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 1983

FQ0102'RECOVERED IN GOOD CONDITION.

FQ0102

FQ0102 STATION RECOVERY (1992)

FQ0102

FQ0102'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 1992

FQ0102'THE STATION IS LOCATED ABOUT 5.48 KM (3.41 MI) EAST OF WINSLOW, 1.45

FQ0102'KM (0.90 MI) EAST OF THE LITTLE COLORADO RIVER, 0.56 KM (0.35 MI)

FQ0102'SOUTH OF INTERSTATE HIGHWAY 40, IN THE SOUTH RIGHT-OF-WAY OF OLD STATE

FQ0102'HIGHWAY 66 AND ACROSS THE ROAD AND SOUTH OF THE MINNETONKA TRADING

FQ0102'POST. OWNERSHIP--STATE DEPARTMENT OF TRANSPORTATION.

FQ0102'TO REACH THE STATION FROM THE JUNCTION OF INTERSTATE HIGHWAY 40 AND

FQ0102'STATE HIGHWAY 87 NORTH (EXIT 257), LOCATED ABOUT 5.4 KM (3.4 MI) EAST

FQ0102'OF WINSLOW, GO SOUTH ON HIGHWAY 40 BUSINESS FOR 0.24 KM (0.15 MI) TO

FQ0102'THE JUNCTION OF OLD STATE HIGHWAY 66. TURN LEFT, EAST, ON OLD

FQ0102'HIGHWAY 66 FOR 0.48 KM (0.30 MI) TO THE MINNETONKA TRADING POST ON

FQ0102'THE LEFT AND THE STATION ON THE RIGHT.

FQ0102'THE STATION IS A STANDARD DISK SET IN THE TOP OF A CONCRETE POST

FQ0102'PROJECTING 15 CM ABOVE THE GROUND. LOCATED 41.4 M (135.8 FT) SOUTH

FQ0102'OF THE CENTERLINE OF OLD HIGHWAY 66, 18.3 M (60.0 FT) EAST OF AN

FQ0102'EXTENDED LINE OF THE EAST FACE OF THE TRADING POST BUILDING, 6.1 M

FQ0102'(20.0 FT) NORTH OF A RIGHT-OF-WAY FENCELINE AND 1.8 M (5.9 FT) NORTH

FQ0102'OF A METAL WITNESS POST.

FQ0102

FQ0102 STATION RECOVERY (1995)

FQ0102

FQ0102'RECOVERY NOTE BY US POWER SQUADRON 1995

FQ0102'RECOVERED IN GOOD CONDITION.

FQ0102

FQ0102 STATION RECOVERY (1995)

FQ0102

FQ0102'RECOVERY NOTE BY JE CHANCE AND ASSOCIATES 1995 (MFY)

FQ0102'RECOVERED AS DESCRIBED AND IN GOOD CONDITION.

FQ0102

FQ0102 STATION RECOVERY (1998)

FQ0102

FQ0102'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 1998 (CSM)

FQ0102'THE STATION IS LOCATED ABOUT 5.48 KM (3.40 MI) EAST OF WINSLOW, 1.36

FQ0102'KM (0.85 MI) EAST OF THE LITTLE COLORADO RIVER, 0.56 KM (0.35 MI)

FQ0102'SOUTH OF INTERSTATE HIGHWAY 40, IN THE SOUTH RIGHT-OF-WAY OF OLD STATE

FQ0102'HIGHWAY 66, ACROSS THE ROAD AND SOUTH OF THE MINNETONKA TRADING POST.

FQ0102'OWNERSHIP--ARIZONA DEPARTMENT OF TRANSPORTATION. TO REACH THE STATION

FQ0102'FROM THE JUNCTION OF INTERSTATE HIGHWAY 40 AND STATE HIGHWAY 87 NORTH

FQ0102'(EXIT 257), ABOUT 5.4 KM (3.35 MI) EAST OF WINSLOW, GO SOUTH ON

FQ0102'HIGHWAY 40 BUSINESS LOOP FOR 0.40 KM (0.25 MI) TO THE JUNCTION OF OLD

FQ0102'HIGHWAY 66. TURN LEFT, EAST ON OLD HIGHWAY 66 FOR 0.48 KM (0.30 MI)

FQ0102 TO THE MINNETONKA TRADING POST ON LEFT AND THE STATION ON RIGHT. THE FQ0102 STATION IS SET IN A 23 CM SQUARE CONCRETE POST PROJECTING 13 CM ABOVE FQ0102 GROUND. LOCATED 41.0 M (134.5 FT) SOUTH OF THE CENTERLINE OF OLD FQ0102 HIGHWAY, 41.0 M (134.5 FT) EAST-SOUTHEAST OF A UTILITY POLE, 10.3 M (33.8 FT) WEST-NORTHWEST OF AZDT HWY DIV RM 6, 5.9 M (19.4 FT) FQ0102 NORTHWEST OF THE RIGHT-OF-WAY FENCE LINE AND 2.0 M (6.6 FT) NORTH OF A FQ0102 METAL WITNESS POST.

FQ0102

FQ0102 STATION RECOVERY (2003)

FQ0102

FQ0102 RECOVERY NOTE BY US POWER SQUADRON 2003 (DPM)

FQ0102 AZM MARK NOT FOUND. STATION IN GOOD CONDITION.

FQ0102

FQ0102 STATION RECOVERY (2004)

FQ0102

FQ0102 RECOVERY NOTE BY MOUNTAIN SURVEYING AND MAPPING INC 2004 (DJK)

FQ0102 RECOVERY NOTE MSAM 2004 (DJK)

FQ0102

FQ0102 RECOVERED AS DESCRIBED

FQ0102

FQ0102 STATION RECOVERY (2017)

FQ0102

FQ0102 RECOVERY NOTE BY ARIZONA DEPARTMENT OF TRANSPORTATION 2017 (DLR)

FQ0102 RECOVERED IN GOOD CONDITION.

\*\*\* retrieval complete.

Elapsed Time = 00:00:02

DATASHEETS Data Sheet Retrieval  
The NGS Data Sheet

See file dsdata.pdf for more information about the datasheet.

PROGRAM = datasheet95, VERSION = 8.12.5.10

Starting Datasheet Retrieval...

1 National Geodetic Survey, Retrieval Date = OCTOBER 12, 2020

ES0081 \*\*\*\*\*

ES0081 DESIGNATION - K 346

ES0081 PID - ES0081

ES0081 STATE/COUNTY- AZ/NAVAJO

ES0081 COUNTRY - US

ES0081 USGS QUAD - HOLBROOK (2018)

ES0081

ES0081 \*CURRENT SURVEY CONTROL

ES0081

ES0081 \* NAD 83(2011) POSITION- 34 55 33.02628(N) 110 08 39.94403(W) NO CHECK

ES0081 \* NAD 83(2011) ELLIP HT- 1571.660 (meters) (06/27/12) NO CHECK

ES0081 \* NAD 83(2011) EPOCH - 2010.00

ES0081 \* NAVD 88 ORTHO HEIGHT - 1595.974 (meters) 5236.12 (feet) ADJUSTED

ES0081

ES0081 GEOID HEIGHT - -24.297 (meters) GEOID18

ES0081 NAD 83(2011) X - -1,803,362.580 (meters) COMP

ES0081 NAD 83(2011) Y - -4,916,104.427 (meters) COMP

ES0081 NAD 83(2011) Z - 3,632,024.303 (meters) COMP

ES0081 LAPLACE CORR - 0.16 (seconds) DEFLEC18

ES0081 DYNAMIC HEIGHT - 1593.778 (meters) 5228.92 (feet) COMP

ES0081 MODELED GRAVITY - 979,203.4 (mgal) NAVD 88

ES0081

ES0081 VERT ORDER - FIRST CLASS II

ES0081

ES0081 Network accuracy estimates per FGDC Geospatial Positioning Accuracy

ES0081 Standards:

ES0081 FGDC (95% conf, cm) Standard deviation (cm) CorrNE

ES0081 Horiz Ellip SD\_N SD\_E SD\_h (unitless)

ES0081 -----

ES0081 NETWORK 0.61 1.35 0.21 0.28 0.69 -0.18200904

ES0081 -----

ES0081 [Click here for local accuracies and other accuracy information.](#)

ES0081

ES0081

ES0081.The horizontal coordinates were established by GPS observations

ES0081.and adjusted by the National Geodetic Survey in June 2012.

ES0081

ES0081.NAD 83(2011) refers to NAD 83 coordinates where the reference frame has

ES0081.been affixed to the stable North American tectonic plate. See

ES0081.NA2011 for more information.

ES0081

ES0081.The horizontal coordinates are valid at the epoch date displayed above

ES0081.which is a decimal equivalence of Year/Month/Day.

ES0081

ES0081.No horizontal observational check was made to the station.

ES0081.

ES0081.The orthometric height was determined by differential leveling and  
ES0081.adjusted by the NATIONAL GEODETIC SURVEY  
ES0081.in June 1991.  
ES0081  
ES0081.Significant digits in the geoid height do not necessarily reflect accuracy.  
ES0081.GEOID18 height accuracy estimate available here.  
ES0081  
ES0081.Click photographs - Photos may exist for this station.  
ES0081  
ES0081.The X, Y, and Z were computed from the position and the ellipsoidal ht.  
ES0081  
ES0081.The Laplace correction was computed from DEFLEC18 derived deflections.  
ES0081  
ES0081.The ellipsoidal height was determined by GPS observations  
ES0081.and is referenced to NAD 83.  
ES0081  
ES0081.The dynamic height is computed by dividing the NAVD 88  
ES0081.geopotential number by the normal gravity value computed on the  
ES0081.Geodetic Reference System of 1980 (GRS 80) ellipsoid at 45  
ES0081.degrees latitude (g = 980.6199 gals.).  
ES0081  
ES0081.The modeled gravity was interpolated from observed gravity values.  
ES0081  
ES0081. The following values were computed from the NAD 83(2011) position.  
ES0081  
ES0081;  

	North	East	Units	Scale	Factor	Converg.
ES0081;SPC AZ E	- 435,348.032	215,391.672	MT	0.99990005	+0 00	45.8
ES0081;SPC AZ E	- 1,428,307.19	706,665.59	iFT	0.99990005	+0 00	45.8
ES0081;UTM 12	- 3,865,153.167	578,143.660	MT	0.99967526	+0 29	23.5

ES0081  
ES0081! - Elev Factor x Scale Factor = Combined Factor  
ES0081!SPC AZ E - 0.99975336 x 0.99990005 = 0.99965343  
ES0081!UTM 12 - 0.99975336 x 0.99967526 = 0.99942870  
ES0081  
ES0081\_U.S. NATIONAL GRID SPATIAL ADDRESS: 12SWD7814365153(NAD 83)  
ES0081  
ES0081 SUPERSEDED SURVEY CONTROL  
ES0081  
ES0081 NAD 83(2007)- 34 55 33.02584(N) 110 08 39.94431(W) AD(2007.00) 0  
ES0081 ELLIP H (02/10/07) 1571.684 (m) GP(2007.00)  
ES0081 NAD 83(1998)- 34 55 33.02545(N) 110 08 39.94391(W) AD(2002.00) 1  
ES0081 ELLIP H (10/18/04) 1571.695 (m) GP(2002.00) 4 1  
ES0081 NAVD 88 1595.97 (m) 5236.1 (f) LEVELING 3  
ES0081 NGVD 29 (??/??/92) 1595.132 (m) 5233.36 (f) ADJ UNCH 1 2  
ES0081  
ES0081.Superseded values are not recommended for survey control.  
ES0081  
ES0081.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.  
ES0081.See file dsdata.pdf to determine how the superseded data were derived.  
ES0081  
ES0081\_MARKER: DB = BENCH MARK DISK  
ES0081\_SETTING: 7 = SET IN TOP OF CONCRETE MONUMENT  
ES0081\_STAMPING: K 346 1959  
ES0081\_MARK LOGO: CGS

ES0081\_PROJECTION: PROJECTING 10 CENTIMETERS  
ES0081\_MAGNETIC: N = NO MAGNETIC MATERIAL  
ES0081\_STABILITY: C = MAY HOLD, BUT OF TYPE COMMONLY SUBJECT TO  
ES0081+STABILITY: SURFACE MOTION  
ES0081\_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR  
ES0081+SATELLITE: SATELLITE OBSERVATIONS - February 24, 2004

ES0081  
ES0081 HISTORY - Date Condition Report By  
ES0081 HISTORY - 1959 MONUMENTED CGS  
ES0081 HISTORY - 1983 GOOD NGS  
ES0081 HISTORY - 20040224 GOOD MSAM

ES0081  
ES0081 STATION DESCRIPTION

ES0081  
ES0081'DESCRIBED BY COAST AND GEODETIC SURVEY 1959  
ES0081'2.0 MI NE FROM HOLBROOK.  
ES0081'2.0 MILES NORTHEAST ALONG U.S. HIGHWAY 66 FROM THE POST OFFICE AT  
ES0081'HOLBROOK, NAVAJO COUNTY, ABOUT 100 YARDS EAST OF MOTEL 66, 0.45 MILE  
ES0081'EAST OF MILEPOST 308, 72 FEET NORTH OF THE OLD ROADBED (MAY BE THE  
ES0081'WESTBOUND LANE FOR THE NEW HIGHWAY), 2 FEET SOUTHEAST OF A FENCE  
ES0081'CORNER, 18 INCHES SOUTH OF THE FENCE, 1 FOOT WEST OF A WITNESS POST,  
ES0081'AND SET IN THE TOP OF A 12-INCH SQUARE CONCRETE POST THAT PROJECTS 4  
ES0081'INCHES.

ES0081  
ES0081 STATION RECOVERY (1983)

ES0081  
ES0081'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 1983  
ES0081'RECOVERED IN GOOD CONDITION, NEW DESCRIPTION FOLLOWS. 1.9 KM (1.2 MI)  
ES0081'NORTHEASTERLY ALONG NAVAJO BOULEVARD FROM ITS JUNCTION WITH INTERSTATE  
ES0081'HIGHWAY 40 IN HOLBROOK, 68.9 METERS (226.0 FT) NORTHEAST OF THE EAST  
ES0081'CORNER OF A MOTEL, 45.1 METERS (148.0 FT) NORTHWEST OF THE CENTER OF  
ES0081'THE BOULEVARD, 32.9 METERS (107.9 FT) SOUTHWEST OF UTILITY POLE NUMBER  
ES0081'1214 AND 19.5 METERS (64.0 FT) NORTHWEST OF THE CENTER OF AN OLD ROAD  
ES0081'BED.  
ES0081'THE MARK IS 0.4 METERS SW FROM A WITNESS POST.  
ES0081'THE MARK IS ABOVE LEVEL WITH THE HIGHWAY.

ES0081  
ES0081 STATION RECOVERY (2004)

ES0081  
ES0081'RECOVERY NOTE BY MOUNTAIN SURVEYING AND MAPPING INC 2004 (DJK)  
ES0081'RECOVERY NOTE MSAM 2004 (DJK)  
ES0081'  
ES0081'RECOVERED AS DESCRIBED

\*\*\* retrieval complete.  
Elapsed Time = 00:00:02

DATASHEETS Data Sheet Retrieval  
The NGS Data Sheet

See file dsdata.pdf for more information about the datasheet.

PROGRAM = datasheet95, VERSION = 8.12.5.10

Starting Datasheet Retrieval...

1 National Geodetic Survey, Retrieval Date = OCTOBER 12, 2020

ES0774 \*\*\*\*\*

ES0774 DESIGNATION - B 505

ES0774 PID - ES0774

ES0774 STATE/COUNTY- AZ/NAVAJO

ES0774 COUNTRY - US

ES0774 USGS QUAD - HOLBROOK (2018)

ES0774

ES0774 \*CURRENT SURVEY CONTROL

ES0774

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ES0774\* NAD 83(2011) POSITION- 34 54 49.70661(N) 110 09 19.96760(W) NO CHECK

ES0774\* NAD 83(2011) ELLIP HT- 1553.958 (meters) (06/27/12) NO CHECK

ES0774\* NAD 83(2011) EPOCH - 2010.00

ES0774\* NAVD 88 ORTHO HEIGHT - 1578.291 (meters) 5178.11 (feet) ADJUSTED

ES0774

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ES0774 GEOID HEIGHT - -24.317 (meters) GEOID18

ES0774 NAD 83(2011) X - -1,804,574.839 (meters) COMP

ES0774 NAD 83(2011) Y - -4,916,458.333 (meters) COMP

ES0774 NAD 83(2011) Z - 3,630,919.298 (meters) COMP

ES0774 LAPLACE CORR - 0.45 (seconds) DEFLEC18

ES0774 DYNAMIC HEIGHT - 1576.129 (meters) 5171.02 (feet) COMP

ES0774 MODELED GRAVITY - 979,209.7 (mgal) NAVD 88

ES0774

ES0774 VERT ORDER - FIRST CLASS II

ES0774

ES0774 Network accuracy estimates per FGDC Geospatial Positioning Accuracy

ES0774 Standards:

ES0774 FGDC (95% conf, cm) Standard deviation (cm) CorrNE

ES0774 Horiz Ellip SD\_N SD\_E SD\_h (unitless)

ES0774 -----

ES0774 NETWORK 0.62 1.41 0.21 0.28 0.72 -0.18799329

ES0774 -----

ES0774 [Click here for local accuracies and other accuracy information.](#)

ES0774

ES0774

ES0774.The horizontal coordinates were established by GPS observations

ES0774.and adjusted by the National Geodetic Survey in June 2012.

ES0774

ES0774.NAD 83(2011) refers to NAD 83 coordinates where the reference frame has

ES0774.been affixed to the stable North American tectonic plate. See

ES0774.NA2011 for more information.

ES0774

ES0774.The horizontal coordinates are valid at the epoch date displayed above

ES0774.which is a decimal equivalence of Year/Month/Day.

ES0774

ES0774.No horizontal observational check was made to the station.

ES0774.

ES0774.The orthometric height was determined by differential leveling and  
ES0774.adjusted by the NATIONAL GEODETIC SURVEY  
ES0774.in June 1991.

ES0774

ES0774.Significant digits in the geoid height do not necessarily reflect accuracy.  
ES0774.GEOID18 height accuracy estimate available here.

ES0774

ES0774.Click photographs - Photos may exist for this station.

ES0774

ES0774.The X, Y, and Z were computed from the position and the ellipsoidal ht.

ES0774

ES0774.The Laplace correction was computed from DEFLEC18 derived deflections.

ES0774

ES0774.The ellipsoidal height was determined by GPS observations

ES0774.and is referenced to NAD 83.

ES0774

ES0774.The dynamic height is computed by dividing the NAVD 88

ES0774.geopotential number by the normal gravity value computed on the

ES0774.Geodetic Reference System of 1980 (GRS 80) ellipsoid at 45

ES0774.degrees latitude ( $g = 980.6199$  gals.).

ES0774

ES0774.The modeled gravity was interpolated from observed gravity values.

ES0774

ES0774. The following values were computed from the NAD 83(2011) position.

ES0774

ES0774;

	North	East	Units	Scale	Factor	Converg.
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ES0774;SPC AZ E	- 434,013.039	214,376.096	MT	0.99990001	+0 00	22.9
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ES0774;SPC AZ E	- 1,423,927.29	703,333.65	iFT	0.99990001	+0 00	22.9
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ES0774;UTM 12	- 3,863,810.068	577,139.462	MT	0.99967334	+0 29	00.0
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ES0774

ES0774! - Elev Factor x Scale Factor = Combined Factor

ES0774!SPC AZ E - 0.99975614 x 0.99990001 = 0.99965617

ES0774!UTM 12 - 0.99975614 x 0.99967334 = 0.99942956

ES0774

ES0774\_U.S. NATIONAL GRID SPATIAL ADDRESS: 12SWD7713963810(NAD 83)

ES0774

ES0774 SUPERSEDED SURVEY CONTROL

ES0774

ES0774 NAD 83(2007)- 34 54 49.70616(N) 110 09 19.96789(W) AD(2007.00) 0

ES0774 ELLIP H (02/10/07) 1553.983 (m) GP(2007.00)

ES0774 NAD 83(1998)- 34 54 49.70578(N) 110 09 19.96748(W) AD(2002.00) 1

ES0774 ELLIP H (10/18/04) 1553.994 (m) GP(2002.00) 4 1

ES0774 NAVD 88 1578.29 (m) 5178.1 (f) LEVELING 3

ES0774

ES0774.Superseded values are not recommended for survey control.

ES0774

ES0774.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.

ES0774.See file dsdata.pdf to determine how the superseded data were derived.

ES0774

ES0774\_MARKER: DV = VERTICAL CONTROL DISK

ES0774\_SETTING: 66 = SET IN ROCK OUTCROP

ES0774\_STAMPING: B 505 1983

ES0774\_MARK LOGO: NGS

ES0774\_MAGNETIC: N = NO MAGNETIC MATERIAL

ES0774\_STABILITY: A = MOST RELIABLE AND EXPECTED TO HOLD

ES0774+STABILITY: POSITION/ELEVATION WELL

ES0774\_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR

ES0774+SATELLITE: SATELLITE OBSERVATIONS - February 20, 2017

ES0774

ES0774 HISTORY	- Date	Condition	Report By
ES0774 HISTORY	- 1983	MONUMENTED	NGS
ES0774 HISTORY	- 1983	GOOD	NGS
ES0774 HISTORY	- 20040224	GOOD	MSAM
ES0774 HISTORY	- 20150512	GOOD	AZDT
ES0774 HISTORY	- 20170220	GOOD	AZDT

ES0774

ES0774 STATION DESCRIPTION

ES0774

ES0774'DESCRIBED BY NATIONAL GEODETIC SURVEY 1983

ES0774'IN HOLBROOK.

ES0774'IN HOLBROOK, AT THE INTERSECTION OF INTERSTATE HIGHWAY 40 AND NAVAJO

ES0774'BOULEVARD, IN THE CENTER OF A 40 BY 82 FT EXPOSED AREA OF OUTCROPPING

ES0774'BEDROCK, 172.0 METERS (564.3 FT) NORTHEAST OF THE CENTER OF THE WEST

ES0774'BOUND LANES OF THE HIGHWAY, 32.7 METERS (107.3 FT) EAST-NORTHEAST OF A

ES0774'HIGHWAY INFORMATION SIGN, 21.7 METERS (71.2 FT) SOUTHEAST OF THE

ES0774'CENTERLINE OF THE EAST BOUND LANES OF THE BOULEVARD AND 3.3 METERS

ES0774'(10.8 FT) NORTHWEST OF A CHAIN-LINK FENCE.

ES0774'THE MARK IS 0.3 METERS NW FROM A WITNESS POST.

ES0774'THE MARK IS 1.0 M ABOVE THE BOULEVARD.

ES0774

ES0774 STATION RECOVERY (1983)

ES0774

ES0774'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 1983

ES0774'RECOVERED IN GOOD CONDITION.

ES0774

ES0774 STATION RECOVERY (2004)

ES0774

ES0774'RECOVERY NOTE BY MOUNTAIN SURVEYING AND MAPPING INC 2004 (DJK)

ES0774'RECOVERY NOTE MSAM 2004 (DJK)

ES0774'

ES0774'RECOVERED AS DESCRIBED

ES0774

ES0774 STATION RECOVERY (2015)

ES0774

ES0774'RECOVERY NOTE BY ARIZONA DEPARTMENT OF TRANSPORTATION 2015 (DLR)

ES0774'RECOVERED IN GOOD CONDITION.

ES0774

ES0774 STATION RECOVERY (2017)

ES0774

ES0774'RECOVERY NOTE BY ARIZONA DEPARTMENT OF TRANSPORTATION 2017 (DLR)

ES0774'RECOVERED IN GOOD CONDITION.

\*\*\* retrieval complete.

Elapsed Time = 00:00:02

DATASHEETS Data Sheet Retrieval  
The NGS Data Sheet

See file dsdata.pdf for more information about the datasheet.

PROGRAM = datasheet95, VERSION = 8.12.5.10

Starting Datasheet Retrieval...

1 National Geodetic Survey, Retrieval Date = OCTOBER 12, 2020

FQ0047 \*\*\*\*\*

FQ0047 DESIGNATION - B 252

FQ0047 PID - FQ0047

FQ0047 STATE/COUNTY- AZ/NAVAJO

FQ0047 COUNTRY - US

FQ0047 USGS QUAD - WINSLOW (2018)

FQ0047

FQ0047 \*CURRENT SURVEY CONTROL

FQ0047

FQ0047\* NAD 83(2011) POSITION- 35 02 10.95167(N) 110 44 08.60334(W) ADJUSTED

FQ0047\* NAD 83(2011) ELLIP HT- 1475.390 (meters) (06/27/12) ADJUSTED

FQ0047\* NAD 83(2011) EPOCH - 2010.00

FQ0047\* NAVD 88 ORTHO HEIGHT - 1499.562 (meters) 4919.81 (feet) ADJUSTED

FQ0047

FQ0047 GEOID HEIGHT - -24.168 (meters) GEOID18

FQ0047 NAD 83(2011) X - -1,851,482.338 (meters) COMP

FQ0047 NAD 83(2011) Y - -4,890,581.950 (meters) COMP

FQ0047 NAD 83(2011) Z - 3,642,018.901 (meters) COMP

FQ0047 LAPLACE CORR - -0.31 (seconds) DEFLEC18

FQ0047 DYNAMIC HEIGHT - 1497.584 (meters) 4913.32 (feet) COMP

FQ0047 MODELED GRAVITY - 979,263.3 (mgal) NAVD 88

FQ0047

FQ0047 VERT ORDER - FIRST CLASS II

FQ0047

FQ0047 Network accuracy estimates per FGDC Geospatial Positioning Accuracy

FQ0047 Standards:

FQ0047 FGDC (95% conf, cm) Standard deviation (cm) CorrNE

FQ0047 Horiz Ellip SD\_N SD\_E SD\_h (unitless)

FQ0047 -----

FQ0047 NETWORK 1.29 2.18 0.54 0.51 1.11 -0.08653146

FQ0047 -----

FQ0047 [Click here for local accuracies and other accuracy information.](#)

FQ0047

FQ0047

FQ0047.The horizontal coordinates were established by GPS observations

FQ0047.and adjusted by the National Geodetic Survey in June 2012.

FQ0047

FQ0047.NAD 83(2011) refers to NAD 83 coordinates where the reference frame has

FQ0047.been affixed to the stable North American tectonic plate. See

FQ0047.NA2011 for more information.

FQ0047

FQ0047.The horizontal coordinates are valid at the epoch date displayed above

FQ0047.which is a decimal equivalence of Year/Month/Day.

FQ0047

FQ0047.The orthometric height was determined by differential leveling and

FQ0047.adjusted by the NATIONAL GEODETIC SURVEY

FQ0047.in June 1991.

FQ0047

FQ0047.Significant digits in the geoid height do not necessarily reflect accuracy.

FQ0047.GEOID18 height accuracy estimate available here.

FQ0047

FQ0047.Click photographs - Photos may exist for this station.

FQ0047

FQ0047.The X, Y, and Z were computed from the position and the ellipsoidal ht.

FQ0047

FQ0047.The Laplace correction was computed from DEFLEC18 derived deflections.

FQ0047

FQ0047.The ellipsoidal height was determined by GPS observations

FQ0047.and is referenced to NAD 83.

FQ0047

FQ0047.The dynamic height is computed by dividing the NAVD 88

FQ0047.geopotential number by the normal gravity value computed on the

FQ0047.Geodetic Reference System of 1980 (GRS 80) ellipsoid at 45

FQ0047.degrees latitude (g = 980.6199 gals.).

FQ0047

FQ0047.The modeled gravity was interpolated from observed gravity values.

FQ0047

FQ0047. The following values were computed from the NAD 83(2011) position.

FQ0047

FQ0047;

	North	East	Units	Scale Factor	Converg.
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FQ0047;SPC AZ E	- 447,757.364	161,439.774	MT	0.99993321	-0 19 36.1
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FQ0047;SPC AZ E	- 1,469,020.22	529,658.05	iFT	0.99993321	-0 19 36.1
-----------------	----------------	------------	-----	------------	------------

FQ0047;UTM 12	- 3,877,108.893	524,105.052	MT	0.99960716	+0 09 06.2
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FQ0047

FQ0047! - Elev Factor x Scale Factor = Combined Factor

FQ0047!SPC AZ E - 0.99976847 x 0.99993321 = 0.99970169

FQ0047!UTM 12 - 0.99976847 x 0.99960716 = 0.99937572

FQ0047

FQ0047\_U.S. NATIONAL GRID SPATIAL ADDRESS: 12SWD2410577108(NAD 83)

FQ0047

FQ0047 SUPERSEDED SURVEY CONTROL

FQ0047

FQ0047 NAD 83(2007)- 35 02 10.95114(N) 110 44 08.60377(W) AD(2007.00) 0

FQ0047 ELLIP H (02/10/07) 1475.410 (m) GP(2007.00)

FQ0047 ELLIP H (08/22/01) 1475.433 (m) GP( ) 4 1

FQ0047 NAD 83(1992)- 35 02 10.95079(N) 110 44 08.60321(W) AD( ) 3

FQ0047 ELLIP H (12/16/97) 1475.474 (m) GP( ) 4 1

FQ0047 NAVD 88 1499.56 (m) 4919.8 (f) LEVELING 3

FQ0047 NGVD 29 (??/??/92) 1498.821 (m) 4917.38 (f) ADJ UNCH 1 2

FQ0047

FQ0047.Superseded values are not recommended for survey control.

FQ0047

FQ0047.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.

FQ0047.See file dsdata.pdf to determine how the superseded data were derived.

FQ0047

FQ0047\_MARKER: DB = BENCH MARK DISK

FQ0047\_SETTING: 38 = SET IN THE ABUTMENT OR PIER OF A LARGE BRIDGE

FQ0047\_SP\_SET: RAILROAD BRIDGE ABUTMENT

FQ0047\_STAMPING: B 252 1939

FQ0047\_MARK LOGO: CGS

FQ0047\_MAGNETIC: N = NO MAGNETIC MATERIAL  
FQ0047\_STABILITY: B = PROBABLY HOLD POSITION/ELEVATION WELL  
FQ0047\_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR  
FQ0047+SATELLITE: SATELLITE OBSERVATIONS - May 28, 1997

FQ0047  
FQ0047 HISTORY - Date Condition Report By  
FQ0047 HISTORY - 1939 MONUMENTED CGS  
FQ0047 HISTORY - 1953 GOOD CGS  
FQ0047 HISTORY - 1964 GOOD CGS  
FQ0047 HISTORY - 1983 GOOD NGS  
FQ0047 HISTORY - 19951128 GOOD USPSQD  
FQ0047 HISTORY - 19970528 GOOD NGS  
FQ0047 HISTORY - 20030730 GOOD USPSQD

FQ0047  
FQ0047 STATION DESCRIPTION

FQ0047  
FQ0047'DESCRIBED BY COAST AND GEODETIC SURVEY 1953  
FQ0047'2.2 MI W FROM WINSLOW.

FQ0047'2.2 MILES WEST ALONG THE ATCHISON, TOPEKA AND SANTA FE RAILWAY FROM  
FQ0047'WINSLOW, NAVAJO COUNTY, 1-1/2 POLES WEST OF MILEPOST 288, AT BRIDGE A  
FQ0047'289, IN THE TOP OF THE NORTH END OF THE EAST ABUTMENT, AND 12 FEET  
FQ0047'NORTH OF THE CENTERLINE OF THE NORTH TRACK. A STANDARD DISK, STAMPED  
FQ0047'B 252 1939.

FQ0047  
FQ0047 STATION RECOVERY (1964)

FQ0047  
FQ0047'RECOVERY NOTE BY COAST AND GEODETIC SURVEY 1964  
FQ0047'RECOVERED IN GOOD CONDITION.

FQ0047  
FQ0047 STATION RECOVERY (1983)

FQ0047  
FQ0047'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 1983  
FQ0047'RECOVERED IN GOOD CONDITION. THE 1958 DESCRIPTION IS ADEQUATE WITH  
FQ0047'THE EXCEPTION THAT THE BRIDGE IS NUMBER 288.1.

FQ0047  
FQ0047 STATION RECOVERY (1995)

FQ0047  
FQ0047'RECOVERY NOTE BY US POWER SQUADRON 1995  
FQ0047'RECOVERED IN GOOD CONDITION.

FQ0047  
FQ0047 STATION RECOVERY (1997)

FQ0047  
FQ0047'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 1997 (WCW)  
FQ0047'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 28 MAY 1997 (WCW) .  
FQ0047'RECOVERED IN GOOD CONDITION AS DESCRIBED WITH ALTERNATE TO REACH AS  
FQ0047'FOLLOWS. TO REACH FROM THE POST OFFICE AT THE JUNCTION OF WESTBOUND  
FQ0047'INTERSTATE 40 BUSINESS (US HIGHWAY 66, THIRD STREET) AND STATE HIGHWAY  
FQ0047'87 (WILLIAMSON AVE) GO WESTERLY ON THIRD STREET FOR A TOTAL OF 3.9 KM  
FQ0047'(2.40 MI) PASSING INTERSTATE 40 EXIT 252 ON RIGHT AT 2.9 KM (1.80 MI)  
FQ0047'PASSING ADOT LANE ON LEFT AT 3.7 KM (2.30 MI) TO A DIRT ROAD ON LEFT  
FQ0047'BEFORE CROSSING A BRIDGE OVER A DRY WASH. TURN LEFT AND GO SOUTH FOR  
FQ0047'0.25 KM (0.15 MI) TO THE STATION AHEAD AS DESCRIBED. THE STATION HAS  
FQ0047'NO OBSTRUCTIONS (SUITABLE FOR GPS) EXCEPT FOR CLOSE PROXIMITY TO  
FQ0047'ACTIVE RAIL LINE.

FQ0047

FQ0047

STATION RECOVERY (2003)

FQ0047

FQ0047'RECOVERY NOTE BY US POWER SQUADRON 2003 (DPM)

FQ0047'RECOVERED IN GOOD CONDITION.

\*\*\* retrieval complete.

Elapsed Time = 00:00:02