CAVE CREEK DRAINAGE MASTER PLAN - Technical Data Notebook
Floodplain Delineation of Galloway Wash Tributaries, Willow Springs Wash Tributaries, and Cave Creek Tributaries within Cave Creek, Arizona

Prepared for:

Flood Control District of Maricopa County

FINAL

DATE

Flood Control District of Maricopa County
Contract No. FCD2004C072

Prepared by:

HDR | ONE COMPANY *Many Solutions*℠

3200 East Camelback Road
Suite 350
Phoenix, Arizona 85018-2311
602-522-7700

December 21, 2007

Volume V of V

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ARIZONA U.S.A.

December 21, 2007

Volume V of V

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A TEAM PROFESSIONAL ASSOCIATES, INC.

SURVEY REPORT MANUAL FOR CAVE CREEK DRAINAGE MASTER PLAN

SITUATED IN SECTIONS 8, 9,15,16,17,22,27,28 & 33,
TOWNSHIP 6 NORTH, RANGE 4 EAST,
AND ALSO
SECTIONS 4 & 5, TOWNSHIP 5 NORTH, RANGE 4 EAST
OF THE GILA AND SALT RIVER MERIDIAN,
MARICOPA COUNTY, ARIZONA

REGISTERED LAND SURVEYOR
CERTIFICATE NO.
28237
STONE E.
WAHL
Date Signed 12-21-07
ARIZONA, U.S.A.

PREPARED FOR
HDR ENGINEERING, INC.
OCTOBER 2007

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SECTION 1

SURVEYORS SUMMARY/CERTIFICATION

SURVEYORS SUMMARY AND CERTIFICATION

INTRODUCTION

The purpose of this survey report is to provide an exhibit of the survey work performed by A Team Professional Associates, Inc. in the area of Cave Creek, Arizona for HDR Engineering. HDR was commissioned by the Flood Control District of Maricopa County (FCDMC) to perform a hydraulic analysis of various washes in the Cave Creek area for flood plain delineation. A Team was employed by HDR to provide surveying support and services as needed during the course of their project. A Team's scope of work was defined by HDR as required for the hydraulic analysis of certain areas of the project. The survey data and procedures used to collect and process the survey measurements are explained in this report.

PROJECT WORK SUMMARY

The following is a scope of work provided and defined by HDR for A Team to perform. The **BOLD BLUE** typing is the naming sequence developed and utilized by A Team for reporting and tracking of survey data. Items in red font were not performed and are followed with an explanation.

PHASE I:

In support of the Phase I floodplain delineation, HDR proposed to establish four (4) benchmarks **(BM*)** at the following locations for survey reference:

BM10 - The intersection of Fleming Springs Road and Rockaway Hills Drive. (NE corner)

BM13 - The intersection of Echo Canyon Drive and Continental Mountain Drive. (NE corner)

BM11 - The intersection of Fleming Springs Road and Echo Canyon Drive. (SE corner)

BM12 - Fleming Springs Road adjacent to Parcel Number 21616025R or 21616025S.

F.F.E. 30 - Additionally, a request was issued for collection of the finish floor elevation of the home located at 40647 N. Fleming Springs Road, Cave Creek, AZ 85331. This surveyed finish floor was needed for a comparison of the 100-yr water surface elevation with the existing finish floor elevation.

PHASE II:

In support of the Phase II floodplain delineation, HDR proposed to establish sixteen (16) benchmarks **(BM*)** at the following locations for survey reference:

BM9 - The intersection of Ridgeway Dr. and Mesquite Rd. (SW corner)

****** - At the eastern end of Mesquite Road adjacent to Galloway Wash Tributary 2. ***Task not performed due to land ownership issues in this area***

BM14 - The southern end of the Galloway Wash Tributary crossing located in parcel 216-10-004-B.

BM7 - The intersection of Morning Star Rd. and 54th St. (SE corner)

BM8 - The intersection of Spur Cross Rd. and Honda Bow Rd. (SW Corner)

****** - Five various locations along Cave Creek Wash Tributary. ***Task not performed due to land ownership issues in this area.***

BM6 - The intersection of Cave Creek Road and Stagecoach Pass (SW Corner)

BM2 - The intersection of New River Rd. and 54th St. (NE corner)

BM3 - The intersection of New River Rd. and 52nd St. (SE corner)

BM5 - The intersection of New River Rd. and 50th St. (SW corner)

BM4 - The intersection of El Sendero Dr. and 52nd St. (SW corner)

BM1 - The intersection of Cave Creek Road and El Sendero Dr (SW corner)

In preparation for the Cave Creek DMP Phase II floodplain delineation, HDR recommended that the following physical features **(STRUCTURES)** and finish floor elevations **(F.F.E.)** be considered for survey collection by the ATEAM. A total of 5 physical features and 29 finish floors were identified for collection. Additional details are provided below with respect to their physical locations.

Galloway Wash Tributaries: (2 Features)

STRUCTURE-1 - Culverts located within the parcel corners of 211-07-004-E (38860 N. School House Rd.), 211-07-014-S (Address?), and 211-07-014-V (39042 N. School House Rd.) (24" CP & 24" CMP's)

STRUCTURE-2 - Culvert located at the north end of the parcel 216-10-004-B (6902 E. Grapevine Rd.) (48" HDPE) ***Task not performed, denied access by land owner.***

Galloway Wash Tributaries: (14 Finish Floors)

The following list provides the location identification and the estimated number of finish floors per parcel.

F.F.E.-1 - for parcel 211-07-004-A (38892 N. School House Rd.) 1

F.F.E.-2 - for parcel 211-07-004-E (38860 N. School House Rd.) 1

F.F.E.-3 - for parcel 211-07-004-D (38910 N. School House Rd.) 1

F.F.E.-5 - for parcel 211-07-014-S (39000 N. School House Rd.) 1

F.F.E.-6 - for parcel 216-11-002-T (39145 N. School House Rd.) 1

F.F.E.-7 - for parcel 216-11-002-Q (39221 N. School House Rd.) 1

F.F.E.-8 - for parcel 216-11-002-W (27609 N. 64th St.) 1

F.F.E.-9 - for parcel 216-11-002-P (39207 N. School House Rd.) 1

F.F.E.-10 - for parcel 216-11-002-K (38550 N. Ridgeway Dr.) 1

F.F.E.-11 - for parcel 216-11-009-X (39225 N. Ridgeway Dr.) 1

F.F.E.-12 - for parcel 216-11-009-Y (6612 E. Saber Rd.) 1

F.F.E.-13 - for parcel 216-11-009-V (6689 E. Mesquite Rd.) 1

F.F.E.-14 - for parcel 216-11-009-W (Address?) 1

F.F.E.-15 - for parcel 216-10-004-A (6902 E. Grapevine Rd.) 1 ***Task not performed, denied access by land owner.***

Willow Springs Wash Tributaries: (3 Features)

STRUCTURE-3 - Culverts located north of parcel 211-01-019-C, private entry to 5401 E. Honda Bow Rd. (24" CMP)

STRUCTURE-4 - Culvert crossing Spur Cross Road, located along the eastern side of parcel 202-19-022-Q (30" CMP)

STRUCTURE-5 - Culverts crossing Honda Bow Rd between parcels 202-19-022-Q and 211-01-028-C (2- 33"x26" CMP's)

Willow Springs Wash Tributaries: (15 Finish Floors)

F.F.E.-17 - for parcel 211-01-059 (5425 E. Morning Star Rd.) 1

F.F.E.-18 - for parcel 211-01-058 (5455 E. Morning Star Rd.) 1

F.F.E.-19 - for parcel 211-01-019B (5404 E. Morning Star Rd.) 1

F.F.E.-20 - for parcel 211-01-020 (5454 E. Morning Star Rd.) 1

F.F.E.-21 - for parcel 211-01-030 (5502 E. Morning Star Rd.) 1

F.F.E.-22 - for parcel 211-01-031 (5574 E Morning Star Dr.) 1

F.F.E.-23 - for parcel 211-01-019-C (5401 E. Honda Bow Rd.) 1

F.F.E.-24 - for parcel 211-01-019-D (5411 E. Honda Bow Rd.) 1

F.F.E.-25 - for parcel 211-01-028-A (5515 E. Honda Bow Rd.) 2

F.F.E.-26 - for parcel 211-01-028-B (5511 E. Honda Bow Rd.) 2

F.F.E.-27 - for parcel 211-01-028-C (5525 E. Honda Bow Rd.) 1

F.F.E.-28 - for parcel 202-19-022-D (42631 N 54th St.) 1

F.F.E.-29 - for parcel 202-19-022-P (5516 E. Honda Bow Rd.) 1

F.F.E.-30 - for parcel 216-15-010-A (40647 N. Fleming Springs Rd.) 1

Cave Creek Tributaries: (No Features or Finish Floors)

- No features or finish floors required

NOTE: The above tasks were arranged by survey type into three groups. This allowed for the work to be accomplished in the most efficient manner. The three tasks are **benchmarks, finish floor elevations and structure surveys**. Each task is discussed in more detail in the survey report and summary.

DISCUSSION

Prior to the mid-1990s the generally accepted method of measuring elevations conventional leveling techniques (CLT). These techniques were extremely labor-intensive and costly. With the technological advancements in recent years the use of GPS to determine elevations has become a comparatively accurate yet much more cost effective means of determining elevations (orthometric heights).

While the use of GPS to determine accurate elevations is becoming more widespread and accepted, it can still present unique concerns. A complicating factor in the use of GPS is that the coordinates obtained are expressed in a three dimensional Cartesian (x, y, and z) coordinate system. These Cartesian coordinates are converted to a geodetic coordinate system (latitude, longitude and ellipsoid height). The geodetic coordinate system uses an ellipsoid definition intended to be a mathematical representation of the shape of the earth. The ellipsoid heights are measured from the mathematical center of the ellipsoid used to define the geodetic coordinate system in use.

These ellipsoid heights values are not elevations (orthometric heights), and do not factor in the gravitational center of the point measured as conventional level techniques do. A geoid model can be applied to the ellipsoid heights to determine elevations. The accuracy of these elevations depends on the accuracy of the geoid model used. The model used for this project was Geoid99 and has an expected accuracy of +/- three centimeters in the conversion of NAD83 ellipsoid heights to NAVD88 elevations. This information is according to technical documents published by the National Geodetic survey. These are expected accuracies under normal conditions and may vary in mountainous regions and near extremely large ore bodies.

The Global Positioning System (GPS) is a highly-accurate, satellite-based, spatial positioning technology. It is capable of providing sub-centimeter horizontal positions (coordinates) over large distances. Because of the nature of the GPS satellite configuration and other considerations it is not able to provide equally accurate vertical positions (elevations). Generally speaking, the accuracy of GPS-derived elevations is only one-half to one-third as accurate as GPS-derived horizontal positions (latitude and longitude), and achieving this vertical accuracy requires a greater effort than that required for horizontal accuracies.

SURVEY REPORT AND SUMMARY

1) BENCHMARKS

The survey work for the benchmarks from Phase 1 and Phase 2 were combined and performed at the same time. This allowed for the work to be accomplished in a more time and cost efficient manner. This also allows for more compatibility between the sets of data. The plan of this network was to develop a methodology to achieve the maximum vertical accuracy in a reasonable and practical manner.

Great care was taken in preparing a Global Positioning Systems (GPS) Control Network for the project benchmarks. The first priority was to find control in the area of the project. A search of the National Geodetic Survey's control point data base was performed. This search produced very poor results, very little control was found in the project area. The control that was found in the area had only horizontal and ellipsoid heights values. The control found in the area had no published vertical values of significant order. The next area searched for control was the FEMA flood insurance rate maps and the FCDMC data base for the project area. Vertical control was found for the area but the history and accuracy of this control could not be established. This presents issues when determining which control points are the most accurate and precise. It was also hard to determine which control points would be the best representation of the flood delineation and analysis that has been performed in the past and allow for the work in this project to conform to the work of the past. A Team was able to contact United States Geological Survey's (USGS) geodetic control branch and locate information they had on some unpublished level lines run in 1963 in the Cave Creek area. The data obtained from the USGS contained two common control points found on the F.E.M.A. F.I.R.M. documents. These documents can be found in section 2.3.3 of this manual. The control points RM130 and RM599 are on both sets of data with the same elevations. This information produced a higher confidence in these two control points with regards to their reliability.

The results from the research of control stations in the area motivated the use of ellipsoid heights to constrain the vertical element of the benchmark control network. A total of twelve control points were chosen to be included in the network along with the fourteen project benchmarks established. Five of the control stations were used to constrain the network horizontally and vertically. Seven were used to assess the vertical element of the network, the results of the assessment can be found in section 2.1.2 of this report.

The following is a summary of the control found and utilized.

STATION NAME	HORIZ. ORDER	VERTICAL ORDER	ELLIPS. ORDER	HORIZ. STATUS	ELLIPS. STATUS	VERTICAL STATUS
1JF2	**B**	**K**	**3RD 2**	**FIXED**	**FIXED**	**N/A**
1KI3	**B**	**K**	**3RD 2**	**FIXED**	**FIXED**	**N/A**
1LG2	**B**	**K**	**3RD 2**	**FIXED**	**FIXED**	**N/A**
1LH3	**B**	**K**	**3RD 2**	**FIXED**	**FIXED**	**N/A**
1MI1	**B**	**K**	**3RD 2**	**FIXED**	**FIXED**	**N/A**
ERM1	?	?	?			CHECK
RM1105	?	?	?			CHECK
RM130	?	?	?			CHECK
RM3106	?	?	?			CHECK
RM3111	?	?	?			CHECK
RM3115	?	?	?			CHECK
RM599	?	?	?			CHECK

Note: The control stations in **bold red** font are the stations used to constrain the network. The fields with (?) have no published control order values for that coordinate component in the NGS database. The vertical designation of "K" designates an orthometric height was determined by GPS observations and a high-resolution geoid model using precise GPS observation and processing techniques

A GPS observation schedule was made to ensure strong geometric figures and redundant measurements. Each benchmark was occupied with a minimum of three benchmarks and for a minimum of 30 minutes simultaneously with the five fixed control points. The survey was performed using 'Trimble 4000SSE Geodetic Surveyor' GPS receivers and 'Trimble 5800 R8' recievers. Field data was collected using the 'Fast Static Survey' system. Data collection was collected at a rate of 15 second with the elevation mask at 10°, and data was processed at 13°. Data was downloaded into TRIMBLE GEOMATICS OFFICE VER. 1.63 BUILD 10 software. The data was processed and evaluated for QA/QC with the TGO software. The data was processed without any notable problems.

The GPS baselines were then adjusted with TRIMBLE GEOMATICS OFFICE VER. 1.63 BUILD 10 software. The points used to constrain the primary network were 1JF2, 1KI3, 1LG2, 1LH3, 1MI1. All points were NGS 3D monuments with "B" order horizontal values and "Third' order class 2 ellipsoid height values. The network was adjusted and constrained in geographic coordinates with ellipsoid heights. The network adjustment produced good results. The +/- 5 mm horizontal and +/- 20 mm vertical requirement at 95% confidence were achieved. (see section 2.2.2 Network Adjustment Report "Adjusted Geodetic Coordinates" section for more details on positional errors.)

Upon completion of the adjustment the projection for Arizona Central Zone (0202) was applied to the geographic coordinates to generate the NAD83 State Plane Coordinates for this project. Upon completion of the adjustment a vertical adjustment was applied to generate the NAVD88 elevations for this project. The vertical adjustment consisted of a geoid (GEOID99) with an inclined plane was utilized, for more information see the coordinate system details below. Coordinate Values are located in the "FINAL COORDINATE REPORT" in section 2.1.1 of this survey report manual.

The vertical element of these final coordinates were then assessed by taking the NGVD29 elevations from the F.E.M.A. maps and FCDMC data base and converting them to the NAVD88 elevations. This was done with the use of NGS software Vertcon which computes the modeled difference in orthometric height between the North American Vertical Datum of 1988 (NAVD 88) and the National Geodetic Vertical Datum of 1929 (NGVD 29) for a given location specified by latitude and longitude.

COORDINATE SYSTEM DETAILS

COORDINATE SYSTEM	: NAD83 STATE PLANE COORDINATES (GDAC)
ZONE	: CENTRAL ZONE (0202)
DATUM	: NAD83 (WGS 84)
ELLIPSOID NAME	: NAD83 (WGS 84)
GEOID MODEL	: GEOID99 (CONUS)
SITE	: GDAC METERS NAD 83 AZ SPC

ELLIPSOID

ELLIPSOID NAME	: NAD83 (WGS 84)		
FLATTENING 1/F	: 298.257		
SEMI MAJOR AXIS	: 6378137.000M		
DATUM TRANSFORMATION	: THREE PARAMETER		
TRANSLATION X	: 0.000M	**ROTATION X**	: N/A
TRANSLATION Y	: 0.000M	**ROTATION Y**	: N/A
TRANSLATION Z	: 0.000M	**ROTATION Z**	: N/A
SCALE FACTOR	: N/A PPM		

TRANSVERSE MERCATOR PROJECTION

PROJECTION ORIGIN	**FALSE ORIGIN**
LATITUDE: 31°00'00.00000"N	**FALSE NORTHING:** 0.000M
LONGITUDE: 111°55'00.00000"W	**FALSE EASTING:**213360.000M
HEIGHT : N/A	**FALSE ELEVATION:** N/A
SCALE FACTOR : 0.99990000	

LOCAL SITE SETTINGS

PROJECT LATITUDE	: ?
PROJECT LONGITUDE	: ?
PROJECT HEIGHT	: 0.000M
GROUND SCALE FACTOR	: N/A
FALSE NORTHING OFFSET	: N/A
FALSE EASTING OFFSET	: N/A

GPS SITE CALIBRATION DETAILS

HORIZONTAL ADJUSTMENT

NORTH ORIGIN	: N/A	TRANSLATION NORTH	: N/A
EAST ORIGIN	: N/A	TRANSLATION EAST	: N/A
SCALE	: N/A	ROTATION	: N/A

VERTICAL ADJUSTMENT	: GEOID W \ INCLINED PLANE
NORTH ORIGIN	: 267232.856M
EAST ORIGIN	: 249010.623M
VERTICAL CONSTANT CORRECTION	: 0.038M
SLOPE NORTH	: -0.191PPM
SLOPE EAST	: -0.003PPM
NETWORK ADJUSTMENT PARAMETERS	: NONE
LONGITUDE DEFLECTION	: N/A
LATITUDE DEFLECTION	: N/A
AZIMUTH ROTATION	: N/A
NETWORK SCALE	: N/A
DISTANCE SCALE	: N/A
DISTANCE CONSTANT	: N/A
HEIGHT CONSTANT	: N/A

2) STRUCTURE SURVEYS

The structures were mapped by Real Time Kinematic (RTK) GPS methodology. RTK GPS is capable of providing horizontal positions (coordinates) at a level of +/- (10 mm + 1ppm RMS) and vertical positions of +/- (20 mm + 1ppm RMS) (according to the manufacturers spec sheet for the equipment utilized). These accuracies and reliability are subject to and can be adversely affected by anomalies such as multipath, obstructions, satellite geometry and atmospheric conditions. Realistically these accuracies are up to 50 percent greater under the average working conditions.

Field data was collected utilizing one of the control points used to constrain the control network for the benchmarks. The field data was then uploaded into AutoCAD to process line work and the creation of Triangular Irregular Network (TIN) for the production 3d surface model. The contours were then created and final drafting for the delivery of the finished map. Field sketches, photographs and maps of structures are located in section 3 of this report.

3) FINISH FLOOR ELEVATIONS

The finish floor elevations were performed by Real Time Kinematic (RTK) GPS methodology. Field data was collected utilizing one of the control points used to constrain the control network for the benchmarks. Points were mapped around concerned building at finished grade to give indication of drainage in immediate area. A temporary benchmark was set on site and conventional level was used to measure the finish floor elevation of the structure. A sketch of the building with relative location of elevation measurements was made and photographs taken. A coordinate list of the points by building was prepared and is in section 4.1.1 of this report. The sketches and photographs are in section 4.1.2 of this report.

SURVEYORS CERTIFICATION

I, STONE E. WAHL, AN ARIZONA REGISTERED LAND SURVEYOR, CERTIFY THAT THE FIELD SURVEYS, DOCUMENTED HEREIN, ALONG WITH ALL FIELD, AND OFFICE PROCESS PROCEDURES, USED DURING THE COURSE OF THIS SURVEY, WERE PERFORMED UNDER MY DIRECT SUPERVISION, AND THAT THESE SURVEYS, ARE RETRACEABLE, AND REPEATABLE. FURTHER, I CERTIFY THAT THIS SURVEY REPORT WAS PREPARED UNDER MY DIRECT SUPERVISION; AND THAT THE COORDINATE VALUES AND THEIR ACUURACIES, AS SHOWN IN THIS REPORT, ARE CORRECT.

STONE E. WAHL
AZ RLS #28237

REGISTERED LAND SURVEYOR
CERTIFICATE NO.
28237
STONE E.
WAHL
Date Signed 10/22/08
ARIZONA, U.S.A.

Stone E. Wahl

SECTION 2
BENCHMARK REPORTS AND DATA

SECTION 2.1

GPS STATIC NETWORK DATA REPORTS

SECTION 2.1.1

FINAL COORDINATE REPORT

Point Name	NAD83 (1992)		GRS(80)	GRS(80)	NAD83 (1992) AZ SPCS (0202)		NAVD 88	NAD83 (1992) AZ SPCS (0202)		NAVD 88		GRID	ELEVATION	COMBINED
	Latitude	Longitude	Ellipsoid Height (M)	Ellipsoid Height (IFT)	Northing (M)	Easting (M)	Elevation (M)	Northing (IFT)	Easting (IFT)	Elevation (IFT)	CONVERGENCE	SCALE FACTOR	SCALE FACTOR	SCALE FACTOR
NETWORK POINTS USED IN CONSTRAINMENT														
1JF2	**33ø46'10.00774"N**	**112ø03'01.22822"W**	**497.382**	**1631.831**	**307091.381**	**200978.480**	**526.479**	**1007517.654**	**659378.215**	**1727.293**	**-0ø04'27"**	**0.99990189**	**0.99992210**	**0.99982400**
1KI3	**33ø48'46.02742"N**	**111ø53'13.40912"W**	**758.001**	**2486.880**	**311890.346**	**216101.094**	**786.650**	**1023262.290**	**708993.091**	**2580.873**	**0ø00'59"**	**0.99990009**	**0.99988129**	**0.99978140**
1LG2	**33ø51'51.75156"N**	**111ø58'40.06151"W**	**674.784**	**2213.858**	**317613.401**	**207704.291**	**703.358**	**1042038.717**	**681444.524**	**2307.605**	**-0ø02'03"**	**0.99990039**	**0.99989432**	**0.99979473**
1LH3	**33ø50'05.23617"N**	**111ø56'24.32045"W**	**668.868**	**2194.449**	**314330.447**	**211192.168**	**697.516**	**1031267.871**	**692887.690**	**2288.438**	**-0ø00'47"**	**0.99990006**	**0.99989525**	**0.99979532**
1MI1	**33ø52'20.90614"N**	**111ø56'03.49916"W**	**715.479**	**2347.372**	**318510.055**	**211728.189**	**743.916**	**1044980.495**	**694646.289**	**2440.669**	**-0ø00'35"**	**0.99990003**	**0.99988795**	**0.99978800**
ERM1	33ø49'54.91510"N	111ø57'14.73448"W	614.321	2015.489	314012.860	209895.936	643.011	1030225.919	688634.961	2109.616	-0ø01'15"	0.99990015	0.99990379	0.99980395
RM1105	33ø51'26.13982"N	111ø56'28.01525"W	657.794	2158.117	316822.943	211097.769	686.336	1039445.351	692577.982	2251.759	-0ø00'49"	0.99990006	0.99989699	0.99979706
RM130	33ø49'55.89757"N	111ø56'46.14565"W	631.790	2072.802	314042.889	210630.972	660.461	1030324.439	691046.496	2166.867	-0ø00'59"	0.99990009	0.99990106	0.99980116
RM3106	33ø47'56.98763"N	111ø59'12.87778"W	553.130	1814.731	310381.366	206855.956	582.032	1018311.568	678661.273	1909.554	-0ø02'21"	0.99990052	0.99991337	0.99981390
RM3111	33ø49'39.13685"N	111ø57'59.73801"W	583.091	1913.028	313527.257	208738.645	611.830	1028632.733	684838.074	2007.316	-0ø01'40"	0.99990026	0.99990868	0.99980896
RM3115	33ø52'04.76284"N	111ø58'08.56776"W	642.641	2108.402	318013.806	208513.903	671.180	1043352.382	684100.732	2202.034	-0ø01'45"	0.99990029	0.99989936	0.99979966
RM599	33ø49'00.58798"N	111ø54'07.53267"W	735.017	2411.473	312338.626	214709.188	763.674	1024733.025	704426.470	2505.492	0ø00'29"	0.99990002	0.99988489	0.99978493
BENCHMARKS														
BM1	33ø48'15.44580"N	111ø57'37.12667"W	595.835	1954.839	310948.658	209318.926	624.662	1020172.762	686741.883	2049.416	-0ø01'27"	0.999900201	0.99990669	0.9998069
BM2	33ø48'33.84927"N	111ø57'54.38461"W	580.479	1904.459	311515.826	208875.343	609.292	1022033.550	685286.558	1998.990	-0ø01'37"	0.999900248	0.99990909	0.99980935
BM3	33ø48'30.79754"N	111ø58'07.42813"W	574.211	1883.894	311421.972	208539.855	603.035	1021725.630	684185.876	1978.461	-0ø01'44"	0.999900286	0.99991007	0.99981037
BM4	33ø48'16.88027"N	111ø58'07.29118"W	578.78	1898.885	310993.211	208543.161	607.622	1020318.934	684196.722	1993.510	-0ø01'44"	0.999900286	0.99990936	0.99980965
BM5	33ø48'32.62974"N	111ø58'25.46350"W	567.239	1861.020	311478.664	208076.066	596.071	1021911.627	682664.259	1955.614	-0ø01'54"	0.999900344	0.99991117	0.99981152
BM6	33ø48'50.95578"N	111ø57'17.10516"W	611.907	2007.569	312042.436	209834.256	640.675	1023761.273	688432.598	2101.952	-0ø01'16"	0.999900153	0.99990417	0.99980433
BM7	33ø52'05.21666"N	111ø57'52.82904"W	640.123	2100.141	318027.59	208918.387	668.652	1043397.605	685427.779	2193.740	-0ø01'36"	0.999900243	0.99989975	0.99980001
BM8	33ø52'18.44157"N	111ø57'37.11424"W	646.698	2121.713	318434.844	209322.421	675.197	1044733.740	686753.350	2215.213	-0ø01'28"	0.999900201	0.99989872	0.99979893
BM9	33ø50'32.90803"N	111ø56'20.49891"W	649.293	2130.226	315182.937	211290.603	677.905	1034064.754	693210.640	2224.098	-0ø00'45"	0.999900053	0.99989832	0.99979838
BM10	33ø51'26.10862"N	111ø56'16.89509"W	665.144	2182.231	316821.918	211383.587	693.681	1039441.988	693515.705	2275.856	-0ø00'43"	0.999900048	0.99989583	0.99979589
BM11	33ø51'40.01085"N	111ø56'07.50568"W	678.687	2226.663	317250.17	211624.999	707.195	1040847.014	694307.740	2320.194	-0ø00'38"	0.999900037	0.99989371	0.99979376
BM12	33ø52'04.60697"N	111ø55'46.47666"W	711.981	2335.896	318007.845	212165.572	740.434	1043332.825	696081.273	2429.245	-0ø00'26"	0.999900018	0.9998885	0.99978853
BM13	33ø51'32.63259"N	111ø56'04.27002"W	674.576	2213.176	317022.846	211708.121	703.093	1040101.201	694580.449	2306.736	-0ø00'36"	0.999900034	0.99989436	0.9997944
BM14	33ø50'20.88424"N	111ø55'44.77114"W	668.855	2194.406	314812.354	212209.017	697.461	1032848.930	696223.809	2288.258	-0ø00'25"	0.999900016	0.99989525	0.99979528

SURVEYORS CERTIFICATION

I, STONE E. WAHL AN ARIZONA REGISTERED LAND SURVEYOR, HEREBY CERTIFY THAT THE VALUES/COORDINATES SHOWN HEREON WERE DEVELOPED BY GPS OBSERVATIONS AND POST PROCESSED, ALL UNDER MY DIRECT SUPERVISION, AND ARE TRUE AND ACCURATE TO THE BEST OF MY KNOWLEDGE.

REGISTERED LAND SURVEYOR
CERTIFICATE NO. 28237
STONE E. WAHL
Date Signed 10/23/07
ARIZONA, U.S.A.

STONE E. WAHL ARIZONA RLS #28237

SECTION 2.1.2

QUALITY CONTROL DIFFERENCES REPORT

A TEAM VALUES VS. PUBLISHED VALUES

PUBLISHED DATA				STATIC GPS NETWORK VALUES	
Point Number	NGVD29 Elev. (IFT.)	VERTCON VALUES (IFT.)	CALCULATED NAVD88 Elev. (IFT.)	GPS DERIVED NAVD88 Elev. (IFT.)	DIFFERENCE IN BETWEEN GPS DERIVED AND PUBLISHED VALUES
ERM1	2107.870	2.031	2109.901	2109.616	-0.285
RM1105	2250.000	2.064	2252.064	2251.759	-0.305
RM130	2164.750	2.037	2166.787	2166.867	0.080
RM3106	1908.080	1.982	1910.062	1909.554	-0.508
RM3111	2005.810	2.028	2007.838	2007.316	-0.522
RM3115	2201.930	2.073	2204.003	2202.034	-1.969
RM599	2503.376	2.080	2505.456	2505.492	0.036

The calculated NAVD88 elevations were by applying a vertical shift calculated with the Vertcon software from NGS which computes the modeled difference in orthometric height between the North American Vertical Datum of 1988 (NAVD 88) and the National Geodetic Vertical Datum of 1929 (NGVD 29) for a given location specified by latitude and longitude.

SECTION 2.1.3

GPS SESSION TABLE

REPORT NAME: GPS SESSION TABLE

GPS STATIC SESSION #1 (277)		
SESSION TIME 15:58 TO 16:40		
POINT #	START	END
1MI1	14:16	19:20
1LH3	13:43	19:39
1LG2	14:15	19:37
1KI3	16:04	19:41
1JF2	15:09	20:05
BM1	15:11	16:45
BM3	14:34	16:47
BM4	14:55	16:40
BM5	14:04	17:34
BM6	15:37	16:40
BM7	15:58	16:44
BM8	14:59	19:51

GPS STATIC SESSION #2 (277)		
SESSION TIME 17:04 TO 17:42		
POINT #	START	END
1MI1	14:16	19:20
1LH3	13:43	19:39
1LG2	14:15	19:37
1KI3	16:04	19:41
1JF2	15:09	20:05
BM8	14:59	19:51
BM9	17:04	19:18
BM10	16:58	17:42
BM12	17:02	17:43
BM14	17:04	19:10

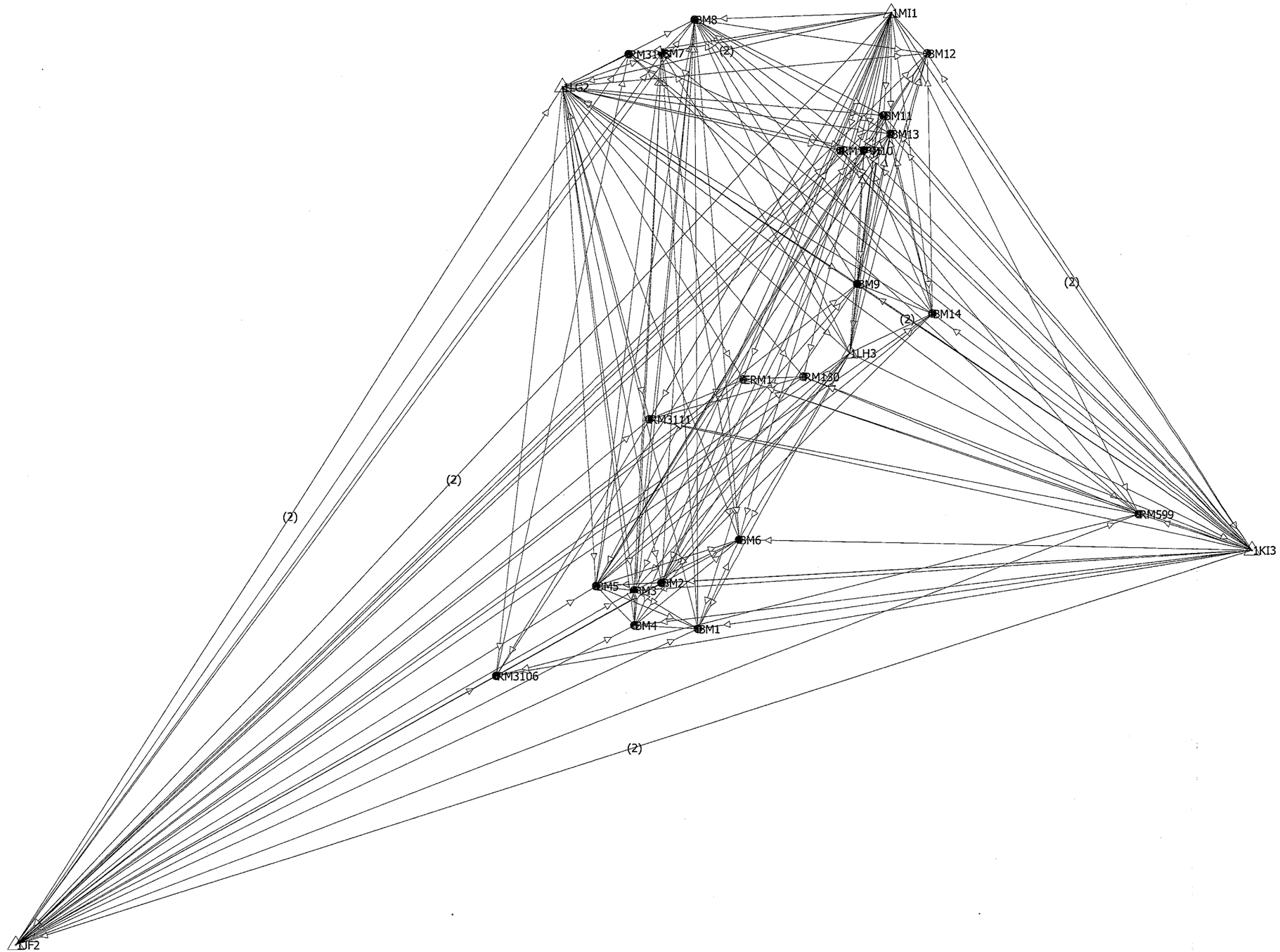
GPS STATIC SESSION #3 (277)		
SESSION TIME 18:03 TO 19:10		
POINT #	START	END
1MI1	14:16	19:20
1LH3	13:43	19:39
1LG2	14:15	19:37
1KI3	16:04	19:41
1JF2	15:09	20:05
BM8	14:59	19:51
BM9	17:04	19:18
BM2	18:03	19:14
BM11	17:50	19:10
BM13	17:18	19:10
BM14	17:04	19:10

GPS STATIC SESSION #4 (278)		
SESSION TIME 15:54 TO 17:00		
POINT #	START	END
1MI1	14:52	19:41
1LG2	14:25	19:22
1KI3	14:36	18:57
1JF2	14:18	19:22
RM599	15:20	18:39
RM1105	15:32	17:18
RM3106	15:30	17:00
RM3115	15:54	17:06

GPS STATIC SESSION #5 (278)		
SESSION TIME 17:47 TO 18:39		
POINT #	START	END
1MI1	14:52	19:41
1LG2	14:25	19:22
1KI3	14:36	11:57
1JF2	14:18	19:22
RM599	15:20	18:39
ERM1	17:47	18:55
RM130	17:33	19:05
RM3111	17:22	18:52

SECTION 2.1.4

GPS NETWORK MAPS



Field surveyor:

Computer operator:
C. FISCHER

Reference:
CAVE CREEK DMP

Scale 1:50000
0 2250 m
Meters

0°00'00"

Plot Scale: 1:50000
Printed on 10/18/2007, at 10:47:21 AM

Printed from Trimble Geomatics Office

Site: Not selected, System: US State Plane 1983
Zone: Arizona Central 0202, Datum: NAD 1983 (Conus)

Project: 1686-1
NAD83 Metric Template

SECTION 2.2

GPS STATIC NETWORK SURVEY REPORTS

SECTION 2.2.1

BASELINE PROCESSING REPORT

ID	From	To	Baseline Length	Solution Type	Ratio	Reference Variance	RMS
B24	1MI1	BM2	7556.410m	Iono free fixed	54.1	1.126	0.016m
B94	1LG2	RM599	8770.849m	Iono free fixed	1.6	1.659	0.016m
B6	BM5	BM14	5311.889m	Iono free fixed	7.2	1.436	0.016m
B96	RM599	RM3111	6090.837m	Iono free fixed	1.7	1.666	0.016m
B155	BM2	BM13	6194.834m	Iono free fixed	31.8	1.607	0.017m
B80	1JF2	RM599	14703.966m	Iono free float	7.9	1.604	0.017m
B69	1LG2	BM2	6210.959m	Iono free fixed	70.2	1.458	0.017m
B127	1KI3	BM13	6757.743m	Iono free fixed	6.6	1.408	0.017m
B115	BM5	BM11	6777.589m	Iono free fixed	59.5	1.937	0.017m
B100	1LG2	RM3106	7284.062m	Iono free fixed	33.1	1.976	0.017m
B106	1MI1	RM3106	9480.314m	Iono free fixed	29.4	2.052	0.018m
B112	BM5	BM13	6630.129m	Iono free fixed	6.6	1.756	0.018m
B10	BM5	BM7	6604.560m	Iono free fixed	14.8	1.632	0.018m
B91	1KI3	RM3115	9752.708m	Iono free fixed	46.5	2.372	0.019m
B89	1KI3	RM3106	9371.608m	Iono free fixed	39.1	2.208	0.019m
B84	1JF2	RM3115	13272.880m	Iono free fixed	6.5	2.603	0.020m
B82	1JF2	RM3106	6737.080m	Iono free fixed	43.4	2.544	0.020m
B97	RM599	RM3115	8403.994m	Iono free fixed	26.3	3.208	0.022m
B165	1JF2	RM130	11898.115m	Iono free fixed	3.0	2.632	0.022m
B95	RM599	RM3106	8097.130m	Iono free fixed	16.9	3.271	0.023m
B167	1KI3	RM130	5880.979m	Iono free fixed	35.9	2.807	0.023m
B105	RM3106	RM3115	7812.456m	Iono free fixed	10.7	4.063	0.024m

Baseline Processing Report

Project : 1686-1

User name	Clint Fischer	**Date & Time**	3:19:08 PM 10/9/2007
Coordinate System	US State Plane 1983	**Zone**	Arizona Central 0202
Project Datum	NAD 1983 (Conus)		
Vertical Datum		**Geoid Model**	GEOID99 (Conus)
Coordinate Units	Meters		
Distance Units	Meters		
Height Units	Meters		

Processing Summary

ID	From	To	Baseline Length	Solution Type	Ratio	Reference Variance	RMS
B153	BM10	BM13	381.894m	L1 fixed	29.7	2.715	0.006m
B8	BM5	BM3	467.382m	L1 fixed	22.9	2.293	0.006m
B146	BM3	BM4	428.880m	L1 fixed	17.7	2.239	0.006m
B164	BM13	BM11	242.129m	L1 fixed	37.9	2.919	0.007m
B111	BM5	BM4	673.904m	L1 fixed	20.9	2.604	0.007m
B104	1MI1	1LG2	4123.654m	L1 fixed	11.9	4.087	0.007m
B76	BM7	BM8	573.824m	L1 fixed	25.2	2.817	0.007m
B136	BM1	BM4	777.382m	L1 fixed	51.0	2.894	0.007m
B57	BM1	BM3	912.012m	L1 fixed	13.7	3.269	0.007m
B73	BM9	BM10	1642.026m	L1 fixed	38.3	3.661	0.007m
B87	1KI3	RM599	1462.804m	L1 fixed	1.9	3.459	0.007m
B101	1LG2	RM3111	4216.861m	L1 fixed	130.9	3.040	0.007m
B110	1MI1	ERM1	4858.163m	L1 fixed	52.0	2.923	0.008m
B67	1LG2	BM7	1283.532m	L1 fixed	21.7	3.385	0.008m
B5	BM5	BM1	1351.712m	L1 fixed	16.7	3.427	0.008m
B119	1MI1	BM12	666.120m	L1 fixed	13.2	4.349	0.008m
B149	BM9	BM12	2958.584m	L1 fixed	26.1	4.988	0.008m
B31	1LH3	BM3	3938.150m	L1 fixed	35.4	3.537	0.008m
B107	RM3111	ERM1	1255.673m	L1 fixed	54.6	2.722	0.008m

ID	From	To	Baseline Length	Solution Type	Ratio	Reference Variance	RMS
B154	BM10	BM12	1421.604m	L1 fixed	29.1	5.023	0.008m
B77	BM10	BM8	2617.833m	L1 fixed	29.4	4.077	0.008m
B23	1MI1	BM10	1724.045m	L1 fixed	54.4	3.655	0.008m
B163	BM13	BM12	1086.912m	L1 fixed	18.5	5.085	0.008m
B28	1LH3	BM1	3867.398m	L1 fixed	25.8	3.755	0.008m
B160	BM8	BM12	2876.370m	L1 fixed	46.7	5.640	0.008m
B34	1LH3	BM10	2499.330m	L1 fixed	12.4	3.934	0.008m
B103	1LG2	ERM1	4216.397m	L1 fixed	91.9	3.390	0.008m
B176	ERM1	RM130	736.001m	L1 fixed	2.4	4.706	0.008m
B68	1LG2	BM10	3764.254m	L1 fixed	47.8	4.770	0.008m
B70	1LG2	BM8	1815.282m	L1 fixed	5.1	5.812	0.008m
B137	BM1	BM6	1209.438m	L1 fixed	11.5	4.750	0.008m
B121	1LH3	BM4	4262.586m	L1 fixed	26.6	3.955	0.009m
B12	BM5	BM2	800.405m	L1 fixed	67.2	3.286	0.009m
B22	1MI1	BM7	2852.507m	L1 fixed	16.1	4.568	0.009m
B32	1LH3	BM9	858.558m	L1 fixed	15.4	3.536	0.009m
B61	BM14	BM9	990.756m	L1 fixed	6.2	5.051	0.009m
B144	1LG2	BM12	4479.777m	L1 fixed	65.5	6.750	0.009m
B113	BM5	BM6	1847.260m	L1 fixed	18.6	5.397	0.009m
B147	BM3	BM6	1436.197m	L1 fixed	11.9	5.105	0.009m
B139	BM14	BM12	3196.742m	L1 fixed	25.2	6.480	0.009m
B124	1LH3	BM12	3805.088m	L1 fixed	11.6	6.067	0.009m
B79	1KI3	1JF2	15871.065m	Iono free fixed	14.4	0.679	0.009m
B25	1MI1	BM8	2408.426m	L1 fixed	10.5	6.518	0.009m
B29	1LH3	BM14	1125.496m	L1 fixed	14.3	4.084	0.009m
B14	1MI1	1LH3	4214.982m	L1 fixed	5.0	6.401	0.009m
B177	1MI1	RM130	4601.644m	L1 fixed	17.4	5.227	0.009m
B62	BM14	BM10	2172.929m	L1 fixed	31.4	5.578	0.009m
B148	BM9	BM13	1887.241m	L1 fixed	5.4	5.335	0.009m
B150	BM9	BM11	2094.739m	L1 fixed	48.0	6.384	0.009m
B19	1MI1	1LG2	4123.657m	L1 fixed	3.6	7.244	0.009m
B162	BM4	BM6	1664.322m	L1 fixed	10.9	5.585	0.009m
B93	1MI1	1KI3	7935.467m	Iono free fixed	7.5	0.787	0.010m
B171	1LG2	RM130	4617.845m	L1 fixed	40.0	5.450	0.010m
B123	1LH3	BM6	2661.762m	L1 fixed	20.6	6.262	0.010m

ID	From	To	Baseline Length	Solution Type	Ratio	Reference Variance	RMS
B33	1LH3	BM7	4341.368m	L1 fixed	11.0	5.627	0.010m
B158	BM8	BM13	2772.939m	L1 fixed	6.6	6.182	0.010m
B138	BM14	BM13	2267.006m	L1 fixed	4.8	6.343	0.010m
B117	1MI1	BM13	1488.218m	L1 fixed	9.3	4.984	0.010m
B64	BM14	BM8	4632.932m	L1 fixed	7.3	6.267	0.010m
B109	1MI1	RM3115	3253.855m	L1 fixed	42.8	7.083	0.010m
B88	1KI3	1LG2	10164.167m	Iono free fixed	12.0	0.838	0.010m
B75	BM9	BM8	3801.902m	L1 fixed	7.4	6.483	0.010m
B120	1MI1	BM11	1264.904m	L1 fixed	10.9	6.327	0.010m
B53	1JF2	BM10	14249.730m	Iono free fixed	10.7	0.578	0.010m
B140	BM14	BM11	2507.332m	L1 fixed	34.9	7.939	0.010m
B2	BM5	1LH3	4226.117m	L1 fixed	10.0	7.981	0.010m
B81	1JF2	1LG2	12491.610m	Iono free fixed	27.8	0.828	0.010m
B102	1LG2	RM3115	903.973m	L1 fixed	37.5	7.894	0.010m
B169	RM599	RM130	4422.111m	L1 fixed	1.7	7.552	0.011m
B39	1KI3	BM14	4868.707m	L1 fixed	7.3	6.037	0.011m
B44	1KI3	BM10	6826.683m	Iono free fixed	34.8	0.674	0.011m
B134	1JF2	BM12	15635.243m	Iono free fixed	12.6	0.962	0.011m
B161	BM8	BM11	2590.185m	L1 fixed	55.1	8.992	0.011m
B86	1MI1	1JF2	15687.109m	Iono free fixed	22.5	0.936	0.011m
B18	1MI1	BM14	3729.901m	L1 fixed	10.0	5.583	0.011m
B174	RM3111	RM130	1962.305m	L1 fixed	17.4	6.119	0.011m
B142	1LG2	BM13	4047.983m	L1 fixed	7.1	6.837	0.011m
B129	1KI3	BM12	7275.780m	Iono free fixed	58.6	0.910	0.011m
B178	1MI1	RM1105	1802.347m	L1 fixed	8.8	6.029	0.011m
B36	1LH3	BM8	4511.190m	L1 fixed	5.6	8.889	0.011m
B125	1LH3	BM11	2952.259m	L1 fixed	11.7	8.157	0.011m
B172	1LG2	RM1105	3485.081m	L1 fixed	8.3	6.456	0.011m
B122	1LH3	BM13	2741.964m	L1 fixed	10.7	6.045	0.011m
B20	1MI1	BM3	7775.006m	Iono free fixed	33.1	0.732	0.011m

ID	From	To	Baseline Length	Solution Type	Ratio	Reference Variance	RMS
B37	1KI3	1JF2	15871.067m	Iono free fixed	41.9	0.944	0.011m
B16	1MI1	1JF2	15687.115m	Iono free fixed	19.5	1.017	0.012m
B21	1MI1	BM9	3357.118m	L1 fixed	9.3	6.388	0.012m
B50	1JF2	BM3	8715.622m	Iono free fixed	17.8	0.736	0.012m
B55	1JF2	BM8	14085.188m	Iono free fixed	19.7	1.201	0.012m
B66	1LG2	BM9	4333.259m	L1 fixed	6.4	8.087	0.012m
B30	1LG2	1LH3	4790.892m	L1 fixed	97.2	10.035	0.012m
B65	1LG2	BM3	6249.604m	Iono free fixed	13.0	0.763	0.012m
B145	1LG2	BM11	3938.313m	L1 fixed	35.6	9.912	0.012m
B85	1JF2	ERM1	11291.096m	Iono free fixed	13.1	0.675	0.012m
B59	BM1	BM8	7487.836m	Iono free fixed	13.4	0.886	0.012m
B43	1KI3	BM7	9450.303m	Iono free fixed	11.5	0.834	0.012m
B116	1MI1	BM4	8166.576m	Iono free fixed	26.8	0.887	0.012m
B48	1JF2	BM14	13632.255m	Iono free fixed	10.8	0.866	0.012m
B49	1JF2	1LG2	12491.611m	Iono free fixed	11.5	1.259	0.012m
B72	BM3	BM8	7058.151m	Iono free fixed	14.0	0.911	0.012m
B17	1MI1	BM1	7938.465m	Iono free fixed	21.9	0.839	0.012m
B27	1LH3	1JF2	12522.479m	Iono free fixed	32.7	1.052	0.012m
B56	BM1	1LG2	6859.364m	Iono free fixed	15.1	0.898	0.012m
B15	1MI1	1KI3	7935.473m	Iono free fixed	10.1	1.191	0.012m
B26	1LH3	1KI3	5483.814m	Iono free fixed	7.2	1.227	0.013m
B108	1MI1	RM3111	5813.501m	Iono free fixed	60.5	0.922	0.013m
B131	1JF2	BM4	8513.626m	Iono free fixed	11.5	0.817	0.013m

ID	From	To	Baseline Length	Solution Type	Ratio	Reference Variance	RMS
B47	1JF2	BM1	9191.432m	Iono free fixed	15.6	0.779	0.013m
B41	1KI3	BM3	7579.503m	Iono free fixed	15.3	0.866	0.013m
B141	1LG2	BM4	6675.142m	Iono free fixed	11.8	0.937	0.013m
B42	1KI3	BM9	5831.643m	Iono free fixed	6.5	0.924	0.013m
B35	1LH3	BM2	3647.296m	L1 fixed	112.8	8.408	0.013m
B83	1JF2	RM3111	10083.911m	Iono free fixed	16.5	0.803	0.013m
B9	BM5	BM9	4906.219m	L1 fixed	6.6	8.738	0.013m
B38	1KI3	BM1	6850.560m	Iono free fixed	14.5	0.978	0.013m
B63	BM14	BM2	4690.090m	L1 fixed	35.8	10.278	0.013m
B92	1KI3	ERM1	6561.057m	Iono free fixed	126.7	0.756	0.013m
B51	1JF2	BM9	13111.105m	Iono free fixed	12.8	1.007	0.013m
B4	1JF2	BM5	8345.910m	Iono free fixed	8.6	1.368	0.013m
B126	1KI3	BM4	7614.655m	Iono free fixed	14.0	0.976	0.013m
B71	BM3	BM7	6618.070m	Iono free fixed	11.6	0.959	0.013m
B45	1KI3	BM2	7239.107m	Iono free fixed	69.5	0.928	0.014m
B157	BM8	BM4	7484.096m	Iono free fixed	11.4	1.074	0.014m
B118	1MI1	BM6	6741.396m	Iono free fixed	21.3	1.317	0.014m
B74	BM9	BM2	4392.431m	L1 fixed	50.1	10.044	0.014m
B130	1KI3	BM11	6984.994m	Iono free fixed	84.3	1.276	0.014m
B46	1KI3	BM8	9424.992m	Iono free fixed	4.2	1.592	0.014m
B1	1MI1	BM5	7926.267m	Iono free fixed	3.8	1.511	0.014m
B114	BM5	BM12	7707.075m	Iono free fixed	55.8	1.538	0.014m
B60	BM14	1LG2	5305.659m	Iono free fixed	7.0	1.105	0.014m

ID	From	To	Baseline Length	Solution Type	Ratio	Reference Variance	RMS
B135	1JF2	BM11	14719.543m	Iono free fixed	15.6	1.552	0.014m
B54	1JF2	BM2	9053.897m	Iono free fixed	116.0	1.005	0.014m
B11	BM5	BM10	6286.113m	Iono free fixed	37.0	1.255	0.014m
B58	BM1	BM7	7091.787m	Iono free fixed	10.3	0.995	0.014m
B175	RM3115	RM1105	2845.702m	L1 fixed	14.0	12.659	0.014m
B3	1KI3	BM5	8039.477m	Iono free fixed	4.7	1.661	0.015m
B90	1KI3	RM3111	7545.790m	Iono free fixed	95.7	1.009	0.015m
B40	1KI3	1LG2	10164.175m	Iono free fixed	11.1	1.667	0.015m
B156	BM2	BM11	6361.526m	Iono free fixed	48.9	1.487	0.015m
B159	BM8	BM6	6414.236m	Iono free fixed	15.5	1.588	0.015m
B52	1JF2	BM7	13517.836m	Iono free fixed	12.3	0.926	0.015m
B13	BM5	BM8	7068.778m	Iono free fixed	6.2	1.876	0.015m
B151	BM7	BM4	7046.020m	Iono free fixed	10.6	1.151	0.015m
B133	1JF2	BM6	10148.354m	Iono free fixed	15.6	1.446	0.015m
B152	BM7	BM6	6056.086m	Iono free fixed	10.9	1.355	0.015m
B143	1LG2	BM6	5965.793m	Iono free fixed	15.5	1.590	0.015m
B132	1JF2	BM13	14624.367m	Iono free fixed	12.7	1.370	0.015m
B7	1LG2	BM5	6148.149m	Iono free fixed	68.7	1.932	0.015m
B128	1KI3	BM6	6271.680m	Iono free fixed	13.0	1.686	0.016m
B78	BM2	BM8	6935.124m	Iono free fixed	67.8	1.296	0.016m
B98	RM599	ERM1	5098.593m	Iono free fixed	11.3	1.680	0.016m
B99	1MI1	RM599	6855.163m	Iono free fixed	1.6	1.658	0.016m

ID	From	To	Baseline Length	Solution Type	Ratio	Reference Variance	RMS
B168	1KI3	RM1105	7028.129m	Iono free fixed	9.0	2.914	0.024m
B166	1JF2	RM1105	14042.929m	Iono free fixed	6.2	3.039	0.025m
B170	RM599	RM1105	5759.452m	Iono free fixed	2.3	3.810	0.027m
B173	RM3106	RM1105	7714.984m	Iono free fixed	2.5	4.300	0.027m

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SECTION 2.2.2

NETWORK ADJUSTMENT REPORT

Network Adjustment Report

Project : 1686-1

User name	clint.fischer	**Date & Time**	9:47:39 AM 10/15/2007
Coordinate System	US State Plane 1983	**Zone**	Arizona Central 0202
Project Datum	NAD 1983 (Conus)		
Vertical Datum		**Geoid Model**	GEOID99 (Conus)
Coordinate Units	Meters		
Distance Units	Meters		
Height Units	Meters		

Adjustment Style Settings - 95% Confidence Limits

Residual Tolerances

To End Iterations : 0.000010m
Final Convergence Cutoff : 0.005000m

Covariance Display

Horizontal
Propagated Linear Error [E] : U.S.
Constant Term [C] : 0.00000000m
Scale on Linear Error [S] : 1.96

Three-Dimensional
Propagated Linear Error [E] : U.S.
Constant Term [C] : 0.00000000m
Scale on Linear Error [S] : 1.96

Elevation Errors were used in the calculations.

Adjustment Controls

Compute Correlations for Geoid : False

Horizontal and Vertical adjustment performed

Set-up Errors

GPS
Error in Height of Antenna : 0.002m
Centering Error : 0.002m

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Statistical Summary

Successful Adjustment in 1 iteration(s)

Network Reference Factor : 1.02
Chi Square Test (α=95%) : PASS
Degrees of Freedom : 455.00

GPS Observation Statistics

Reference Factor : 1.02
Redundancy Number (r) : 455.00

Individual GPS Observation Statistics

Observation ID	Reference Factor	Redundancy Number
B1	1.79	2.81
B2	2.31	2.75
B3	0.61	2.82
B4	0.35	2.75
B5	0.45	2.36
B6	1.15	2.77

Observation ID	Reference Factor	Redundancy Number
B7	1.59	2.82
B8	0.23	2.46
B9	0.54	2.69
B10	0.42	2.82
B11	1.01	2.80
B12	0.62	2.21
B13	0.67	2.74
B14	1.69	2.98
B15	1.73	2.96
B16	1.72	2.86
B17	2.01	2.75
B18	0.59	2.75
B19	2.29	2.99
B20	1.51	2.78
B21	0.76	2.78
B22	0.50	2.64
B23	0.56	2.66
B24	1.78	2.76
B25	0.95	2.75
B26	1.84	2.98
B27	1.57	2.92
B28	1.53	2.64
B29	1.59	2.74
B31	1.50	2.72
B32	1.53	2.73
B33	1.26	2.75
B34	0.82	2.74
B35	1.48	2.75
B36	1.68	2.80
B37	0.60	2.83
B38	0.71	2.84

Observation ID	Reference Factor	Redundancy Number
B39	1.40	2.70
B40	0.98	2.94
B41	0.68	2.82
B42	0.42	2.78
B43	0.58	2.73
B44	0.42	2.71
B45	0.20	2.64
B46	0.27	2.82
B47	0.65	2.63
B48	1.30	2.73
B49	1.50	2.90
B50	0.30	2.61
B51	0.52	2.76
B52	0.47	2.71
B53	1.07	2.66
B54	0.47	2.64
B55	0.63	2.72
B56	0.64	2.71
B57	0.44	2.24
B58	0.42	2.69
B59	0.83	2.61
B60	0.82	2.81
B61	0.38	2.53
B62	0.33	2.56
B63	0.55	2.56
B64	0.18	2.63
B65	1.19	2.76
B66	1.33	2.77
B67	1.65	2.43
B68	1.60	2.65
B69	0.84	2.77

Observation ID	Reference Factor	Redundancy Number
B70	1.78	2.70
B71	0.34	2.68
B72	0.65	2.59
B73	0.30	2.44
B74	0.70	2.56
B75	0.39	2.64
B76	0.44	2.25
B77	0.18	2.51
B78	0.52	2.68
B79	1.54	2.80
B81	0.89	2.88
B82	0.74	2.47
B83	0.97	2.51
B84	0.90	2.72
B85	0.97	2.57
B86	0.58	2.84
B87	1.98	2.05
B88	0.70	2.90
B89	0.54	2.41
B90	1.00	2.59
B91	0.37	2.70
B92	0.77	2.61
B93	2.27	2.93
B94	0.42	2.59
B95	0.35	2.47
B96	0.56	2.50
B97	0.42	2.65
B98	0.49	2.67
B99	1.45	2.60
B100	1.19	2.30
B101	1.11	2.17

Observation ID	Reference Factor	Redundancy Number
B102	1.55	2.19
B103	1.18	2.35
B104	2.35	2.98
B105	0.22	2.62
B106	0.59	2.33
B107	0.05	1.99
B108	1.25	2.60
B109	0.70	2.13
B110	1.27	2.30
B111	0.73	2.25
B112	0.82	2.75
B113	0.23	2.41
B114	0.75	2.79
B115	0.40	2.75
B116	1.28	2.74
B117	0.82	2.64
B118	1.36	2.78
B119	0.62	2.62
B120	0.96	2.62
B121	1.54	2.63
B122	1.31	2.74
B123	1.39	2.67
B124	1.13	2.77
B125	1.60	2.74
B126	0.72	2.86
B127	0.31	2.75
B128	0.96	2.85
B129	0.71	2.72
B130	0.68	2.71
B131	0.18	2.66
B132	0.66	2.73

Observation ID	Reference Factor	Redundancy Number
B133	0.77	2.72
B134	0.47	2.71
B135	0.84	2.73
B136	0.50	2.24
B137	0.59	2.34
B138	0.38	2.37
B139	0.32	2.53
B140	0.76	2.45
B141	1.17	2.71
B142	1.74	2.65
B143	1.08	2.77
B144	1.42	2.67
B145	1.39	2.67
B146	0.16	2.09
B147	0.36	2.36
B148	0.09	2.35
B149	0.35	2.45
B150	0.47	2.40
B151	0.26	2.75
B152	0.89	2.70
B153	0.27	2.52
B154	0.19	2.40
B155	0.33	2.73
B156	0.57	2.65
B157	0.91	2.65
B158	0.58	2.48
B159	0.30	2.71
B160	0.13	2.53
B161	0.36	2.54
B162	0.42	2.41
B163	0.18	2.63

Observation ID	Reference Factor	Redundancy Number
B164	0.33	2.20
B165	0.17	2.78
B166	1.06	2.69
B167	0.97	2.81
B168	0.43	2.68
B169	0.83	2.18
B171	0.94	2.30
B172	1.74	1.97
B174	0.18	2.19
B175	0.25	2.17
B176	0.22	2.16
B177	1.46	2.28
B178	1.35	1.93

Weighting Strategies

GPS Observations

User-defined Scalar Applied to All Observations

Scalar : 3.89

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Adjusted Coordinates

Adjustment performed in WGS-84

Number of Points : 26
Number of Constrained Points : 5
Horizontal and Height Only : 5

Adjusted Grid Coordinates

Errors are reported using 1.96σ.

Point Name	Northing	N error	Easting	E error	Elevation	e error	Fix
1MI1	318510.055m	0.000m	211728.189m	0.000m	N/A	N/A	N E h
BM5	311478.664m	0.002m	208076.066m	0.002m	N/A	N/A	
1LH3	314330.447m	0.000m	211192.168m	0.000m	N/A	N/A	N E h
1KI3	311890.346m	0.000m	216101.094m	0.000m	N/A	N/A	N E h
1JF2	307091.381m	0.000m	200978.480m	0.000m	N/A	N/A	N E h
BM1	310948.658m	0.002m	209318.926m	0.002m	N/A	N/A	
BM14	314812.354m	0.002m	212209.017m	0.002m	N/A	N/A	
1LG2	317613.401m	0.000m	207704.291m	0.000m	N/A	N/A	N E h
BM3	311421.972m	0.002m	208539.855m	0.002m	N/A	N/A	
BM9	315182.937m	0.002m	211290.603m	0.002m	N/A	N/A	
BM7	318027.590m	0.003m	208918.387m	0.003m	N/A	N/A	
BM10	316821.918m	0.002m	211383.587m	0.002m	N/A	N/A	
BM2	311515.826m	0.003m	208875.343m	0.002m	N/A	N/A	
BM8	318434.844m	0.002m	209322.421m	0.002m	N/A	N/A	
RM3106	310381.366m	0.006m	206855.956m	0.005m	N/A	N/A	
RM3111	313527.257m	0.003m	208738.645m	0.002m	N/A	N/A	
RM3115	318013.806m	0.005m	208513.903m	0.004m	N/A	N/A	
ERM1	314012.860m	0.003m	209895.936m	0.002m	N/A	N/A	
RM599	312338.626m	0.003m	214709.188m	0.003m	N/A	N/A	
BM4	310993.211m	0.002m	208543.161m	0.002m	N/A	N/A	
BM13	317022.846m	0.002m	211708.121m	0.002m	N/A	N/A	
BM6	312042.436m	0.003m	209834.256m	0.002m	N/A	N/A	
BM12	318007.845m	0.003m	212165.572m	0.002m	N/A	N/A	
BM11	317250.170m	0.002m	211624.999m	0.002m	N/A	N/A	
RM130	314042.889m	0.003m	210630.972m	0.003m	N/A	N/A	
RM1105	316822.943m	0.004m	211097.769m	0.003m	N/A	N/A	

Adjusted Geodetic Coordinates

Errors are reported using 1.96σ.

Point Name	Latitude	N error	Longitude	E error	Height	h error	Fix
1MI1	33°52'20.90614"N	0.000m	111°56'03.49916"W	0.000m	715.479m	0.000m	Lat Long h
BM5	33°48'32.62974"N	0.002m	111°58'25.46350"W	0.002m	567.239m	0.005m	
1LH3	33°50'05.23617"N	0.000m	111°56'24.32045"W	0.000m	668.868m	0.000m	Lat Long h
1KI3	33°48'46.02742"N	0.000m	111°53'13.40912"W	0.000m	758.001m	0.000m	Lat Long h
1JF2	33°46'10.00774"N	0.000m	112°03'01.22822"W	0.000m	497.382m	0.000m	Lat Long h
BM1	33°48'15.44580"N	0.002m	111°57'37.12667"W	0.002m	595.835m	0.004m	
BM14	33°50'20.88424"N	0.002m	111°55'44.77114"W	0.002m	668.855m	0.006m	
1LG2	33°51'51.75156"N	0.000m	111°58'40.06151"W	0.000m	674.784m	0.000m	Lat Long h
BM3	33°48'30.79754"N	0.002m	111°58'07.42813"W	0.002m	574.211m	0.005m	
BM9	33°50'32.90803"N	0.002m	111°56'20.49891"W	0.002m	649.293m	0.006m	
BM7	33°52'05.21666"N	0.003m	111°57'52.82904"W	0.003m	640.123m	0.005m	
BM10	33°51'26.10862"N	0.002m	111°56'16.89509"W	0.002m	665.144m	0.005m	
BM2	33°48'33.84927"N	0.003m	111°57'54.38461"W	0.002m	580.479m	0.006m	
BM8	33°52'18.44157"N	0.002m	111°57'37.11424"W	0.002m	646.698m	0.004m	
RM3106	33°47'56.98763"N	0.006m	111°59'12.87778"W	0.005m	553.130m	0.010m	
RM3111	33°49'39.13685"N	0.003m	111°57'59.73801"W	0.002m	583.091m	0.005m	
RM3115	33°52'04.76284"N	0.005m	111°58'08.56776"W	0.004m	642.641m	0.008m	
ERM1	33°49'54.91510"N	0.003m	111°57'14.73448"W	0.002m	614.321m	0.005m	
RM599	33°49'00.58798"N	0.003m	111°54'07.53267"W	0.003m	735.017m	0.009m	
BM4	33°48'16.88027"N	0.002m	111°58'07.29118"W	0.002m	578.780m	0.004m	
BM13	33°51'32.63259"N	0.002m	111°56'04.27002"W	0.002m	674.576m	0.004m	
BM6	33°48'50.95578"N	0.003m	111°57'17.10516"W	0.002m	611.907m	0.005m	
BM12	33°52'04.60697"N	0.003m	111°55'46.47666"W	0.002m	711.981m	0.005m	
BM11	33°51'40.01085"N	0.002m	111°56'07.50568"W	0.002m	678.687m	0.005m	
RM130	33°49'55.89757"N	0.003m	111°56'46.14565"W	0.003m	631.790m	0.006m	
RM1105	33°51'26.13982"N	0.004m	111°56'28.01525"W	0.003m	657.794m	0.007m	

Coordinate Deltas

Point Name	ΔNorthing	ΔEasting	ΔElevation	ΔHeight	ΔGeoid Separation
1MI1	0.000m	0.000m	N/A	0.000m	N/A
BM5	0.000m	0.000m	N/A	0.000m	N/A
1LH3	0.000m	0.000m	N/A	0.000m	N/A
1KI3	0.000m	0.000m	N/A	0.000m	N/A
1JF2	0.000m	0.000m	N/A	0.000m	N/A
BM1	0.000m	0.000m	N/A	0.000m	N/A
BM14	0.000m	0.000m	N/A	0.000m	N/A
1LG2	0.000m	0.000m	N/A	0.000m	N/A
BM3	0.000m	0.000m	N/A	0.000m	N/A
BM9	0.000m	0.000m	N/A	0.000m	N/A
BM7	0.000m	0.000m	N/A	0.000m	N/A
BM10	0.000m	0.000m	N/A	0.000m	N/A
BM2	0.000m	0.000m	N/A	0.000m	N/A
BM8	0.000m	0.000m	N/A	0.000m	N/A
RM3106	0.000m	0.000m	N/A	0.000m	N/A
RM3111	0.000m	0.000m	N/A	0.000m	N/A
RM3115	0.000m	0.000m	N/A	0.000m	N/A
ERM1	0.000m	0.000m	N/A	0.000m	N/A
RM599	0.000m	0.000m	N/A	0.000m	N/A
BM4	0.000m	0.000m	N/A	0.000m	N/A
BM13	0.000m	0.000m	N/A	0.000m	N/A
BM6	0.000m	0.000m	N/A	0.000m	N/A
BM12	0.000m	0.000m	N/A	0.000m	N/A
BM11	0.000m	0.000m	N/A	0.000m	N/A
RM130	0.000m	0.000m	N/A	0.000m	N/A
RM1105	0.000m	0.000m	N/A	0.000m	N/A

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Control Coordinate Comparisons

Values shown are control coord minus adjusted coord.

Point Name	ΔNorthing	ΔEasting	ΔElevation	ΔHeight
1MI1	N/A	N/A	N/A	N/A
1LH3	N/A	N/A	N/A	N/A
1KI3	N/A	N/A	N/A	N/A
1JF2	N/A	N/A	N/A	N/A
1LG2	N/A	N/A	N/A	N/A

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Adjusted Observations

Adjustment performed in WGS-84

GPS Observations

GPS Transformation Group: <GPS Default>

Deflection in Longitude : 0°00'00.2424" **(1.96σ)** : 0°00'00.0751"
Deflection in Latitude : 0°00'00.3153" **(1.96σ)** : 0°00'00.0873"
Azimuth Rotation : 0°00'00.1181" **(1.96σ)** : 0°00'00.0174"
Network Scale : 0.99999963 **(1.96σ)** : 0.00000009
Number of Observations : 174
Number of Outliers : 0

Observation Adjustment (Critical Tau = 3.87). Any outliers are in red.

Obs. ID	From Pt.	To Pt.		Observation	A-posteriori Error (1.96σ)	Residual	Stand. Residual
B93	1MI1	1KI3	Az.	146°32'30.8331"	0°00'00.0174"	-0°00'00.0897"	-1.28
			ΔHt.	42.507m	0.004m	-0.011m	-1.06
			Dist.	7934.443m	0.001m	0.009m	3.24

Obs. ID	From Pt.	To Pt.		Observation	A-posteriori Error (1.96σ)	Residual	Stand. Residual
B17	1MI1	BM1	**Az.**	197°39'48.5195"	0°00'00.0532"	-0°00'00.2818"	-2.97
			ΔHt.	-119.652m	0.004m	0.010m	1.30
			Dist.	7936.738m	0.002m	-0.007m	-1.66
B19	1MI1	1LG2	**Az.**	257°25'41.1437"	0°00'00.0174"	-0°00'00.3443"	-2.58
			ΔHt.	-40.691m	0.001m	0.001m	0.08
			Dist.	4123.000m	0.000m	-0.007m	-2.88
B2	BM5	1LH3	**Az.**	47°30'15.3420"	0°00'00.0793"	-0°00'00.3591"	-2.86
			ΔHt.	101.630m	0.005m	-0.020m	-1.97
			Dist.	4224.489m	0.002m	0.005m	1.94
B16	1MI1	1JF2	**Az.**	223°15'42.4133"	0°00'00.0174"	-0°00'00.0124"	-0.32
			ΔHt.	-218.102m	0.005m	-0.006m	-0.47
			Dist.	15684.101m	0.001m	-0.008m	-2.84
B15	1MI1	1KI3	**Az.**	146°32'30.8331"	0°00'00.0174"	-0°00'00.2273"	-2.80
			ΔHt.	42.507m	0.004m	0.012m	0.74
			Dist.	7934.443m	0.001m	0.003m	0.87
B87	1KI3	RM599	**Az.**	287°52'05.7686"	0°00'00.4365"	0°00'00.4700"	1.55
			ΔHt.	-22.982m	0.009m	-0.007m	-1.09
			Dist.	1462.458m	0.003m	0.006m	2.80
B70	1LG2	BM8	**Az.**	63°03'04.9941"	0°00'00.1822"	-0°00'00.7478"	-2.80
			ΔHt.	-28.086m	0.004m	0.001m	0.15
			Dist.	1814.874m	0.002m	-0.002m	-0.96
B1	1MI1	BM5	**Az.**	207°26'15.7241"	0°00'00.0427"	-0°00'00.0960"	-1.25
			ΔHt.	-148.247m	0.005m	-0.002m	-0.18
			Dist.	7924.074m	0.002m	-0.008m	-2.72
B36	1LH3	BM8	**Az.**	335°29'43.7088"	0°00'00.0723"	-0°00'00.0239"	-0.20
			ΔHt.	-22.161m	0.004m	0.018m	1.46
			Dist.	4510.662m	0.002m	-0.007m	-2.59

Obs. ID	From Pt.	To Pt.		Observation	A-posteriori Error (1.96σ)	Residual	Stand. Residual
B142	1LG2	BM13	Az.	98°21'23.2523"	0°00'00.1028"	-0°00'00.1896"	-1.22
			ΔHt.	-0.214m	0.004m	-0.014m	-2.56
			Dist.	4047.551m	0.002m	-0.004m	-1.29
B49	1JF2	1LG2	Az.	32°30'46.4187"	0°00'00.0174"	0°00'00.1111"	2.52
			ΔHt.	177.410m	0.004m	0.007m	0.61
			Dist.	12489.203m	0.001m	0.000m	-0.02
B104	1MI1	1LG2	Az.	257°25'41.1437"	0°00'00.0174"	-0°00'00.2501"	-2.05
			ΔHt.	-40.691m	0.001m	-0.017m	-2.51
			Dist.	4123.000m	0.000m	-0.005m	-2.05
B27	1LH3	1JF2	Az.	234°39'34.1544"	0°00'00.0174"	-0°00'00.1231"	-2.49
			ΔHt.	-171.485m	0.004m	0.011m	0.78
			Dist.	12520.164m	0.001m	0.002m	0.78
B35	1LH3	BM2	Az.	219°26'46.0547"	0°00'00.1405"	-0°00'00.1049"	-0.44
			ΔHt.	-88.391m	0.006m	0.002m	0.14
			Dist.	3645.876m	0.003m	0.010m	2.46
B14	1MI1	1LH3	Az.	187°17'53.9001"	0°00'00.0174"	-0°00'00.0783"	-0.60
			ΔHt.	-46.617m	0.002m	-0.014m	-1.52
			Dist.	4214.259m	0.000m	-0.006m	-2.30
B32	1LH3	BM9	Az.	6°34'25.0750"	0°00'00.4188"	0°00'00.2571"	0.40
			ΔHt.	-19.574m	0.006m	0.017m	1.37
			Dist.	858.239m	0.002m	-0.006m	-2.28
B66	1LG2	BM9	Az.	124°05'30.1028"	0°00'00.0905"	-0°00'00.0598"	-0.41
			ΔHt.	-25.499m	0.006m	-0.009m	-0.66
			Dist.	4332.728m	0.002m	-0.006m	-2.23
B125	1LH3	BM11	Az.	8°25'09.5373"	0°00'00.1461"	0°00'00.0905"	0.38
			ΔHt.	9.823m	0.005m	0.020m	2.21
			Dist.	2951.925m	0.002m	-0.005m	-1.44

Obs. ID	From Pt.	To Pt.		Observation	A-posteriori Error (1.96σ)	Residual	Stand. Residual
B172	1LG2	RM1105	**Az.**	103°04'41.9760"	0°00'00.2572"	-0°00'00.0912"	-0.51
			ΔHt.	-16.995m	0.007m	0.010m	2.20
			Dist.	3484.672m	0.003m	-0.004m	-1.55
B26	1LH3	1KI3	**Az.**	116°25'04.0036"	0°00'00.0174"	0°00'00.2619"	2.20
			ΔHt.	89.124m	0.002m	0.024m	1.46
			Dist.	5482.484m	0.000m	0.007m	2.11
B67	1LG2	BM7	**Az.**	71°07'43.9856"	0°00'00.4894"	-0°00'00.8641"	-1.56
			ΔHt.	-34.662m	0.005m	-0.011m	-2.16
			Dist.	1282.930m	0.003m	-0.002m	-0.62
B68	1LG2	BM10	**Az.**	102°06'22.7641"	0°00'00.1384"	-0°00'00.1859"	-0.89
			ΔHt.	-9.645m	0.005m	-0.009m	-1.27
			Dist.	3763.840m	0.002m	-0.007m	-2.12
B39	1KI3	BM14	**Az.**	306°54'51.0833"	0°00'00.0847"	0°00'00.0776"	0.65
			ΔHt.	-89.137m	0.007m	-0.015m	-1.24
			Dist.	4867.351m	0.002m	0.006m	2.11
B108	1MI1	RM3111	**Az.**	210°57'10.1628"	0°00'00.0898"	-0°00'00.2380"	-2.09
			ΔHt.	-132.392m	0.005m	0.002m	0.29
			Dist.	5811.399m	0.003m	-0.001m	-0.20
B24	1MI1	BM2	**Az.**	202°10'48.1912"	0°00'00.0668"	-0°00'00.2132"	-1.81
			ΔHt.	-135.007m	0.006m	-0.002m	-0.15
			Dist.	7554.424m	0.003m	-0.009m	-2.09
B99	1MI1	RM599	**Az.**	154°12'29.3903"	0°00'00.0864"	-0°00'00.0817"	-0.82
			ΔHt.	19.525m	0.008m	-0.006m	-0.34
			Dist.	6854.360m	0.003m	0.007m	2.04
B33	1LH3	BM7	**Az.**	328°23'42.1266"	0°00'00.1615"	0°00'00.0890"	0.31
			ΔHt.	-28.737m	0.005m	0.020m	2.04
			Dist.	4340.818m	0.003m	-0.009m	-1.46

Obs. ID	From Pt.	To Pt.		Observation	A-posteriori Error (1.96σ)	Residual	Stand. Residual
B20	1MI1	BM3	**Az.**	204°12'33.1052"	0°00'00.0513"	-0°00'00.1236"	-1.51
			ΔHt.	-141.275m	0.005m	0.008m	0.48
			Dist.	7772.928m	0.002m	-0.007m	-2.00
B145	1LG2	BM11	**Az.**	95°15'32.3488"	0°00'00.1194"	-0°00'00.2184"	-1.19
			ΔHt.	3.898m	0.005m	-0.013m	-1.98
			Dist.	3937.889m	0.002m	-0.004m	-1.13
B118	1MI1	BM6	**Az.**	196°18'43.1674"	0°00'00.0722"	-0°00'00.2997"	-1.97
			ΔHt.	-103.579m	0.005m	0.002m	0.23
			Dist.	6739.890m	0.003m	-0.007m	-1.27
B123	1LH3	BM6	**Az.**	210°40'32.5893"	0°00'00.1785"	-0°00'00.5178"	-1.32
			ΔHt.	-56.963m	0.005m	0.015m	1.95
			Dist.	2660.889m	0.003m	0.005m	1.23
B28	1LH3	BM1	**Az.**	208°58'11.8479"	0°00'00.1066"	-0°00'00.1890"	-0.97
			ΔHt.	-73.036m	0.004m	0.011m	1.80
			Dist.	3866.330m	0.002m	0.006m	1.88
B7	1LG2	BM5	**Az.**	176°29'52.8679"	0°00'00.0548"	0°00'00.1786"	1.87
			ΔHt.	-107.555m	0.005m	-0.011m	-0.79
			Dist.	6146.602m	0.002m	-0.006m	-1.79
B178	1MI1	RM1105	**Az.**	200°28'45.4709"	0°00'00.3648"	-0°00'00.4919"	-1.87
			ΔHt.	-57.687m	0.007m	-0.005m	-1.19
			Dist.	1801.228m	0.004m	0.000m	-0.15
B6	BM5	BM14	**Az.**	51°04'41.5023"	0°00'00.0892"	0°00'00.0750"	0.54
			ΔHt.	101.617m	0.007m	0.039m	1.85
			Dist.	5310.404m	0.002m	0.001m	0.33
B29	1LH3	BM14	**Az.**	64°37'46.9613"	0°00'00.3434"	0°00'00.9908"	1.83
			ΔHt.	-0.013m	0.006m	0.022m	1.62
			Dist.	1125.375m	0.002m	-0.003m	-1.13

Obs. ID	From Pt.	To Pt.		Observation	A-posteriori Error (1.96σ)	Residual	Stand. Residual
B103	1LG2	ERM1	**Az.**	148°38'13.7695"	0°00'00.1261"	0°00'00.0539"	0.42
			ΔHt.	-60.471m	0.005m	0.009m	1.83
			Dist.	4215.535m	0.003m	-0.001m	-0.51
B31	1LH3	BM3	**Az.**	222°20'58.1646"	0°00'00.1006"	-0°00'00.2754"	-1.79
			ΔHt.	-94.658m	0.005m	0.010m	0.84
			Dist.	3936.632m	0.002m	0.004m	1.48
B121	1LH3	BM4	**Az.**	218°25'42.9358"	0°00'00.0973"	-0°00'00.2915"	-1.79
			ΔHt.	-90.090m	0.004m	0.009m	1.64
			Dist.	4261.220m	0.002m	0.004m	1.39
B102	1LG2	RM3115	**Az.**	63°39'02.2069"	0°00'00.9136"	-0°00'00.8566"	-1.08
			ΔHt.	-32.143m	0.008m	0.011m	1.74
			Dist.	903.304m	0.005m	-0.004m	-0.93
B79	1KI3	1JF2	**Az.**	252°24'37.2939"	0°00'00.0174"	0°00'00.0579"	1.72
			ΔHt.	-260.608m	0.005m	0.012m	1.27
			Dist.	15867.370m	0.001m	0.003m	1.29
B48	1JF2	BM14	**Az.**	55°25'02.0542"	0°00'00.0313"	0°00'00.0295"	0.65
			ΔHt.	171.472m	0.007m	0.026m	1.72
			Dist.	13629.936m	0.002m	0.004m	1.14
B101	1LG2	RM3111	**Az.**	165°45'38.5010"	0°00'00.1243"	0°00'00.1181"	1.03
			ΔHt.	-91.701m	0.005m	0.006m	1.69
			Dist.	4215.447m	0.003m	0.000m	-0.04
B167	1KI3	RM130	**Az.**	291°29'47.7536"	0°00'00.1040"	0°00'00.0181"	0.09
			ΔHt.	-126.201m	0.007m	-0.002m	-0.15
			Dist.	5878.993m	0.003m	0.009m	1.65
B116	1MI1	BM4	**Az.**	202°57'12.6100"	0°00'00.0513"	-0°00'00.1162"	-1.32
			ΔHt.	-136.707m	0.004m	0.005m	0.62
			Dist.	8164.595m	0.002m	-0.006m	-1.65

Obs. ID	From Pt.	To Pt.		Observation	A-posteriori Error (1.96σ)	Residual	Stand. Residual
B25	1MI1	BM8	**Az.**	268°11'58.3567"	0°00'00.1452"	-0°00'00.0009"	0.00
			ΔHt.	-68.778m	0.004m	0.002m	0.17
			Dist.	2407.182m	0.002m	-0.004m	-1.62
B120	1MI1	BM11	**Az.**	184°40'21.0671"	0°00'00.3463"	-0°00'00.7630"	-1.58
			ΔHt.	-36.794m	0.005m	0.001m	0.20
			Dist.	1264.230m	0.002m	0.000m	-0.14
B100	1LG2	RM3106	**Az.**	186°39'22.8720"	0°00'00.1215"	0°00'00.1326"	1.19
			ΔHt.	-121.664m	0.010m	0.014m	1.57
			Dist.	7282.343m	0.006m	0.001m	0.20
B144	1LG2	BM12	**Az.**	84°54'47.9184"	0°00'00.1189"	-0°00'00.2143"	-1.20
			ΔHt.	37.193m	0.006m	-0.007m	-0.91
			Dist.	4479.131m	0.002m	-0.005m	-1.57
B40	1KI3	1LG2	**Az.**	304°17'37.9992"	0°00'00.0174"	0°00'00.0342"	0.51
			ΔHt.	-83.198m	0.005m	0.003m	0.21
			Dist.	10162.688m	0.001m	-0.005m	-1.55
B122	1LH3	BM13	**Az.**	10°50'06.8464"	0°00'00.1392"	0°00'00.0239"	0.10
			ΔHt.	5.711m	0.004m	0.011m	1.48
			Dist.	2741.663m	0.002m	-0.005m	-1.53
B177	1MI1	RM130	**Az.**	193°47'23.6859"	0°00'00.1205"	-0°00'00.1791"	-1.53
			ΔHt.	-83.695m	0.006m	-0.005m	-1.09
			Dist.	4600.399m	0.003m	0.004m	1.29
B171	1LG2	RM130	**Az.**	140°37'30.5609"	0°00'00.1262"	-0°00'00.0017"	-0.01
			ΔHt.	-43.003m	0.006m	0.008m	1.52
			Dist.	4617.170m	0.003m	-0.001m	-0.27
B141	1LG2	BM4	**Az.**	172°44'39.5230"	0°00'00.0654"	0°00'00.1455"	1.46
			ΔHt.	-96.015m	0.004m	-0.002m	-0.27
			Dist.	6673.789m	0.002m	-0.004m	-1.07

Obs. ID	From Pt.	To Pt.		Observation	A-posteriori Error (1.96σ)	Residual	Stand. Residual
B128	1KI3	BM6	**Az.**	271°24'24.2891"	0°00'00.0977"	0°00'00.2059"	0.78
			ΔHt.	-146.086m	0.006m	-0.017m	-1.44
			Dist.	6269.308m	0.003m	0.002m	0.38
B11	BM5	BM10	**Az.**	31°43'34.1044"	0°00'00.0840"	0°00'00.0772"	0.49
			ΔHt.	97.910m	0.006m	0.017m	1.44
			Dist.	6284.736m	0.003m	-0.006m	-1.00
B135	1JF2	BM11	**Az.**	46°16'06.8970"	0°00'00.0331"	-0°00'00.0292"	-0.52
			ΔHt.	181.308m	0.006m	-0.012m	-1.43
			Dist.	14717.072m	0.002m	0.001m	0.26
B65	1LG2	BM3	**Az.**	172°16'48.2683"	0°00'00.0665"	0°00'00.1105"	1.16
			ΔHt.	-100.584m	0.005m	-0.007m	-0.47
			Dist.	6248.176m	0.002m	-0.004m	-1.38
B152	BM7	BM6	**Az.**	171°16'23.4696"	0°00'00.1257"	0°00'00.0772"	0.38
			ΔHt.	-28.226m	0.007m	-0.014m	-1.35
			Dist.	6055.425m	0.004m	0.001m	0.18
B85	1JF2	ERM1	**Az.**	52°06'29.0691"	0°00'00.0506"	0°00'00.0495"	0.79
			ΔHt.	116.939m	0.006m	-0.002m	-0.23
			Dist.	11289.511m	0.003m	0.005m	1.34
B143	1LG2	BM6	**Az.**	159°02'32.9043"	0°00'00.0944"	0°00'00.1023"	0.62
			ΔHt.	-62.888m	0.005m	-0.013m	-1.34
			Dist.	5964.853m	0.003m	-0.005m	-1.01
B59	BM1	BM8	**Az.**	0°00'08.9199"	0°00'00.0659"	-0°00'00.0329"	-0.38
			ΔHt.	50.875m	0.005m	-0.009m	-1.32
			Dist.	7486.931m	0.003m	0.000m	0.01
B112	BM5	BM13	**Az.**	33°11'51.0522"	0°00'00.0717"	-0°00'00.0202"	-0.17
			ΔHt.	107.342m	0.006m	0.013m	1.32
			Dist.	6628.614m	0.002m	0.001m	0.14

Obs. ID	From Pt.	To Pt.		Observation	A-posteriori Error (1.96σ)	Residual	Stand. Residual
B140	BM14	BM11	**Az.**	346°31'15.1451"	0°00'00.2107"	-0°00'00.0451"	-0.18
			ΔHt.	9.836m	0.007m	0.008m	1.31
			Dist.	2507.046m	0.003m	-0.001m	-0.23
B69	1LG2	BM2	**Az.**	169°05'40.4958"	0°00'00.0801"	0°00'00.0496"	0.34
			ΔHt.	-94.316m	0.006m	-0.013m	-1.29
			Dist.	6209.625m	0.003m	-0.004m	-0.90
B21	1MI1	BM9	**Az.**	187°28'58.0589"	0°00'00.1097"	-0°00'00.2298"	-1.27
			ΔHt.	-66.191m	0.006m	0.000m	-0.01
			Dist.	3356.105m	0.002m	0.000m	-0.02
B53	1JF2	BM10	**Az.**	46°50'39.9763"	0°00'00.0344"	0°00'00.0564"	1.16
			ΔHt.	167.765m	0.006m	0.010m	1.25
			Dist.	14247.447m	0.003m	0.002m	0.41
B110	1MI1	ERM1	**Az.**	202°09'26.0551"	0°00'00.1071"	-0°00'00.1333"	-1.25
			ΔHt.	-101.162m	0.005m	-0.005m	-1.13
			Dist.	4856.605m	0.003m	0.003m	1.05
B166	1JF2	RM1105	**Az.**	46°02'40.6734"	0°00'00.0510"	0°00'00.0569"	0.74
			ΔHt.	160.415m	0.008m	-0.014m	-1.23
			Dist.	14040.736m	0.004m	-0.005m	-0.71
B83	1JF2	RM3111	**Az.**	50°15'18.5300"	0°00'00.0558"	0°00'00.0427"	0.65
			ΔHt.	85.710m	0.006m	-0.009m	-1.22
			Dist.	10082.695m	0.003m	0.003m	0.85
B81	1JF2	1LG2	**Az.**	32°30'46.4187"	0°00'00.0174"	0°00'00.0508"	1.21
			ΔHt.	177.410m	0.004m	-0.007m	-0.71
			Dist.	12489.203m	0.001m	0.001m	0.41
B111	BM5	BM4	**Az.**	136°04'20.5870"	0°00'00.7867"	-0°00'00.2382"	-0.32
			ΔHt.	11.540m	0.005m	-0.004m	-1.21
			Dist.	673.745m	0.002m	0.000m	0.19

Obs. ID	From Pt.	To Pt.		Observation	A-posteriori Error (1.96σ)	Residual	Stand. Residual
B124	1LH3	BM12	**Az.**	14°48'47.1975"	0°00'00.1237"	0°00'00.2294"	0.90
			ΔHt.	43.118m	0.005m	0.011m	1.19
			Dist.	3804.425m	0.003m	-0.005m	-1.00
B84	1JF2	RM3115	**Az.**	34°31'39.3494"	0°00'00.0527"	0°00'00.0555"	0.64
			ΔHt.	145.268m	0.008m	-0.015m	-1.19
			Dist.	13270.897m	0.005m	-0.001m	-0.08
B157	BM8	BM4	**Az.**	185°57'13.5045"	0°00'00.0647"	0°00'00.0739"	0.83
			ΔHt.	-67.929m	0.005m	0.009m	1.18
			Dist.	7483.066m	0.003m	0.000m	-0.10
B92	1KI3	ERM1	**Az.**	288°54'00.3139"	0°00'00.0867"	0°00'00.0684"	0.60
			ΔHt.	-143.669m	0.006m	-0.003m	-0.40
			Dist.	6558.782m	0.003m	0.004m	1.18
B90	1KI3	RM3111	**Az.**	282°33'04.8020"	0°00'00.0755"	0°00'00.0714"	0.72
			ΔHt.	-174.899m	0.006m	-0.009m	-1.11
			Dist.	7542.974m	0.003m	0.004m	1.16
B34	1LH3	BM10	**Az.**	4°22'49.3724"	0°00'00.1841"	0°00'00.0662"	0.20
			ΔHt.	-3.720m	0.005m	0.009m	1.16
			Dist.	2499.062m	0.002m	-0.003m	-0.60
B133	1JF2	BM6	**Az.**	60°43'01.8289"	0°00'00.0550"	0°00'00.0200"	0.22
			ΔHt.	114.522m	0.006m	-0.010m	-1.13
			Dist.	10146.825m	0.003m	-0.001m	-0.18
B117	1MI1	BM13	**Az.**	180°45'47.8345"	0°00'00.2629"	-0°00'00.4350"	-1.13
			ΔHt.	-40.905m	0.004m	-0.004m	-0.79
			Dist.	1487.493m	0.002m	0.000m	-0.15
B114	BM5	BM12	**Az.**	32°01'44.2001"	0°00'00.0710"	-0°00'00.0730"	-0.56
			ΔHt.	144.748m	0.007m	0.014m	1.11
			Dist.	7704.938m	0.003m	-0.003m	-0.50

Obs. ID	From Pt.	To Pt.		Observation	A-posteriori Error (1.96σ)	Residual	Stand. Residual
B130	1KI3	BM11	**Az.**	320°09'02.1069"	0°00'00.0663"	-0°00'00.0158"	-0.14
			ΔHt.	-79.301m	0.006m	-0.009m	-1.11
			Dist.	6983.757m	0.002m	0.001m	0.33
B169	RM599	RM130	**Az.**	292°41'16.4905"	0°00'00.1776"	0°00'00.1093"	0.73
			ΔHt.	-103.219m	0.009m	-0.005m	-0.65
			Dist.	4420.436m	0.003m	0.003m	1.10
B82	1JF2	RM3106	**Az.**	60°41'14.2342"	0°00'00.1464"	0°00'00.0451"	0.27
			ΔHt.	55.746m	0.010m	-0.012m	-1.06
			Dist.	6736.295m	0.006m	0.000m	0.03
B129	1KI3	BM12	**Az.**	327°15'44.7942"	0°00'00.0742"	-0°00'00.0116"	-0.09
			ΔHt.	-46.006m	0.006m	-0.010m	-1.05
			Dist.	7274.796m	0.002m	0.002m	0.55
B18	1MI1	BM14	**Az.**	172°34'52.8695"	0°00'00.1021"	-0°00'00.1514"	-0.98
			ΔHt.	-46.630m	0.006m	0.005m	0.36
			Dist.	3729.204m	0.002m	0.001m	0.20
B43	1KI3	BM7	**Az.**	310°31'43.1324"	0°00'00.0802"	0°00'00.0421"	0.28
			ΔHt.	-117.860m	0.006m	-0.003m	-0.32
			Dist.	9448.536m	0.003m	0.004m	0.98
B38	1KI3	BM1	**Az.**	262°06'41.9843"	0°00'00.0713"	0°00'00.1706"	0.85
			ΔHt.	-162.159m	0.005m	-0.010m	-0.97
			Dist.	6847.913m	0.002m	-0.001m	-0.14
B132	1JF2	BM13	**Az.**	47°08'16.8329"	0°00'00.0298"	0°00'00.0105"	0.21
			ΔHt.	177.197m	0.005m	0.008m	0.97
			Dist.	14621.952m	0.002m	0.001m	0.36
B88	1KI3	1LG2	**Az.**	304°17'37.9992"	0°00'00.0174"	0°00'00.0271"	0.48
			ΔHt.	-83.198m	0.005m	0.005m	0.46
			Dist.	10162.688m	0.001m	0.003m	0.97

Obs. ID	From Pt.	To Pt.		Observation	A-posteriori Error (1.96σ)	Residual	Stand. Residual
B106	1MI1	RM3106	Az.	210°55'41.3565"	0°00'00.0851"	-0°00'00.0777"	-0.95
			ΔHt.	-162.356m	0.010m	-0.002m	-0.17
			Dist.	9477.979m	0.006m	0.000m	-0.02
B72	BM3	BM8	Az.	6°20'18.0030"	0°00'00.0661"	0°00'00.0397"	0.45
			ΔHt.	72.498m	0.006m	-0.006m	-0.94
			Dist.	7057.101m	0.003m	0.000m	-0.11
B12	BM5	BM2	Az.	87°18'22.6813"	0°00'00.7544"	-0°00'00.3426"	-0.50
			ΔHt.	13.239m	0.006m	-0.001m	-0.14
			Dist.	800.221m	0.003m	-0.002m	-0.89
B156	BM2	BM11	Az.	25°35'27.9053"	0°00'00.0976"	-0°00'00.0486"	-0.38
			ΔHt.	98.214m	0.007m	-0.010m	-0.89
			Dist.	6360.138m	0.003m	0.000m	0.06
B119	1MI1	BM12	Az.	138°56'13.3588"	0°00'00.8129"	-0°00'00.5158"	-0.49
			ΔHt.	-3.499m	0.005m	-0.001m	-0.10
			Dist.	666.039m	0.002m	0.003m	0.88
B3	1KI3	BM5	Az.	267°04'47.3687"	0°00'00.0465"	0°00'00.0722"	0.87
			ΔHt.	-190.753m	0.005m	-0.008m	-0.48
			Dist.	8036.381m	0.002m	0.001m	0.42
B126	1KI3	BM4	Az.	263°14'49.6002"	0°00'00.0630"	0°00'00.1685"	0.86
			ΔHt.	-179.214m	0.005m	-0.003m	-0.26
			Dist.	7611.751m	0.002m	0.002m	0.28
B56	BM1	1LG2	Az.	346°21'26.4114"	0°00'00.0660"	0°00'00.0304"	0.30
			ΔHt.	78.961m	0.005m	0.004m	0.58
			Dist.	6858.221m	0.002m	-0.003m	-0.86
B55	1JF2	BM8	Az.	36°15'46.2249"	0°00'00.0256"	0°00'00.0241"	0.65
			ΔHt.	149.324m	0.005m	0.009m	0.85
			Dist.	14083.134m	0.002m	0.000m	0.18

Obs. ID	From Pt.	To Pt.		Observation	A-posteriori Error (1.96σ)	Residual	Stand. Residual
B96	RM599	RM3111	**Az.**	281°16'03.1011"	0°00'00.1282"	0°00'00.0278"	0.19
			ΔHt.	-151.917m	0.009m	-0.004m	-0.35
			Dist.	6088.317m	0.003m	0.003m	0.85
B63	BM14	BM2	**Az.**	225°18'50.7967"	0°00'00.1280"	-0°00'00.0099"	-0.06
			ΔHt.	-88.377m	0.008m	0.005m	0.60
			Dist.	4688.801m	0.003m	0.003m	0.83
B13	BM5	BM8	**Az.**	10°07'34.6567"	0°00'00.0579"	0°00'00.0660"	0.80
			ΔHt.	79.469m	0.006m	0.013m	0.82
			Dist.	7067.656m	0.002m	-0.001m	-0.32
B136	BM1	BM4	**Az.**	273°15'45.7375"	0°00'00.7683"	-0°00'00.0593"	-0.09
			ΔHt.	-17.054m	0.005m	0.000m	-0.02
			Dist.	777.121m	0.003m	-0.002m	-0.82
B60	BM14	1LG2	**Az.**	301°51'59.4985"	0°00'00.0758"	-0°00'00.0893"	-0.66
			ΔHt.	5.939m	0.006m	-0.014m	-0.78
			Dist.	5305.094m	0.002m	-0.003m	-0.80
B9	BM5	BM9	**Az.**	40°55'10.0032"	0°00'00.0928"	-0°00'00.0979"	-0.80
			ΔHt.	82.056m	0.007m	-0.005m	-0.31
			Dist.	4905.066m	0.002m	0.001m	0.47
B74	BM9	BM2	**Az.**	213°21'27.2932"	0°00'00.1323"	0°00'00.1171"	0.71
			ΔHt.	-68.816m	0.007m	-0.001m	-0.07
			Dist.	4391.471m	0.003m	0.003m	0.80
B86	1MI1	1JF2	**Az.**	223°15'42.4133"	0°00'00.0174"	-0°00'00.0274"	-0.80
			ΔHt.	-218.102m	0.005m	-0.002m	-0.16
			Dist.	15684.101m	0.001m	-0.001m	-0.49
B51	1JF2	BM9	**Az.**	51°48'20.4029"	0°00'00.0317"	0°00'00.0097"	0.20
			ΔHt.	151.911m	0.006m	0.013m	0.79
			Dist.	13109.048m	0.002m	0.001m	0.27

Obs. ID	From Pt.	To Pt.		Observation	A-posteriori Error (1.96σ)	Residual	Stand. Residual
B41	1KI3	BM3	**Az.**	266°28'18.8578"	0°00'00.0605"	0°00'00.1362"	0.78
			ΔHt.	-183.782m	0.006m	-0.005m	-0.51
			Dist.	7576.486m	0.002m	0.002m	0.31
B98	RM599	ERM1	**Az.**	289°11'16.0148"	0°00'00.1554"	0°00'00.0624"	0.28
			ΔHt.	-120.687m	0.009m	-0.004m	-0.26
			Dist.	5096.630m	0.003m	0.004m	0.78
B23	1MI1	BM10	**Az.**	191°31'39.1625"	0°00'00.2675"	-0°00'00.2080"	-0.48
			ΔHt.	-50.336m	0.005m	-0.005m	-0.78
			Dist.	1723.122m	0.003m	-0.001m	-0.15
B47	1JF2	BM1	**Az.**	65°06'22.2534"	0°00'00.0526"	0°00'00.0391"	0.51
			ΔHt.	98.450m	0.005m	-0.001m	-0.21
			Dist.	9190.120m	0.002m	0.003m	0.77
B52	1JF2	BM7	**Az.**	35°54'21.8057"	0°00'00.0390"	0°00'00.0458"	0.76
			ΔHt.	142.748m	0.006m	0.003m	0.28
			Dist.	13515.874m	0.004m	-0.002m	-0.37
B137	BM1	BM6	**Az.**	25°12'10.9056"	0°00'00.4589"	0°00'00.2396"	0.55
			ΔHt.	16.073m	0.005m	0.004m	0.75
			Dist.	1209.217m	0.004m	0.001m	0.24
B89	1KI3	RM3106	**Az.**	260°44'47.4129"	0°00'00.1208"	0°00'00.0921"	0.75
			ΔHt.	-204.863m	0.010m	-0.005m	-0.50
			Dist.	9368.408m	0.005m	0.001m	0.22
B37	1KI3	1JF2	**Az.**	252°24'37.2939"	0°00'00.0174"	0°00'00.0266"	0.74
			ΔHt.	-260.608m	0.005m	-0.008m	-0.68
			Dist.	15867.370m	0.001m	0.001m	0.29
B158	BM8	BM13	**Az.**	120°35'42.9276"	0°00'00.1773"	-0°00'00.0132"	-0.06
			ΔHt.	27.873m	0.005m	-0.004m	-0.74
			Dist.	2772.513m	0.002m	0.002m	0.61

Obs. ID	From Pt.	To Pt.		Observation	A-posteriori Error (1.96σ)	Residual	Stand. Residual
B134	1JF2	BM12	**Az.**	45°37'37.7086"	0°00'00.0329"	-0°00'00.0072"	-0.14
			ΔHt.	214.603m	0.006m	0.001m	0.13
			Dist.	15632.292m	0.003m	0.003m	0.74
B5	BM5	BM1	**Az.**	113°03'49.1327"	0°00'00.4115"	-0°00'00.0290"	-0.07
			ΔHt.	28.595m	0.005m	-0.003m	-0.74
			Dist.	1351.286m	0.002m	-0.001m	-0.37
B109	1MI1	RM3115	**Az.**	261°12'49.2688"	0°00'00.2933"	-0°00'00.1189"	-0.50
			ΔHt.	-72.834m	0.008m	-0.004m	-0.70
			Dist.	3252.692m	0.004m	-0.002m	-0.47
B57	BM1	BM3	**Az.**	301°15'21.5053"	0°00'00.6575"	0°00'00.1216"	0.20
			ΔHt.	-21.623m	0.005m	0.000m	0.07
			Dist.	911.671m	0.002m	-0.002m	-0.70
B150	BM9	BM11	**Az.**	9°10'34.1414"	0°00'00.2450"	-0°00'00.1117"	-0.42
			ΔHt.	29.397m	0.006m	0.004m	0.68
			Dist.	2094.313m	0.003m	0.000m	-0.14
B58	BM1	BM7	**Az.**	356°44'14.1895"	0°00'00.0962"	-0°00'00.0219"	-0.14
			ΔHt.	44.299m	0.006m	0.006m	0.66
			Dist.	7090.960m	0.004m	0.000m	0.04
B138	BM14	BM13	**Az.**	347°13'31.8824"	0°00'00.2169"	0°00'00.0282"	0.11
			ΔHt.	5.725m	0.006m	0.003m	0.64
			Dist.	2266.759m	0.002m	0.000m	0.04
B76	BM7	BM8	**Az.**	44°44'45.5084"	0°00'00.9801"	-0°00'00.6075"	-0.63
			ΔHt.	6.576m	0.006m	0.001m	0.25
			Dist.	573.729m	0.004m	0.001m	0.18
B54	1JF2	BM2	**Az.**	60°39'52.9920"	0°00'00.0625"	0°00'00.0224"	0.24
			ΔHt.	83.094m	0.007m	-0.003m	-0.35
			Dist.	9052.753m	0.003m	0.002m	0.63

Obs. ID	From Pt.	To Pt.		Observation	A-posteriori Error (1.96σ)	Residual	Stand. Residual
B162	BM4	BM6	**Az.**	50°52'17.7796"	0°00'00.3538"	-0°00'00.0597"	-0.17
			ΔHt.	33.128m	0.005m	0.003m	0.63
			Dist.	1663.836m	0.003m	-0.001m	-0.24
B61	BM14	BM9	**Az.**	291°58'02.4043"	0°00'00.5108"	0°00'00.1079"	0.20
			ΔHt.	-19.561m	0.007m	-0.006m	-0.59
			Dist.	990.460m	0.002m	0.000m	-0.16
B161	BM8	BM11	**Az.**	117°12'05.3272"	0°00'00.2071"	-0°00'00.0242"	-0.09
			ΔHt.	31.984m	0.006m	0.000m	-0.08
			Dist.	2589.720m	0.002m	0.002m	0.58
B115	BM5	BM11	**Az.**	31°33'21.1135"	0°00'00.0767"	-0°00'00.0271"	-0.21
			ΔHt.	111.453m	0.006m	-0.005m	-0.44
			Dist.	6776.012m	0.003m	0.003m	0.56
B149	BM9	BM12	**Az.**	17°11'49.5366"	0°00'00.1846"	0°00'00.1204"	0.56
			ΔHt.	62.692m	0.007m	-0.001m	-0.21
			Dist.	2957.604m	0.003m	0.000m	0.12
B95	RM599	RM3106	**Az.**	256°00'48.3816"	0°00'00.1489"	0°00'00.0490"	0.25
			ΔHt.	-181.881m	0.012m	-0.001m	-0.04
			Dist.	8094.267m	0.006m	-0.004m	-0.56
B42	1KI3	BM9	**Az.**	304°24'23.7742"	0°00'00.0694"	-0°00'00.0193"	-0.17
			ΔHt.	-108.698m	0.006m	0.008m	0.53
			Dist.	5829.987m	0.002m	0.001m	0.39
B164	BM13	BM11	**Az.**	339°54'17.7365"	0°00'02.1788"	0°00'00.0167"	0.01
			ΔHt.	4.112m	0.005m	0.002m	0.53
			Dist.	242.068m	0.003m	0.000m	0.14
B168	1KI3	RM1105	**Az.**	314°36'31.1745"	0°00'00.1280"	-0°00'00.0621"	-0.32
			ΔHt.	-100.194m	0.008m	-0.006m	-0.53
			Dist.	7026.635m	0.003m	0.002m	0.36

Obs. ID	From Pt.	To Pt.		Observation	A-posteriori Error (1.96σ)	Residual	Stand. Residual
B75	BM9	BM8	**Az.**	328°48'12.9645"	0°00'00.1209"	-0°00'00.0121"	-0.08
			ΔHt.	-2.587m	0.006m	0.007m	0.52
			Dist.	3801.515m	0.002m	0.001m	0.28
B10	BM5	BM7	**Az.**	7°17'50.5733"	0°00'00.0907"	0°00'00.0984"	0.52
			ΔHt.	72.893m	0.006m	0.006m	0.49
			Dist.	6603.529m	0.004m	-0.001m	-0.18
B147	BM3	BM6	**Az.**	64°21'38.1197"	0°00'00.4270"	-0°00'00.1013"	-0.23
			ΔHt.	37.696m	0.006m	0.003m	0.52
			Dist.	1435.569m	0.003m	0.000m	0.00
B78	BM2	BM8	**Az.**	3°40'12.4739"	0°00'00.0792"	-0°00'00.0604"	-0.50
			ΔHt.	66.230m	0.007m	-0.004m	-0.41
			Dist.	6934.136m	0.003m	-0.002m	-0.46
B44	1KI3	BM10	**Az.**	316°17'14.6714"	0°00'00.0777"	-0°00'00.0433"	-0.33
			ΔHt.	-92.843m	0.006m	-0.003m	-0.36
			Dist.	6825.287m	0.002m	-0.002m	-0.50
B71	BM3	BM7	**Az.**	3°15'02.7304"	0°00'00.0967"	0°00'00.0730"	0.50
			ΔHt.	65.922m	0.006m	0.002m	0.18
			Dist.	6617.112m	0.004m	0.002m	0.34
B94	1LG2	RM599	**Az.**	126°56'46.2695"	0°00'00.0721"	0°00'00.0253"	0.30
			ΔHt.	60.217m	0.009m	0.008m	0.49
			Dist.	8769.672m	0.003m	-0.001m	-0.37
B4	1JF2	BM5	**Az.**	58°12'14.1820"	0°00'00.0465"	-0°00'00.0335"	-0.49
			ΔHt.	69.855m	0.005m	-0.005m	-0.38
			Dist.	8344.921m	0.002m	0.000m	0.12
B127	1KI3	BM13	**Az.**	319°27'21.1109"	0°00'00.0621"	-0°00'00.0212"	-0.18
			ΔHt.	-83.412m	0.005m	0.004m	0.48
			Dist.	6756.468m	0.002m	0.000m	0.13

Obs. ID	From Pt.	To Pt.		Observation	A-posteriori Error (1.96σ)	Residual	Stand. Residual
B159	BM8	BM6	Az.	175°23'52.3398"	0°00'00.0893"	0°00'00.0090"	0.07
			ΔHt.	-34.801m	0.006m	-0.002m	-0.17
			Dist.	6413.504m	0.003m	-0.002m	-0.46
B91	1KI3	RM3115	Az.	308°55'21.9601"	0°00'00.1119"	0°00'00.0710"	0.41
			ΔHt.	-115.341m	0.008m	-0.005m	-0.40
			Dist.	9750.957m	0.003m	0.002m	0.46
B139	BM14	BM12	Az.	359°12'51.0397"	0°00'00.1788"	0°00'00.1084"	0.46
			ΔHt.	43.131m	0.007m	0.001m	0.09
			Dist.	3196.105m	0.003m	0.001m	0.33
B153	BM10	BM13	Az.	58°13'30.7855"	0°00'01.4687"	0°00'00.0649"	0.04
			ΔHt.	9.431m	0.006m	0.003m	0.45
			Dist.	381.737m	0.003m	0.000m	-0.06
B50	1JF2	BM3	Az.	60°07'29.4305"	0°00'00.0518"	0°00'00.0115"	0.15
			ΔHt.	76.827m	0.005m	-0.003m	-0.45
			Dist.	8714.551m	0.002m	0.000m	0.05
B151	BM7	BM4	Az.	183°01'35.9904"	0°00'00.0929"	0°00'00.0703"	0.45
			ΔHt.	-61.353m	0.006m	0.001m	0.11
			Dist.	7045.080m	0.004m	0.002m	0.27
B97	RM599	RM3115	Az.	312°29'57.5805"	0°00'00.1456"	0°00'00.1120"	0.41
			ΔHt.	-92.359m	0.011m	-0.001m	-0.05
			Dist.	8402.576m	0.004m	-0.002m	-0.43
B155	BM2	BM13	Az.	27°11'38.6726"	0°00'00.0959"	-0°00'00.0386"	-0.27
			ΔHt.	94.102m	0.007m	0.005m	0.42
			Dist.	6193.507m	0.003m	-0.001m	-0.21
B62	BM14	BM10	Az.	337°39'45.5733"	0°00'00.2709"	0°00'00.1610"	0.41
			ΔHt.	-3.706m	0.007m	0.001m	0.13
			Dist.	2172.699m	0.003m	0.001m	0.40

Obs. ID	From Pt.	To Pt.		Observation	A-posteriori Error (1.96σ)	Residual	Stand. Residual
B22	1MI1	BM7	**Az.**	260°14'49.4919"	0°00'00.2354"	-0°00'00.0999"	-0.33
			ΔHt.	-75.354m	0.005m	-0.002m	-0.25
			Dist.	2851.206m	0.003m	-0.002m	-0.41
B73	BM9	BM10	**Az.**	3°14'04.7601"	0°00'00.3307"	0°00'00.1627"	0.41
			ΔHt.	15.855m	0.006m	-0.002m	-0.26
			Dist.	1641.780m	0.003m	0.001m	0.25
B46	1KI3	BM8	**Az.**	314°00'34.3862"	0°00'00.0382"	0°00'00.0199"	0.29
			ΔHt.	-111.285m	0.005m	-0.001m	-0.10
			Dist.	9423.297m	0.002m	0.001m	0.38
B176	ERM1	RM130	**Az.**	87°38'23.0868"	0°00'00.9817"	0°00'00.0243"	0.03
			ΔHt.	17.468m	0.007m	0.001m	0.09
			Dist.	735.723m	0.003m	0.001m	0.35
B105	RM3106	RM3115	**Az.**	12°12'59.4905"	0°00'00.1358"	0°00'00.0162"	0.09
			ΔHt.	89.522m	0.012m	0.000m	-0.02
			Dist.	7811.212m	0.008m	0.004m	0.35
B175	RM3115	RM1105	**Az.**	114°42'54.3012"	0°00'00.4649"	-0°00'00.0851"	-0.20
			ΔHt.	15.148m	0.009m	0.000m	0.01
			Dist.	2845.371m	0.004m	-0.001m	-0.34
B8	BM5	BM3	**Az.**	96°56'14.3685"	0°00'01.0970"	-0°00'00.0095"	-0.01
			ΔHt.	6.972m	0.006m	-0.003m	-0.31
			Dist.	467.288m	0.002m	0.000m	-0.21
B45	1KI3	BM2	**Az.**	267°02'58.0042"	0°00'00.0774"	0°00'00.0172"	0.15
			ΔHt.	-177.514m	0.006m	-0.001m	-0.07
			Dist.	7236.171m	0.002m	-0.001m	-0.30
B64	BM14	BM8	**Az.**	321°26'36.1285"	0°00'00.1019"	0°00'00.0148"	0.12
			ΔHt.	-22.148m	0.007m	0.000m	-0.03
			Dist.	4632.401m	0.002m	0.001m	0.29

Obs. ID	From Pt.	To Pt.		Observation	A-posteriori Error (1.96σ)	Residual	Stand. Residual
B154	BM10	BM12	Az.	33°23'18.5194"	0°00'00.4151"	0°00'00.1195"	0.29
			ΔHt.	46.838m	0.006m	0.000m	-0.07
			Dist.	1420.678m	0.003m	0.000m	-0.11
B113	BM5	BM6	Az.	72°11'22.5092"	0°00'00.3282"	0°00'00.0247"	0.07
			ΔHt.	44.667m	0.006m	0.001m	0.26
			Dist.	1846.550m	0.003m	0.001m	0.28
B165	1JF2	RM130	Az.	54°09'54.3628"	0°00'00.0514"	-0°00'00.0229"	-0.25
			ΔHt.	134.407m	0.007m	-0.002m	-0.12
			Dist.	11896.304m	0.003m	0.001m	0.13
B174	RM3111	RM130	Az.	74°43'48.0294"	0°00'00.3622"	0°00'00.0186"	0.06
			ΔHt.	48.698m	0.007m	0.001m	0.13
			Dist.	1961.515m	0.003m	0.001m	0.25
B131	1JF2	BM4	Az.	62°38'28.3734"	0°00'00.0558"	0°00'00.0013"	0.02
			ΔHt.	81.395m	0.005m	-0.001m	-0.17
			Dist.	8512.518m	0.002m	-0.001m	-0.23
B77	BM10	BM8	Az.	308°01'56.6637"	0°00'00.2244"	0°00'00.0445"	0.16
			ΔHt.	-18.441m	0.006m	0.001m	0.22
			Dist.	2617.499m	0.002m	0.000m	-0.06
B160	BM8	BM12	Az.	98°31'00.6512"	0°00'00.2104"	0°00'00.0565"	0.21
			ΔHt.	65.279m	0.006m	0.001m	0.08
			Dist.	2875.323m	0.003m	0.000m	-0.08
B146	BM3	BM4	Az.	179°31'45.7681"	0°00'01.1962"	-0°00'00.2212"	-0.21
			ΔHt.	4.568m	0.005m	-0.001m	-0.17
			Dist.	428.817m	0.003m	0.000m	0.06
B163	BM13	BM12	Az.	24°54'04.0248"	0°00'00.5174"	0°00'00.1192"	0.18
			ΔHt.	37.407m	0.006m	-0.001m	-0.08
			Dist.	1086.149m	0.003m	-0.001m	-0.20

Obs. ID	From Pt.	To Pt.		Observation	A-posteriori Error (1.96σ)	Residual	Stand. Residual
B148	BM9	BM13	**Az.**	12°46'22.0278"	0°00'00.2504"	-0°00'00.0308"	-0.11
			ΔHt.	25.286m	0.006m	0.001m	0.11
			Dist.	1886.875m	0.002m	0.000m	-0.05
B107	RM3111	ERM1	**Az.**	67°12'32.9768"	0°00'00.5341"	-0°00'00.0288"	-0.07
			ΔHt.	31.230m	0.006m	0.000m	0.04
			Dist.	1255.167m	0.003m	0.000m	-0.02

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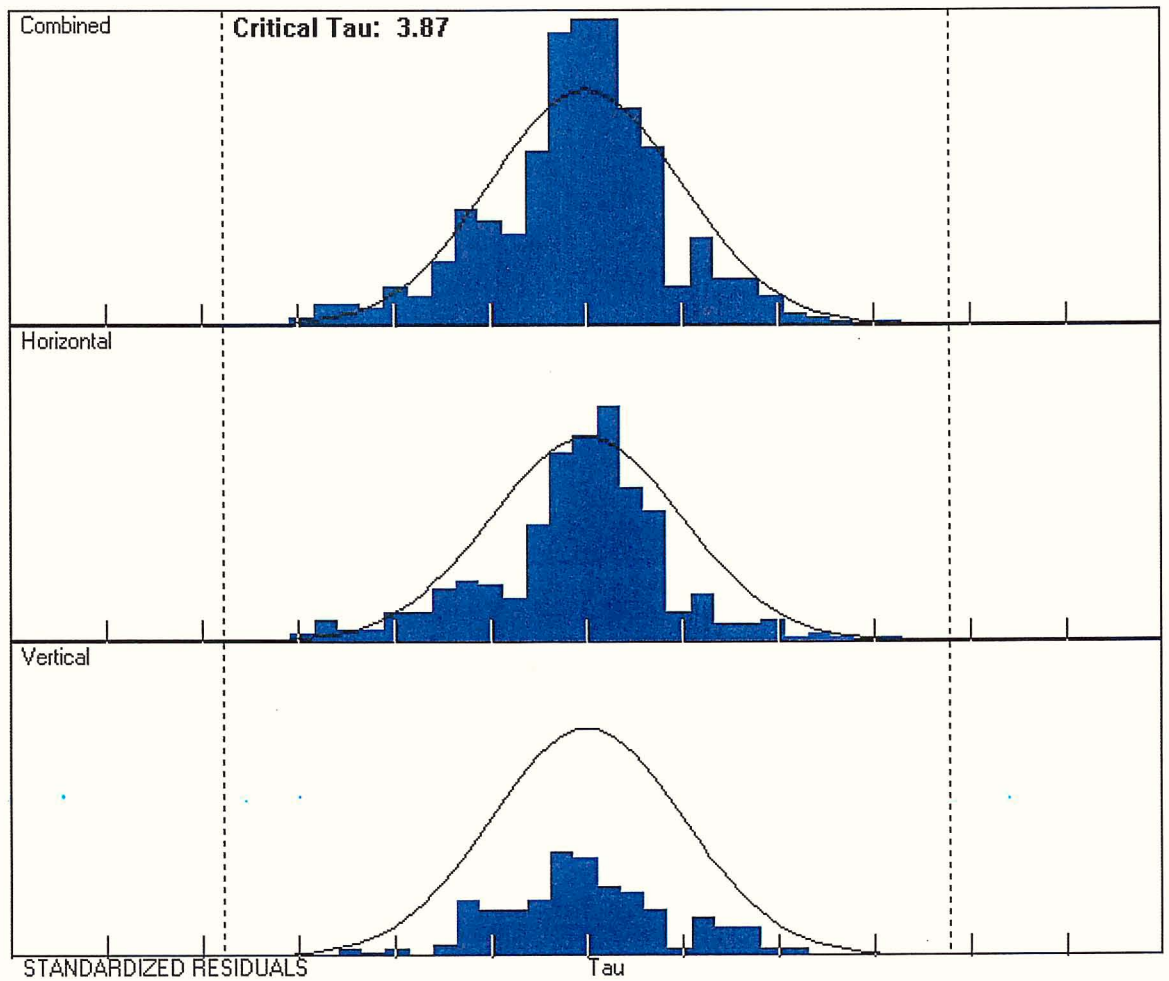
Histograms of Standardized Residuals



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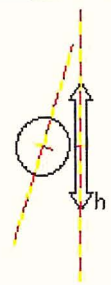
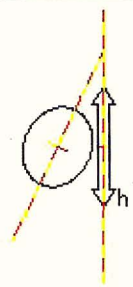
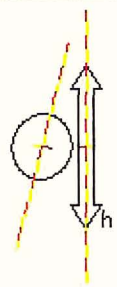
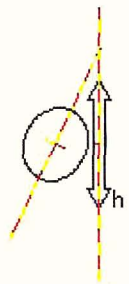
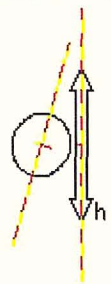
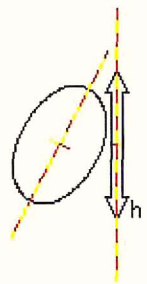
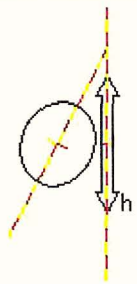
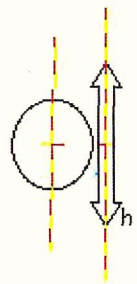
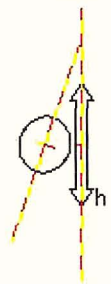
Point Error Ellipses

BM5	BM1	BM14
 73°	 64°	 75°
Tick Size: 0.0010m Horizontal Bivariate Scalar: 2.45σ Vertical Univariate Scalar: 1.96σ		
BM3	**BM9**	**BM7**
 64°	 74°	 61°
Tick Size: 0.0010m Horizontal Bivariate Scalar: 2.45σ Vertical Univariate Scalar: 1.96σ		
BM10	**BM2**	**BM8**
 62°	 88°	 71°
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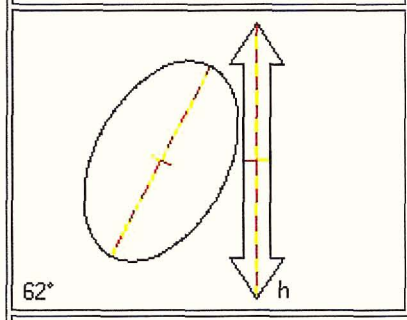
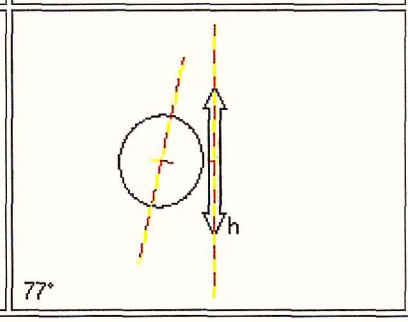
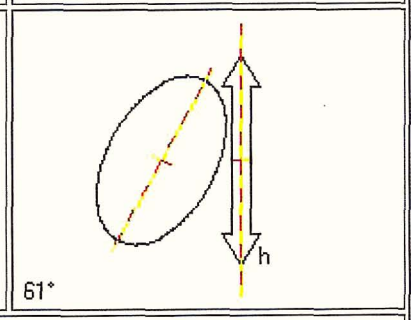
RM3106	RM3111	RM3115
		
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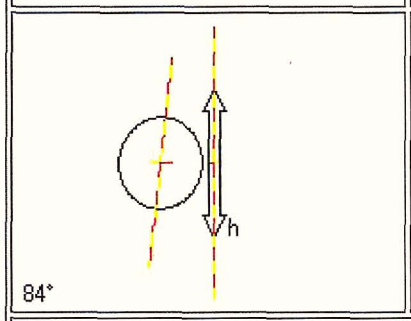
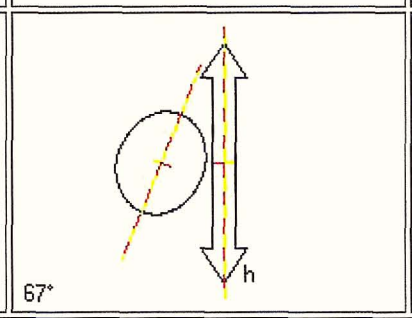
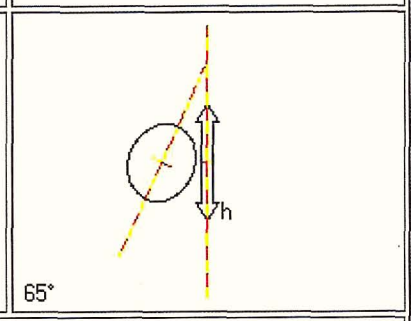
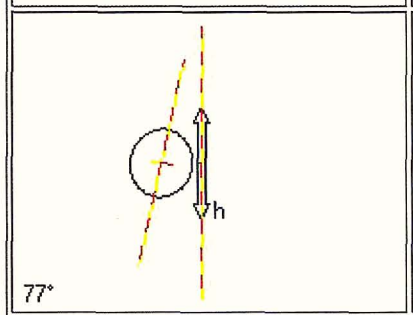
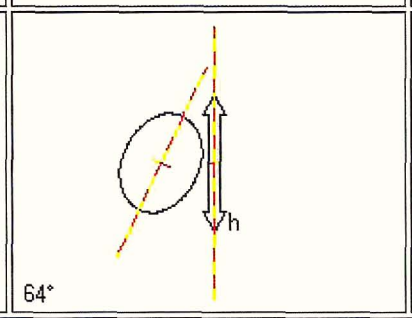
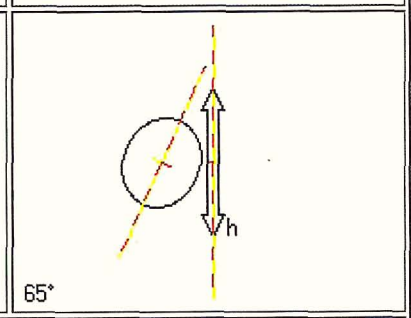
ERM1	**RM599**	**BM4**
		
Tick Size: 0.0010m Horizontal Bivariate Scalar: 2.45σ Vertical Univariate Scalar: 1.96σ		
BM13	**BM6**	**BM12**
		
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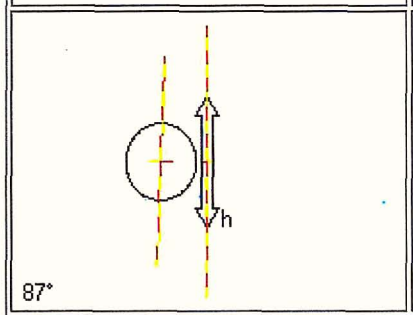
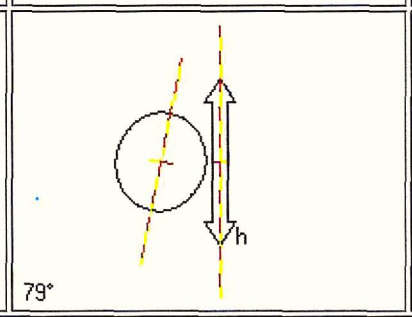
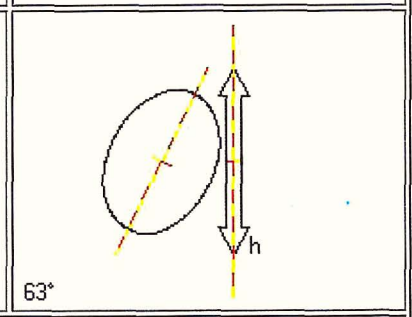
BM11	**RM130**	**RM1105**
		
Tick Size: 0.0010m Horizontal Bivariate Scalar: 2.45σ Vertical Univariate Scalar: 1.96σ		

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Covariant Terms

Adjustment performed in WGS-84

From Point	To Point		Components	A-posteriori Error (1.96σ)	Horiz. Precision (Ratio)	3D Precision (Ratio)
1MI1	BM5	**Az.**	207°26'15.6063"	0°00'00.0416"	1:4556669	1:4556669
		ΔHt.	-148.240m	0.005m		
		ΔElev.	?	?		
		Dist.	7924.077m	0.002m		
1MI1	1LH3	**Az.**	187°17'53.7821"	0°00'00.0000"	1:0	1:0
		ΔHt.	-46.611m	0.000m		
		ΔElev.	?	?		
		Dist.	4214.261m	0.000m		
1MI1	1KI3	**Az.**	146°32'30.7150"	0°00'00.0000"	1:0	1:0
		ΔHt.	42.522m	0.000m		
		ΔElev.	?	?		
		Dist.	7934.446m	0.000m		
1MI1	1JF2	**Az.**	223°15'42.2957"	0°00'00.0000"	1:0	1:0
		ΔHt.	-218.097m	0.000m		
		ΔElev.	?	?		
		Dist.	15684.106m	0.000m		
1MI1	BM1	**Az.**	197°39'48.4016"	0°00'00.0524"	1:3289893	1:3289893
		ΔHt.	-119.644m	0.004m		
		ΔElev.	?	?		
		Dist.	7936.741m	0.002m		
1MI1	BM14	**Az.**	172°34'52.7515"	0°00'00.1002"	1:1936472	1:1936472
		ΔHt.	-46.624m	0.006m		
		ΔElev.	?	?		
		Dist.	3729.205m	0.002m		

From Point	To Point		Components	A-posteriori Error (1.96σ)	Horiz. Precision (Ratio)	3D Precision (Ratio)
1MI1	1LG2	**Az.**	257°25'41.0258"	0°00'00.0000"	1:0	1:0
		ΔHt.	-40.695m	0.000m		
		ΔElev.	?	?		
		Dist.	4123.001m	0.000m		
1MI1	BM3	**Az.**	204°12'32.9873"	0°00'00.0503"	1:3498902	1:3498902
		ΔHt.	-141.268m	0.005m		
		ΔElev.	?	?		
		Dist.	7772.931m	0.002m		
1MI1	BM9	**Az.**	187°28'57.9409"	0°00'00.1072"	1:1774698	1:1774698
		ΔHt.	-66.186m	0.006m		
		ΔElev.	?	?		
		Dist.	3356.106m	0.002m		
1MI1	BM7	**Az.**	260°14'49.3739"	0°00'00.2345"	1:964225	1:964225
		ΔHt.	-75.356m	0.005m		
		ΔElev.	?	?		
		Dist.	2851.208m	0.003m		
1MI1	BM10	**Az.**	191°31'39.0445"	0°00'00.2648"	1:683679	1:683679
		ΔHt.	-50.335m	0.005m		
		ΔElev.	?	?		
		Dist.	1723.123m	0.003m		
1MI1	BM2	**Az.**	202°10'48.0733"	0°00'00.0659"	1:2870241	1:2870241
		ΔHt.	-135.000m	0.006m		
		ΔElev.	?	?		
		Dist.	7554.427m	0.003m		
1MI1	BM8	**Az.**	268°11'58.2387"	0°00'00.1437"	1:1548746	1:1548746
		ΔHt.	-68.781m	0.004m		
		ΔElev.	?	?		
		Dist.	2407.183m	0.002m		

From Point	To Point		Components	A-posteriori Error (1.96σ)	Horiz. Precision (Ratio)	3D Precision (Ratio)
1MI1	RM3106	Az.	210°55'41.2387"	0°00'00.0853"	1:1524833	1:1524833
		ΔHt.	-162.349m	0.010m		
		ΔElev.	?	?		
		Dist.	9477.983m	0.006m		
1MI1	RM3111	Az.	210°57'10.0449"	0°00'00.0888"	1:2173791	1:2173791
		ΔHt.	-132.388m	0.005m		
		ΔElev.	?	?		
		Dist.	5811.402m	0.003m		
1MI1	RM3115	Az.	261°12'49.1508"	0°00'00.2930"	1:786960	1:786960
		ΔHt.	-72.838m	0.008m		
		ΔElev.	?	?		
		Dist.	3252.693m	0.004m		
1MI1	ERM1	Az.	202°09'25.9371"	0°00'00.1061"	1:1810741	1:1810741
		ΔHt.	-101.158m	0.005m		
		ΔElev.	?	?		
		Dist.	4856.607m	0.003m		
1MI1	RM599	Az.	154°12'29.2723"	0°00'00.0866"	1:2431066	1:2431066
		ΔHt.	19.538m	0.009m		
		ΔElev.	?	?		
		Dist.	6854.363m	0.003m		
1MI1	BM4	Az.	202°57'12.4921"	0°00'00.0505"	1:3476486	1:3476486
		ΔHt.	-136.699m	0.004m		
		ΔElev.	?	?		
		Dist.	8164.598m	0.002m		
1MI1	BM13	Az.	180°45'47.7165"	0°00'00.2601"	1:739824	1:739824
		ΔHt.	-40.903m	0.004m		
		ΔElev.	?	?		
		Dist.	1487.493m	0.002m		

From Point	To Point		Components	A-posteriori Error (1.96σ)	Horiz. Precision (Ratio)	3D Precision (Ratio)
1MI1	BM6	Az.	196°18'43.0495"	0°00'00.0710"	1:2242003	1:2242003
		ΔHt.	-103.572m	0.005m		
		ΔElev.	?	?		
		Dist.	6739.893m	0.003m		
1MI1	BM12	Az.	138°56'13.2407"	0°00'00.8121"	1:281145	1:281145
		ΔHt.	-3.498m	0.005m		
		ΔElev.	?	?		
		Dist.	666.040m	0.002m		
1MI1	BM11	Az.	184°40'20.9491"	0°00'00.3437"	1:554999	1:554999
		ΔHt.	-36.792m	0.005m		
		ΔElev.	?	?		
		Dist.	1264.230m	0.002m		
1MI1	RM130	Az.	193°47'23.5680"	0°00'00.1198"	1:1581023	1:1581023
		ΔHt.	-83.689m	0.006m		
		ΔElev.	?	?		
		Dist.	4600.401m	0.003m		
1MI1	RM1105	Az.	200°28'45.3529"	0°00'00.3638"	1:409932	1:409932
		ΔHt.	-57.685m	0.007m		
		ΔElev.	?	?		
		Dist.	1801.229m	0.004m		
BM5	1LH3	Az.	47°30'15.2238"	0°00'00.0797"	1:2476330	1:2476330
		ΔHt.	101.629m	0.005m		
		ΔElev.	?	?		
		Dist.	4224.491m	0.002m		
BM5	1KI3	Az.	87°01'53.6069"	0°00'00.0443"	1:4988882	1:4988882
		ΔHt.	-190.762m	0.005m		
		ΔElev.	?	?		
		Dist.	8036.384m	0.002m		

From Point	To Point		Components	A-posteriori Error (1.96σ)	Horiz. Precision (Ratio)	3D Precision (Ratio)
BM5	1JF2	**Az.**	238°14'47.4275"	0°00'00.0411"	1:4968549	1:4968549
		ΔHt.	-69.857m	0.005m		
		ΔElev.	?	?		
		Dist.	8344.924m	0.002m		
BM5	BM1	**Az.**	113°03'49.0146"	0°00'00.4120"	1:585043	1:585043
		ΔHt.	28.597m	0.005m		
		ΔElev.	?	?		
		Dist.	1351.286m	0.002m		
BM5	BM14	**Az.**	51°04'41.3841"	0°00'00.0907"	1:2200442	1:2200442
		ΔHt.	101.616m	0.007m		
		ΔElev.	?	?		
		Dist.	5310.405m	0.002m		
BM5	1LG2	**Az.**	356°30'00.8785"	0°00'00.0541"	1:3560878	1:3560878
		ΔHt.	107.545m	0.005m		
		ΔElev.	?	?		
		Dist.	6146.604m	0.002m		
BM5	BM3	**Az.**	96°56'14.2505"	0°00'01.0974"	1:208621	1:208621
		ΔHt.	6.972m	0.006m		
		ΔElev.	?	?		
		Dist.	467.288m	0.002m		
BM5	BM9	**Az.**	40°55'09.8850"	0°00'00.0943"	1:2058399	1:2058399
		ΔHt.	82.054m	0.007m		
		ΔElev.	?	?		
		Dist.	4905.068m	0.002m		
BM5	BM7	**Az.**	7°17'50.4551"	0°00'00.0922"	1:1711653	1:1711653
		ΔHt.	72.884m	0.007m		
		ΔElev.	?	?		
		Dist.	6603.532m	0.004m		

From Point	To Point		Components	A-posteriori Error (1.96σ)	Horiz. Precision (Ratio)	3D Precision (Ratio)
BM5	BM10	**Az.**	31°43'33.9861"	0°00'00.0858"	1:2095475	1:2095475
		ΔHt.	97.906m	0.007m		
		ΔElev.	?	?		
		Dist.	6284.739m	0.003m		
BM5	BM2	**Az.**	87°18'22.5632"	0°00'00.7545"	1:302363	1:302363
		ΔHt.	13.240m	0.006m		
		ΔElev.	?	?		
		Dist.	800.221m	0.003m		
BM5	BM8	**Az.**	10°07'34.5385"	0°00'00.0603"	1:3103318	1:3103318
		ΔHt.	79.460m	0.006m		
		ΔElev.	?	?		
		Dist.	7067.658m	0.002m		
BM5	BM4	**Az.**	136°04'20.4690"	0°00'00.7871"	1:288175	1:288175
		ΔHt.	11.541m	0.005m		
		ΔElev.	?	?		
		Dist.	673.746m	0.002m		
BM5	BM13	**Az.**	33°11'50.9339"	0°00'00.0736"	1:2616813	1:2616813
		ΔHt.	107.337m	0.006m		
		ΔElev.	?	?		
		Dist.	6628.616m	0.003m		
BM5	BM6	**Az.**	72°11'22.3910"	0°00'00.3288"	1:634975	1:634975
		ΔHt.	44.668m	0.006m		
		ΔElev.	?	?		
		Dist.	1846.551m	0.003m		
BM5	BM12	**Az.**	32°01'44.0818"	0°00'00.0730"	1:2473268	1:2473268
		ΔHt.	144.742m	0.007m		
		ΔElev.	?	?		
		Dist.	7704.941m	0.003m		

From Point	To Point		Components	A-posteriori Error (1.96σ)	Horiz. Precision (Ratio)	3D Precision (Ratio)
BM5	BM11	**Az.**	31°33'20.9953"	0°00'00.0784"	1:2487360	1:2487360
		ΔHt.	111.448m	0.006m		
		ΔElev.	?	?		
		Dist.	6776.015m	0.003m		
1LH3	1KI3	**Az.**	116°25'03.8854"	0°00'00.0000"	1:0	1:0
		ΔHt.	89.133m	0.000m		
		ΔElev.	?	?		
		Dist.	5482.486m	0.000m		
1LH3	1JF2	**Az.**	234°39'34.0367"	0°00'00.0000"	1:0	1:0
		ΔHt.	-171.486m	0.000m		
		ΔElev.	?	?		
		Dist.	12520.168m	0.000m		
1LH3	BM1	**Az.**	208°58'11.7300"	0°00'00.1070"	1:1597668	1:1597668
		ΔHt.	-73.033m	0.004m		
		ΔElev.	?	?		
		Dist.	3866.331m	0.002m		
1LH3	BM14	**Az.**	64°37'46.8432"	0°00'00.3451"	1:606056	1:606056
		ΔHt.	-0.013m	0.006m		
		ΔElev.	?	?		
		Dist.	1125.375m	0.002m		
1LH3	BM3	**Az.**	222°20'58.0467"	0°00'00.1009"	1:1791875	1:1791875
		ΔHt.	-94.657m	0.005m		
		ΔElev.	?	?		
		Dist.	3936.633m	0.002m		
1LH3	BM9	**Az.**	6°34'24.9569"	0°00'00.4195"	1:454009	1:454009
		ΔHt.	-19.575m	0.006m		
		ΔElev.	?	?		
		Dist.	858.240m	0.002m		

From Point	To Point		Components	A-posteriori Error (1.96σ)	Horiz. Precision (Ratio)	3D Precision (Ratio)
1LH3	BM7	**Az.**	328°23'42.0085"	0°00'00.1620"	1:1571612	1:1571612
		ΔHt.	-28.745m	0.005m		
		ΔElev.	?	?		
		Dist.	4340.819m	0.003m		
1LH3	BM10	**Az.**	4°22'49.2543"	0°00'00.1852"	1:1002824	1:1002824
		ΔHt.	-3.724m	0.005m		
		ΔElev.	?	?		
		Dist.	2499.063m	0.002m		
1LH3	BM2	**Az.**	219°26'45.9367"	0°00'00.1408"	1:1423447	1:1423447
		ΔHt.	-88.389m	0.006m		
		ΔElev.	?	?		
		Dist.	3645.878m	0.003m		
1LH3	BM8	**Az.**	335°29'43.5907"	0°00'00.0738"	1:2782453	1:2782453
		ΔHt.	-22.170m	0.004m		
		ΔElev.	?	?		
		Dist.	4510.664m	0.002m		
1LH3	BM4	**Az.**	218°25'42.8179"	0°00'00.0977"	1:1827562	1:1827562
		ΔHt.	-90.088m	0.004m		
		ΔElev.	?	?		
		Dist.	4261.222m	0.002m		
1LH3	BM13	**Az.**	10°50'06.7282"	0°00'00.1406"	1:1359221	1:1359221
		ΔHt.	5.708m	0.004m		
		ΔElev.	?	?		
		Dist.	2741.664m	0.002m		
1LH3	BM6	**Az.**	210°40'32.4713"	0°00'00.1784"	1:880761	1:880761
		ΔHt.	-56.961m	0.005m		
		ΔElev.	?	?		
		Dist.	2660.890m	0.003m		

From Point	To Point		Components	A-posteriori Error (1.96σ)	Horiz. Precision (Ratio)	3D Precision (Ratio)
1LH3	BM12	Az.	14°48'47.0793"	0°00'00.1253"	1:1423227	1:1423227
		ΔHt.	43.113m	0.005m		
		ΔElev.	?	?		
		Dist.	3804.427m	0.003m		
1LH3	BM11	Az.	8°25'09.4192"	0°00'00.1473"	1:1296700	1:1296700
		ΔHt.	9.819m	0.005m		
		ΔElev.	?	?		
		Dist.	2951.926m	0.002m		
1KI3	1JF2	Az.	252°24'37.1763"	0°00'00.0000"	1:0	1:0
		ΔHt.	-260.619m	0.000m		
		ΔElev.	?	?		
		Dist.	15867.376m	0.000m		
1KI3	BM1	Az.	262°06'41.8664"	0°00'00.0692"	1:3193911	1:3193911
		ΔHt.	-162.166m	0.004m		
		ΔElev.	?	?		
		Dist.	6847.916m	0.002m		
1KI3	BM14	Az.	306°54'50.9652"	0°00'00.0816"	1:2687074	1:2687074
		ΔHt.	-89.146m	0.006m		
		ΔElev.	?	?		
		Dist.	4867.353m	0.002m		
1KI3	1LG2	Az.	304°17'37.8812"	0°00'00.0000"	1:0	1:0
		ΔHt.	-83.217m	0.000m		
		ΔElev.	?	?		
		Dist.	10162.692m	0.000m		
1KI3	BM3	Az.	266°28'18.7399"	0°00'00.0585"	1:3827926	1:3827926
		ΔHt.	-183.790m	0.005m		
		ΔElev.	?	?		
		Dist.	7576.489m	0.002m		

From Point	To Point		Components	A-posteriori Error (1.96σ)	Horiz. Precision (Ratio)	3D Precision (Ratio)
1KI3	BM9	**Az.**	304°24'23.6562"	0°00'00.0665"	1:3318784	1:3318784
		ΔHt.	-108.708m	0.006m		
		ΔElev.	?	?		
		Dist.	5829.989m	0.002m		
1KI3	BM7	**Az.**	310°31'43.0144"	0°00'00.0794"	1:3845778	1:3845778
		ΔHt.	-117.878m	0.005m		
		ΔElev.	?	?		
		Dist.	9448.539m	0.002m		
1KI3	BM10	**Az.**	316°17'14.5533"	0°00'00.0760"	1:3078795	1:3078795
		ΔHt.	-92.857m	0.005m		
		ΔElev.	?	?		
		Dist.	6825.290m	0.002m		
1KI3	BM2	**Az.**	267°02'57.8863"	0°00'00.0759"	1:3042594	1:3042594
		ΔHt.	-177.522m	0.006m		
		ΔElev.	?	?		
		Dist.	7236.173m	0.002m		
1KI3	BM8	**Az.**	314°00'34.2682"	0°00'00.0365"	1:6029688	1:6029688
		ΔHt.	-111.303m	0.004m		
		ΔElev.	?	?		
		Dist.	9423.301m	0.002m		
1KI3	RM3106	**Az.**	260°44'47.2951"	0°00'00.1206"	1:1911874	1:1911874
		ΔHt.	-204.871m	0.010m		
		ΔElev.	?	?		
		Dist.	9368.411m	0.005m		
1KI3	RM3111	**Az.**	282°33'04.6841"	0°00'00.0736"	1:3040538	1:3040538
		ΔHt.	-174.910m	0.005m		
		ΔElev.	?	?		
		Dist.	7542.977m	0.002m		

From Point	To Point		Components	A-posteriori Error (1.96σ)	Horiz. Precision (Ratio)	3D Precision (Ratio)
1KI3	RM3115	Az.	308°55'21.8421"	0°00'00.1112"	1:2964281	1:2964281
		ΔHt.	-115.360m	0.008m		
		ΔElev.	?	?		
		Dist.	9750.961m	0.003m		
1KI3	ERM1	Az.	288°54'00.1959"	0°00'00.0845"	1:2632310	1:2632310
		ΔHt.	-143.680m	0.005m		
		ΔElev.	?	?		
		Dist.	6558.785m	0.002m		
1KI3	RM599	Az.	287°52'05.6506"	0°00'00.4345"	1:563086	1:563086
		ΔHt.	-22.984m	0.009m		
		ΔElev.	?	?		
		Dist.	1462.459m	0.003m		
1KI3	BM4	Az.	263°14'49.4824"	0°00'00.0612"	1:3620881	1:3620881
		ΔHt.	-179.221m	0.004m		
		ΔElev.	?	?		
		Dist.	7611.754m	0.002m		
1KI3	BM13	Az.	319°27'20.9929"	0°00'00.0600"	1:3515915	1:3515915
		ΔHt.	-83.425m	0.004m		
		ΔElev.	?	?		
		Dist.	6756.471m	0.002m		
1KI3	BM6	Az.	271°24'24.1711"	0°00'00.0957"	1:2568542	1:2568542
		ΔHt.	-146.094m	0.005m		
		ΔElev.	?	?		
		Dist.	6269.311m	0.002m		
1KI3	BM12	Az.	327°15'44.6761"	0°00'00.0731"	1:3009414	1:3009414
		ΔHt.	-46.020m	0.005m		
		ΔElev.	?	?		
		Dist.	7274.799m	0.002m		

From Point	To Point		Components	A-posteriori Error (1.96σ)	Horiz. Precision (Ratio)	3D Precision (Ratio)
1KI3	BM11	**Az.**	320°09'01.9889"	0°00'00.0646"	1:3173121	1:3173121
		ΔHt.	-79.314m	0.005m		
		ΔElev.	?	?		
		Dist.	6983.759m	0.002m		
1KI3	RM130	**Az.**	291°29'47.6356"	0°00'00.1019"	1:2193593	1:2193593
		ΔHt.	-126.211m	0.006m		
		ΔElev.	?	?		
		Dist.	5878.996m	0.003m		
1KI3	RM1105	**Az.**	314°36'31.0565"	0°00'00.1266"	1:2137736	1:2137736
		ΔHt.	-100.207m	0.007m		
		ΔElev.	?	?		
		Dist.	7026.638m	0.003m		
1JF2	BM1	**Az.**	65°06'22.1351"	0°00'00.0489"	1:4056961	1:4056961
		ΔHt.	98.453m	0.004m		
		ΔElev.	?	?		
		Dist.	9190.124m	0.002m		
1JF2	BM14	**Az.**	55°25'01.9357"	0°00'00.0281"	1:7241154	1:7241154
		ΔHt.	171.473m	0.006m		
		ΔElev.	?	?		
		Dist.	13629.941m	0.002m		
1JF2	1LG2	**Az.**	32°30'46.3003"	0°00'00.0000"	1:0	1:0
		ΔHt.	177.402m	0.000m		
		ΔElev.	?	?		
		Dist.	12489.207m	0.000m		
1JF2	BM3	**Az.**	60°07'29.3121"	0°00'00.0475"	1:4104710	1:4104710
		ΔHt.	76.829m	0.005m		
		ΔElev.	?	?		
		Dist.	8714.555m	0.002m		

From Point	To Point		Components	A-posteriori Error (1.96σ)	Horiz. Precision (Ratio)	3D Precision (Ratio)
1JF2	BM9	**Az.**	51°48'20.2844"	0°00'00.0282"	1:7110483	1:7110483
		ΔHt.	151.911m	0.006m		
		ΔElev.	?	?		
		Dist.	13109.053m	0.002m		
1JF2	BM7	**Az.**	35°54'21.6873"	0°00'00.0369"	1:3689757	1:3689757
		ΔHt.	142.741m	0.005m		
		ΔElev.	?	?		
		Dist.	13515.879m	0.004m		
1JF2	BM10	**Az.**	46°50'39.8578"	0°00'00.0321"	1:5666909	1:5666909
		ΔHt.	167.762m	0.005m		
		ΔElev.	?	?		
		Dist.	14247.452m	0.003m		
1JF2	BM2	**Az.**	60°39'52.8736"	0°00'00.0590"	1:3685153	1:3685153
		ΔHt.	83.097m	0.006m		
		ΔElev.	?	?		
		Dist.	9052.757m	0.002m		
1JF2	BM8	**Az.**	36°15'46.1064"	0°00'00.0227"	1:8363825	1:8363825
		ΔHt.	149.316m	0.004m		
		ΔElev.	?	?		
		Dist.	14083.139m	0.002m		
1JF2	RM3106	**Az.**	60°41'14.1159"	0°00'00.1438"	1:1191652	1:1191652
		ΔHt.	55.748m	0.010m		
		ΔElev.	?	?		
		Dist.	6736.297m	0.006m		
1JF2	RM3111	**Az.**	50°15'18.4116"	0°00'00.0524"	1:3853067	1:3853067
		ΔHt.	85.709m	0.005m		
		ΔElev.	?	?		
		Dist.	10082.699m	0.003m		

From Point	To Point		Components	A-posteriori Error (1.96σ)	Horiz. Precision (Ratio)	3D Precision (Ratio)
1JF2	RM3115	**Az.**	34°31'39.2310"	0°00'00.0503"	1:2509769	1:2509769
		ΔHt.	145.259m	0.008m		
		ΔElev.	?	?		
		Dist.	13270.902m	0.005m		
1JF2	ERM1	**Az.**	52°06'28.9507"	0°00'00.0474"	1:4361375	1:4361375
		ΔHt.	116.939m	0.005m		
		ΔElev.	?	?		
		Dist.	11289.515m	0.003m		
1JF2	BM4	**Az.**	62°38'28.2550"	0°00'00.0518"	1:3825998	1:3825998
		ΔHt.	81.398m	0.004m		
		ΔElev.	?	?		
		Dist.	8512.522m	0.002m		
1JF2	BM13	**Az.**	47°08'16.7144"	0°00'00.0270"	1:7413868	1:7413868
		ΔHt.	177.194m	0.004m		
		ΔElev.	?	?		
		Dist.	14621.957m	0.002m		
1JF2	BM6	**Az.**	60°43'01.7105"	0°00'00.0519"	1:3609763	1:3609763
		ΔHt.	114.525m	0.005m		
		ΔElev.	?	?		
		Dist.	10146.828m	0.003m		
1JF2	BM12	**Az.**	45°37'37.5901"	0°00'00.0310"	1:5927887	1:5927887
		ΔHt.	214.599m	0.005m		
		ΔElev.	?	?		
		Dist.	15632.298m	0.003m		
1JF2	BM11	**Az.**	46°16'06.7785"	0°00'00.0307"	1:6694311	1:6694311
		ΔHt.	181.305m	0.005m		
		ΔElev.	?	?		
		Dist.	14717.077m	0.002m		

From Point	To Point		Components	A-posteriori Error (1.96σ)	Horiz. Precision (Ratio)	3D Precision (Ratio)
1JF2	RM130	Az.	54°09'54.2444"	0°00'00.0483"	1:4244036	1:4244036
		ΔHt.	134.408m	0.006m		
		ΔElev.	?	?		
		Dist.	11896.308m	0.003m		
1JF2	RM1105	Az.	46°02'40.5549"	0°00'00.0486"	1:3268885	1:3268885
		ΔHt.	160.412m	0.007m		
		ΔElev.	?	?		
		Dist.	14040.742m	0.004m		
BM1	1LG2	Az.	346°21'26.2932"	0°00'00.0657"	1:3035623	1:3035623
		ΔHt.	78.949m	0.004m		
		ΔElev.	?	?		
		Dist.	6858.223m	0.002m		
BM1	BM3	Az.	301°15'21.3873"	0°00'00.6577"	1:376344	1:376344
		ΔHt.	-21.625m	0.005m		
		ΔElev.	?	?		
		Dist.	911.671m	0.002m		
BM1	BM7	Az.	356°44'14.0713"	0°00'00.0977"	1:1794247	1:1794247
		ΔHt.	44.287m	0.007m		
		ΔElev.	?	?		
		Dist.	7090.962m	0.004m		
BM1	BM8	Az.	0°00'08.8017"	0°00'00.0681"	1:2709883	1:2709883
		ΔHt.	50.863m	0.006m		
		ΔElev.	?	?		
		Dist.	7486.934m	0.003m		
BM1	BM4	Az.	273°15'45.6194"	0°00'00.7685"	1:304665	1:304665
		ΔHt.	-17.056m	0.005m		
		ΔElev.	?	?		
		Dist.	777.122m	0.003m		

From Point	To Point		Components	A-posteriori Error (1.96σ)	Horiz. Precision (Ratio)	3D Precision (Ratio)
BM1	BM6	**Az.**	25°12'10.7874"	0°00'00.4592"	1:342175	1:342175
		ΔHt.	16.072m	0.005m		
		ΔElev.	?	?		
		Dist.	1209.217m	0.004m		
BM14	1LG2	**Az.**	301°51'59.3805"	0°00'00.0752"	1:2943486	1:2943486
		ΔHt.	5.929m	0.006m		
		ΔElev.	?	?		
		Dist.	5305.096m	0.002m		
BM14	BM9	**Az.**	291°58'02.2863"	0°00'00.5110"	1:441664	1:441664
		ΔHt.	-19.562m	0.007m		
		ΔElev.	?	?		
		Dist.	990.461m	0.002m		
BM14	BM10	**Az.**	337°39'45.4552"	0°00'00.2714"	1:785187	1:785187
		ΔHt.	-3.710m	0.007m		
		ΔElev.	?	?		
		Dist.	2172.700m	0.003m		
BM14	BM2	**Az.**	225°18'50.6787"	0°00'00.1291"	1:1562011	1:1562011
		ΔHt.	-88.376m	0.008m		
		ΔElev.	?	?		
		Dist.	4688.803m	0.003m		
BM14	BM8	**Az.**	321°26'36.0105"	0°00'00.1032"	1:2082974	1:2082974
		ΔHt.	-22.157m	0.007m		
		ΔElev.	?	?		
		Dist.	4632.403m	0.002m		
BM14	BM13	**Az.**	347°13'31.7643"	0°00'00.2174"	1:911029	1:911029
		ΔHt.	5.721m	0.006m		
		ΔElev.	?	?		
		Dist.	2266.760m	0.002m		

From Point	To Point		Components	A-posteriori Error (1.96σ)	Horiz. Precision (Ratio)	3D Precision (Ratio)
BM14	BM12	**Az.**	359°12'50.9216"	0°00'00.1796"	1:1056989	1:1056989
		ΔHt.	43.126m	0.007m		
		ΔElev.	?	?		
		Dist.	3196.106m	0.003m		
BM14	BM11	**Az.**	346°31'15.0270"	0°00'00.2112"	1:920761	1:920761
		ΔHt.	9.832m	0.007m		
		ΔElev.	?	?		
		Dist.	2507.047m	0.003m		
1LG2	BM3	**Az.**	172°16'48.1503"	0°00'00.0661"	1:2935661	1:2935661
		ΔHt.	-100.573m	0.005m		
		ΔElev.	?	?		
		Dist.	6248.179m	0.002m		
1LG2	BM9	**Az.**	124°05'29.9847"	0°00'00.0895"	1:2467060	1:2467060
		ΔHt.	-25.491m	0.006m		
		ΔElev.	?	?		
		Dist.	4332.729m	0.002m		
1LG2	BM7	**Az.**	71°07'43.8675"	0°00'00.4896"	1:406129	1:406129
		ΔHt.	-34.661m	0.005m		
		ΔElev.	?	?		
		Dist.	1282.930m	0.003m		
1LG2	BM10	**Az.**	102°06'22.6459"	0°00'00.1382"	1:1702946	1:1702946
		ΔHt.	-9.640m	0.005m		
		ΔElev.	?	?		
		Dist.	3763.841m	0.002m		
1LG2	BM2	**Az.**	169°05'40.3778"	0°00'00.0794"	1:2341398	1:2341398
		ΔHt.	-94.305m	0.006m		
		ΔElev.	?	?		
		Dist.	6209.628m	0.003m		

From Point	To Point		Components	A-posteriori Error (1.96σ)	Horiz. Precision (Ratio)	3D Precision (Ratio)
1LG2	BM8	Az.	63°03'04.8759"	0°00'00.1834"	1:1120274	1:1120274
		ΔHt.	-28.086m	0.004m		
		ΔElev.	?	?		
		Dist.	1814.875m	0.002m		
1LG2	RM3106	Az.	186°39'22.7541"	0°00'00.1218"	1:1221917	1:1221917
		ΔHt.	-121.654m	0.010m		
		ΔElev.	?	?		
		Dist.	7282.346m	0.006m		
1LG2	RM3111	Az.	165°45'38.3830"	0°00'00.1236"	1:1590692	1:1590692
		ΔHt.	-91.693m	0.005m		
		ΔElev.	?	?		
		Dist.	4215.448m	0.003m		
1LG2	RM3115	Az.	63°39'02.0888"	0°00'00.9135"	1:190714	1:190714
		ΔHt.	-32.143m	0.008m		
		ΔElev.	?	?		
		Dist.	903.304m	0.005m		
1LG2	ERM1	Az.	148°38'13.6515"	0°00'00.1255"	1:1609801	1:1609801
		ΔHt.	-60.463m	0.005m		
		ΔElev.	?	?		
		Dist.	4215.537m	0.003m		
1LG2	RM599	Az.	126°56'46.1513"	0°00'00.0719"	1:3339733	1:3339733
		ΔHt.	60.233m	0.009m		
		ΔElev.	?	?		
		Dist.	8769.675m	0.003m		
1LG2	BM4	Az.	172°44'39.4051"	0°00'00.0651"	1:2960353	1:2960353
		ΔHt.	-96.004m	0.004m		
		ΔElev.	?	?		
		Dist.	6673.792m	0.002m		

From Point	To Point		Components	A-posteriori Error (1.96σ)	Horiz. Precision (Ratio)	3D Precision (Ratio)
1LG2	BM13	Az.	98°21'23.1341"	0°00'00.1028"	1:2164732	1:2164732
		ΔHt.	-0.208m	0.004m		
		ΔElev.	?	?		
		Dist.	4047.553m	0.002m		
1LG2	BM6	Az.	159°02'32.7862"	0°00'00.0938"	1:2243238	1:2243238
		ΔHt.	-62.877m	0.005m		
		ΔElev.	?	?		
		Dist.	5964.855m	0.003m		
1LG2	BM12	Az.	84°54'47.8002"	0°00'00.1195"	1:1866659	1:1866659
		ΔHt.	37.197m	0.005m		
		ΔElev.	?	?		
		Dist.	4479.132m	0.002m		
1LG2	BM11	Az.	95°15'32.2306"	0°00'00.1193"	1:1868990	1:1868990
		ΔHt.	3.903m	0.005m		
		ΔElev.	?	?		
		Dist.	3937.891m	0.002m		
1LG2	RM130	Az.	140°37'30.4429"	0°00'00.1259"	1:1666902	1:1666902
		ΔHt.	-42.994m	0.006m		
		ΔElev.	?	?		
		Dist.	4617.172m	0.003m		
1LG2	RM1105	Az.	103°04'41.8579"	0°00'00.2571"	1:1073857	1:1073857
		ΔHt.	-16.990m	0.007m		
		ΔElev.	?	?		
		Dist.	3484.673m	0.003m		
BM3	BM7	Az.	3°15'02.6121"	0°00'00.0982"	1:1665125	1:1665125
		ΔHt.	65.912m	0.007m		
		ΔElev.	?	?		
		Dist.	6617.115m	0.004m		

From Point	To Point		Components	A-posteriori Error (1.96σ)	Horiz. Precision (Ratio)	3D Precision (Ratio)
BM3	BM8	**Az.**	6°20'17.8848"	0°00'00.0683"	1:2673198	1:2673198
		ΔHt.	72.488m	0.006m		
		ΔElev.	?	?		
		Dist.	7057.103m	0.003m		
BM3	BM4	**Az.**	179°31'45.6500"	0°00'01.1962"	1:156928	1:156928
		ΔHt.	4.569m	0.005m		
		ΔElev.	?	?		
		Dist.	428.817m	0.003m		
BM3	BM6	**Az.**	64°21'38.0016"	0°00'00.4274"	1:452797	1:452797
		ΔHt.	37.696m	0.006m		
		ΔElev.	?	?		
		Dist.	1435.569m	0.003m		
BM9	BM10	**Az.**	3°14'04.6420"	0°00'00.3312"	1:570807	1:570807
		ΔHt.	15.852m	0.006m		
		ΔElev.	?	?		
		Dist.	1641.781m	0.003m		
BM9	BM2	**Az.**	213°21'27.1752"	0°00'00.1334"	1:1449937	1:1449937
		ΔHt.	-68.814m	0.007m		
		ΔElev.	?	?		
		Dist.	4391.473m	0.003m		
BM9	BM8	**Az.**	328°48'12.8464"	0°00'00.1220"	1:1725502	1:1725502
		ΔHt.	-2.594m	0.007m		
		ΔElev.	?	?		
		Dist.	3801.516m	0.002m		
BM9	BM13	**Az.**	12°46'21.9097"	0°00'00.2509"	1:756388	1:756388
		ΔHt.	25.283m	0.006m		
		ΔElev.	?	?		
		Dist.	1886.876m	0.002m		

From Point	To Point		Components	A-posteriori Error (1.96σ)	Horiz. Precision (Ratio)	3D Precision (Ratio)
BM9	BM12	**Az.**	17°11'49.4185"	0°00'00.1854"	1:969669	1:969669
		ΔHt.	62.689m	0.007m		
		ΔElev.	?	?		
		Dist.	2957.605m	0.003m		
BM9	BM11	**Az.**	9°10'34.0232"	0°00'00.2455"	1:772352	1:772352
		ΔHt.	29.394m	0.006m		
		ΔElev.	?	?		
		Dist.	2094.314m	0.003m		
BM7	BM8	**Az.**	44°44'45.3903"	0°00'00.9803"	1:152130	1:152130
		ΔHt.	6.576m	0.006m		
		ΔElev.	?	?		
		Dist.	573.729m	0.004m		
BM7	BM4	**Az.**	183°01'35.8725"	0°00'00.0944"	1:1740652	1:1740652
		ΔHt.	-61.343m	0.007m		
		ΔElev.	?	?		
		Dist.	7045.082m	0.004m		
BM7	BM6	**Az.**	171°16'23.3516"	0°00'00.1268"	1:1462370	1:1462370
		ΔHt.	-28.216m	0.007m		
		ΔElev.	?	?		
		Dist.	6055.428m	0.004m		
BM10	BM8	**Az.**	308°01'56.5457"	0°00'00.2250"	1:1062493	1:1062493
		ΔHt.	-18.446m	0.006m		
		ΔElev.	?	?		
		Dist.	2617.500m	0.002m		
BM10	BM13	**Az.**	58°13'30.6674"	0°00'01.4687"	1:130589	1:130589
		ΔHt.	9.431m	0.006m		
		ΔElev.	?	?		
		Dist.	381.737m	0.003m		

From Point	To Point		Components	A-posteriori Error (1.96σ)	Horiz. Precision (Ratio)	3D Precision (Ratio)
BM10	BM12	**Az.**	33°23'18.4013"	0°00'00.4154"	1:417254	1:417254
		ΔHt.	46.837m	0.006m		
		ΔElev.	?	?		
		Dist.	1420.678m	0.003m		
BM2	BM8	**Az.**	3°40'12.3557"	0°00'00.0809"	1:2284474	1:2284474
		ΔHt.	66.219m	0.007m		
		ΔElev.	?	?		
		Dist.	6934.139m	0.003m		
BM2	BM13	**Az.**	27°11'38.5543"	0°00'00.0973"	1:1961452	1:1961452
		ΔHt.	94.097m	0.007m		
		ΔElev.	?	?		
		Dist.	6193.510m	0.003m		
BM2	BM11	**Az.**	25°35'27.7870"	0°00'00.0990"	1:1932668	1:1932668
		ΔHt.	98.208m	0.007m		
		ΔElev.	?	?		
		Dist.	6360.141m	0.003m		
BM8	BM4	**Az.**	185°57'13.3865"	0°00'00.0669"	1:2724592	1:2724592
		ΔHt.	-67.919m	0.006m		
		ΔElev.	?	?		
		Dist.	7483.068m	0.003m		
BM8	BM13	**Az.**	120°35'42.8095"	0°00'00.1781"	1:1259713	1:1259713
		ΔHt.	27.877m	0.005m		
		ΔElev.	?	?		
		Dist.	2772.514m	0.002m		
BM8	BM6	**Az.**	175°23'52.2219"	0°00'00.0908"	1:2007800	1:2007800
		ΔHt.	-34.791m	0.006m		
		ΔElev.	?	?		
		Dist.	6413.506m	0.003m		

From Point	To Point		Components	A-posteriori Error (1.96σ)	Horiz. Precision (Ratio)	3D Precision (Ratio)
BM8	BM12	**Az.**	98°31'00.5331"	0°00'00.2110"	1:1113747	1:1113747
		ΔHt.	65.283m	0.006m		
		ΔElev.	?	?		
		Dist.	2875.324m	0.003m		
BM8	BM11	**Az.**	117°12'05.2091"	0°00'00.2077"	1:1067135	1:1067135
		ΔHt.	31.989m	0.006m		
		ΔElev.	?	?		
		Dist.	2589.721m	0.002m		
RM3106	RM3115	**Az.**	12°12'59.3722"	0°00'00.1367"	1:1008831	1:1008831
		ΔHt.	89.512m	0.012m		
		ΔElev.	?	?		
		Dist.	7811.215m	0.008m		
RM3106	RM599	**Az.**	75°57'58.3662"	0°00'00.1495"	1:1438225	1:1438225
		ΔHt.	181.887m	0.012m		
		ΔElev.	?	?		
		Dist.	8094.270m	0.006m		
RM3111	ERM1	**Az.**	67°12'32.8587"	0°00'00.5342"	1:400022	1:400022
		ΔHt.	31.230m	0.006m		
		ΔElev.	?	?		
		Dist.	1255.167m	0.003m		
RM3111	RM599	**Az.**	101°13'53.7336"	0°00'00.1285"	1:1814779	1:1814779
		ΔHt.	151.926m	0.009m		
		ΔElev.	?	?		
		Dist.	6088.319m	0.003m		
RM3111	RM130	**Az.**	74°43'47.9113"	0°00'00.3623"	1:596786	1:596786
		ΔHt.	48.699m	0.007m		
		ΔElev.	?	?		
		Dist.	1961.516m	0.003m		

From Point	To Point		Components	A-posteriori Error (1.96σ)	Horiz. Precision (Ratio)	3D Precision (Ratio)
RM3115	RM599	**Az.**	132°27'43.2275"	0°00'00.1462"	1:2039951	1:2039951
		ΔHt.	92.375m	0.011m		
		ΔElev.	?	?		
		Dist.	8402.580m	0.004m		
RM3115	RM1105	**Az.**	114°42'54.1831"	0°00'00.4653"	1:697600	1:697600
		ΔHt.	15.152m	0.009m		
		ΔElev.	?	?		
		Dist.	2845.372m	0.004m		
ERM1	RM599	**Az.**	109°09'31.6911"	0°00'00.1556"	1:1507745	1:1507745
		ΔHt.	120.696m	0.010m		
		ΔElev.	?	?		
		Dist.	5096.631m	0.003m		
ERM1	RM130	**Az.**	87°38'22.9687"	0°00'00.9817"	1:228038	1:228038
		ΔHt.	17.469m	0.007m		
		ΔElev.	?	?		
		Dist.	735.723m	0.003m		
RM599	RM130	**Az.**	292°41'16.3725"	0°00'00.1776"	1:1310374	1:1310374
		ΔHt.	-103.227m	0.009m		
		ΔElev.	?	?		
		Dist.	4420.437m	0.003m		
BM4	BM6	**Az.**	50°52'17.6614"	0°00'00.3542"	1:491156	1:491156
		ΔHt.	33.128m	0.005m		
		ΔElev.	?	?		
		Dist.	1663.836m	0.003m		
BM13	BM12	**Az.**	24°54'03.9067"	0°00'00.5178"	1:346649	1:346649
		ΔHt.	37.405m	0.006m		
		ΔElev.	?	?		
		Dist.	1086.149m	0.003m		

From Point	To Point		Components	A-posteriori Error (1.96σ)	Horiz. Precision (Ratio)	3D Precision (Ratio)
BM13	BM11	**Az.**	339°54'17.6185"	0°00'02.1789"	1:90875	1:90875
		ΔHt.	4.111m	0.005m		
		ΔElev.	?	?		
		Dist.	242.069m	0.003m		

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SECTION 2.2.3

GPS LOOP CLOSURE REPORT

Loop Closure Report

Project : 1686-1

User name	clint.fischer	**Date & Time**	10:12:26 AM 10/18/2007
Coordinate System	US State Plane 1983	**Zone**	Arizona Central 0202
Project Datum	NAD 1983 (Conus)		
Vertical Datum		**Geoid Model**	GEOID99 (Conus)
Coordinate Units	Meters		
Distance Units	Meters		
Height Units	Meters		

Contents

- Summary
- Failed Loops
- Observations In Failed Loops
- Occupations In Failed Loops

Summary

Report includes both active and inactive solutions (if any).
Report applies to whole database.

Legs in loop: 3

Number of Loops: 721

Number Passed: 719

Number Failed: 2

	Length	ΔHoriz	ΔVert	PPM
Pass/Fail Criteria		0.030m	0.050m	
Best		0.000m	0.000m	0.001
Worst		0.016m	0.053m	4.139
Average Loop	19641.974m	0.004m	-0.001m	0.678
Standard Deviation	9152.941m	0.003m	0.013m	0.560

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Failed Loops

GPS Loop 160:
BM5: BM14: BM11: BM5

Observations:

Baseline ID	Solution ID	From	To	Solution Type	Start Time
B6	S20	BM5	BM14	Iono free fixed	10:04:31 4 Oct 2007
B140	S91	BM14	BM11	L1 fixed	10:50:01 4 Oct 2007
B115	S31	BM5	BM11	Iono free fixed	10:50:01 4 Oct 2007

Failed combinations for loop 160:

	Length	ΔHoriz	ΔVert	PPM
S20 - S91 - S31	**14596.810m**	**0.004m**	**-0.051m**	**3.531**

GPS Loop 313:
1KI3: BM14: 1JF2: 1KI3

Observations:

Baseline ID	Solution ID	From	To	Solution Type	Start Time
B39	S53	1KI3	BM14	L1 fixed	10:04:31 4 Oct 2007
B48	S68	1JF2	BM14	Iono free fixed	10:04:31 4 Oct 2007
B37	S65	1KI3	1JF2	Iono free fixed	09:05:31 4 Oct 2007
B79	S150	1KI3	1JF2	Iono free fixed	07:36:31 5 Oct 2007

Failed combinations for loop 313:

	Length	ΔHoriz	ΔVert	PPM
S53 - S68 - S150	**34372.026m**	**0.003m**	**0.053m**	**1.547**

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Observations In Failed Loops

Baseline ID	Solution ID	From	To	Solution Type	Ratio	Ref var	RMS	# of Occurrences
B39	S53	1KI3	BM14	L1 fixed	7.3	6.037	0.011m	1
B48	S68	1JF2	BM14	Iono free fixed	10.8	0.866	0.012m	1
B6	S20	BM5	BM14	Iono free fixed	7.2	1.436	0.016m	1
B115	S31	BM5	BM11	Iono free fixed	59.5	1.937	0.017m	1
B79	S150	1KI3	1JF2	Iono free fixed	14.4	0.679	0.009m	1
B140	S91	BM14	BM11	L1 fixed	34.9	7.939	0.010m	1

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Occupations In Failed Loops

Occupation ID	Point	Start Time	# of Occurrences
Oc8	BM14	10:04:31 4 Oct 2007	4
Oc1	BM5	07:03:31 4 Oct 2007	2
Oc29	BM11	10:50:01 4 Oct 2007	2
Oc6	1JF2	08:09:01 4 Oct 2007	1
Oc4	1KI3	09:05:31 4 Oct 2007	1
Oc17	1KI3	07:36:31 5 Oct 2007	1
Oc16	1JF2	07:18:31 5 Oct 2007	1

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SECTION 2.3

BENCHMARK AND NGS AND MCFCD CONTROL METADATA

SECTION 2.3.1

NGS AND MCFCD PUBLISHED DATA

ORGANIZED AS FOLLOWS

- NGS DATA SHEETS
- GO TO SKETCHES
- PICTURES
- GPS OBSERVATION SHEETS

1JF2

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1        National Geodetic Survey,   Retrieval Date = MAY  3, 2004
AJ3703 ***********************************************************************
AJ3703  DESIGNATION -  1JF2
AJ3703  PID         -  AJ3703
AJ3703  STATE/COUNTY-  AZ/MARICOPA
AJ3703  USGS QUAD   -  NEW RIVER SE (1981)
AJ3703
AJ3703                        *CURRENT SURVEY CONTROL
AJ3703
AJ3703* NAD 83(1992)-  33 46 10.00774(N)    112 03 01.22822(W)     ADJUSTED
AJ3703* NAVD 88     -       526.52   (meters)    1727.4    (feet)  GPS OBS
AJ3703
AJ3703  X           -  -1,992,708.633 (meters)                     COMP
AJ3703  Y           -  -4,919,677.484 (meters)                     COMP
AJ3703  Z           -   3,525,493.297 (meters)                     COMP
AJ3703  LAPLACE CORR-           2.54  (seconds)                    DEFLEC99
AJ3703  ELLIP HEIGHT-         497.38  (meters)          (04/12/01) GPS OBS
AJ3703  GEOID HEIGHT-         -29.13  (meters)                     GEOID03
AJ3703
AJ3703  HORZ ORDER  -  B
AJ3703  ELLP ORDER  -  THIRD     CLASS II
AJ3703
AJ3703.The horizontal coordinates were established by GPS observations
AJ3703.and adjusted by the National Geodetic Survey in April 2001.
AJ3703
AJ3703.The orthometric height was determined by GPS observations and a
AJ3703.high-resolution geoid model using precise GPS observation and
AJ3703.processing techniques.
AJ3703
AJ3703.The X, Y, and Z were computed from the position and the ellipsoidal ht.
AJ3703
AJ3703.The Laplace correction was computed from DEFLEC99 derived deflections.
AJ3703
AJ3703.The ellipsoidal height was determined by GPS observations
AJ3703.and is referenced to NAD 83.
AJ3703
AJ3703.The geoid height was determined by GEOID03.
AJ3703
AJ3703;                    North         East     Units Scale Factor Converg.
AJ3703;SPC AZ C     -   307,091.381   200,978.480   MT  0.99990189   -0 04 27.5
AJ3703;UTM  12      - 3,737,088.718   402,739.907   MT  0.99971661   -0 35 02.0
AJ3703
AJ3703!             -  Elev Factor  x  Scale Factor =   Combined Factor
AJ3703!SPC AZ C     -   0.99992192  x   0.99990189  =   0.99982382
AJ3703!UTM  12      -   0.99992192  x   0.99971661  =   0.99963856
AJ3703
AJ3703                          SUPERSEDED SURVEY CONTROL
AJ3703
AJ3703.No superseded survey control is available for this station.
AJ3703
AJ3703_U.S. NATIONAL GRID SPATIAL ADDRESS: 12SVC0274037089(NAD 83)
AJ3703_MARKER: I = METAL ROD
AJ3703_SETTING: 15 = METAL ROD DRIVEN INTO GROUND. SEE TEXT FOR ADDITIONAL
AJ3703+WITH SETTING: INFORMATION.
AJ3703_STAMPING: 1JF2 1999
AJ3703_MARK LOGO: MCDOT
AJ3703_PROJECTION: FLUSH
```

```
AJ3703_MAGNETIC: B = BAR MAGNET IMBEDDED IN MONUMENT
AJ3703_STABILITY: A = MOST RELIABLE AND EXPECTED TO HOLD
AJ3703+STABILITY: POSITION/ELEVATION WELL
AJ3703_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR
AJ3703+SATELLITE: SATELLITE OBSERVATIONS - 1999
AJ3703_ROD/PIPE-DEPTH:  2.4 meters
AJ3703_SLEEVE-DEPTH  :  0.8 meters
AJ3703
AJ3703  HISTORY     - Date     Condition        Report By
AJ3703  HISTORY     - 1999     MONUMENTED       MCDOT
AJ3703
AJ3703                          STATION DESCRIPTION
AJ3703
AJ3703'DESCRIBED BY MARICOPA CO DOT 1999 (CC)
AJ3703'THE STATION IS LOCATED WITHIN THE CITY OF PHOENIX, TOWNSHIP 05 NORTH,
AJ3703'RANGE 03 EAST, SECTION 16
AJ3703'OWNERSHIP - PRIVATE
AJ3703'TO REACH THE STATION FROM THE JUNCTION OF I-17 AND CAREFREE HWY (SR
AJ3703'74) (EXIT 223) , DRIVE EAST ON THE CAREFREE HWY ABOUT 4.0 MI (6.4 KM)
AJ3703', TO 14TH STREET, THENCE TURN RIGHT (SOUTH) AND DRIVE FOR 1.0 MI TO A
AJ3703'FENCE LINE WITH A CATTLE GUARD (YOU WILL PASS DOVE VALLEY ROAD),
AJ3703'THENCE DRIVE OVER CATTLE GUARD AND TURN LEFT (EAST) AND DRIVE IN A
AJ3703'EASTERLY DIRECTION FOR 0.4 MI TO A FORK IN THE ROAD, THENCE VEER RIGHT
AJ3703'(WEST) AT THE FORK AS DRIVE SOUTHERLY FOR 0.1 MI TO ANOTHER FORK,
AJ3703'THENCE RIGHT (WEST) AND CONTINUE SOUTHERLY FOR 0.1 MI TO A REVERSE
AJ3703'FORK, THENCE CONTINUE SOUTH FOR 0.2 MI TO ANOTHER REVERSE FORK, THENCE
AJ3703'CONTINUE SOUTHERLY FOR 0.3 MI TO THE STATION 10 FT ON THE LEFT (EAST)
AJ3703'SIDE OF ROAD, (THE STATION IS 1.2 MI FROM THE CATTLE GUARD ALONG SAID
AJ3703'DIRT ROAD
AJ3703'MONUMENT DESCRIPTION - THE STATION IS MARKED BY AN ALUMINUM CAP
AJ3703'COMPRESSED ON A 8 FT (2.7 M) STAINLESS STEEL ROD DRIVEN TO REFUSAL
AJ3703'ENCASED IN A 1 INCH GREASED PVC SLEEVE ENCLOSED IN A 5 INCH PVC PIPE
AJ3703'WITH A COUNTY LOGO ACCESS COVER STAMPED 1JF2 1999, SURROUNDED WITH A
AJ3703'CONCRETE COLLAR FLUSH WITH THE GROUND, WITNESSED BY A WHITE CARSONITE
AJ3703'MARKER
AJ3703'STATION TIES
AJ3703'10 FT (3.0 M) EAST OF DIRT ROAD
AJ3703'6.0 FT (1.8 M) EAST OF CARSONITE MARKER
AJ3703'FOR A TO REACH MAP, STATION IMAGES AND ADDITIONAL INFORMATION, YOU CAN
AJ3703'VISIT WWW.MCDOT.MARICOPA.GOV       SEARCH KEYWORD  GDACS
```

Maricopa County Department of Transportation

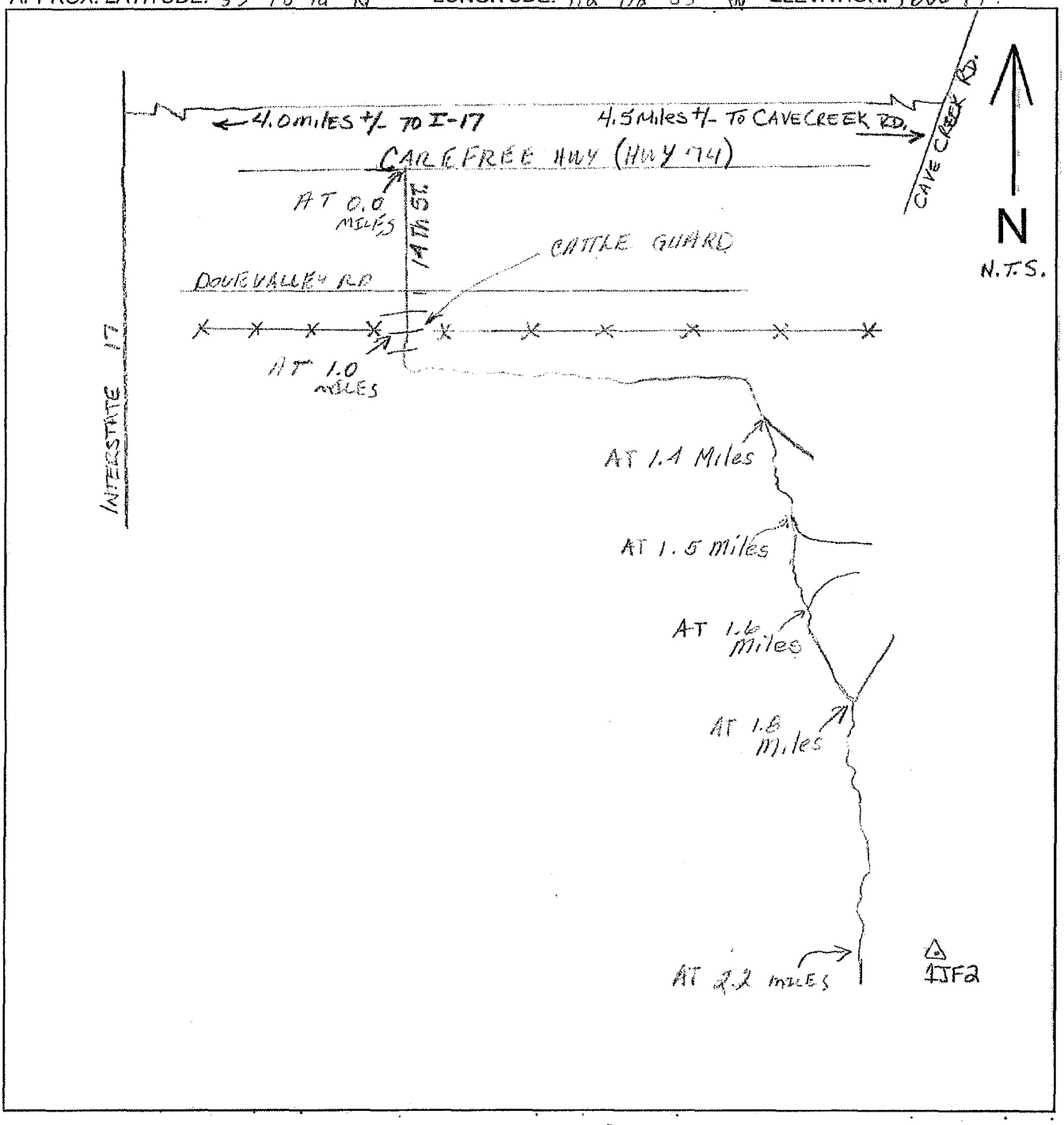
MONUMENT RECORD

STATION NAME: 1JF2 4 LETTER ID: 1JF2

APPROX. LOCATION: T 5N R 3E S 16 GILA AND SALT RIVER MERIDIAN AND BASELINE

AGENCY/FIRM: A-TEAM SKETCH BY: CHAD CLARK DATE: 1-7-00

APPROX. LATITUDE: 33°46' 12" N LONGITUDE: 112° 02' 55" W ELEVATION: 1600 ft.

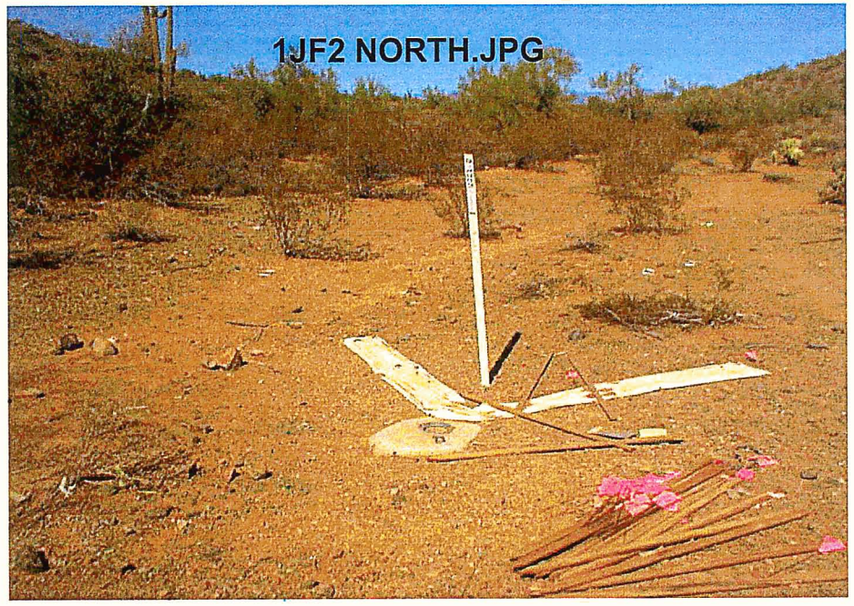


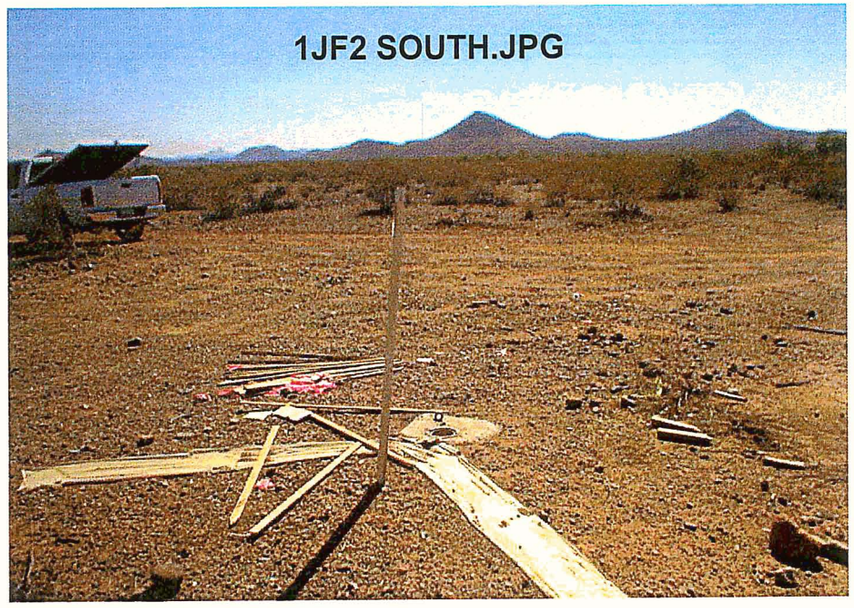
DESCRIPTION OF MONUMENT: SET 3 1/4" MARICOPA COUNTY BRASS CAP IN BEDROCK.

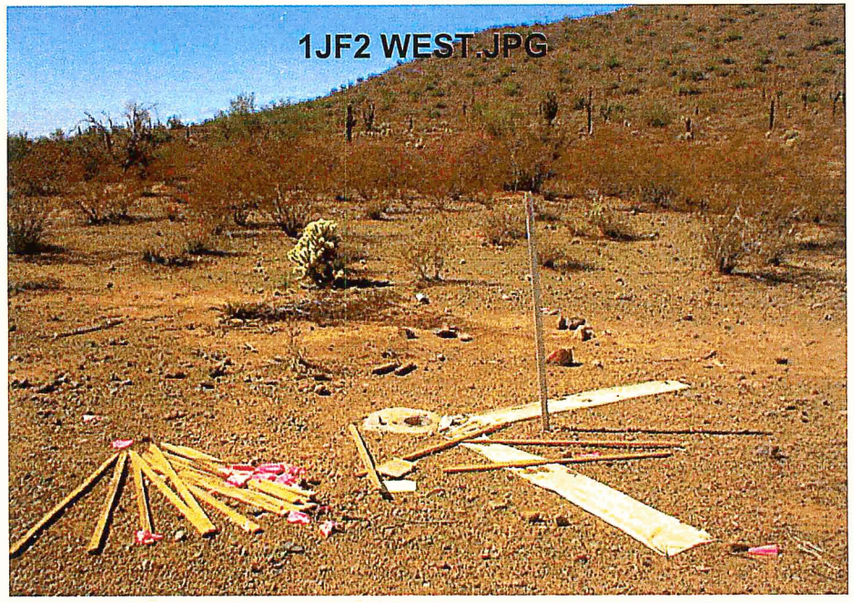
StationS.xls

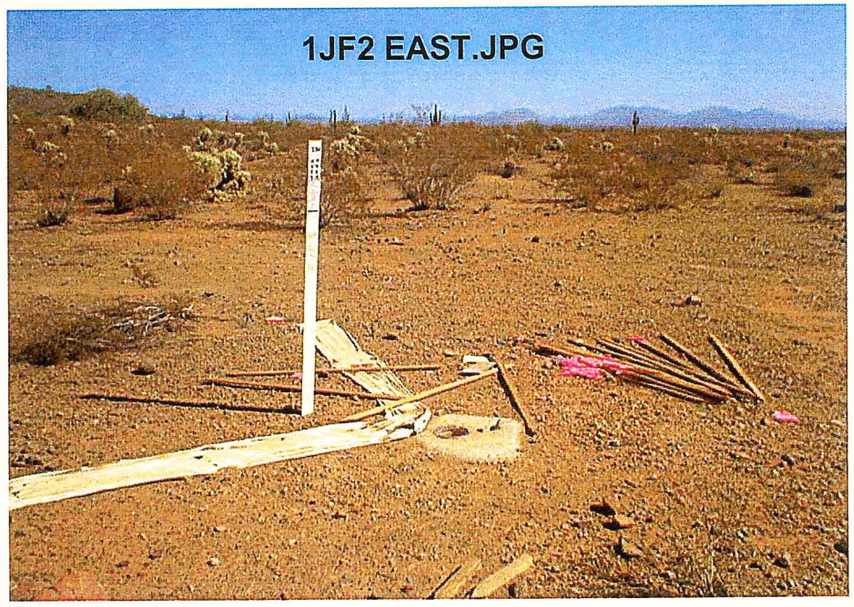
Sheet 1 of 1

1JF2.JPG


1JF2 NORTH.JPG


1JF2 SOUTH.JPG


1JF2 WEST.JPG


1JF2 EAST.JPG

A TEAM Professional Associates, INC.
GPS STATION LOG

1920 W. Peoria Avenue, Phoenix, Arizona - 85029 - (602) 906-0020 - (602) 906-0019 Fax

Station Name: IJFZ
Receiver No: 7660
Day of Year: 277 2007
Session No: 1

Project Name: CAVE CREEK DMP
Job number: 1686-1
Local Date: mo. 10 day 4 year 07
Operator: JASON GRAHAM

C/A CODE POSITION

Beg:
Lat: : 33 ° 46 ' 10.03 " N
Long: 112 ° 03 ' 01.26 " W
Ellip. Height: 494.5 M PDOP: 2.9

Ending:
Lat: 33 ° 46 ' 10.05 " N
Long: 112 ° 03 ' 01.25 " W
Ellip. Height: 498.4 M PDOP: 2.4

DC# _____ & FILENAME _____
Receiver Model: 4000 SSE
Antenna Type: COMPACT L1/L2
Fixed Height Pole No: ATEAM 6

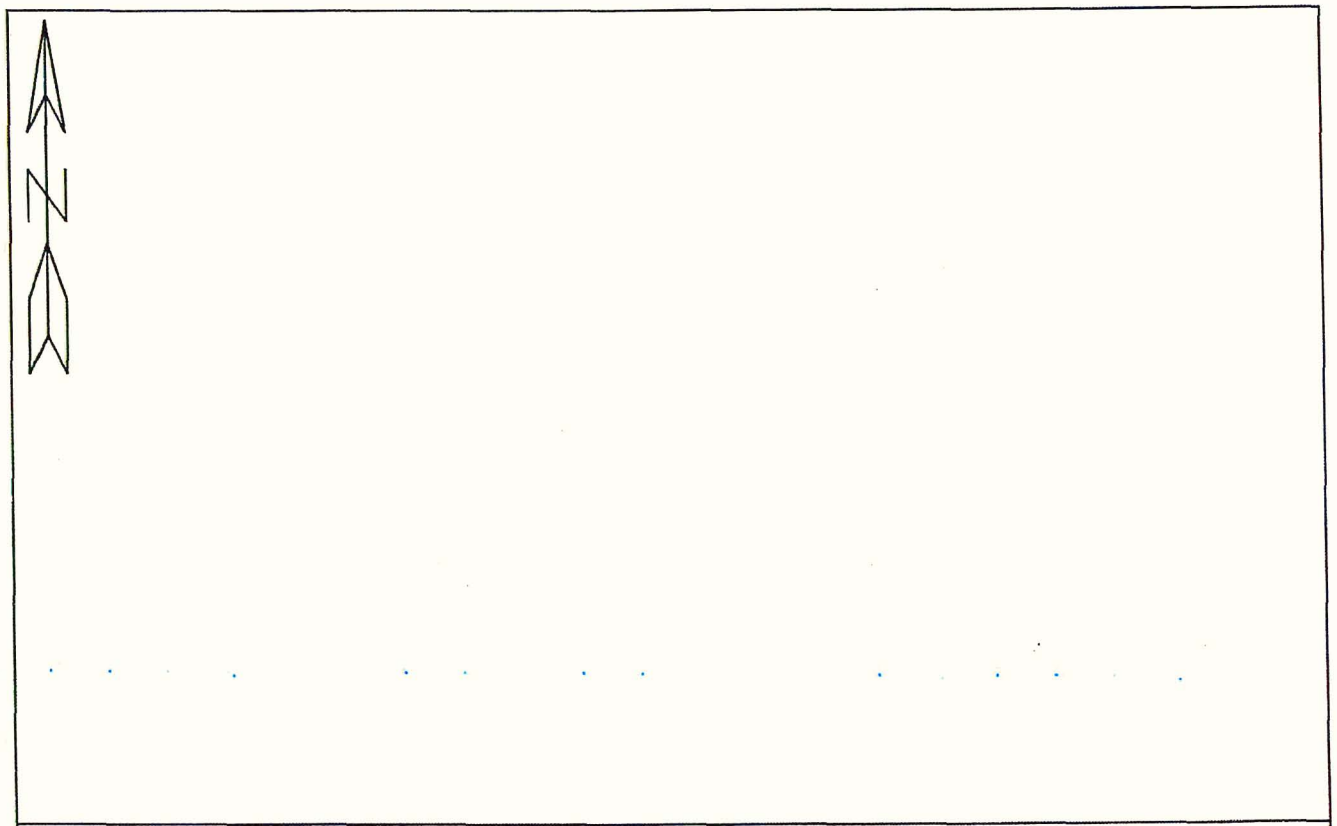
Local-UTC Time Offset: MST= -7:00
Type of Survey: Fast Static (X)
Actual= Start 08 : 09 Stop: 20 : 05 UTC
Beg. SV's Used: 03, 13, 16, 20, 23, 25
End SV's Used: 27, 17, 26, 28, 08, 19, 11, 25

Ant. Height (M) using fixed height pole and measured to Bottom of Antenna: 1.5 M

ANT. S.N. 1001

ANT. TYPE: COMPACT L1/L2

Weather Conditions: Clear P. Cloudy Overcast Hot Warm Cool Calm Breezy °F +/-



Type of Monument: _____ Stamping: _____
Top of marker: ( ) flush M ( ) above: ( ) below: Nat. Ground Detail Notes: _____

Rubbing Performed ( )Yes ( )No

A TEAM Professional Associates, INC.
GPS STATION LOG

1920 W. Peoria Avenue, Phoenix, Arizona - 85029 - (602) 906-0020 - (602) 906-0019 Fax

Station Name: 1JF2
Receiver No: 6076
Day of Year: 278 2007
Session No: 0

Project Name: CAVE CREEK DMP
Job number: 1686-1
Local Date: mo. 10 day 5 year 07
Operator: J. MALEK

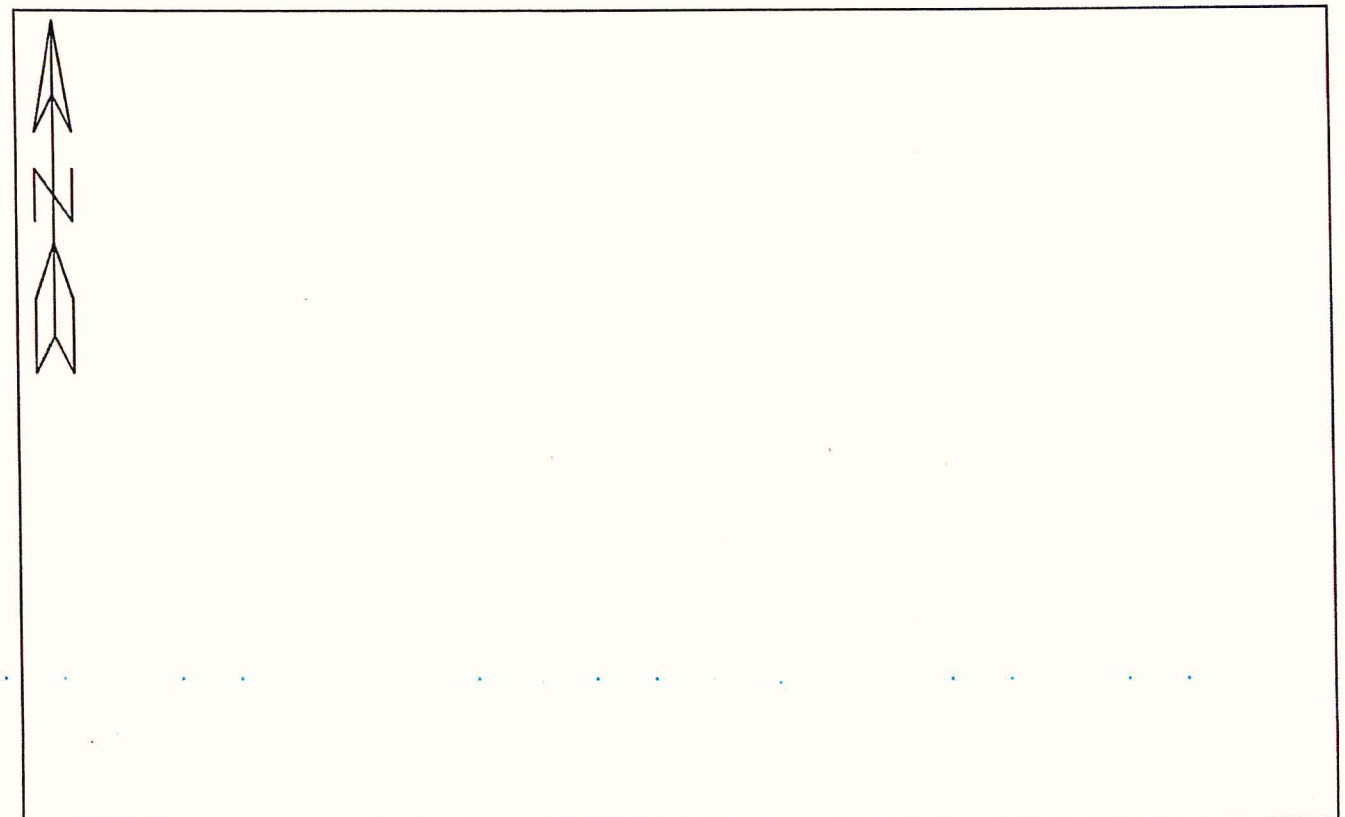
C/A CODE POSITION
Beg:
Lat: : 33 ° 46 ' 10.07 " N
Long: 112 ° 03 ' 01.31 " W
Ellip. Height: 498.6 M PDOP: 2.0
Ending:
Lat: 33 ° 46 ' 09.99 " N
Long: 112 ° 03 ' 01.25 " W
Ellip. Height: 496.8 M PDOP: 2.0

DC# N/A & FILENAME 6076-278-0
Receiver Model: 4000 SSE
Antenna Type: COMPACT 1/1.2
Fixed Height Pole No: A TEAM # 6
Local-UTC Time Offset: MST= -7:00
Type of Survey: Fast Static (X)
Actual= Start 14 : 19 , Stop: 7 : 22 , UTC
Beg. SV's Used: 01, 31, 13, 16, 20, 23, 25
End SV's Used: 17, 8, 17, 26, 28, 09, 11, 25

Ant. Height (M) using fixed height pole and measured to Bottom of Antenna: 1.5

ANT. S.N. 98220

ANT. TYPE: COMPACT 1/1.2
Weather Conditions: Clear P. Cloudy Overcast Hot Warm Cool Calm Breezy 75 °F +/-



Type of Monument:
Stamping:
Top of marker: ( ) flush M ( ) above: ( ) below: Nat. Ground
Detail Notes:
Rubbing Performed ( )Yes ( )No

1KI3

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1        National Geodetic Survey,   Retrieval Date = MAY  3, 2004
AJ3708 ***********************************************************************
AJ3708  DESIGNATION -  1KI3
AJ3708  PID         -  AJ3708
AJ3708  STATE/COUNTY-  AZ/MARICOPA
AJ3708  USGS QUAD   -  CAVE CREEK (1981)
AJ3708
AJ3708                        *CURRENT SURVEY CONTROL
AJ3708
AJ3708* NAD 83(1992)-  33 48 46.02742(N)    111 53 13.40912(W)     ADJUSTED
AJ3708* NAVD 88     -       786.71   (meters)    2581.1    (feet)  GPS OBS
AJ3708
AJ3708  X           -  -1,977,764.334 (meters)                     COMP
AJ3708  Y           -  -4,923,056.281 (meters)                     COMP
AJ3708  Z           -   3,529,633.662 (meters)                     COMP
AJ3708  LAPLACE CORR-           3.06  (seconds)                    DEFLEC99
AJ3708  ELLIP HEIGHT-         758.00  (meters)          (04/12/01) GPS OBS
AJ3708  GEOID HEIGHT-         -28.66  (meters)                     GEOID03
AJ3708
AJ3708  HORZ ORDER  -  B
AJ3708  ELLP ORDER  -  THIRD     CLASS II
AJ3708
AJ3708.The horizontal coordinates were established by GPS observations
AJ3708.and adjusted by the National Geodetic Survey in April 2001.
AJ3708
AJ3708.The orthometric height was determined by GPS observations and a
AJ3708.high-resolution geoid model using precise GPS observation and
AJ3708.processing techniques.
AJ3708
AJ3708.The X, Y, and Z were computed from the position and the ellipsoidal ht.
AJ3708
AJ3708.The Laplace correction was computed from DEFLEC99 derived deflections.
AJ3708
AJ3708.The ellipsoidal height was determined by GPS observations
AJ3708.and is referenced to NAD 83.
AJ3708
AJ3708.The geoid height was determined by GEOID03.
AJ3708
AJ3708;                    North         East     Units Scale Factor Converg.
AJ3708;SPC AZ C     -   311,890.346   216,101.094   MT  0.99990009   +0 00 59.3
AJ3708;UTM  12      - 3,741,751.985   417,901.576   MT  0.99968309   -0 29 37.2
AJ3708
AJ3708!             -  Elev Factor  x  Scale Factor =   Combined Factor
AJ3708!SPC AZ C     -   0.99988102  x   0.99990009  =   0.99978112
AJ3708!UTM  12      -   0.99988102  x   0.99968309  =   0.99956415
AJ3708
AJ3708                          SUPERSEDED SURVEY CONTROL
AJ3708
AJ3708.No superseded survey control is available for this station.
AJ3708
AJ3708_U.S. NATIONAL GRID SPATIAL ADDRESS: 12SVG1790241752(NAD 83)
AJ3708_MARKER: I = METAL ROD
AJ3708_SETTING: 59 = STAINLESS STEEL ROD IN SLEEVE (10 FT.+)
AJ3708_STAMPING: 1KI3 1999
AJ3708_MARK LOGO: MCDOT
AJ3708_PROJECTION: FLUSH
AJ3708_MAGNETIC: B = BAR MAGNET IMBEDDED IN MONUMENT
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```
AJ3708_STABILITY: A = MOST RELIABLE AND EXPECTED TO HOLD
AJ3708+STABILITY: POSITION/ELEVATION WELL
AJ3708_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR
AJ3708+SATELLITE: SATELLITE OBSERVATIONS - 1999
AJ3708_ROD/PIPE-DEPTH:  5.5 meters
AJ3708_SLEEVE-DEPTH  :  0.8 meters
AJ3708
AJ3708  HISTORY     - Date     Condition        Report By
AJ3708  HISTORY     - 1999     MONUMENTED       MCDOT
AJ3708  HISTORY     - 20020928 GOOD             USPSQD
AJ3708
AJ3708                          STATION DESCRIPTION
AJ3708
AJ3708'DESCRIBED BY MARICOPA CO DOT 1999 (GH)
AJ3708'THE STATION IS LOCATED WITHIN THE CITY OF SCOTTSDALE, TOWNSHIP 05
AJ3708'NORTH, RANGE 05 EAST, SECTION 6
AJ3708'OWNERSHIP - STATE
AJ3708'TO REACH THE STATION FROM THE JUNCTION SR 101 AND VIA DE VENTURA (EXIT
AJ3708'43) , PROCEED WEST ON VIA DE VENTURA FOR ABOUT 0.7 MI (1.1 KM) TO PIMA
AJ3708'ROAD, THENCE TURN RIGHT (NORTH) AND PROCEED ABOUT 18 MI (29.0 KM) ON
AJ3708'PIMA ROAD TO A BRIDGE AT A POINT 0.1 MI (0.2 KM) SOUTH OF STAGECOACH
AJ3708'PASS, THENCE TURN RIGHT (EAST) ENTERING THE WASH AND PROCEED 0.2 MI
AJ3708'(.4 KM) TO A BIG DEAD TREE AND A FORK IN THE WASH, THENCE VEER RIGHT
AJ3708'(SOUTH) AND CONTINUE TO DRIVE IN THE WASH FOR 0.1 MI (0.2 KM) TO AN
AJ3708'ISLAND AND PARK, THENCE WALK TO THE TOP OF THE ISLAND TO THE STATION
AJ3708'AS DESCRIBED
AJ3708'MONUMENT DESCRIPTION - THE STATION IS MARKED BY AN ALUMINUM CAP
AJ3708'COMPRESSED ON A 18.0 FOOT (5.5 M) STAINLESS STEEL ROD DRIVEN TO
AJ3708'REFUSAL ENCASED IN A 1 INCH GREASED PVC SLEEVE ENCLOSED IN A 5 INCH
AJ3708'PVC PIPE WITH A COUNTY LOGO ACCESS COVER STAMPED 1KI3 1999, SURROUNDED
AJ3708'WITH A CONCRETE COLLAR FLUSH WITH THE GROUND, WITNESSED BY A WHITE
AJ3708'CARSONITE MARKER
AJ3708'STATION TIES
AJ3708'61 FEET (18.6 M) FROM THE NORTH CENTERLINE OF THE WASH
AJ3708'28 FEET (8.5 M) FROM THE SOUTH CENTERLINE OF THE WASH
AJ3708'4.1 FEET (1.2 M) NORTHWEST OF CARSONITE MARKER
AJ3708'FOR A TO REACH MAP, STATION IMAGES AND ADDITIONAL INFORMATION, YOU CAN
AJ3708'VISIT WWW.MCDOT.MARICOPA.GOV       SEARCH KEYWORD  GDACS
AJ3708
AJ3708                          STATION RECOVERY (2002)
AJ3708
AJ3708'RECOVERY NOTE BY US POWER SQUADRON 2002
AJ3708'RECOVERED IN GOOD CONDITION.
```

Maricopa County Department of Transportation

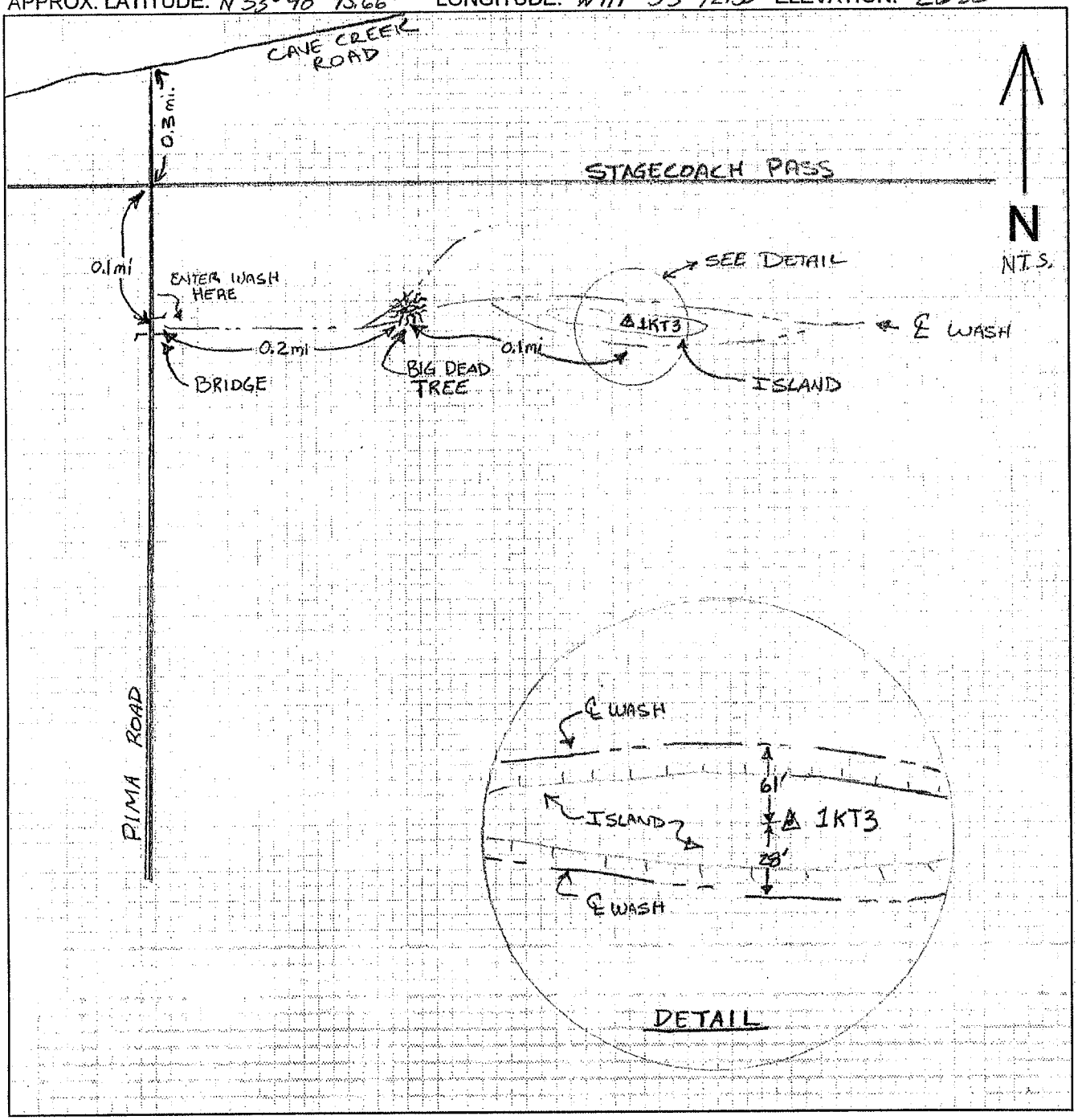
MONUMENT RECORD

STATION NAME: 1KI3 4 LETTER ID: 1KI3

APPROX. LOCATION: T 5N R 5E S 6 GILA AND SALT RIVER MERIDIAN AND BASELINE

AGENCY/FIRM: ENTRANCO SKETCH BY: RTB/G. HUNTER DATE: 9/27/99

APPROX. LATITUDE: N 33°48'45.66" LONGITUDE: W 111°53'12.50" ELEVATION: 2630'



DESCRIPTION OF MONUMENT: NGS 3-D MONUMENT

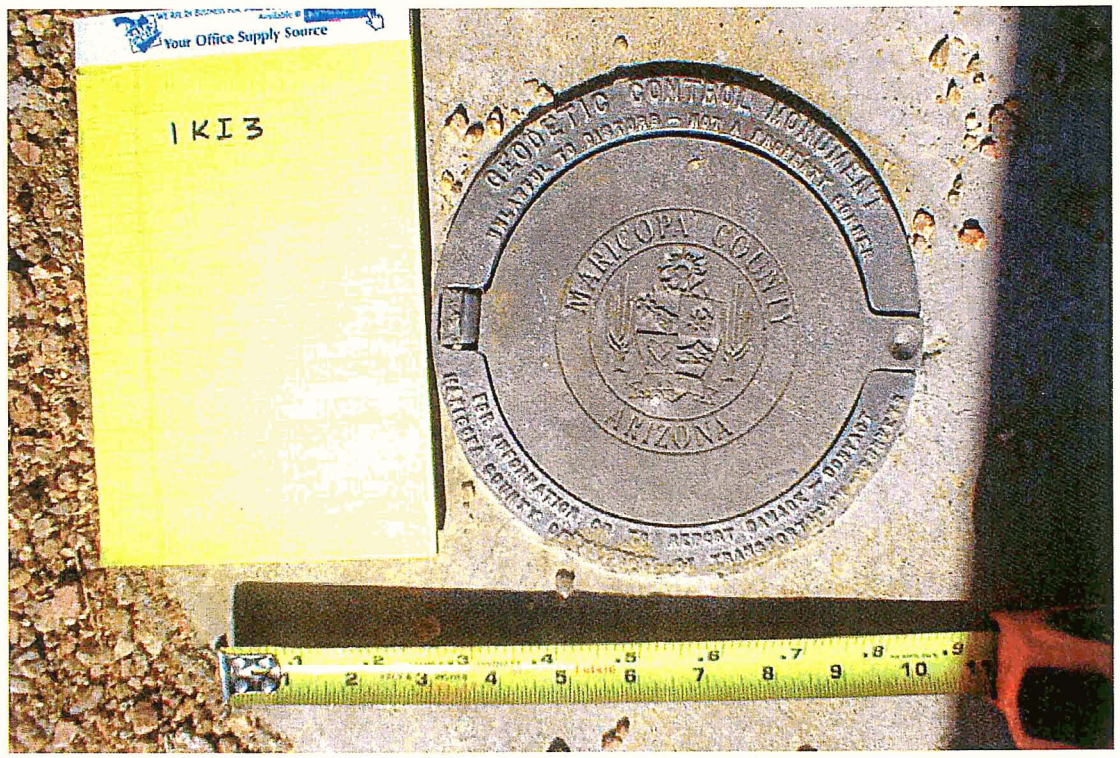
POINT MAY BE ACCESSED FROM PIMA + STAGECOACH

ROD LENGTH = 18'

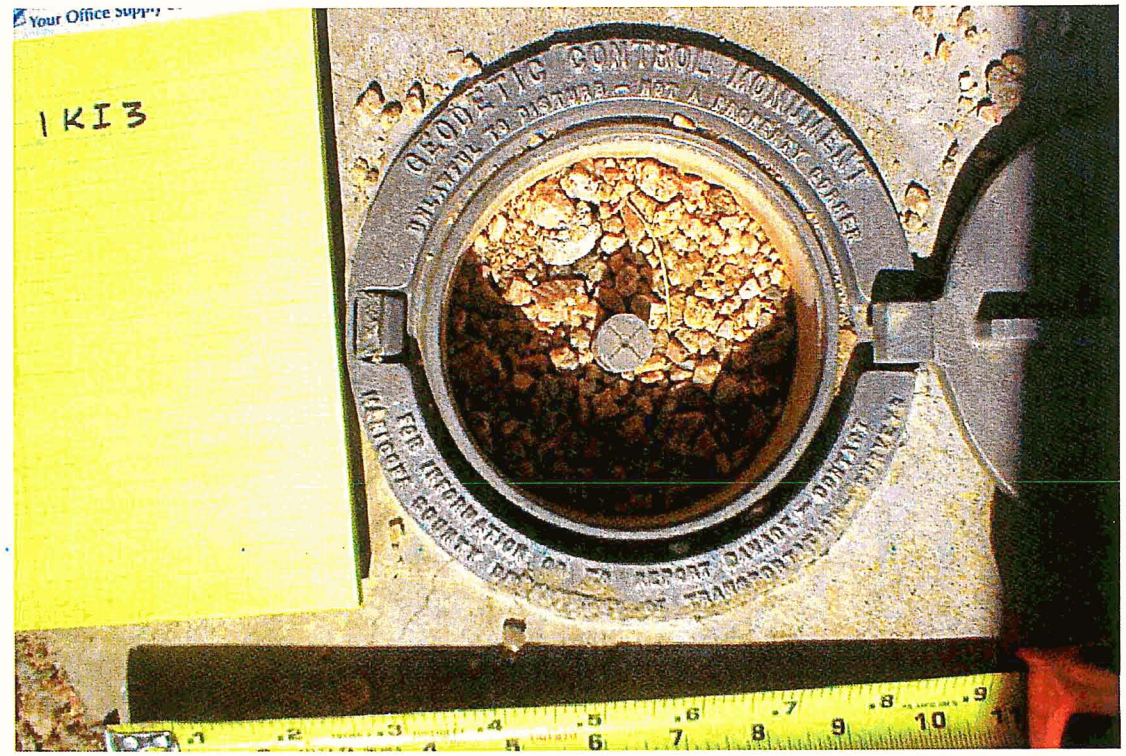
Station Sketch

Sheet 1 of 1

1KI3.JPG

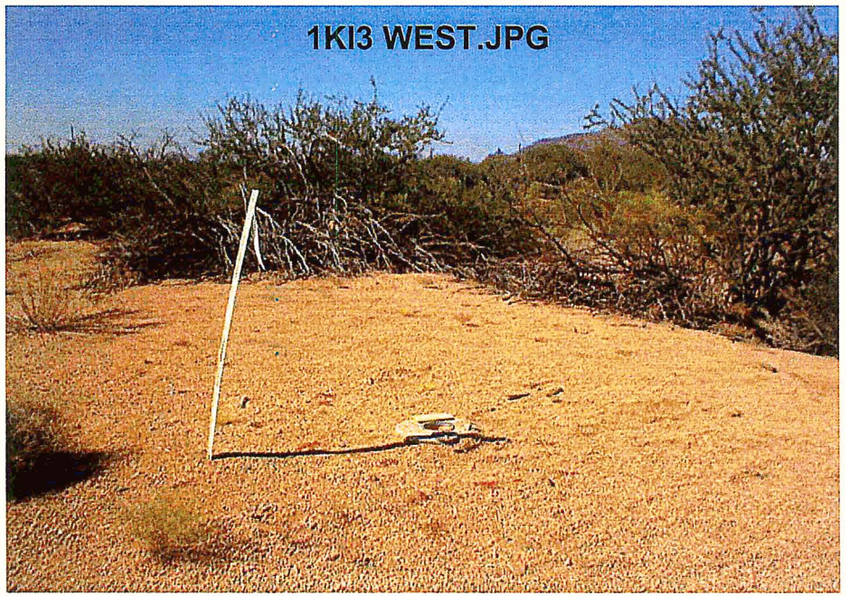


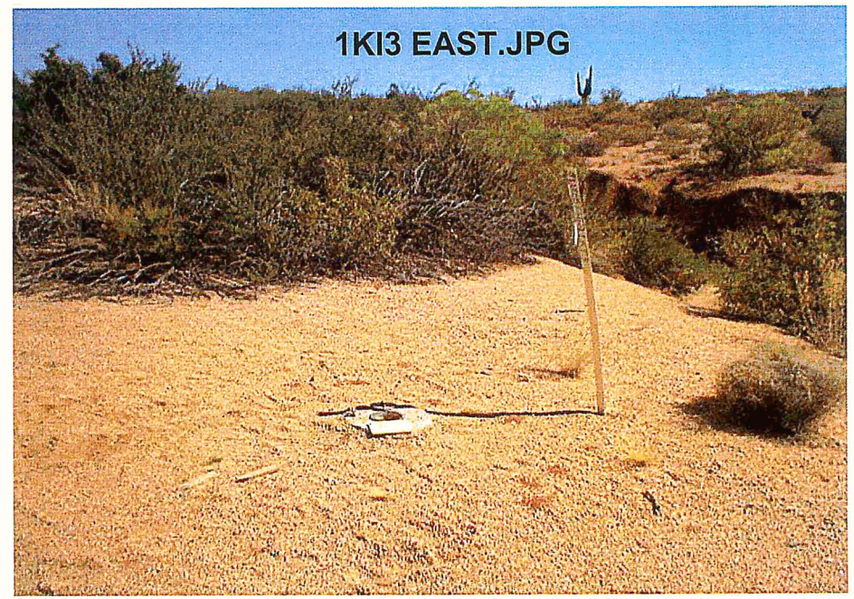
1KI3A.JPG



1KI3 NORTH.JPG

1KI3 SOUTH.JPG


1KI3 WEST.JPG


1KI3 EAST.JPG

A TEAM Professional Associates, INC.
GPS STATION LOG

1920 W. Peoria Avenue, Phoenix, Arizona - 85029 - (602) 906-0020 - (602) 906-0019 Fax

Station Name: IKE3 .
Receiver No: 4083 .
Day of Year: 277 2007 .
Session No: 1 .

Project Name: CAVE CREEK DMP .
Job number: 1686-1 .
Local Date: mo. 10 day 04 year 07 .
Operator: JASON GRAHAM .

C/A CODE POSITION

Beg:
Lat: : 33 ° 48 ' 46.07 " N
Long: 111 ° 53 ' 13.43 " W
Ellip. Height: 760.7 M PDOP: 1.8 .

Ending:
Lat: 33 ° 48 ' 46 03 " N
Long: 111 ° 53 ' 13 46 " W
Ellip. Height: 759.3 M PDOP: 2.0 .

DC# _____ & FILENAME _____
Receiver Model: 4000 SSE .
Antenna Type: COMPACT L1/L2 W/GP .
Fixed Height Pole No: 5

Local-UTC Time Offset: MST= -7:00 .
Type of Survey: Fast Static (X) .
Actual= Start 09 : 04 , Stop: 12 : 41 , UTC
Beg. SV's Used: 03, 13, 16, 23, 25, 27 .
End SV's Used: 17, 09, 26, 29, 19, 29, 11, 25, 27 .

Ant. Height (M) using fixed height pole and measured to Bottom of Antenna: 1.5M

ANT. S.N. 02046

ANT. TYPE: _____

Weather Conditions: Clear (P. Cloudy) Overcast Hot (Warm) Cool (Calm) Breezy 85 °F +/- .

Type of Monument: _____ Stamping: _____ .
Top of marker: ( ) flush M ( ) above: ( ) below: Nat. Ground Detail Notes: _____ .

Rubbing Performed ( )Yes. ( )No _____ .

A TEAM Professional Associates, INC.
GPS STATION LOG

1920 W. Peoria Avenue, Phoenix, Arizona - 85029 - (602) 906-0020 - (602) 906-0019 Fax

Station Name: 1HI3
Receiver No: 7662
Day of Year: 278 2007
Session No: 1

Project Name: CAVE CREEK DMP
Job number: 1686-1
Local Date: mo. 10 day 05 year 07
Operator: JASON GRAHAM

C/A CODE POSITION
Beg:
Lat: : 33 ° 48 ' 46.12 " N
Long: 111 ° 53 ' 13.50 " W
Ellip. Height: 760.6 M PDOP: 2.0
Ending:
Lat: 33 ° 48 ' 46.01 " N
Long: 111 ° 53 ' 13.42 " W
Ellip. Height: 759.4 M PDOP: 2.0

DC# — & FILENAME
Receiver Model: 4000 SSE
Antenna Type: COMPACT L1/L2 W/GP
Fixed Height Pole No: 5

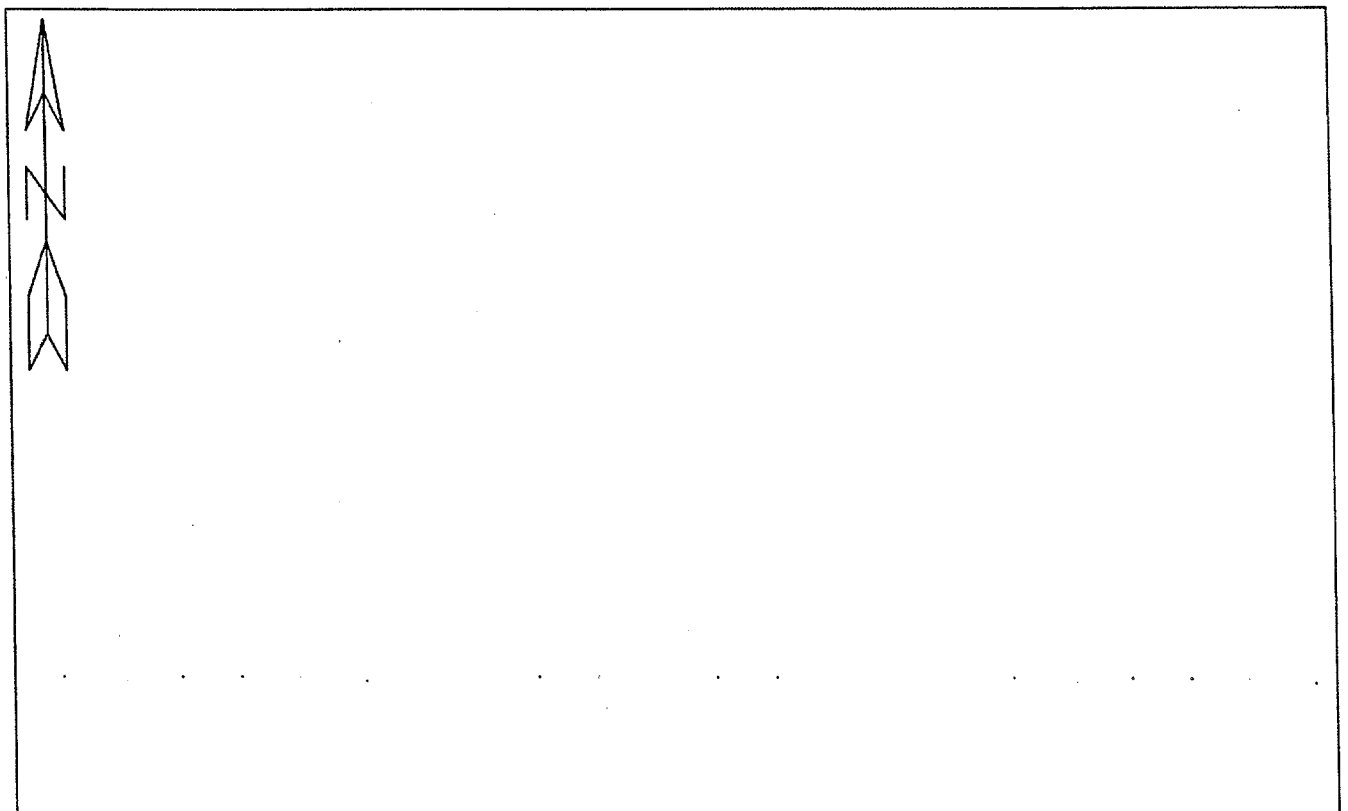
Local-UTC Time Offset: MST= -7:00
Type of Survey: Fast Static (X)
Actual= Start : , Stop: 11 : 56 , UTC
Beg. SV's Used: 01, 13, 16, 20, 23, 25
End SV's Used: 19 17 08, 13, 23, 25, 11, 25

Ant. Height (M) using fixed height pole and measured to Bottom of Antenna: 1.5 M

ANT. S.N. 14399

ANT. TYPE: COMPACT L1/L2

Weather Conditions: Clear P. Cloudy Overcast Hot Warm Cool Calm Breezy °F +/-



Type of Monument: Stamping:
Top of marker: ( ) flush M ( ) above: ( ) below: Nat. Ground Detail Notes:

Rubbing Performed ( )Yes ( )No

1LG2

```
1        National Geodetic Survey,   Retrieval Date = MAY  3, 2004
AJ3731 ***********************************************************************
AJ3731  DESIGNATION -  1LG2
AJ3731  PID         -  AJ3731
AJ3731  STATE/COUNTY-  AZ/MARICOPA
AJ3731  USGS QUAD   -  CAVE CREEK (1981)
AJ3731
AJ3731                         *CURRENT SURVEY CONTROL
AJ3731
AJ3731* NAD 83(1992)-  33 51 51.75156(N)    111 58 40.06151(W)     ADJUSTED
AJ3731* NAVD 88     -       703.42   (meters)    2307.8    (feet)  GPS OBS
AJ3731
AJ3731  X           -  -1,984,339.728 (meters)                     COMP
AJ3731  Y           -  -4,916,898.631 (meters)                     COMP
AJ3731  Z           -   3,534,340.888 (meters)                     COMP
AJ3731  LAPLACE CORR-           2.90  (seconds)                    DEFLEC99
AJ3731  ELLIP HEIGHT-         674.78  (meters)          (04/12/01) GPS OBS
AJ3731  GEOID HEIGHT-         -28.59  (meters)                     GEOID03
AJ3731
AJ3731  HORZ ORDER  -  B
AJ3731  ELLP ORDER  -  THIRD     CLASS II
AJ3731
AJ3731.The horizontal coordinates were established by GPS observations
AJ3731.and adjusted by the National Geodetic Survey in April 2001.
AJ3731
AJ3731.The orthometric height was determined by GPS observations and a
AJ3731.high-resolution geoid model using precise GPS observation and
AJ3731.processing techniques.
AJ3731
AJ3731.The X, Y, and Z were computed from the position and the ellipsoidal ht.
AJ3731
AJ3731.The Laplace correction was computed from DEFLEC99 derived deflections.
AJ3731
AJ3731.The ellipsoidal height was determined by GPS observations
AJ3731.and is referenced to NAD 83.
AJ3731
AJ3731.The geoid height was determined by GEOID03.
AJ3731
AJ3731;                    North         East     Units Scale Factor Converg.
AJ3731;SPC AZ C     -   317,613.401   207,704.291   MT  0.99990039   -0 02 02.6
AJ3731;UTM  12      - 3,747,548.416   409,557.834   MT  0.99970084   -0 32 41.6
AJ3731
AJ3731!             -  Elev Factor  x  Scale Factor =   Combined Factor
AJ3731!SPC AZ C     -   0.99989408  x   0.99990039  =   0.99979448
AJ3731!UTM  12      -   0.99989408  x   0.99970084  =   0.99959495
AJ3731
AJ3731                          SUPERSEDED SURVEY CONTROL
AJ3731
AJ3731.No superseded survey control is available for this station.
AJ3731
AJ3731_U.S. NATIONAL GRID SPATIAL ADDRESS: 12SVC0955847548(NAD 83)
AJ3731_MARKER: I = METAL ROD
AJ3731_SETTING: 15 = METAL ROD DRIVEN INTO GROUND. SEE TEXT FOR ADDITIONAL
AJ3731+WITH SETTING: INFORMATION.
AJ3731_STAMPING: 1LG2 1999
AJ3731_MARK LOGO: MCDOT
AJ3731_PROJECTION: FLUSH
```

```
AJ3731_MAGNETIC: B = BAR MAGNET IMBEDDED IN MONUMENT
AJ3731_STABILITY: A = MOST RELIABLE AND EXPECTED TO HOLD
AJ3731+STABILITY: POSITION/ELEVATION WELL
AJ3731_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR
AJ3731+SATELLITE: SATELLITE OBSERVATIONS - 1999
AJ3731_ROD/PIPE-DEPTH:  0.9 meters
AJ3731_SLEEVE-DEPTH  :  0.8 meters
AJ3731
AJ3731  HISTORY     - Date     Condition        Report By
AJ3731  HISTORY     - 1999     MONUMENTED       MCDOT
AJ3731
AJ3731                          STATION DESCRIPTION
AJ3731
AJ3731'DESCRIBED BY MARICOPA CO DOT 1999 (RJB)
AJ3731'THE STATION IS LOCATED WITHIN THE TOWN OF CAVE CREEK, TOWNSHIP 06
AJ3731'NORTH, RANGE 04 EAST, SECTION 18
AJ3731'OWNERSHIP - PRIVATE
AJ3731'TO REACH THE STATION FROM THE JUNCTION OF I-17 AND CAREFREE HWY (SR
AJ3731'74) (EXIT 223) , DRIVE EAST ON THE CAREFREE HWY FOR 10.0 MI (16.1 KM)
AJ3731'TO CAVE CREEK ROAD THENCE, TURN LEFT (NORTH) ONTO CAVE CREEK ROAD AND
AJ3731'DRIVE NORTHERLY TO SPUR CROSS ROAD, THENCE TURN LEFT (NORTH) ONTO SPUR
AJ3731'CROSS ROAD AND DRIVE 0.2 MI (0.3 KM) TO GRAPEVINE ROAD, THENCE TURN
AJ3731'RIGHT (EAST) ONTO GRAPEVINE ROAD AND DRIVE 150 FEET (45.7 M) TO SPUR
AJ3731'CROSS ROAD, THENCE TURN LEFT (NORTH) ONTO SPUR CROSS ROAD AND DRIVE
AJ3731'NORTHERLY 1.5 MI (2.4 KM) TO CHINA RANCH ROAD, THENCE TURN LEFT (WEST)
AJ3731'AND DRIVE WESTERLY 0.5 MI (0.8 KM) TO ROCKAWAY HILLS ROAD, THENCE TURN
AJ3731'LEFT (WEST) ONTO ROCKAWAY HILLS ROAD AND DRIVE 0.2 MI (0.3 KM) TO OLD
AJ3731'STAGE ROAD, THENCE TURN RIGHT (NORTH) ONTO OLD STAGE ROAD AND DRIVE
AJ3731'0.4 MI (0.6 KM) TO AN UNNAMED DIRT ROAD, THENCE TURN LEFT (WEST) ONTO
AJ3731'UNNAMED DIRT ROAD AND DRIVE 0.2 MI (0.3 KM) TO A JUNCTION OR FORK,
AJ3731'THENCE TURN OR KEEP RIGHT (NORTH) ONTO JUNCTION OR FORK AND DRIVE IN A
AJ3731'WESTERLY DIRECTION (THE DIRT ROAD WILL MEANDER NORTH AND SOUTH) FOR
AJ3731'0.5 MI (0.8 KM) AND PARK, WALK WEST 13 FEET (4.0 M) TO THE STATION AS
AJ3731'DESCRIBED
AJ3731'MONUMENT DESCRIPTION - THE STATION IS MARKED BY AN ALUMINUM CAP
AJ3731'COMPRESSED ON A 3.0 FOOT (0.9 M) STAINLESS STEEL ROD DRIVEN TO REFUSAL
AJ3731'ENCASED IN A 1 INCH GREASED PVC SLEEVE ENCLOSED IN A 5 INCH PVC PIPE
AJ3731'WITH A COUNTY LOGO ACCESS COVER STAMPED 1LG2 1999, SURROUNDED WITH A
AJ3731'CONCRETE COLLAR FLUSH WITH THE GROUND, WITNESSED BY A WHITE CARSONITE
AJ3731'MARKER
AJ3731'STATION TIES
AJ3731'STATION IS JUST SOUTH OF A U SHAPED DRIVEWAY WITH A HOUSE
AJ3731'13.0 FT (4.0 M) WEST AND PERPENDICULAR TO THE WEST EDGE OF DIRT ROAD
AJ3731'3.0 FT (0.9 M) NORTHEAST OF CARSONITE MARKER
AJ3731'FOR A TO REACH MAP, STATION IMAGES AND ADDITIONAL INFORMATION, YOU CAN
AJ3731'VISIT WWW.MCDOT.MARICOPA.GOV       SEARCH KEYWORD  GDACS
```

Maricopa County Department of Transportation

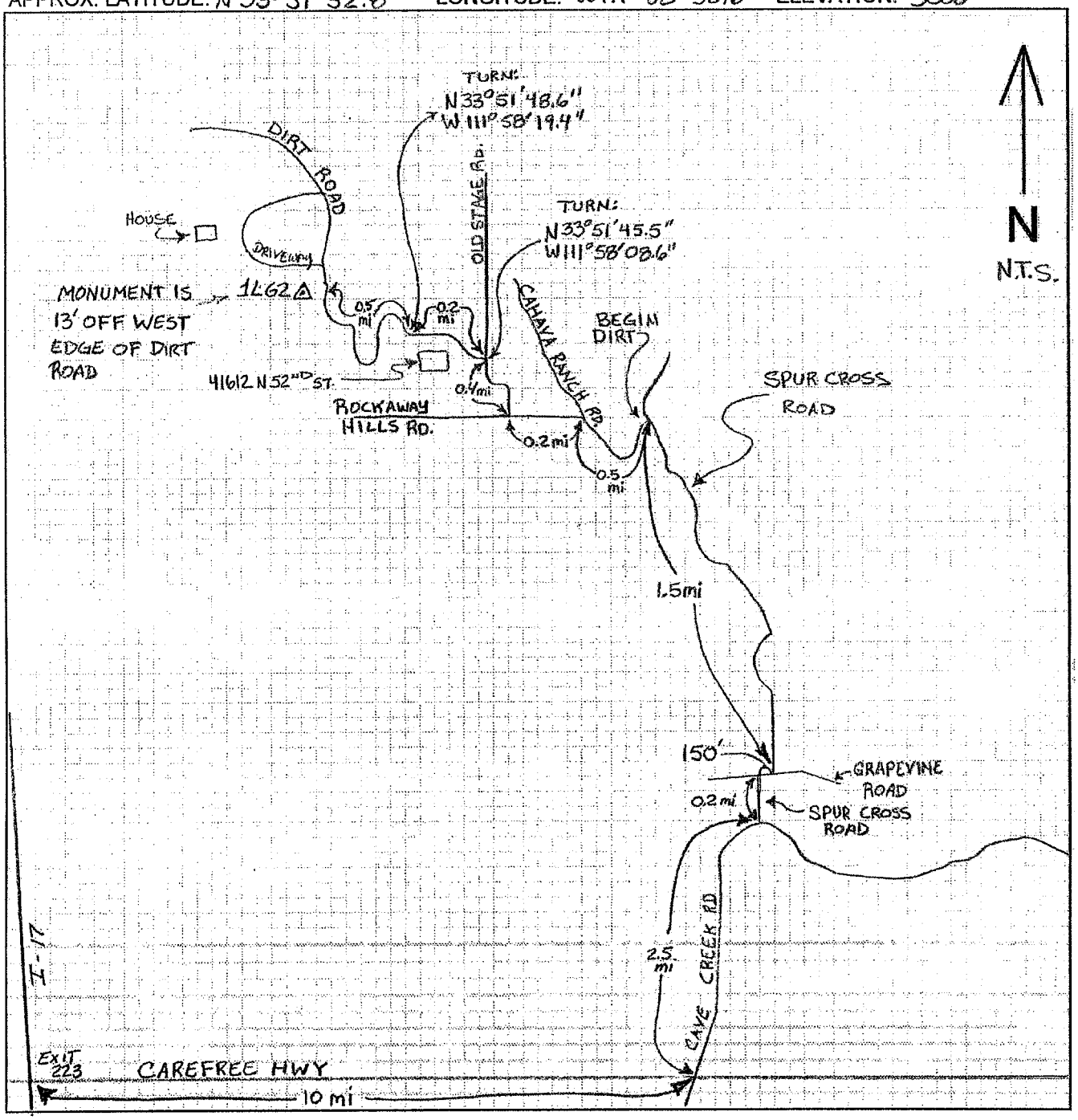
MONUMENT RECORD

STATION NAME: 1LG2 4 LETTER ID: 1LG2

APPROX. LOCATION: T 6N R 4E S 18 GILA AND SALT RIVER MERIDIAN AND BASELINE

AGENCY/FIRM: ENTRANCO SKETCH BY: RJB/G. HUNTER DATE: 12/14/99

APPROX. LATITUDE: N 33°51' 52.8" LONGITUDE: W111°58' 38.6" ELEVATION: 3000'



DESCRIPTION OF MONUMENT: NGS 3-D MONUMENT WITHOUT CARSONITE POST

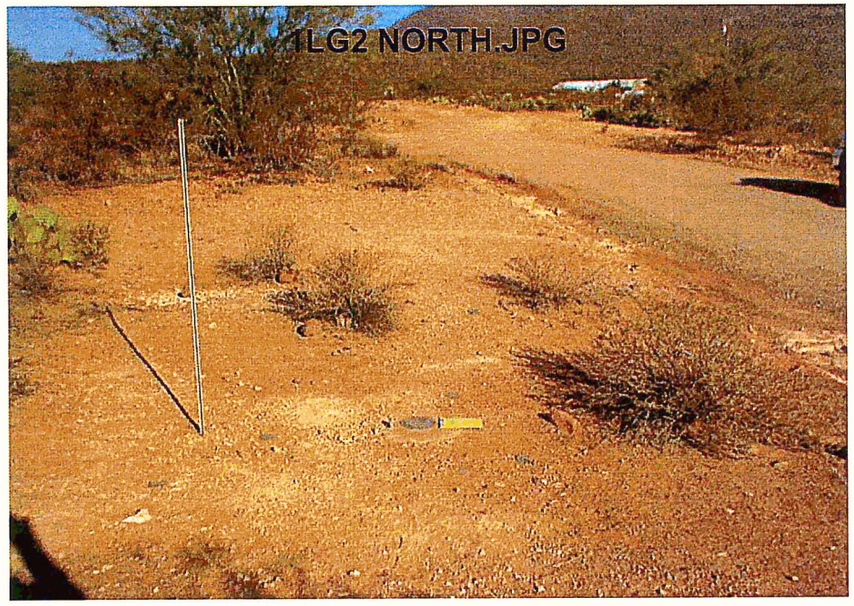
ROD LENGTH = 3 FEET

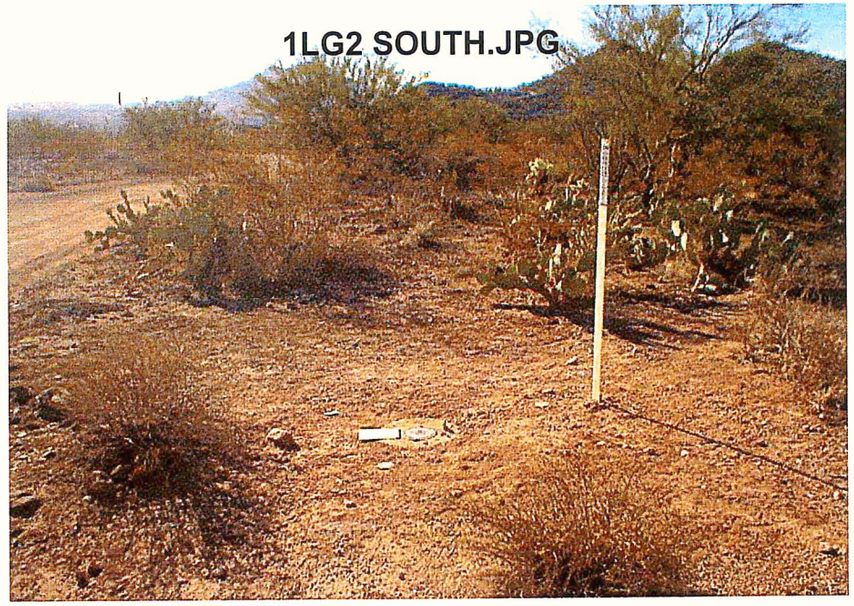
Station Sketch

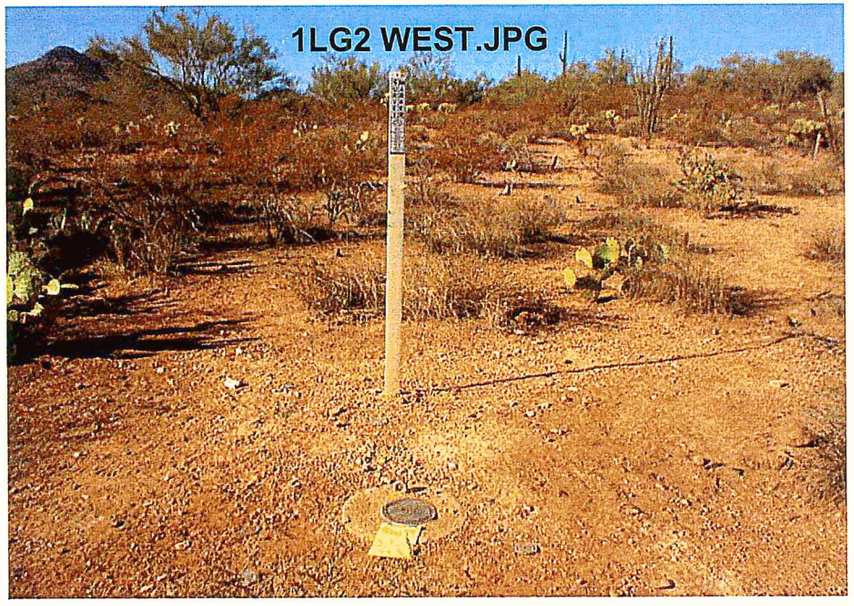
Sheet 1 of 1

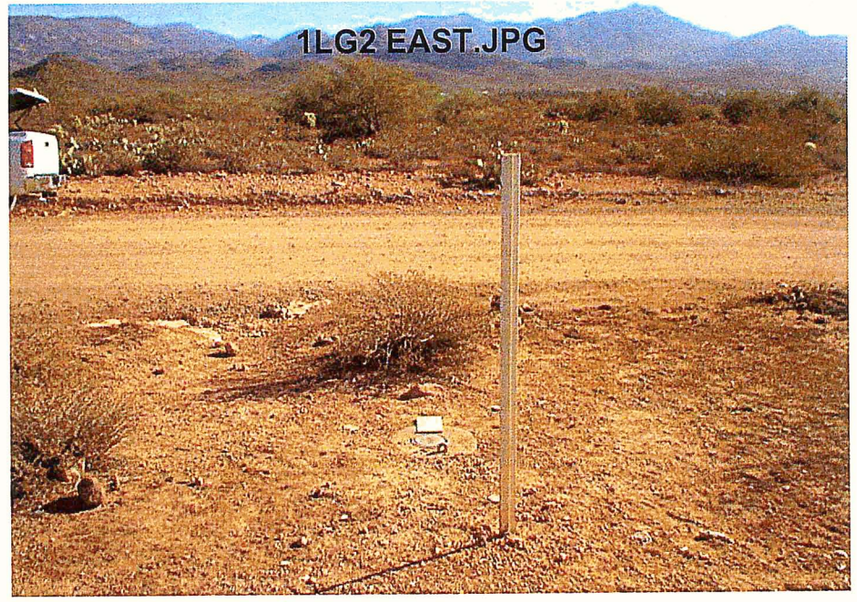
1LG2.JPG

1LG2A.JPG


1LG2 NORTH.JPG


1LG2 SOUTH.JPG


1LG2 WEST.JPG


1LG2 EAST.JPG

A TEAM Professional Associates, INC.
GPS STATION LOG

1920 W. Peoria Avenue, Phoenix, Arizona - 85029 - (602) 906-0020 - (602) 906-0019 Fax

Station Name: 1LG2
Receiver No: C2
Day of Year: 10 / 04 277 2007
Session No: ~~[illegible]~~

Project Name: CAVE CREEK DMP
Job number: 1686-1
Local Date: mo. 10 day 04 year 07
Operator: LEMUEL STEAN

C/A CODE POSITION

Beg:
Lat: : 33 ° 51 ' 51.80341" N
Long: 111 ° 58 ' 40.10644" W
Ellip. Height: 2210.618 ~~M~~ PDOP: 2.4

Ending:
Lat: 33 ° 51 ' 51.75616" N
Long: 111 ° 58 ' 40.12640" W
Ellip. Height: 2212.901 ~~M~~ PDOP: 1.9

DC# C7 & FILENAME
Receiver Model: 4800
Antenna Type: 4800 INTERNAL
Fixed Height Pole No: SLIP LEG

Local-UTC Time Offset: MST= -7:00
Type of Survey: Fast Static (X)
Actual= Start 7 : 15 , Stop: 12 : 37 , UTC
Beg. SV's Used: 1, 13, 16, 20, 23, 25, 31
End SV's Used: 8, 11, 17, 19, 25, 26, 27, 28, 29

Ant. Height ~~(M)~~ FT using fixed height pole and measured to ~~Bottom of Antenna~~: 5.235
HOOK USING 4800 TAPE

ANT. S.N. 73517

ANT. TYPE: 4800 INTERNAL

Weather Conditions: Clear P. Cloudy Overcast Hot Warm Cool Calm Breezy °F +/-

Type of Monument: GDAC
Stamping:
Top of marker: ( ) flush M ( ) above: ( ) below: Nat. Ground
Detail Notes:

Rubbing Performed ( )Yes ( )No

A TEAM Professional Associates, INC.
GPS STATION LOG

1920 W. Peoria Avenue, Phoenix, Arizona - 85029 - (602) 906-0020 - (602) 906-0019 Fax

Station Name: 1L62 .
Receiver No: 73517 .
Day of Year: 278 2007 .
Session No: DAY BURN .

Project Name: CAVE CREEK DMP .
Job number: 1686-1 .
Local Date: mo. 10 day 05 year 07.
Operator: L. SPEAN .

C/A CODE POSITION

Beg:
Lat: : 33 ° 51 ' 51.82057 " N
Long: 111 ° 58 ' 40.12958 " W
Ellip. Height: 2212.02 ~~M~~ PDOP: 1.7.

Ending:
Lat: 33 ° 51 ' 51.74 " N
Long: 111 ° 58 ' 40.10 " W
Ellip. Height: 2203.721 ~~M~~ PDOP: 1.8.

DC# C7 & FILENAME 1686.1
Receiver Model: 4800 .
Antenna Type: TRIMBLE INTERNAL .
Fixed Height Pole No: _____

Local-UTC Time Offset: MST= -7:00 .
Type of Survey: Fast Static (X) .
Actual= Start 7 : 25 . Stop: 12 : 22 . UTC
Beg. SV's Used: 1, 13, 16, 20, 23, 25, 27, 31
End SV's Used: 8, 11, 17, 19, 25, 26, 27, 28, 29

Ant. Height (M) using fixed height pole and measured to Bottom of Antenna: 1.5 (M)

ANT. S.N. 73517

ANT. TYPE: 4800

Weather Conditions: Clear P. Cloudy Overcast Hot Warm Cool Calm Breezy °F +/- .

Type of Monument: _____ Stamping: _____.
Top of marker: ( ) flush M ( ) above: ( ) below: Nat. Ground Detail Notes: _____.

Rubbing Performed ( )Yes ( )No _____.

1LH3

```
1        National Geodetic Survey,   Retrieval Date = MAY  3, 2004
AJ3733 ***********************************************************************
AJ3733  DESIGNATION -  1LH3
AJ3733  PID         -  AJ3733
AJ3733  STATE/COUNTY-  AZ/MARICOPA
AJ3733  USGS QUAD   -  CAVE CREEK (1981)
AJ3733
AJ3733                        *CURRENT SURVEY CONTROL
AJ3733
AJ3733* NAD 83(1992)-  33 50 05.23617(N)    111 56 24.32045(W)     ADJUSTED
AJ3733* NAVD 88     -       697.58   (meters)    2288.6    (feet)  GPS OBS
AJ3733
AJ3733  X           -  -1,981,784.791 (meters)                     COMP
AJ3733  Y           -  -4,919,894.711 (meters)                     COMP
AJ3733  Z           -   3,531,611.724 (meters)                     COMP
AJ3733  LAPLACE CORR-           3.36  (seconds)                    DEFLEC99
AJ3733  ELLIP HEIGHT-         668.87  (meters)          (04/12/01) GPS OBS
AJ3733  GEOID HEIGHT-         -28.66  (meters)                     GEOID03
AJ3733
AJ3733  HORZ ORDER  -  B
AJ3733  ELLP ORDER  -  THIRD     CLASS II
AJ3733
AJ3733.The horizontal coordinates were established by GPS observations
AJ3733.and adjusted by the National Geodetic Survey in April 2001.
AJ3733
AJ3733.The orthometric height was determined by GPS observations and a
AJ3733.high-resolution geoid model using precise GPS observation and
AJ3733.processing techniques.
AJ3733
AJ3733.The X, Y, and Z were computed from the position and the ellipsoidal ht.
AJ3733
AJ3733.The Laplace correction was computed from DEFLEC99 derived deflections.
AJ3733
AJ3733.The ellipsoidal height was determined by GPS observations
AJ3733.and is referenced to NAD 83.
AJ3733
AJ3733.The geoid height was determined by GEOID03.
AJ3733
AJ3733;                    North         East     Units Scale Factor Converg.
AJ3733;SPC AZ C     -   314,330.447   211,192.168   MT  0.99990006   -0 00 46.9
AJ3733;UTM  12      - 3,744,235.182   413,015.612   MT  0.99969327   -0 31 24.5
AJ3733
AJ3733!             -  Elev Factor  x  Scale Factor =   Combined Factor
AJ3733!SPC AZ C     -   0.99989501  x   0.99990006  =   0.99979508
AJ3733!UTM  12      -   0.99989501  x   0.99969327  =   0.99958831
AJ3733
AJ3733                          SUPERSEDED SURVEY CONTROL
AJ3733
AJ3733.No superseded survey control is available for this station.
AJ3733
AJ3733_U.S. NATIONAL GRID SPATIAL ADDRESS: 12SVC1301644235(NAD 83)
AJ3733_MARKER: I = METAL ROD
AJ3733_SETTING: 15 = METAL ROD DRIVEN INTO GROUND. SEE TEXT FOR ADDITIONAL
AJ3733+WITH SETTING: INFORMATION.
AJ3733_STAMPING: 1LH3 1999
AJ3733_MARK LOGO: MCDOT
AJ3733_PROJECTION: FLUSH
```

AJ3733_MAGNETIC: B = BAR MAGNET IMBEDDED IN MONUMENT
AJ3733_STABILITY: A = MOST RELIABLE AND EXPECTED TO HOLD
AJ3733+STABILITY: POSITION/ELEVATION WELL
AJ3733_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR
AJ3733+SATELLITE: SATELLITE OBSERVATIONS - 1999
AJ3733_ROD/PIPE-DEPTH: 0.9 meters
AJ3733_SLEEVE-DEPTH : 0.8 meters
AJ3733
AJ3733 HISTORY - Date Condition Report By
AJ3733 HISTORY - 1999 MONUMENTED MCDOT
AJ3733
AJ3733 STATION DESCRIPTION
AJ3733
AJ3733'DESCRIBED BY MARICOPA CO DOT 1999 (GH)
AJ3733'THE STATION IS LOCATED WITHIN THE TOWN OF CAVE CREEK, TOWNSHIP 06
AJ3733'NORTH, RANGE 04 EAST, SECTION 27
AJ3733'OWNERSHIP - PRIVATE
AJ3733'TO REACH THE STATION FROM THE JUNCTION OF I-17 AND CAREFREE HWY (SR
AJ3733'74) (EXIT 223) , DRIVE EAST ON THE CAREFREE HWY 10.0 MI (16.1 KM) TO
AJ3733'CAVE CREEK ROAD THENCE, TURN LEFT (NORTH) ONTO CAVE CREEK ROAD AND
AJ3733'DRIVE NORTHERLY 3.0 MI (4.8 KM) TO SCHOOL HOUSE ROAD, THENCE CONTINUE
AJ3733'EASTERLY ON CAVE CREEK ROAD FOR 0.3 MI (0.5 KM) TO A DIRT ROAD ON THE
AJ3733'LEFT (NORTH) SIDE OF THE ROAD (JUST BEFORE A POWER POLE), THENCE TURN
AJ3733'LEFT (NORTH) ONTO DIRT ROAD AND DRIVE NORTHERLY FOR 0.1 MI (0.2 KM) TO
AJ3733'ANOTHER DIRT ROAD AT THE TOP OF THE HILL (THIS ROAD RUNS EAST WEST),
AJ3733'THENCE TURN LEFT (WEST) ONTO DIRT ROAD AND DRIVE 0.2 MI (0.3 KM) TO
AJ3733'THE STATION ON THE LEFT (SOUTH) SIDE OF DIRT ROAD, STATION DESCRIBED
AJ3733'AS
AJ3733'THE STATION AS DESCRIBED
AJ3733'MONUMENT DESCRIPTION - THE STATION IS MARKED BY AN ALUMINUM CAP
AJ3733'COMPRESSED ON A 3.0 FOOT (0.9 M) STAINLESS STEEL ROD DRIVEN TO REFUSAL
AJ3733'ENCASED IN A 1 INCH GREASED PVC SLEEVE ENCLOSED IN A 5 INCH PVC PIPE
AJ3733'WITH A COUNTY LOGO ACCESS COVER STAMPED 1LH3 1999, SURROUNDED WITH A
AJ3733'CONCRETE COLLAR FLUSH WITH THE GROUND, WITNESSED BY A WHITE CARSONITE
AJ3733'MARKER
AJ3733'STATION TIES
AJ3733'200 FT (61.0 M) WEST OF AND PERPENDICULAR TO POWER LINE WITH WOODEN
AJ3733'POLES
AJ3733'62 FT (18.9 M) EAST OF AND PERPENDICULAR TO BLOCKED ACCESS ROAD
AJ3733'21 FT (6.4 M) SOUTH OF AND PERPENDICULAR TO DESERT FOOTHILLS LIBRARY
AJ3733'ACCESS ROAD
AJ3733'5.0 FT (1.5 M) NORTH OF WHITE CARSONITE MARKER
AJ3733'FOR A TO REACH MAP, STATION IMAGES AND ADDITIONAL INFORMATION, YOU CAN
AJ3733'VISIT WWW.MCDOT.MARICOPA.GOV SEARCH KEYWORD GDACS

Maricopa County Department of Transportation

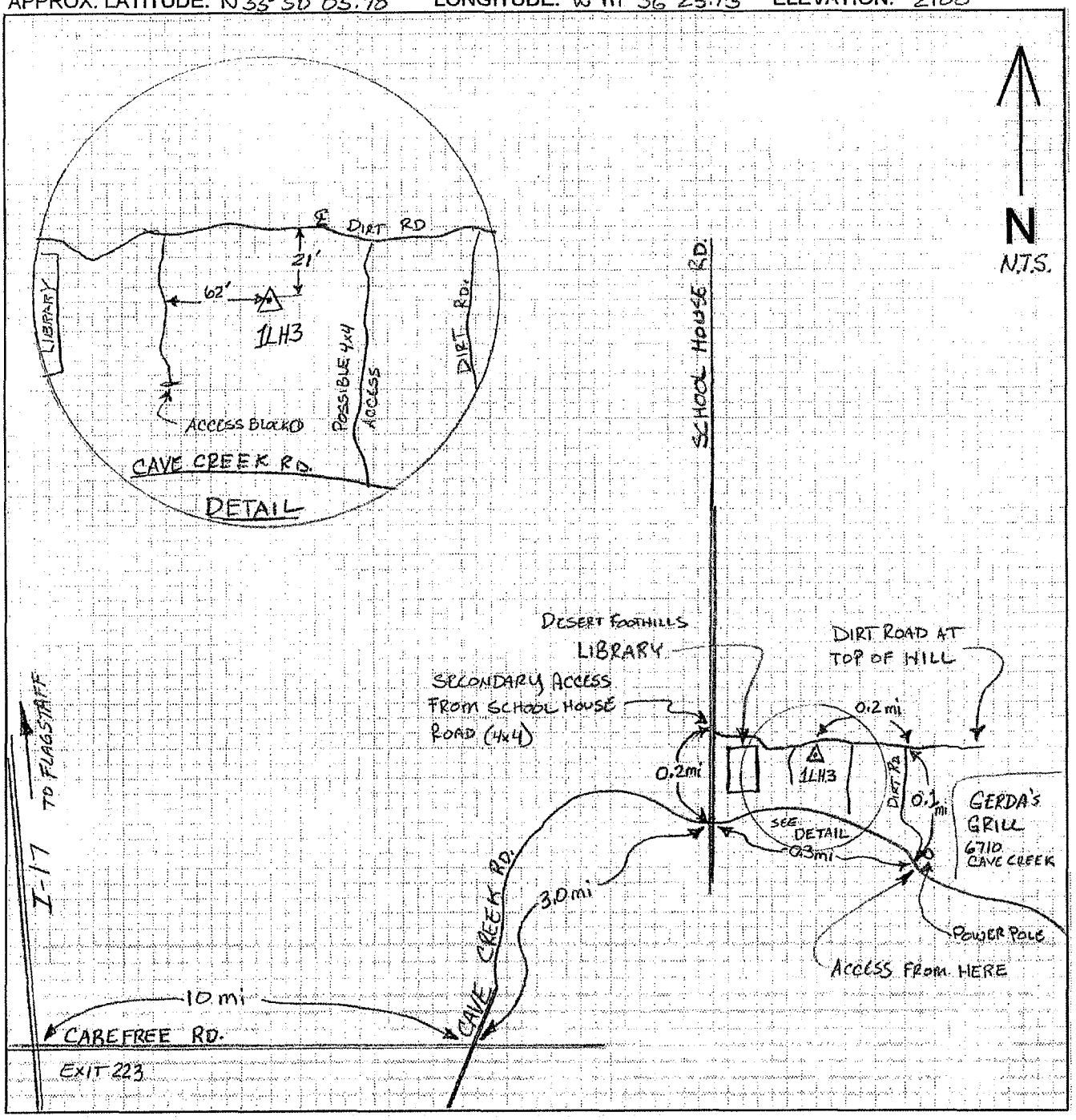
MONUMENT RECORD

STATION NAME: 1LH3 4 LETTER ID: 1LH3

APPROX. LOCATION: T 6N R 4E S 27 GILA AND SALT RIVER MERIDIAN AND BASELINE

AGENCY/FIRM: ENTRANCO SKETCH BY: RJB/G. HUNTER DATE: 9/29/99

APPROX. LATITUDE: N 33° 50' 05.78" LONGITUDE: W 111° 56' 23.73" ELEVATION: 2100'



DESCRIPTION OF MONUMENT: NGS 3-D MONUMENT

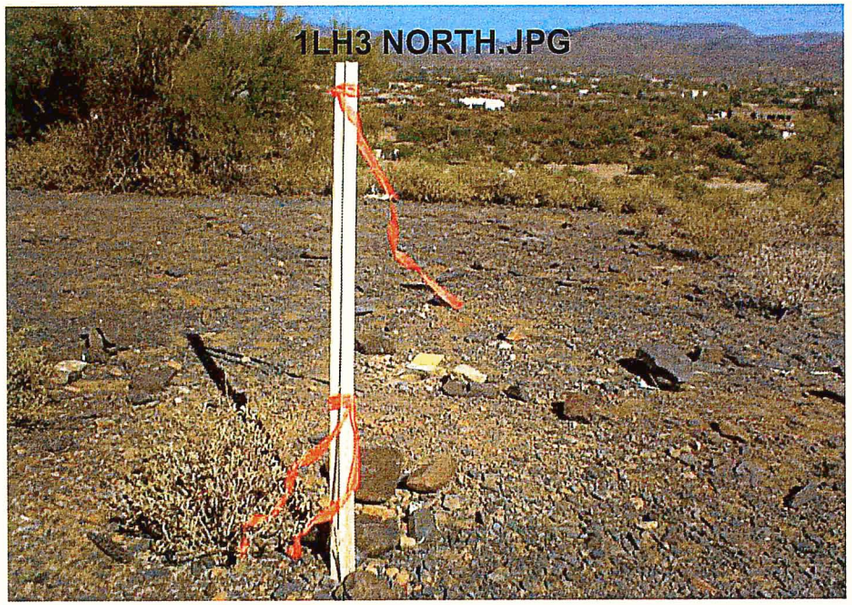
THIS MONUMENT IS CODED AS 4x4 NECESSARY, HOWEVER IT IS BARELY ACCESSIBLE BY 2x4 TRUCK. HEADING EAST ON CAVE CREEK, TURN IN (NORTH) JUST WEST OF A POWER POLE THAT IS JUST WEST OF GERDA'S GRILL.

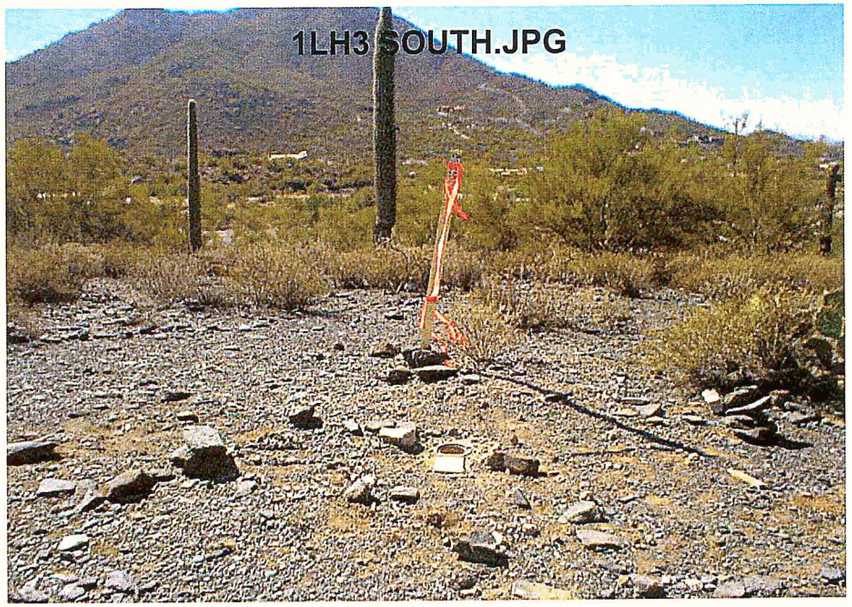
ROD LENGTH = 3 FEET

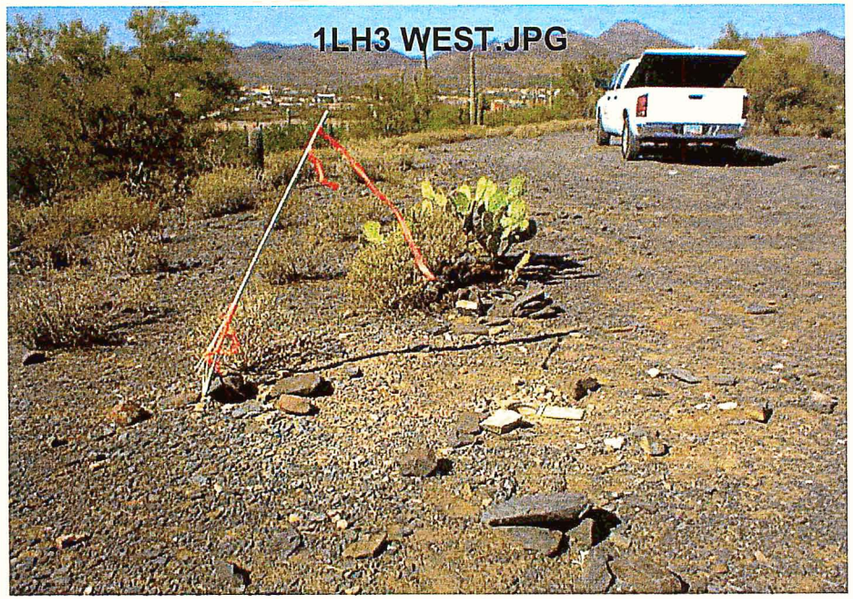
Station Sketch

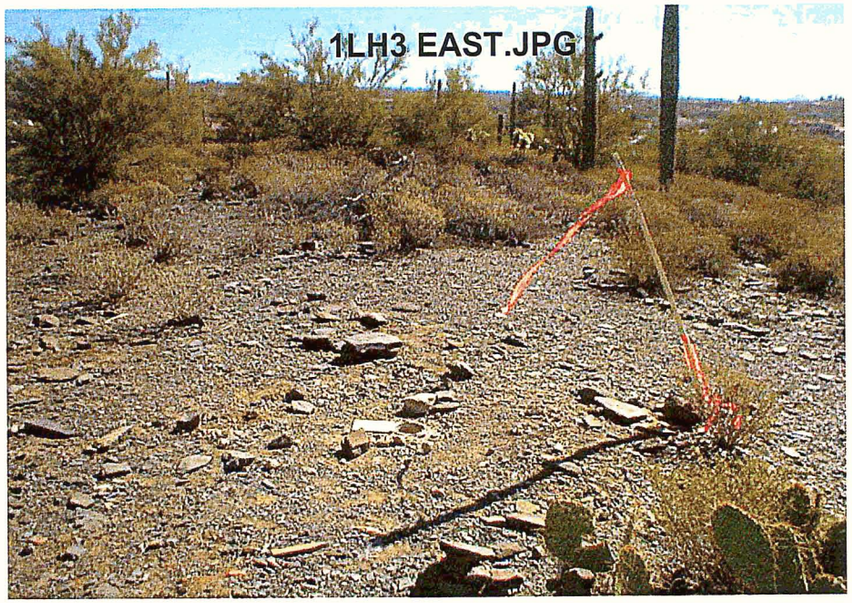
Sheet 1 of 1

1LH3.JPG


1LH3 NORTH.JPG


1LH3 SOUTH.JPG


1LH3 WEST.JPG


1LH3 EAST.JPG

A TEAM Professional Associates, INC.
GPS STATION LOG

1920 W. Peoria Avenue, Phoenix, Arizona - 85029 - (602) 906-0020 - (602) 906-0019 Fax

Station Name: ILH3
Receiver No: 6082
Day of Year: 277 2007
Session No:

Project Name: CAVE CREEK DMP
Job number: 1686-1
Local Date: mo. 10 day 4 year 07
Operator: REED

C/A CODE POSITION

Beg:
Lat: : 33 ° 50 ' 05.30 " N
Long: 111 ° 56 ' 24.30 " W
Ellip. Height: 666.6 M PDOP: 2.1

Ending:
Lat: 33 ° 50 ' 05.28 " N
Long: 111 ° 56 ' 24.34 " W
Ellip. Height: 675.0 M PDOP: 2.9

DC# & FILENAME
Receiver Model: 4000 SSE
Antenna Type: COMPACT L1/L2
Fixed Height Pole No: ATEAM #3 1.5m

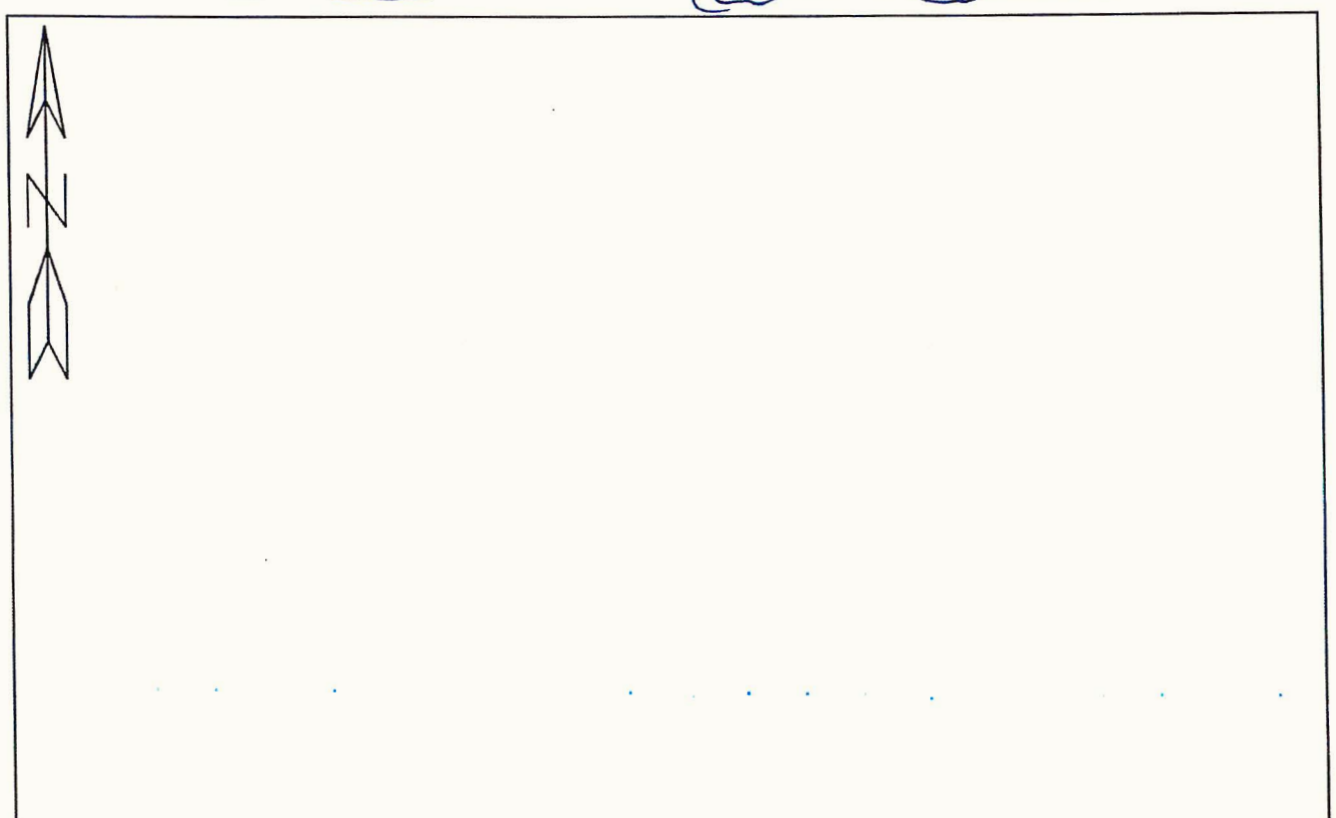
Local-UTC Time Offset: 6:43 MST= -7:00
Type of Survey: Fast Static (X)
Actual= Start 13 : 43 Stop: 19 : 39 UTC
Beg. SV's Used: 1, 11, 13, 16, 20, 23
End SV's Used: 19, 26, 17, 28, 29, 12, 25

Ant. Height (M) using fixed height pole and measured to Bottom of Antenna: 1.5 m

ANT. S.N. 14399

ANT. TYPE: COMPACT L1/L2

Weather Conditions: Clear (P. Cloudy) Overcast Hot (Warm) Cool (Calm) Breezy °F +/- 80°



Type of Monument: Stamping:
Top of marker: ( ) flush M ( ) above: ( ) below: Nat. Ground Detail Notes:

Rubbing Performed ( )Yes ( )No

1MI1

```
1        National Geodetic Survey,   Retrieval Date = MAY  3, 2004
AJ3732 ***********************************************************************
AJ3732  DESIGNATION -  1MI1
AJ3732  PID         -  AJ3732
AJ3732  STATE/COUNTY-  AZ/MARICOPA
AJ3732  USGS QUAD   -  CAVE CREEK (1981)
AJ3732
AJ3732                         *CURRENT SURVEY CONTROL
AJ3732
AJ3732* NAD 83(1992)-  33 52 20.90614(N)    111 56 03.49916(W)     ADJUSTED
AJ3732* NAVD 88     -       743.98   (meters)    2440.9    (feet)  GPS OBS
AJ3732
AJ3732  X           -  -1,980,432.662 (meters)                     COMP
AJ3732  Y           -  -4,917,970.331 (meters)                     COMP
AJ3732  Z           -   3,535,109.515 (meters)                     COMP
AJ3732  LAPLACE CORR-           4.54  (seconds)                    DEFLEC99
AJ3732  ELLIP HEIGHT-         715.48  (meters)          (04/12/01) GPS OBS
AJ3732  GEOID HEIGHT-         -28.45  (meters)                     GEOID03
AJ3732
AJ3732  HORZ ORDER  -  B
AJ3732  ELLP ORDER  -  THIRD     CLASS II
AJ3732
AJ3732.The horizontal coordinates were established by GPS observations
AJ3732.and adjusted by the National Geodetic Survey in April 2001.
AJ3732
AJ3732.The orthometric height was determined by GPS observations and a
AJ3732.high-resolution geoid model using precise GPS observation and
AJ3732.processing techniques.
AJ3732
AJ3732.The X, Y, and Z were computed from the position and the ellipsoidal ht.
AJ3732
AJ3732.The Laplace correction was computed from DEFLEC99 derived deflections.
AJ3732
AJ3732.The ellipsoidal height was determined by GPS observations
AJ3732.and is referenced to NAD 83.
AJ3732
AJ3732.The geoid height was determined by GEOID03.
AJ3732
AJ3732;                     North         East     Units Scale Factor Converg.
AJ3732;SPC AZ C     -   318,510.055   211,728.189   MT  0.99990003   -0 00 35.4
AJ3732;UTM  12      - 3,748,408.981   413,588.745   MT  0.99969205   -0 31 14.7
AJ3732
AJ3732!             -  Elev Factor  x  Scale Factor =   Combined Factor
AJ3732!SPC AZ C     -   0.99988769  x   0.99990003  =   0.99978773
AJ3732!UTM  12      -   0.99988769  x   0.99969205  =   0.99957978
AJ3732
AJ3732                          SUPERSEDED SURVEY CONTROL
AJ3732
AJ3732.No superseded survey control is available for this station.
AJ3732
AJ3732_U.S. NATIONAL GRID SPATIAL ADDRESS: 12SVC1358948409(NAD 83)
AJ3732_MARKER: I = METAL ROD
AJ3732_SETTING: 15 = METAL ROD DRIVEN INTO GROUND. SEE TEXT FOR ADDITIONAL
AJ3732+WITH SETTING: INFORMATION.
AJ3732_STAMPING: 1MI1 1999
AJ3732_MARK LOGO: MCDOT
AJ3732_PROJECTION: FLUSH
```

```
AJ3732_MAGNETIC: B = BAR MAGNET IMBEDDED IN MONUMENT
AJ3732_STABILITY: A = MOST RELIABLE AND EXPECTED TO HOLD
AJ3732+STABILITY: POSITION/ELEVATION WELL
AJ3732_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR
AJ3732+SATELLITE: SATELLITE OBSERVATIONS - 1999
AJ3732_ROD/PIPE-DEPTH:  1.1 meters
AJ3732_SLEEVE-DEPTH  :  0.8 meters
AJ3732
AJ3732  HISTORY     - Date     Condition        Report By
AJ3732  HISTORY     - 1999     MONUMENTED       MCDOT
AJ3732  HISTORY     - 20020928 POOR             USPSQD
AJ3732
AJ3732                          STATION DESCRIPTION
AJ3732
AJ3732'DESCRIBED BY MARICOPA CO DOT 1999 (RJB)
AJ3732'THE STATION IS LOCATED WITHIN THE TOWN OF CAVE CREEK, TOWNSHIP 06
AJ3732'NORTH, RANGE 04 EAST, SECTION 10
AJ3732'OWNERSHIP - PRIVATE
AJ3732'TO REACH THE STATION FROM THE JUNCTION OF I-17 AND CAREFREE HWY (SR
AJ3732'74) (EXIT 223) , DRIVE EAST ON THE CAREFREE HWY 10.0 MI (16.1 KM) TO
AJ3732'CAVE CREEK ROAD THENCE, TURN LEFT (NORTH) ONTO CAVE CREEK ROAD AND
AJ3732'DRIVE NORTHERLY 3.0 MI (4.8 KM) TO SCHOOL HOUSE ROAD THENCE, TURN LEFT
AJ3732'(NORTH) ONTO SCHOOL HOUSE ROAD AND DRIVE 1.4 MI (2.3 KM) TO FLEMING
AJ3732'SPRINGS ROAD THENCE, TURN RIGHT (EAST) ONTO FLEMING SPRINGS ROAD AND
AJ3732'DRIVE NORTHEASTERLY 0.7 MI (1.1 KM) TO ECHO CANYON DRIVE, THENCE TURN
AJ3732'LEFT (NORTH) ONTO ECHO CANYON DRIVE AND DRIVE 0.8 MI (1.3 KM) AND
AJ3732'PARK, WALK 10 FEET (3.0 M) WEST TO THE STATION AS DESCRIBED
AJ3732'MONUMENT DESCRIPTION - THE STATION IS MARKED BY AN ALUMINUM CAP
AJ3732'COMPRESSED ON A 3.5 FOOT (1.1 M) STAINLESS STEEL ROD DRIVEN TO REFUSAL
AJ3732'ENCASED IN A 1 INCH GREASED PVC SLEEVE ENCLOSED IN A 5 INCH PVC PIPE
AJ3732'WITH A COUNTY LOGO ACCESS COVER STAMPED 1MI1 1999, SURROUNDED WITH A
AJ3732'CONCRETE COLLAR FLUSH WITH THE GROUND, WITNESSED BY A WHITE CARSONITE
AJ3732'MARKER
AJ3732'STATION TIES
AJ3732'10.0 FT (3.0 M) WEST AND PERPENDICULAR TO WEST EDGE OF ROAD
AJ3732'UNKNOWN DISTANCE FROM WHITE CARSONITE MARKER
AJ3732'FOR A TO REACH MAP, STATION IMAGES AND ADDITIONAL INFORMATION, YOU CAN
AJ3732'VISIT WWW.MCDOT.MARICOPA.GOV       SEARCH KEYWORD  GDACS
AJ3732
AJ3732                          STATION RECOVERY (2002)
AJ3732
AJ3732'RECOVERY NOTE BY US POWER SQUADRON 2002
AJ3732'CONCRETE COLLAR BREAKING UP. CARSONITE MARKER REPLACED WITH WOOD SLAT.
AJ3732'
```

Maricopa County Department of Transportation

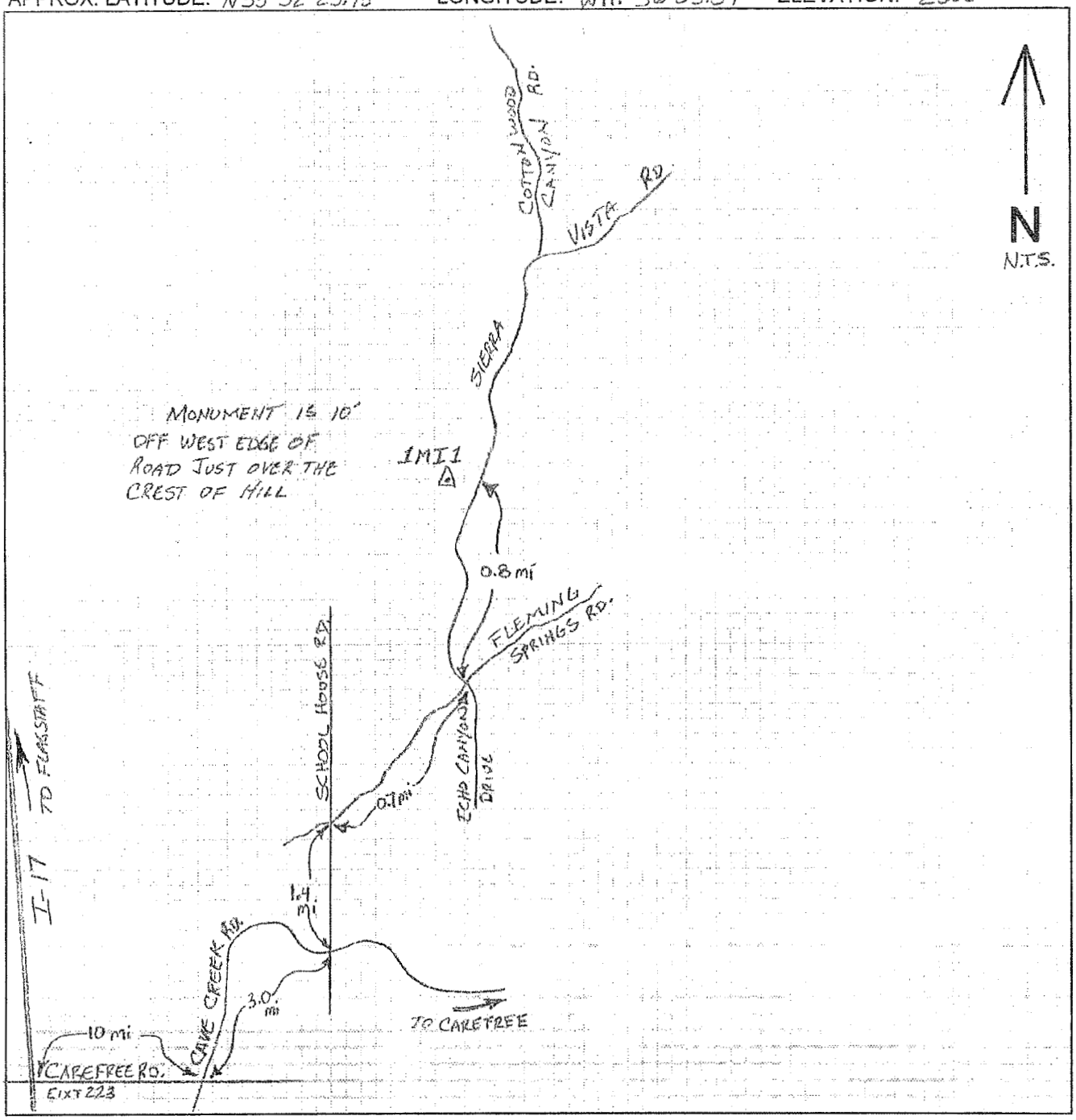
MONUMENT RECORD

STATION NAME: 1MI1 4 LETTER ID: 1MI1

APPROX. LOCATION: T 6N R 4E S 10 GILA AND SALT RIVER MERIDIAN AND BASELINE

AGENCY/FIRM: ENTRANCO SKETCH BY: RJB/G. HUNTER DATE: 9/29/99

APPROX. LATITUDE: N33°52'23.43" LONGITUDE: W111°56'03.54" ELEVATION: 2500'



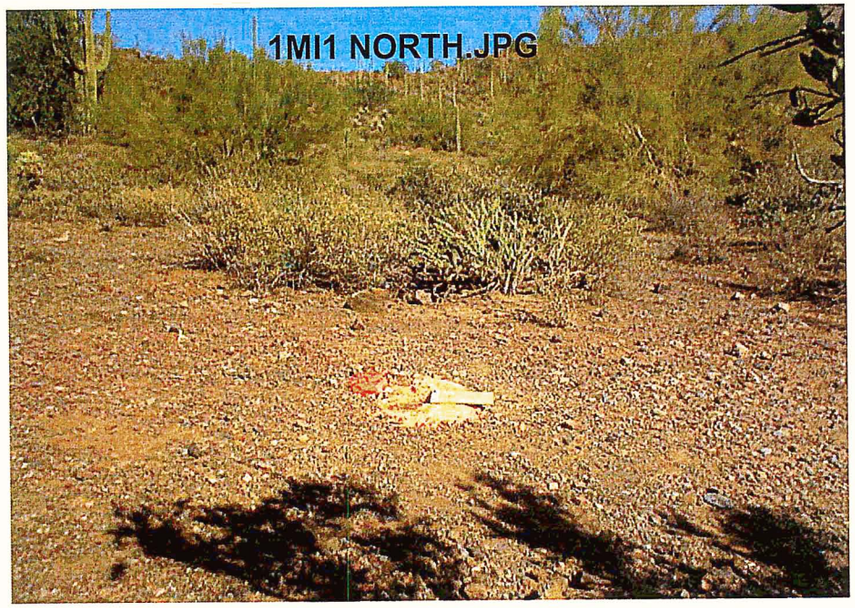
DESCRIPTION OF MONUMENT: NGS 3-D MONUMENT

ROD LENGTH IS 3.5'

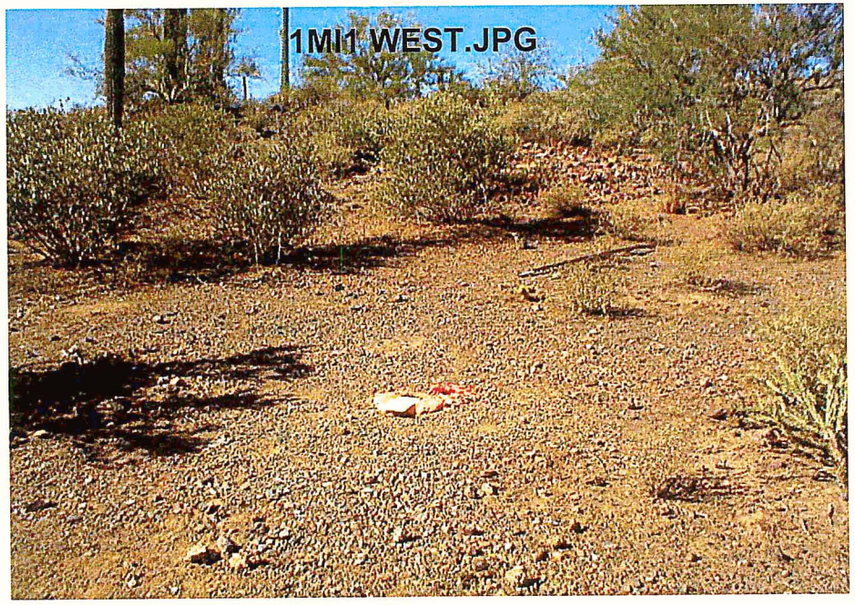
Station Sketch

Sheet 1 of 1

1MI1.JPG


1MI1 NORTH.JPG

1MI1 SOUTH.JPG


1MI1 WEST.JPG

1MI1 EAST.JPG

A TEAM Professional Associates, INC.
GPS STATION LOG

1920 W. Peoria Avenue, Phoenix, Arizona - 85029 - (602) 906-0020 - (602) 906-0019 Fax

Station Name: #1MI1
Receiver No: 6081
Day of Year: 277 2007
Session No:

Project Name: CAVE CREEK DMP
Job number: 1686-1
Local Date: mo. 10 day 04 year 07
Operator: REED

C/A CODE POSITION
Beg:
Lat: : 33 ° 52 ' 20.94 " N
Long: 111 ° 56 ' 03.52 " W
Ellip. Height: 715.2 M PDOP: 2.2
Ending:
Lat: 33 ° 52 ' 20.89 " N
Long: 111 ° 56 ' 03.53 " W
Ellip. Height: 720.4 M PDOP: 2.3

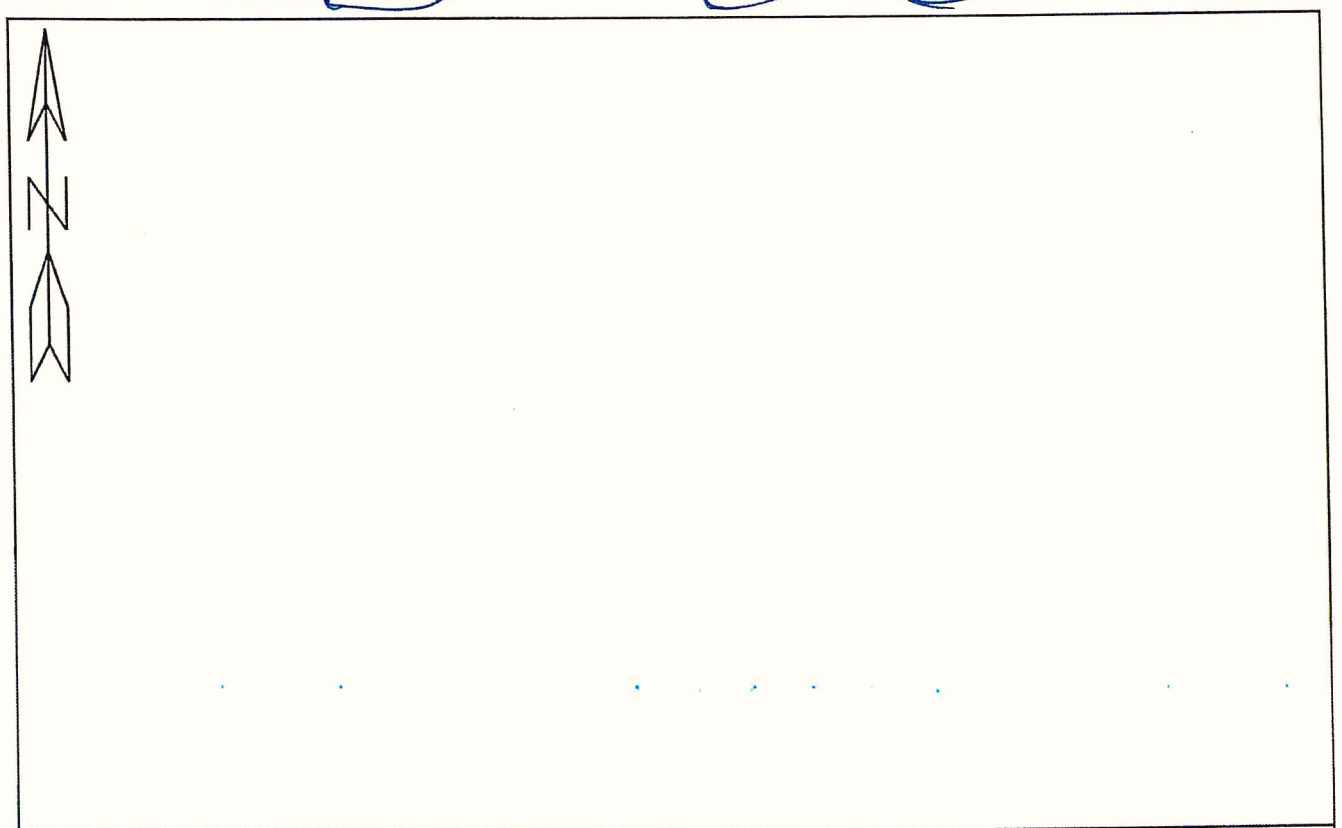
DC# & FILENAME
Receiver Model: 4000 SSE
Antenna Type: COMPACT L1/L2
Fixed Height Pole No: ATEAM #1
Local-UTC Time Offset: 7:16 MST= -7:00
Type of Survey: Fast Static (X)
Actual= Start 14:16 . Stop: 19 : 20 . UTC
Beg. SV's Used: 1,13,16,20,23,25
End SV's Used: 19,17,13,28,29,11,25

Ant. Height (M) using fixed height pole and measured to Bottom of Antenna: 1.5M

ANT. S.N. 53509

ANT. TYPE: COMPACT L1/L2

Weather Conditions: Clear (P. Cloudy) Overcast Hot (Warm) Cool (Calm) Breezy °F +/- 80



Type of Monument: Stamping:
Top of marker: ( ) flush M ( ) above: ( ) below: Nat. Ground Detail Notes:

Rubbing Performed ( )Yes ( )No

A TEAM Professional Associates, INC.
GPS STATION LOG

1920 W. Peoria Avenue, Phoenix, Arizona - 85029 - (602) 906-0020 - (602) 906-0019 Fax

Station Name: IMI1
Receiver No: 73182
Day of Year: 278 2007
Session No: DAY BURN

Project Name: CAVE CREEK DMP
Job number: 1686-1
Local Date: mo. 10 day 05 year 07
Operator: L. SPEAN

C/A CODE POSITION
Beg:
Lat: : 33 ° 52 ' 20.9655.2 " N
Long: 111 ° 56 ' 03.60038 " W
Ellip. Height: 717.287 M PDOP: 2.3
Ending:
Lat: 33 ° 52 ' 20.89 " N
Long: 111 ° 56 ' 03.54 " W
Ellip. Height: 711.871 M PDOP: 2.0

DC# 9782 & FILENAME 1686.1
Receiver Model: 4800
Antenna Type: 4800 INTERNAL
Fixed Height Pole No:

Local-UTC Time Offset: MST= -7:00
Type of Survey: Fast Static (X)
Actual= Start 7 : 52 . Stop: 12 : 41 . UTC
Beg. SV's Used: 3, 13, 16, 20, 23, 25, 27
End SV's Used: 8, 11, 17, 19, 25, 26, 27, 28, 29

Ant. Height (M) using fixed height pole and measured to Bottom of Antenna: 1.5 (M)

ANT. S.N. 73182

ANT. TYPE: 4800

Weather Conditions: Clear P. Cloudy Overcast Hot Warm Cool Calm Breezy °F +/-

Type of Monument: Stamping:
Top of marker: ( ) flush M ( ) above: ( ) below: Nat. Ground Detail Notes:

Rubbing Performed ( )Yes ( )No

ERM1

1920 WEST PEORIA AVENUE PHOENIX, ARIZONA 85029
TEL. (602) 906-0020 FAX (602) 906-0019

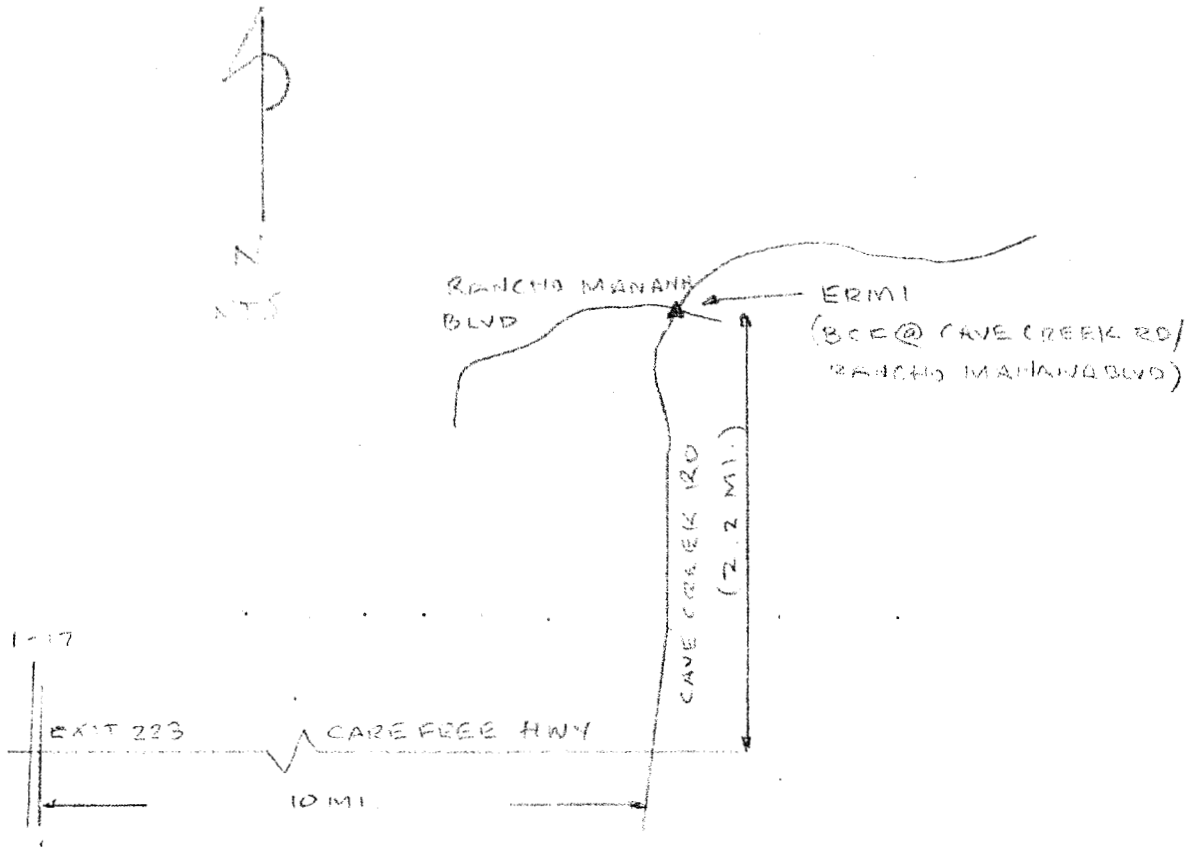
COMPUTATION SHEET

JOB# [illegible] SHEET# ___ OF ___

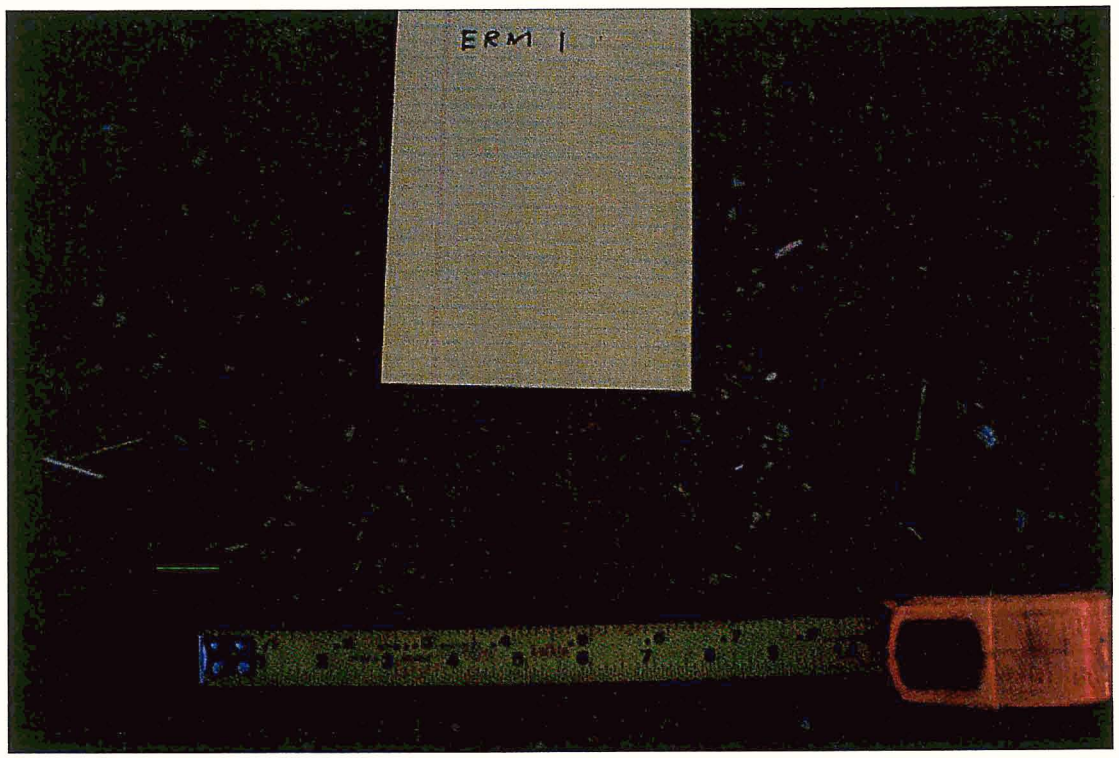
SUBJECT: ERMI

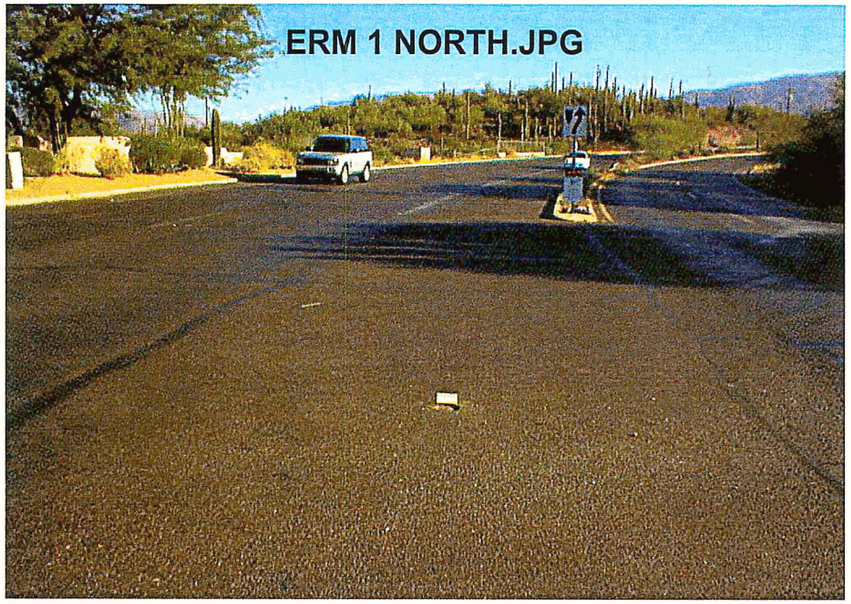
BY: [illegible] DATE: [illegible]

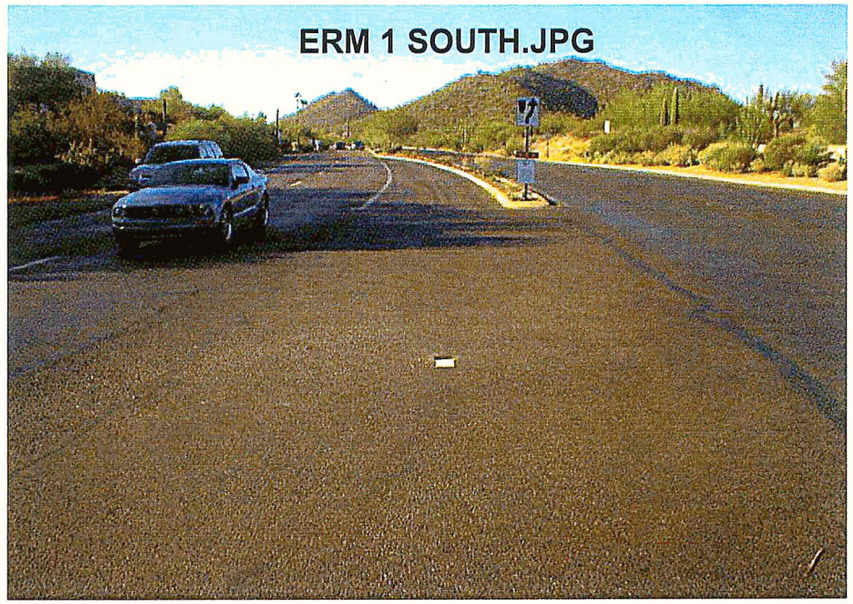
CHECKED BY: ___ DATE: ___

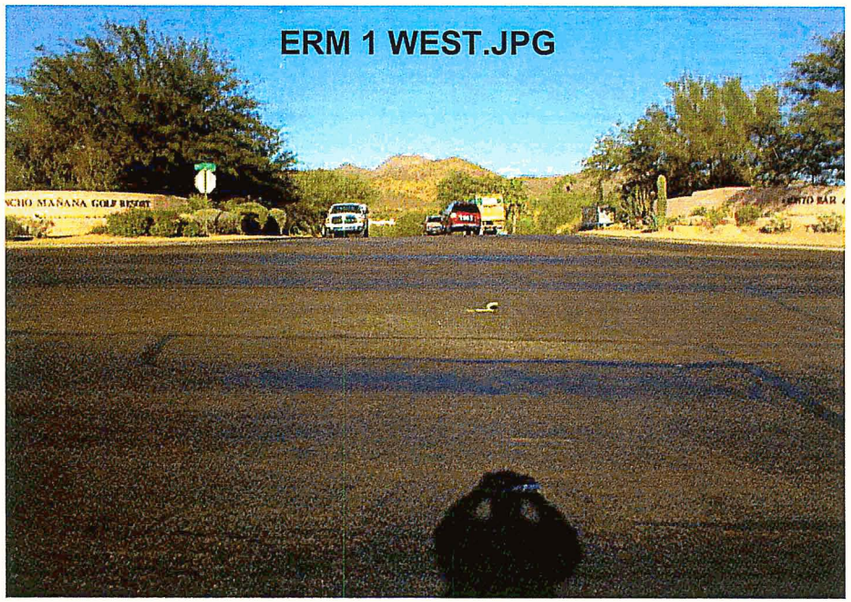


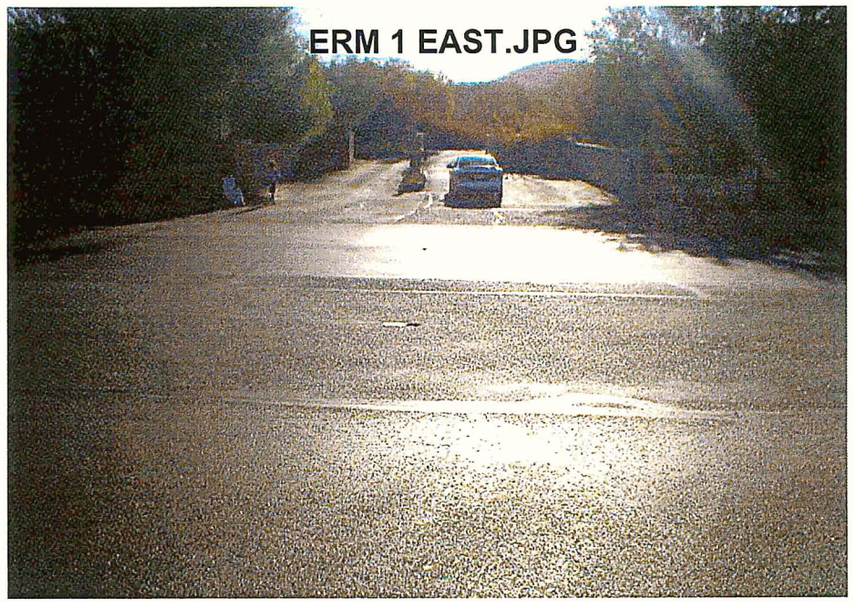
ERM 1.JPG




ERM 1 NORTH.JPG


ERM 1 SOUTH.JPG


ERM 1 WEST.JPG


ERM 1 EAST.JPG

A TEAM Professional Associates, INC.
GPS STATION LOG

1920 W. Peoria Avenue, Phoenix, Arizona - 85029 - (602) 906-0020 - (602) 906-0019 Fax

Station Name: ERM 1
Receiver No: 36492
Day of Year: 278 2007
Session No: 1

Project Name: CAVE CREEK DMP
Job number: 1686-1
Local Date: mo. 10 day 5 year 07
Operator: L. SPEAN

C/A CODE POSITION
Beg:
Lat: : 33 ° 49 ' 54.91 " N
Long: 111 ° 57 ' 14.78 " W
Ellip. Height: 2022.08' M PDOP: 1.8
Ending:
Lat: 33 ° 49 ' 54.89 " N
Long: 111 ° 57 ' 14.76 " W
Ellip. Height: 2010.11 M PDOP: 1.8

DC# C3 & FILENAME 1686-1-LEMUEL
Receiver Model: 5800
Antenna Type: 5800 TRIMBLE INTERNAL
Fixed Height Pole No:

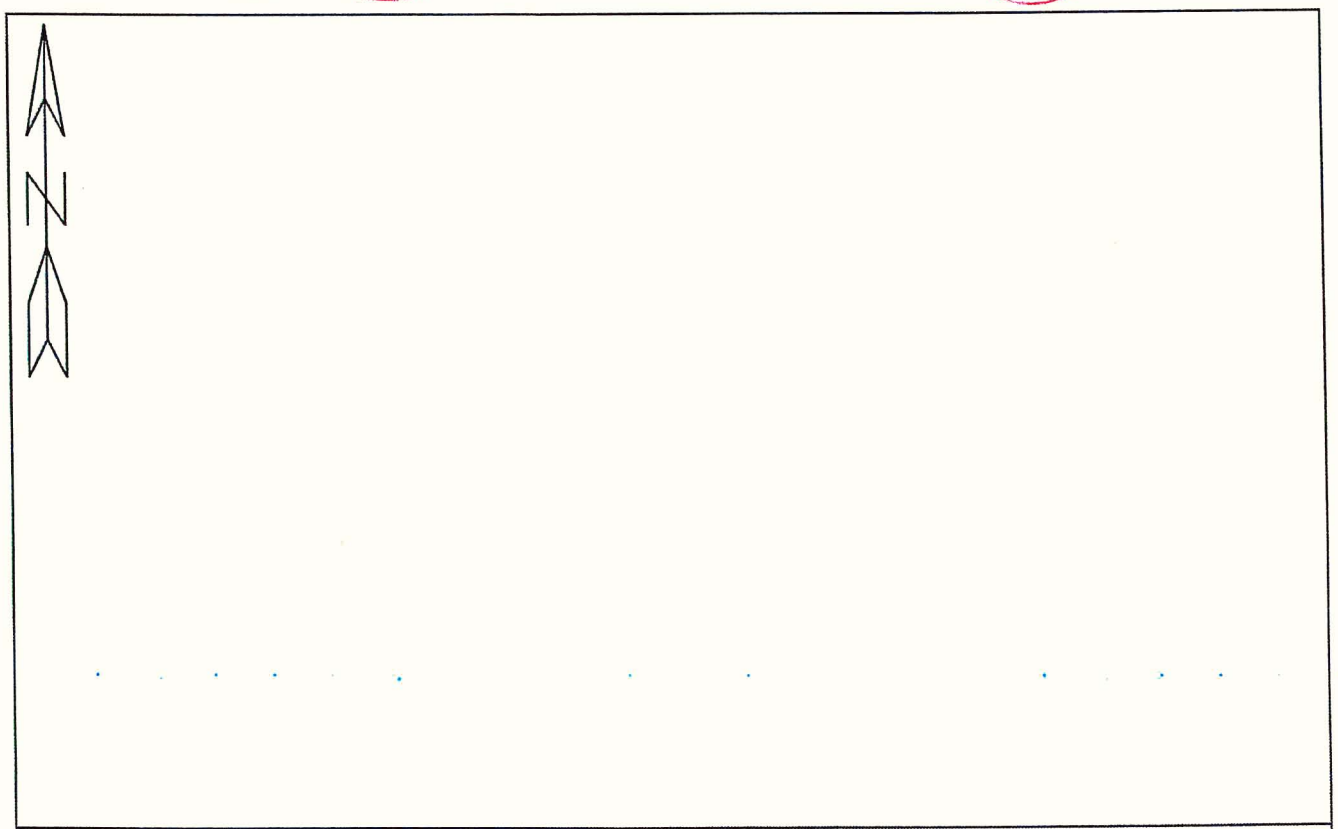
Local-UTC Time Offset: MST= -7:00
Type of Survey: Fast Static (X)
Actual= Start 10 : 49 Stop: 11 : 55 UTC
Beg. SV's Used: 3, 8, 10, 13, 19, 23, 25, 27, 28
End SV's Used: 8, 11, 13, 17, 19, 25, 27, 28, 29

Ant. Height ~~(M)~~ using ~~fixed height~~ pole and measured to Bottom of Antenna: 6.875 TRI-POD

ANT. S.N. 36492

ANT. TYPE: 5800

Weather Conditions: Clear P. Cloudy Overcast Hot Warm Cool Calm Breezy 80°F +/-



Type of Monument: Stamping:
Top of marker: ( ) flush M ( ) above: ( ) below: Nat. Ground Detail Notes:

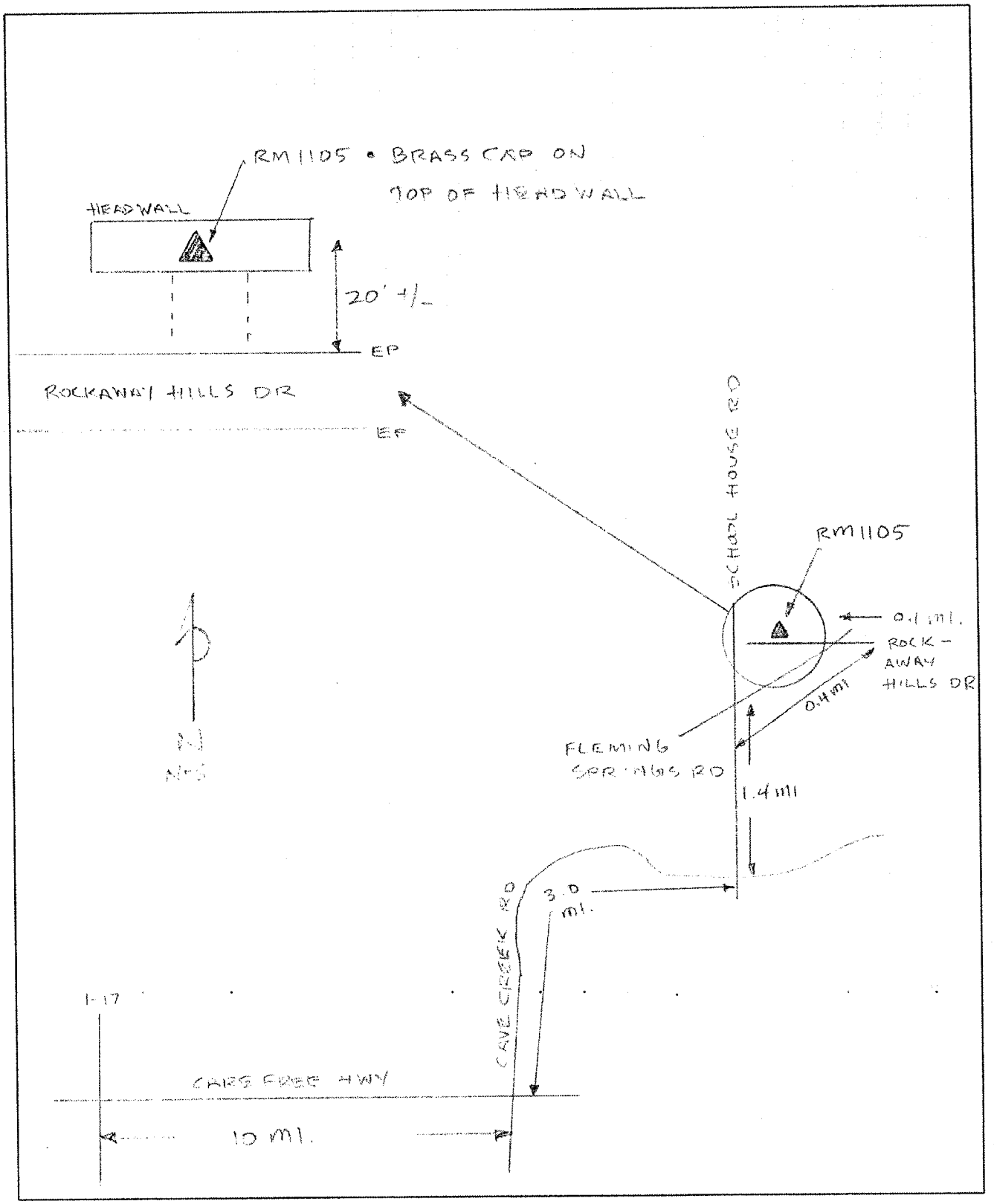
Rubbing Performed ( )Yes ( )No

RM1105

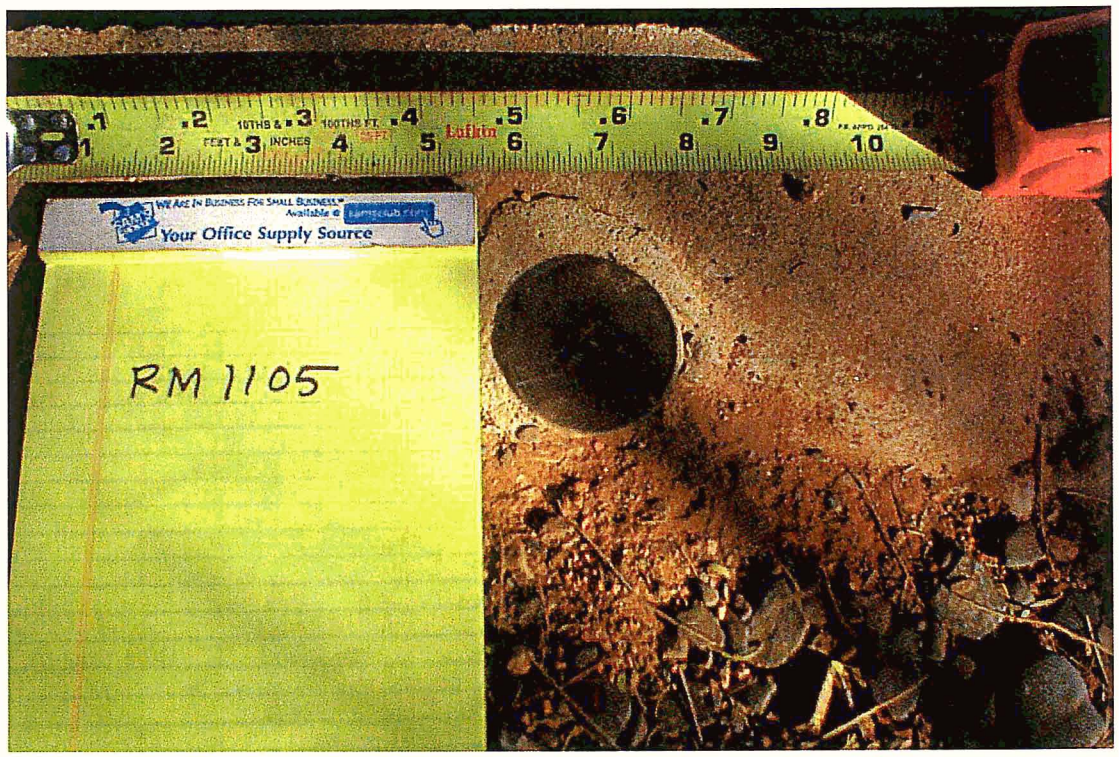
1920 WEST PEORIA AVENUE PHOENIX, ARIZONA 85029
TEL. (602) 906-0020 FAX (602) 906-0019

COMPUTATION SHEET

JOB# 116816.1 SHEET# 1 OF 1
SUBJECT: RM 1105
BY: L.S. DATE: 10-18-05
CHECKED BY: _____ DATE: _____



RM 1105.JPG



RM 1105 NORTH.JPG

RM 1105 SOUTH.JPG

RM 1105 WEST.JPG

RM 1105 EAST.JPG

A TEAM Professional Associates, INC.
GPS STATION LOG

1920 W. Peoria Avenue, Phoenix, Arizona - 85029 - (602) 906-0020 - (602) 906-0019 Fax

Station Name: RM 1105
Receiver No: C2
Day of Year: 278 2007
Session No: 1

Project Name: CAVE CREEK DMP
Job number: 1686-1
Local Date: mo. 10 day 05 year 07
Operator: L. SPEAN

C/A CODE POSITION

Beg:
Lat: : 33 ° 51 ' 26.18691" N
Long: 111 ° 56 ' 28.09340" W
Ellip. Height: 654.47 M PDOP: 2.3

Ending:
Lat: 33 ° 51 ' 26.15196" N
Long: 111 ° 56 ' 28.08759" W
Ellip. Height: 656.056 M PDOP: 1.9

DC# C2 & FILENAME ~~1686-1 LEMOEL~~ 1686-1 - C4
Receiver Model: 5800
Antenna Type: 5800 TRIMBLE INTERNAL
Fixed Height Pole No:

Local-UTC Time Offset: MST= -7:00
Type of Survey: Fast Static (X)
Actual= Start 8 : 32 . Stop: 10 : 18 . UTC
Beg. SV's Used: 3, 13, 16, 19, 20, 23, 25, 27
End SV's Used: 3, 8, 10, 13, 19, 23, 25, 27, 28

Ant. Height (~~M~~) using ~~fixed height~~ pole and measured to Bottom of Antenna: 6.88

ANT. S.N. TRI-POD C2 ROVER

ANT. TYPE: 5800

Weather Conditions: Clear P. Cloudy Overcast Hot Warm Cool Calm Breezy °F +/-

Type of Monument: Stamping:
Top of marker: ( ) flush M ( ) above: ( ) below: Nat. Ground Detail Notes:

Rubbing Performed ( )Yes ( )No

RM130

1920 WEST PEORIA AVENUE PHOENIX, ARIZONA 85029
TEL. (602) 906-0020 FAX (602) 906-0019

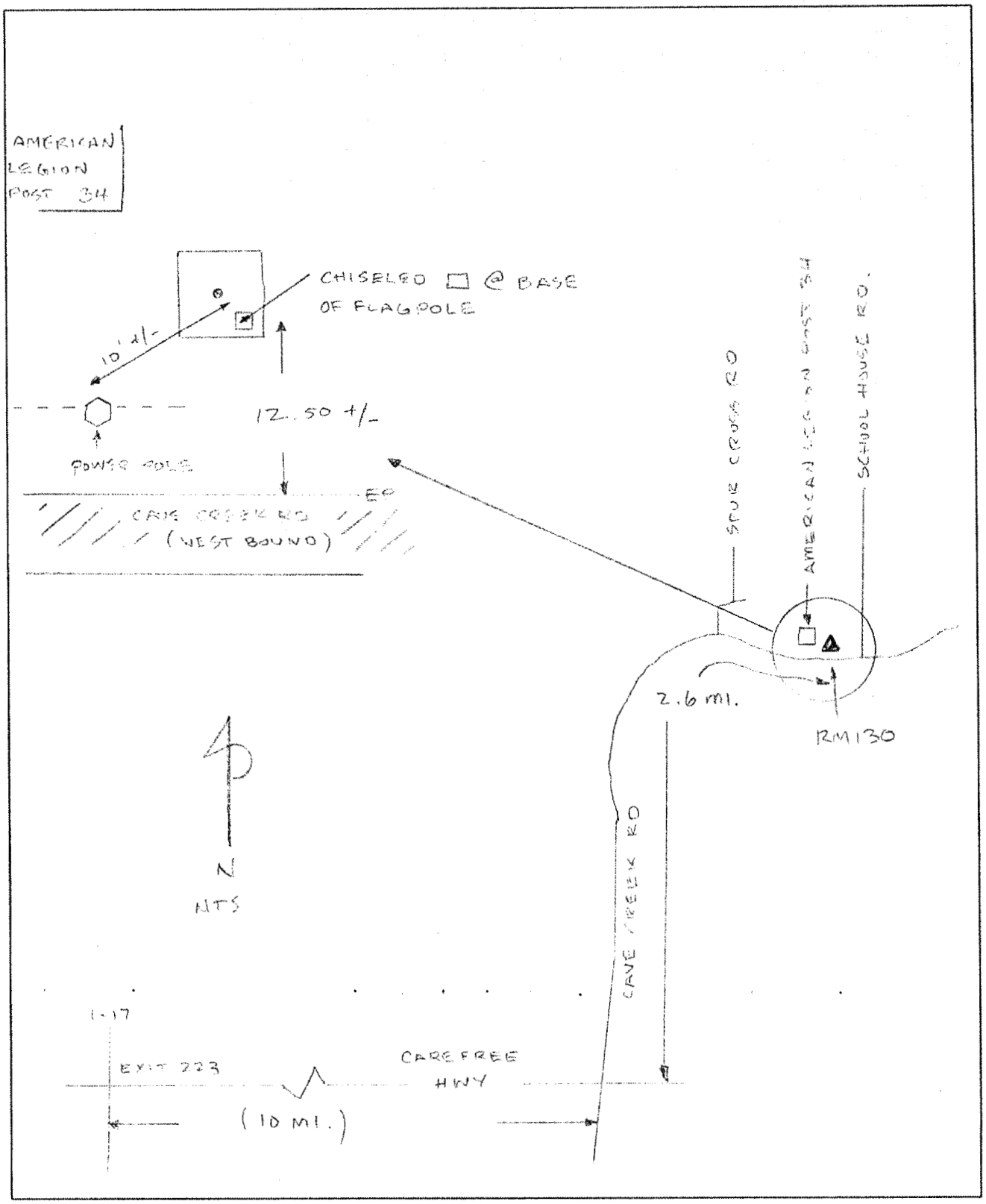
COMPUTATION SHEET

JOB# 10861 SHEET# 1 OF 1

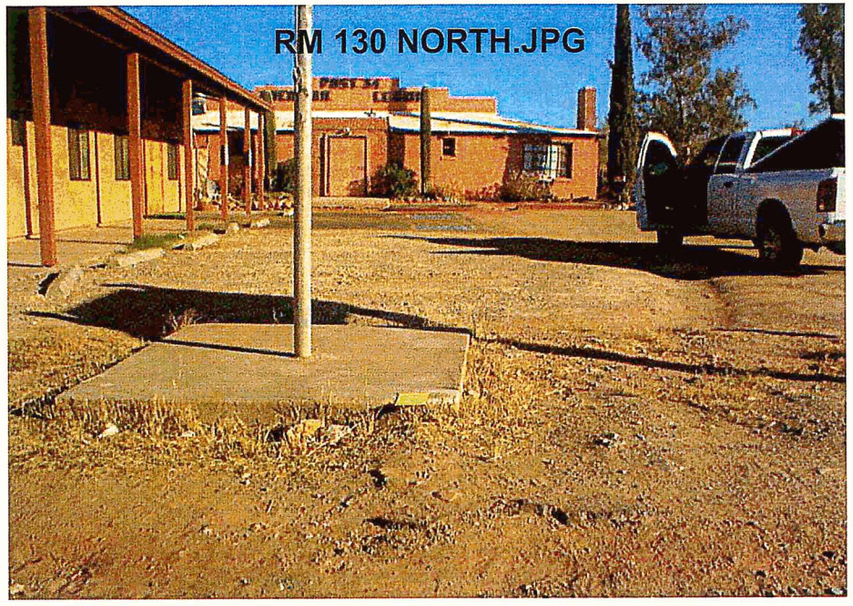
SUBJECT: RM 130

BY: L.S DATE: 10.8.07

CHECKED BY: _____ DATE: _____



RM 130.JPG


RM 130 NORTH.JPG

RM 130 SOUTH.JPG

RM 130 WEST.JPG

RM 130 EAST.JPG

A TEAM Professional Associates, INC.
GPS STATION LOG

1920 W. Peoria Avenue, Phoenix, Arizona - 85029 - (602) 906-0020 - (602) 906-0019 Fax

Station Name: RM 130
Receiver No: C2 ROVER
Day of Year: 278 2007
Session No: 1

Project Name: CAVE CREEK DMP
Job number: 1686-1
Local Date: mo. 10 day 05 year 07
Operator: L. SPEAN

C/A CODE POSITION

Beg:
Lat: : 33 ° 49 ' 55.90201 " N
Long: 111 ° 56 ' 46.19210 " W
Ellip. Height: 629.50 M PDOP: 1.9

Ending:
Lat: 33 ° 49 ' 55 88 " N
Long: 111 ° 56 ' 46. 18 " W
Ellip. Height: 624.724 M PDOP: 1.8

DC# C2 & FILENAME 1686-1 - C4
Receiver Model: 5800
Antenna Type: 5800 TRIMBLE INTERNAL
Fixed Height Pole No:

Local-UTC Time Offset: MST= -7:00
Type of Survey: Fast Static (X)
Actual= Start 10 : 33 . Stop: 12 : 55 . UTC
Beg. SV's Used: 3, 8, 10, 13, 19, 23, 25, 27, 28
End SV's Used: 3, 11, 13, 17, 19, 25, 26, 27, 28, 29

Ant. Height (M) using ~~fixed height~~ pole and measured to Bottom of Antenna: 6.88

ANT. S.N. TRIPOD C2 ROVER

ANT. TYPE: 5800

Weather Conditions: Clear P. Cloudy Overcast Hot Warm Cool Calm Breezy °F +/-

Type of Monument: Stamping:
Top of marker: ( ) flush M ( ) above: ( ) below: Nat. Ground Detail Notes:

Rubbing Performed ( )Yes ( )No

RM3106

1920 WEST PEORIA AVENUE PHOENIX, ARIZONA 85029
TEL. (602) 906-0020 FAX (602) 906-0019

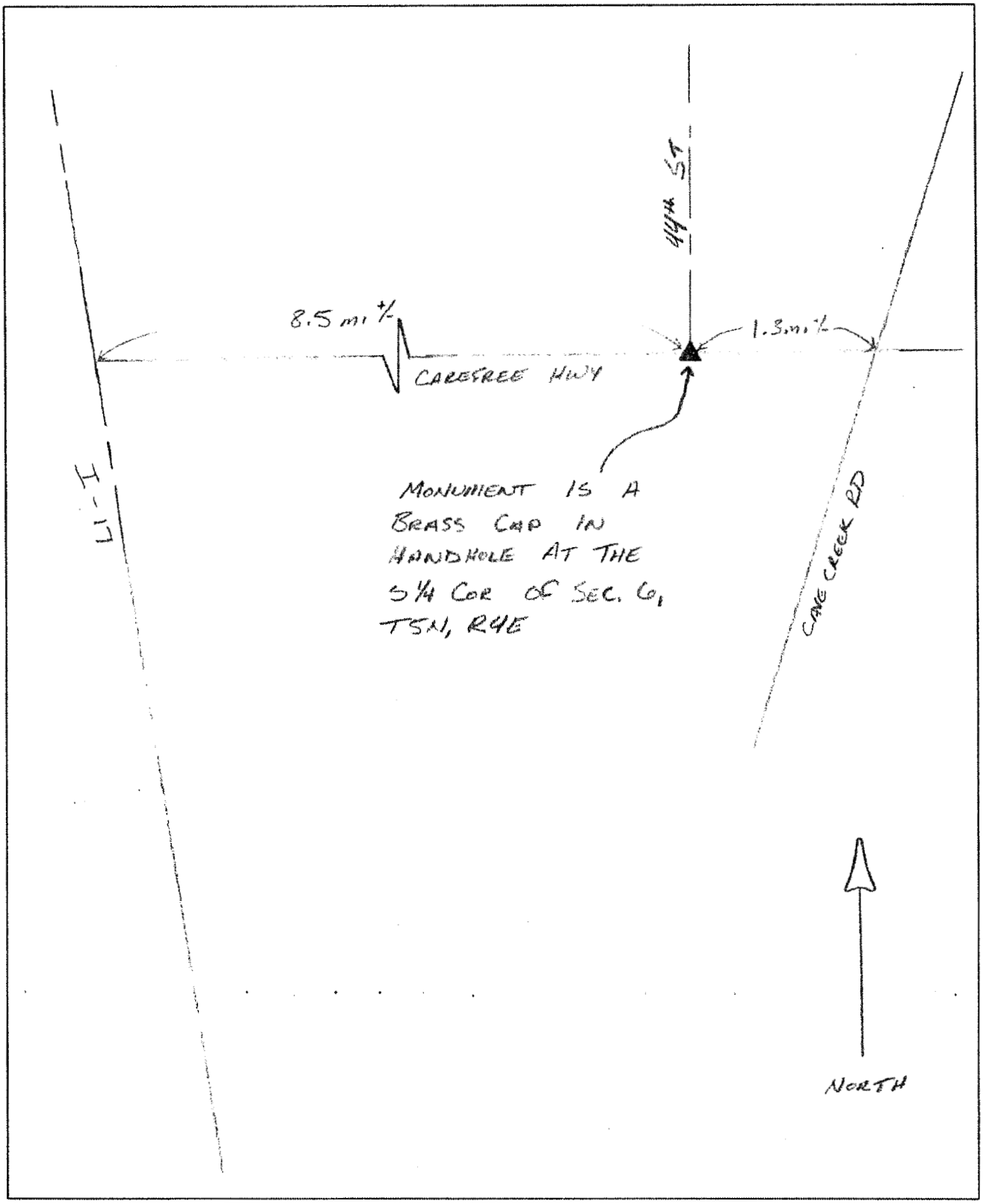
COMPUTATION SHEET

JOB# 1686.1 SHEET# 1 OF 1

SUBJECT: RM3106

BY: J. MALEK DATE: 10/19/07

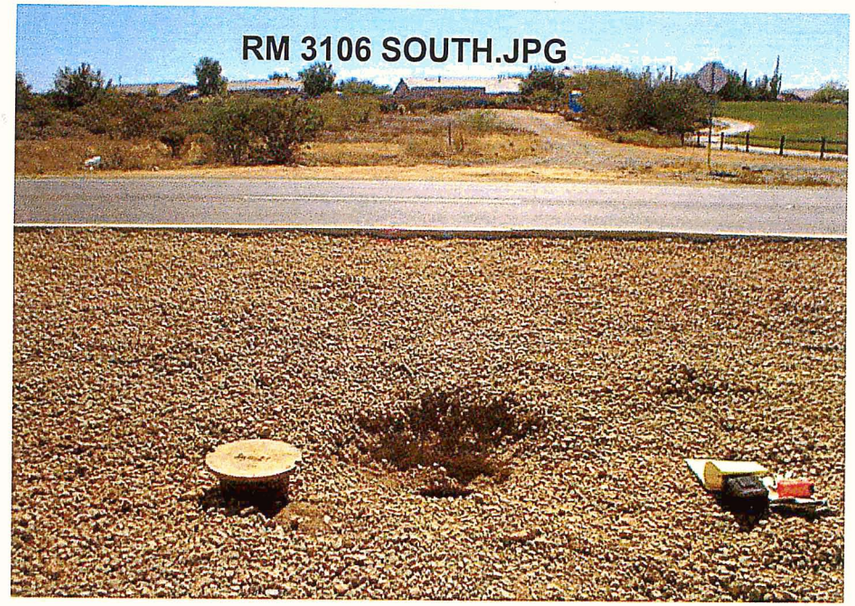
CHECKED BY: _____ DATE: _____



RM 3106.JPG

RM 3106A.JPG

RM 3106 NORTH.JPG


RM 3106 SOUTH.JPG

RM 3106 WEST.JPG

RM 3106 EAST.JPG

A TEAM Professional Associates, INC.
GPS STATION LOG

1920 W. Peoria Avenue, Phoenix, Arizona - 85029 - (602) 906-0020 - (602) 906-0019 Fax

Station Name: RM.3106
Receiver No: 8916 C1
Day of Year: 278 2007
Session No: 0

Project Name: CAVE CREEK DMP
Job number: 1686-1
Local Date: mo. 10 day 5 year 07
Operator: J. MALEK

C/A CODE POSITION
Beg:
Lat: : 33 ° 47 ' 57.03 " N
Long: 111 ° 59 ' 12.96 " W
Ellip. Height: 555.33 M PDOP: 2.3
Ending:
Lat: 33 ° 47 ' 57.02 " N
Long: 111 ° 59 ' 12.96 " W
Ellip. Height: 554.76 M PDOP: 2.3

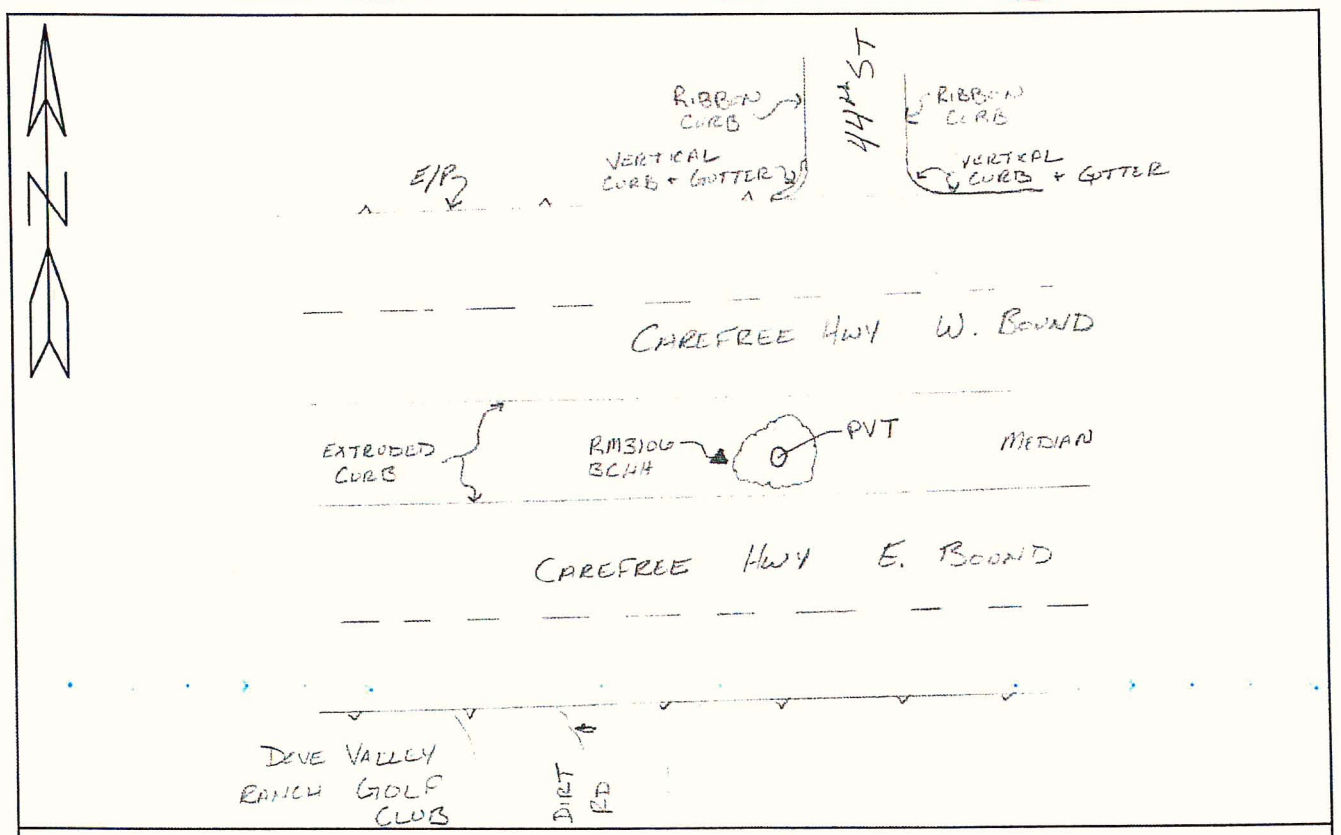
DC# C1 & FILENAME 1686-1-C1
Receiver Model: 5800
Antenna Type: 5800
~~Fixed Height Pole~~ BD No: C1
Local-UTC Time Offset: MST= -7:00
Type of Survey: Fast Static (X)
Actual= Start 8 :30 . Stop: 10 :00 . UTC
Beg. SV's Used: 3, 13, 16, 19, 20, 23, 25, 27
End SV's Used: 3, 8, 13, 19, 23, 25, 27, 28

Ant. Height (M) using fixed height pole and measured to Bottom of Antenna: 2.1

ANT. S.N. 8916 (C1)

ANT. TYPE: 5800

Weather Conditions: Clear P. Cloudy Overcast Hot Warm Cool Calm Breezy 75 °F +/-



Type of Monument: Stamping:
Top of marker: ( ) flush M ( ) above: ( ) below: Nat. Ground Detail Notes:

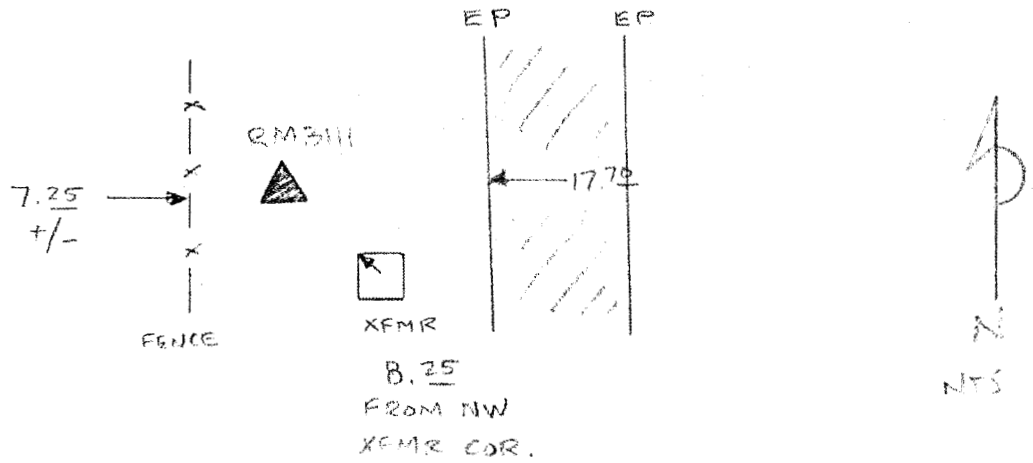
Rubbing Performed ( )Yes ( )No

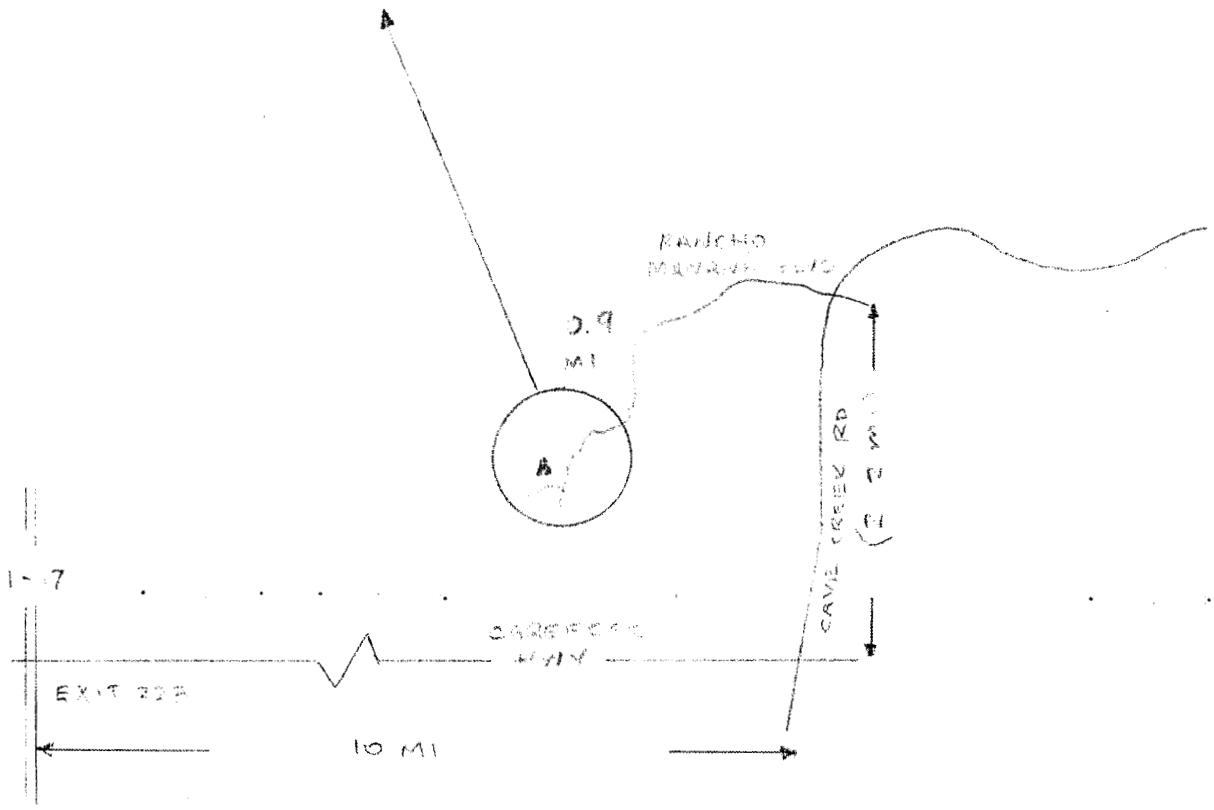
RM3111

1920 WEST PEORIA AVENUE PHOENIX, ARIZONA 85029
TEL. (602) 906-0020 FAX (602) 906-0019

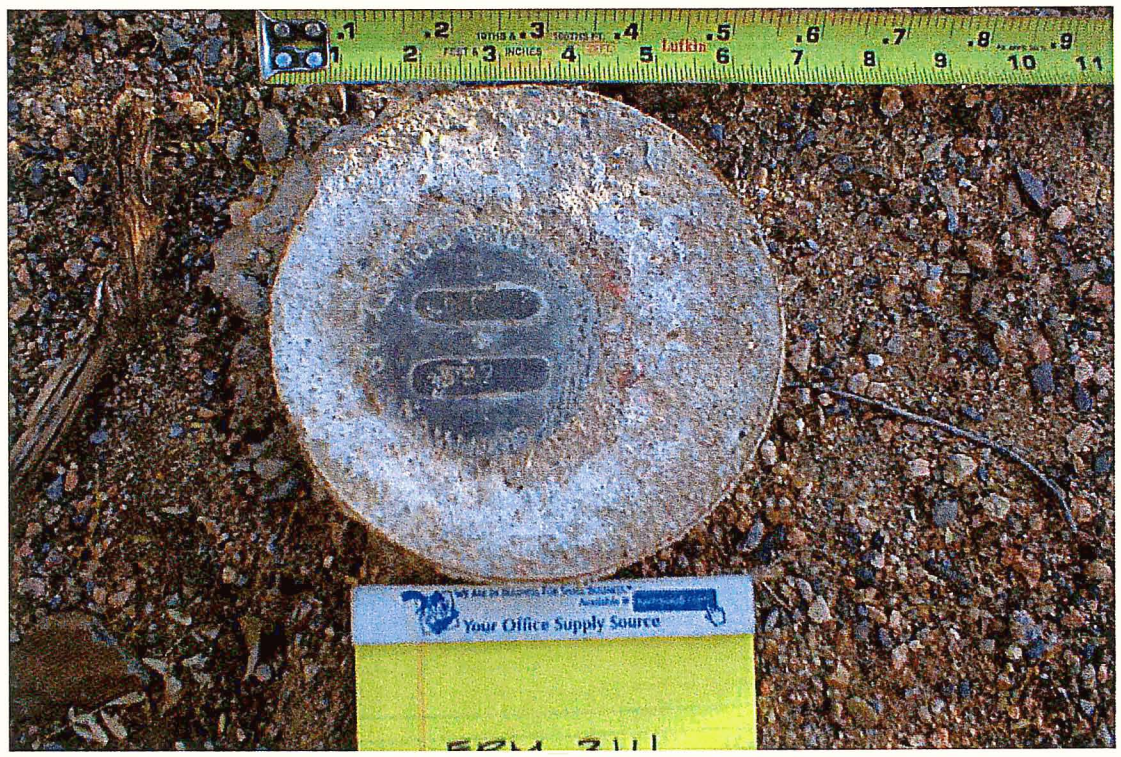
COMPUTATION SHEET

JOB# 16801 SHEET# 1 OF 1
SUBJECT: RM 3111
BY: L.S. DATE: 12-18-11
CHECKED BY: _____ DATE: _____





ERM 3111.JPG



RM 3111 NORTH.JPG

RM 3111 SOUTH.JPG

RM 3111 WEST.JPG

RM 3111 EAST.JPG

A TEAM Professional Associates, INC.
GPS STATION LOG

1920 W. Peoria Avenue, Phoenix, Arizona - 85029 - (602) 906-0020 - (602) 906-0019 Fax

Station Name: RM 3111
Receiver No: 8916 C1
Day of Year: 278 2007
Session No: 1

Project Name: CAVE CREEK DMP
Job number: 1686-1
Local Date: mo. 10 day 5 year 07
Operator: J. MALEK

C/A CODE POSITION
Beg:
Lat: : 33 ° 49 ' 39.14 " N
Long: 111 ° 57 ' 59.81 " W
Ellip. Height: 586.49 M PDOP: 1.9
Ending:
Lat: 33 ° 49 ' 37.12 " N
Long: 111 ° 57 ' 59.741 " W
Ellip. Height: 582.69 M PDOP: 1.6

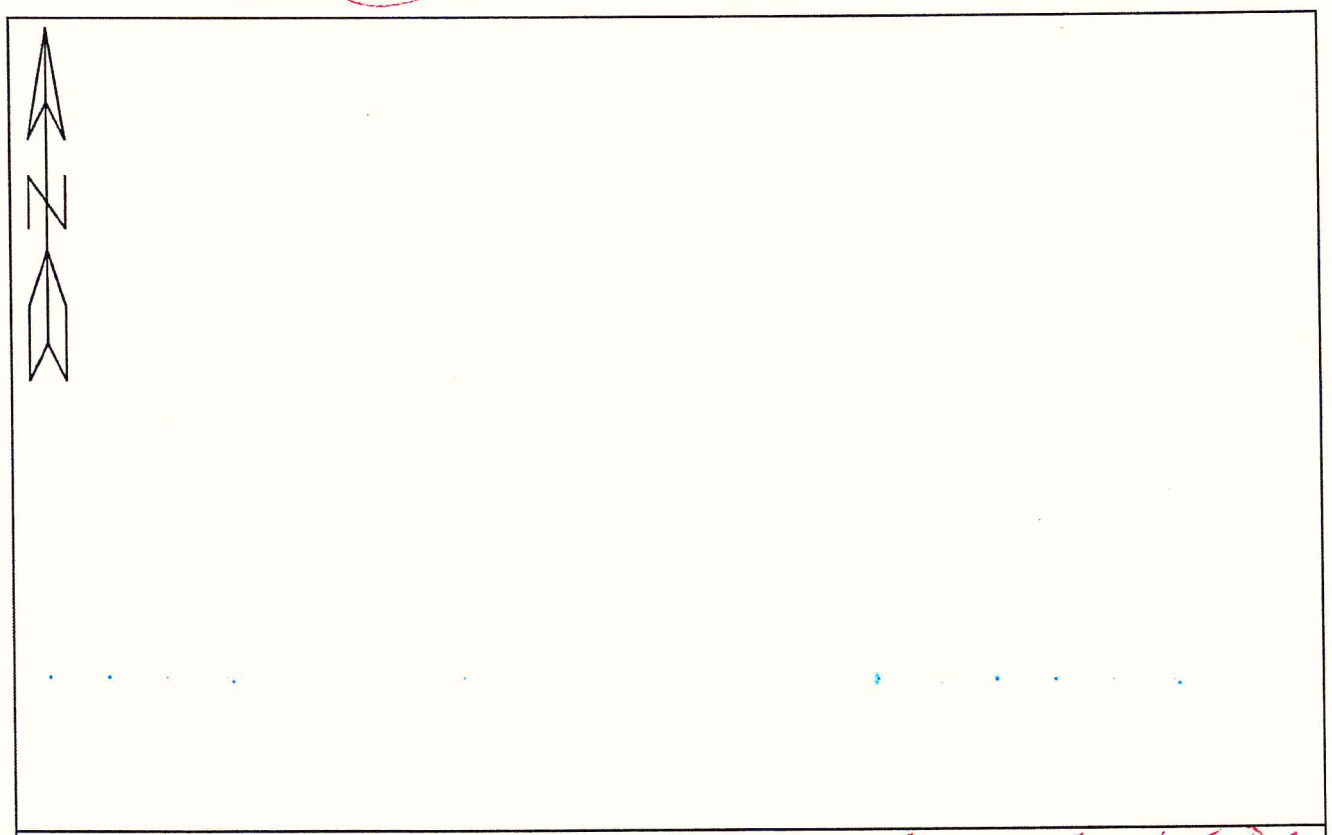
DC# C1 & FILENAME 1686-1-C1
Receiver Model: 5800
Antenna Type: 5800
~~Fixed Height~~ Pole No: C1 ROD
Local-UTC Time Offset: MST= -7:00
Type of Survey: Fast Static (X)
Actual= Start 10 : 22 Stop: 11 : 52 UTC
Beg. SV's Used: 3,8 10, 13, 19, 23, 25, 27, 28
End SV's Used: 3, 10, 11, 13, 17, 19, 25, 27, 28, 29

Ant. Height (M) using fixed height pole and measured to Bottom of Antenna: 2.10

ANT. S.N. 8916 (C1)

ANT. TYPE: 5800

Weather Conditions: Clear P. Cloudy Overcast Hot Warm Cool Calm Breezy 80 °F +/-



Type of Monument:
Top of marker: ( ) flush M ( ) above: ( ) below: Nat. Ground
Stamping: MARICOPA COUNTY FLOOD CONTROL DIST
Detail Notes: CC 322

Rubbing Performed (✓)Yes ( )No ON BACK

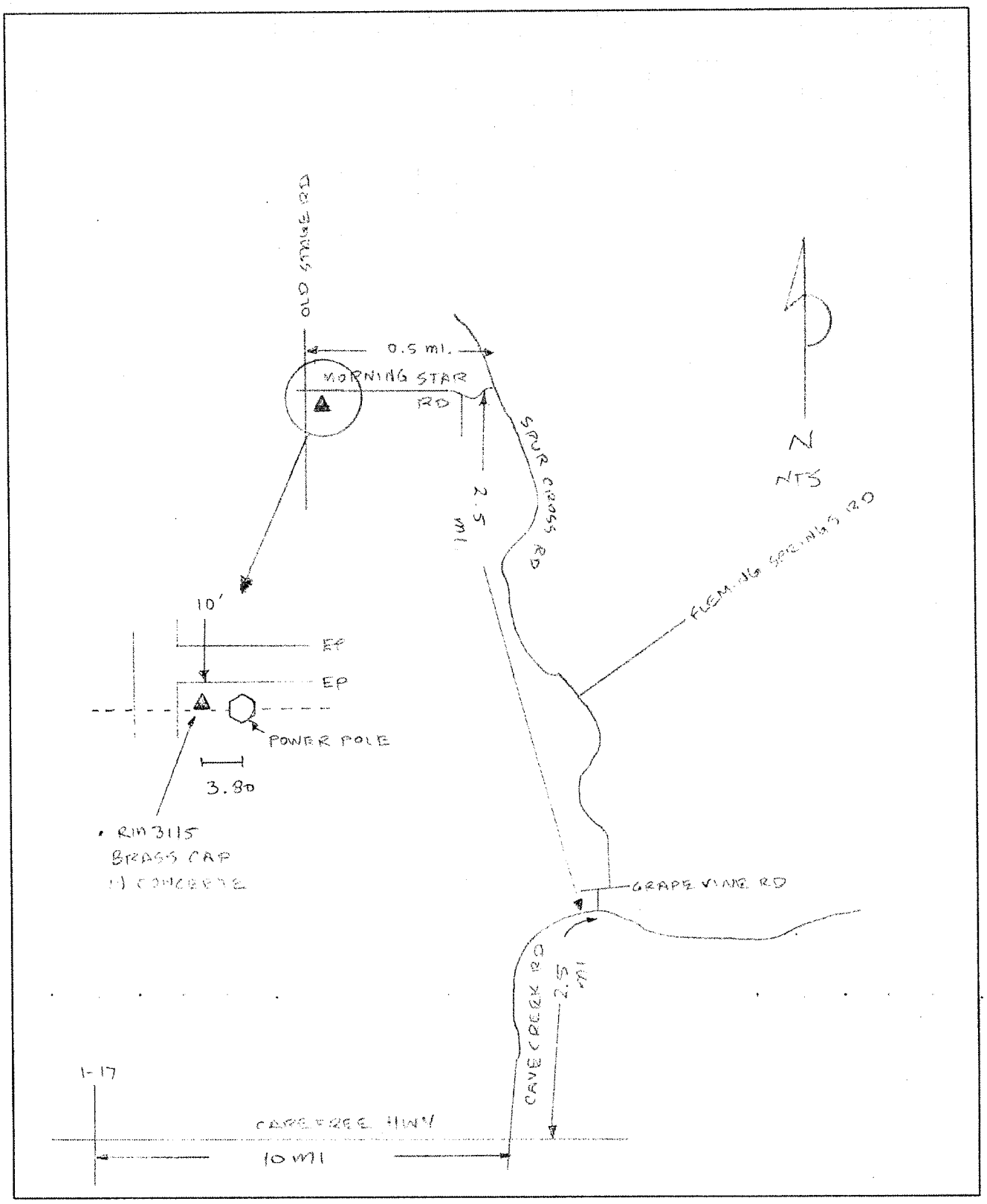
RM3115

1920 WEST PEORIA AVENUE PHOENIX, ARIZONA 85029
TEL. (602) 906-0020 FAX (602) 906-0019

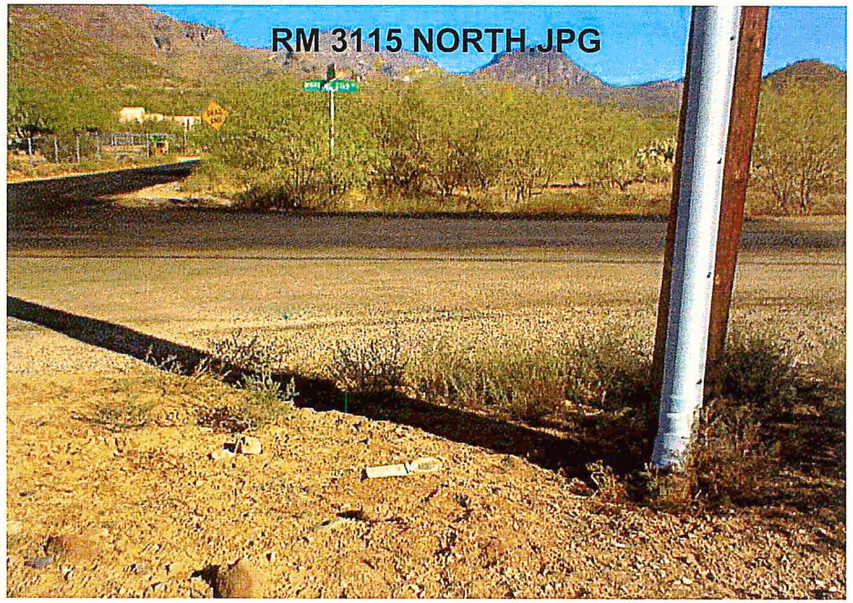
TEAM PROFESSIONAL ASSOCIATES, INC.
GPS & LAND SURVEYING • GIS • UTILITY DESIGN • DRAFTING • PERMITTING

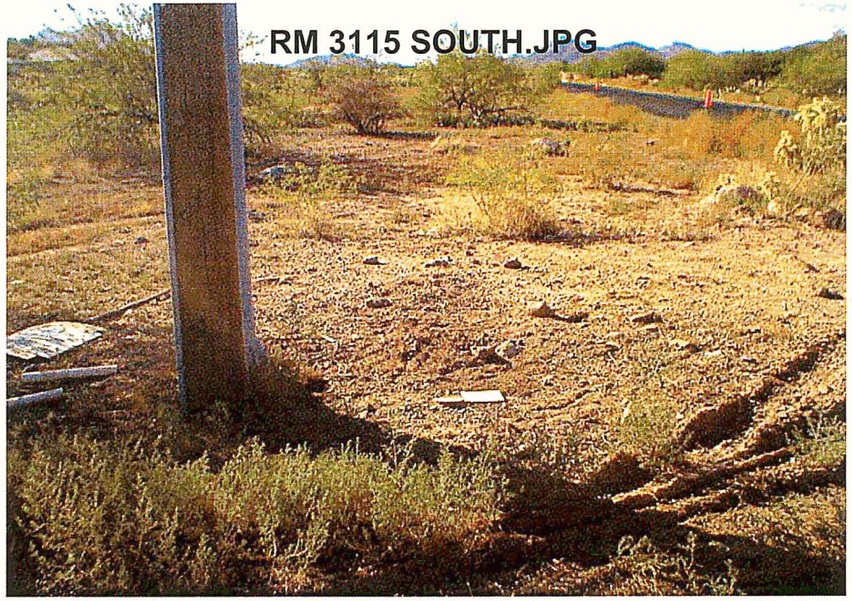
COMPUTATION SHEET

JOB# [illegible] SHEET# ___ OF ___
SUBJECT: RM 3115
BY: [illegible] DATE: 10-18-02
CHECKED BY: ___ DATE: ___



RM 3115.JPG


RM 3115 NORTH.JPG


RM 3115 SOUTH.JPG

M 3115 WEST.JPG

RM 3115 EAST.JPG

A TEAM Professional Associates, INC.
GPS STATION LOG

1920 W. Peoria Avenue, Phoenix, Arizona - 85029 - (602) 906-0020 - (602) 906-0019 Fax

Station Name: RM 3115
Receiver No: C3 ROVER
Day of Year: 278 2007
Session No: 1

Project Name: CAVE CREEK DMP
Job number: 1686-1
Local Date: mo. 10 day 05 year 07
Operator: L. SPEAN

C/A CODE POSITION

Beg:
Lat: : 33 ° 52 ' 04.86229" N
Long: 111 ° 58 ' 08.64798" W
Ellip. Height: 2110.62 ~~M~~ PDOP: 1.8

Ending:
Lat: 33 ° 52 ' 04.76253" N
Long: 111 ° 58 ' 08.64547" W
Ellip. Height: 2121.31 ~~M~~ PDOP: 1.8

DC# C3 & FILENAME 1686.1 - LEMUEL
Receiver Model: 5800
Antenna Type: 5800 TRIMBLE INTERNAL
Fixed Height Pole No:

Local-UTC Time Offset: MST= -7:00
Type of Survey: Fast Static (X)
Actual= Start 8 : 54 Stop: 10 : 06 UTC
Beg. SV's Used: 3, 8, 13, 16, 19, 20, 23, 25, 27
End SV's Used: 3, 8, 10, 13, 19, 23, 25, 27, 28

Ant. Height ~~(M)~~ using ~~fixed height~~ TRI-POD pole and measured to Bottom of Antenna: 6.875

ANT. S.N. C3 ROVER

ANT. TYPE: 5800

Weather Conditions: Clear P. Cloudy Overcast Hot Warm Cool Calm Breezy °F +/-

Type of Monument: Stamping:
Top of marker: ( ) flush M ( ) above: ( ) below: Nat. Ground Detail Notes:

Rubbing Performed ( )Yes ( )No

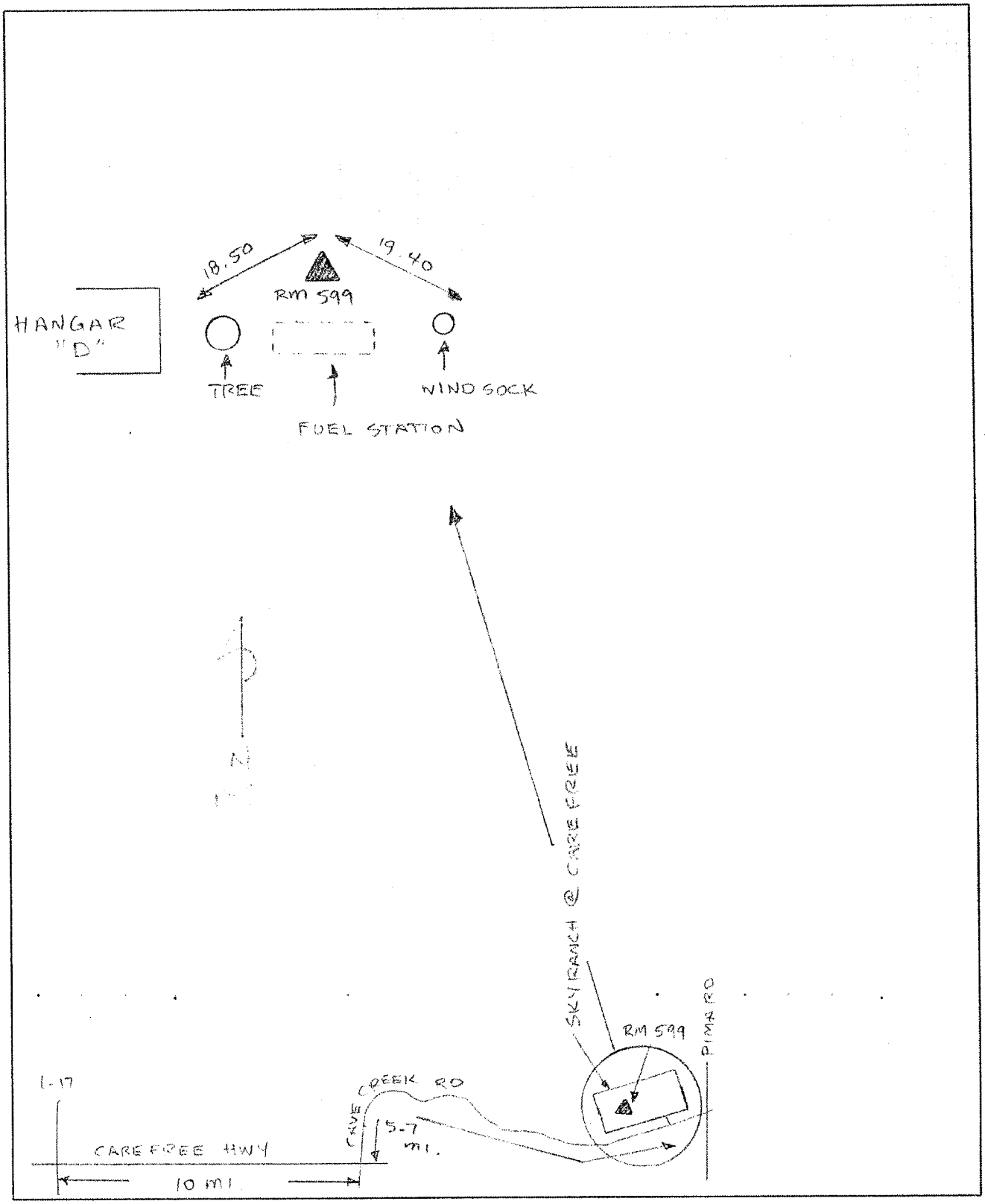
RM599

1920 WEST PEORIA AVENUE PHOENIX, ARIZONA 85029
TEL. (602) 906-0020 FAX (602) 906-0019

TEAM PROFESSIONAL ASSOCIATES, INC.
CIVIL & LAND SURVEYING • GIS • UTILITY DESIGN • DRAFTING • PERMITTING

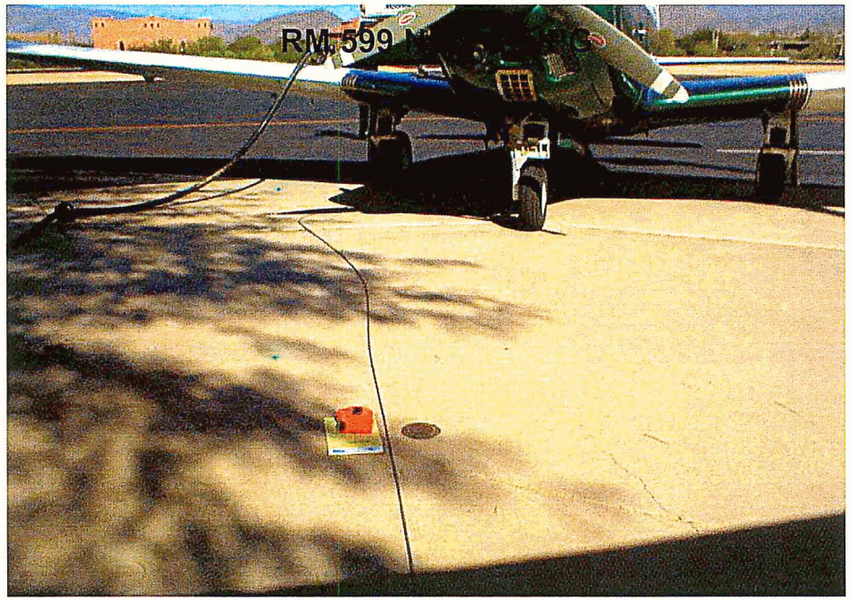
COMPUTATION SHEET

JOB# 16801 SHEET# 1 OF 1
SUBJECT: RM 599
BY: [illegible] DATE: [illegible]
CHECKED BY: _____ DATE: _____

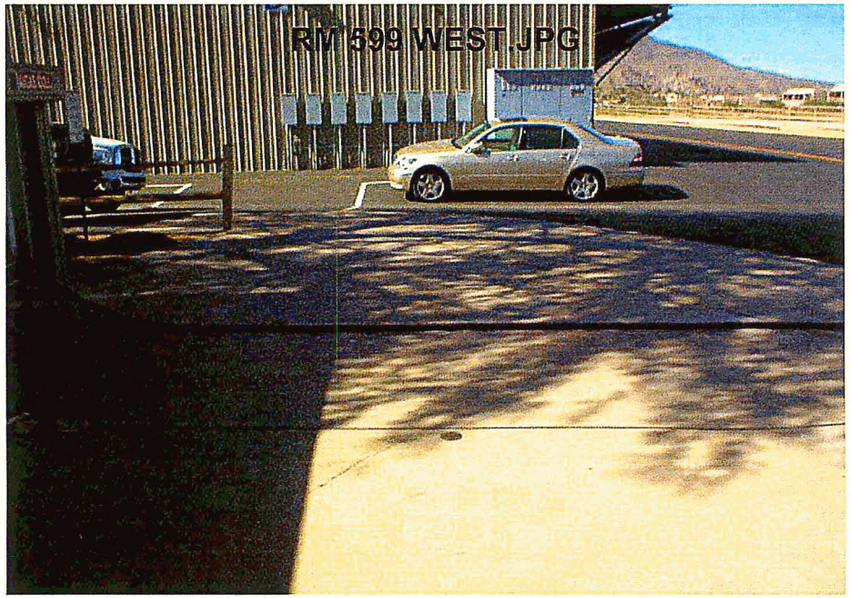


RM 599.JPG

U.S. GEOLOGICAL SURVEY
ELEVATION
ABOVE SEA
BENCH MARK
Your Office Supply Source
RM 599


RM 599

RM 599 SOUTH.JPG


RM 599 WEST.JPG

RM 599 EAST.JPG

A TEAM Professional Associates, INC.
GPS STATION LOG

1920 W. Peoria Avenue, Phoenix, Arizona - 85029 - (602) 906-0020 - (602) 906-0019 Fax

Station Name: RM 599 . Project Name: CAVE CREEK DMP .
Receiver No: C4 . Job number: 1686-1 .
Day of Year: 278 2007 . Local Date: mo. day year .
Session No: 1 . Operator: JASON GRAHAM .

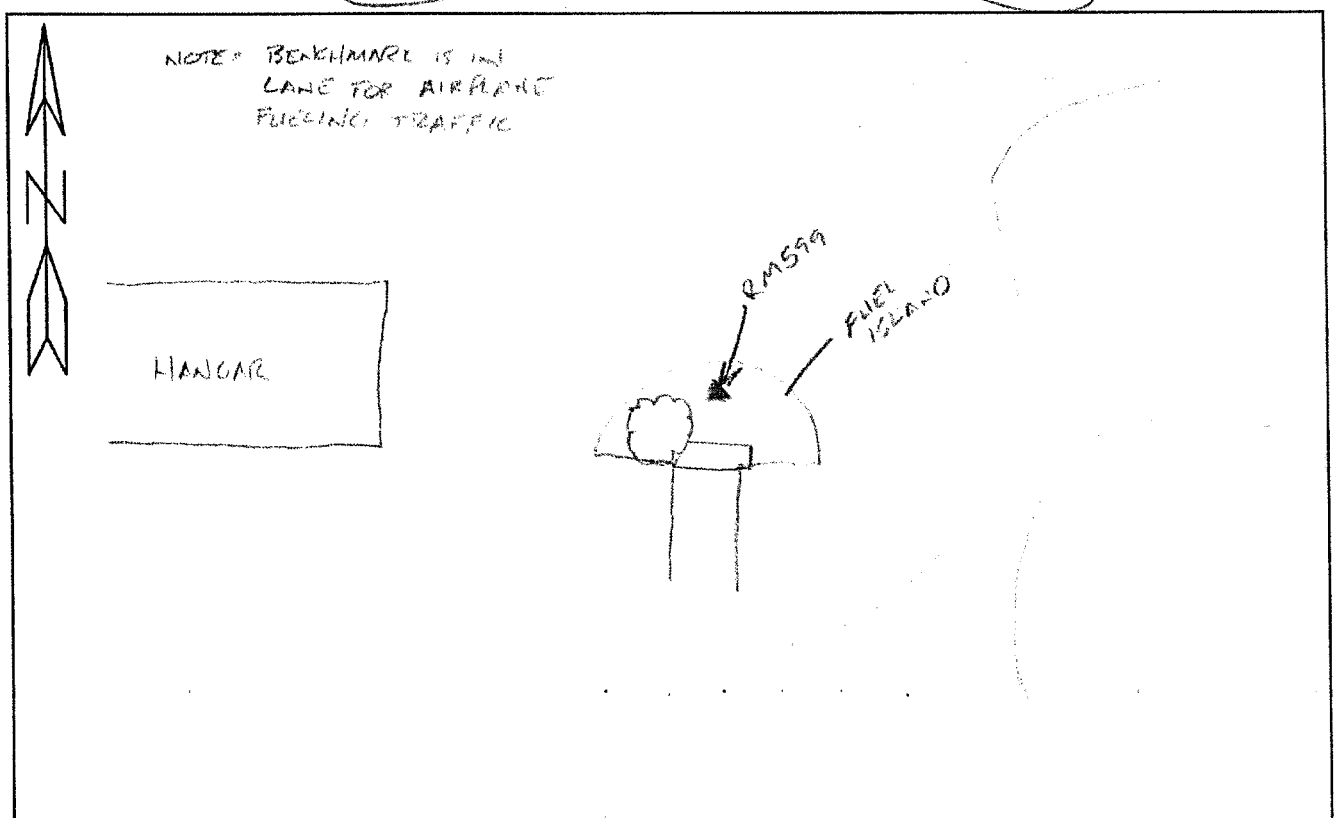
C/A CODE POSITION
Beg:
Lat: : 33 ° 49 ' 00.62 " N
Long: 111 ° 54 ' 07.62 " W
Ellip. Height: 737.3 M PDOP: 2.6
Ending:
Lat: 33 ° 49 ' 00.5799 " N
Long: ° ' " W
Ellip. Height: 735.0 M PDOP: 1.6.

DC# C4 & FILENAME
Receiver Model: 5800 .
Antenna Type: 5800 INTERNAL .
Fixed Height Pole No: ROVER C4 (W/TRIPOD)
Local-UTC Time Offset: MST= -7:00 .
Type of Survey: Fast Static (X) .
Actual= Start 08 :20 . Stop: 11 : 39 . UTC
Beg. SV's Used: 03, 13, 16, 20, 23, 25, 27 .
End SV's Used: 08, 10, 11, 13, 19, 25, 27, 28, 29.

Ant. Height (M) using fixed height pole and measured to Bottom of Antenna: 2.106M

ANT. S.N. 04580

ANT. TYPE: 5800 INTERNAL
Weather Conditions: Clear P. Cloudy Overcast Hot Warm Cool Calm Breezy °F +/- .



Type of Monument: USGS BRASS CAP Stamping: .
Top of marker: (✓) flush M ( ) above: ( ) below: Nat. Ground Detail Notes: .

Rubbing Performed ( )Yes ( )No .

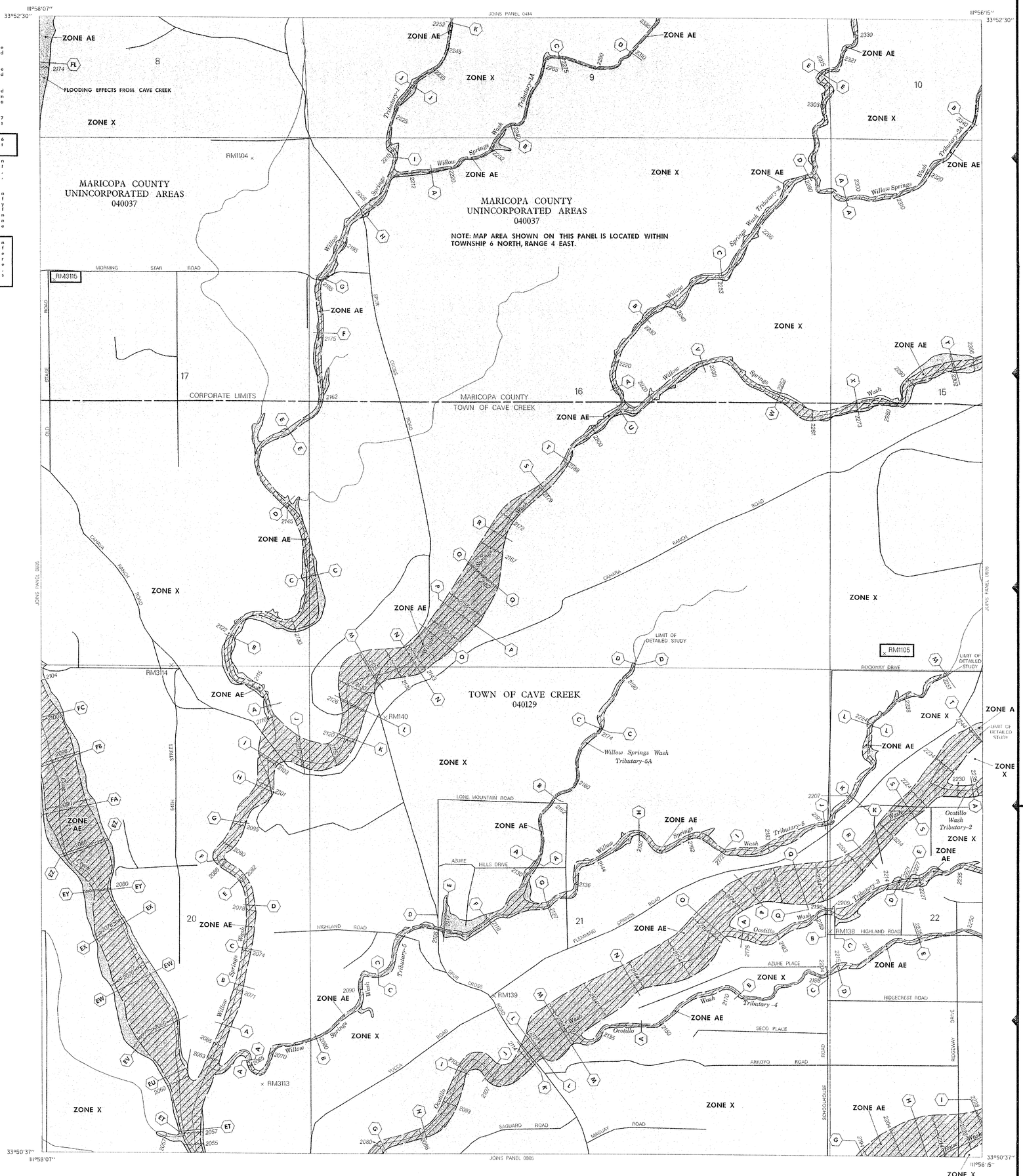
SECTION 2.3.2

F.E.M.A. F.I.R.M. MAPS AND U.S.G.S. LEVEL DATA

THE FOLLOWING BENCHMARKS WERE UTILIZED			
REFERNCE MARK	OBTAINED FROM	ELEVATION (FEET NGVD)	DESCRIPTION OF LOCATION
ERM1	FLOOD CONTROL DISTRICT OF MARICOPA COUNTY	2107.87	Top of brass cap at centerline intersection of Cave Creek Road and Rancho Manana Blvd., Section 28, T6N, R4E. NAD83 Northing (Int. Feet): 1030225.88 NAD83 Easting (Int. Feet): 688635.02 NGVD29 Elev. (Int. Feet): 2107.87 Horizontal Order: Second-Order, Class II (FGCC 1984) Vertical Order: Second-Order, Class II (FGCC 1984) Relative accuracy of 1 part in 20000
RM130	FEMA FIRM MAP 04013C0805 G	2164.75	Chiseled square in concrete base for flag pole in front of American Legion Post 34. On south side (actually on north side) of Cave Creek Road 0.2 mile west of School House Road.
RM3111	FEMA FIRM MAP 04013C0805 G	2005.81	Located at the top of brass cap in concrete 10 feet north and 6 feet west of electric transformer #M66450 being on the west side of Andora Hills Wash Drive, being in the northeast quarter of section 32, T6N, R4E, approximate coordinates N1028278.3, E485054.4.
RM599	FEMA FIRM MAP 04013C0809 H	2503.56	Carefree Airport in island for fuel pump in concrete slab and flush with surface. Standard Tablet stamped 21 HRP 1963 2504
RM1105	FEMA FIRM MAP 04013C0802 G	2250.00	Brass cap in headwall S73W, 616 feet to the approximate northeast corner of section 21, T6N, R4E.
RM3115	FEMA FIRM MAP 04013C0802 G	2201.93	Located at the top of brass cap in concrete at the southeast corner of Morning Star Road and Old Stage Road. Also 3 feet west of power and telephone pole, being in the northeast quarter of section 17, T6N, R4E, approximate coordinates N1043306.6, E484315.0.
RM3106	FEMA FIRM MAP 04013C0815 H	1908.08	Located at the top of brass cap in a handhole at the south quarter corner of section 6, T5N, R4E.

ELEVATION REFERENCE MARKS

REFERENCE MARK	ELEVATION (FEET NGVD)	DESCRIPTION OF LOCATION
RM138	2212.70	Rim of handhole at centerline intersection of School House and Highland Roads.
RM139	2143.00	Top of pavement at centerline intersection of Spur Cross and Fleming Springs Roads.
RM140	2146.97	Top of 3-inch angle iron at ground level, 209 feet south of stop sign at the southeast corner of Cahava Ranch and Spur Cross Roads.
RM1104	2214.93	Brass cap in headwall S13E, 507 feet to the approximate northeast corner of section 17, T6N, R4E.
RM1105	2250.00	Brass cap in headwall S73W, 616 feet to the approximate northeast corner of section 21, T6N, R4E.
RM3113	2090.39	Located at the top of brass cap in concrete being in the southeast quarter of section 20, T6N, R4E, coordinates N1025191.926820, E484461.678362.
RM3114	2154.03	Located at the top of brass cap in concrete in the northwest corner of Cahava Ranch Road and Rockaway Hills Road and 15 feet west of power pole #MTP 107.64, being in the northeast quarter of section 20, T6N, R4E, approximate coordinates N1039368.8, E485527.7.
RM3115	2201.93	Located at the top of brass cap in concrete at the southeast corner of Morning Star Road and Old Stage Road. Also 3 feet west of power and telephone pole, being in the northeast quarter of section 17, T6N, R4E, approximate coordinates N1043306.6, E484315.0.



LEGEND

To obtain more detailed information in areas where Base Flood Elevations (BFEs) and/or floodways have been determined, users are encouraged to consult the Flood Profiles and Floodway Data tables contained within the Flood Insurance Study (FIS) report that accompanies this FIRM. Users should be aware that BFEs shown on the FIRM represent rounded whole-foot elevations and therefore may not exactly reflect the flood elevations note presented in the FIS. BFEs shown on the FIRM are intended for flood insurance rating purposes only and should not be used as the sole source of flood elevation information. Accordingly, flood elevation data presented in the FIS should be utilized in conjunction with the FIRM for purposes of construction and/or floodplain management.

BFEs shown on this map are based on the best data obtained and developed to establish vertical control for determination of flood elevations and floodplain boundaries portrayed on this map. Users should be aware that these BFEs may have changed since the publication of this map. To obtain up-to-date elevation information on National Geodetic Survey (NGS) BMs shown on this map, please contact the Information Services Branch of the NGS at (301) 713-3242, or visit their website at www.ngs.noaa.gov. Map users should seek verification of non-NGS BM elevations when using these elevations for construction or floodplain management purposes.

Coastal BFEs shown on this map may apply only landward of 0.0' NGVD. Users of this FIRM should be aware that coastal flood elevations are also provided in the Summary of Stillwater Elevations table in the Flood Insurance Study report for this community. Elevations shown in the Summary of Stillwater Elevations table should be used for construction and/or floodplain management purposes when they are higher than the elevations shown on this FIRM.

LEGEND

SPECIAL FLOOD HAZARD AREAS INUNDATED BY 100-YEAR FLOOD

ZONE A No base flood elevations determined.

ZONE AE Base flood elevations determined.

ZONE AH Flood depths of 1 to 3 feet (usually areas of ponding); base flood elevations determined.

ZONE AO Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined.

ZONE A99 To be protected from 100-year flood by Federal flood protection system under construction; no base flood elevations determined.

ZONE V Coastal flood with velocity hazard (wave action); no base flood elevations determined.

ZONE VE Coastal flood with velocity hazard (wave action); base flood elevations determined.

FLOODWAY AREAS IN ZONE AE

OTHER FLOOD AREAS

ZONE X Areas of 500-year flood; areas of 100-year flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 100-year flood.

OTHER AREAS

ZONE X Areas determined to be outside 500-year floodplain.

ZONE D Areas in which flood hazards are undetermined.

UNDEVELOPED COASTAL BARRIERS

Identified (YG) — Identified (P20) — Area not included in Flood Hazard Area

Coastal barrier areas are normally located within or adjacent to special Flood Hazard Areas.

Floodway Boundary

Zone D Boundary

Boundary Dividing Special Flood Hazard Zones and Boundary Dividing Areas of Different Coastal Base Flood Elevations within Special Flood Hazard Zones.

513 — Base Flood Elevation Line; Elevation in Feet. See Map Index for Elevation Datum.

D — D — Cross Section Line

(EL 987) — Base Flood Elevation in Feet Where Uniform Within Zone. See Map Index for Elevation Datum.

RM7 — Elevation Reference Mark

● M2 — River Mile

97°07'30", 32°22'30" — Horizontal Coordinates Based on North American Datum of 1927 (NAD 27) Projection.

NOTES

This map is for use in administering the National Flood Insurance Program. It does not necessarily identify all areas subject to flooding, particularly from local drainage sources of small size, or all planimetric features outside Special Flood Hazard Areas. The community map repository should be consulted for more detailed data on BFE's, and for any information on floodway delineations, when to use of this map for property purchase or construction purposes.

Areas of Special Flood Hazard (100-year flood) include Zones A, AE, AH, AO, A99, V, VE, and V1-V30.

Certain areas not in Special Flood Hazard Areas may be protected by flood control structures.

Boundaries of the floodways were computed at cross sections and interpolated between cross sections. The floodways were based on hydraulic considerations with regard to requirements of the Federal Emergency Management Agency.

Floodway widths in some areas may be too narrow to show to scale. Refer to Floodway Data Table, where floodway width is shown at 125 each.

Corporate limits shown are current as of the date of this map. The user should consult appropriate community officials to determine if corporate limits have changed subsequent to the issuance of this map.

This map may incorporate approximate boundaries of Coastal Barrier Resource System Units and Otherwise Protected Areas established under the Coastal Barrier Improvement Act of 1990 (PL 101-591).

For community map revision history prior to countywide mapping, see Section 9.0 of the Flood Insurance Study Report.

For adjoining map panels, see index map showing panel layout and Map Index.

MAP REPOSITORY
Refer to Repository Listing on Map Index

EFFECTIVE DATE OF
COUNTYWIDE FLOOD INSURANCE RATE MAP
APRIL 16, 1998

EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL
SEPTEMBER 29, 1989 (TOWN OF CAVE CREEK)

Map revised: July 19, 2001 to update corporate limits to change Base Flood Elevations, to add Base Flood Elevations, to add Special Flood Hazard Areas, to change Special Flood Hazard Areas, to change zone designations, to update map format, to add roads and road names, and to incorporate previously issued Letters of Map Revision.

To determine if flood insurance is available, contact an insurance agent or call the National Flood Insurance Program at 1-800-638-6620.

APPROXIMATE SCALE IN FEET
500 0 500

NATIONAL FLOOD INSURANCE PROGRAM

FIRM
FLOOD INSURANCE RATE MAP

MARICOPA COUNTY, ARIZONA AND INCORPORATED AREAS

PANEL 802 OF 4350

(SEE MAP INDEX FOR PANELS NOT PRINTED)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
CAVE CREEK, TOWN OF	040129	0802	G
MARICOPA COUNTY	040037	0802	G

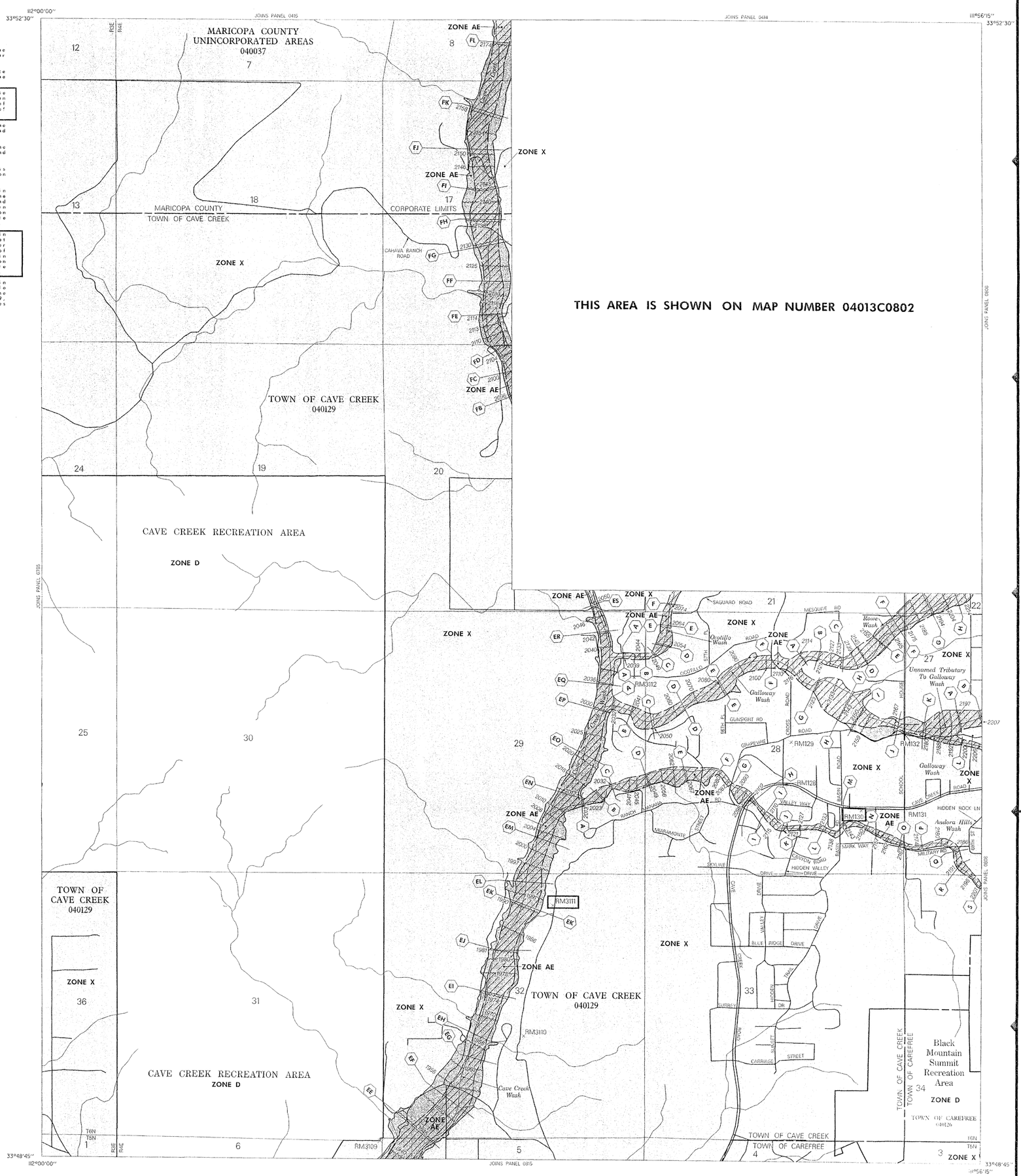
MAP NUMBER
04013C0802 G

MAP REVISED:
JULY 19, 2001

Federal Emergency Management Agency

ELEVATION REFERENCE MARKS

REFERENCE MARK	ELEVATION (FEET NGVD)	DESCRIPTION OF LOCATION
RM128	2127.89	Top of pavement at centerline intersection of Cave Creek and Spur Cross Roads.
RM129	2132.16	Top concrete base of corner fence post on south side of Grapevine Road at Spur Cross Road, north.
RM130	2164.75	Chiseled square in concrete base for flagpole in front of American Legion Post 34, on south side of Cave Creek Road, 0.2 mile west of School House Road.
RM131	2186.35	Top of -inch rebar at centerline intersection of Cave Creek and School House Roads.
RM132	2175.38	Top pavement at centerline intersection of School House and Grapevine Roads.
RM3109	1993.22	Located at the top of USGLO brass cap at northeast corner of section 6, T5N, R4E.
RM3110	1985.02	Located at the top of brass cap in concrete 7 feet west of power line and 7 feet west of power and telephone pole #P51007660 being in the southeast quarter of section 32, T6N, R4E, approximate coordinates N1025619.4, E484463.9.
RM3111	2005.81	Located at the top of brass cap in concrete 10 feet north and 6 feet west of electric transformer #M66450 being on the west side of Andora Hills Wash Drive, being in the northeast quarter of section 32, T6N, R4E, approximate coordinates N1028278.3, E485054.4.
RM3112	2057.34	Located at the top of brass cap in concrete 10 feet south of Ocotillo Road and 55th Street, being in the northeast quarter of section 29, T6N, R4E, approximate coordinates N1032723.2, E486628.2.



THIS AREA IS SHOWN ON MAP NUMBER 04013C0802

LEGEND

To obtain more detailed information in areas where Base Flood Elevations (BFEs)and /or floodways have been determined, users are encouraged to consult the Flood Profiles and Floodway Data tables contained within this Flood Insurance Study (FIS) report that accompanies this FIRM. Users should be aware that BFEs shown on the FIRM represent rounded whole-foot elevations and therefore may not exactly reflect the flood elevation data presented in the FIS. BFEs shown on the FIRM are intended for flood insurance rating purposes only and should not be used as the sole source of flood elevation information. Accordingly, flood elevation data presented in the FIS should be utilized in conjunction with the FIRM for purposes of construction and /or floodplain management.

ERM elevations listed on this map were obtained and/or developed to establish vertical control for determination of flood elevations and floodplain boundaries portrayed on this map. Users should be aware that these ERM elevations may have changed since the publication of this map. To obtain up-to-date elevation information on National Geodetic Survey (NGS) ERMs shown on this map please contact the Information Services Branch of the (NGS) at (301) 713-3242, or visit their website at www.ngs.noaa.gov. Map users should seek verification of non-NGS ERM monument elevations when using these elevations for construction or floodplain management purposes.

Coastal BFEs shown on this map may apply only landward of 0.0' NGVD. Users of this FIRM should be aware that coastal flood elevations are also provided in the Summary of Stillwater Elevations table in the Flood Insurance Study report for this community. Elevations shown in the Summary of Stillwater Elevations table should be used for construction and /or floodplain management purposes when they are higher than the elevations shown on this FIRM.

LEGEND

SPECIAL FLOOD HAZARD AREAS INUNDATED BY 100-YEAR FLOOD

- **ZONE A** No base flood elevations determined.
- **ZONE AE** Base flood elevations determined.
- **ZONE AH** Flood depths of 1 to 3 feet (usually areas of ponding); base flood elevations determined.
- **ZONE AO** Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined.
- **ZONE A99** To be protected from 100-year flood by Federal flood protection system under construction; no base flood elevations determined.
- **ZONE V** Coastal flood with velocity hazard (wave action); no base flood elevations determined.
- **ZONE VE** Coastal flood with velocity hazard (wave action); base flood elevations determined.

FLOODWAY AREAS IN ZONE AE

OTHER FLOOD AREAS

- **ZONE X** Areas of 500-year flood; areas of 100-year flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 100-year flood.

OTHER AREAS

- **ZONE X** Areas determined to be outside 500-year floodplain.
- **ZONE D** Areas in which flood hazards are undetermined.

UNDEVELOPED COASTAL BARRIERS

Skeletal 1983 | Horizontal Zone | Otherwise Protected Areas

Coastal barrier areas are normally located within or adjacent to Special Flood Hazard Areas.

- Floodplain Boundary
- Floodway Boundary
- Zone D Boundary
- Boundary Dividing Special Flood Hazard Zones, and Boundary Dividing Areas of Different Coastal Base Flood Elevations Within Special Flood Hazard Zones.
- 513 — Base Flood Elevation Line; Elevation in Feet. See Map Index for Elevation Datum.
- (D)——(D) Cross Section Line
- (EL 987) Base Flood Elevation in Feet Where Uniform Within Zone. See Map Index for Elevation Datum.
- RM7 × Elevation Reference Mark
- ● M2 River Mile
- 97°07'30", 32°22'30" Horizontal Coordinates Based on North American Datum of 1927 (NAD 27) Projection.

NOTES

This map is for use in administering the National Flood Insurance Program; it does not necessarily identify all areas subject to flooding, particularly from local drainage sources of small size, or all planimetric features outside Special Flood Hazard Areas. The community map repository should be consulted for more detailed data on BFE's, and for any information on floodway delineations, prior to use of this map for property purchase or construction purposes.

Areas of Special Flood Hazard (100-year flood) include Zones A, AE, A1-A30, AH, AO, A99, V, VE and V1-V30.

Certain areas not in Special Flood Hazard Areas may be protected by flood control structures.

Boundaries of the floodways were computed at cross sections and interpolated between cross sections. The floodways were based on hydraulic considerations with regard to requirements of the Federal Emergency Management Agency.

Floodway widths in some areas may be too narrow to show to scale. Refer to Floodway Data Table where floodway width is shown at 120 inch.

Corporate limits shown are current as of the date of this map. The user should contact appropriate community officials to determine if corporate limits have changed subsequent to the issuance of this map.

This map may incorporate approximate boundaries of Coastal Barrier Resource System Units and /or Otherwise Protected Areas established under the Coastal Barrier Improvement Act of 1990 (PL 101-591).

For community map revision history prior to countywide mapping, see Section 9.0 of the Flood Insurance Study Report.

For adjoining map panels and/or map source, see separately printed Map Index.

MAP REPOSITORY
Refer to Repository Listing on Map Index

EFFECTIVE DATE OF
COUNTYWIDE FLOOD INSURANCE RATE MAP:
APRIL 15, 1988

EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL:
SEPTEMBER 29, 1989, DECEMBER 3, 1990

Map revised July 19, 2001 to update corporate limits, to change base flood elevations, to add base flood elevations, to add Special Flood Hazard Areas, to change Special Flood Hazard Areas, to change zone designations, to update map format, to add roads and road names, and to incorporate previously issued Letters of Map Revision.

To determine if flood insurance is available, contact an insurance agent or call the National Flood Insurance Program at (800) 638-6620.

N

APPROXIMATE SCALE IN FEET
1000 0 1000

NATIONAL FLOOD INSURANCE PROGRAM

FIRM
FLOOD INSURANCE RATE MAP

MARICOPA COUNTY, ARIZONA AND INCORPORATED AREAS

PANEL 805 OF 4350
(SEE MAP INDEX FOR PANELS NOT PRINTED)

COMMUNITY	NUMBER	PANEL	SUFFIX
CAREFREE, TOWN OF	040126	0805	G
CAVE CREEK, TOWN OF	040129	0805	G
MARICOPA COUNTY, UNINCORPORATED AREAS	040037	0805	G

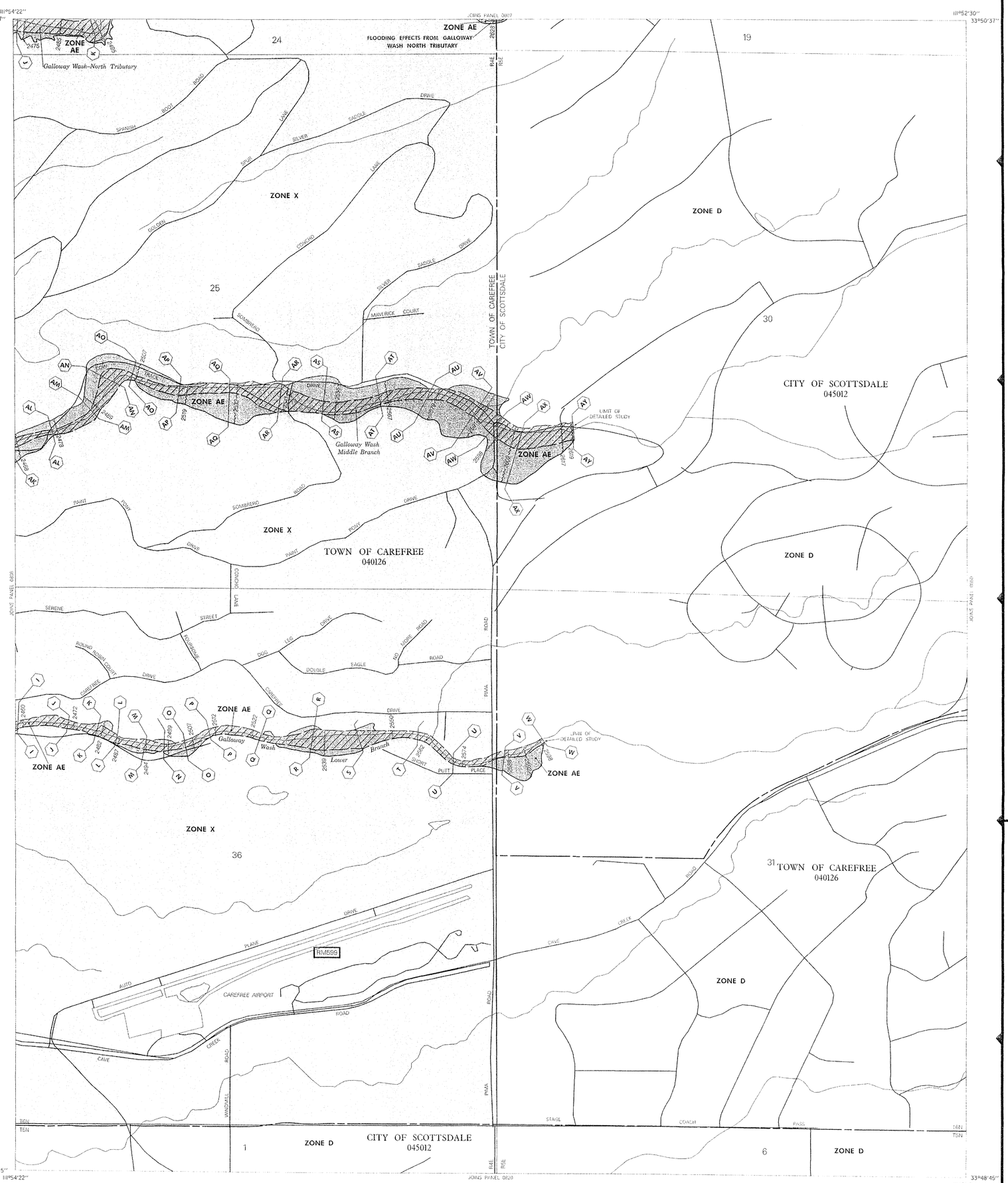
MAP NUMBER
04013C0805 G

MAP REVISED:
JULY 19, 2001

Federal Emergency Management Agency

ELEVATION REFERENCE MARKS

REFERENCE MARK	ELEVATION (FEET NGVD)	DESCRIPTION OF LOCATION
RM599	2503.56	Carefree Airport, in island for fuel pump, in concrete slab and flush with surface, standard tablet stamped 21 HRP 1963 2504.



LEGEND

SPECIAL FLOOD HAZARD AREAS INUNDATED BY 100-YEAR FLOOD

ZONE A No base flood elevations determined.

ZONE AE Base flood elevations determined.

ZONE AH Flood depths of 1 to 3 feet (usually areas of ponding); base flood elevations determined.

ZONE AO Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined.

ZONE A99 To be protected from 100-year flood by Federal flood protection system under construction; no base flood elevations determined.

ZONE V Coastal flood with velocity hazard (wave action); no base flood elevations determined.

ZONE VE Coastal flood with velocity hazard (wave action); base flood elevations determined.

FLOODWAY AREAS IN ZONE AE

OTHER FLOOD AREAS

ZONE X Areas of 500-year flood; areas of 100-year flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 100-year flood.

OTHER AREAS

ZONE X Areas determined to be outside 500-year floodplain.

ZONE D Areas in which flood hazards are undetermined.

UNDEVELOPED COASTAL BARRIERS

Identified (YES) — Identified (NO) — Otherwise Protected Areas

Coastal barrier areas are generally located on the seaward side of Coastal Flood Hazard Areas.

Floodway Boundary

Zone D Boundary

Zone X Boundary

Boundary Dividing Special Flood Hazard Zones, and Boundary Dividing Areas of Different Coastal Base Flood Elevations Within Special Flood Hazard Zones

513 — Base Flood Elevation Line; Elevation in Feet. See Map Index for Elevation Datum

D — D — Cross Section Line

(EL 987) — Base Flood Elevation in Feet Where Uniform Within Cross-Sec Map Index for Elevation Datum

RM7 — Elevation Reference Mark

M2 — River Mile

97°07'30", 32°22'30" — Horizontal Coordinates (Based on North American Datum of 1927 (NAD 2 Projection

NOTES

This map is for use in administering the National Flood Insurance Program. It does not necessarily identify all areas subject to flooding, particularly from local drainage sources of small size, or all planimetric features outside Special Flood Hazard Areas. The community map repository should be consulted for more detailed data on BFEs and for any subsequent Floodway delineations prior to use of this map for property purchase or construction purposes.

Areas of Special Flood Hazard (100-year flood) are shown on this map as A, AE, AH, AO, A99, V, VE, and VI-VI30.

Certain areas not in Special Flood Hazard Areas may be protected by flood control structures.

Boundaries of the floodways were computed at cross sections and interpolated between cross sections. The floodways were based on hydraulic considerations with regard to requirements of the Federal Emergency Management Agency.

Floodway widths in some areas may be too narrow to show to scale. Refer to Floodway Data Tables where floodways are shown at 1[illegible] scale.

Coordinate values shown are based on [illegible] Users should contact appropriate community offices to verify current corporate limits. These changes subsequent to the preparation of this map.

This map does incorporate approximate coordinates [illegible] Historic System Units and or Otherwise Protected Areas [illegible] under the Coastal Barrier Improvement Act of 1990 in [illegible]

For community map revision history prior to countywide mapping, refer to Section 6.0 of the Flood Insurance Study Report.

For adjoining map panels, and zone map scales see panel layout on Map Index.

MAP REPOSITORY

Refer to Repository Listing on Map Index

EFFECTIVE DATE OF COUNTYWIDE FLOOD INSURANCE RATE MAP

APRIL 16, 1988

EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL

SEPTEMBER 30, 1988 SEPTEMBER 4, 1990 DECEMBER 4, 1991

Map revised [illegible] to update corporate limits to change Base Flood Elevations, to add Base Flood elevations, to add Special Flood Hazard Areas, to change Special Flood Hazard Areas, to change zone designations, to update map library, to add roads, and road names, and incorporate previously issued Letters of Map Revision.

To determine if flood insurance is available in this community, contact the National Flood Insurance Program at 1-800-638-6620.

APPROXIMATE SCALE IN FEET

500 0 500

LEGEND

To obtain more detailed information in areas where Base Flood Elevations (BFEs) and/or floodways have been determined, users are encouraged to consult the Flood Profiles and Floodway Data tables contained within the Flood Insurance Study (FIS) report that accompanies this FIRM. Users should be aware that BFEs shown on the FIRM represent rounded whole-foot elevations, and therefore may not exactly reflect the flood elevation data presented at the FIS. BFEs shown on the FIRM are intended for flood insurance rating purposes only and should not be used as the sole source of flood elevation information. Accordingly, flood elevation data presented in the FIS should be utilized in conjunction with the FIRM for purposes of construction and floodplain management.

FIRM elevations listed on this map were obtained and/or developed to establish vertical control for determination of flood elevations and floodplain boundaries portrayed on this map. Users should be aware that these FIRM elevations may have changed since the publication of this map. To obtain up-to-date elevation information on National Geodetic Survey (NGS) ERMs shown on this map, please contact the Information Services Branch of the NGS at (301) 713-3242 or visit their website at www.ngs.noaa.gov. Map users should seek verification of non-NGS ERM information elevations when applying these elevations for construction or floodplain management purposes.

Coastal BFEs shown on this map may apply only landward of 0.0' NGVD. Users of this FIRM should be aware that coastal flood elevations are also provided in the Summary of Stillwater Elevations table in the Flood Insurance Study report for this community. Elevations shown in the Summary of Stillwater Elevations table should be used for construction and for floodplain management purposes when they are higher than the elevations shown on this FIRM.

NATIONAL FLOOD INSURANCE PROGRAM

FIRM
FLOOD INSURANCE RATE MAP

MARICOPA COUNTY, ARIZONA AND INCORPORATED AREAS

PANEL 809 OF 4350

(SEE MAP INDEX FOR PANELS NOT PRINTED)

CONTAINS COMMUNITY	NUMBER	PANEL	SUFFIX
CAREFREE, TOWN OF	040126	0809	H
SCOTTSDALE, CITY OF	045012	0809	H

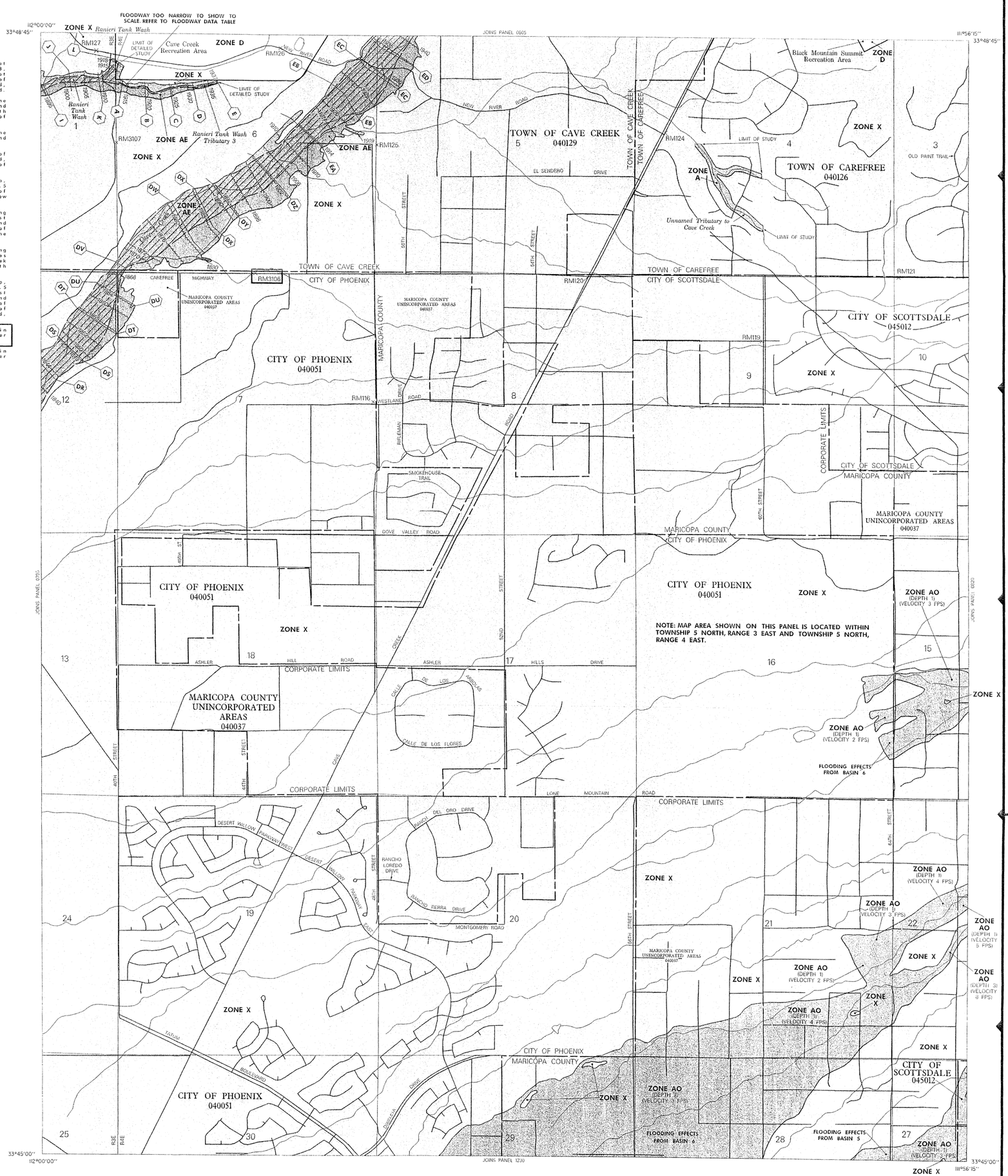
MAP NUMBER
04013C0809 H

MAP REVISED:
JULY 19, 2001

Federal Emergency Management Agency

ELEVATION REFERENCE MARKS

REFERENCE MARK	ELEVATION (FEET NGVD)	DESCRIPTION OF LOCATION
RM116	1951.02	Government Land Office brass cap at quarter corner of sections 7 and 8, T5N, R4E, in fence corner at northwest corner of intersection of 48th Street and Westland Road, brass cap sets 1 foot above ground.
RM119	2113.05	Top of pavement at centerline intersection of 60th Street and road to the west, 0.25 mile south of the north quarter corner of section 3, T5N, R4E.
RM120	2038.93	Top of pavement at centerline intersection of Cave Creek Road and Carefree Highway.
RM121	2178.13	Top of pavement at centerline of Carefree Highway at cattle guard, near the northeast corner of section 9, T5N, R4E.
RM124	2645.41	U.S. Geological Survey brass cap, in concrete post projecting 0.5 foot above ground, 75 feet east of the junction of Cave Creek and New River Roads, marked 9-HRP 1963.
RM125	1955.51	Chiseled square in rock projecting 0.5 foot above ground, 1 mile west of the junction of Cave Creek and New River Roads, 36 feet south of New River Road at road to the north.
RM126	1960.07	Chiseled square in rock projecting 0.5 foot above ground, 1.5 miles west of the junction of Cave Creek and New River Roads, 42 feet south of New River Road.
RM127	1923.60	U.S. Geological Survey brass cap, in concrete post projecting 0.5 foot above ground, 2.3 miles west of the junction of Cave Creek and New River Roads, 39 feet north of New River Road and 2.0 feet east of fence at north end of cattle guard, marked 8 HRP 1963.
RM3106	1908.08	Located at the top of brass cap in a handhole at the south quarter corner of section 6, T5N, R4E.
RM3107	1914.48	Located at the top of brass cap in a handhole at the west quarter corner of section 6, T5N, R4E.



LEGEND

SPECIAL FLOOD HAZARD AREAS INUNDATED BY 100-YEAR FLOOD

ZONE A No base flood elevations determined.

ZONE AE Base flood elevations determined.

ZONE AH Flood depths of 1 to 3 feet (usually areas of ponding); base flood elevations determined.

ZONE AO Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined.

ZONE A99 To be protected from 100-year flood by Federal flood protection system under construction; no base flood elevations determined.

ZONE V Coastal flood with velocity hazard (wave action); no base flood elevations determined.

ZONE VE Coastal flood with velocity hazard (wave action); base flood elevations determined.

FLOODWAY AREAS IN ZONE AE

OTHER FLOOD AREAS

ZONE X Areas of 500-year flood; areas of 100-year flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 100-year flood.

OTHER AREAS

ZONE X Areas determined to be outside 500-year floodplain.

ZONE D Areas in which flood hazards are undetermined.

UNDEVELOPED COASTAL BARRIERS

Identified (1983) — Identified (1990) — Otherwise Protected Areas

Coastal barrier areas are depicted within closely spaced zones or units of adjacent or similar Flood Hazard Areas.

Elevation Boundary

Floodway Boundary

Zone D Boundary

Boundary Dividing Special Flood Hazard Zones, and Boundary Dividing Areas of Different Coastal Base Flood Elevations Within Special Flood Hazard Zones.

513 — Base Flood Elevation Line; Elevation in Feet. See Map Index for Elevation Datum

D — D — Cross Section Line

(EL 987) — Base Flood Elevation in Feet Where Uniform Within Zone. See Map Index for Elevation Datum

RM7 × — Elevation Reference Mark

● M2 — River Mile

97°07'30", 32°22'30" — Horizontal Coordinates Based on North American Datum of 1927 (NAD 27) Projection

NOTES

This map is for use in administering the National Flood Insurance Program; it does not necessarily identify all areas subject to flooding, particularly from local drainage sources of small size, or all planimetric features outside Special Flood Hazard Areas. The community map repository should be consulted for more detailed data on BFEs, and for any information on floodway delineations, prior to use of this map for property purchase or construction purposes.

Areas of Special Flood Hazard (100-year flood) include Zones A, AE, A1-A30, AH, AO, A99, V, VE, and V1-V30.

Certain areas not in Special Flood Hazard Areas may be protected by flood control structures.

Boundaries of the floodways were computed at cross sections and interpolated between cross sections. The floodways were based on hydraulic considerations with regard to requirements of the Federal Emergency Management Agency.

Floodway widths in some areas may be too narrow to show to scale. Refer to Floodway Data Table where floodway width is shown at 120 feet.

Corporate limits shown are current as of the date of this map. The user should contact appropriate community officials to determine if corporate limits have changed subsequent to the issuance of this map.

This map may incorporate approximate boundaries of Coastal Barrier Resource System Units and/or Otherwise Protected Areas established under the Coastal Barrier Improvement Act of 1990 (PL 101-591).

For community map revision history prior to countywide mapping, see Section 6.0 of the Flood Insurance Study Report.

For adjoining map panels and base map source see separately printed Map Index.

MAP REPOSITORY
Refer to Repository Listing on Map Index

EFFECTIVE DATE OF
COUNTYWIDE FLOOD INSURANCE RATE MAP
APRIL 16, 1988

EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL
SEPTEMBER 29, 1989; DECEMBER 3, 1982; SEPTEMBER 30, 1986

Map revised July 19, 2001 to update corporate limits to change base flood elevations, to add base flood elevations, to add Special Flood Hazard Areas, to change Special Flood Hazard Areas, to change zone designations, to replace map format to add scale and road names, and to incorporate previously issued Letters of Map Revision.

To determine if flood insurance is available, contact an insurance agent or call the National Flood Insurance Program at (800) 638-6620.

APPROXIMATE SCALE IN FEET
1000 0 1000

LEGEND

To obtain more detailed information in areas where Base Flood Elevations (BFEs) and/or floodways have been determined, users are encouraged to consult the Flood Profiles and Floodway Data tables contained within the Flood Insurance Study (FIS) report that accompanies this FIRM. Users should be aware that BFEs shown on the FIRM represent rounded whole-foot elevations, and therefore may not exactly reflect the flood elevation data presented in the FIS. BFEs shown on the FIRM are intended for flood insurance rating purposes only and should not be used as the sole source of flood elevation information. Accordingly, flood elevation data presented in the FIS should be utilized in conjunction with the FIRM for purposes of construction and/or floodplain management.

FIRM elevations based on this map were obtained and/or developed to establish vertical control for determination of flood elevations and floodplain boundaries portrayed on this map. Users should be aware that these FIRM elevations may have changed since the publication of this map. To obtain up-to-date elevation information on National Geodetic Survey (NGS) FIRM benchmarks shown on this map, please contact the Information Services Branch of the NGS at (301) 713-3242 or visit her website at www.ngs.noaa.gov. Map users should seek verification of non-NGS FIRM benchmark elevations when using these elevations for construction and/or floodplain management purposes.

Coastal BFEs shown on this map apply only landward of 0.0' NGVD. Users of this FIRM should be aware that coastal flood elevations are also provided in the Summary of Stillwater Elevations table in the Flood Insurance Study report for this community. Elevations shown in the Summary of Stillwater Elevations table should be used for construction and/or floodplain management purposes when they are higher than the elevations shown on this FIRM.

NATIONAL FLOOD INSURANCE PROGRAM

FIRM
FLOOD INSURANCE RATE MAP

MARICOPA COUNTY, ARIZONA AND INCORPORATED AREAS

PANEL 815 OF 4350

(SEE MAP INDEX FOR PANELS NOT PRINTED)

COMMUNITY	NUMBER	PANEL	SUFFIX
CAREFREE, TOWN OF	040126	0815	H
CAVE CREEK, TOWN OF	040129	0815	H
MARICOPA COUNTY UNINCORPORATED AREAS	040037	0815	H
PHOENIX, CITY OF	040051	0815	H
SCOTTSDALE, CITY OF	045012	0815	H

MAP NUMBER
04013C0815 H

MAP REVISED:
JULY 19, 2001

Federal Emergency Management Agency

USGS
science for a changing world

Central Region Geography
Denver Federal Center, P. O. Box 25046, MS 506, Denver, Colorado 80225

Fax Cover Sheet

Date: 9/22/05 Number of Pages (including this cover): 7

Message:

Here are 3 level lines ran in 1905 and 1963.
There does not appear to be a line ran in 1947

33 111 44

CAVE CREEK NO. 2 (214) Arizona R. Philips, 1905

Third Order Adjusted Elevations Based on Sea Level Datum of 1929

Book: 6624

Latitude 33°45' Longitude 111°45'

(1) FROM CAMELBACK QUADRANGLE (191) NORTHEAST ALONG ROAD AND SOUTHEAST BACK INTO CAMELBACK QUADRANGLE (191)

Note: This line was run by Third Order methods but closure was +0.490 ft. high in a distance of 30.25 miles. This closure error has been prorated in the line.

Desert Corral, 9 mi. NE. of, at point where rd. crosses deep dry wash, 120 ft. S. of bottom of wash, 60 ft. E. of rd., in boulder; aluminum tablet stamped "2486 PHNX" 2485.182

Asher Ranch, 12.5 mi. W. of, on summit of low divide between Cave Creek and Verde River, 10 ft. N. of old rd., in ledge; aluminum tablet stamped "2945 PHNX" 2944.115

Asher Ranch, 9.8 mi. W. of, on S. bank of wash where rd. crosses to right, 40 ft. E. of rd., in boulder; aluminum tablet stamped "2600 PHNX" 2599.272

FILE COPY

FILE COPY

7/21/64 dc

33 111 44

CAVE CREEK NO. 2 (214) Arizona H.R. Poulsen, 1963

Third Order Adjusted Elevations Based On Sea Level Datum of 1929

Book: PV 478

Latitude 33°45' Longitude 111°45'

(2) FROM EAST EDGE OF NEW RIVER NO. 1 QUADRANGLE (215) EAST AND NORTH TO CAVE CREEK THENCE SOUTH INTO NORTH EDGE OF CAMELBACK QUADRANGLE (191) (By H.R. Poulsen, 1963; Book: PV 478)

Cave Creek School, 0.8 mi W., thence 1.6 mi S. along Cave Creek Rd., thence 2.3 mi NW. from; at fence line and cattleguard; 39 ft N. of rd., 1.8 ft E. of fence; in conc. post projecting 0.4 ft above ground; a standard tablet stamped "8 HRP 1963 1924" 1923.603

Reference mark, 73 ft S. of tablet; 33 ft S. of rd. and cattleguard, 1.2 ft W. of fence; on rock projecting 0.4 ft above ground; a chiseled square 1920.060

Cave Creek School, 0.8 mi W., thence 1.6 mi S. along Cave Creek Rd., thence 1.5 mi NW. from; 0.1 mi E. of reservoir at brow of a hill; 42 ft SW. of rd., 2.5 ft NE. of fence; on rock projecting 0.5 ft above ground; a chiseled square 1960.072

Cave Creek School, 0.8 mi W., thence 1.6 mi S. along Cave Creek Rd., thence 1 mi W. from; at rd. jcts.; 99 ft E. of Y-rd. S., 36 ft S. of rd., 32 ft W. of palo verde; top of rock projecting 0.6 ft above ground; a chiseled square 1955.507 (RM 125)

Cave Creek School, 0.8 mi W., thence 1.6 mi S. along Cave Creek Rd. from; at jct. of Cave Creek and New River Rds.; 15 ft S. and 103 ft E. of power pole, 75 ft E. of Cave Creek Rd.; in conc. post projecting 0.4 ft above ground; a standard tablet stamped "9 HRP 1963 2045" 2045.410 Gone!

Cave Creek School, 0.8 mi W., thence 1 mi S. from along Cave Creek Rd.; on ridge between two drains; 115 ft S. and 56 ft E. of intersection of Surrey Drive and Cave Creek Rd.; on rock projecting 0.4 ft; chiseled square 2122.574 ?

Cave Creek, 0.8 mi W. of; at sharp curve in rd. and at Y-jct.; 12 ft W. of rd.; in conc. at west end of cattleguard; a standard USC&GS azimuth disk stamped "CAVE CREEK 1946" 2105.903

Cave Creek School, 0.2 mi W. of; in front of American Legion Post 34; on conc. flagpole footing; a chiseled square 2164.750 RM 130 ~~RM 130~~

At Cave Creek School, 27 ft W. of E. entrance to Cave Creek School District No. 93; 33 ft N. of rd.; 10 ft N. and 13 ft E. of a power pole; in conc. post projecting 0.1 ft above ground; a standard tablet stamped "10 HRP 1963 2196" 2196.041

FILE COPY

11/2/73 blw

33 111 44

CAVE CREEK NO. 2 (214) Arizona H.R. Poulsen, 1963

Third Order Adjusted Elevations Based On Sea Level Datum of 1929

Book: PV 478

(2) Cave Creek School, 0.8 mi E. of; at windmill on south side of rd.; top of west side of old conc. foundation; a chiseled square 2283.365 ← ?

Cave Creek School, 1.3 mi E. of; at intersection of Cave Creek Rd. and Scottsdale Rd.; on property occupied by Shell Service Station; 62 ft S. of Cave Creek Rd., 62 ft E. of Scottsdale Rd., 22 ft NW. of light pole, 3 ft NE. of power line; in conc. post flush with ground; a standard tablet stamped "11 HRP 1963 2343" 2342.868 ← !? - ?? CK ITOUT

Reference mark, 260 ft SW. of tablet; 1-1/4 inch pipe protruding from 2339.320

CHECKED SPUR LINE FROM BM "11 HRP 1963" TO LINE TRIANGULATION STATION

Cave Creek School, 1.3 mi E., thence 1.4 mi S. from along Scottsdale Rd.; 200 ft N. of rock outcropping; 75 ft E. of rd.; on large boulder; a chiseled square 2348.964 ?

Cave Creek School, 1.3 mi E., thence 2 mi S. along Scottsdale Rd. from; at cattleguard and entrance to Carefree; 20 ft E. of centerline; on conc. end to cattleguard; a chiseled square 2260.097

Cave Creek School, 1.3 mi E., thence 2.3 mi SE. from along Scottsdale Rd.; at Y-jct. where Scottsdale Rd. turns S.; 77 ft W. of gravel rd., 67 ft NE. of Scottsdale Rd.; in conc. post projecting 0.3 ft above ground; a standard tablet stamped "12 HRP 1963 2276" 2275.868 √

Cave Creek School, 1.3 mi E., thence 2.6 mi SE. from along Scottsdale Rd.; 33 ft S. and 28 ft E. of a power pole, 0.5 ft E. of centerline of rd.; set flush with rd. surface; a standard Maricopa County disk; there is no stamping on disk 2269.353 √

Cave Creek School, 1.3 mi E., thence 3.1 mi SE. from along Scottsdale Rd.; at a rd. crossing; 28 ft S. and 28 ft E. of power pole; on centerline of rd. and 0.39 ft below rd. surface in small manhole; a standard GLO disk stamped "T5N R4E S10 S11 S14 S15" 2251.040 √

FILE COPY

11/2/73 blw

33 111 44

CAVE CREEK NO. 2 (214) Arizona H.R. Poulsen, 1963

Third Order Adjusted Elevations Based On Sea Level Datum of 1929

Book: PV 478

(2) Cave Creek School, 1.3 mi E., thence 3.6 mi SE. from along Scottsdale Rd.; 45 ft S. of T-rd. W.; 29 ft E. of power pole; on centerline of rd.; a standard GLO disk set flush with rd. surface and stamped "1/4 S15 S14 1919" 2232.903

Cave Creek School, 1.3 mi E., thence 4.1 mi SE. from along Scottsdale Rd.; at rd. crossing; 27 ft N. and 25 ft E. of power pole; set 0.65 ft below rd. surface; a standard GLO disk stamped "T5N R4E S15 S14 S22 S23" 2217.883

Cave Creek School, 1.3 mi E., thence 4.6 mi SE. from along Scottsdale Rd.; 38 ft S. and 24 ft E. of power pole, 1.3 ft W. of centerline of rd., set flush with rd. surface; a standard Maricopa County disk; there is no stamping on disk 2192.156

Cave Creek School, 1.3 mi E., thence 4.7 mi SE. from; 19.1 mi N. of Scottsdale Post Office; 39 ft E. of rd.; in conc. post projecting 0.2 ft above ground; a standard tablet stamped "13 HRP 1963 2195" 2194.747

Scottsdale Post Office, 18.6 mi N. of; 90 ft S. of Y-rd. SW., 53 ft S. and 24 ft E. of power pole, 35 ft S. of drain crossing; set 0.36 ft below rd. surface in small manhole; a standard GLO disk stamped "T5N R4E S22 S23 S27 S26 1919" 2155.401

FILE COPY

11/2/73 blw

33 111 44

CAVE CREEK NO. 2 (214) Arizona H.R. Poulsen, 1963

Third Order Adjusted Elevations Based On Sea Level Datum of 1929

Book: PV 478

Latitude 33°45' Longitude 111°45'

(3) FROM A POINT 1.3 MILES EAST OF CAVE CREEK SCHOOL SOUTHEAST VIA CAREFREE AIRPORT TO USC&GS TRIANGULATION STATION "LINE 1946" AND RETURN

"11 HRP 1963 2343" (Described in line 2)	2342.868
Intersection of Cave Creek Rd. and Long Rifle Rd. S.; copper nail and washer	2444.8
Carefree Airport, in island for fuel pump, in conc. slab and flush with surface; standard tablet stamped "21 HRP 1963 2504"	2503.376
At easternmost entrance to airport; centerline rd.; copper nail and washer	2514.0
High point of runway at white cross on northeast end of runway	2572.2
Carefree Airport, 0.9 mi E. from, at rd. jcts. and cattleguard, 57 ft S. of rd., 10 ft E. of fence, in conc. post projecting 0.6 ft above ground; standard USC&GS reference mark stamped "LINE NO 2 1946"	2581.023
Carefree Airport, 0.9 mi E. from, at rd. jcts. and cattleguard, 44 ft S. of rd., 6 ft W. of fence, in conc. post projecting 0.4 ft above ground; standard USC&GS triangulation disk stamped "LINE 1946"	2581.584
Carefree Airport, 0.9 mi E. from, at rd. jcts. and cattleguard, 12 ft S. of rd., in top of conc. headwall of cattleguard; standard USC&GS reference mark stamped "LINE NO 1 1946"	2581.837

RM599

FILE COPY

11/1/73 blw

SECTION 2.3.3

BENCHMARK METADATA

ORGANIZED AS FOLLOWS

- BENCHMARK GO TO SHEETS
- BENCHMARK CONSTRUCTION SHEETS
- BENCHMARK PHOTOS
- GPS OBSERVATION SHEETS

BM1

1920 WEST PEORIA AVENUE PHOENIX, ARIZONA 85029
TEL. (602) 906-0020 FAX (602) 906-0019

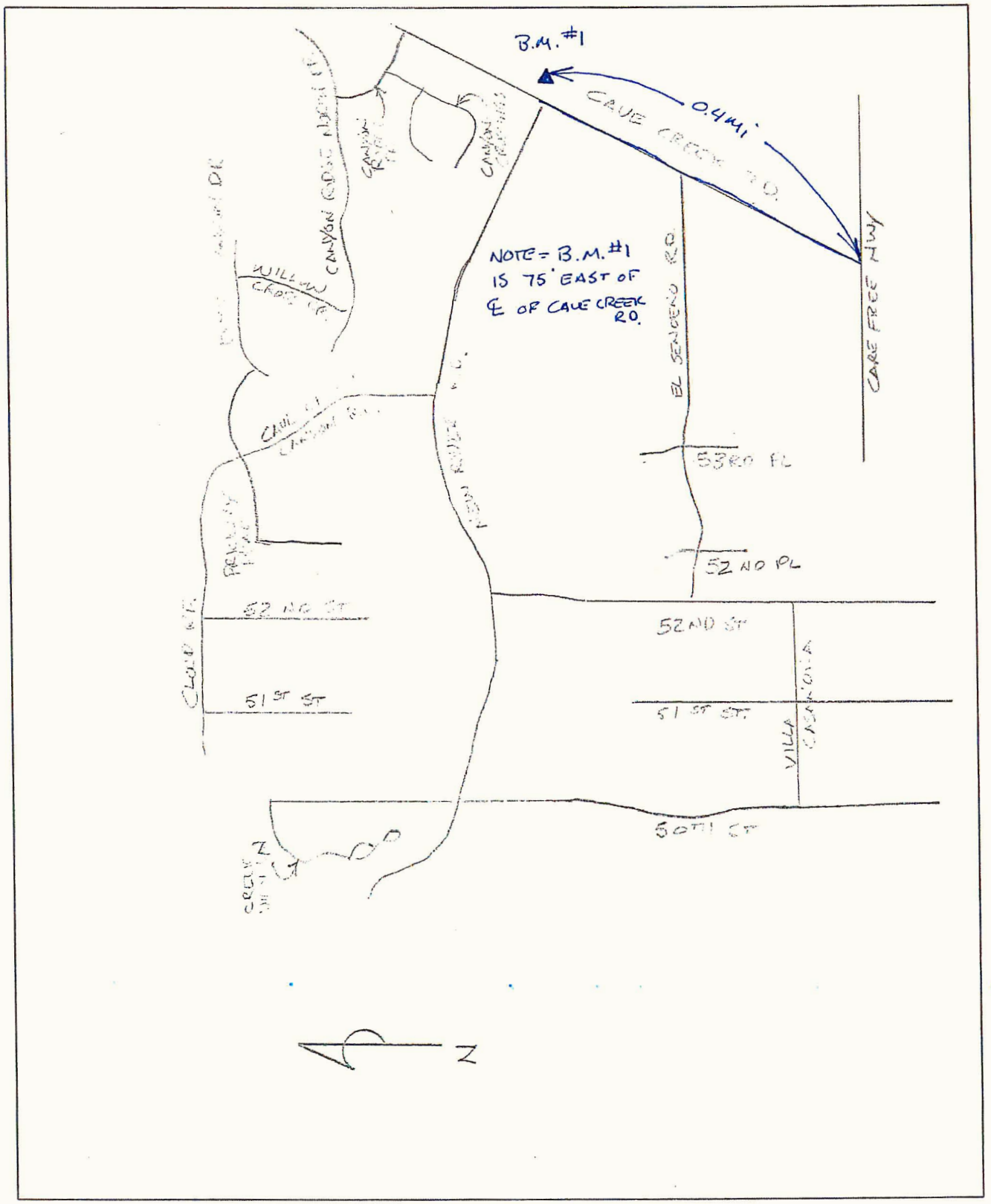
COMPUTATION SHEET

JOB# 1680.1 SHEET# 1 OF 1

SUBJECT: BENCHMARK #1

BY: J.G. DATE: 10-16-07

CHECKED BY: _____ DATE: _____



A TEAM 3D MONUMENT CONSTRUCTION FORM

PROJECT NAME: 1686.1 MONUMENT: B.M. #1 DATE: 9/24/07

SURVEY CREW: A-TEAM CAMERA: _____

LATITUDE: _____ LONGITUDE: _____ MONUMENT TYPE: 3D NGS

PRE-CONSTRUCTION PICTURE RECORD

LOCATION: _____ VICINITY NORTH: _____ VICINITY EAST: _____ VICINITY SOUTH: _____ VICINITY WEST: _____

NOTES: _____

CONSTRUCTION PICTURE RECORD

HOLE: BM1-1 HOLE W/ ROD: BM1-2 HOLE W/ ROD AND SLEEVE: BM1-3 HOLE W/ ROD /SLEEVE AND CAP: BM1-5

MONUMENT COVER INSTALLED: BM1-4 MONUMENT COVER FINISHED : _____

NOTES: _____

FINISHED MONUMENT PICTURE RECORD

LOCATION: _____ VICINITY NORTH: BM1-6 VICINITY EAST: BM1-7 VICINITY SOUTH: B1-8 VICINITY WEST: BM1-9

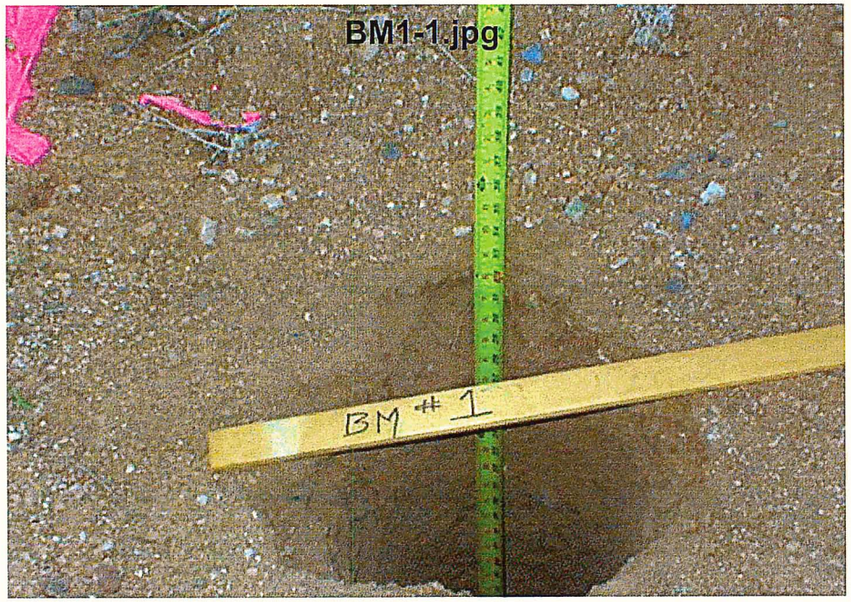
NOTES: _____

CONSTRUCTION MEASUREMENT RECORD

DIAMETER OF HOLE: 8" DEPTH OF HOLE: 36" ROD FOOTAGE: 9.5' ROD TYPE AND SECTION LENGTH: 9/16"

LENGTH OF SLEEVE: _____ LENGTH TOP OF ROD TO TOP OF SLEEVE : _____ LENGTH TOP OF RIM TO TOP OF ROD : _____

NOTES: _____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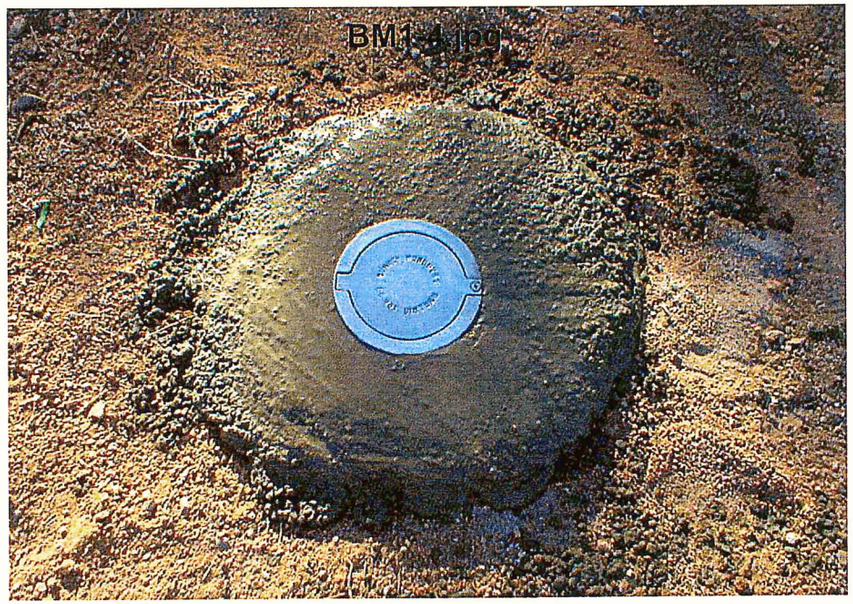
BM # 1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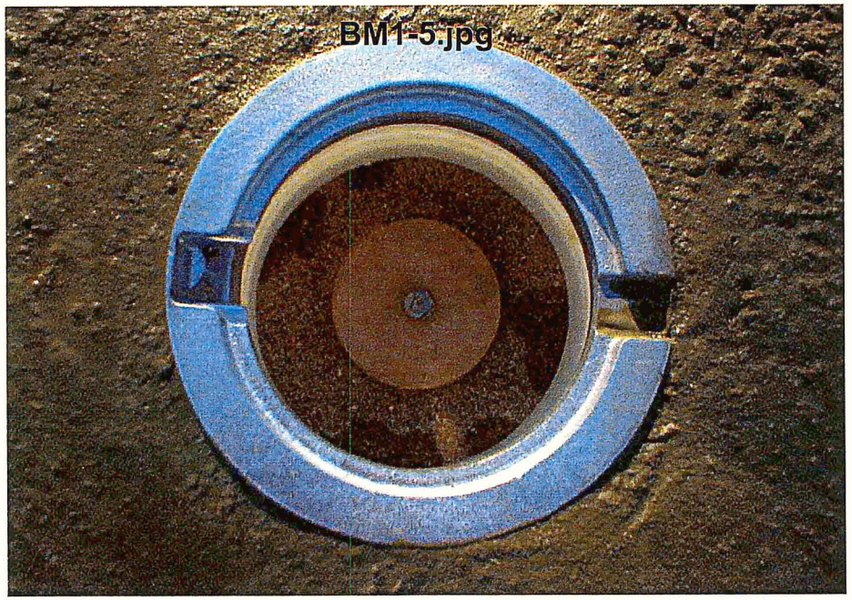
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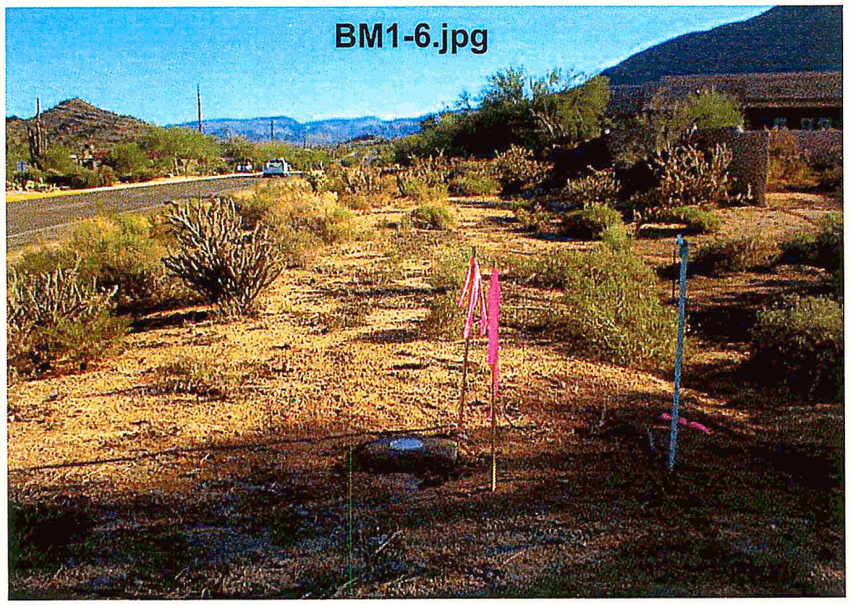
BM1-3.jpg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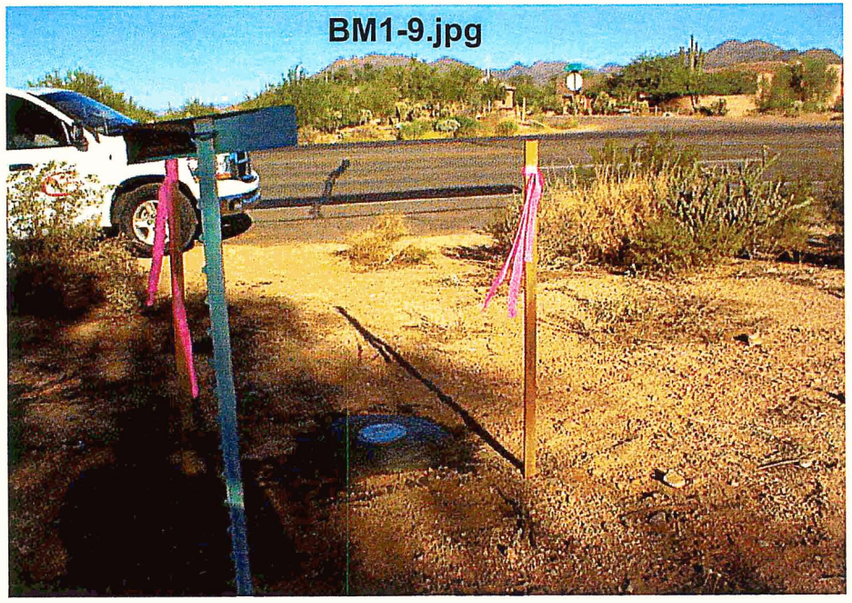
BM1-8.jpg


BM1-9.jpg

BM1-7.jpg

A TEAM Professional Associates, INC.
GPS STATION LOG

1920 W. Peoria Avenue, Phoenix, Arizona - 85029 - (602) 906-0020 - (602) 906-0019 Fax

Station Name: BM1
Receiver No: 4580
Day of Year: 277 2007
Session No: 0

Project Name: CAVE CREEK DMP
Job number: 1686-1
Local Date: mo. 10 day 4 year 07
Operator: J. MALEK

C/A CODE POSITION

Beg:
Lat: : 33 ° 48 ' 15.42 " N
Long: 111 ° 57 ' 37.14 " W
Ellip. Height: 594.27 M PDOP: 2.5

Ending:
Lat: 33 ° 48 ' 15.51 " N
Long: 111 ° 57 ' 37.13 " W
Ellip. Height: 593.6 M PDOP: 2.4

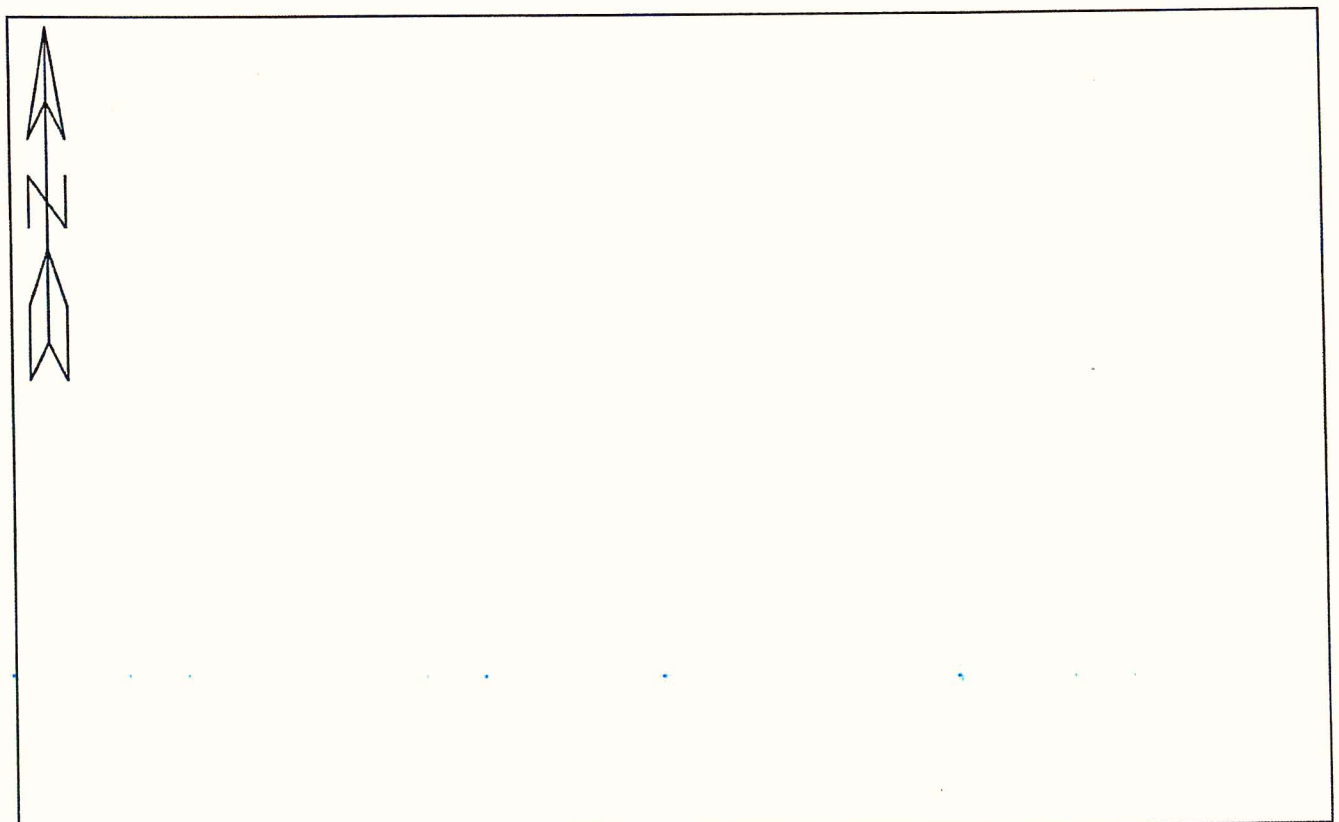
DC# C4 (HAL) & FILENAME 1686-1-C4
Receiver Model: 5800
Antenna Type: 5800
~~Fixed Height Pole~~ Rod No: C4
Local-UTC Time Offset: MST= -7:00
Type of Survey: Fast Static (X)
Actual= Start 8 : 11 . Stop: : . UTC
Beg. SV's Used: 3, 13, 16, 20, 23, 25, 27
End SV's Used: 3, 08, 13, 19, 23, 25, 27, 28

Ant. Height (M) using fixed height pole and measured to Bottom of Antenna: 2.10

ANT. S.N. 4580

ANT. TYPE: 5800

Weather Conditions: Clear (P. Cloudy) Overcast Hot (Warm) Cool (Calm) Breezy 80 °F +/-



Type of Monument: Stamping:
Top of marker: ( ) flush M ( ) above: ( ) below: Nat. Ground Detail Notes:

Rubbing Performed ( )Yes ( )No

BM2

1920 WEST PEORIA AVENUE PHOENIX, ARIZONA 85029
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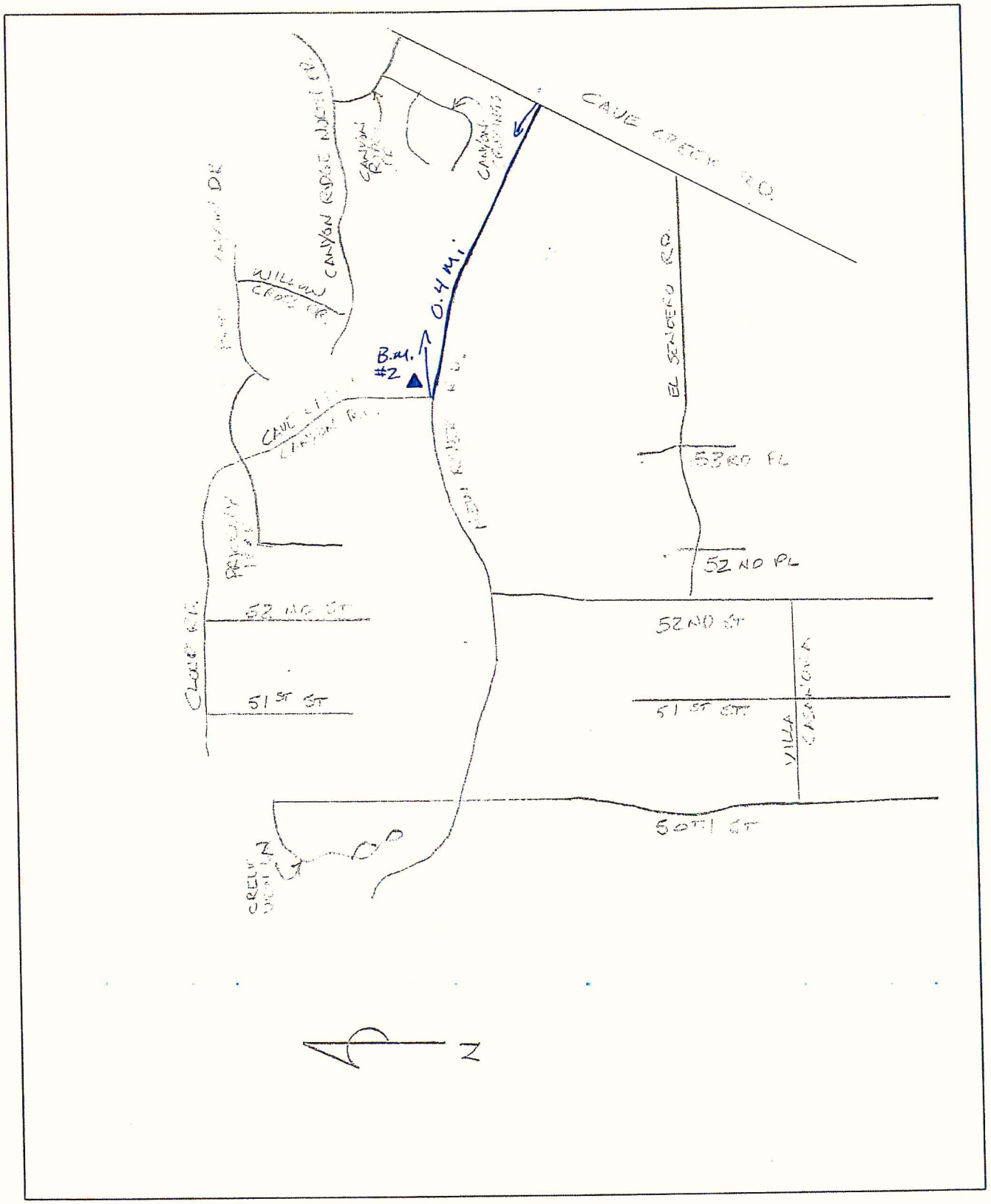
COMPUTATION SHEET

JOB# 16860.1 SHEET# 1 OF 1

SUBJECT: BENCHMARK #2

BY: J.G. DATE: 10-16-07

CHECKED BY: _____ DATE: _____



A TEAM 3D MONUMENT CONSTRUCTION FORM

PROJECT NAME: 1686.1 MONUMENT: BM #2 DATE: 9/24/07

SURVEY CREW: A-TEAM CAMERA: _____

LATITUDE: _____ LONGITUDE: _____ MONUMENT TYPE: 3D NGS

PRE-CONSTRUCTION PICTURE RECORD

LOCATION: B2-3 VICINITY NORTH: BM2-4 VICINITY EAST: BM2-5 VICINITY SOUTH: BM2-6 VICINITY WEST: _____

NOTES: _____

CONSTRUCTION PICTURE RECORD

HOLE: BM2-1 HOLE W/ ROD: BM2-7 HOLE W/ ROD AND SLEEVE: BM2-8 HOLE W/ ROD /SLEEVE AND CAP: BM2-9

MONUMENT COVER INSTALLED: B2-10 MONUMENT COVER FINISHED : BM2-11

NOTES: _____

FINISHED MONUMENT PICTURE RECORD

LOCATION: _____ VICINITY NORTH: BM2-12 VICINITY EAST: BM2-13 VICINITY SOUTH: BM2-14 VICINITY WEST: BM2-15

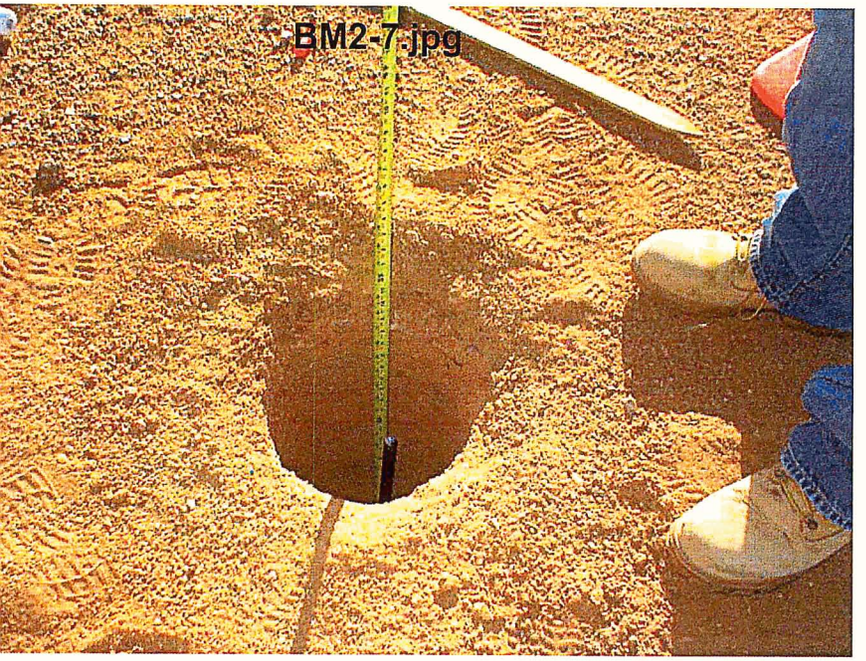
NOTES: _____

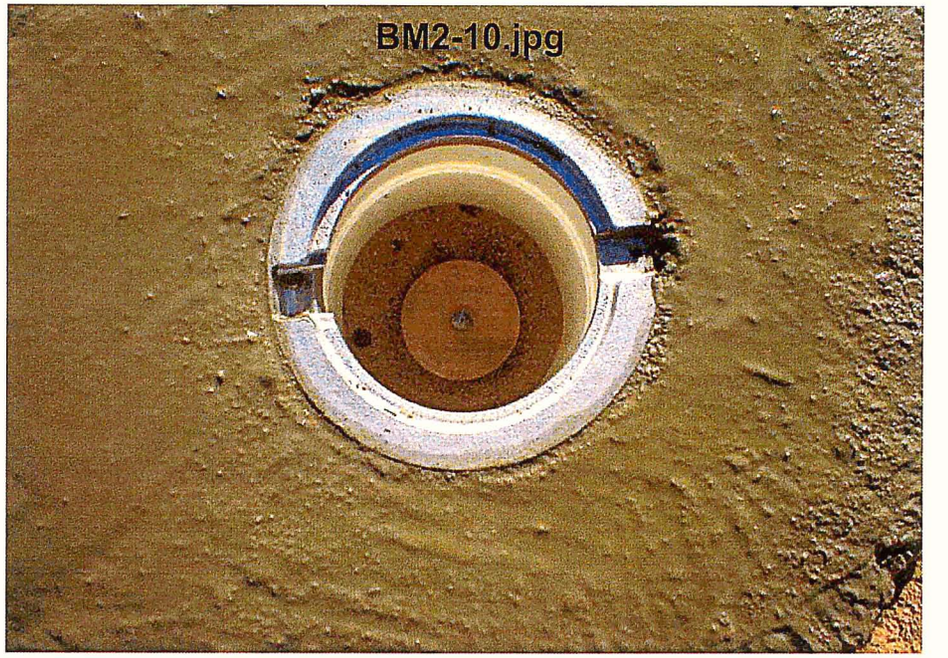
CONSTRUCTION MEASUREMENT RECORD

DIAMETER OF HOLE: 10" DEPTH OF HOLE: 36" ROD FOOTAGE: 14'0" ROD TYPE AND SECTION LENGTH: 9/16"

LENGTH OF SLEEVE: _____ LENGTH TOP OF ROD TO TOP OF SLEEVE : _____ LENGTH TOP OF RIM TO TOP OF ROD : _____

NOTES: _____


BM2-7.jpg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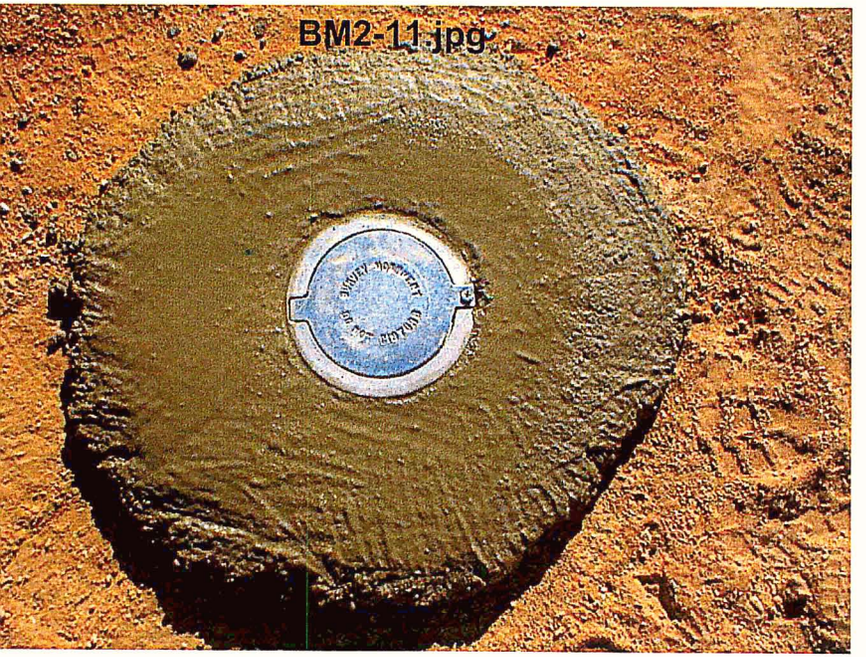
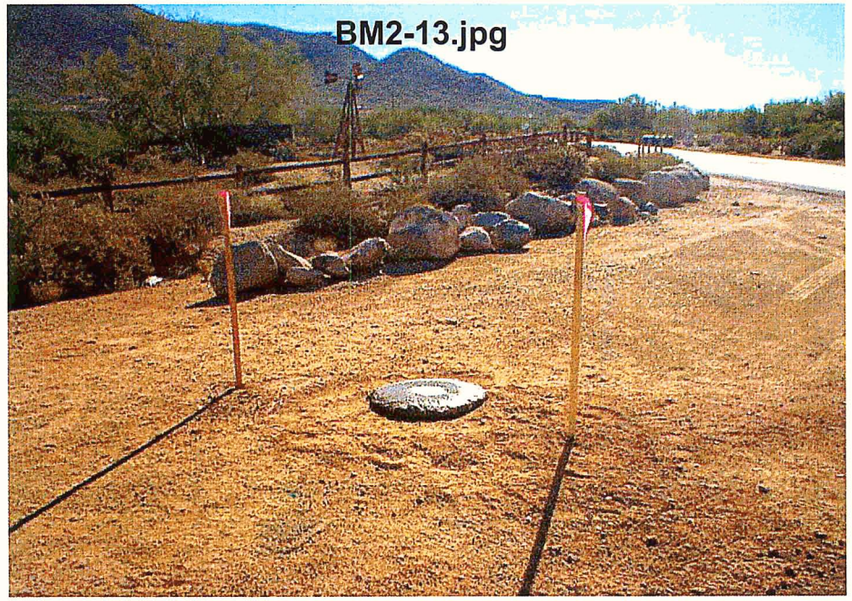
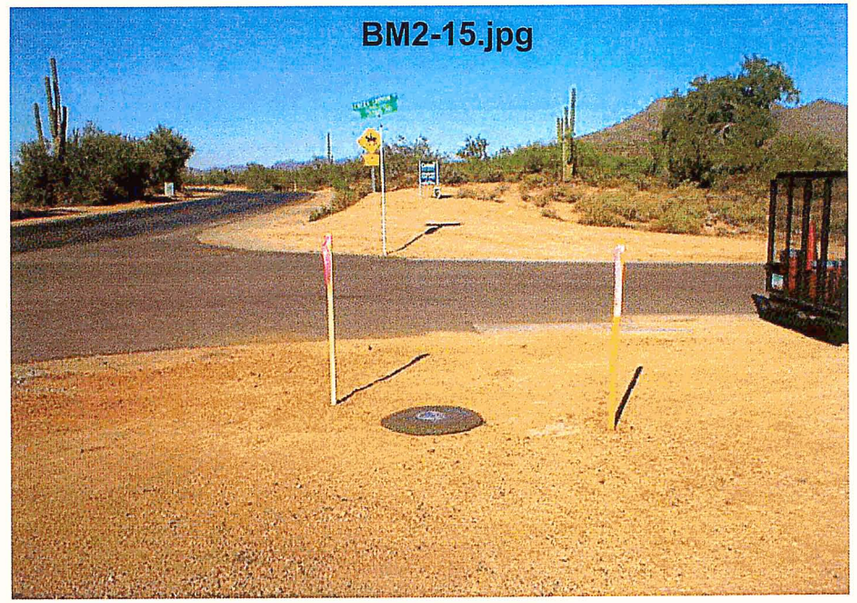

BM2-11.jpg

BM2-9.jpg


BM2-13.jpg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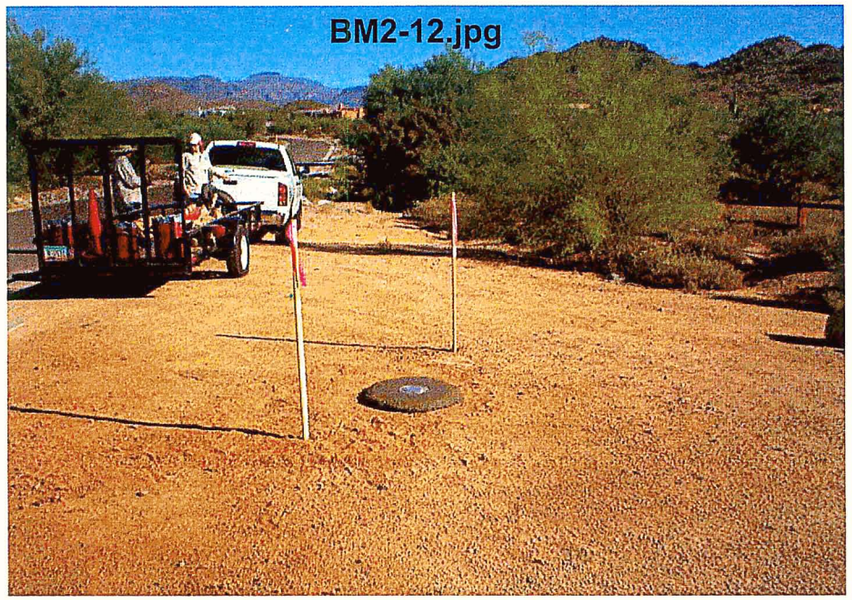

BM2-12.jpg

BM2-14.jpg

A TEAM Professional Associates, INC.
GPS STATION LOG

1920 W. Peoria Avenue, Phoenix, Arizona - 85029 - (602) 906-0020 - (602) 906-0019 Fax

Station Name: BM2
Receiver No: C3
Day of Year: 277 2007
Session No:

Project Name: CAVE CREEK DMP
Job number: 1686-1
Local Date: mo. 10 day 04 year 07.
Operator: L. SPEAN

C/A CODE POSITION
Beg:
Lat: : 33 ° 48 ' 33.86163 " N
Long: 111 ° 57 ' 54.44002 " W
Ellip. Height: 1898.743 ~~M~~ PDOP: 1.7
Ending:
Lat: 33 ° 48 ' 33.82600 " N
Long: 111 ° 57 ' 54.46145 " W
Ellip. Height: 1902.053 ~~M~~ PDOP: 1.6

DC# C3 ROVER & FILENAME
Receiver Model: 5800
Antenna Type: 5800 INTERNAL
Fixed Height Pole No: C3 ROVER

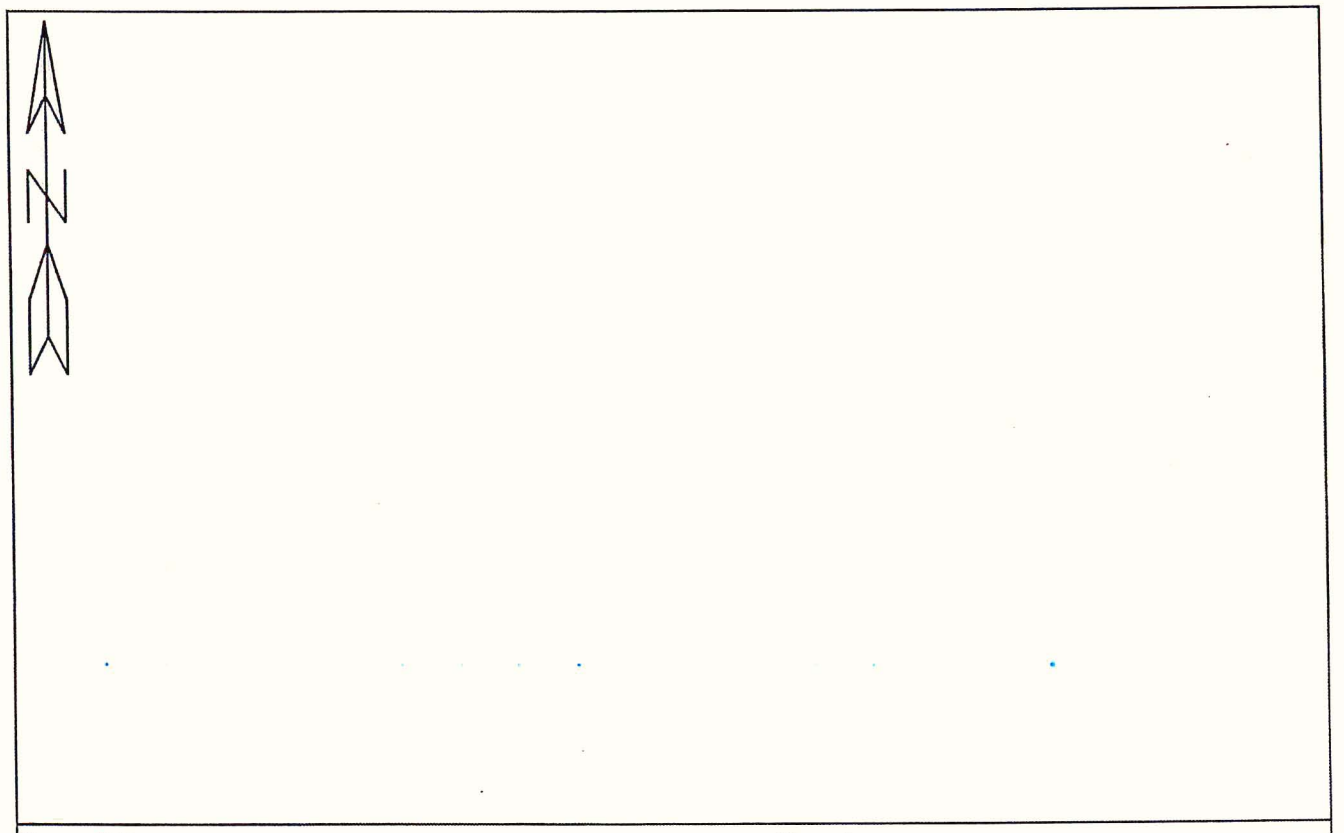
Local-UTC Time Offset: MST= -7:00
Type of Survey: Fast Static (X)
Actual= Start 11 : 03 . Stop: 12 : 14 . UTC
Beg. SV's Used: 3, 8, 10, 13, 19, 23, 25, 27, 28
End SV's Used: 8, 11, 13, 17, 19, 25, 26, 27, 28, 29

Ant. Height ~~(M)~~ using fixed height pole and measured to Bottom of Antenna: 6.90

ANT. S.N. C3

ANT. TYPE: 5800 INTERNAL

Weather Conditions: Clear P. Cloudy Overcast Hot Warm Cool Calm Breezy °F +/-



Type of Monument: Stamping:
Top of marker: ( ) flush M ( ) above: ( ) below: Nat. Ground Detail Notes:

Rubbing Performed ( )Yes ( )No

BM3

1920 WEST PEORIA AVENUE PHOENIX, ARIZONA 85029
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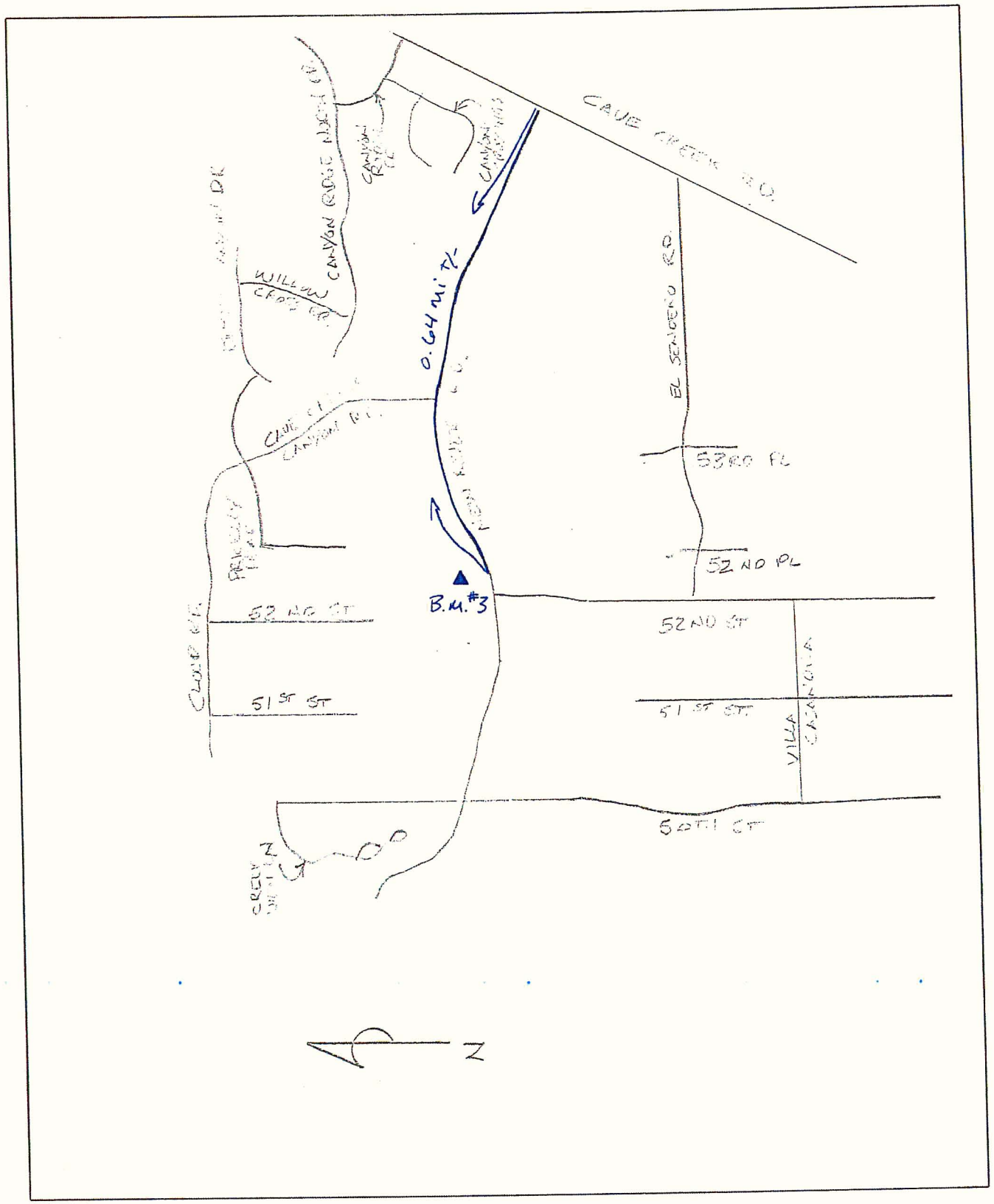
COMPUTATION SHEET

JOB# 16860.1 SHEET# 1 OF 1
SUBJECT: BENCHMARK #3
BY: J.G. DATE: 10-16-07
CHECKED BY: _____ DATE: _____



A TEAM 3D MONUMENT CONSTRUCTION FORM

PROJECT NAME: 1686.1 MONUMENT: BM #3 DATE: 9/24/07

SURVEY CREW: _____ CAMERA: _____

LATITUDE: _____ LONGITUDE: _____ MONUMENT TYPE: 3D NGS

PRE-CONSTRUCTION PICTURE RECORD

LOCATION: _____ VICINITY NORTH: BM3-2 VICINITY EAST: BM3-3 VICINITY SOUTH: BM3-4 VICINITY WEST: BM3-5

NOTES: _____

CONSTRUCTION PICTURE RECORD

HOLE: _____ HOLE W/ ROD: BM3-1 HOLE W/ ROD AND SLEEVE: BM3-6 HOLE W/ ROD /SLEEVE AND CAP: BM3-7

MONUMENT COVER INSTALLED: BM3-8 MONUMENT COVER FINISHED : BM3-9

NOTES: _____

FINISHED MONUMENT PICTURE RECORD

LOCATION: _____ VICINITY NORTH: BM-10 VICINITY EAST: BM3-11 VICINITY SOUTH: BM3-12 VICINITY WEST: BM3-13

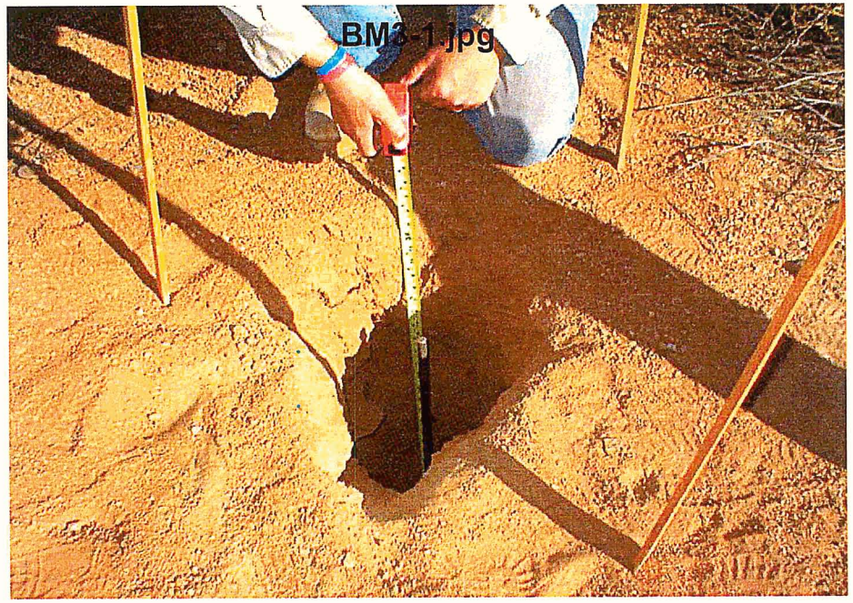
NOTES: _____

CONSTRUCTION MEASUREMENT RECORD

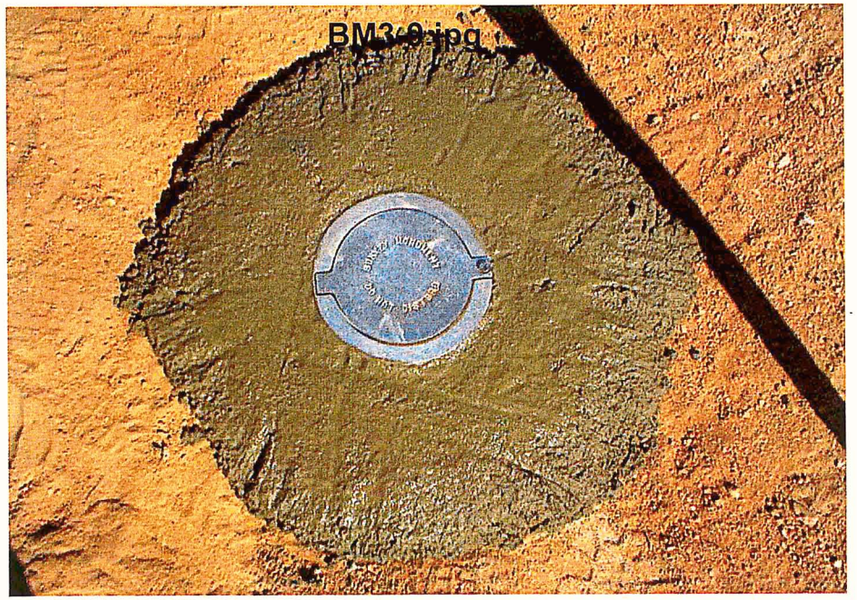
DIAMETER OF HOLE: 10" DEPTH OF HOLE: 36" ROD FOOTAGE: 5'0" ROD TYPE AND SECTION LENGTH: 9/16"

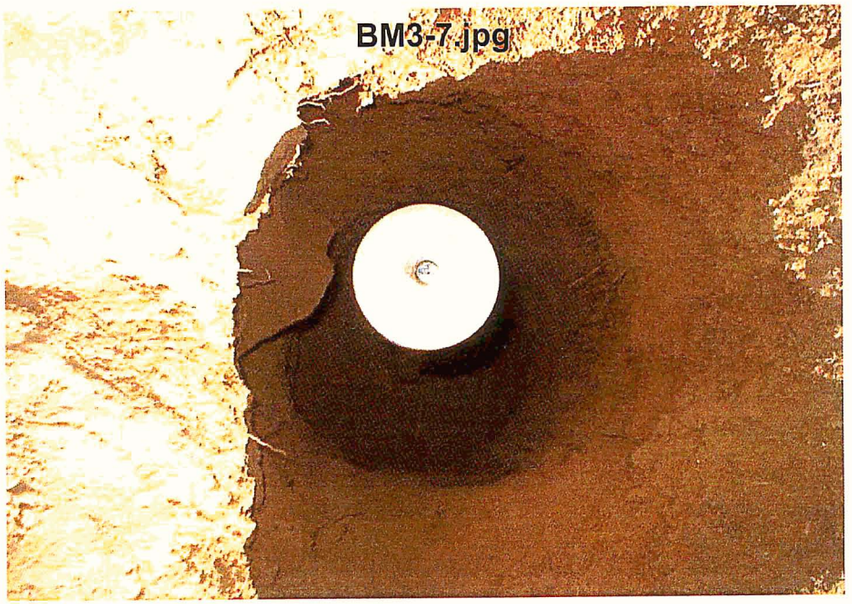
LENGTH OF SLEEVE: _____ LENGTH TOP OF ROD TO TOP OF SLEEVE : _____ LENGTH TOP OF RIM TO TOP OF ROD : _____

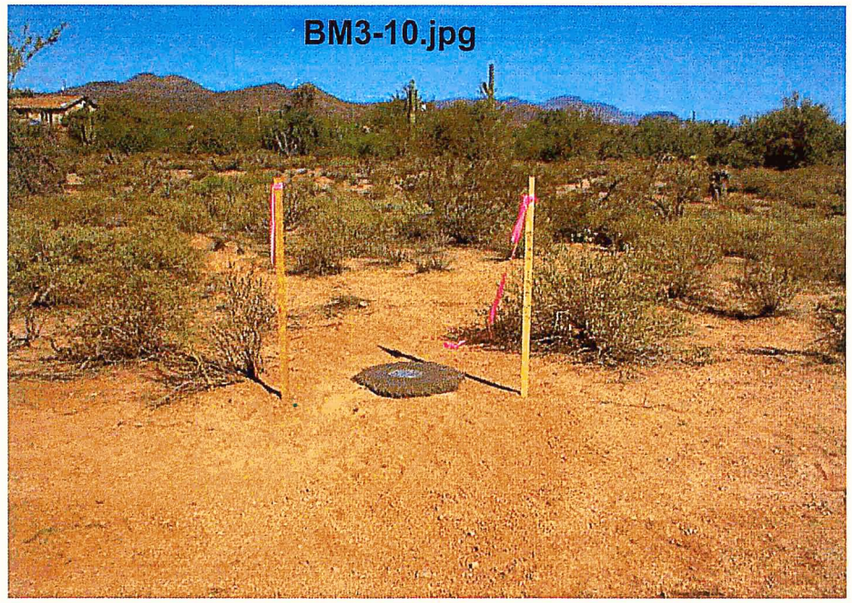
NOTES: _____

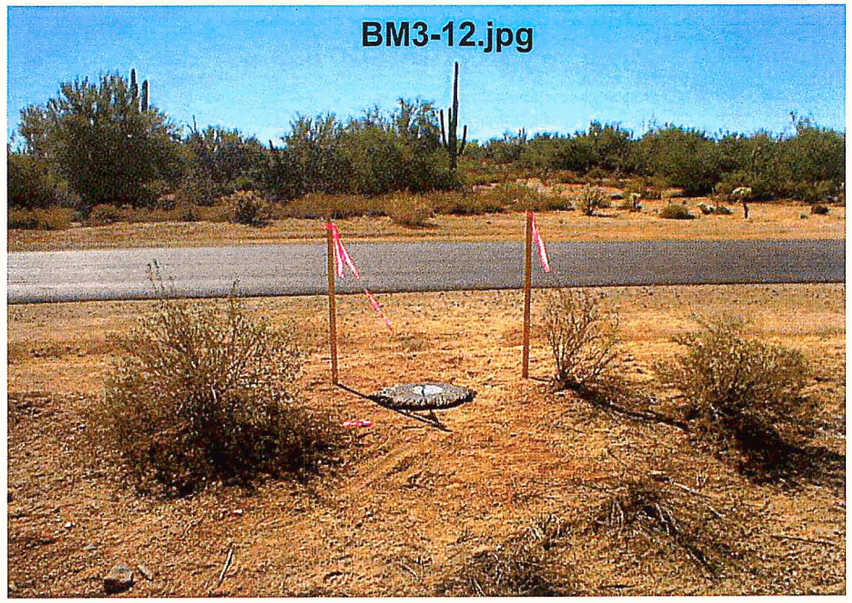

BM3-1.jpg

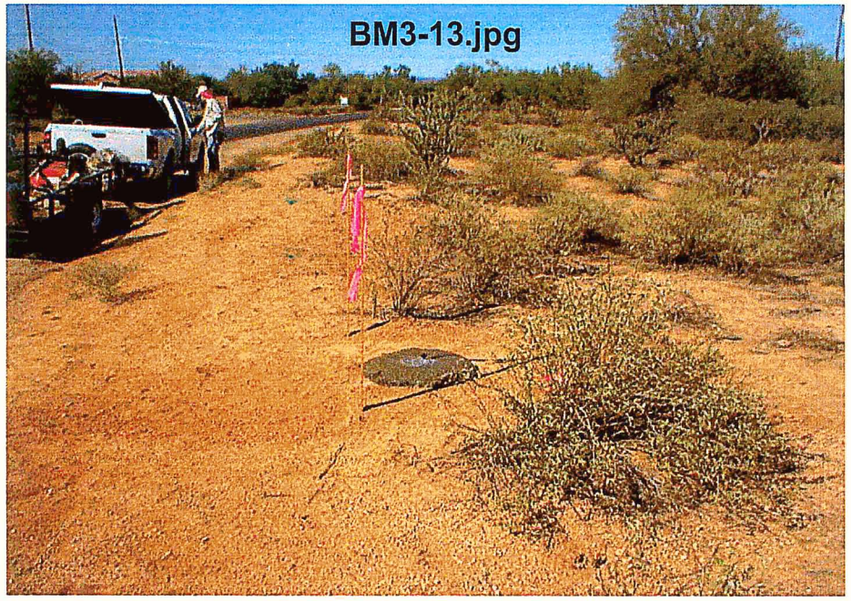
BM3-8.jpg

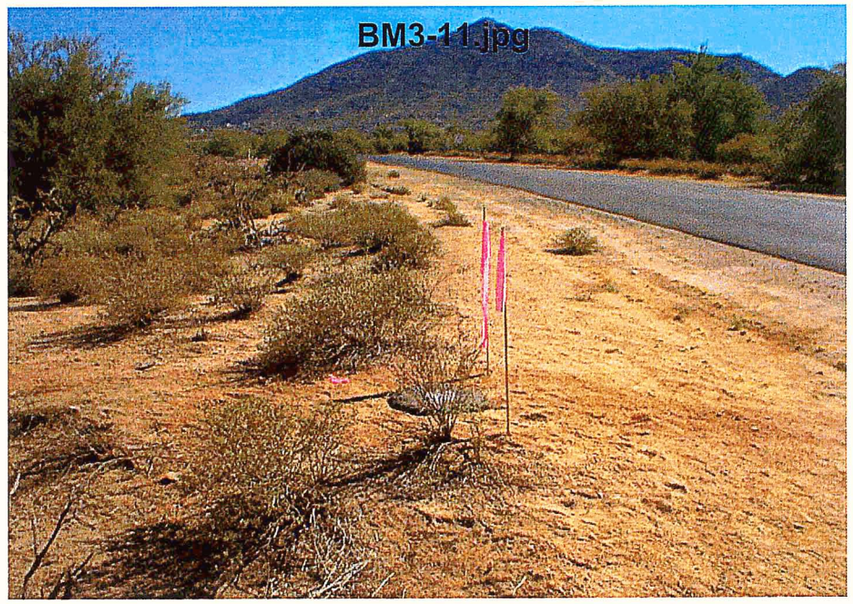

BM3-9.jpg


BM3-7.jpg


BM3-10.jpg


BM3-12.jpg


BM3-13.jpg


BM3-11.jpg

A TEAM Professional Associates, INC.
GPS STATION LOG

1920 W. Peoria Avenue, Phoenix, Arizona - 85029 - (602) 906-0020 - (602) 906-0019 Fax

Station Name: BM 3
Receiver No: 8916
Day of Year: 277 2007
Session No: 0

Project Name: CAVE CREEK DMP
Job number: 1686-1
Local Date: mo. 10 day 4 year
Operator: I. MALEK

C/A CODE POSITION

Beg:
Lat: : 33 ° 48 ' 30.85 " N
Long: 111 ° 58 ' 07.416 " W
Ellip. Height: 574.16 M PDOP: 1.7

Ending:
Lat: 33 ° 48 ' 30.85 " N
Long: 111 ° 58 ' 07.44 " W
Ellip. Height: 571.65 M PDOP: 2.1

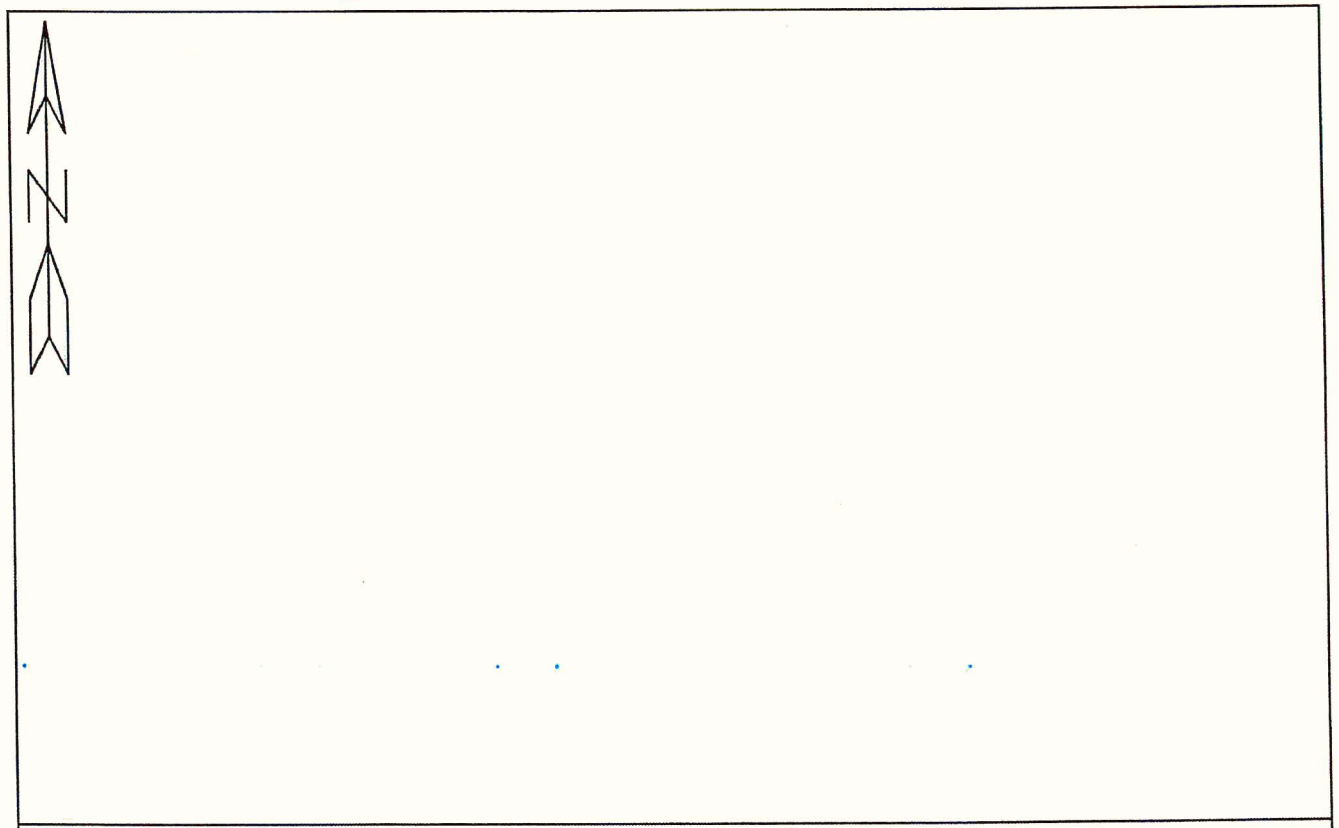
DC# C1 & FILENAME 16
Receiver Model: 5800
Antenna Type: 5800
~~Fixed Height Pole~~ RoD No: C1
Local-UTC Time Offset: MST= -7:00
Type of Survey: Fast Static (X)
Actual= Start 7 : 34 Stop: 9 : 47 UTC
Beg. SV's Used: 1,13,16,20,23,25,27,31
End SV's Used: 3,8,13,19,23,25,27,28

Ant. Height (M) using fixed height pole and measured to Bottom of Antenna: 2.1m Bot Ant Mount

ANT. S.N. 8916 (C1)

ANT. TYPE: 5800

Weather Conditions: Clear P. Cloudy Overcast Hot Warm Cool Calm Breezy 60 °F +/-



Type of Monument:
Stamping:
Top of marker: ( ) flush M ( ) above: ( ) below: Nat. Ground
Detail Notes:

Rubbing Performed ( )Yes ( )No

BM4

1920 WEST PEORIA AVENUE PHOENIX, ARIZONA 85029
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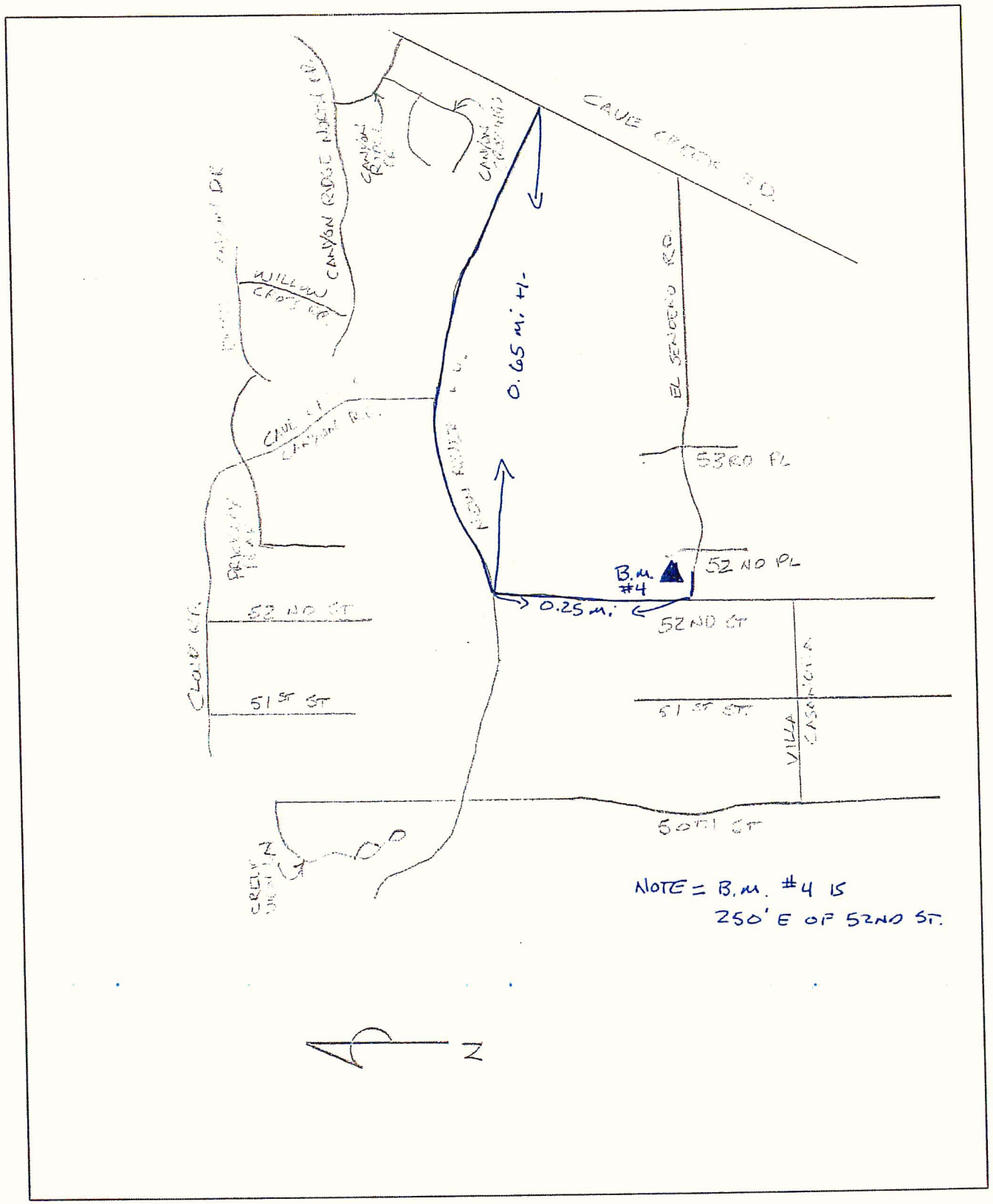
COMPUTATION SHEET

JOB# 16860.1 SHEET# 1 OF 1

SUBJECT: BENCHMARK #4

BY: J.G. DATE: 10-16-07

CHECKED BY: _____ DATE: _____



NOTE = B.M. #4 IS 250' E OF 52ND ST.

A TEAM 3D MONUMENT CONSTRUCTION FORM

PROJECT NAME: 1686.1 MONUMENT: BM # 4 DATE: 9-24-07

SURVEY CREW: A-TEAM CAMERA: _____

LATITUDE: _____ LONGITUDE: _____ MONUMENT TYPE: 3D NGS

PRE-CONSTRUCTION PICTURE RECORD

LOCATION: _____ VICINITY NORTH: BM4-2 VICINITY EAST: BM4-3 VICINITY SOUTH: BM4-4 VICINITY WEST: BM4-5

NOTES: _____

CONSTRUCTION PICTURE RECORD

HOLE: _____ HOLE W/ ROD: BM4-1 HOLE W/ ROD AND SLEEVE: BM4-6 HOLE W/ ROD /SLEEVE AND CAP: BM4-7

MONUMENT COVER INSTALLED: BM4-8 MONUMENT COVER FINISHED : BM4-10

NOTES: _____

FINISHED MONUMENT PICTURE RECORD

LOCATION: _____ VICINITY NORTH: BM4-11 VICINITY EAST: BM4-12 VICINITY SOUTH: BM4-13 VICINITY WEST: BM4-14

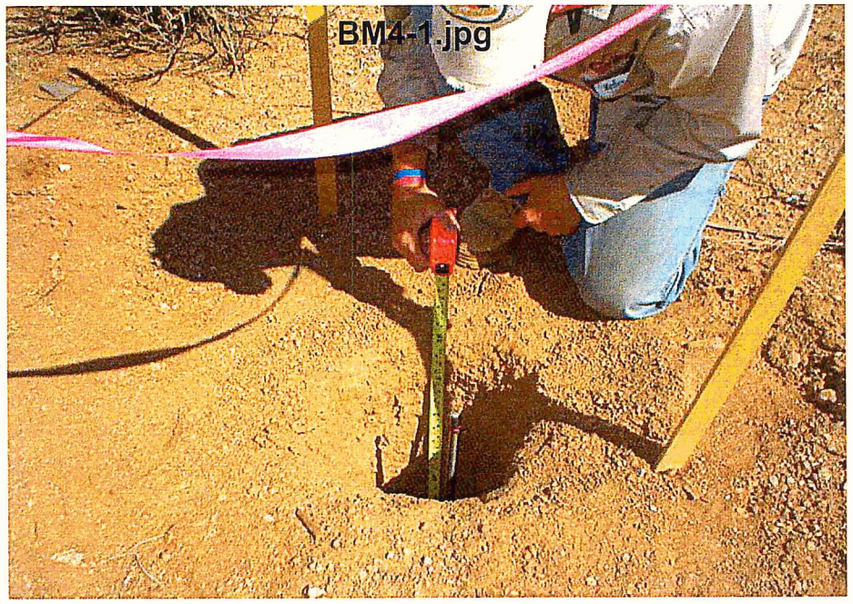
NOTES: _____

CONSTRUCTION MEASUREMENT RECORD

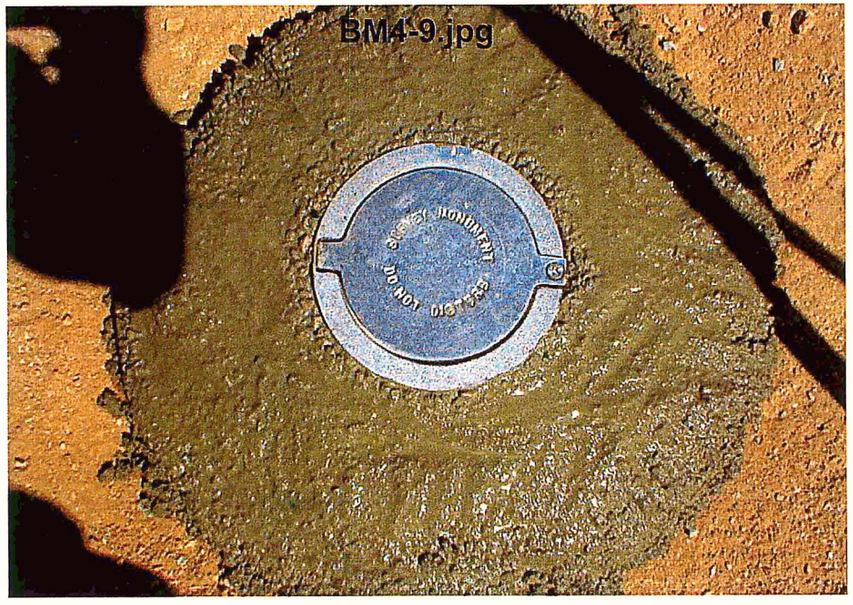
DIAMETER OF HOLE: 10" DEPTH OF HOLE: 36" ROD FOOTAGE: 8'6" ROD TYPE AND SECTION LENGTH: 9/16"

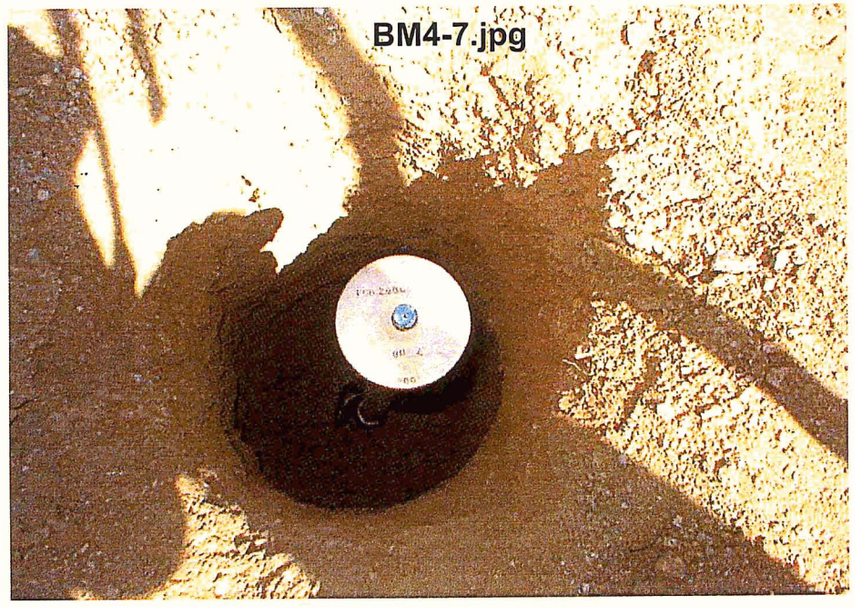
LENGTH OF SLEEVE: _____ LENGTH TOP OF ROD TO TOP OF SLEEVE : _____ LENGTH TOP OF RIM TO TOP OF ROD : _____

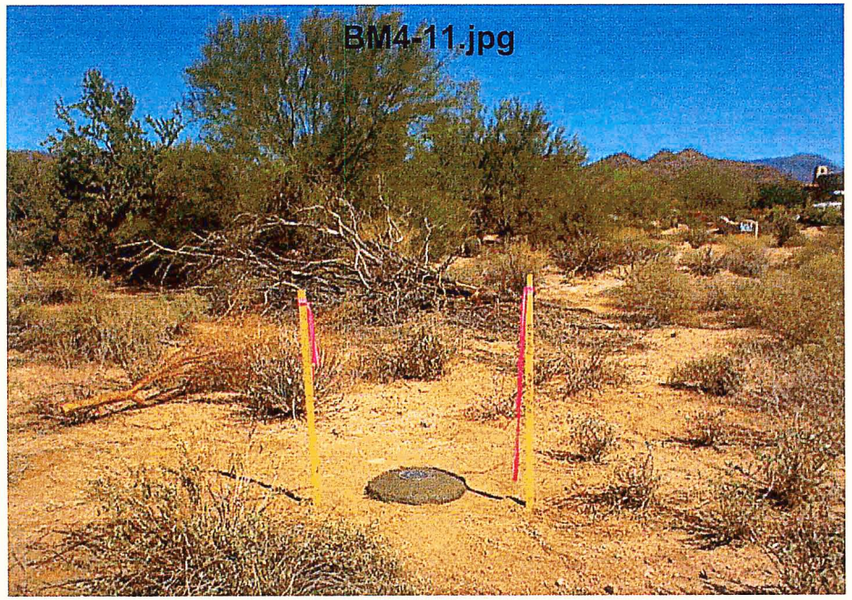
NOTES: _____

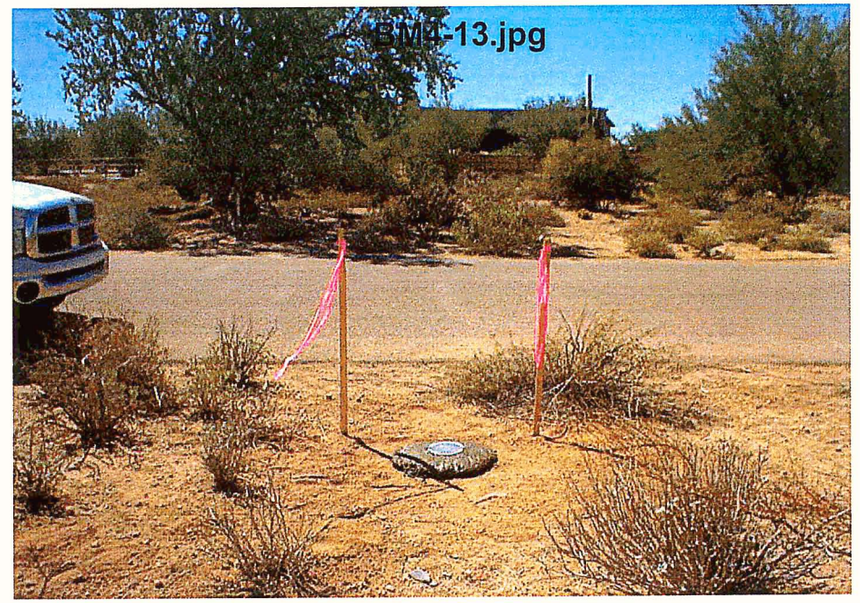

BM4-1.jpg

BM4-8.jpg

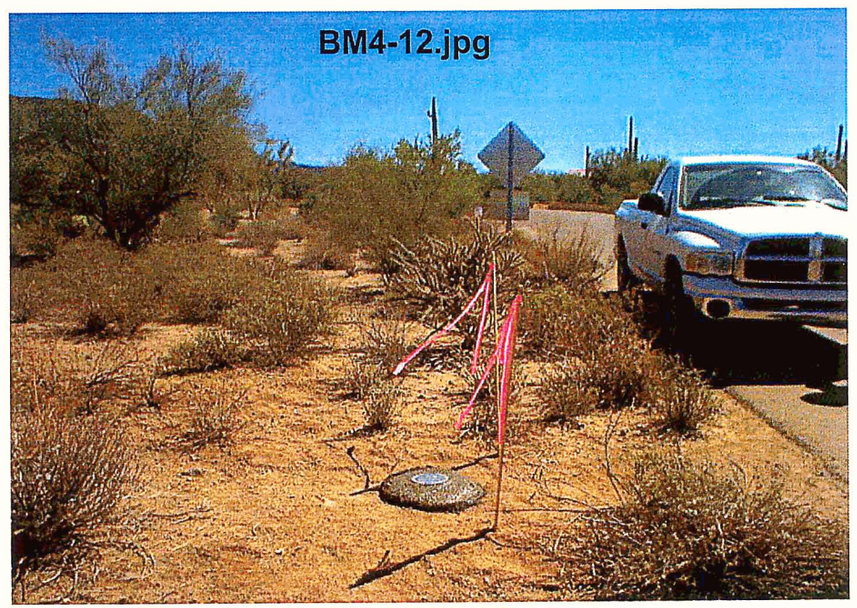

BM4-9.jpg


BM4-7.jpg


BM4-11.jpg


BM4-13.jpg

BM4-14.jpg


BM4-12.jpg

A TEAM Professional Associates, INC.
GPS STATION LOG

1920 W. Peoria Avenue, Phoenix, Arizona - 85029 - (602) 906-0020 - (602) 906-0019 Fax

Station Name: BM4
Receiver No: 6490
Day of Year: 277 2007
Session No: 0

Project Name: CAVE CREEK DMP
Job number: 1686-1
Local Date: mo. 10 day 4 year 07
Operator: S. MALEK

C/A CODE POSITION
Beg:
Lat: : 33 ° 48 '16.89 " N
Long: 111 ° 58 '07.32 " W
Ellip. Height: 579.32 M PDOP: 1.7
Ending:
Lat: 33 ° 48 '16.91 " N
Long: 111 ° 58 '07.32 " W
Ellip. Height: 578.678 M PDOP: 1.7

DC# C2 & FILENAME 1686-1-C4
Receiver Model: 5800
Antenna Type: 5800
~~Fixed Height Pole~~ Rod No: C2
Local-UTC Time Offset: MST= -7:00
Type of Survey: Fast Static (X)
Actual= Start 7:55 Stop: 9 :14 UTC
Beg. SV's Used: G3, G3, G11, G20, G23, G25, G27, G31
End SV's Used: 3, 8, 13, 16, 19, 20, 23, 25, 27

Ant. Height (M) using fixed height pole and measured to Bottom of Antenna: 2.10 m

ANT. S.N. 6490 C2

ANT. TYPE: 5800
Weather Conditions: Clear P. Cloudy Overcast Hot Warm Cool Calm Breezy 80 °F +/-

N

Type of Monument: Stamping:
Top of marker: ( ) flush M ( ) above: ( ) below: Nat. Ground Detail Notes:

Rubbing Performed ( )Yes ( )No

BM5

1920 WEST PEORIA AVENUE PHOENIX, ARIZONA 85029
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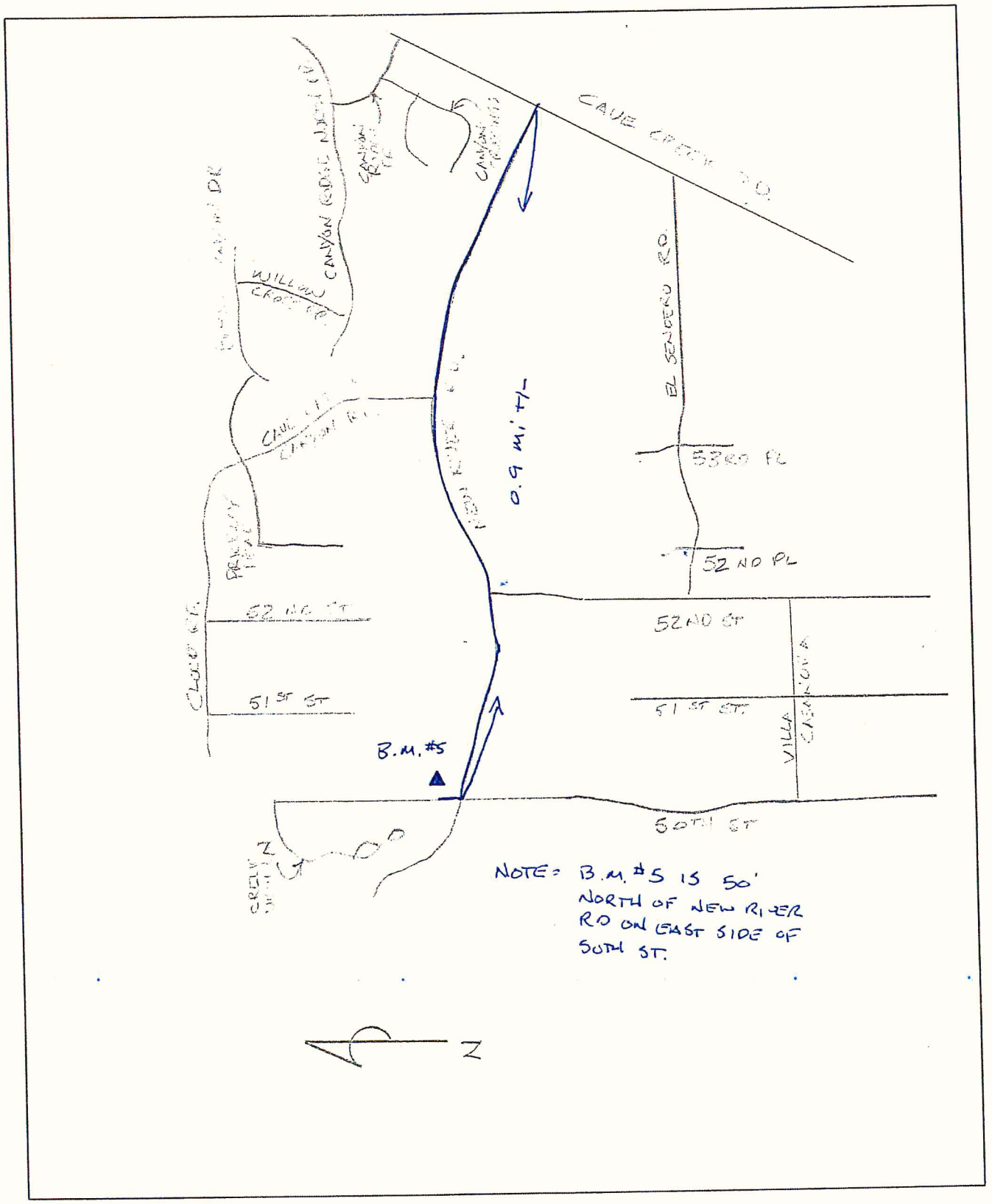
COMPUTATION SHEET

JOB# 16860.1 SHEET# 1 OF 1
SUBJECT: BENCHMARK #5
BY: J.G. DATE: 10-16-07
CHECKED BY: _____ DATE: _____



A TEAM 3D MONUMENT CONSTRUCTION FORM

PROJECT NAME: 16086.1 MONUMENT: B.M. #5 DATE: 9-24-07

SURVEY CREW: A-TEAM CAMERA: _____

LATITUDE: _____ LONGITUDE: _____ MONUMENT TYPE: 30 NGS

PRE-CONSTRUCTION PICTURE RECORD

LOCATION: _____ VICINITY NORTH: BM5-2 VICINITY EAST: BM5-3 VICINITY SOUTH: BM5-4 VICINITY WEST: BM5-5

NOTES: _____

CONSTRUCTION PICTURE RECORD

HOLE: _____ HOLE W/ ROD: BM5-1 HOLE W/ ROD AND SLEEVE: BM5-6 HOLE W/ ROD /SLEEVE AND CAP: BM5-7

MONUMENT COVER INSTALLED: BM5-8 MONUMENT COVER FINISHED : BM5-10

NOTES: _____

FINISHED MONUMENT PICTURE RECORD

LOCATION: ~~BM5~~ VICINITY NORTH: BM5-11 VICINITY EAST: BM5-12 VICINITY SOUTH: BM5-13 VICINITY WEST: BM5-14

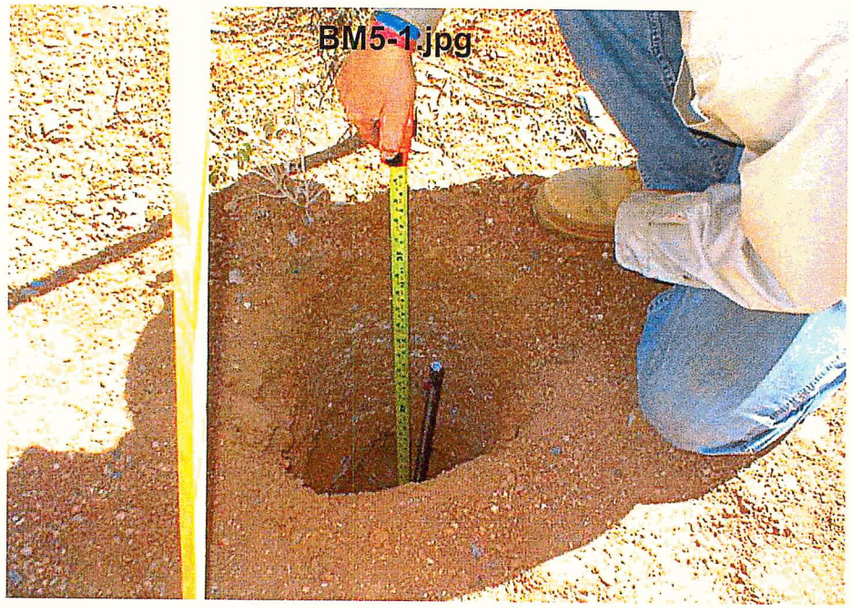
NOTES: _____

CONSTRUCTION MEASUREMENT RECORD

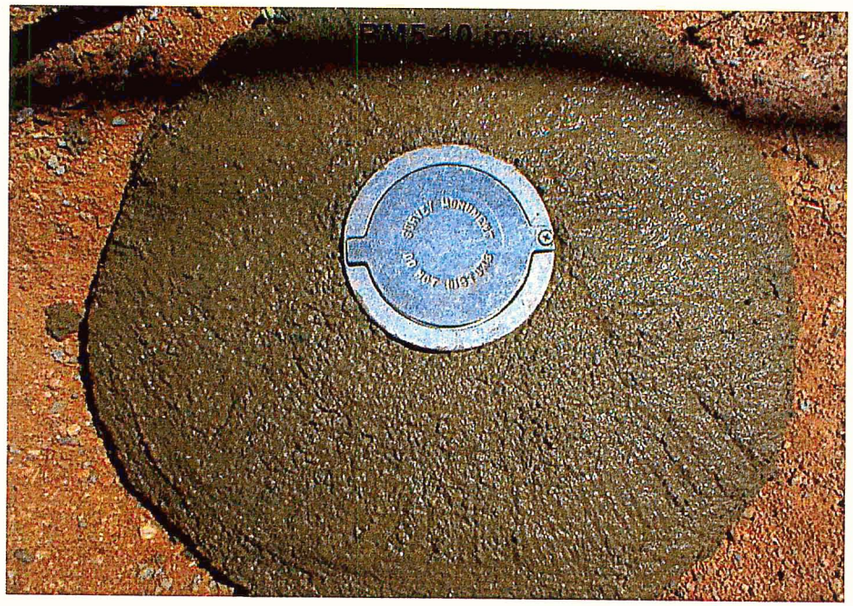
DIAMETER OF HOLE: 10" DEPTH OF HOLE: 36" ROD FOOTAGE: 4' 5" ROD TYPE AND SECTION LENGTH: 9/16"

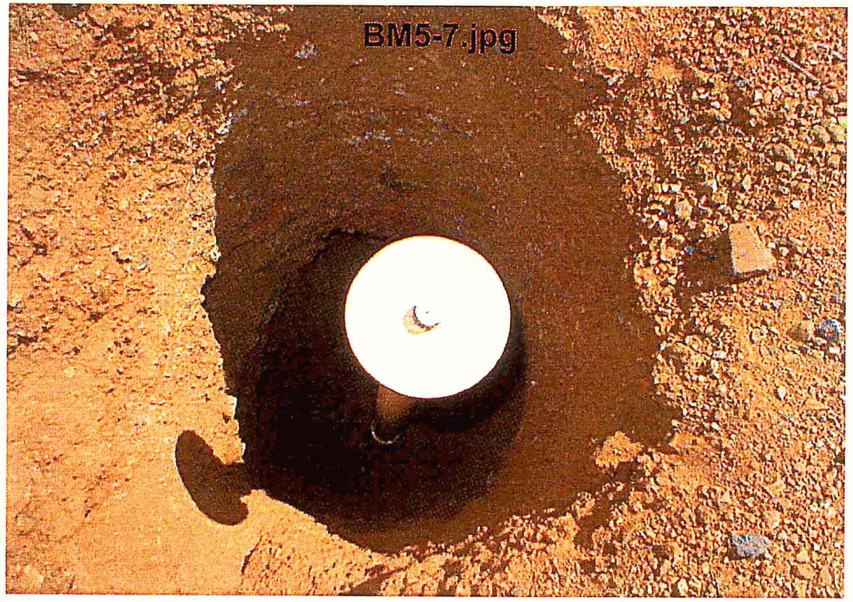
LENGTH OF SLEEVE: _____ LENGTH TOP OF ROD TO TOP OF SLEEVE : _____ LENGTH TOP OF RIM TO TOP OF ROD : _____

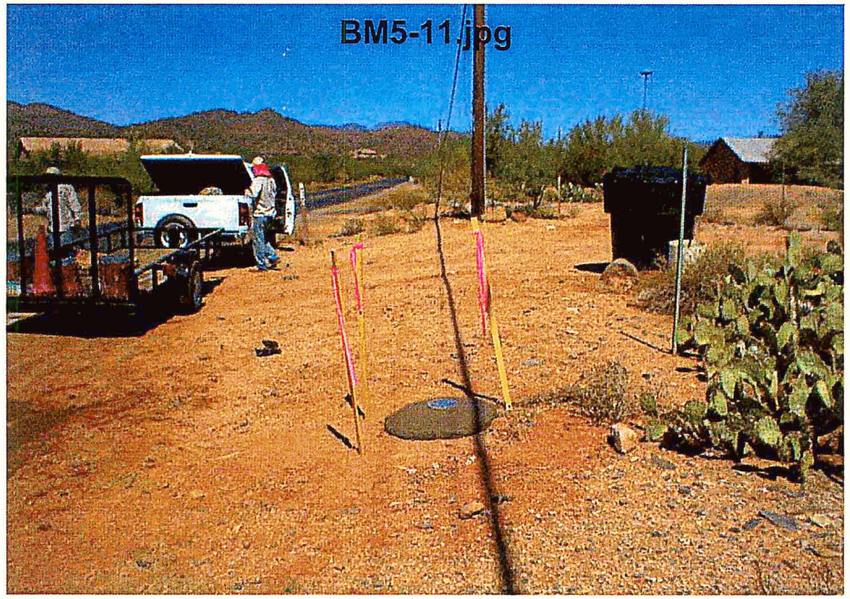
NOTES: _____

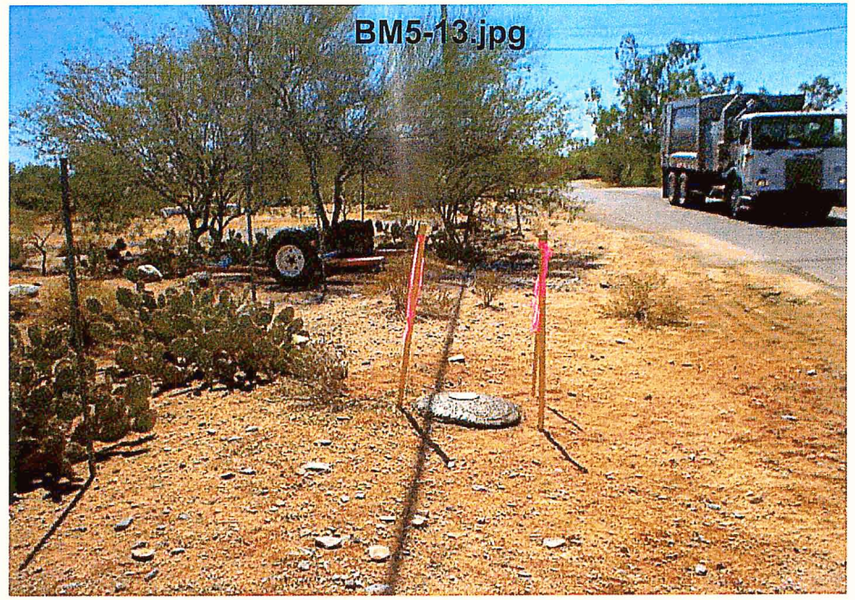

BM5-1.jpg

BM5-8.jpg

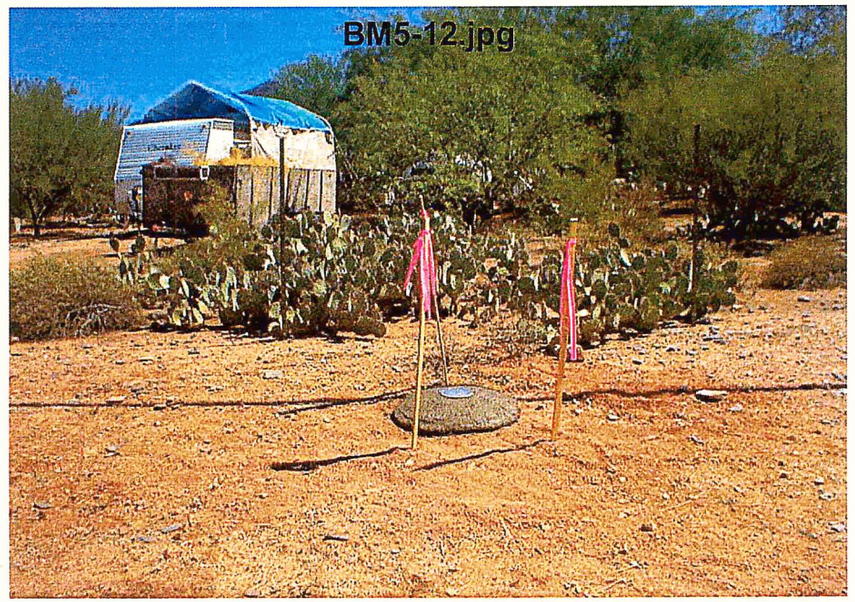

BM5-10.jpg


BM5-7.jpg


BM5-11.jpg


BM5-13.jpg

BM5-14.jpg


BM5-12.jpg

A TEAM Professional Associates, INC.
GPS STATION LOG

1920 W. Peoria Avenue, Phoenix, Arizona - 85029 - (602) 906-0020 - (602) 906-0019 Fax

Station Name: BM 5
Receiver No: 6076
Day of Year: 277 2007
Session No: 0

Project Name: CAVE CREEK DMP
Job number: 1686-1
Local Date: mo. 10 day 21 year 07
Operator: J. MALEK

C/A CODE POSITION

Beg:
Lat: : 33 ° 48 ' 32.68 " N
Long: 111 ° 58 ' 25.49 " W
Ellip. Height: 567.0 M PDOP: 2.3

Ending:
Lat: 33 ° 48 ' 32.63 " N
Long: 111 ° 58 ' 25.51 " W
Ellip. Height: 568.9 M PDOP: 2.0

DC# N/A & FILENAME 6076-277-0
Receiver Model: 4000 SSE
Antenna Type: COMPACT L1/L2
Fixed Height Pole No: ATEAM # 2

Local-UTC Time Offset: MST= -7:00
Type of Survey: Fast Static (X)
Actual= Start 14 : 04 . Stop: 17 : 34 . UTC
Beg. SV's Used: 25, 13, 16, 20, 23, 31, 01, 04
End SV's Used: 25, 19, 17, 26, 28, 29, 11, 08

Ant. Height (M) using fixed height pole and measured to Bottom of Antenna: 1.5 (m)

ANT. S.N. 98220

ANT. TYPE: COMPACT L1/L2

Weather Conditions: Clear P. Cloudy Overcast Hot Warm Cool Calm Breezy °F +/-

N

Type of Monument: Stamping:
Top of marker: ( ) flush M ( ) above: ( ) below: Nat. Ground Detail Notes:

Rubbing Performed ( )Yes ( )No

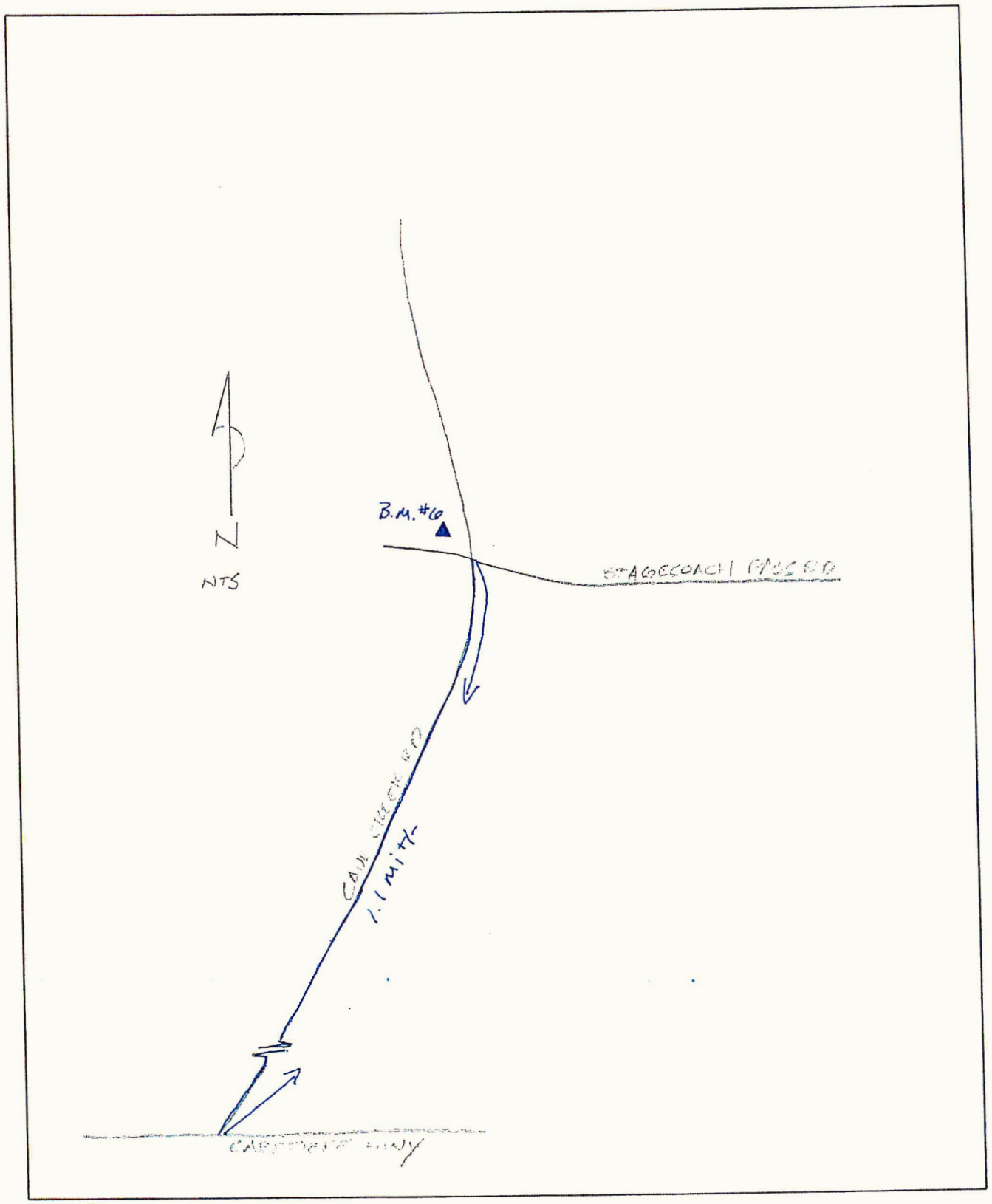
BM6

1920 WEST PEORIA AVENUE PHOENIX, ARIZONA 85029
TEL. (602) 906-0020 FAX (602) 906-0019

TEAM PROFESSIONAL ASSOCIATES, INC.

COMPUTATION SHEET

JOB# 1696.1 SHEET# 1 OF 1
SUBJECT: BENCHMARK #6
BY: J.G. DATE: 10-16-01
CHECKED BY: _____ DATE: _____



A TEAM 3D MONUMENT CONSTRUCTION FORM

PROJECT NAME: 16866.1 MONUMENT: B.M. #6 DATE: 10-1-07

SURVEY CREW: A-TEAM CAMERA: _____

LATITUDE: _____ LONGITUDE: _____ MONUMENT TYPE: 30 NGS

PRE-CONSTRUCTION PICTURE RECORD

LOCATION: _____ VICINITY NORTH: _____ VICINITY EAST: _____ VICINITY SOUTH: _____ VICINITY WEST: _____

NOTES: _____

CONSTRUCTION PICTURE RECORD

HOLE: _____ HOLE W/ ROD: BM6-1 HOLE W/ ROD AND SLEEVE: BM6-2 HOLE W/ ROD /SLEEVE AND CAP: BM6-3

MONUMENT COVER INSTALLED: BM6-5 MONUMENT COVER FINISHED : BM6-6

NOTES: _____

FINISHED MONUMENT PICTURE RECORD

LOCATION: _____ VICINITY NORTH: BM6-7 VICINITY EAST: BM6-8 VICINITY SOUTH: BM6-9 VICINITY WEST: BM6-10

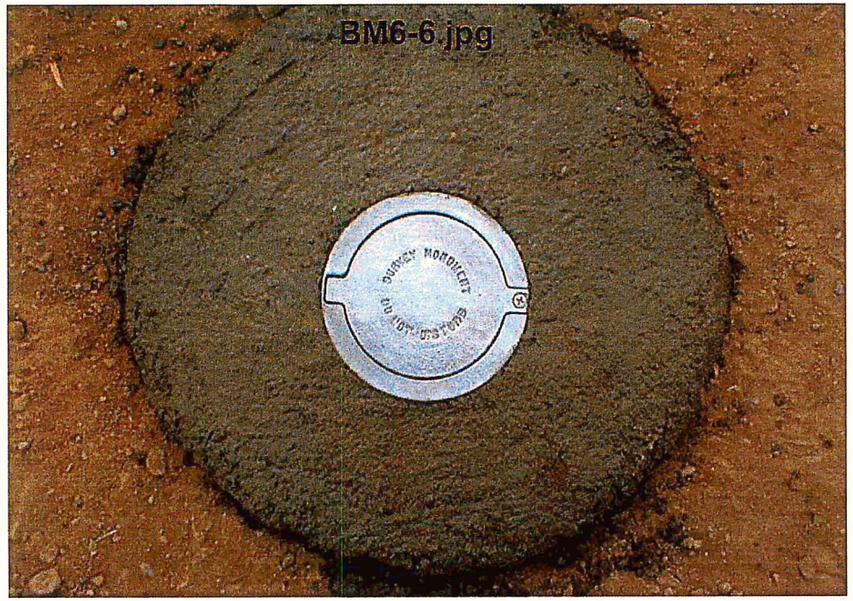
NOTES: _____

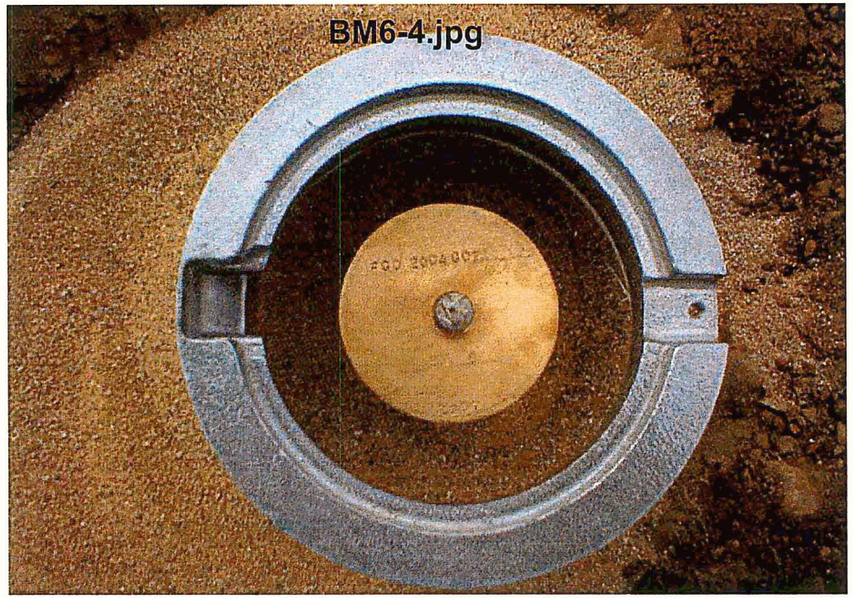
CONSTRUCTION MEASUREMENT RECORD

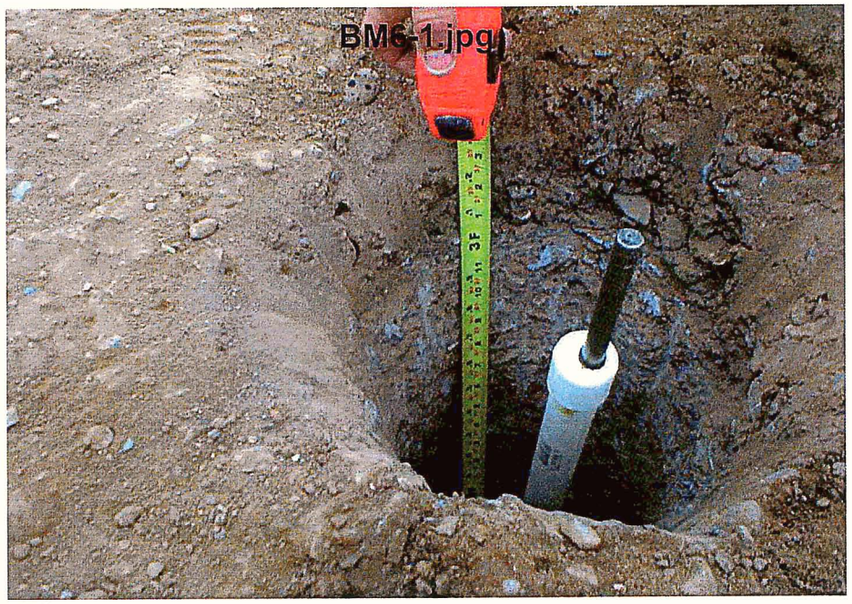
DIAMETER OF HOLE: 10" DEPTH OF HOLE: 36" ROD FOOTAGE: 6.0' ROD TYPE AND SECTION LENGTH: 9/16"

LENGTH OF SLEEVE: _____ LENGTH TOP OF ROD TO TOP OF SLEEVE : _____ LENGTH TOP OF RIM TO TOP OF ROD : _____

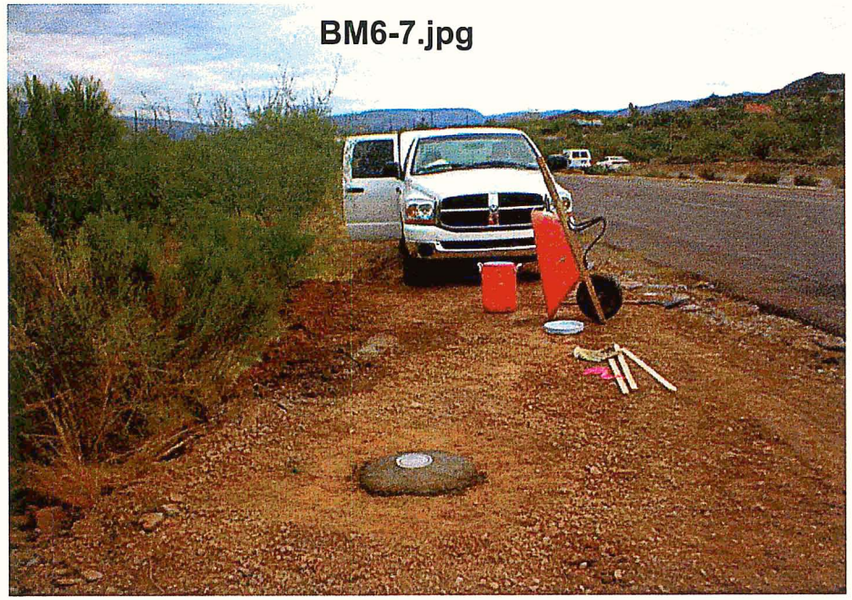
NOTES: _____


BM6-6.jpg


BM6-4.jpg

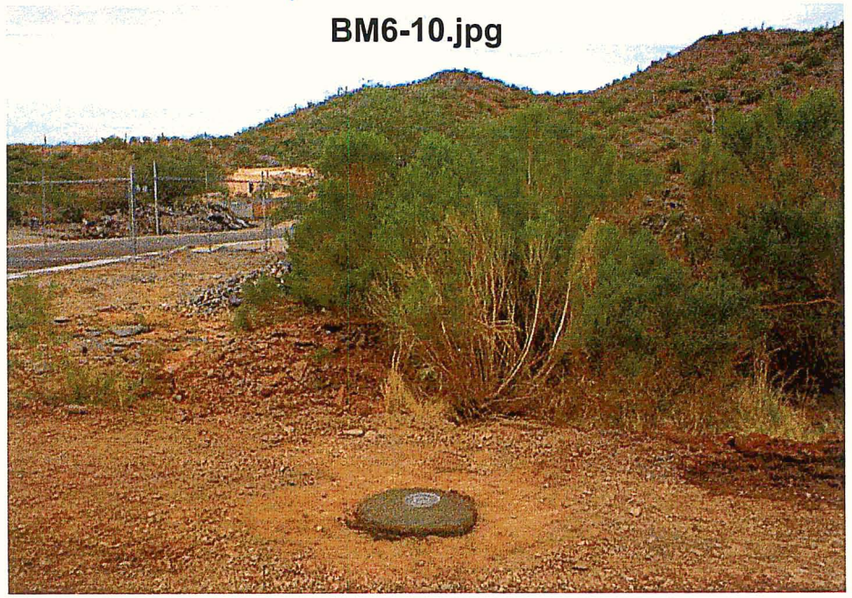

BM6-1.jpg

BM6-7.jpg

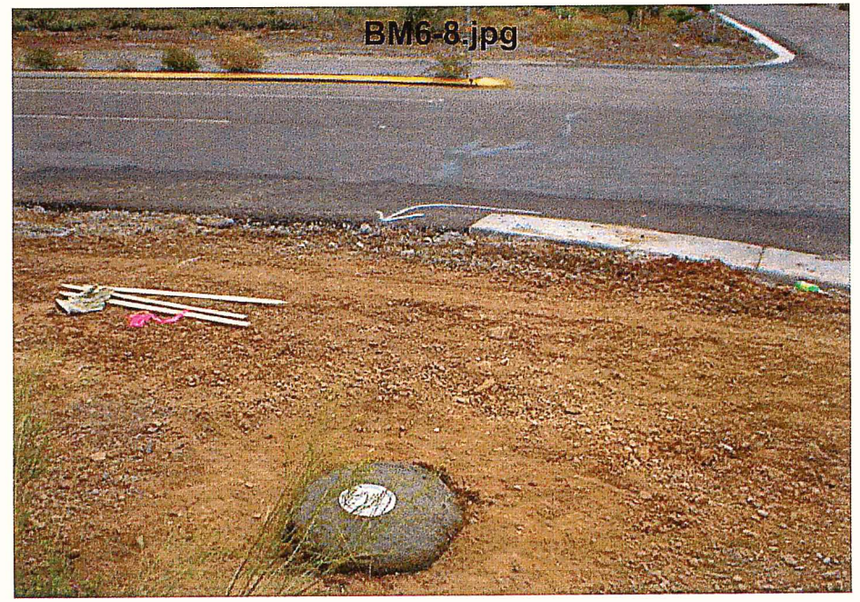


BM6-9.jpg

BM6-10.jpg



BM6-8.jpg



A TEAM Professional Associates, INC.
GPS STATION LOG

1920 W. Peoria Avenue, Phoenix, Arizona - 85029 - (602) 906-0020 - (602) 906-0019 Fax

Station Name: BM#6 0440100267
Receiver No: C-5 / 5700
Day of Year: 277 2007
Session No: #1

Project Name: CAVE CREEK DMP
Job number: 1686-1
Local Date: mo. 10 day 4 year 07
Operator: REED

C/A CODE POSITION
Beg:
Lat: : 33 ° 48 ' 50.98 " N
Long: 111 ° 57 ' 17.12 " W
Ellip. Height: 2012.41 FT M PDOP: 2.3
Ending:
Lat: 33 ° 48 ' 50.99 " N
Long: 111 ° 57 ' 17.14 " W
Ellip. Height: 2006.7 FT M PDOP: 1.4

DC# C5 & FILENAME 1686.1-C5
Receiver Model: 5700
Antenna Type: ZEPHYR
Fixed Height Pole No:

Local-UTC Time Offset 8:37 MST= -7:00
Type of Survey: Fast Static (X)
Actual= Start 15 : 37 Stop: 16 : 40 UTC
Beg. SV's Used: 3,13,16,19,20,23,25,27
End SV's Used: 3,8,13,16,19,20,23,29.

Ant. Height (M) using fixed height pole and measured to Bottom of Antenna: 7.54' TO BOTTOM OF ANTENNA

ANT. S.N. ZEPHYR 11890380

ANT. TYPE:

Weather Conditions: Clear P. Cloudy Overcast Hot Warm Cool Calm Breezy °F +/- 80

Type of Monument: Stamping:
Top of marker: ( ) flush M ( ) above: ( ) below: Nat. Ground Detail Notes:

Rubbing Performed ( )Yes ( )No

BM7

1920 WEST PEORIA AVENUE PHOENIX, ARIZONA 85029
TEL. (602) 906-0020 FAX (602) 906-0019

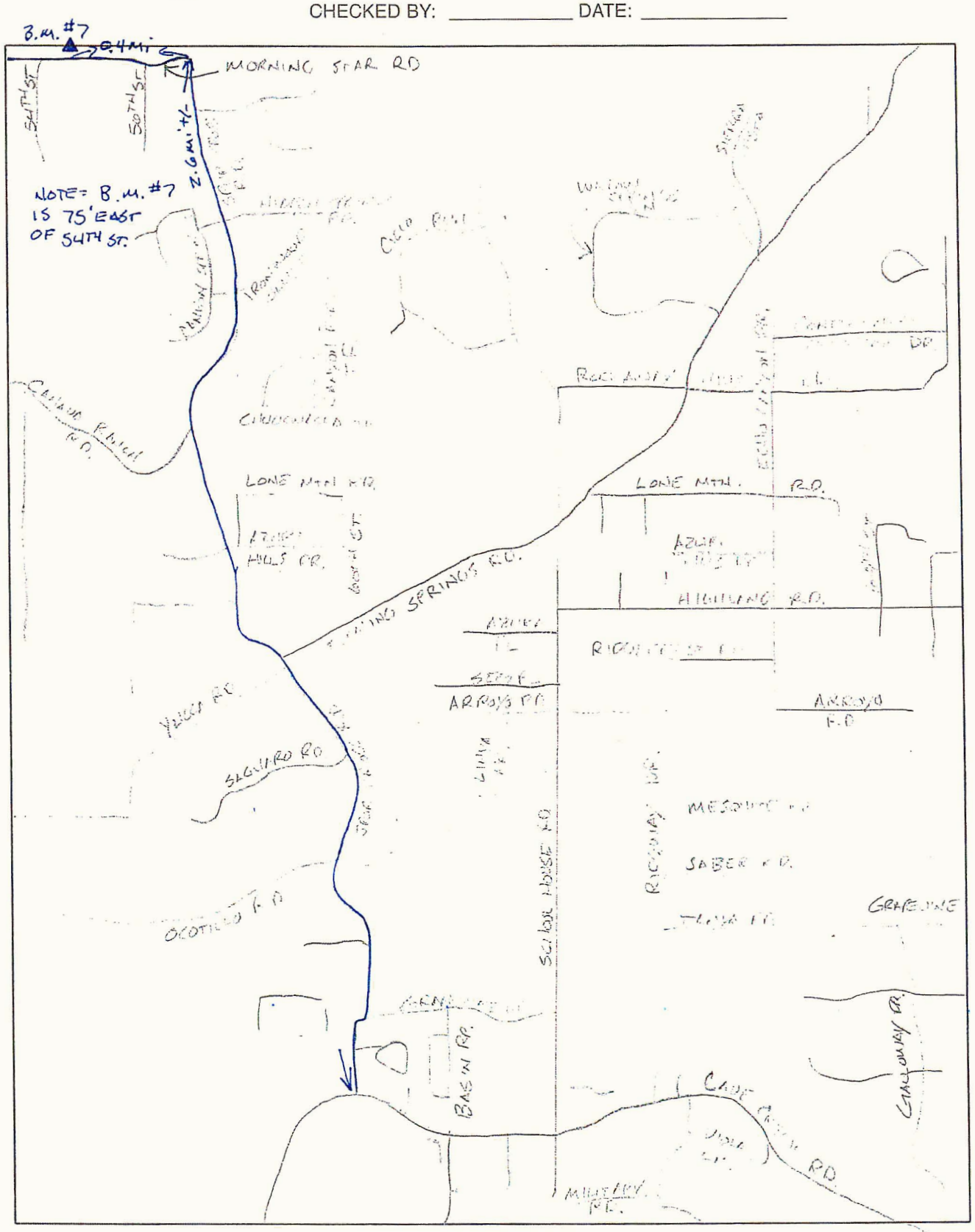
COMPUTATION SHEET

JOB# 10816.1 SHEET# ____ OF ____

SUBJECT: BENCHMARK #7

BY: J.G. DATE: 10-16-07

CHECKED BY: _____ DATE: _____



A TEAM 3D MONUMENT CONSTRUCTION FORM

PROJECT NAME: 1686.1 MONUMENT: BM #7 DATE: 9-25-07

SURVEY CREW: A-TEAM CAMERA: _____

LATITUDE: _____ LONGITUDE: _____ MONUMENT TYPE: 3D NGS

PRE-CONSTRUCTION PICTURE RECORD

LOCATION: _____ VICINITY NORTH: BM7-11 VICINITY EAST: BM7-12 VICINITY SOUTH: BM7-13 VICINITY WEST: BM7-14

NOTES: _____

CONSTRUCTION PICTURE RECORD

HOLE: BM7-15 HOLE W/ ROD: BM7-1 HOLE W/ ROD AND SLEEVE: BM7-3 HOLE W/ ROD /SLEEVE AND CAP: BM7-4

MONUMENT COVER INSTALLED: BM7-5 MONUMENT COVER FINISHED : BM7-6

NOTES: _____

FINISHED MONUMENT PICTURE RECORD

LOCATION: _____ VICINITY NORTH: BM7-7 VICINITY EAST: BM7-8 VICINITY SOUTH: BM7-9 VICINITY WEST: BM7-10

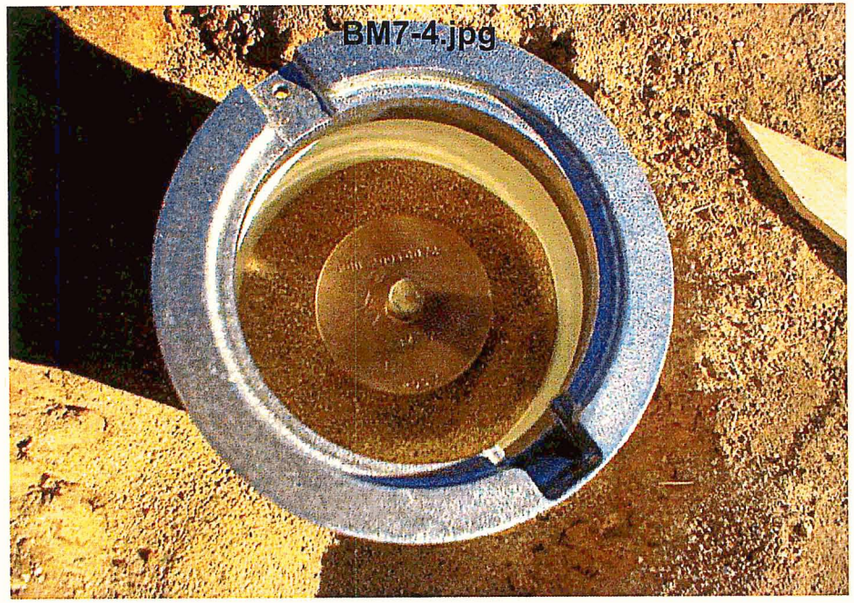
NOTES: _____

CONSTRUCTION MEASUREMENT RECORD

DIAMETER OF HOLE: 10" DEPTH OF HOLE: 36" ROD FOOTAGE: 4'0" ROD TYPE AND SECTION LENGTH: 9/16"

LENGTH OF SLEEVE: _____ LENGTH TOP OF ROD TO TOP OF SLEEVE : _____ LENGTH TOP OF RIM TO TOP OF ROD : _____

NOTES: _____


BM7-4.jpg

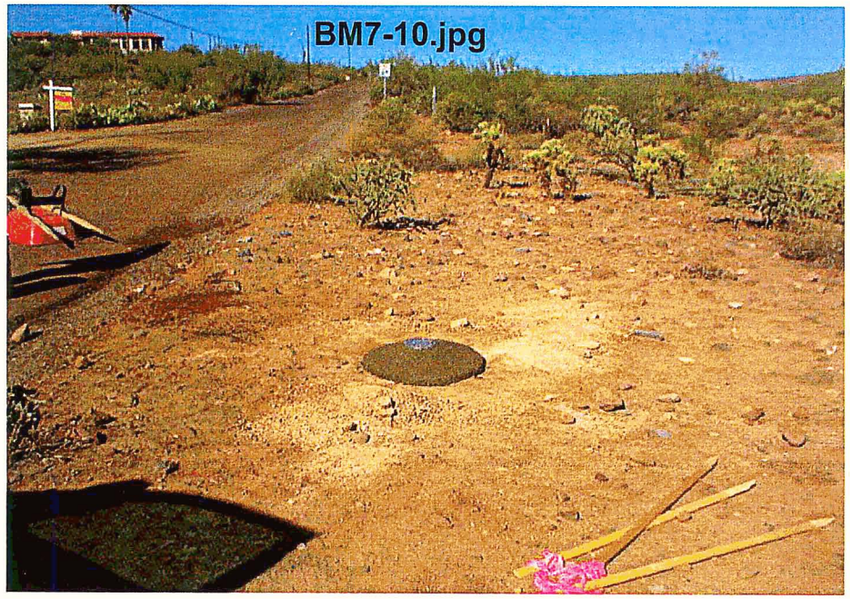
BM7-6.jpg

BM7-1.jpg

BM7-5.jpg
SURVEY MONUMENT
DO NOT DISTURB

BM7-7.jpg

BM7-9.jpg


BM7-10.jpg

BM7-8.jpg

A TEAM Professional Associates, INC.
GPS STATION LOG

1920 W. Peoria Avenue, Phoenix, Arizona - 85029 - (602) 906-0020 - (602) 906-0019 Fax

Station Name: BM 3
Receiver No: 8916
Day of Year: 277 2007
Session No: 0

Project Name: CAVE CREEK DMP
Job number: 1686-1
Local Date: mo. 10 day 4 year
Operator: I. MALEK

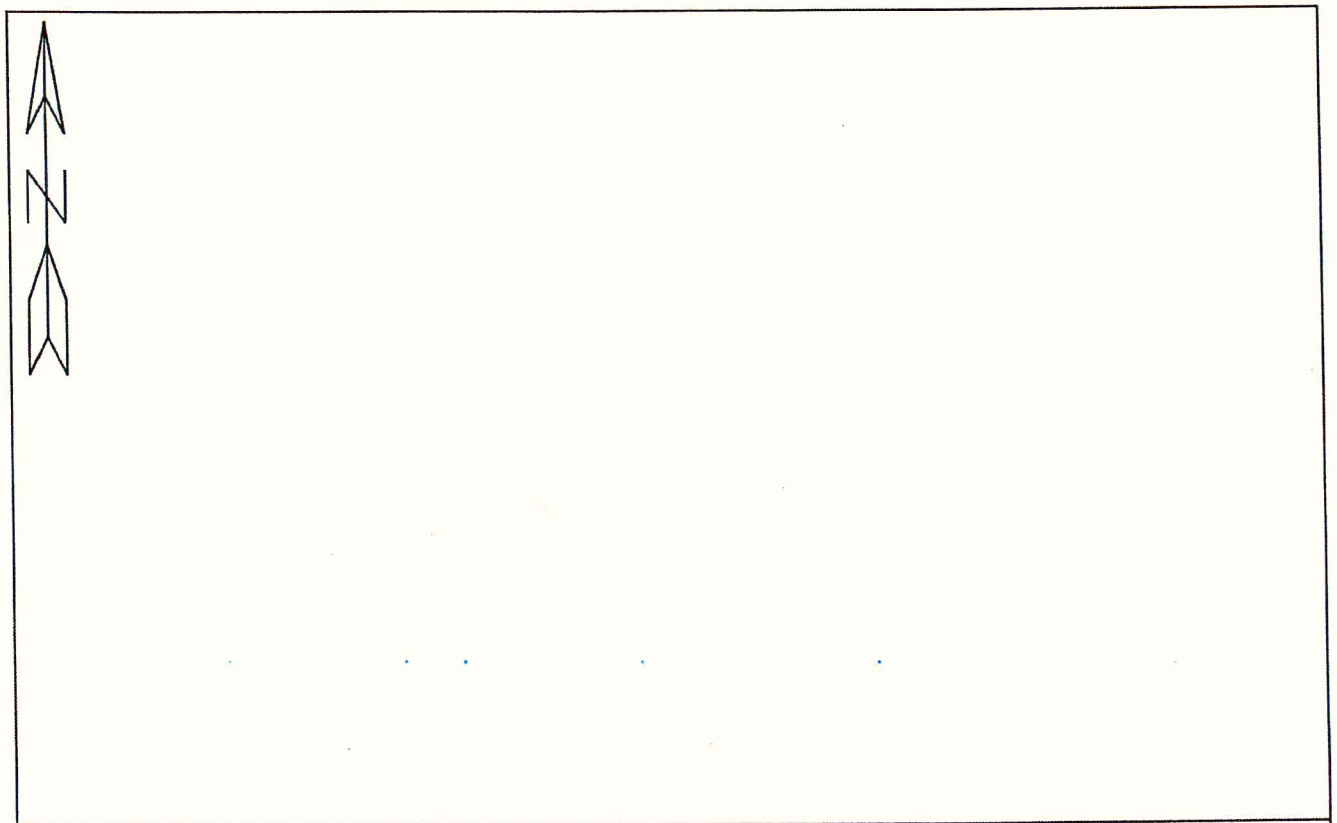
C/A CODE POSITION
Beg:
Lat: : 33 ° 48 ' 30.85 " N
Long: 111 ° 58 ' 07.46 " W
Ellip. Height: 574.16 M PDOP: 1.7
Ending:
Lat: 33 ° 48 ' 30.85 " N
Long: 111 ° 58 ' 07.44 " W
Ellip. Height: 571.65 M PDOP: 2.1

DC# C1 & FILENAME 16
Receiver Model: 5800
Antenna Type: 5800
~~Fixed Height Pole~~ ROD No: C1
Local-UTC Time Offset: MST= -7:00
Type of Survey: Fast Static (X)
Actual= Start 7 : 34 Stop: 9 : 47 UTC
Beg. SV's Used: 1,13,16,20,23,25,27,31
End SV's Used: 3,8,13,19,23,25,27,28

Ant. Height (M) using fixed height pole and measured to Bottom of Antenna: 2.1m Bot Ant Mount

ANT. S.N. 8916 (C1)

ANT. TYPE: 5800
Weather Conditions: Clear P. Cloudy Overcast Hot Warm Cool Calm Breezy 60 °F +/-



Type of Monument:
Stamping:
Top of marker: ( ) flush M ( ) above: ( ) below: Nat. Ground
Detail Notes:

Rubbing Performed ( )Yes ( )No

BM8

1920 WEST PEORIA AVENUE PHOENIX, ARIZONA 85029
TEL. (602) 906-0020 FAX (602) 906-0019

TEAM PROFESSIONAL ASSOCIATES, INC.

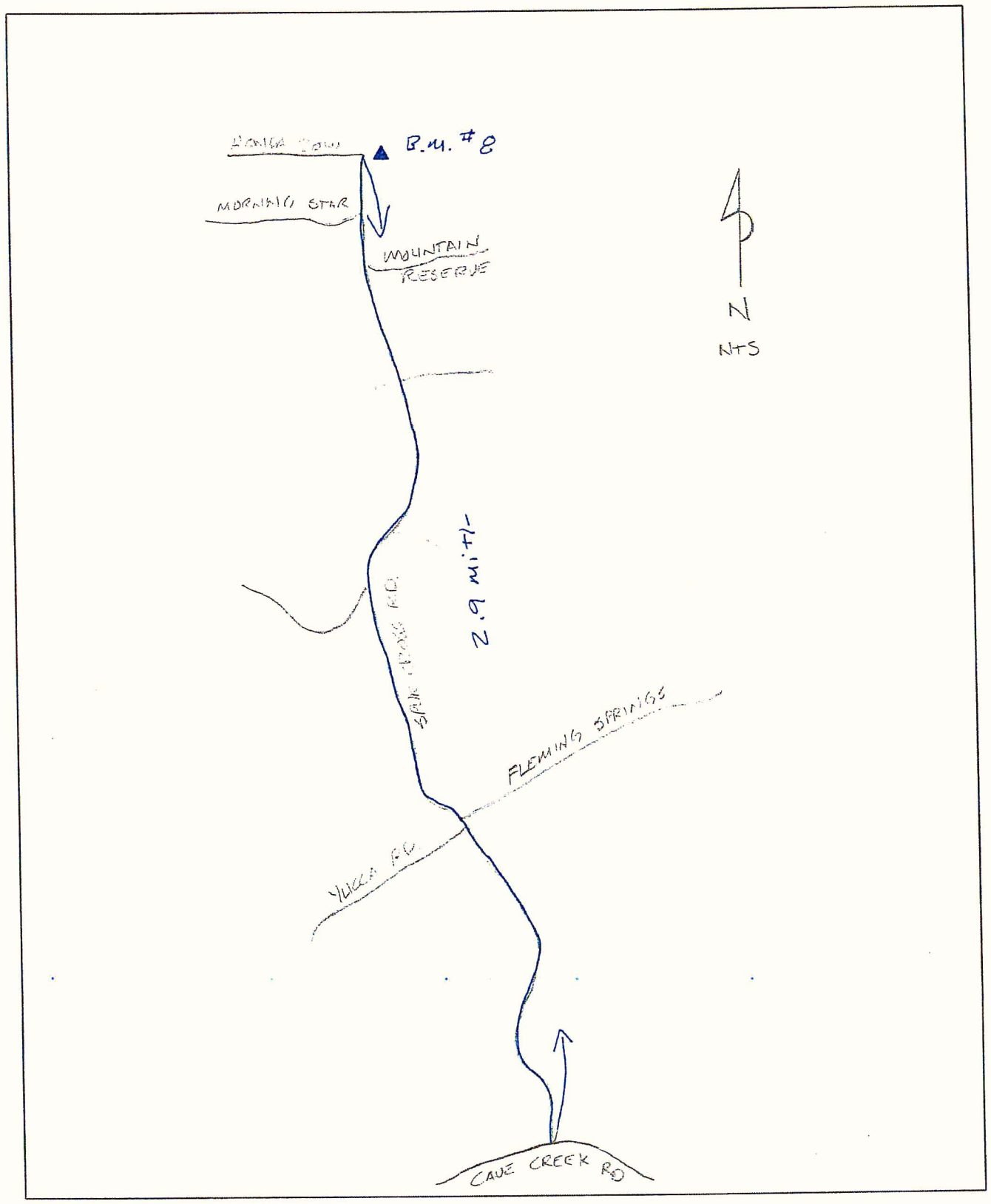
COMPUTATION SHEET

JOB# 1686.1 SHEET# 1 OF 1

SUBJECT: BENCHMARK # 8

BY: J.G. DATE: 10-16-07

CHECKED BY: _____ DATE: _____



A TEAM 3D MONUMENT CONSTRUCTION FORM

PROJECT NAME: 16866.1 MONUMENT: BM #8 DATE: 9/25/07

SURVEY CREW: A-TEAM CAMERA: _____

LATITUDE: _____ LONGITUDE: _____ MONUMENT TYPE: 3D NGS

PRE-CONSTRUCTION PICTURE RECORD

LOCATION: _____ VICINITY NORTH: BM8-2 VICINITY EAST: BM8-3 VICINITY SOUTH: BM8-4 VICINITY WEST: BM8-5

NOTES: _____

CONSTRUCTION PICTURE RECORD

HOLE: BM8-1 HOLE W/ ROD: BM8-6 HOLE W/ ROD AND SLEEVE: BM8-7 HOLE W/ ROD /SLEEVE AND CAP: BM8-8

MONUMENT COVER INSTALLED: BM8-9 MONUMENT COVER FINISHED : BM8-10

NOTES: _____

FINISHED MONUMENT PICTURE RECORD

LOCATION: _____ VICINITY NORTH: BM8-11 VICINITY EAST: BM8-12 VICINITY SOUTH: BM8-13 VICINITY WEST: BM8-14

NOTES: _____

CONSTRUCTION MEASUREMENT RECORD

DIAMETER OF HOLE: 10" DEPTH OF HOLE: 36" ROD FOOTAGE: 3'6" ROD TYPE AND SECTION LENGTH: 9/16"

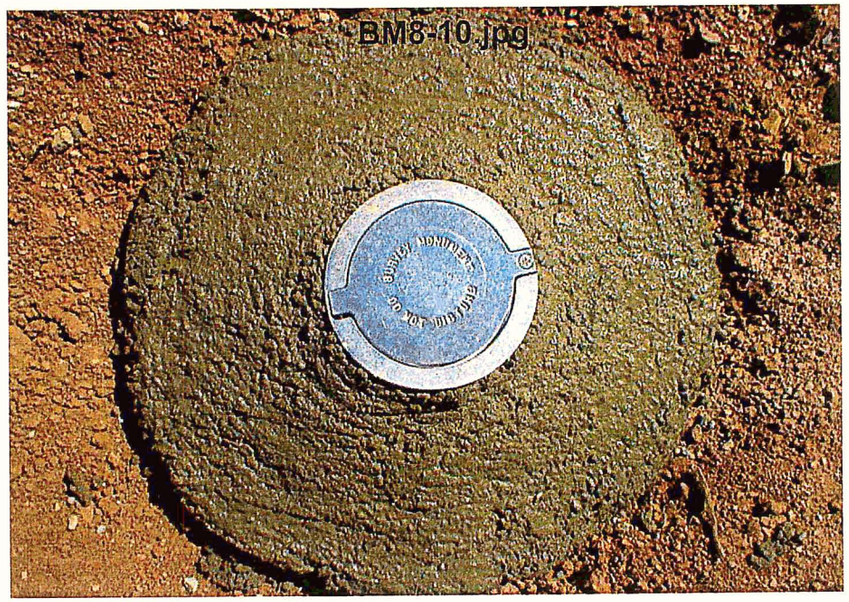
LENGTH OF SLEEVE: _____ LENGTH TOP OF ROD TO TOP OF SLEEVE : _____ LENGTH TOP OF RIM TO TOP OF ROD : _____

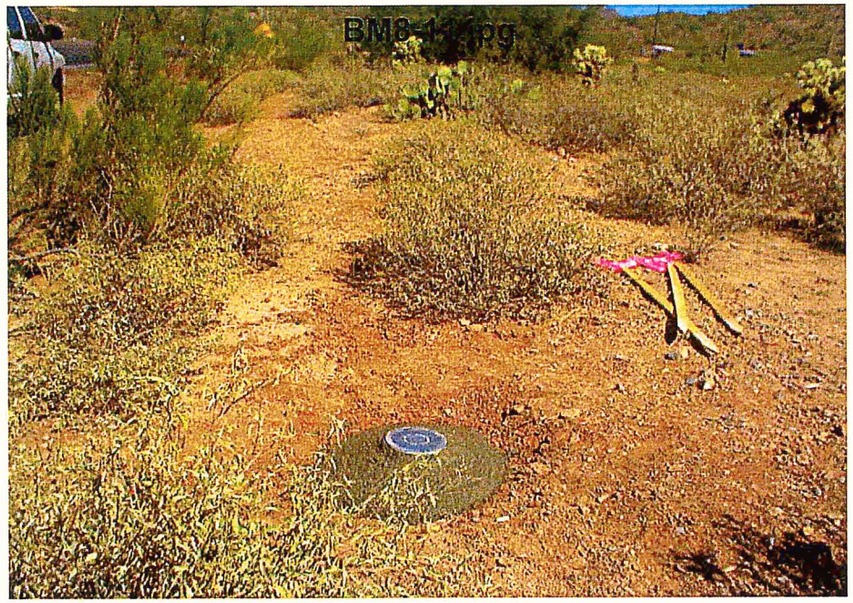
NOTES: _____

BM8-5.jpg
SURVEY MONUMENT
DO NOT DISTURB

BM8-1.jpg

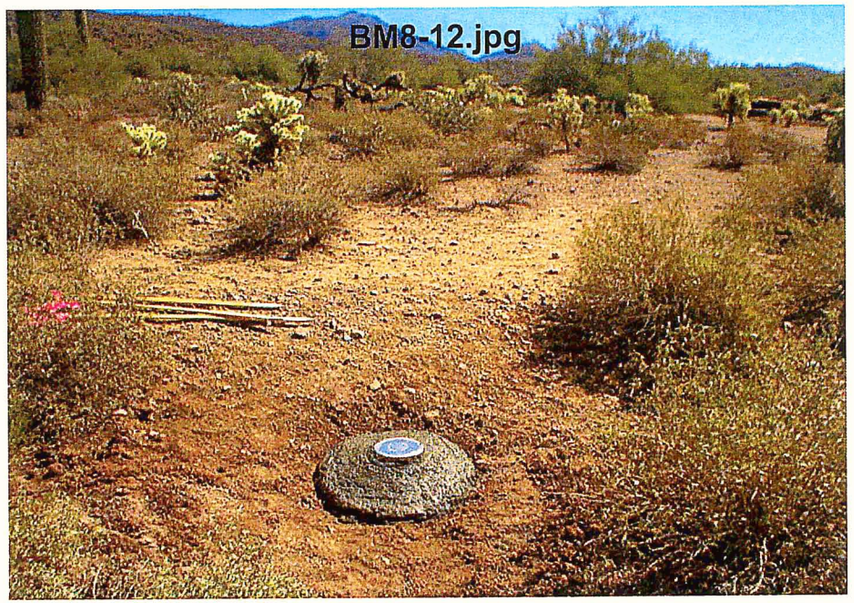
BM8-8.jpg


BM8-10.jpg


BM8-11.jpg

BM8-13.jpg

BM8-14.jpg


BM8-12.jpg

A TEAM Professional Associates, INC.
GPS STATION LOG

1920 W. Peoria Avenue, Phoenix, Arizona - 85029 - (602) 906-0020 - (602) 906-0019 Fax

Station Name: BM 8
Receiver No: C3
Day of Year: 277 2007
Session No:

Project Name: CAVE CREEK DMP
Job number: 1686-1
Local Date: mo. 10 day 04 year 07
Operator: LEMUEL SPEAN

C/A CODE POSITION
Beg:
Lat: : 33 ° 52 ' 18.46327 N
Long: 111 ° 57 ' 37.12619 W
Ellip. Height: 645.183 M PDOP: 2.3

DC# 9782 & FILENAME
Receiver Model: 4800
Antenna Type: 4800 INTERNAL
Fixed Height Pole No:

Ending:
Lat: 33 ° 52 ' 18.44877" N
Long: 111 ° 57 ' 37.1653B' W
Ellip. Height: 645.394 M PDOP: 2.4

Local-UTC Time Offset: MST= -7:00
Type of Survey: Fast Static (X)
Actual= Start 7 : 59 . Stop: 12 : 51 . UTC
Beg. SV's Used: 3, 13, 16, 20, 23, 25, 27
End SV's Used: 8, 11, 17, 19, 25, 26, 27, 28, 29

Ant. Height (M) using fixed height pole and measured to Bottom of Antenna: ~~1.5~~ (M)
1.237 (M)

ANT. S.N. 73182

ANT. TYPE: 4800 INTERNAL

Weather Conditions: Clear P. Cloudy Overcast Hot Warm Cool Calm Breezy °F +/-

Type of Monument: Stamping:
Top of marker: ( ) flush M ( ) above: ( ) below: Nat. Ground Detail Notes:

Rubbing Performed ( )Yes ( )No

BM9

1920 WEST PEORIA AVENUE PHOENIX, ARIZONA 85029
TEL. (602) 906-0020 FAX (602) 906-0019

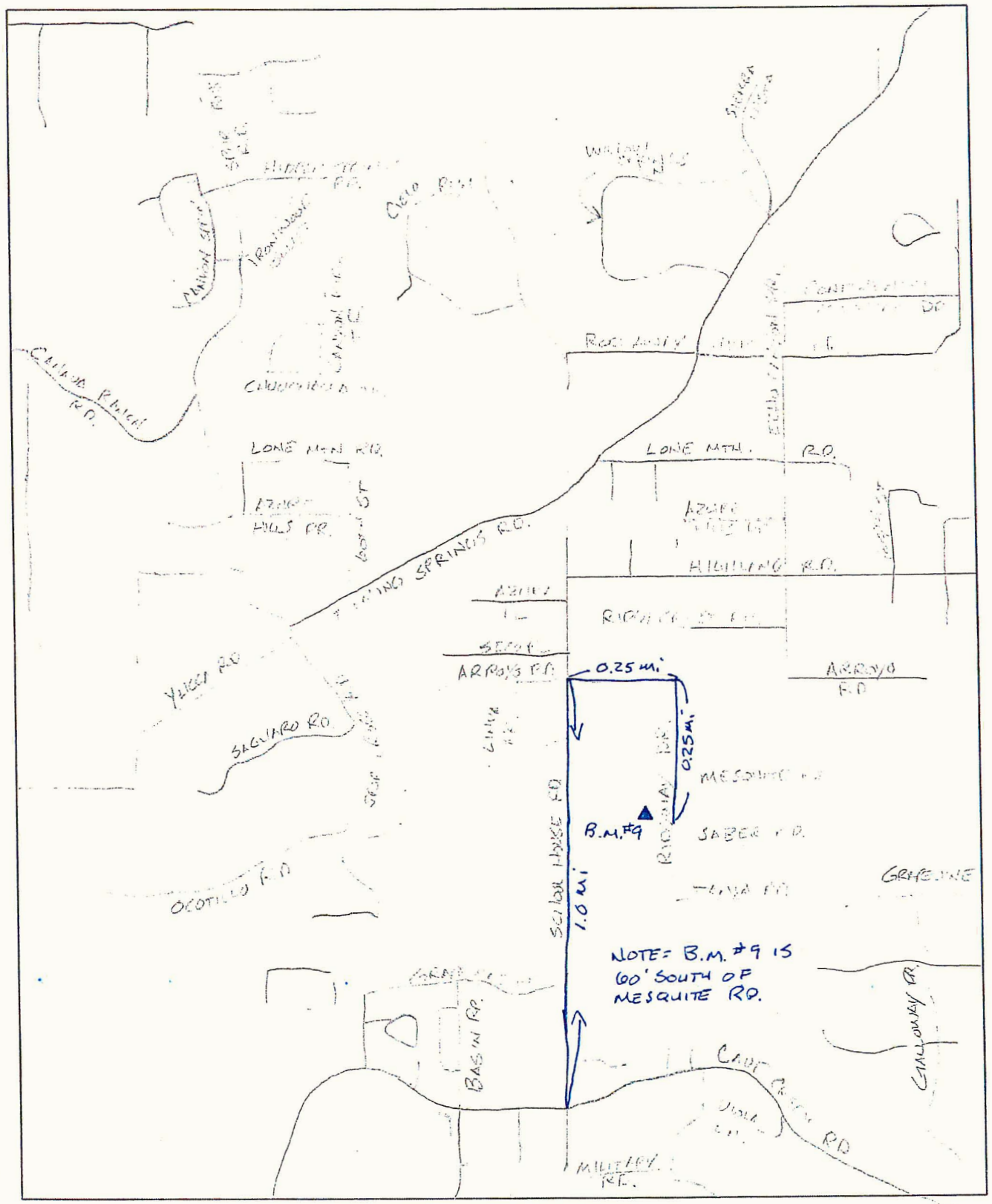
COMPUTATION SHEET

JOB# 10816.1 SHEET# ____ OF ____

SUBJECT: BENCHMARK #9

BY: J.G. DATE: 10-16-07

CHECKED BY: _____ DATE: _____



A TEAM 3D MONUMENT CONSTRUCTION FORM

PROJECT NAME: 16686.1 MONUMENT: B.M. #9 DATE: 9-25-07

SURVEY CREW: A-TEAM CAMERA: _____

LATITUDE: _____ LONGITUDE: _____ MONUMENT TYPE: NGS 3D

PRE-CONSTRUCTION PICTURE RECORD

LOCATION: _____ VICINITY NORTH: BM9-2 VICINITY EAST: BM9-3 VICINITY SOUTH: BM9-4 VICINITY WEST: BM9-5

NOTES: _____

CONSTRUCTION PICTURE RECORD

HOLE: BM9-1 HOLE W/ ROD: BM9-1 HOLE W/ ROD AND SLEEVE: BM9-6 HOLE W/ ROD /SLEEVE AND CAP: BM9-7

MONUMENT COVER INSTALLED: BM9-8 MONUMENT COVER FINISHED : BM9-9

NOTES: _____

FINISHED MONUMENT PICTURE RECORD

LOCATION: _____ VICINITY NORTH: BM9-11 VICINITY EAST: BM9-12 VICINITY SOUTH: BM9-13 VICINITY WEST: BM9-14

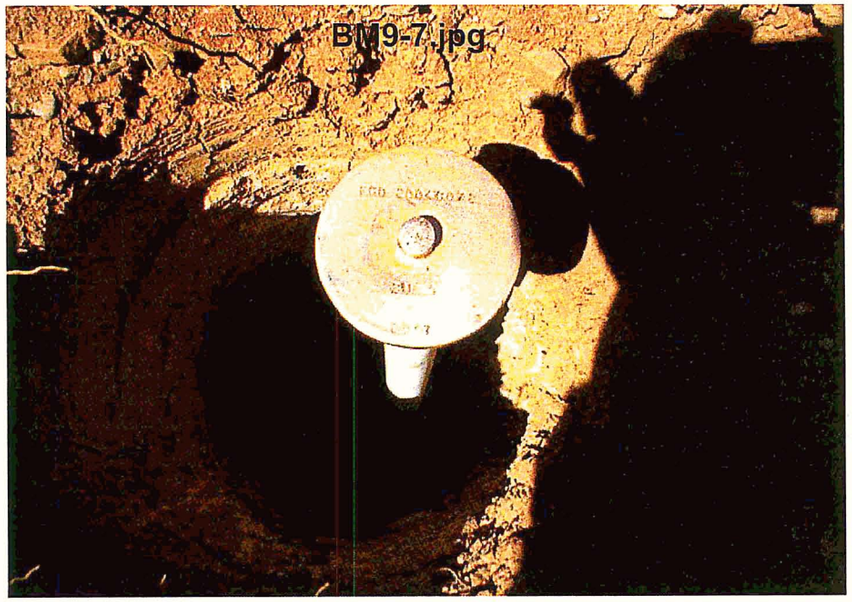
NOTES: _____

CONSTRUCTION MEASUREMENT RECORD

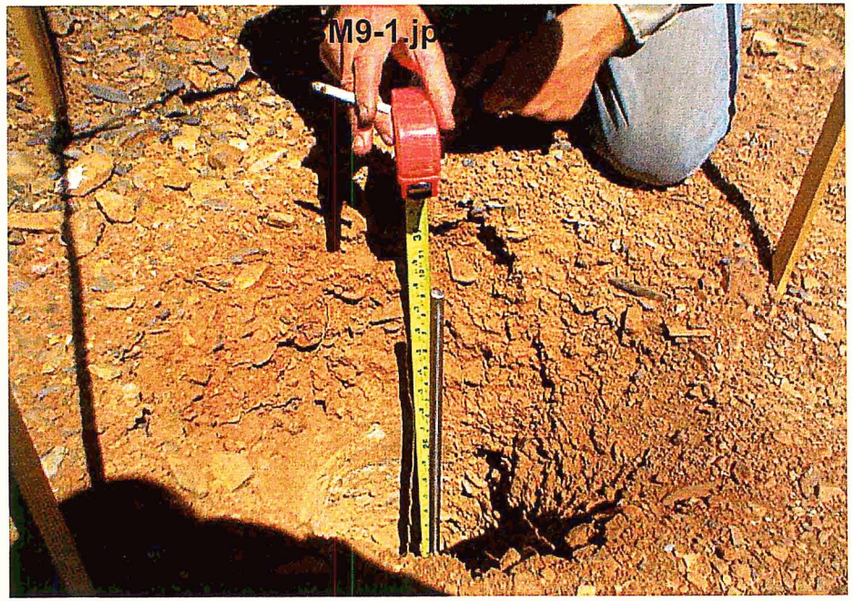
DIAMETER OF HOLE: 10" DEPTH OF HOLE: 36" ROD FOOTAGE: 5'6" ROD TYPE AND SECTION LENGTH: 9/16"

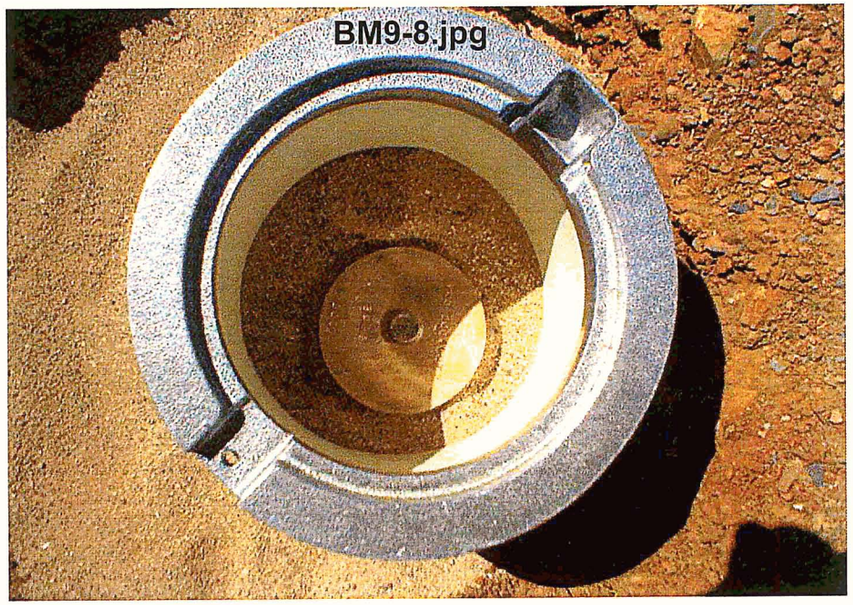
LENGTH OF SLEEVE: _____ LENGTH TOP OF ROD TO TOP OF SLEEVE : _____ LENGTH TOP OF RIM TO TOP OF ROD : _____

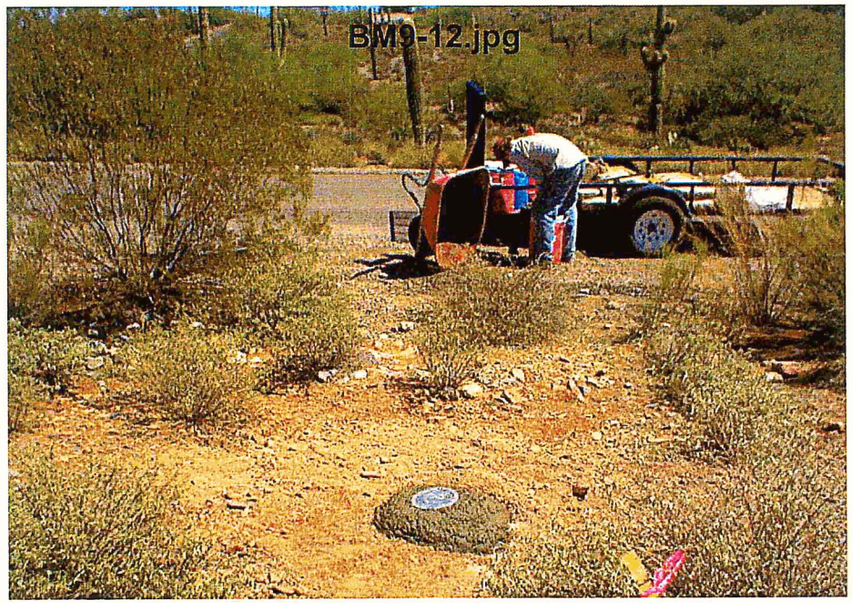
NOTES: _____


BM9-7.jpg

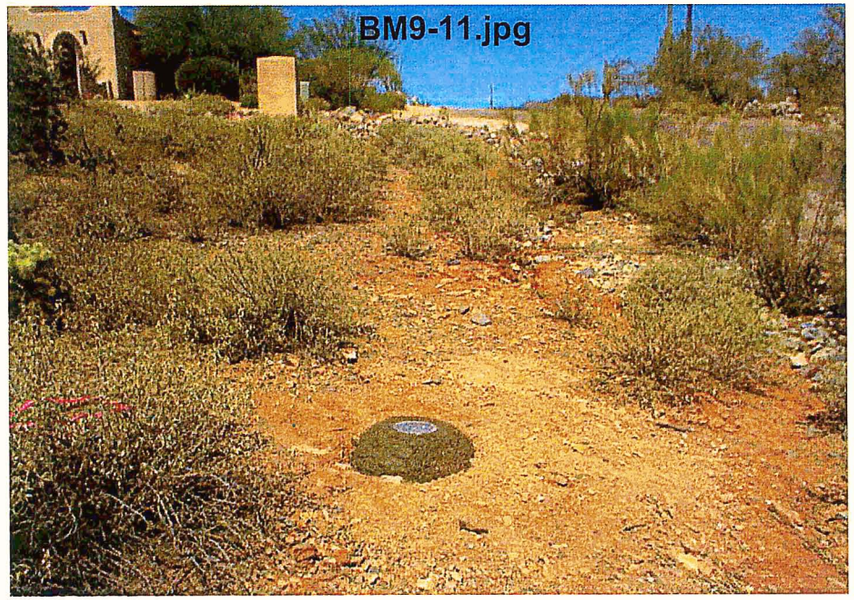
BM9-10.jpg


M9-1.jp


BM9-8.jpg


BM9-12.jpg

BM9-14.jpg


BM9-11.jpg

BM9-13.jpg

A TEAM Professional Associates, INC.
GPS STATION LOG

1920 W. Peoria Avenue, Phoenix, Arizona - 85029 - (602) 906-0020 - (602) 906-0019 Fax

Station Name: BM 9
Receiver No: 8916 (C1)
Day of Year: 277 2007
Session No: 1

Project Name: CAVE CREEK DMP
Job number: 1686-1
Local Date: mo. 10 day 4 year 07
Operator: J. MALEK

C/A CODE POSITION
Beg:
Lat: : 33 ° 50 ' 32.95 " N
Long: 111 ° 56 ' 20.52 " W
Ellip. Height: 1646.40 M PDOP: 2.3
Ending:
Lat: 33 ° 50 ' 32.89 " N
Long: 111 ° 56 ' 20.58 " W
Ellip. Height: 1648.11 M PDOP: 1.6

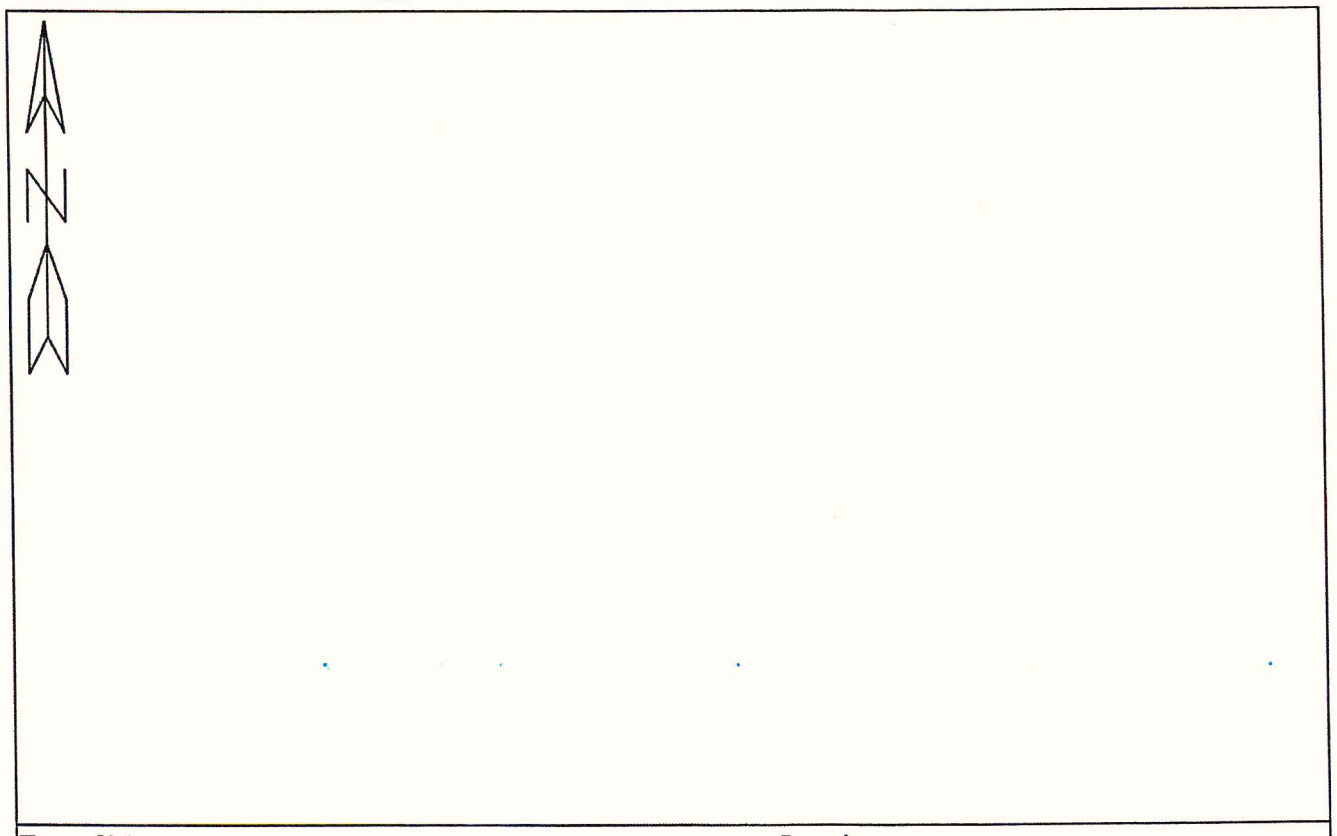
DC# C1 & FILENAME 1686-1-C1
Receiver Model: 5800
Antenna Type: 5800
~~Fixed Height~~ Pole No: C1 ROD
Local-UTC Time Offset: MST= -7:00
Type of Survey: Fast Static (X)
Actual= Start 10 : 04 . Stop: 12 :18 . UTC
Beg. SV's Used: 3,8,13,19,23,25,27,28
End SV's Used: 8,11,13,19,21,25,26,27,28,29

Ant. Height (M) using ~~fixed height~~ pole and measured to Bottom of Antenna: 2.10

ANT. S.N. 8916 (C1)

ANT. TYPE: 5800

Weather Conditions: Clear P. Cloudy Overcast Hot Warm Cool Calm Breezy 70 °F +/-



Type of Monument: Stamping:
Top of marker: ( ) flush M ( ) above: ( ) below: Nat. Ground Detail Notes:

Rubbing Performed ( )Yes ( )No

BM10

1920 WEST PEORIA AVENUE PHOENIX, ARIZONA 85029
TEL. (602) 906-0020 FAX (602) 906-0019

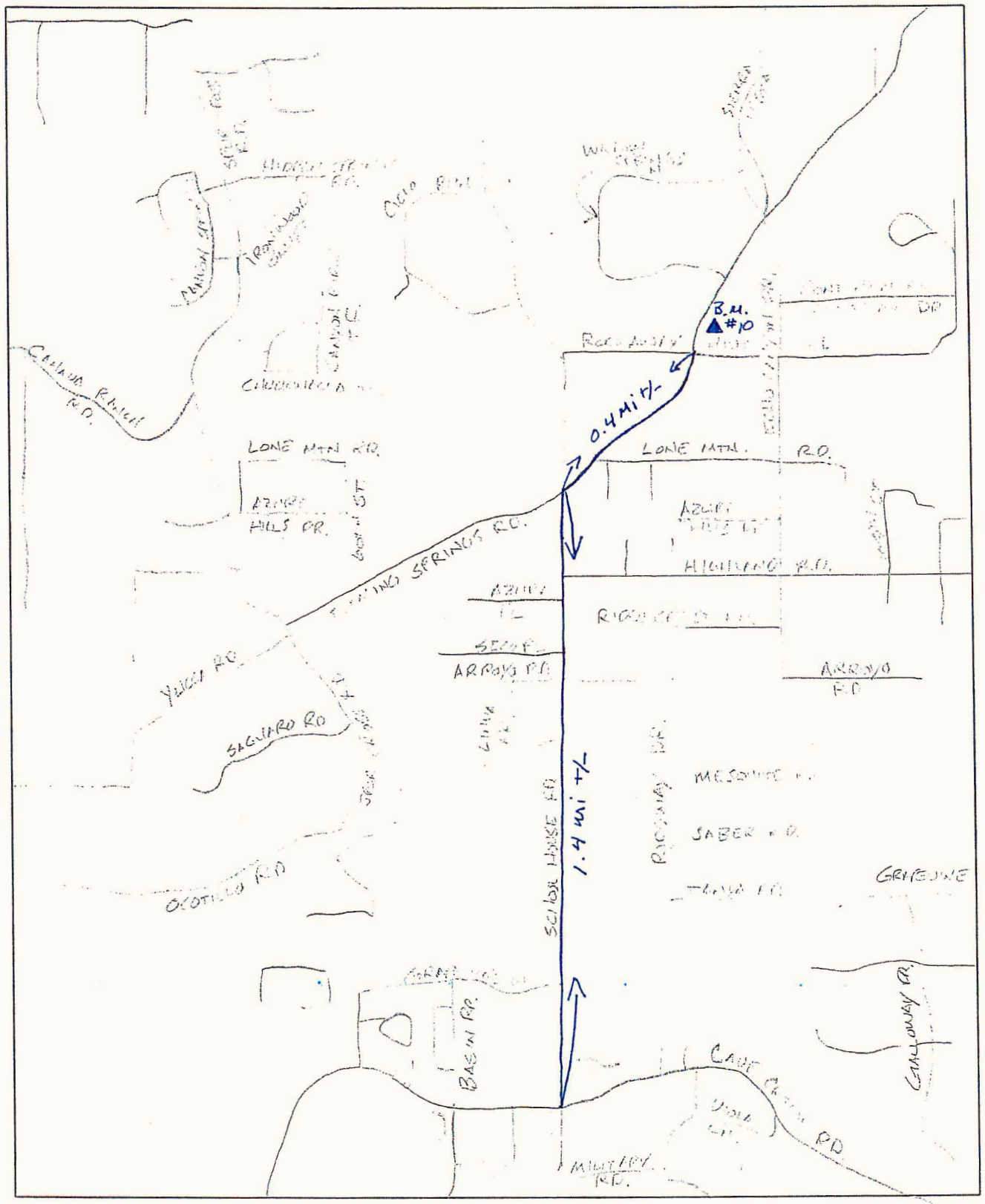
COMPUTATION SHEET

JOB# 10216.1 SHEET# ____ OF ____

SUBJECT: BENCHMARK #10

BY: J.G. DATE: 10-16-07

CHECKED BY: _____ DATE: _____



A TEAM 3D MONUMENT CONSTRUCTION FORM

PROJECT NAME: 11086.1 MONUMENT: B.M. #10 DATE: 9-25-07

SURVEY CREW: A-TEAM CAMERA: _____

LATITUDE: _____ LONGITUDE: _____ MONUMENT TYPE: 3D NGS

PRE-CONSTRUCTION PICTURE RECORD

LOCATION: _____ VICINITY NORTH: BM10-2 VICINITY EAST: BM10-3 VICINITY SOUTH: BM10-4 VICINITY WEST: BM10-5

NOTES: _____

CONSTRUCTION PICTURE RECORD

HOLE: BM10-1 HOLE W/ ROD: BM10-1 HOLE W/ ROD AND SLEEVE: BM10-6 HOLE W/ ROD /SLEEVE AND CAP: BM10-7

MONUMENT COVER INSTALLED: BM10-8 MONUMENT COVER FINISHED : BM10-10

NOTES: _____

FINISHED MONUMENT PICTURE RECORD

LOCATION: _____ VICINITY NORTH: BM10-11 VICINITY EAST: BM10-12 VICINITY SOUTH: BM10-13 VICINITY WEST: BM10-14

NOTES: _____

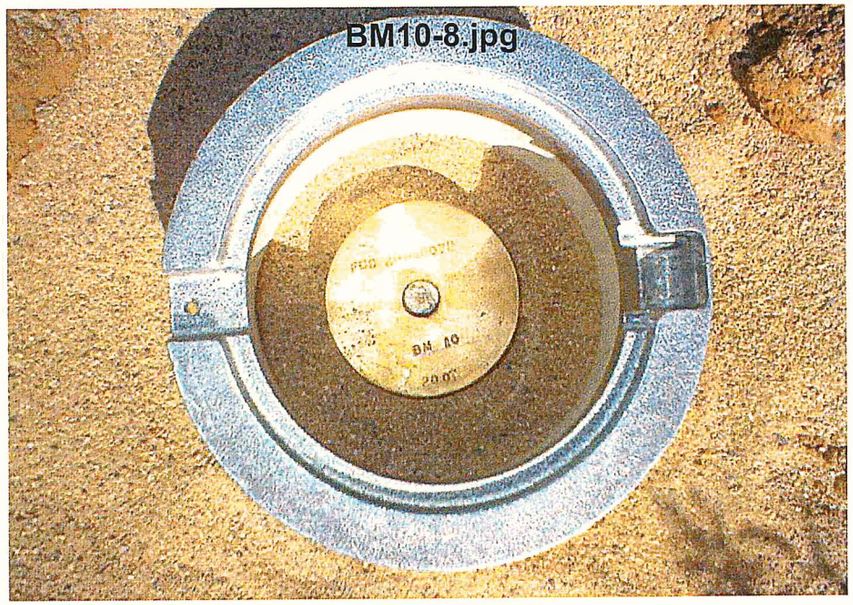
CONSTRUCTION MEASUREMENT RECORD

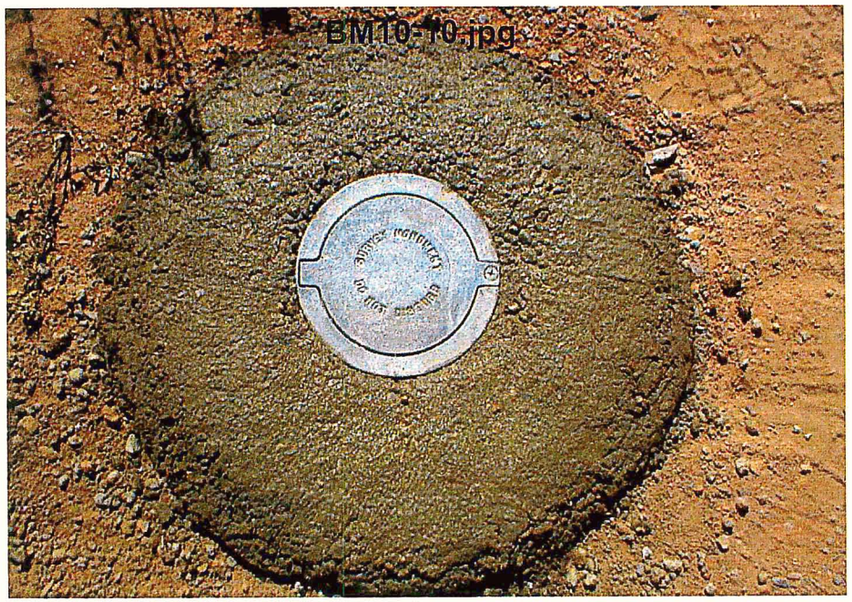
DIAMETER OF HOLE: 10" DEPTH OF HOLE: 36" ROD FOOTAGE: 6'4" ROD TYPE AND SECTION LENGTH: 9/16"

LENGTH OF SLEEVE: _____ LENGTH TOP OF ROD TO TOP OF SLEEVE : _____ LENGTH TOP OF RIM TO TOP OF ROD : _____

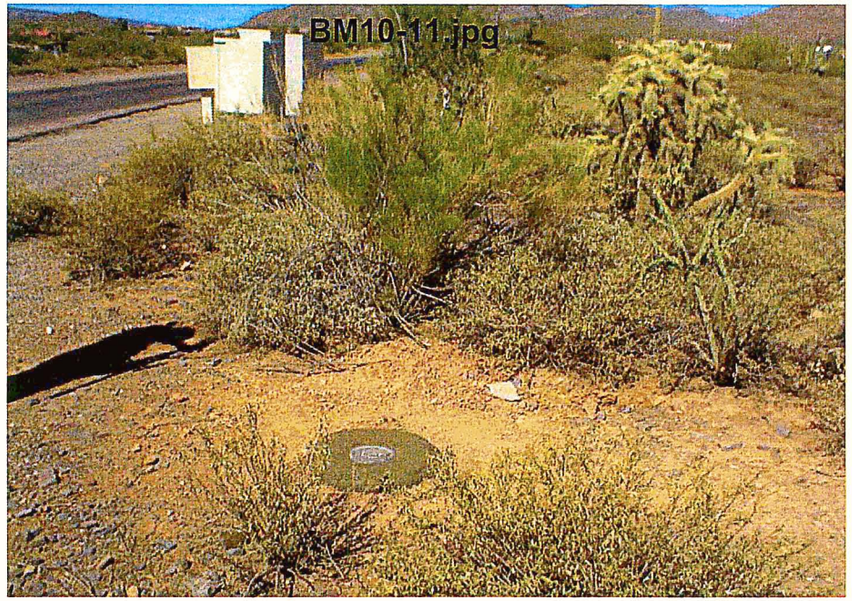
NOTES: _____

0-1.jpg


BM10-8.jpg

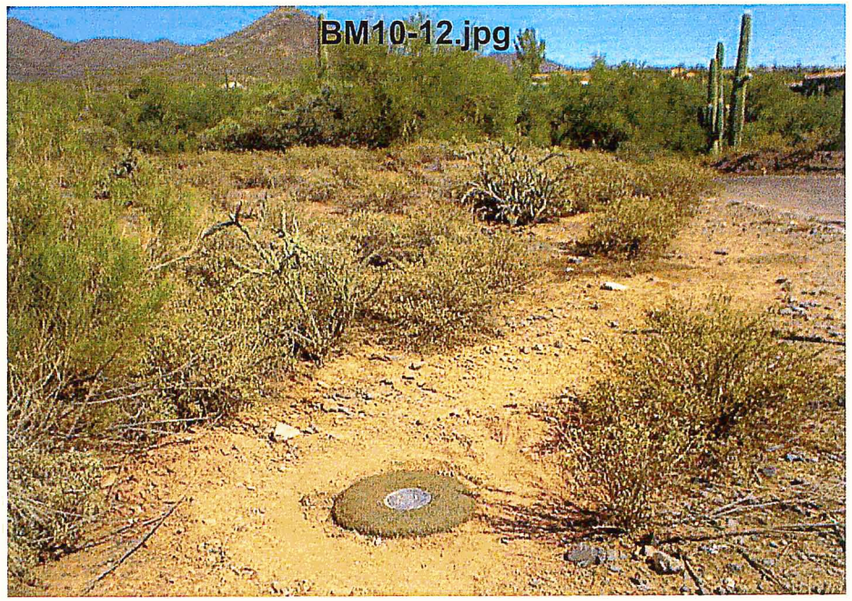

BM10-10.jpg

BM10-7.jpg


BM10-11.jpg

BM10-13.jpg

BM10-14.jpg


BM10-12.jpg

A TEAM Professional Associates, INC.
GPS STATION LOG

1920 W. Peoria Avenue, Phoenix, Arizona - 85029 - (602) 906-0020 - (602) 906-0019 Fax

Station Name: BM 10
Receiver No: C3
Day of Year: 277 2007
Session No:

Project Name: CAVE CREEK DMP
Job number: 1686-1
Local Date: mo. 10 day 04 year 07
Operator: L. SPEAN

C/A CODE POSITION

Beg:
Lat: : 33 ° 51 ' 26.14976" N
Long: 111 ° 56 ' 16.91825" W
Ellip. Height: 2175.045 M PDOP: 2.3

Ending:
Lat: 33 ° 51 ' 26.11416" N
Long: 111 ° 56 ' 16.94146" W
Ellip. Height: 2175.749 M PDOP: 1.9

DC# C3 ROVER & FILENAME
Receiver Model: 5800
Antenna Type: 5800 INTERNAL
Fixed Height Pole No: C3 ROVER

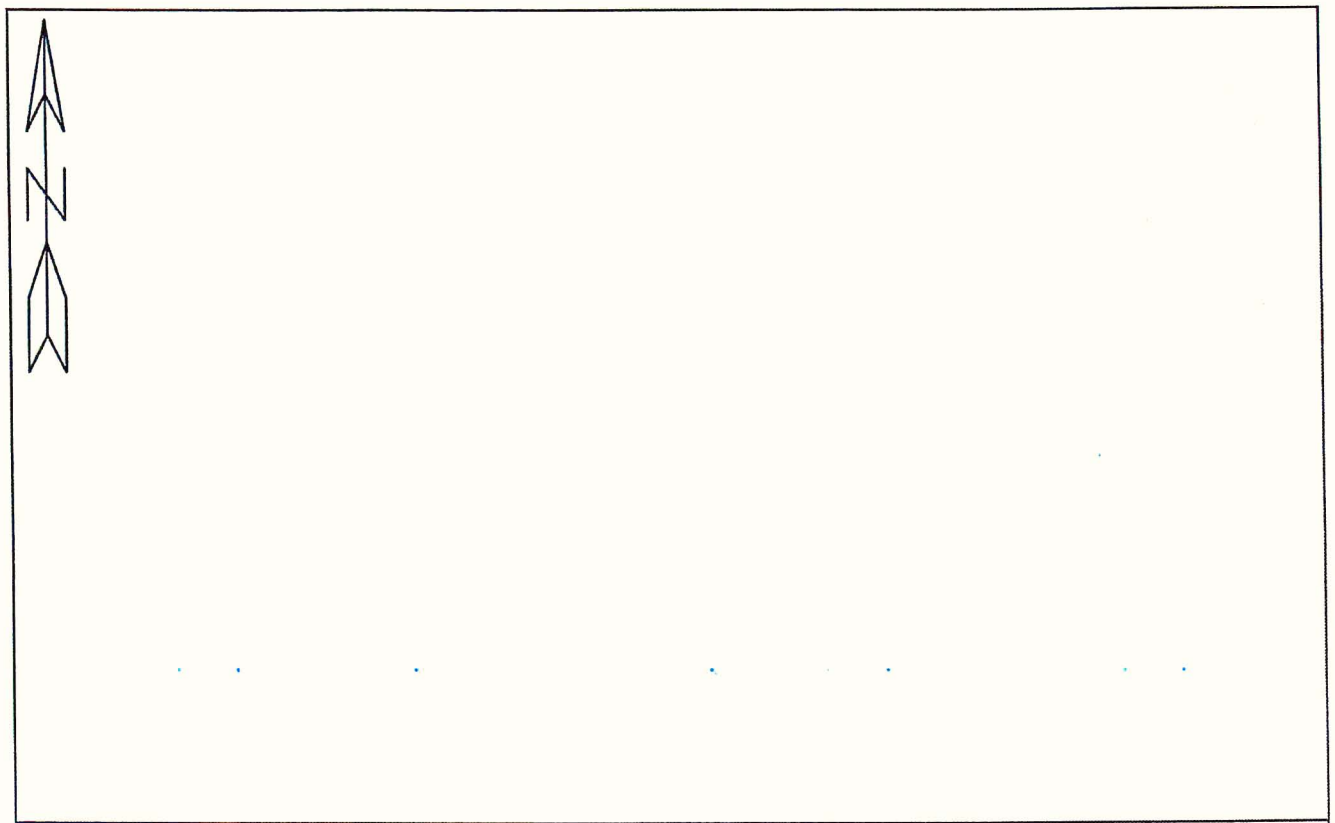
Local-UTC Time Offset: MST= -7:00
Type of Survey: Fast Static (X)
Actual= Start 9 : 58 . Stop: 10 : 42 . UTC
Beg. SV's Used: 3, 8, 13, 19, 23, 25, 27, 28
End SV's Used: 3, 8, 10, 13, 19, 23, 25, 27, 28

Ant. Height ~~(M)~~ using fixed height pole and measured to Bottom of Antenna: 6.90

ANT. S.N. C3

ANT. TYPE: 5800 INTERNAL

Weather Conditions: Clear P. Cloudy Overcast Hot Warm Cool Calm Breezy °F +/-



Type of Monument: Stamping:
Top of marker: ( ) flush M ( ) above: ( ) below: Nat. Ground Detail Notes:

Rubbing Performed ( )Yes ( )No

BM11

1920 WEST PEORIA AVENUE PHOENIX, ARIZONA 85029
TEL. (602) 906-0020 FAX (602) 906-0019

TEAM PROFESSIONAL ASSOCIATES, INC.

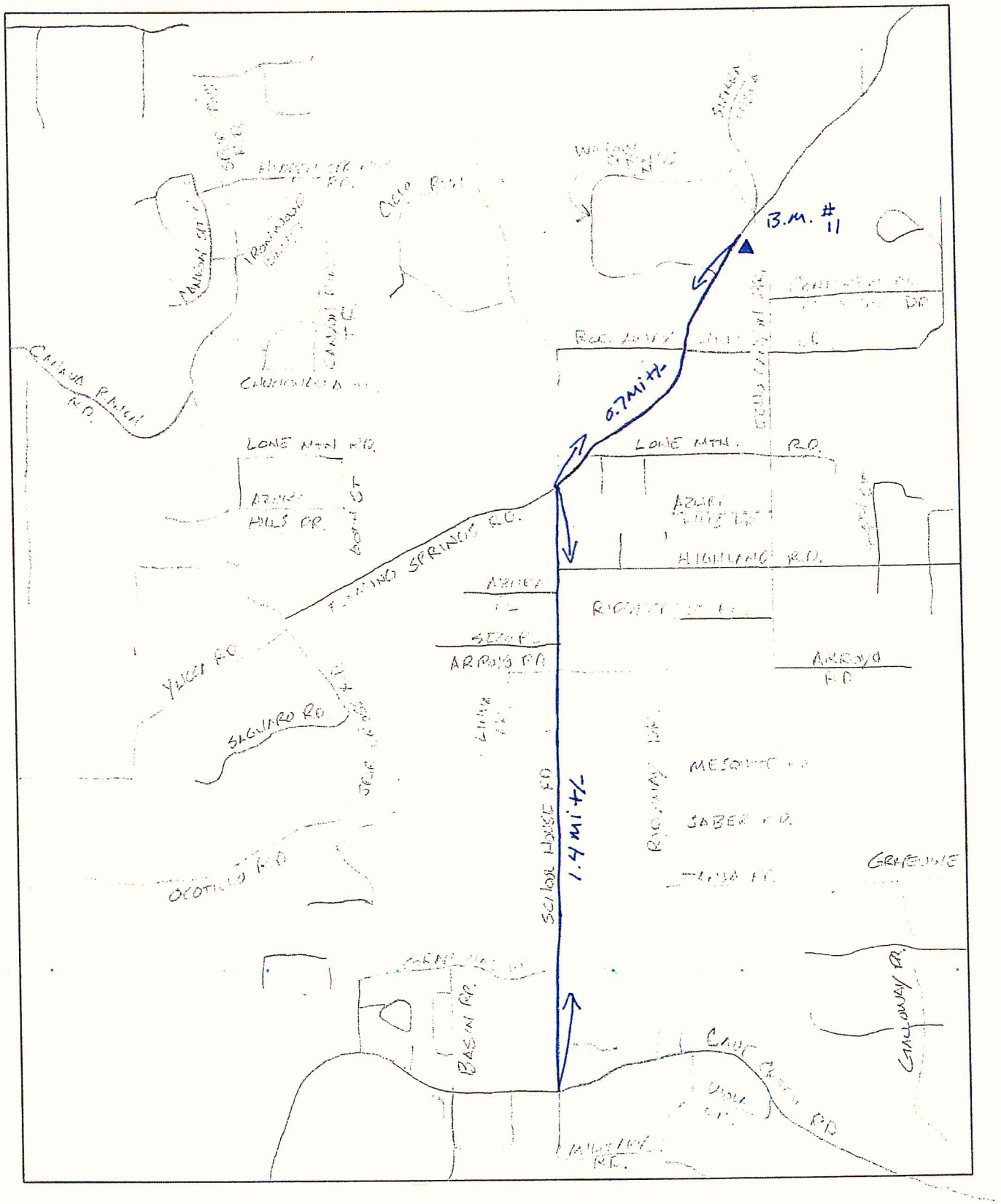
COMPUTATION SHEET

JOB# 1026.1 SHEET# 1 OF 1

SUBJECT: BENCHMARK #11

BY: J.G. DATE: 10-16-07

CHECKED BY: _____ DATE: _____



A TEAM 3D MONUMENT CONSTRUCTION FORM

PROJECT NAME: 16860.1 MONUMENT: B.M. #11 DATE: 9-26-07

SURVEY CREW: A-TEAM CAMERA: _____

LATITUDE: _____ LONGITUDE: _____ MONUMENT TYPE: 3D NGS

PRE-CONSTRUCTION PICTURE RECORD

LOCATION: _____ VICINITY NORTH: BM11-2 VICINITY EAST: BM11-3 VICINITY SOUTH: BM11-4 VICINITY WEST: BM11-5

NOTES: _____

CONSTRUCTION PICTURE RECORD

HOLE: BM11-1 HOLE W/ ROD: BM11-1 HOLE W/ ROD AND SLEEVE: BM11-6 HOLE W/ ROD /SLEEVE AND CAP: BM11-7

MONUMENT COVER INSTALLED: BM11-8 MONUMENT COVER FINISHED : BM11-9

NOTES: _____

FINISHED MONUMENT PICTURE RECORD

LOCATION: _____ VICINITY NORTH: BM11-10 VICINITY EAST: BM11-11 VICINITY SOUTH: BM11-12 VICINITY WEST: BM11-13

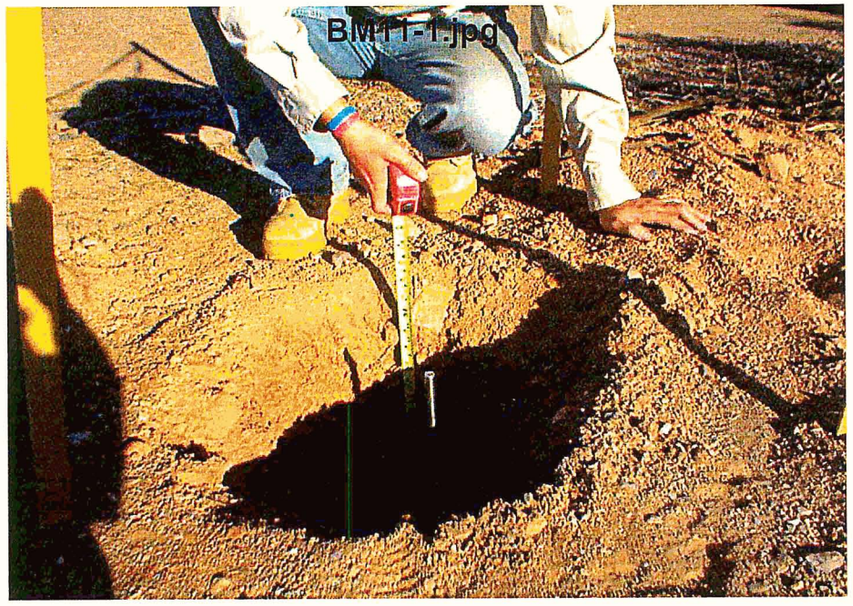
NOTES: _____

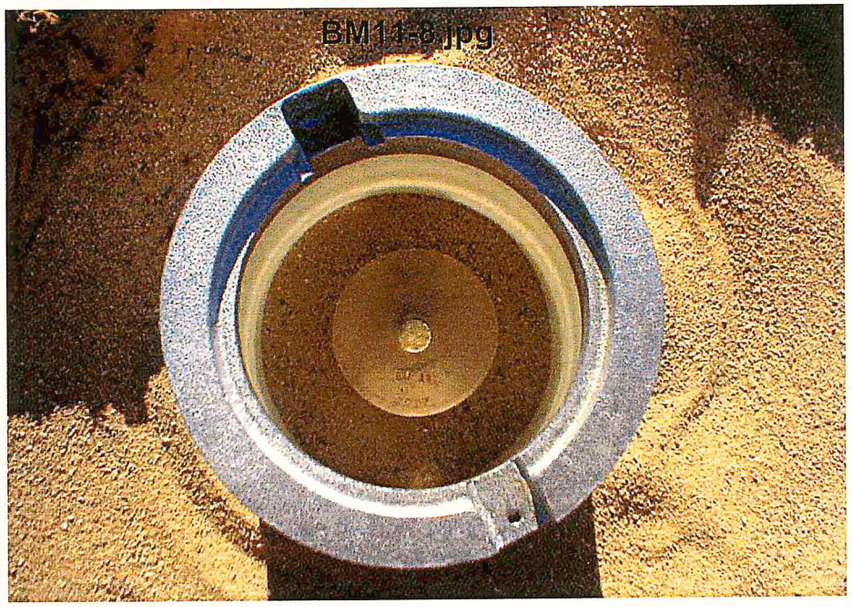
CONSTRUCTION MEASUREMENT RECORD

DIAMETER OF HOLE: 10" DEPTH OF HOLE: 36" ROD FOOTAGE: 6'6" ROD TYPE AND SECTION LENGTH: 9/16"

LENGTH OF SLEEVE: _____ LENGTH TOP OF ROD TO TOP OF SLEEVE : _____ LENGTH TOP OF RIM TO TOP OF ROD : _____

NOTES: _____

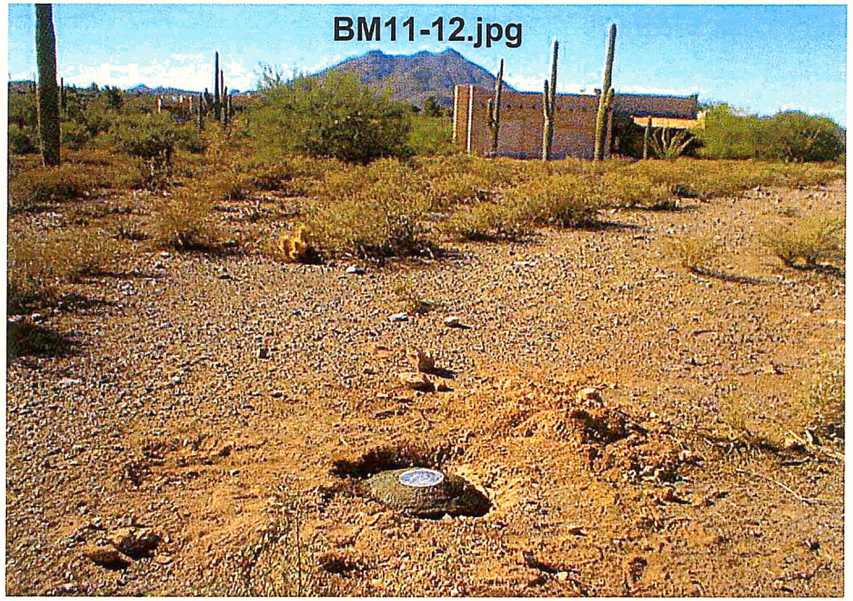

BM11-1.jpg

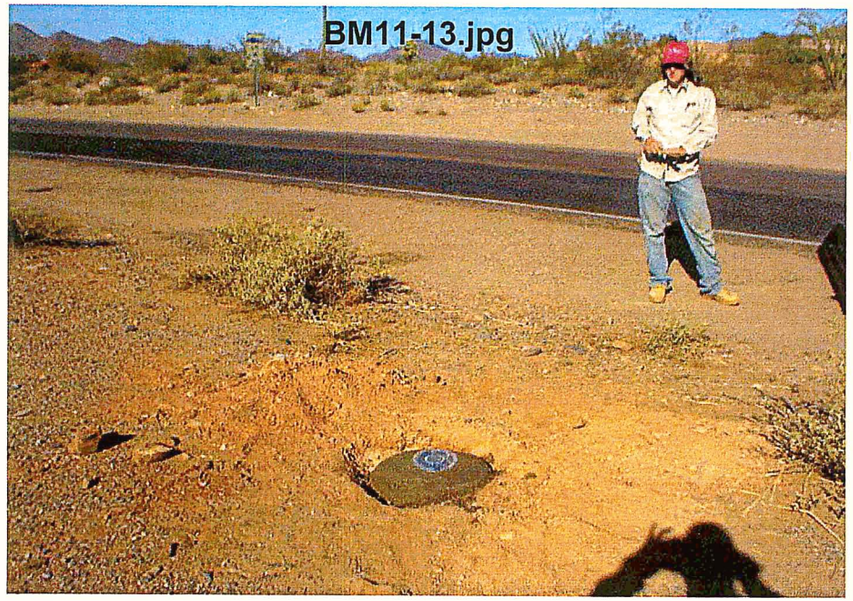

BM11-8.jpg

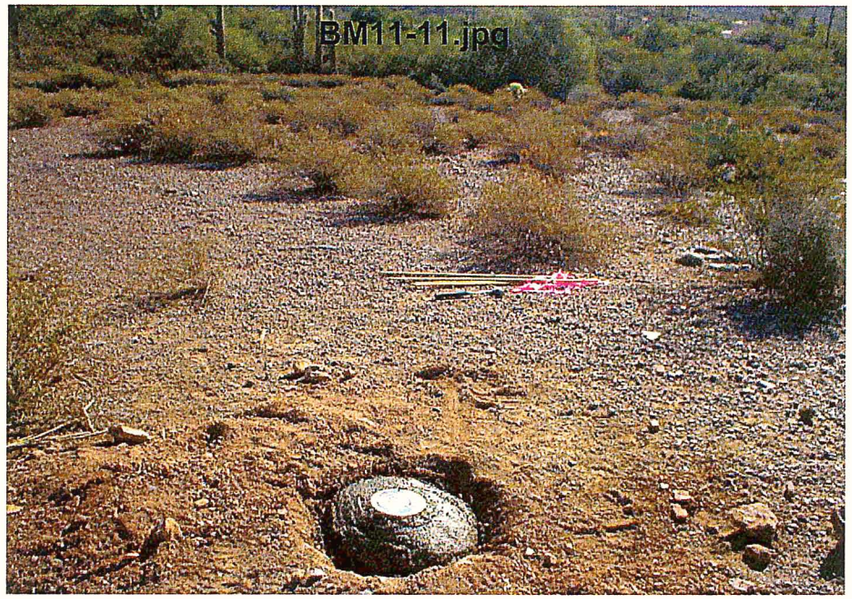
BM11-9.jpg

BM11-7.jpg

BM11-10.jpg


BM11-12.jpg


BM11-13.jpg


BM11-11.jpg

A TEAM Professional Associates, INC.
GPS STATION LOG

1920 W. Peoria Avenue, Phoenix, Arizona - 85029 - (602) 906-0020 - (602) 906-0019 Fax

Station Name: BM#11
Receiver No: 5700/0440100267
Day of Year: 277 2007
Session No: #3

Project Name: CAVE CREEK DMP
Job number: 1686-1
Local Date: mo. 10 day 4 year 07
Operator: REED

C/A CODE POSITION

DC# CS & FILENAME 1686.1-CS
Receiver Model: 5700
Antenna Type: ZEPHYR
Fixed Height Pole No:

Beg:
Lat: : 33 ° 51 ' 40.01 " N
Long: 111 ° 56 ' 07.56 " W
Ellip. Height: 2220.2 FT M PDOP: 1.8

Local-UTC Time Offset 10:50 MST= -7:00
Type of Survey: Fast Static (X)
Actual= Start 17 : 50 Stop: 19 : 10 UTC
Beg. SV's Used: 3,8,10,13,19,23,25,27,29
End SV's Used: 8,11,13,17,19,25,26,27

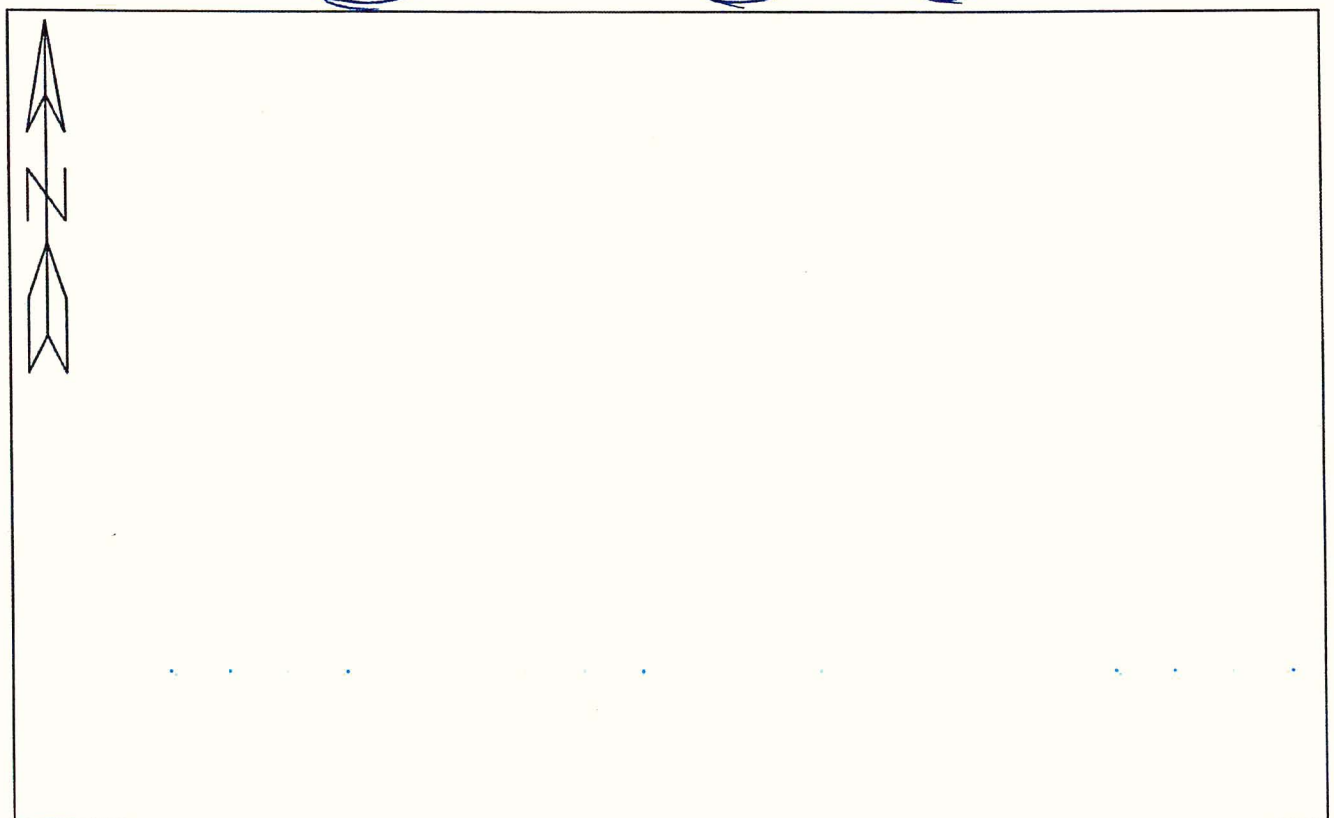
Ending:
Lat: 33 ° 51 ' 39.94 " N
Long: 111 ° 56 ' 07.58 " W
Ellip. Height: 2226.40 M PDOP: ~~1.8~~ 1.5

~~Ant. Height (M) using fixed height pole and~~ measured to Bottom of Antenna: 7.54'

ANT. S.N. 11890380

ANT. TYPE: ZEPHYR

Weather Conditions: Clear P. Cloudy Overcast Hot Warm Cool Calm Breezy °F +/- 85



Type of Monument: Stamping:
Top of marker: ( ) flush M ( ) above: ( ) below: Nat. Ground Detail Notes:

Rubbing Performed ( )Yes ( )No

BM12

1920 WEST PEORIA AVENUE PHOENIX, ARIZONA 85029
TEL. (602) 906-0020 FAX (602) 906-0019

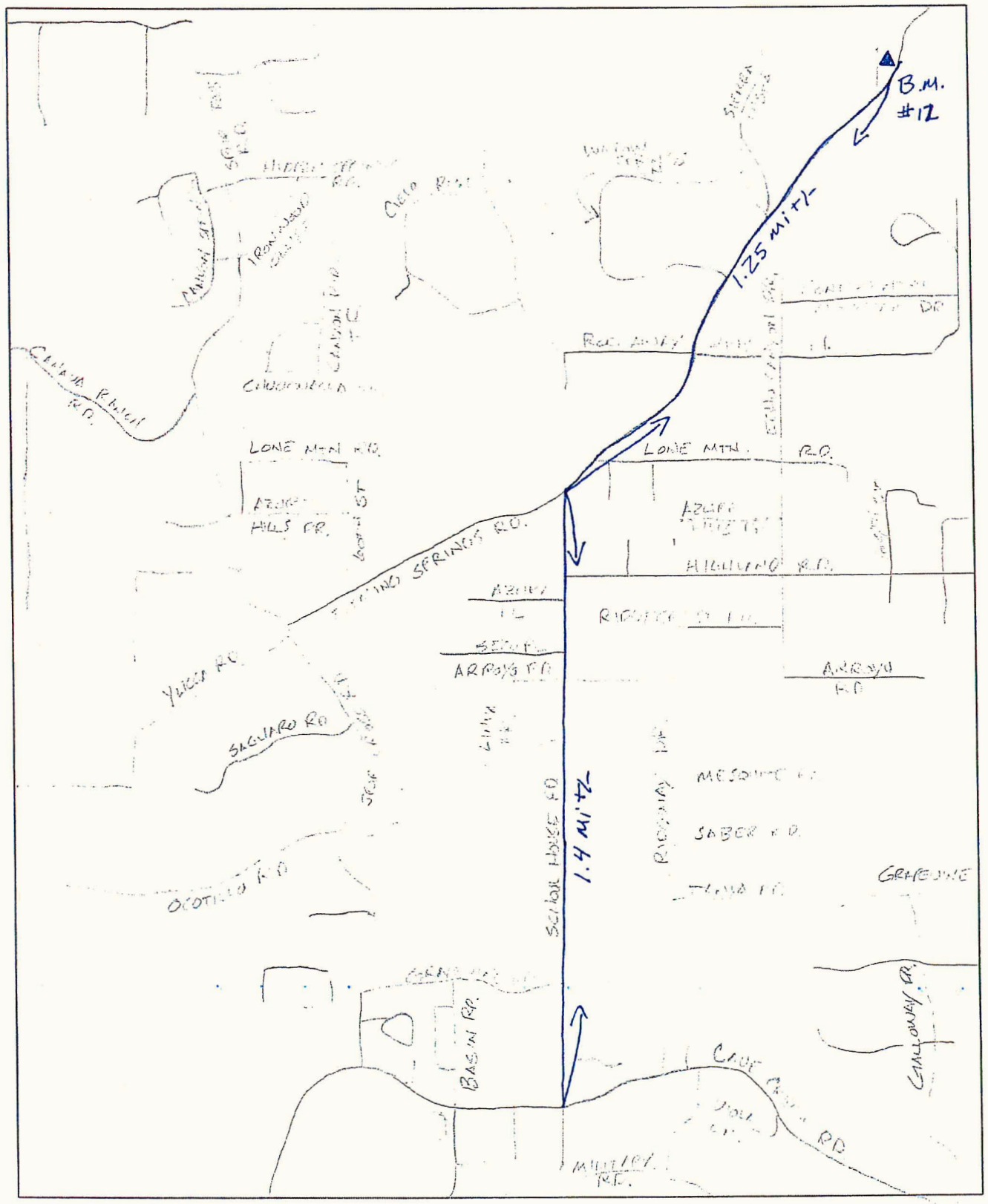
COMPUTATION SHEET

JOB# 1006.1 SHEET# 1 OF 1

SUBJECT: BENCHMARK #12

BY: J.G. DATE: 10-16-07

CHECKED BY: _____ DATE: _____



A TEAM 3D MONUMENT CONSTRUCTION FORM

PROJECT NAME: 1686.1 MONUMENT: B.M. #12 DATE: ~~10~~ 9-26-07

SURVEY CREW: A-TEAM CAMERA:

LATITUDE: LONGITUDE: MONUMENT TYPE: 30 NGS

PRE-CONSTRUCTION PICTURE RECORD

LOCATION: VICINITY NORTH: BM12-2 VICINITY EAST: BM12-3 VICINITY SOUTH: BM12-4 VICINITY WEST: BM12-5

NOTES:

CONSTRUCTION PICTURE RECORD

HOLE: BM12-1 HOLE W/ ROD: BM12-1 HOLE W/ ROD AND SLEEVE: BM12-6 HOLE W/ ROD /SLEEVE AND CAP: BM12-7

MONUMENT COVER INSTALLED: BM12-8 MONUMENT COVER FINISHED : BM12-10

NOTES:

FINISHED MONUMENT PICTURE RECORD

LOCATION: VICINITY NORTH: BM12-11 VICINITY EAST: ~~BM12-13~~ BM12-12 VICINITY SOUTH: ~~BM12-14~~ BM12-13 VICINITY WEST: BM12-14

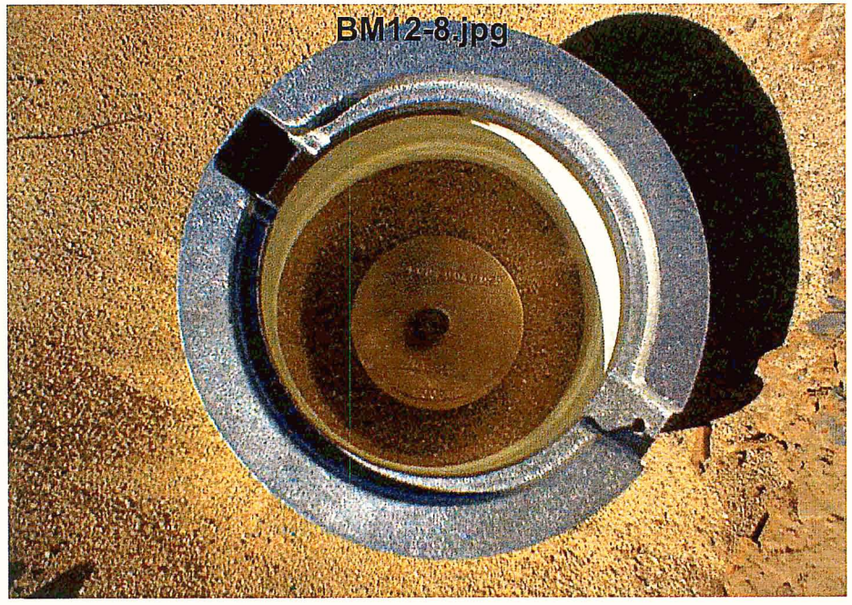
NOTES:

CONSTRUCTION MEASUREMENT RECORD

DIAMETER OF HOLE: 10" DEPTH OF HOLE: 36" ROD FOOTAGE: 60' ROD TYPE AND SECTION LENGTH: 9/16"

LENGTH OF SLEEVE: LENGTH TOP OF ROD TO TOP OF SLEEVE : LENGTH TOP OF RIM TO TOP OF ROD :

NOTES:

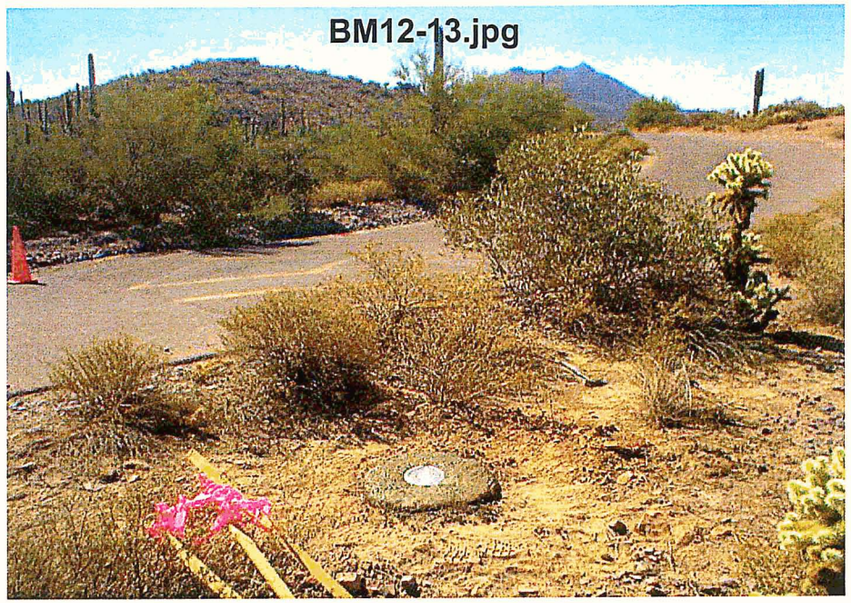

BM12-8.jpg

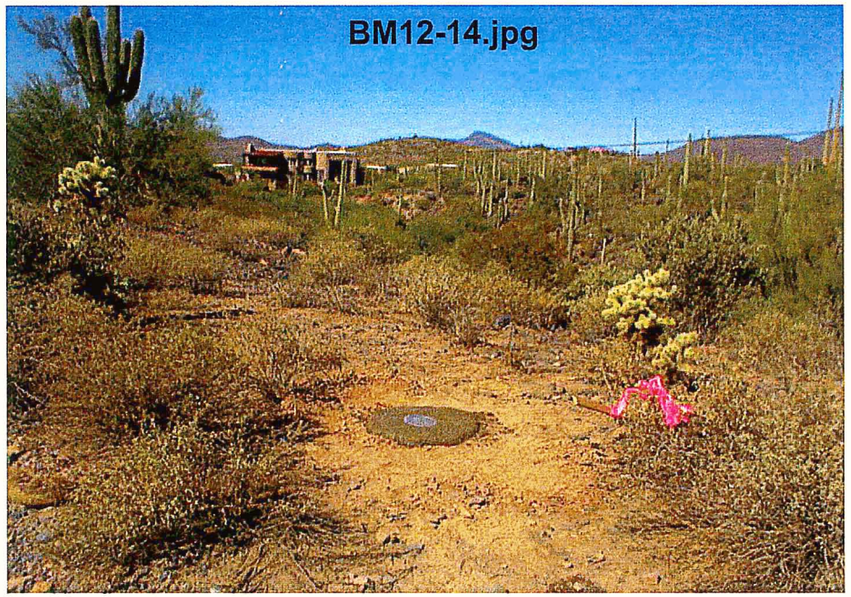
BM12-1.jpg

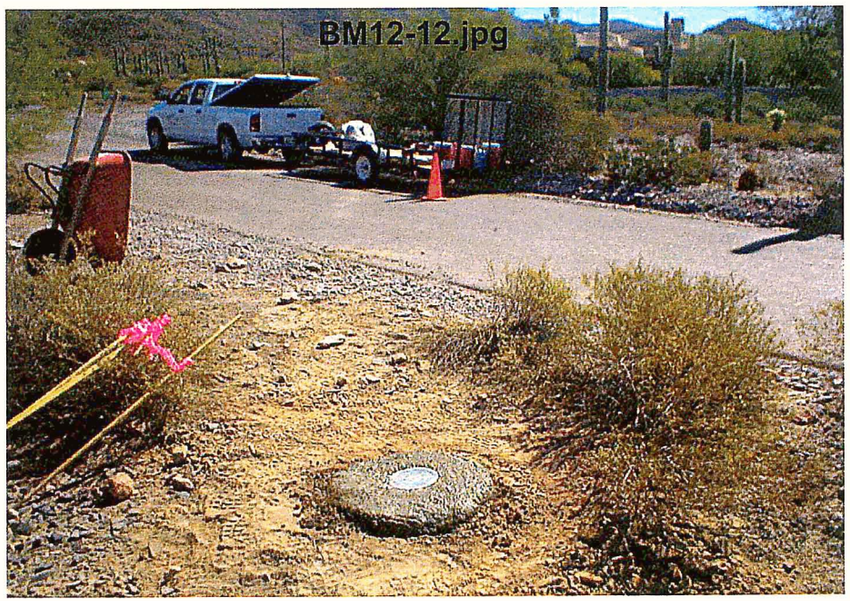
BM12-7.jpg

BM12-10.jpg
SURVEY MONUMENT
DO NOT DISTURB

BM12-11.jpg


BM12-13.jpg


BM12-14.jpg


BM12-12.jpg

A TEAM Professional Associates, INC.
GPS STATION LOG

1920 W. Peoria Avenue, Phoenix, Arizona - 85029 - (602) 906-0020 - (602) 906-0019 Fax

Station Name: BM#12
Receiver No: C-5/5700/0440100267
Day of Year: 277 2007
Session No: #2

Project Name: CAVE CREEK DMP
Job number: 1686-1
Local Date: mo. 10 day 4 year 07
Operator: REED

C/A CODE POSITION
Beg:
Lat: : 33 ° 52 ' 04.65 " N
Long: 111 ° 55 ' 46.51 " W
Ellip. Height: 2332.96 FT M PDOP: 2.3
Ending:
Lat: 33 ° 52 ' 04.62 " N
Long: 111 ° 55 ' 46.53 " W
Ellip. Height: 2329.55 FT M PDOP: 1.9

DC# C5 & FILENAME 1686-1-C5
Receiver Model: 5700
Antenna Type: ZEPHYR
Fixed Height Pole No:

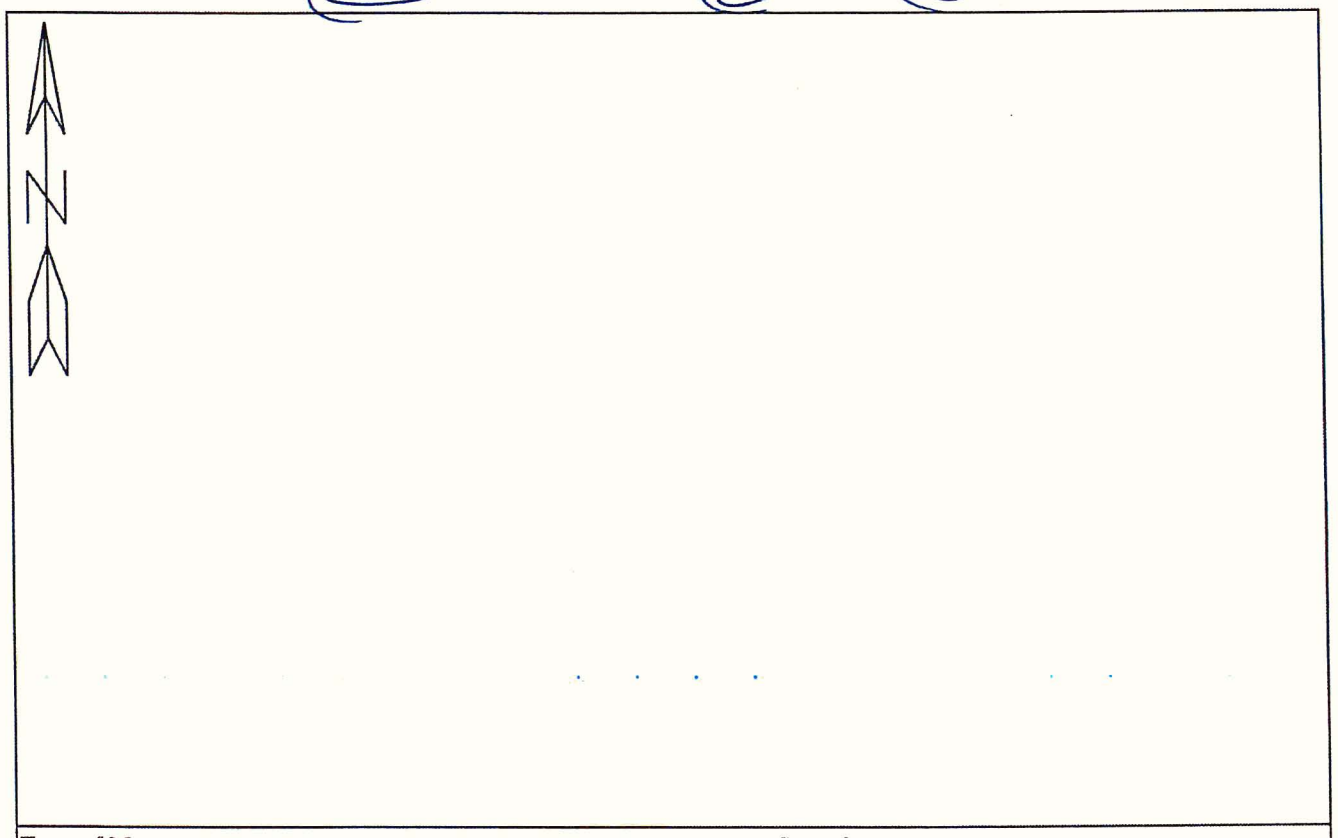
Local-UTC Time Offset: 16:02 MST= -7:00
Type of Survey: Fast Static (X)
Actual= Start 17 : 02 . Stop: 17 : 43 . UTC
Beg. SV's Used: 3,8,13,19,23,25,27,28
End SV's Used: 3,8,10,13,19,23,25,27,28

Ant. ~~Height (M) using fixed height pole and~~ measured to Bottom of Antenna: 7.54'

ANT. S.N. 11890380

ANT. TYPE: ZEPHYR

Weather Conditions: Clear P. Cloudy Overcast Hot Warm Cool Calm Breezy °F +/- 80



Type of Monument: Stamping:
Top of marker: ( ) flush M ( ) above: ( ) below: Nat. Ground Detail Notes:

Rubbing Performed ( )Yes ( )No

BM13

1920 WEST PEORIA AVENUE PHOENIX, ARIZONA 85029
TEL. (602) 906-0020 FAX (602) 906-0019

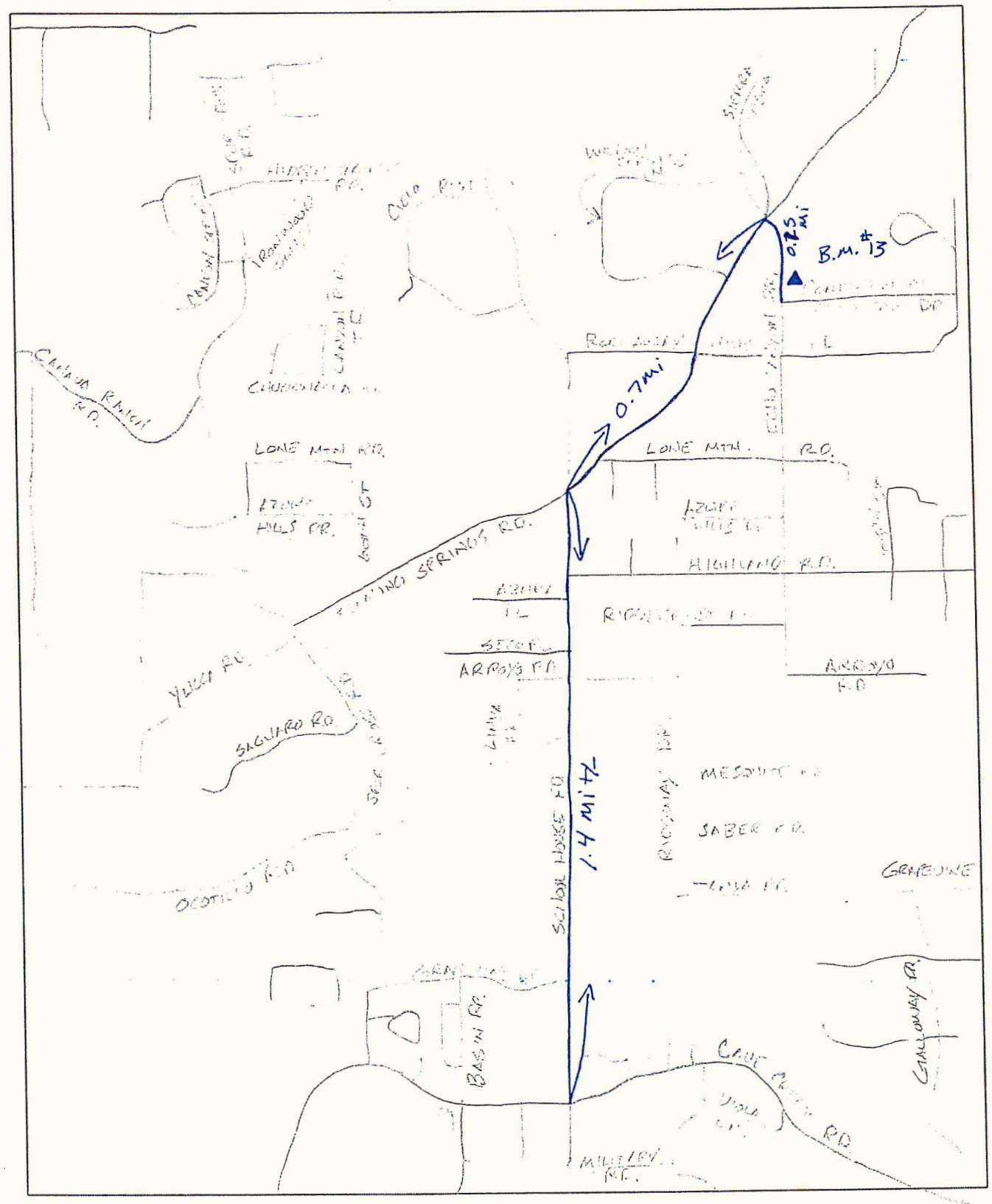
COMPUTATION SHEET

JOB# 1606.1 SHEET# ____ OF ____

SUBJECT: BENCHMARK # 13

BY: J.G. DATE: 10-16-07

CHECKED BY: _____ DATE: _____



A TEAM 3D MONUMENT CONSTRUCTION FORM

PROJECT NAME: 1686.1 MONUMENT: B.M. #13 DATE: 9-26-07

SURVEY CREW: A-TEAM CAMERA: _____

LATITUDE: _____ LONGITUDE: _____ MONUMENT TYPE: 3D NGS

PRE-CONSTRUCTION PICTURE RECORD

LOCATION: _____ VICINITY NORTH: BM13-2 VICINITY EAST: BM13-3 VICINITY SOUTH: BM13-4 VICINITY WEST: BM13-5

NOTES: _____

CONSTRUCTION PICTURE RECORD

HOLE: BM13-1 HOLE W/ ROD: BM13-1 HOLE W/ ROD AND SLEEVE BM13-6 HOLE W/ ROD /SLEEVE AND CAP: BM13-7

MONUMENT COVER INSTALLED: BM13-8 MONUMENT COVER FINISHED : ~~BM13-9~~ BM13-10

NOTES: _____

FINISHED MONUMENT PICTURE RECORD

LOCATION: _____ VICINITY NORTH: BM13-11 VICINITY EAST: BM13-12 VICINITY SOUTH: BM13-13 VICINITY WEST: BM13-14

NOTES: _____

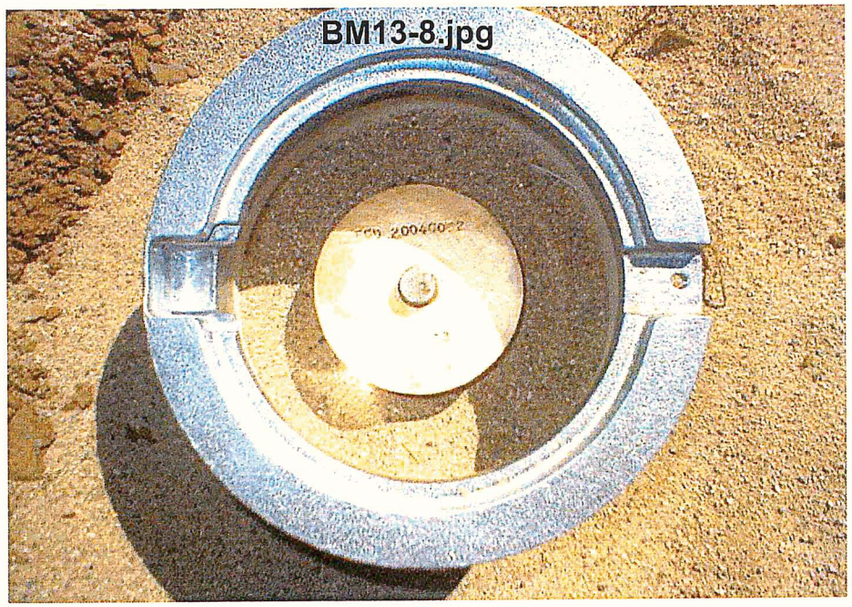
CONSTRUCTION MEASUREMENT RECORD

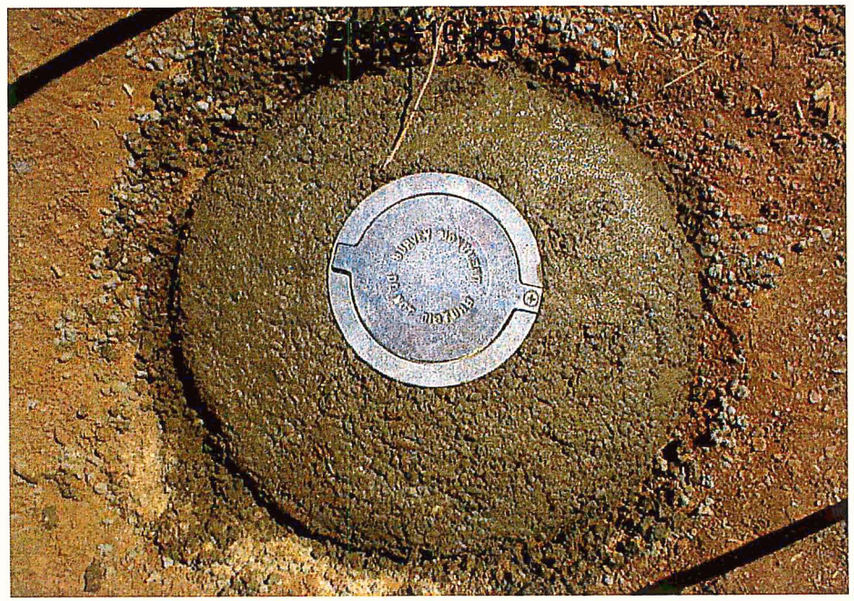
DIAMETER OF HOLE: 10" DEPTH OF HOLE: 36" ROD FOOTAGE: 50" ROD TYPE AND SECTION LENGTH: 9/16"

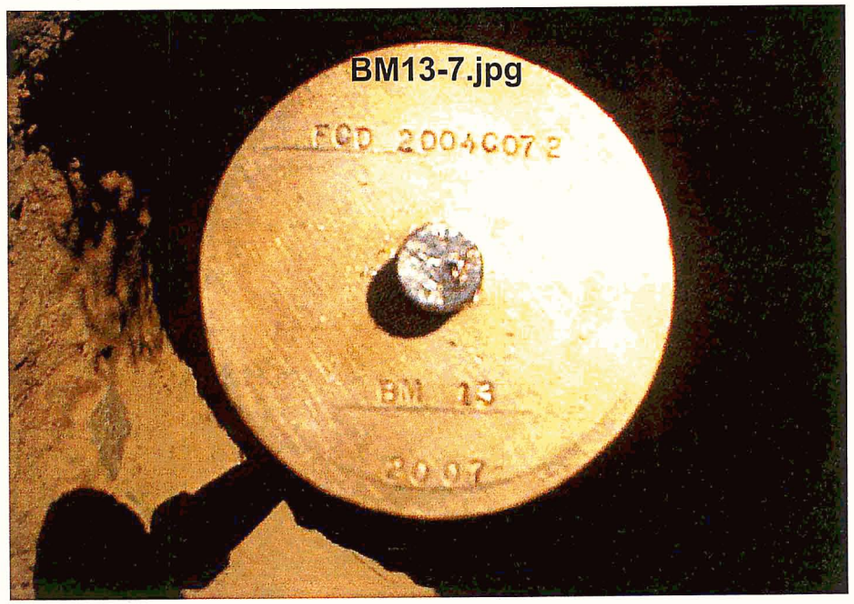
LENGTH OF SLEEVE: _____ LENGTH TOP OF ROD TO TOP OF SLEEVE : _____ LENGTH TOP OF RIM TO TOP OF ROD : _____

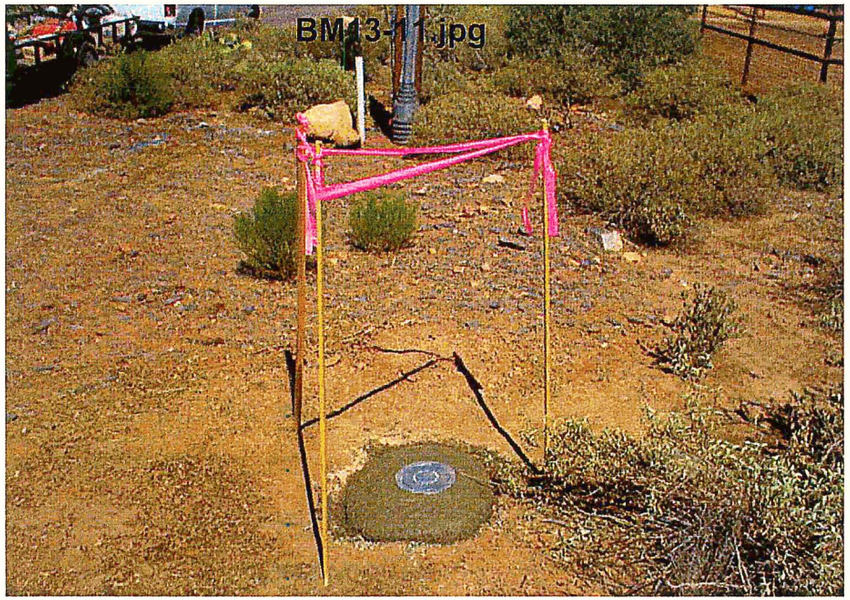
NOTES: _____

BM13-1.jpg


BM13-8.jpg

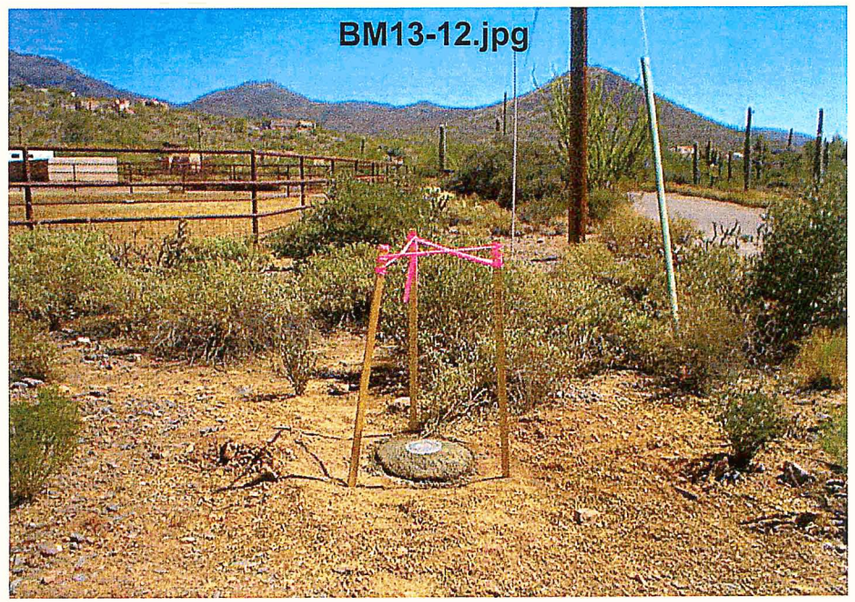



BM13-7.jpg
FCD 20040072
BM 13


BM13-11.jpg

BM13-13.jpg

BM13-14.jpg


BM13-12.jpg

A TEAM Professional Associates, INC.
GPS STATION LOG

1920 W. Peoria Avenue, Phoenix, Arizona - 85029 - (602) 906-0020 - (602) 906-0019 Fax

Station Name: BM 13 .
Receiver No: 6490 (~~C4~~) C2 .
Day of Year: 277 2007 .
Session No: 1 .

Project Name: CAVE CREEK DMP .
Job number: 1686-1 .
Local Date: mo. 10 day 4 year .
Operator: J. MAZEK .

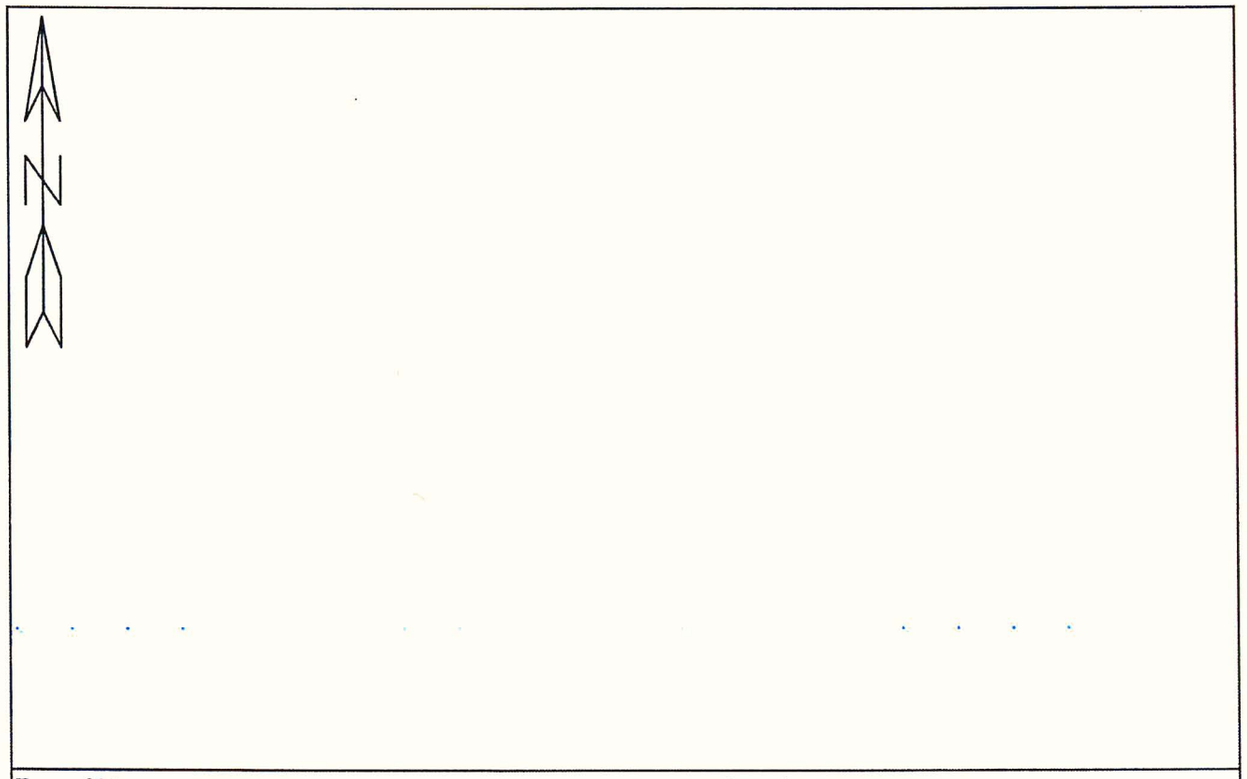
C/A CODE POSITION
Beg:
Lat: : 33 ° 51 ' 37.64 " N
Long: 111 ° 56 ' 04.30 " W
Ellip. Height: 673.45 M PDOP: 1.9.
Ending:
Lat: 33 ° 51 ' 32.60 " N
Long: 111 ° 56 ' 04.35 " W
Ellip. Height: 674.08 M PDOP: 1.5.

DC# ~~C4~~ C2 & FILENAME 1686-1-04
Receiver Model: 5800 .
Antenna Type: 5800 .
~~Fixed Height Pole~~ ROD No: ~~C4~~ C2
Local-UTC Time Offset: MST= -7:00 .
Type of Survey: Fast Static (X) .
Actual= Start 10 : 18 . Stop: 12 : 10 . UTC
Beg. SV's Used: 3, 8, 13, 10, 19, 23, 25, 27, 28 .
End SV's Used: 3, 11, 13, 17, 19, 25, 26, 27, 28, 29 .

Ant. Height (M) using ~~fixed height pole~~ and measured to Bottom of Antenna: 2.10

ANT. S.N. 6490 (~~C4~~) C2

ANT. TYPE: 5800
Weather Conditions: Clear P. Cloudy Overcast Hot Warm Cool Calm Breezy 83 °F +/- .



Type of Monument: _____ Stamping: _____.
Top of marker: ( ) flush M ( ) above: ( ) below: Nat. Ground Detail Notes: _____.
_____.
_____.
Rubbing Performed ( )Yes ( )No _____.

BM14

1920 WEST PEORIA AVENUE PHOENIX, ARIZONA 85029
TEL. (602) 906-0020 FAX (602) 906-0019

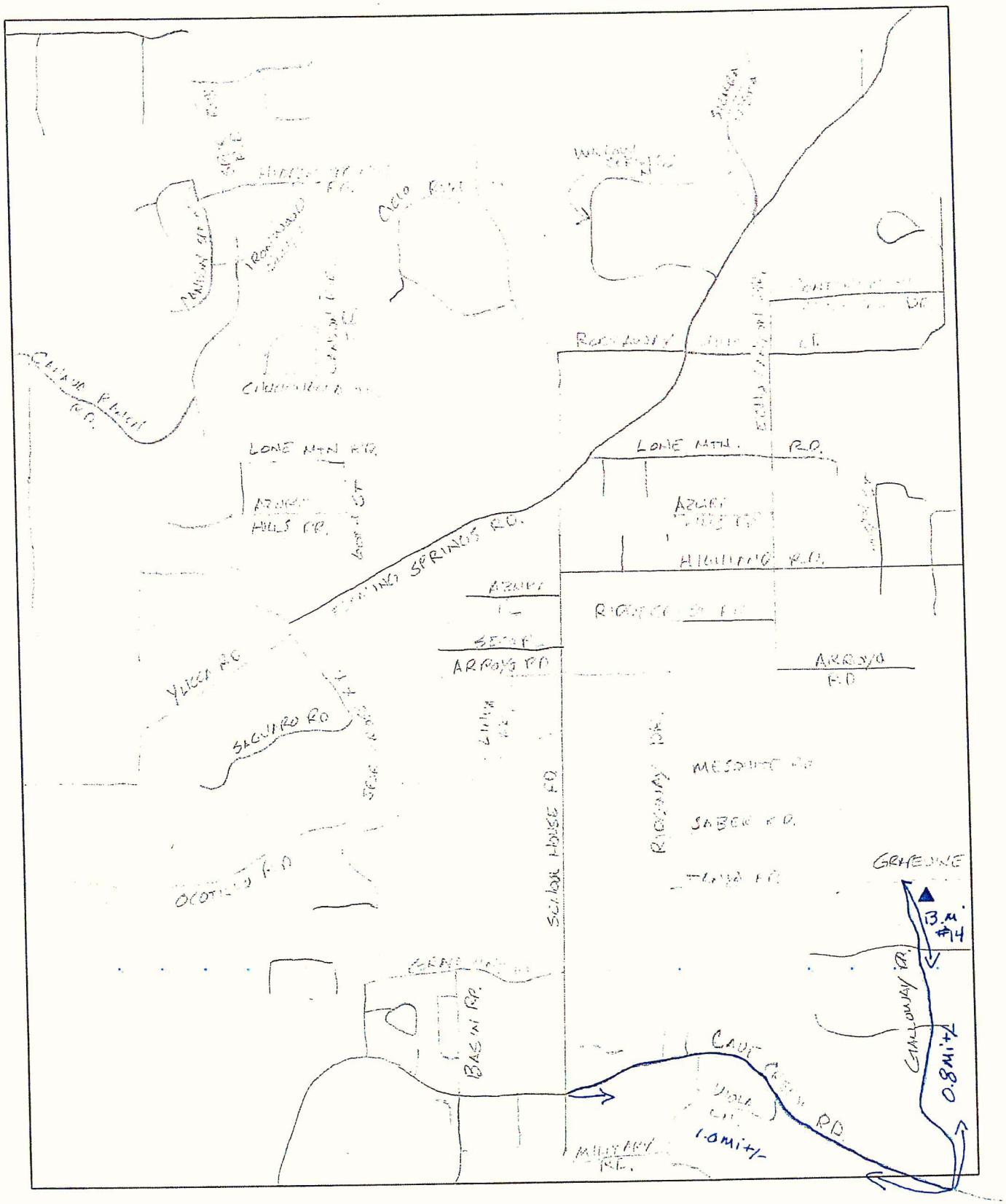
COMPUTATION SHEET

JOB# 1696.1 SHEET# ____ OF ____

SUBJECT: BENCHMARK #14

BY: J.G. DATE: 10-16-07

CHECKED BY: _____ DATE: _____



A TEAM 3D MONUMENT CONSTRUCTION FORM

PROJECT NAME: 1686.1 MONUMENT: B.M. #14 DATE: 9-26-07

SURVEY CREW: A-TEAM CAMERA: _____

LATITUDE: _____ LONGITUDE: _____ MONUMENT TYPE: 3D NGS

PRE-CONSTRUCTION PICTURE RECORD

LOCATION: _____ VICINITY NORTH: BM14-2 VICINITY EAST: BM14-3 VICINITY SOUTH: BM14-4 VICINITY WEST: BM14-5

NOTES: _____

CONSTRUCTION PICTURE RECORD

HOLE: BM14-1 HOLE W/ ROD BM14-1 HOLE W/ ROD AND SLEEVE: BM14-6 HOLE W/ ROD /SLEEVE AND CAP: BM14-7

MONUMENT COVER INSTALLED: BM14-8 MONUMENT COVER FINISHED : BM14-9

NOTES: _____

FINISHED MONUMENT PICTURE RECORD

LOCATION: _____ VICINITY NORTH: BM14-10 VICINITY EAST: BM14-11 VICINITY SOUTH: BM14-12 VICINITY WEST: BM14-13

NOTES: _____

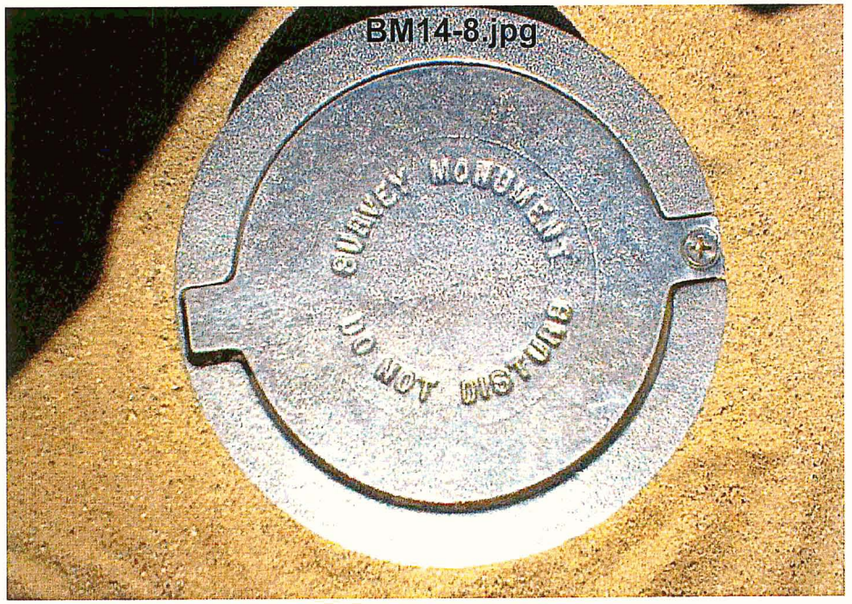
CONSTRUCTION MEASUREMENT RECORD

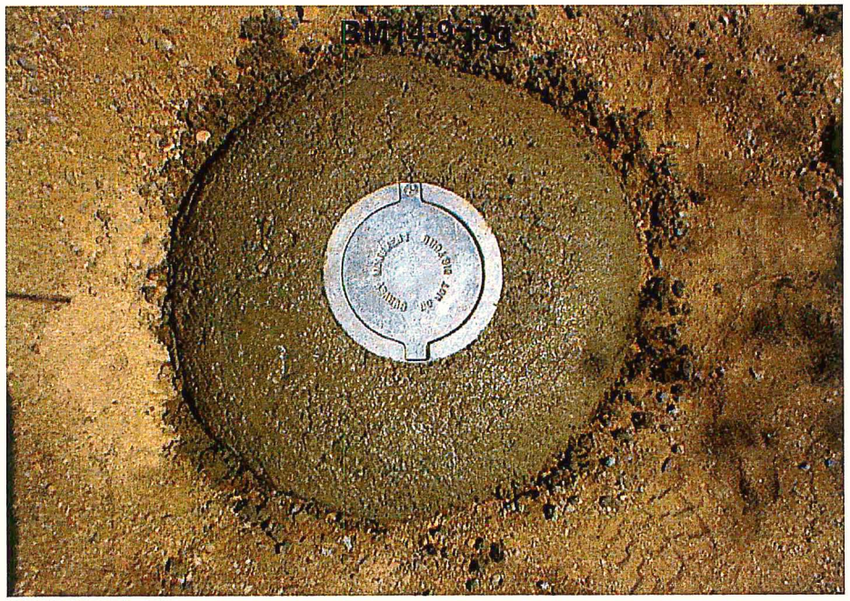
DIAMETER OF HOLE: 10" DEPTH OF HOLE: 36" ROD FOOTAGE: 12'6" ROD TYPE AND SECTION LENGTH: 9'6"

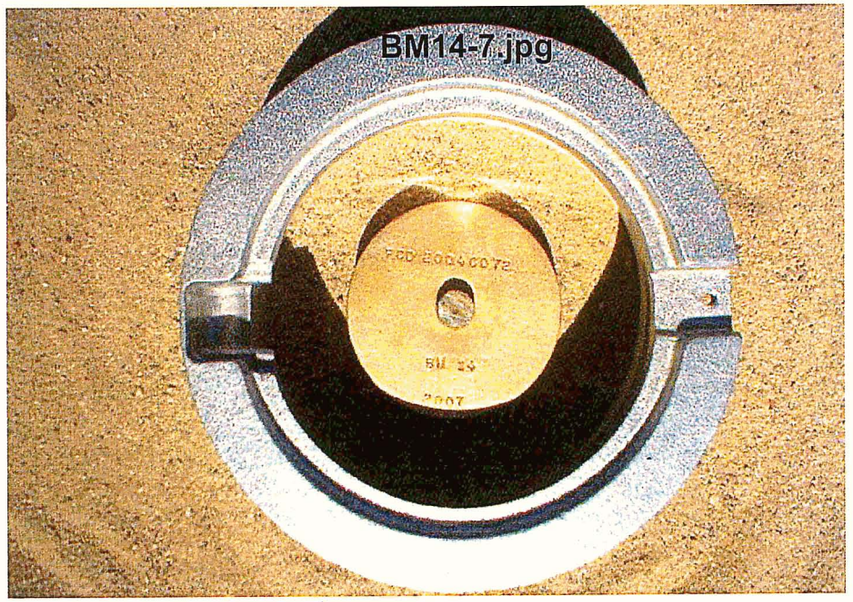
LENGTH OF SLEEVE: _____ LENGTH TOP OF ROD TO TOP OF SLEEVE : _____ LENGTH TOP OF RIM TO TOP OF ROD : _____

NOTES: _____

BM14-1.jpg

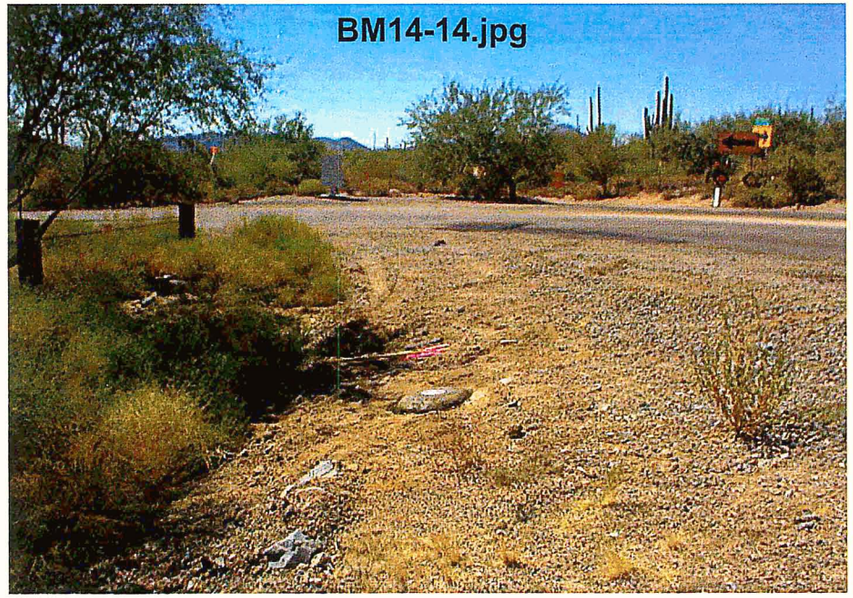

BM14-8.jpg
SURVEY MONUMENT
DO NOT DISTURB


BM14-9.jpg


BM14-7.jpg

BM14-11.jpg

BM14-13.jpg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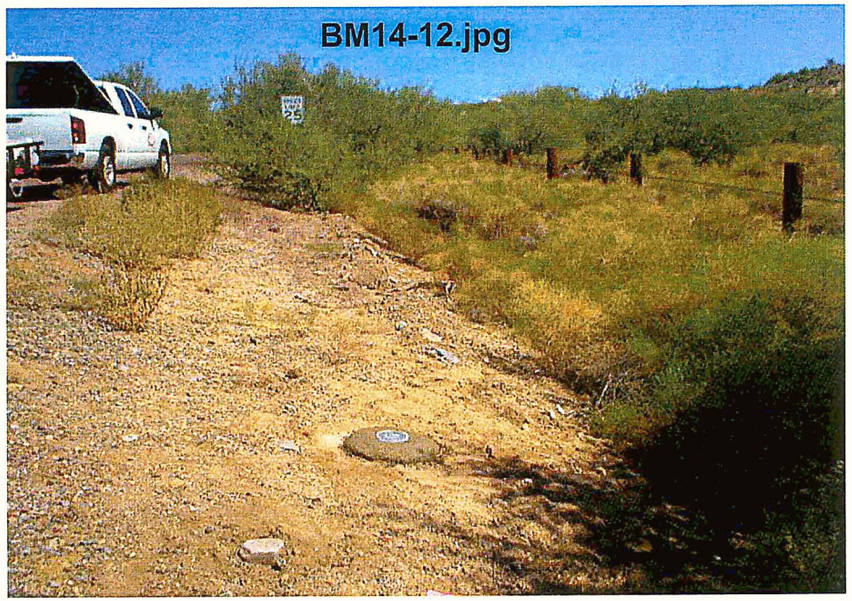

BM14-12.jpg

A TEAM Professional Associates, INC.
GPS STATION LOG

1920 W. Peoria Avenue, Phoenix, Arizona - 85029 - (602) 906-0020 - (602) 906-0019 Fax

Station Name: BM 14
Receiver No: C4
Day of Year: 277 2007
Session No: Z

Project Name: CAVE CREEK DMP
Job number: 1686-1
Local Date: mo. 10 day 04 year 07
Operator: JASON GRAHAM

C/A CODE POSITION

Beg:
Lat: : 33 ° 50 ' 20.90 " N
Long: 111 ° 55 ' 41.80 " W
Ellip. Height: 668.2 M PDOP: 1.8

Ending:
Lat: 33 ° 50 ' 20.86 " N
Long: 111 ° 55 ' 44.84 " W
Ellip. Height: 668.5 M PDOP: 1.5

DC# C4 & FILENAME
Receiver Model: 5800
Antenna Type: 5800 INTERNAL
Fixed Height Pole No: C4

Local-UTC Time Offset: MST= -7:00
Type of Survey: Fast Static (X)
Actual= Start 10 : 04 Stop: 12 : 10 UTC
Beg. SV's Used: 3, 8, 10, 13, 19, 23, 25, 27, 28
End SV's Used: 8, 11, 13, 17, 19, 25, 26, 27

Ant. Height (M) using fixed height pole and measured to Bottom of Antenna: 2.106m

ANT. S.N. 04580

ANT. TYPE:
Weather Conditions: Clear P. Cloudy Overcast Hot Warm Cool Calm Breezy °F +/-

Type of Monument: Stamping:
Top of marker: ( ) flush M ( ) above: ( ) below: Nat. Ground Detail Notes:

Rubbing Performed ( )Yes ( )No

SECTION 3

STRUCTURE SURVEYS

ORGANIZED AS FOLLOWS

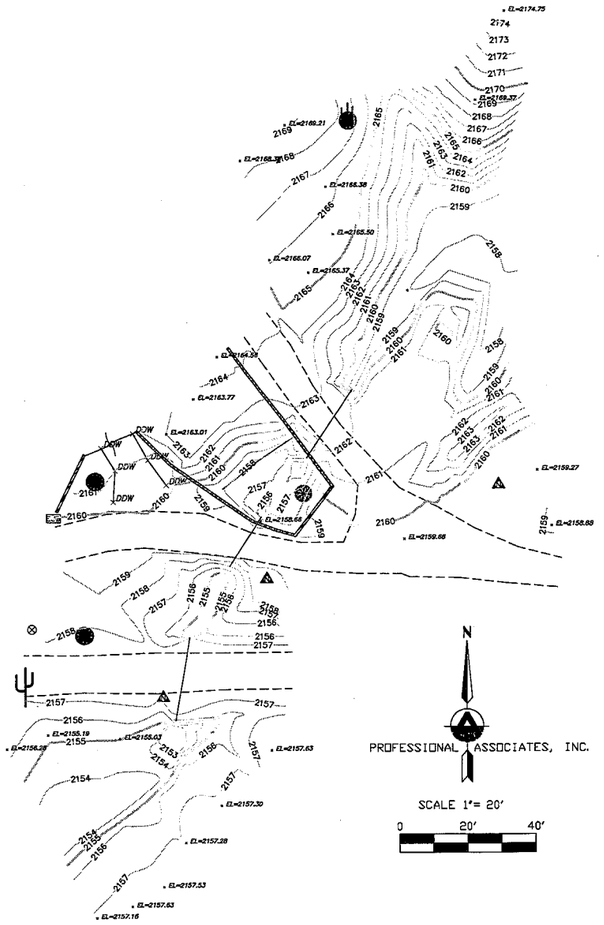
- AUTOCAD PLOTS
- FIELD PHOTOS AND SKETCHES

STRUCTURE 1

TOPOGRAPHIC SURVEY - CAVE CREEK DMP
OF
STRUCTURE 1
GALLOWAY WASH

Number	Northing	Easting	Elevation	Description
40000	1032828.09	691477.22	2160.11	EJB
40001	1032829.79	691478.36	2160.29	8CMUL
40002	1032835.01	691482.58	2160.95	8CMUL
40003	1032846.75	691486.46	2161.88	8CMUL
40004	1032846.72	691486.55	2161.82	GATE 90 8.7
40005	1032853.52	691501.18	2161.70	GATE 270 8.7
40006	1032853.66	691501.14	2161.72	8CMUL
40007	1032848.05	691506.85	2161.05	8CMUL
40008	1032843.75	691511.18	2160.49	8CMUL
40009	1032848.86	691491.07	2161.71	DDW
40010	1032853.15	691500.46	2161.74	DDW1
40011	1032845.26	691504.88	2160.90	DDW1
40012	1032837.81	691510.26	2160.13	DDW1
40013	1032842.19	691495.13	2160.99	DDW
40014	1032832.82	691494.60	2160.19	DDW
40015	1032838.89	691489.37	2161.46	PVT
40016	1032825.57	691477.70	2159.45	EDR
40017	1032815.25	691480.66	2159.16	EDR1
40018	1032818.35	691493.25	2159.57	EDR1
40019	1032829.28	691492.73	2159.95	EDR
40020	1032830.26	691504.48	2160.04	EDR
40021	1032819.22	691503.79	2159.55	EDR1
40022	1032817.76	691518.38	2159.20	EDR1
40023	1032829.42	691521.42	2159.25	EDR
40024	1032823.72	691535.19	2159.33	EDR
40025	1032815.96	691533.31	2159.34	EDR1
40026	1032830.83	691529.64	2159.26	8CMUL
40027	1032826.84	691535.46	2158.92	8CMUL
40028	1032824.30	691542.07	2159.05	8CMUL
40029	1032822.48	691548.45	2159.30	8CMUL
40030	1032820.75	691550.02	2159.47	EDR
40031	1032812.43	691550.28	2159.27	EDR1
40032	1032811.53	691565.84	2159.37	EDR1
40033	1032811.43	691579.76	2159.24	EDR1
40034	1032820.79	691562.60	2159.73	EDR
40035	1032828.94	691566.08	2160.18	EDR
40036	1032837.62	691566.99	2160.96	EDR
40037	1032848.21	691558.73	2162.07	EDR
40038	1032837.43	691559.83	2160.55	8CMUL
40039	1032846.94	691552.82	2161.77	8CMUL
40040	1032857.41	691545.23	2162.25	8CMUL
40041	1032860.91	691548.10	2163.01	EDR
40042	1032873.22	691539.39	2163.81	EDR
40043	1032870.28	691535.09	2163.56	8CMUL
40044	1032878.70	691528.89	2164.82	8CMUL
40045	1032881.73	691533.59	2164.24	EDR
40046	1032888.96	691540.22	2164.42	EDR
40047	1032890.27	691541.72	2164.17	GB
40048	1032891.33	691544.49	2165.12	GB1
40049	1032882.41	691549.80	2164.22	GB1
40050	1032880.70	691549.32	2163.61	GB
40051	1032879.43	691547.26	2163.69	EDR
40052	1032893.97	691560.52	2164.33	GB1
40053	1032904.99	691566.64	2164.66	GB1
40054	1032915.25	691567.87	2164.92	GB1
40055	1032927.43	691567.83	2165.18	GB1
40056	1032935.54	691570.50	2165.09	GB1
40057	1032926.45	691557.83	2166.38	GS
40058	1032912.34	691559.92	2165.50	GS
40059	1032900.93	691552.57	2165.37	GS
40060	1032904.68	691541.09	2166.07	GS
40061	1032868.98	691555.56	2163.07	GB
40062	1032867.58	691553.59	2163.25	EDR
40063	1032855.55	691561.95	2162.31	EDR
40064	1032844.31	691572.35	2161.30	EDR
40065	1032860.35	691566.69	2161.80	GB
40066	1032866.30	691571.15	2161.77	GB
40067	1032872.09	691576.84	2161.56	GB
40068	1032878.17	691582.28	2161.40	GB
40069	1032888.57	691586.24	2161.24	GB
40070	1032892.72	691589.05	2160.75	GB
40071	1032891.16	691593.95	2160.86	GB
40072	1032887.48	691598.51	2161.68	GB
40073	1032876.55	691595.92	2160.86	GB
40074	1032862.81	691592.37	2161.13	GB
40075	1032858.97	691596.20	2160.96	GB
40076	1032853.39	691589.21	2161.12	GB
40077	1032874.72	691583.26	2161.22	GB1
40078	1032873.16	691584.00	2161.36	GB2
40079	1032881.24	691588.59	2160.40	GB2
40080	1032882.01	691587.37	2161.15	GB1
40081	1032884.48	691590.81	2159.65	GB2
40082	1032888.31	691592.65	2160.38	GB2
40083	1032890.07	691591.78	2161.18	GB1
40084	1032885.76	691596.39	2160.43	GB2
40085	1032881.98	691594.23	2159.76	GB2
40086	1032874.65	691590.59	2160.96	GB2
40087	1032869.31	691588.05	2161.32	GB2
40088	1032836.98	691579.16	2160.45	GB
40089	1032836.93	691579.22	2160.49	EDR
40090	1032821.78	691580.58	2159.66	GS
40091	1032809.89	691539.95	2158.73	S60N
40092	1032837.85	691608.43	2159.39	S60N
40093	1032774.69	691509.17	2157.81	S60N
40094	1032839.09	691557.09	2159.32	GB
40095	1032825.20	691547.82	2158.26	GB
40096	1032845.90	691551.79	2157.21	INV 24IN CMP
40097	1032845.92	691551.84	2155.90	GB
40098	1032843.37	691549.89	2154.91	GB
40099	1032840.18	691547.37	2155.86	GB
40100	1032835.43	691543.13	2156.34	GB
40101	1032832.29	691539.68	2155.72	GB
40102	1032828.41	691538.38	2155.19	INV 24IN CMP
40103	1032827.89	691538.21	2157.19	TP
40104	1032827.01	691538.16	2158.66	GS
40105	1032830.84	691536.63	2156.38	GB
40106	1032841.23	691540.83	2157.39	GB
40107	1032846.13	691545.10	2157.31	GB
40108	1032848.72	691549.91	2159.74	GB
40109	1032851.92	691547.67	2159.03	FCE HW
40110	1032844.64	691536.96	2157.77	FCE
40111	1032836.68	691527.01	2158.09	FCE
40112	1032835.31	691550.80	2157.51	MQT 2FT
40113	1032813.70	691528.92	2157.04	TP
40114	1032811.96	691535.84	2158.75	GB
40115	1032803.76	691535.81	2158.09	GB
40116	1032801.62	691543.32	2158.79	GB
40117	1032794.58	691543.70	2155.29	GB
40118	1032795.48	691523.52	2155.18	GB
40119	1032810.76	691526.83	2154.39	GB
40120	1032798.91	691520.16	2154.88	GB
40121	1032793.14	691516.92	2154.33	GB
40122	1032792.45	691517.07	2154.29	INV 30IN RCP
40123	1032793.24	691511.09	2155.81	GB
40124	1032801.15	691516.27	2156.13	GB
40125	1032810.47	691517.77	2156.18	GB
40126	1032865.55	691564.93	2160.47	TP
40127	1032866.13	691565.33	2158.49	INV 24IN CMP

Number	Northing	Easting	Elevation	Description
40128	1032866.74	691565.56	2158.54	GB
40129	1032877.73	691570.97	2158.64	GB
40130	1032877.74	691570.98	2158.64	GB1
40131	1032884.23	691579.25	2158.12	GB
40132	1032891.80	691583.42	2158.44	GB1
40133	1032902.76	691594.70	2157.62	GB1
40134	1032907.84	691592.77	2157.98	GB
40135	1032912.60	691602.92	2158.03	GB
40136	1032905.41	691602.23	2157.78	GB1
40137	1032898.10	691606.57	2157.82	GB1
40138	1032886.51	691605.63	2157.68	GB1
40139	1032876.80	691602.97	2158.05	GB1
40140	1032869.62	691599.30	2158.21	GB1
40141	1032865.87	691599.68	2158.65	GB1
40142	1032875.14	691606.06	2158.16	GB1
40143	1032885.83	691609.77	2157.74	GB1
40144	1032897.41	691611.70	2157.76	GB1
40145	1032906.45	691617.75	2158.31	GB1
40146	1032916.94	691612.48	2158.30	GB
40147	1032927.77	691607.72	2159.35	GB
40148	1032923.33	691601.08	2159.23	GB
40149	1032926.48	691588.62	2159.57	GB
40150	1032927.58	691588.00	2159.54	GB1
40151	1032917.55	691583.03	2159.52	GB
40152	1032907.55	691584.46	2159.02	GB
40153	1032941.25	691584.74	2161.09	GB1
40154	1032978.64	691610.77	2174.75	GS
40155	1032956.80	691617.62	2169.93	GB
40156	1032947.56	691610.21	2168.11	GB
40157	1032935.71	691601.23	2164.81	GB
40158	1032937.35	691596.73	2164.92	GB
40159	1032952.19	691602.17	2169.37	GS
40160	1032956.43	691592.02	2168.49	GB
40161	1032954.97	691577.39	2164.28	GB1
40162	1032951.73	691558.90	2168.49	GB
40163	1032946.08	691564.56	2167.49	PVT DNC
40164	1032943.58	691564.56	2167.49	S1
40165	1032944.78	691545.92	2169.21	GS
40166	1032934.21	691532.61	2168.38	GS
40167	1032875.85	691525.39	2164.56	GS
40168	1032866.78	691535.52	2163.46	GB
40169	1032856.68	691527.12	2163.16	GB
40170	1032863.33	691518.44	2163.77	GS
40171	1032853.03	691510.39	2163.01	GS
40172	1032845.97	691517.46	2163.01	GB
40173	1032795.02	691470.42	2157.97	PP
40174	1032787.27	691467.99	2157.33	EDR
40175	1032775.23	691468.41	2157.13	EDR1
40176	1032772.23	691468.41	2156.83	S2
40177	1032776.17	691485.69	2157.43	EDR1
40178	1032787.24	691487.10	2157.56	EDR
40179	1032793.15	691486.05	2157.76	PVT
40180	1032787.99	691506.49	2157.75	EDR
40181	1032775.91	691507.72	2157.79	EDR1
40182	1032777.04	691527.15	2157.84	EDR1
40183	1032787.97	691526.74	2157.98	EDR
40184	1032792.01	691517.22	2157.20	TP
40185	1032790.72	691474.51	2157.97	GB
40186	1032806.07	691490.39	2159.03	GB
40187	1032813.59	691489.65	2159.64	GB
40188	1032788.15	691547.27	2157.86	EDR
40189	1032777.30	691547.08	2157.98	EDR1
40190	1032771.48	691545.33	2156.88	GB
40191	1032769.18	691528.62	2155.71	GB
40192	1032764.38	691525.53	2155.42	GB1
40193	1032759.18	691528.86	2155.82	GB1
40194	1032753.53	691536.09	2156.31	GB1
40195	1032754.43	691538.57	2157.53	GB1
40196	1032762.09	691535.28	2157.17	GB1
40197	1032767.04	691537.15	2157.09	GB1
40198	1032767.65	691544.68	2157.13	GB1
40199	1032758.97	691541.18	2157.63	GS
40200	1032750.16	691533.82	2157.43	GB1
40201	1032758.07	691527.05	2156.38	GB1
40202	1032763.47	691524.01	2155.66	GB1
40203	1032756.81	691515.99	2155.80	GB1
40204	1032742.52	691526.31	2157.30	GS
40205	1032731.56	691515.76	2157.28	GS
40206	1032747.51	691512.97	2156.79	GB1
40207	1032742.17	691502.46	2155.13	GB1
40208	1032735.99	691497.33	2156.08	GB1
40209	1032718.46	691509.28	2157.53	GS
40210	1032712.65	691499.95	2157.63	GS
40211	1032709.30	691489.51	2157.16	GS
40212	1032722.87	691481.58	2155.80	GB1
40213	1032729.63	691478.94	2153.38	GB1
40214	1032736.52	691476.22	2153.13	GB2
40215	1032744.18	691487.57	2153.41	GB2
40216	1032739.56	691492.40	2153.18	GB1
40217	1032746.98	691503.20	2153.54	GB1
40218	1032754.78	691498.01	2154.17	GB2
40219	1032758.89	691503.77	2154.50	GB2
40220	1032752.84	691510.59	2154.25	GB1
40221	1032756.63	691512.82	2153.15	GB1
40222	1032760.02	691514.33	2152.50	GB1
40223	1032765.51	691514.95	2152.79	GB1
40224	1032767.20	691512.73	2153.86	GB1
40225	1032768.01	691512.92	2154.07	INV 30IN RCP
40226	1032766.58	691510.93	2152.89	GB1
40227	1032766.31	691509.40	2154.62	GB2
40228	1032763.92	691509.59	2152.32	GB1
40229	1032759.34	691506.05	2153.64	GB1
40230	1032762.46	691496.37	2155.03	GS
40231	1032763.60	691475.25	2155.19	GS
40232	1032759.37	691462.59	2156.28	GS
40233	1032768.66	691513.18	2156.82	TP
40234	1032831.66	691589.76	2159.85	EDR
40235	1032810.50	691581.98	2159.23	EDR1
40236	1032810.24	691596.50	2159.45	EDR1
40237	1032825.11	691601.02	2159.54	EDR
40238	1032819.39	691613.90	2159.41	EDR
40239	1032808.64	691610.83	2159.38	EDR1
40240	1032807.40	691625.53	2159.39	EDR1
40241	1032816.05	691626.73	2159.39	EDR
40242	1032825.76	691623.89	2158.88	GS
40243	1032842.27	691619.79	2159.27	GS
40244	1032854.15	691620.16	2159.11	GB
40245	1032860.69	691615.96	2162.09	GB1
40246	1032865.60	691613.03	2161.81	GB2
40247	1032860.61	691609.54	2163.12	GB2
40248	1032852.86	691601.88	2163.61	GB2
40249	1032848.41	691606.32	2159.89	GB
40250	1032837.39	691598.68	2159.54	GB
40251	1032833.35	691592.19	2159.68	GB
40252	1032846.41	691595.48	2163.55	GB2
40253	1032844.27	691591.94	2162.57	GB2
40254	1032842.16	691587.73	2162.08	GB2
40255	1032813.70	691528.92	2155.04	INV 24IN CMP



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PROFESSIONAL ASSOCIATES, INC.

SCALE 1"= 20'

0 20' 40'

SYMBOL LEGEND	
EJB	ELECTRIC JUNCION BOX
	GATE
INV=	INVERT ELEVATION
	LIGHT
	MESQUITE TREE
P El=	PAVEMENT ELEVATION
	POWER POLE
	PALO VERDE TREE
	SET 60d NAIL
	SAGUARO CACTUS
	SPOT HEIGHT
	SIGN

CULVERTS LOCATED WITHIN THE PARCEL CORNERS OF 211-07-004-E (38860 N. SCHOOL HOUSE RD.), 211-07-014-S (ADDRESS?), AND 211-07-014-V (39042 N. SCHOOL HOUSE RD.) (24" CP & 24" CMP'S)

PLEASE NOTE THAT ALL COORDINATE VALUES SHOWN HEREON ARE NAD83(92) GRID, AZ SPCS, ZONE 0202 (CENTRAL, INTERNATIONAL FEET. ELEVATIONS ARE NAVD88.

STATEMENT

I STONE E. WAHL, A PROFESSIONAL LAND SURVEYOR, REGISTERED IN THE STATE OF ARIZONA, STATE THAT THIS SURVEY & PLAT WAS COMPLETED UNDER MY DIRECT SUPERVISION AND THAT ALL MONUMENTS FOUND OR SET ARE CORRECTLY SHOWN.

REGISTERED LAND SURVEYOR CERTIFICATE NO. 28237 STONE E. WAHL ARIZONA, U.S.A.

Prepared for: HDR/MCFCD
Owner: UNKNOWN
Address: UNKNOWN
N/A
Phone: N/A

1920 W. Peoria Ave.
Phoenix, Arizona 85029
Phone:(602) 906-0020
Fax:(602) 906-0019

A TEAM PROFESSIONAL ASSOCIATES, INC.

TOPOGRAPHIC SURVEY
OF
STRUCTURE 1
GALLOWAY WASH

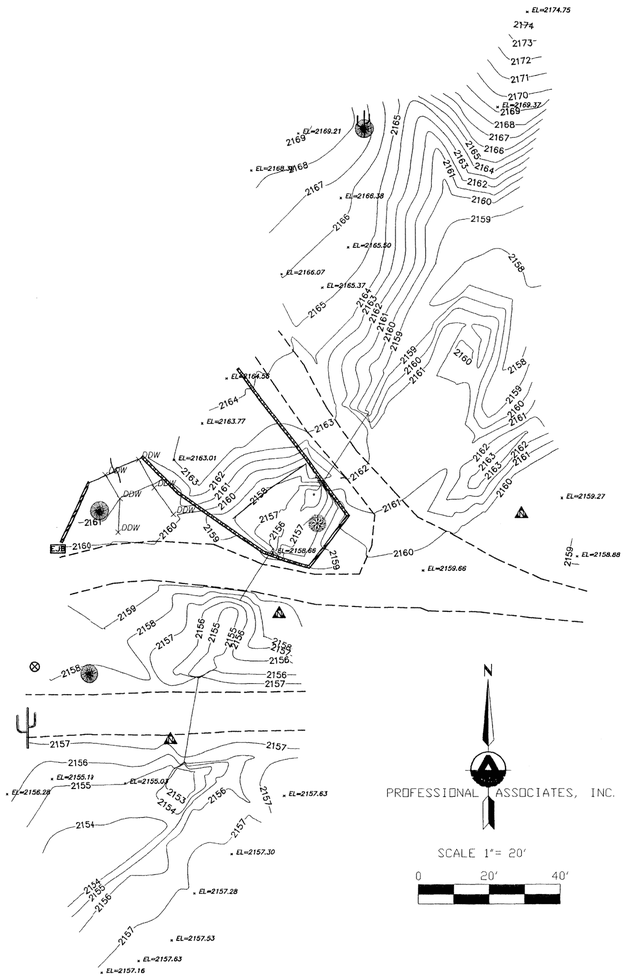
Drn: J.MALEK
Ck'd: S.E.WAHL
Scale: 1"= 20'
Date: 09/19/07 Job No: 1686.1
Sheet 1 of 1

X:\projects\1686-1\dwg\1686-1-DRAINSTR.dwg

TOPOGRAPHIC SURVEY - CAVE CREEK DMP
OF
STRUCTURE 1
GALLOWAY WASH

Number	Northing	Easting	Elevation	Description
40000	1032828.09	691477.22	2160.11	EJB
40001	1032829.79	691478.36	2160.29	8CMUL
40002	1032835.01	691482.58	2160.95	8CMUL
40003	1032846.75	691486.46	2161.88	8CMUL
40004	1032846.72	691486.55	2161.82	GATE 90 8.7
40005	1032853.52	691501.18	2161.70	GATE 270 8.7
40006	1032853.66	691501.14	2161.72	8CMUL
40007	1032848.05	691506.85	2161.05	8CMUL
40008	1032843.75	691511.18	2160.49	8CMUL
40009	1032848.86	691491.07	2161.71	DDW
40010	1032853.15	691500.46	2161.74	DDW1
40011	1032845.26	691504.88	2160.90	DDW1
40012	1032837.81	691510.26	2160.13	DDW1
40013	1032842.19	691495.13	2160.99	DDW
40014	1032832.82	691494.60	2160.19	DDW
40015	1032838.89	691489.37	2161.46	PVT
40016	1032825.57	691477.70	2159.45	EDR
40017	1032815.25	691480.66	2159.16	EDR1
40018	1032818.35	691493.25	2159.57	EDR1
40019	1032829.28	691492.73	2159.95	EDR
40020	1032830.26	691504.48	2160.04	EDR
40021	1032819.22	691503.79	2159.55	EDR1
40022	1032817.76	691518.38	2159.20	EDR1
40023	1032829.42	691521.42	2159.25	EDR
40024	1032823.72	691535.19	2159.33	EDR
40025	1032815.96	691533.31	2159.34	EDR1
40026	1032830.83	691529.64	2159.26	8CMUL
40027	1032826.84	691535.46	2158.92	8CMUL
40028	1032824.30	691542.07	2159.05	8CMUL
40029	1032822.48	691548.45	2159.30	8CMUL
40030	1032820.75	691550.02	2159.47	EDR
40031	1032812.43	691550.28	2159.27	EDR1
40032	1032811.53	691565.84	2159.37	EDR1
40033	1032811.43	691579.76	2159.24	EDR1
40034	1032820.79	691562.60	2159.73	EDR
40035	1032828.94	691566.08	2160.18	EDR
40036	1032837.62	691566.99	2160.96	EDR
40037	1032848.21	691558.73	2162.07	EDR
40038	1032837.43	691559.83	2160.55	8CMUL
40039	1032846.94	691552.82	2161.77	8CMUL
40040	1032857.41	691545.23	2162.25	8CMUL
40041	1032860.91	691548.10	2163.01	EDR
40042	1032873.22	691539.39	2163.81	EDR
40043	1032870.28	691535.09	2163.56	8CMUL
40044	1032878.70	691528.89	2164.82	8CMUL
40045	1032881.73	691533.59	2164.24	EDR
40046	1032888.96	691540.22	2164.42	EDR
40047	1032890.27	691541.72	2164.17	GB
40048	1032891.33	691544.49	2165.12	GB1
40049	1032882.41	691549.80	2164.22	GB1
40050	1032880.70	691549.32	2163.61	GB
40051	1032879.43	691547.26	2163.69	EDR
40052	1032893.97	691560.52	2164.33	GB1
40053	1032904.99	691566.64	2164.66	GB1
40054	1032915.25	691567.87	2164.92	GB1
40055	1032927.43	691567.83	2165.18	GB1
40056	1032935.54	691570.50	2165.09	GB1
40057	1032926.45	691557.83	2166.38	CS
40058	1032912.34	691559.92	2165.50	CS
40059	1032900.93	691552.57	2165.37	GS
40060	1032904.68	691541.09	2166.07	GS
40061	1032868.98	691555.56	2163.07	GB
40062	1032867.58	691553.59	2163.25	EDR
40063	1032855.55	691561.95	2162.31	EDR
40064	1032844.31	691572.35	2161.30	EDR
40065	1032860.35	691566.69	2161.80	GB
40066	1032866.30	691571.15	2161.77	GB
40067	1032872.09	691576.84	2161.56	GB
40068	1032878.17	691582.28	2161.40	GB
40069	1032888.57	691586.24	2161.24	GB
40070	1032892.72	691589.05	2160.75	GB
40071	1032891.16	691593.95	2160.86	GB
40072	1032887.48	691598.51	2161.68	GB
40073	1032876.55	691595.92	2160.86	GB
40074	1032862.81	691592.37	2161.13	GB
40075	1032858.97	691596.20	2160.96	GB
40076	1032853.39	691589.21	2161.12	GB
40077	1032874.72	691583.26	2161.22	GB1
40078	1032873.16	691584.00	2161.36	GB2
40079	1032881.24	691588.59	2160.40	GB2
40080	1032882.01	691587.37	2161.15	GB1
40081	1032884.48	691590.81	2159.65	GB2
40082	1032888.31	691592.65	2160.38	GB2
40083	1032890.07	691591.78	2161.18	GB1
40084	1032885.76	691596.39	2160.43	GB2
40085	1032881.98	691594.23	2159.76	GB2
40086	1032874.65	691590.59	2160.96	GB2
40087	1032869.31	691588.05	2161.32	GB2
40088	1032836.98	691579.16	2160.45	GB
40089	1032836.93	691579.22	2160.49	EDR
40090	1032821.78	691580.58	2159.66	GS
40091	1032809.89	691539.95	2158.73	S60N
40092	1032837.85	691608.43	2159.39	S60N
40093	1032774.69	691509.17	2157.81	S60N
40094	1032839.09	691557.09	2159.32	GB
40095	1032825.20	691547.82	2158.26	GB
40096	1032845.90	691551.79	2157.21	INV 24IN CMP
40097	1032845.92	691551.84	2155.90	GB
40098	1032843.37	691549.89	2154.91	GB
40099	1032840.18	691547.37	2155.86	GB
40100	1032835.43	691543.13	2156.34	GB
40101	1032832.29	691539.68	2155.72	GB
40102	1032828.41	691538.38	2155.19	INV 24IN CMP
40103	1032827.89	691538.21	2157.19	TP
40104	1032827.01	691538.16	2158.66	GS
40105	1032830.84	691536.63	2156.38	GB
40106	1032841.23	691540.83	2157.39	GB
40107	1032846.13	691545.10	2157.31	GB
40108	1032848.72	691549.91	2159.74	GB
40109	1032851.92	691547.67	2159.03	FCE HW
40110	1032844.64	691536.96	2157.77	FCE
40111	1032836.68	691527.01	2158.09	FCE
40112	1032835.31	691550.80	2157.51	MQT 2FT
40113	1032813.70	691528.92	2157.04	TP
40114	1032811.96	691535.84	2158.75	GB
40115	1032803.76	691535.81	2158.09	GB
40116	1032801.62	691543.32	2158.79	GB
40117	1032794.58	691543.70	2155.29	GB
40118	1032795.48	691523.52	2155.18	GB
40119	1032810.76	691526.83	2154.39	GB
40120	1032798.91	691520.16	2154.88	GB
40121	1032793.14	691516.92	2154.33	GB
40122	1032792.45	691517.07	2154.29	INV 30IN RCP
40123	1032793.24	691511.09	2155.81	GB
40124	1032801.15	691516.27	2156.13	GB
40125	1032810.47	691517.77	2156.18	GB
40126	1032865.55	691564.93	2160.47	TP
40127	1032866.13	691565.33	2158.49	INV 24IN CMP

Number	Northing	Easting	Elevation	Description
40128	1032866.74	691565.56	2158.54	GB
40129	1032877.73	691570.97	2158.64	GB
40130	1032877.74	691570.98	2158.64	GB1
40131	1032894.23	691579.25	2158.12	GB
40132	1032891.80	691583.42	2158.44	GB1
40133	1032902.76	691594.70	2157.62	GB1
40134	1032907.84	691592.77	2157.98	GB
40135	1032912.60	691602.92	2158.03	GB
40136	1032905.41	691602.23	2157.78	GB1
40137	1032898.10	691606.57	2157.82	GB1
40138	1032886.51	691605.63	2157.68	GB1
40139	1032876.80	691602.97	2158.05	GB1
40140	1032869.62	691599.30	2158.21	GB1
40141	1032865.87	691599.68	2158.65	GB1
40142	1032875.14	691606.06	2158.16	GB1
40143	1032885.83	691609.77	2157.74	GB1
40144	1032897.41	691611.70	2157.76	GB1
40145	1032906.45	691617.75	2158.31	GB1
40146	1032916.94	691612.48	2158.30	GB
40147	1032927.77	691607.72	2159.35	GB
40148	1032923.33	691601.08	2159.23	GB
40149	1032926.48	691588.62	2159.57	GB
40150	1032927.58	691588.00	2159.54	GB1
40151	1032917.55	691583.03	2159.52	GB
40152	1032907.55	691584.46	2159.02	GB
40153	1032941.25	691584.74	2161.09	GB1
40154	1032978.64	691610.77	2174.75	GS
40155	1032956.80	691617.62	2169.93	GB
40156	1032947.56	691610.21	2168.11	GB
40157	1032935.71	691601.23	2164.81	GB
40158	1032937.35	691596.73	2164.92	GB
40159	1032952.19	691602.17	2169.37	GS
40160	1032956.43	691592.02	2168.49	GB
40161	1032954.97	691577.39	2164.28	GB1
40162	1032951.73	691558.90	2168.49	GB
40163	1032946.08	691564.56	2167.49	PVT DNC
40164	1032943.58	691564.56	2167.49	S1
40165	1032944.78	691545.92	2169.21	GS
40166	1032934.21	691532.61	2168.38	GS
40167	1032875.85	691525.39	2164.56	GS
40168	1032866.78	691535.52	2163.46	GB
40169	1032856.68	691527.12	2163.16	GB
40170	1032863.33	691518.44	2163.77	GS
40171	1032853.03	691510.39	2163.01	GS
40172	1032845.97	691517.46	2163.01	GB
40173	1032795.02	691470.42	2157.97	PP
40174	1032787.27	691467.99	2157.33	EDR
40175	1032775.23	691468.41	2157.13	EDR1
40176	1032772.23	691468.41	2156.83	S2
40177	1032776.17	691485.69	2157.43	EDR1
40178	1032787.24	691487.10	2157.56	EDR
40179	1032793.15	691486.05	2157.76	PVT
40180	1032787.99	691506.49	2157.75	EDR
40181	1032775.91	691507.72	2157.79	EDR1
40182	1032777.04	691527.15	2157.84	EDR1
40183	1032787.97	691526.74	2157.98	EDR
40184	1032792.01	691517.22	2157.20	TP
40185	1032790.72	691474.51	2157.97	GB
40186	1032806.07	691490.39	2159.03	GB
40187	1032813.59	691489.65	2159.64	GB
40188	1032788.15	691547.27	2157.86	EDR
40189	1032777.30	691547.08	2157.98	EDR1
40190	1032771.48	691545.33	2156.88	GB
40191	1032769.18	691528.62	2155.71	GB
40192	1032764.38	691525.53	2155.42	GB1
40193	1032759.18	691528.86	2155.82	GB1
40194	1032753.53	691536.09	2156.31	GB1
40195	1032754.43	691538.57	2157.53	GB1
40196	1032762.09	691535.28	2157.17	GB1
40197	1032767.04	691537.15	2157.09	GB1
40198	1032767.65	691544.68	2157.13	GB1
40199	1032758.97	691541.18	2157.63	GS
40200	1032750.16	691533.82	2157.43	GB1
40201	1032758.07	691527.05	2156.38	GB1
40202	1032763.47	691524.01	2155.66	GB1
40203	1032756.81	691515.98	2155.80	GB1
40204	1032742.52	691526.31	2157.30	GS
40205	1032731.56	691515.76	2157.28	GS
40206	1032747.51	691512.97	2156.79	GB1
40207	1032742.17	691502.46	2155.13	GB1
40208	1032735.99	691497.33	2156.08	GB1
40209	1032718.46	691509.28	2157.53	GS
40210	1032712.65	691499.95	2157.63	GS
40211	1032709.30	691489.51	2157.16	GS
40212	1032722.87	691481.58	2155.80	GB1
40213	1032729.63	691478.94	2153.38	GB1
40214	1032736.52	691476.22	2153.13	GB2
40215	1032744.18	691487.57	2153.41	GB2
40216	1032739.56	691492.40	2153.18	GB1
40217	1032746.98	691503.20	2153.54	GB1
40218	1032754.78	691498.01	2154.17	GB2
40219	1032758.89	691503.77	2154.50	GB2
40220	1032752.84	691510.59	2154.25	GB1
40221	1032756.63	691512.82	2153.15	GB1
40222	1032760.02	691514.33	2152.50	GB1
40223	1032765.51	691514.95	2152.79	GB1
40224	1032767.20	691512.73	2153.86	GB1
40225	1032768.01	691512.92	2154.07	INV 30IN RCP
40226	1032766.58	691510.93	2152.89	GB1
40227	1032766.31	691509.40	2154.62	GB2
40228	1032763.92	691509.59	2152.32	GB1
40229	1032759.34	691506.05	2153.64	GB1
40230	1032762.46	691496.37	2155.03	GS
40231	1032763.60	691475.25	2155.19	GS
40232	1032759.37	691462.59	2156.28	GS
40233	1032768.66	691513.18	2156.82	TP
40234	1032831.66	691589.76	2159.85	EDR
40235	1032810.50	691581.98	2159.23	EDR1
40236	1032810.24	691596.50	2159.45	EDR1
40237	1032825.11	691601.02	2159.54	EDR
40238	1032819.39	691613.90	2159.41	EDR
40239	1032808.64	691610.83	2159.38	EDR1
40240	1032807.40	691625.53	2159.39	EDR1
40241	1032816.05	691626.73	2159.39	EDR
40242	1032825.76	691623.89	2158.88	GS
40243	1032842.27	691619.79	2159.27	GS
40244	1032854.15	691620.16	2159.11	GB
40245	1032860.69	691615.96	2162.09	GB1
40246	1032865.60	691613.03	2161.81	GB2
40247	1032860.61	691609.54	2163.12	GB2
40248	1032852.86	691601.88	2163.61	GB2
40249	1032848.41	691606.32	2159.89	GB
40250	1032837.39	691598.68	2159.54	GB
40251	1032833.35	691592.19	2159.68	GB
40252	1032846.41	691595.48	2163.55	GB2
40253	1032844.27	691591.94	2162.57	GB2
40254	1032842.16	691587.73	2162.08	GB2
40255	1032813.70	691528.92	2155.04	INV 24IN CMP



SYMBOL LEGEND

EJB	ELECTRIC JUNCION BOX
	GATE
INV=	INVERT ELEVATION
	LIGHT
	MESQUITE TREE
P El=	PAVEMENT ELEVATION
	POWER POLE
	PALO VERDE TREE
	SET 60d NAIL
	SAGUARO CACTUS
EL=	SPOT HEIGHT
	SIGN

CULVERTS LOCATED WITHIN THE PARCEL CORNERS OF 211-07-004-E (38860 N. SCHOOL HOUSE RD.), 211-07-014-S (ADDRESS?), AND 211-07-014-V (39042 N. SCHOOL HOUSE RD.) (24" CP & 24" CMP'S)

PLEASE NOTE THAT ALL COORDINATE VALUES SHOWN HEREON ARE NAD83(92) GRID, AZ SPCS, ZONE 0202 (CENTRAL, INTERNATIONAL FEET. ELEVATIONS ARE NAVD88.

STATEMENT

I STONE E. WAHL, A PROFESSIONAL LAND SURVEYOR, REGISTERED IN THE STATE OF ARIZONA, STATE THAT THIS SURVEY & PLAT WAS COMPLETED UNDER MY DIRECT SUPERVISION AND THAT ALL MONUMENTS FOUND OR SET ARE CORRECTLY SHOWN.

REGISTERED LAND SURVEYOR CERTIFICATE NO. 28237 STONE E. WAHL ARIZONA U.S.A.

Prepared for: HDR/MCFCD
Owner: UNKNOWN
Address: UNKNOWN
N/A
Phone: N/A

1920 W. Peoria Ave.
Phoenix, Arizona 85029
Phone:(602) 906-0020
Fax:(602) 906-0019
TEAM PROFESSIONAL ASSOCIATES, INC.

TOPOGRAPHIC SURVEY
OF
STRUCTURE 1
GALLOWAY WASH

Drn: J.MALEK
Ck'd: S.E.WAHL
Scale: 1"= 20'
Date: 09/19/07 Job No: 1686.1
Sheet 1 of 1

X:\projects\1686-1\dwg\1686-1-DRAINSTR.dwg

STRUCTURE 1

NORTH-STRUCTURE LOOKING SOUTH

NORTH-STRUCTURE LOOKING NORTH

STRUCTURE 1

MID-STRUCTURE LOOKING SOUTH

MID-STRUCTURE LOOKING NORTH

STRUCTURE 1

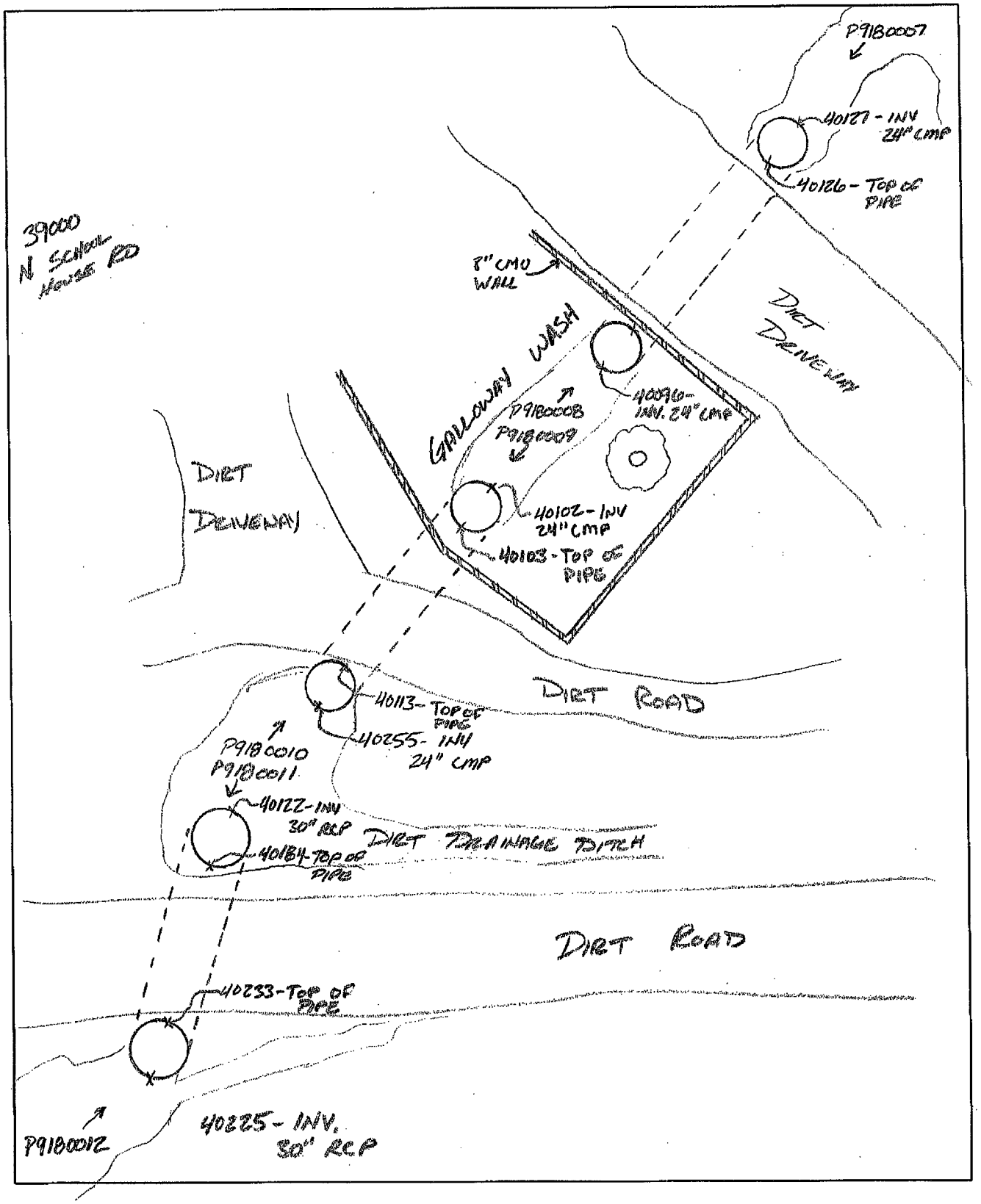
SOUTH-STRUCTURE LOOKING SOUTH

SOUTH-STRUCTURE LOOKING NORTH

1920 WEST PEORIA AVENUE PHOENIX, ARIZONA 85029
TEL. (602) 906-0020 FAX (602) 906-0019

COMPUTATION SHEET

JOB# 11686.1 SHEET# ____ OF ____
SUBJECT: STRUCTURE 1 39000 SCHOOL HOUSE RD
BY: S. MALEK DATE: 9/19/07
CHECKED BY: _____ DATE: _____



STRUCTURE 2

1920 WEST PEORIA AVENUE PHOENIX, ARIZONA 85029
TEL. (602) 906-0020 FAX (602) 906-0019

COMPUTATION SHEET

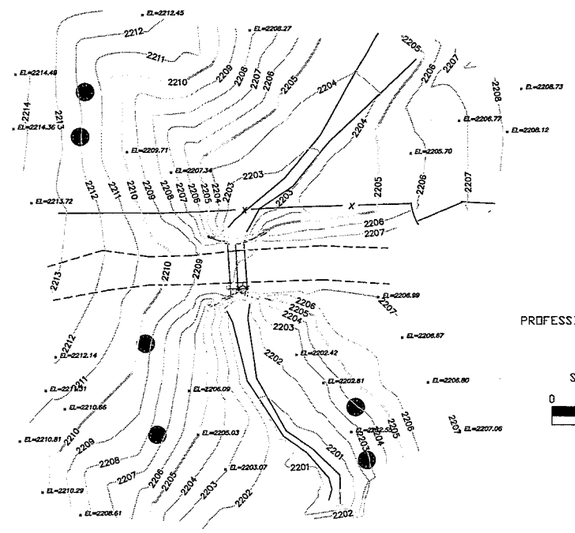
JOB# 1686.1 SHEET# ____ OF ____
SUBJECT: STRUCTURE 2 GALLOWAY WASH
BY: J. MALEK DATE: 9/17/07
CHECKED BY: _____ DATE: _____

UNABLE TO SURVEY AT
THIS TIME DUE TO ACCESS
THROUGH GATE NOT PERMITTED.

STRUCTURE 3

TOPOGRAPHIC SURVEY - CAVE CREEK DMP
OF
STRUCTURE 3
WILLOW SPRINGS WASH

Number	Northing	Easting	Elevation	Description
50000	1044682.44	685664.10	2207.49	EDR
50001	1044693.11	685663.79	2207.59	EDR1
50002	1044696.16	685663.74	2207.60	GB
50003	1044695.18	685643.87	2207.39	GB
50004	1044693.90	685643.92	2207.52	EDR1
50005	1044683.80	685644.43	2207.38	EDR
50006	1044683.08	685620.20	2207.81	EDR
50007	1044692.55	685619.28	2208.13	EDR1
50008	1044694.29	685626.37	2207.67	GB
50009	1044691.10	685605.31	2209.28	EDR1
50010	1044682.51	685605.14	2209.11	EDR
50011	1044682.45	685593.44	2210.48	EDR
50012	1044690.90	685593.37	2210.70	EDR1
50013	1044676.27	685610.93	2206.10	HDWL
50014	1044675.71	685611.22	2206.06	HDWL
50015	1044679.19	685618.35	2209.40	HDWL
50016	1044679.34	685621.31	2209.29	HDWL
50017	1044677.41	685628.92	2205.73	HDWL
50018	1044677.85	685629.08	2205.68	HDWL
50019	1044679.87	685621.30	2209.31	HDWL
50020	1044679.68	685618.16	2209.29	HDWL
50021	1044675.52	685611.08	2204.87	GB
50022	1044676.90	685610.17	2206.10	GB
50023	1044679.22	685615.68	2208.05	GB
50024	1044680.69	685618.36	2208.01	GB
50025	1044680.40	685619.79	2207.93	SIGN 5401 PRIVATE DR
50026	1044680.97	685620.94	2207.84	LP LIGHT
50027	1044680.96	685622.37	2207.53	GB
50028	1044679.94	685625.15	2207.34	GB
50029	1044678.04	685629.89	2204.81	GB
50030	1044677.15	685629.45	2204.33	GB
50031	1044677.90	685623.65	2202.23	GB
50032	1044678.73	685619.72	2202.13	GB
50033	1044676.36	685614.81	2202.45	GB
50034	1044678.38	685617.48	2201.78	INV 24IN CMP
50035	1044678.94	685619.63	2201.76	INV 30IN CMP
50036	1044678.89	685622.43	2201.92	INV 24IN CMP
50037	1044676.61	685622.94	2201.79	FL
50038	1044672.29	685622.40	2201.53	FL
50039	1044674.56	685616.22	2201.55	FL1
50040	1044671.16	685617.93	2201.42	FL1
50041	1044653.81	685622.12	2201.24	FL1
50042	1044654.55	685624.88	2201.22	FL
50043	1044638.89	685633.51	2200.59	FL
50044	1044637.29	685632.73	2200.50	FL1
50045	1044632.40	685639.53	2200.23	FL1
50046	1044633.59	685641.12	2200.25	FL
50047	1044625.68	685649.22	2200.18	FL
50048	1044624.95	685645.89	2200.27	FL1
50049	1044621.55	685646.79	2200.28	FL1
50050	1044618.41	685645.90	2200.19	FL1
50051	1044617.25	685649.29	2199.84	FL
50052	1044614.59	685655.05	2202.13	GB
50053	1044620.80	685658.03	2201.68	GB
50054	1044613.06	685656.44	2203.30	GB2
50055	1044619.59	685657.45	2203.55	GB2
50056	1044623.94	685658.37	2203.41	GB2
50057	1044624.92	685660.38	2203.42	GB2
50058	1044623.71	685657.34	2201.89	GB
50059	1044625.15	685658.82	2202.37	GB
50060	1044630.16	685657.29	2202.85	PVT DEAD
50061	1044638.50	685652.68	2202.55	GS
50062	1044645.88	685653.99	2204.55	PVT DNC
50063	1044653.10	685644.48	2202.81	GS
50064	1044661.49	685636.56	2202.42	GS
50065	1044667.65	685628.27	2202.35	GB
50066	1044668.54	685636.85	2202.81	GB
50067	1044658.61	685638.16	2202.52	GB
50068	1044645.74	685644.46	2202.29	GB
50069	1044680.63	685638.59	2207.18	GB1
50070	1044675.60	685644.81	2206.32	GB1
50071	1044655.29	685654.54	2205.46	GB1
50072	1044650.36	685667.76	2206.44	GB1
50073	1044633.57	685673.57	2206.23	GB1
50074	1044638.70	685684.72	2207.06	GS
50075	1044653.12	685675.31	2206.80	GS
50076	1044666.47	685667.91	2206.67	GS
50077	1044678.48	685660.94	2206.99	GS
50078	1044680.94	685581.18	2211.71	EDR
50079	1044692.80	685579.67	2212.08	EDR1
50080	1044687.99	685563.63	2213.29	EDR1
50081	1044677.99	685565.14	2212.91	EDR
50082	1044680.16	685612.96	2208.14	GB
50083	1044679.60	685606.45	2208.80	GB
50084	1044672.09	685593.03	2209.74	GB
50085	1044661.00	685565.68	2212.14	GS
50086	1044645.58	685568.34	2210.66	GS
50087	1044656.84	685588.41	2210.02	GB
50088	1044664.89	685592.21	2209.02	PVT DNC
50089	1044643.20	685590.22	2208.94	GB
50090	1044637.90	685595.52	2208.44	PVT DNC
50091	1044631.44	685590.23	2207.91	GB
50092	1044640.93	685573.35	2209.96	GB
50093	1044644.46	685568.42	2210.40	GB
50094	1044635.05	685565.98	2210.36	GB
50095	1044630.28	685565.05	2209.80	GB
50096	1044625.79	685570.67	2208.64	GB
50097	1044619.07	685578.43	2207.37	GB
50098	1044613.36	685583.52	2206.95	GB
50099	1044626.24	685575.64	2207.69	GB
50100	1044622.43	685582.42	2206.79	GB
50101	1044614.12	685572.78	2208.61	GS
50102	1044620.88	685561.58	2210.29	GS
50103	1044636.07	685555.14	2210.81	GS
50104	1044651.06	685562.70	2211.31	GS
50105	1044622.34	685589.79	2206.21	GB
50106	1044615.19	685596.08	2204.35	GB
50107	1044612.00	685601.92	2203.00	GB
50108	1044608.62	685613.03	2201.37	GB
50109	1044613.37	685619.45	2201.64	GB
50110	1044624.35	685626.21	2201.85	GB
50111	1044635.00	685628.53	2202.00	GB
50112	1044612.73	685635.17	2201.45	GB
50113	1044620.34	685643.79	2200.94	GB
50114	1044622.48	685644.45	2200.98	GB
50115	1044627.26	685642.08	2201.18	GB
50116	1044634.78	685631.86	2201.84	GB
50117	1044641.31	685625.60	2202.53	GB
50118	1044627.56	685615.55	2203.07	GS
50119	1044637.86	685607.42	2205.03	GS
50120	1044650.89	685604.93	2206.09	GS
50121	1044648.20	685615.45	2204.02	GB
50122	1044652.79	685610.28	2204.92	GB
50123	1044661.95	685608.82	2205.49	GB
50124	1044667.02	685606.41	2206.09	GB
50125	1044694.18	685613.50	2208.32	GB
50126	1044692.80	685608.96	2208.76	GB
50127	1044695.29	685604.87	2209.27	GB
50128	1044696.95	685610.85	2206.57	HDWL
50129	1044696.51	685610.99	2206.63	HDWL
50130	1044694.39	685617.23	2209.22	HDWL
50131	1044694.61	685620.66	2209.24	HDWL
50132	1044697.77	685628.10	2206.06	HDWL
50133	1044698.18	685627.93	2206.07	HDWL
50134	1044699.09	685628.39	2204.68	GB
50135	1044697.48	685628.66	2205.71	GB
50136	1044695.17	685624.78	2207.46	GB
50137	1044694.26	685620.80	2208.01	GB
50138	1044695.03	685620.54	2209.24	HDWL
50139	1044694.82	685617.23	2209.25	HDWL
50140	1044693.91	685617.07	2208.25	GB
50141	1044694.71	685614.40	2208.29	GB
50142	1044696.35	685610.80	2206.72	GB
50143	1044697.17	685609.71	2206.64	GB
50144	1044698.12	685610.08	2205.99	GB
50145	1044703.84	685566.82	2213.18	FCE BW
50146	1044703.85	685584.25	2211.33	FCE
50147	1044703.83	685598.31	2208.67	FCE
50148	1044704.12	685607.51	2206.32	FCE
50149	1044696.93	685615.64	2202.24	GB
50150	1044696.26	685618.81	2202.45	GB
50151	1044697.17	685622.10	2202.61	GB
50152	1044696.10	685621.32	2202.25	INV 24IN CMP
50153	1044695.71	685618.88	2202.05	INV 30IN CMP
50154	1044696.01	685616.42	2201.98	INV 24IN CMP
50155	1044699.52	685616.88	2202.34	FL
50156	1044698.22	685622.28	2202.54	FL1
50157	1044701.75	685618.74	2202.33	FL
50158	1044705.05	685626.05	2202.18	FL1
50159	1044705.80	685617.43	2202.81	GB
50160	1044714.72	685618.50	2203.06	GB
50161	1044719.49	685627.85	2203.39	GB
50162	1044713.94	685633.38	2202.80	FL
50163	1044711.59	685635.84	2202.84	FL1
50164	1044724.80	685646.59	2203.06	FL1
50165	1044726.81	685644.10	2203.09	FL
50166	1044730.97	685635.24	2203.80	GB
50167	1044746.42	685642.58	2204.49	GB
50168	1044744.71	685654.06	2203.97	FL
50169	1044737.33	685660.04	2203.91	FL1
50170	1044749.20	685672.49	2204.52	FL1
50172	1044756.97	685661.45	2204.28	FL
50173	1044754.97	685646.10	2204.70	GB
50174	1044757.98	685623.52	2208.27	GS
50175	1044759.82	685605.49	2211.46	GB
50176	1044751.11	685608.59	2211.03	GB
50177	1044746.29	685603.14	2210.72	GB
50178	1044759.09	685592.01	2212.15	GB
50179	1044764.05	685579.63	2213.02	GB
50180	1044762.73	685591.95	2212.45	GS
50181	1044763.79	685565.31	2213.57	GB
50182	1044748.39	685564.92	2213.25	GB
50183	1044737.25	685565.16	2213.19	GB
50184	1044739.84	685574.82	2212.19	PVT DNC
50185	1044726.53	685566.29	2213.26	GB
50186	1044726.53	685573.29	2212.26	PVT DNC
50187	1044714.77	685571.85	2212.45	GB
50188	1044706.05	685572.42	2212.74	GB
50189	1044706.84	685558.86	2213.72	GS
50190	1044728.87	685553.79	2214.36	GS
50191	1044745.06	685554.52	2214.49	GS
50192	1044750.92	685576.27	2211.32	GB
50193	1044743.90	685586.83	2209.82	GB
50194	1044732.62	685594.84	2207.96	GB
50195	1044721.93	685587.11	2209.71	GS
50196	1044715.85	685600.03	2207.34	GS
50197	1044719.95	685609.02	2204.96	GB
50198	1044715.74	685613.09	2203.70	GB
50199	1044705.40	685635.05	2203.85	GB
50200	1044705.40	685635.03	2203.84	FCE
50201	1044717.25	685647.41	2204.55	GB
50202	1044724.74	685657.11	2204.68	GB
50203	1044738.17	685673.88	2206.50	GB
50204	1044738.05	685674.01	2206.49	GB1
50205	1044738.06	685673.99	2206.46	GB2
50206	1044743.42	685679.54	2207.46	GB1
50207	1044748.33	685678.29	2206.12	GB
50208	1044754.55	685681.41	2206.36	GB
50209	1044747.89	685689.33	2208.20	GB1
50210	1044745.35	685691.59	2207.64	GB2
50211	1044740.32	685703.16	2208.73	GS
50212	1044727.46	685698.97	2208.12	GS
50213	1044730.86	685685.07	2205.77	GS
50214	1044721.22	685670.65	2205.70	GS
50215	1044706.35	685670.61	2205.88	FCE
50216	1044706.78	685685.53	2206.81	FCE BW
50217	1044706.58	685685.67	2206.85	GATE 270 15
50218	1044706.25	685695.19	2207.91	FCE
50219	1044703.50	685693.42	2208.02	GB
50220	1044704.70	685685.14	2206.62	GB
50221	1044704.60	685670.74	2205.92	GB
50222	1044704.13	685660.30	2204.97	GB
50223	1044703.59	685642.78	2204.12	GB
50224	1044704.54	685635.28	2203.71	GB



SYMBOL LEGEND	
EJB	ELECTRIC JUNCION BOX
	GATE
INV=	INVERT ELEVATION
	LIGHT
	MESQUITE TREE
P El=	PAVEMENT ELEVATION
	POWER POLE
	PALO VERDE TREE
	SET 60d NAIL
	SAGUARO CACTUS
=	SPOT HEIGHT
	SIGN

N

PROFESSIONAL ASSOCIATES, INC.

SCALE 1"= 20'

0 20' 40'

CULVERTS LOCATED NORTH OF PARCEL 211-01-019-C, PRIVATE ENTRY TO 5401 E. HONDA BOW RD. (24" CMP)

PLEASE NOTE THAT ALL COORDINATE VALUES SHOWN HEREON ARE NAD83(92) GRID, AZ SPCS, ZONE 0202 (CENTRAL, INTERNATIONAL FEET. ELEVATIONS ARE NAVD88.

STATEMENT

I STONE E. WAHL, A PROFESSIONAL LAND SURVEYOR, REGISTERED IN THE STATE OF ARIZONA, STATE THAT THIS SURVEY & PLAT WAS COMPLETED UNDER MY DIRECT SUPERVISION AND THAT ALL MONUMENTS FOUND OR SET ARE CORRECTLY SHOWN.

REGISTERED LAND SURVEYOR CERTIFICATE NO. 28237 STONE E. WAHL ARIZONA, U.S.A.

Prepared for: HDR/MCFCD
Owner: UNKNOWN
Address: UNKNOWN
N/A
Phone: N/A

1920 W. Peoria Ave.
Phoenix, Arizona 85029
Phone:(602) 906-0020
Fax:(602) 906-0019

TEAM PROFESSIONAL ASSOCIATES, INC.

TOPOGRAPHIC SURVEY
OF
STRUCTURE 3
WILLOW SPRINGS WASH

Drn: J.MALEK
Ck'd: S.E.WAHL
Scale: 1"= 20'
Date: 09/19/07 Job No: 1686.1
Sheet 1 of 1

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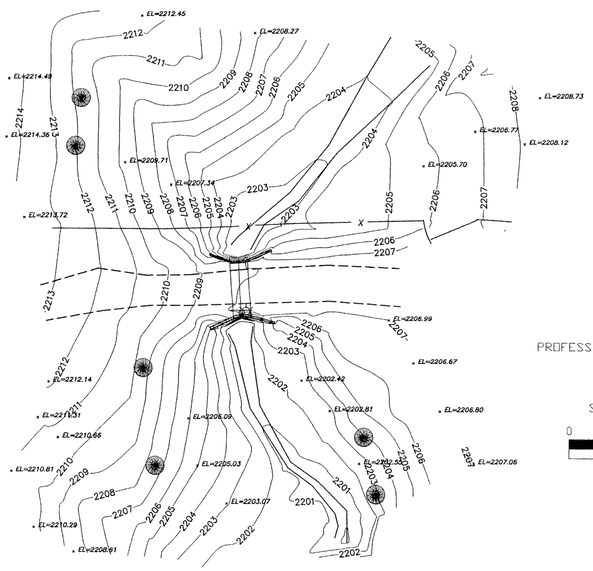
TOPOGRAPHIC SURVEY - CAVE CREEK DMP
OF
STRUCTURE 3
WILLOW SPRINGS WASH

Number	Northing	Easting	Elevation	Description
50000	1044682.44	685664.10	2207.49	EDR
50001	1044693.11	685663.79	2207.59	EDR1
50002	1044696.16	685663.74	2207.60	GB
50003	1044695.18	685643.87	2207.39	GB
50004	1044693.90	685643.92	2207.52	EDR1
50005	1044683.80	685644.43	2207.38	EDR
50006	1044683.08	685620.20	2207.81	EDR
50007	1044692.55	685619.28	2208.13	EDR1
50008	1044694.29	685626.37	2207.67	GB
50009	1044691.10	685605.31	2209.28	EDR1
50010	1044682.51	685605.14	2209.11	EDR
50011	1044682.45	685593.44	2210.48	EDR
50012	1044690.90	685593.37	2210.70	EDR1
50013	1044676.27	685610.93	2206.10	HDWL
50014	1044675.71	685611.22	2206.06	HDWL
50015	1044679.19	685618.35	2209.40	HDWL
50016	1044679.34	685621.31	2209.29	HDWL
50017	1044677.41	685628.92	2205.73	HDWL
50018	1044677.85	685629.08	2205.68	HDWL
50019	1044679.87	685621.30	2209.31	HDWL
50020	1044679.68	685618.16	2209.29	HDWL
50021	1044675.52	685611.08	2204.87	GB
50022	1044676.90	685610.17	2206.10	GB
50023	1044679.22	685615.68	2208.05	GB
50024	1044680.69	685618.36	2208.01	GB
50025	1044680.40	685619.79	2207.93	SIGN 5401 PRIVATE DR
50026	1044680.97	685620.94	2207.84	LP LIGHT
50027	1044680.96	685622.37	2207.53	GB
50028	1044679.94	685625.15	2207.34	GB
50029	1044678.04	685629.89	2204.81	GB
50030	1044677.15	685629.45	2204.33	GB
50031	1044677.90	685623.65	2202.23	GB
50032	1044678.73	685619.72	2202.13	GB
50033	1044676.36	685614.81	2202.45	GB
50034	1044678.38	685617.48	2201.78	INV 24IN CMP
50035	1044678.94	685619.63	2201.76	INV 30IN CMP
50036	1044678.89	685622.43	2201.92	INV 24IN CMP
50037	1044676.61	685622.94	2201.79	FL
50038	1044672.29	685622.40	2201.53	FL
50039	1044674.56	685616.22	2201.55	FL1
50040	1044671.16	685617.93	2201.42	FL1
50041	1044653.81	685622.12	2201.24	FL1
50042	1044654.55	685624.88	2201.22	FL
50043	1044638.89	685633.51	2200.59	FL
50044	1044637.29	685632.73	2200.50	FL1
50045	1044632.40	685639.53	2200.23	FL1
50046	1044633.59	685641.12	2200.25	FL
50047	1044625.68	685649.22	2200.18	FL
50048	1044624.95	685645.89	2200.27	FL1
50049	1044621.55	685646.79	2200.28	FL1
50050	1044618.41	685645.90	2200.19	FL1
50051	1044617.25	685649.29	2199.84	FL
50052	1044614.59	685655.05	2202.13	GB
50053	1044620.80	685656.03	2201.68	GB
50054	1044613.06	685656.44	2203.30	GB2
50055	1044619.59	685657.45	2203.55	GB2
50056	1044623.94	685658.37	2203.41	GB2
50057	1044624.92	685660.38	2203.42	GB2
50058	1044623.71	685657.34	2201.89	GB
50059	1044625.15	685658.82	2202.37	GB
50060	1044630.16	685657.29	2202.85	PVT DEAD
50061	1044638.50	685652.68	2202.55	GS
50062	1044645.88	685653.99	2204.55	PVT DNC
50063	1044653.10	685644.48	2202.81	GS
50064	1044661.49	685636.56	2202.42	GS
50065	1044667.65	685628.27	2202.35	GB
50066	1044668.54	685636.85	2202.81	GB
50067	1044658.61	685638.16	2202.52	GB
50068	1044645.74	685644.46	2202.29	GB
50069	1044680.63	685638.59	2207.18	GB1
50070	1044675.60	685644.81	2206.32	GB1
50071	1044655.29	685654.54	2205.46	GB1
50072	1044650.36	685667.76	2206.44	GB1
50073	1044633.57	685673.57	2206.23	GB1
50074	1044638.70	685684.72	2207.06	GS
50075	1044653.12	685675.31	2206.80	GS
50076	1044666.47	685667.91	2206.67	GS
50077	1044678.48	685660.94	2206.99	GS
50078	1044680.94	685581.18	2211.71	EDR
50079	1044692.80	685579.67	2212.08	EDR1
50080	1044687.99	685563.63	2213.29	EDR1
50081	1044677.99	685565.14	2212.91	EDR
50082	1044680.16	685612.96	2208.14	GB
50083	1044679.60	685606.45	2208.80	GB
50084	1044672.09	685593.03	2209.74	GB
50085	1044661.00	685565.68	2212.14	GS
50086	1044645.58	685568.34	2210.66	GS
50087	1044656.84	685588.41	2210.02	GB
50088	1044664.99	685592.21	2209.02	PVT DNC
50089	1044643.20	685590.22	2208.94	GB
50090	1044637.90	685595.52	2208.44	PVT DNC
50091	1044631.44	685590.23	2207.91	GB
50092	1044640.93	685573.35	2209.96	GB
50093	1044644.46	685568.42	2210.40	GB
50094	1044635.05	685565.98	2210.36	GB
50095	1044630.28	685565.05	2209.80	GB
50096	1044625.79	685570.67	2208.64	GB
50097	1044619.07	685578.43	2207.37	GB
50098	1044613.36	685583.52	2206.95	GB
50099	1044626.24	685575.64	2207.69	GB
50100	1044622.43	685582.42	2206.79	GB
50101	1044614.12	685572.78	2208.61	GS
50102	1044620.88	685561.58	2210.29	GS
50103	1044636.07	685555.14	2210.81	GS
50104	1044651.06	685562.70	2211.31	GS
50105	1044622.34	685589.79	2206.21	GB
50106	1044615.19	685596.08	2204.35	GB
50107	1044612.00	685601.92	2203.00	GB
50108	1044608.62	685613.03	2201.37	GB
50109	1044613.37	685619.45	2201.64	GB
50110	1044624.35	685626.21	2201.85	GB
50111	1044635.00	685628.53	2202.00	GB

Number	Northing	Easting	Elevation	Description
50112	1044612.73	685635.17	2201.45	GB
50113	1044620.34	685643.79	2200.94	GB
50114	1044622.48	685644.45	2200.98	GB
50115	1044627.26	685642.08	2201.18	GB
50116	1044634.78	685631.86	2201.84	GB
50117	1044641.31	685625.60	2202.53	GB
50118	1044627.56	685615.55	2203.07	GS
50119	1044637.86	685607.42	2205.03	GS
50120	1044650.89	685604.93	2206.09	GS
50121	1044648.20	685615.45	2204.02	GB
50122	1044652.79	685610.28	2204.92	GB
50123	1044661.95	685608.82	2205.49	GB
50124	1044667.02	685606.41	2206.09	GB
50125	1044694.18	685613.50	2208.32	GB
50126	1044692.80	685608.96	2208.76	GB
50127	1044695.29	685604.87	2209.27	GB
50128	1044696.95	685610.85	2206.57	HDWL
50129	1044696.51	685610.99	2206.63	HDWL
50130	1044694.39	685617.23	2209.22	HDWL
50131	1044694.61	685620.66	2209.24	HDWL
50132	1044697.77	685628.10	2206.06	HDWL
50133	1044698.18	685627.93	2206.07	HDWL
50134	1044699.09	685628.39	2204.68	GB
50135	1044697.48	685628.66	2205.71	GB
50136	1044695.17	685624.78	2207.46	GB
50137	1044694.26	685620.80	2208.01	GB
50138	1044695.03	685620.54	2209.24	HDWL
50139	1044694.82	685617.23	2209.25	HDWL
50140	1044693.91	685617.07	2208.25	GB
50141	1044694.71	685614.40	2208.29	GB
50142	1044696.35	685610.80	2206.72	GB
50143	1044697.17	685609.71	2206.64	GB
50144	1044698.12	685610.08	2205.99	GB
50145	1044703.84	685566.82	2213.18	FCE BW
50146	1044703.85	685584.25	2211.33	FCE
50147	1044703.83	685598.31	2208.67	FCE
50148	1044704.12	685607.51	2206.32	FCE
50149	1044696.93	685615.64	2202.24	GB
50150	1044696.26	685618.81	2202.45	GB
50151	1044697.17	685622.10	2202.61	GB
50152	1044696.10	685621.32	2202.25	INV 24IN CMP
50153	1044695.71	685618.88	2202.05	INV 30IN CMP
50154	1044696.01	685616.42	2201.98	INV 24IN CMP
50155	1044699.52	685616.88	2202.34	FL
50156	1044698.22	685622.28	2202.54	FL1
50157	1044701.75	685618.74	2202.33	FL
50158	1044705.05	685626.06	2202.18	FL1
50159	1044705.80	685617.43	2202.81	GB
50160	1044714.72	685618.50	2203.06	GB
50161	1044719.49	685627.85	2203.39	GB
50162	1044713.94	685633.38	2202.80	FL
50163	1044711.59	685635.84	2202.84	FL1
50164	1044724.80	685646.59	2203.06	FL1
50165	1044726.81	685644.10	2203.09	FL
50166	1044730.97	685635.24	2203.80	GB
50167	1044746.42	685642.58	2204.49	GB
50168	1044744.71	685654.06	2203.97	FL
50169	1044737.33	685660.04	2203.91	FL1
50171	1044749.20	685672.49	2204.52	FL1
50172	1044756.97	685661.45	2204.28	FL
50173	1044754.97	685646.10	2204.70	GB
50174	1044757.98	685623.52	2208.27	GS
50175	1044759.82	685605.49	2211.46	GB
50176	1044751.11	685608.59	2211.03	GB
50177	1044746.29	685603.14	2210.72	GB
50178	1044759.09	685592.01	2212.15	GB
50179	1044764.05	685579.63	2213.02	GB
50180	1044762.73	685591.95	2212.45	GS
50181	1044763.79	685565.31	2213.57	GB
50182	1044748.39	685564.92	2213.25	GB
50183	1044737.25	685565.16	2213.19	GB
50184	1044739.84	685574.82	2212.19	PVT DNC
50185	1044726.53	685566.29	2213.26	GB
50186	1044726.53	685573.29	2212.26	PVT DNC
50187	1044714.77	685571.85	2212.45	GB
50188	1044706.05	685572.42	2212.74	GB
50189	1044706.84	685558.86	2213.72	GS
50190	1044728.87	685553.79	2214.36	GS
50191	1044745.06	685554.52	2214.49	GS
50192	1044750.92	685576.27	2211.32	GB
50193	1044743.90	685586.83	2209.82	GB
50194	1044732.62	685594.84	2207.96	GB
50195	1044721.93	685587.11	2209.71	GS
50196	1044715.85	685600.03	2207.34	GS
50197	1044719.95	685609.02	2204.96	GB
50198	1044715.74	685613.09	2203.70	GB
50199	1044705.40	685635.05	2203.85	GB
50200	1044705.40	685635.03	2203.84	FCE
50201	1044717.25	685647.41	2204.55	GB
50202	1044724.74	685657.11	2204.68	GB
50203	1044738.17	685673.88	2206.50	GB
50204	1044738.05	685674.01	2206.49	GB1
50205	1044738.06	685673.99	2206.46	GB2
50206	1044743.42	685679.54	2207.46	GB1
50207	1044748.33	685678.29	2206.12	GB
50208	1044754.55	685681.41	2206.36	GB
50209	1044747.89	685689.33	2208.20	GB1
50210	1044745.35	685691.59	2207.64	GB2
50211	1044740.32	685703.16	2208.73	GS
50212	1044727.46	685698.97	2208.12	GS
50213	1044730.86	685685.07	2206.77	GS
50214	1044721.22	685670.65	2205.70	GS
50215	1044706.35	685670.61	2205.88	FCE
50216	1044706.78	685685.53	2206.81	FCE BW
50217	1044706.58	685685.67	2206.85	GATE 270 15
50218	1044706.25	685695.19	2207.91	FCE
50219	1044703.50	685693.42	2208.02	GB
50220	1044704.70	685685.14	2206.62	GB
50221	1044704.60	685670.74	2205.92	GB
50222	1044704.13	685660.30	2204.97	GB
50223	1044703.59	685642.78	2204.12	GB
50224	1044704.54	685635.28	2203.71	GB



N

PROFESSIONAL ASSOCIATES, INC.

SCALE 1"= 20'

0 20' 40'

SYMBOL LEGEND	
EJB	ELECTRIC JUNCION BOX
	GATE
INV=	INVERT ELEVATION
	LIGHT
	MESQUITE TREE
P El=	PAVEMENT ELEVATION
	POWER POLE
	PALO VERDE TREE
	SET 60d NAIL
	SAGUARO CACTUS
EL=	SPOT HEIGHT
	SIGN

CULVERTS LOCATED NORTH OF PARCEL 211-01-019-C,
PRIVATE ENTRY TO 5401 E. HONDA BOW RD. (24" CMP)

STATEMENT

I STONE E. WAHL, A PROFESSIONAL LAND SURVEYOR, REGISTERED IN THE STATE OF ARIZONA, STATE THAT THIS SURVEY & PLAT WAS COMPLETED UNDER MY DIRECT SUPERVISION AND THAT ALL MONUMENTS FOUND OR SET ARE CORRECTLY SHOWN.

REGISTERED LAND SURVEYOR CERTIFICATE NO. 28237 STONE E. A. WAHL Date Signed 12-20-07 ARIZONA U.S.A.

PLEASE NOTE THAT ALL COORDINATE VALUES SHOWN HEREON ARE NAD83(92) GRID, AZ SPCS, ZONE 0202 (CENTRAL, INTERNATIONAL FEET. ELEVATIONS ARE NAVD88.

Prepared for: HDR/MCFCD
Owner: UNKNOWN
Address: UNKNOWN
N/A
Phone: N/A

1920 W. Peoria Ave.
Phoenix, Arizona 85029
Phone:(602) 906-0020
Fax:(602) 906-0019

TEAM PROFESSIONAL ASSOCIATES, INC.

TOPOGRAPHIC SURVEY
OF
STRUCTURE 3
WILLOW SPRINGS WASH

Drn: J.MALEK
Ck'd: S.E.WAHL
Scale: 1"= 20'
Date: 09/10/07 Job No. 1686-1 Sht 1 of 1

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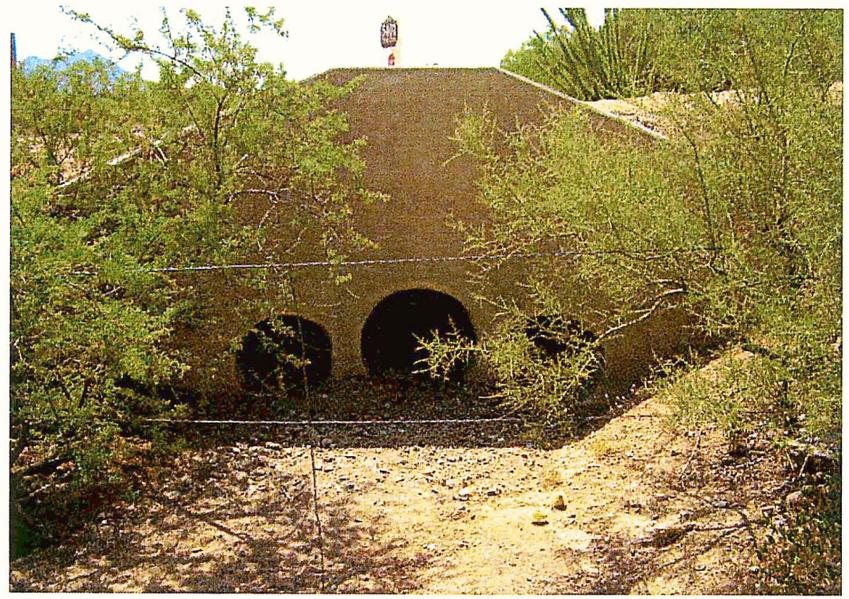
STRUCTURE 3 LOOKING NORTH

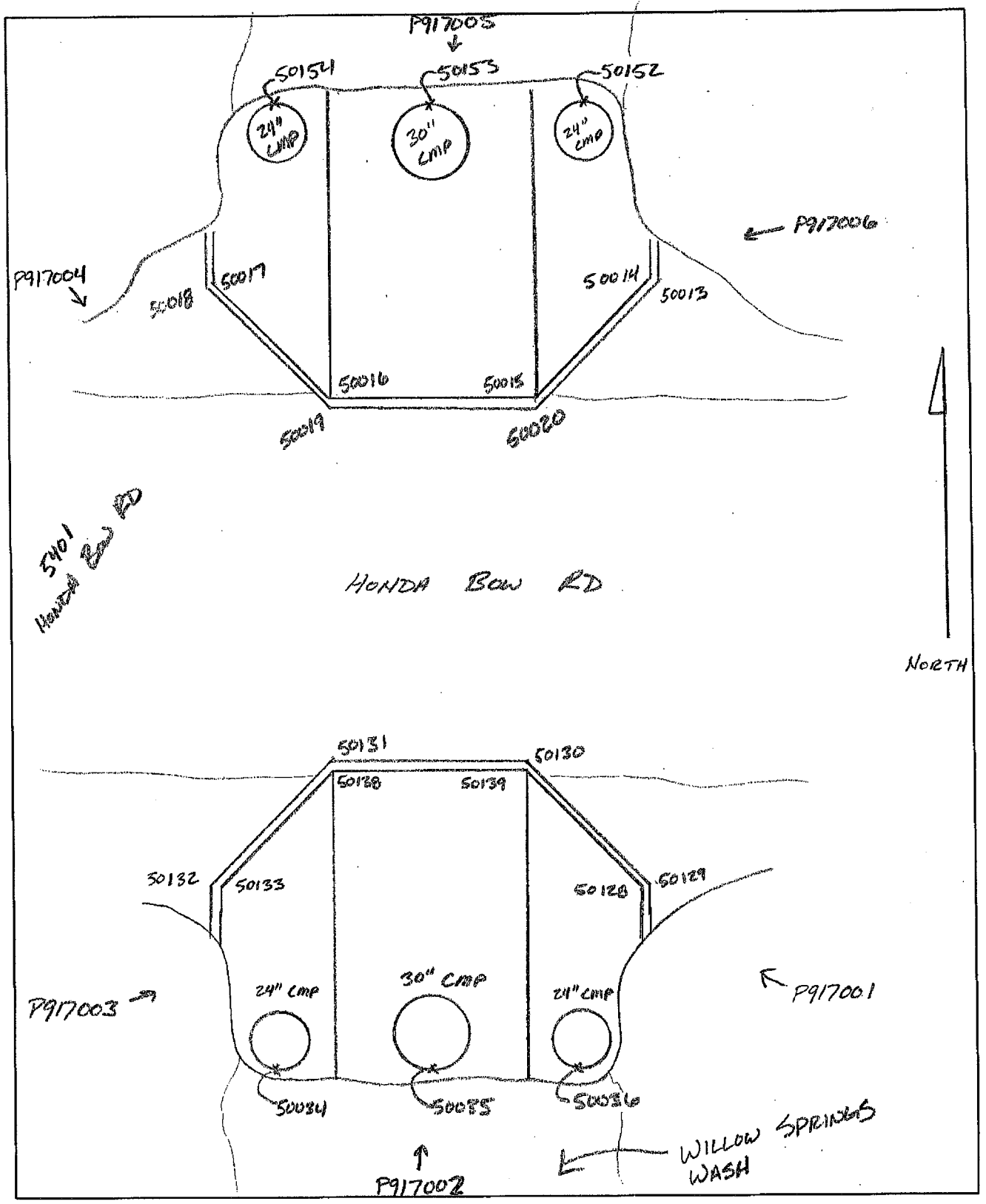
STRUCTURE 3 LOOKING SOUTH



1920 WEST PEORIA AVENUE PHOENIX, ARIZONA 85029
TEL. (602) 906-0020 FAX (602) 906-0019

COMPUTATION SHEET

JOB# 11686.1 SHEET# ____ OF ____
SUBJECT: STRUCTURE 3 5401 HONDA BOW RD
BY: J. MALEK DATE: 9/19/07
CHECKED BY: ____ DATE: ____



STRUCTURE 4

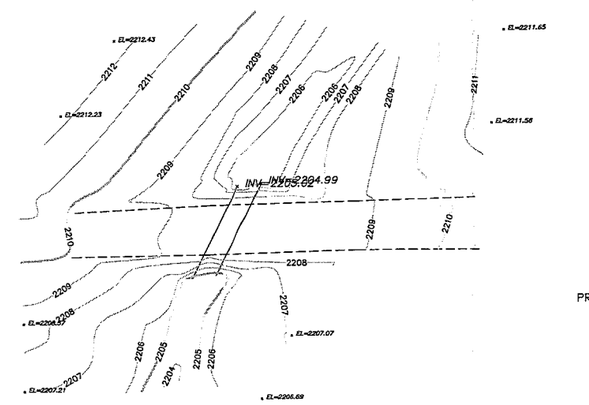
Structure #4 has been omitted
from the Final Survey Report.

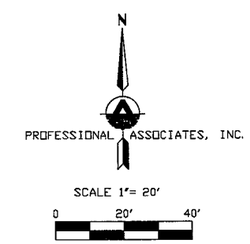
STRUCTURE 5

TOPOGRAPHIC SURVEY - CAVE CREEK DMP
OF
STRUCTURE 5
WILLOW SPRINGS WASH

SYMBOL LEGEND	
EJB	ELECTRIC JUNCION BOX
	GATE
INV=	INVERT ELEVATION
	LIGHT
	MESQUITE TREE
P El=	PAVEMENT ELEVATION
	POWER POLE
	PALO VERDE TREE
	SET 60d NAIL
	SAGUARO CACTUS
	SPOT HEIGHT
	SIGN

Number	Northing	Easting	Elevation	Description
60000	1044700.59	686536.02	2210.28	EDR
60001	1044685.06	686537.28	2210.58	EDR1
60002	1044684.92	686500.57	2208.87	EDR1
60003	1044699.43	686499.89	2208.75	EDR
60004	1044698.16	686458.01	2208.69	EDR
60005	1044683.50	686457.45	2208.53	EDR1
60006	1044682.82	686416.94	2209.87	EDR1
60007	1044696.02	686417.96	2209.76	EDR
60008	1044699.84	686435.84	2208.90	GB
60009	1044701.66	686462.04	2207.51	GB
60010	1044701.91	686472.94	2207.59	GB
60011	1044701.58	686483.95	2207.41	GB
60012	1044704.66	686473.19	2204.96	CMP 25IN X 32N
60013	1044703.83	686466.17	2205.01	CMP 25IN X 32N
60014	1044703.81	686466.21	2205.02	INV
60015	1044704.75	686473.04	2204.99	INV
60016	1044677.40	686459.61	2204.47	CMP
60017	1044676.49	686452.60	2204.60	CMP
60018	1044675.13	686461.62	2204.59	GB
60019	1044678.31	686469.92	2206.65	GB
60020	1044679.97	686492.19	2207.74	GB
60021	1044659.54	686481.81	2207.07	SH
60022	1044640.72	686472.98	2206.69	SH
60023	1044645.28	686456.67	2205.84	GB
60024	1044646.32	686447.65	2203.83	GB1
60025	1044663.23	686453.35	2204.57	GB1
60026	1044662.19	686461.79	2206.49	GB
60027	1044672.54	686464.02	2206.24	GB
60028	1044676.35	686460.64	2204.49	GB1
60029	1044675.08	686455.39	2204.17	GB1
60030	1044676.30	686452.08	2204.32	GB1
60031	1044673.74	686449.49	2204.52	GB1
60032	1044676.67	686447.70	2206.66	GB
60033	1044662.42	686444.16	2205.62	GB
60034	1044661.69	686446.37	2204.38	GB1
60035	1044643.38	686441.61	2204.11	GB1
60036	1044642.61	686432.16	2206.12	GB
60037	1044642.92	686402.70	2207.21	SH
60038	1044662.89	686402.53	2208.57	SH
60039	1044702.34	686400.87	2211.62	GB
60040	1044724.75	686413.78	2212.23	SH
60041	1044747.03	686429.84	2212.43	SH
60042	1044704.10	686434.76	2209.44	GB
60043	1044706.21	686454.87	2208.07	GB
60044	1044707.33	686485.95	2205.37	GB1
60045	1044723.52	686479.94	2205.63	GB1
60046	1044749.77	686496.64	2206.31	GB1
60047	1044731.03	686465.95	2208.77	GB
60048	1044756.51	686475.85	2209.75	GB
60049	1044748.61	686505.55	2206.12	GB
60050	1044727.45	686489.07	2205.73	GB
60051	1044714.06	686480.95	2205.67	GB
60052	1044705.99	686476.27	2205.49	GB
60053	1044704.26	686474.09	2205.25	GB
60054	1044705.18	686472.29	2205.18	GB
60055	1044708.50	686471.87	2205.42	GB
60056	1044705.28	686469.02	2205.39	GB
60057	1044703.51	686467.24	2205.25	GB
60058	1044704.44	686465.33	2205.19	GB
60059	1044707.26	686465.43	2205.45	GB
60060	1044702.10	686481.27	2207.13	GB
60061	1044714.42	686488.90	2207.74	GB
60062	1044742.74	686510.96	2208.80	GB
60063	1044750.34	686545.42	2211.65	SH
60064	1044722.66	686541.47	2211.56	SH





CULVERT CROSSING HONDA BOW RD BETWEEN PARCELS 202-19-022-Q AND 211-01-028-C (2- 33"x26" CMP's)

PLEASE NOTE THAT ALL COORDINATE VALUES SHOWN HEREON ARE NAD83(92) GRID, AZ SPCS, ZONE 0202 (CENTRAL, INTERNATIONAL FEET. ELEVATIONS ARE NAVD88.

STATEMENT

I STONE E. WAHL, A PROFESSIONAL LAND SURVEYOR, REGISTERED IN THE STATE OF ARIZONA, STATE THAT THIS SURVEY & PLAT WAS COMPLETED UNDER MY DIRECT SUPERVISION AND THAT ALL MONUMENTS FOUND OR SET ARE CORRECTLY SHOWN.

REGISTERED LAND SURVEYOR CERTIFICATE NO. 28237 STONE E. WAHL ARIZONA, U.S.A.

Prepared for: HDR/MCFCD
Owner: UNKNOWN
Address: UNKNOWN
N/A
Phone: N/A

1920 W. Peoria Ave.
Phoenix, Arizona 85029
Phone:(602) 906-0020
Fax:(602) 906-0019
A TEAM PROFESSIONAL ASSOCIATES, INC.

TOPOGRAPHIC SURVEY
OF
STRUCTURE 5
WILLOW SPRINGS WASH

Drn: J.MALEK
Ck'd: S.E.WAHL
Scale: 1"= 20'
Date: 09/19/07 Job No: 1686.1
Sheet 1 of 1

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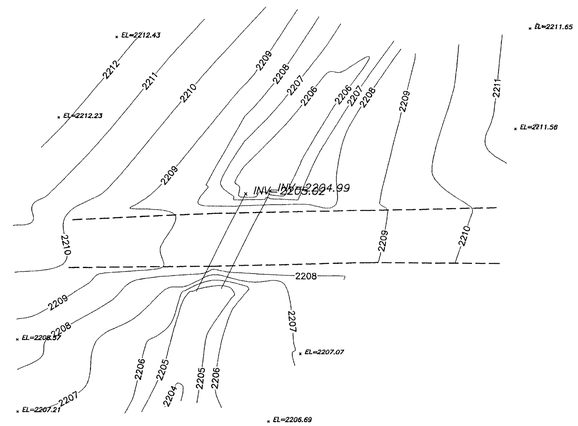
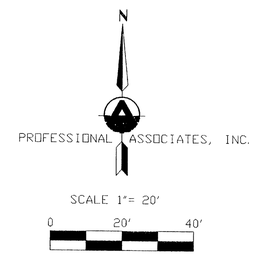
TOPOGRAPHIC SURVEY - CAVE CREEK DMP
OF
STRUCTURE 5
WILLOW SPRINGS WASH

Number	Northing	Easting	Elevation	Description
60000	1044700.59	686536.02	2210.28	EDR
60001	1044685.06	686537.28	2210.58	EDR1
60002	1044684.92	686500.57	2208.87	EDR1
60003	1044699.43	686499.89	2208.75	EDR
60004	1044698.16	686458.01	2208.69	EDR
60005	1044683.50	686457.45	2208.53	EDR1
60006	1044682.82	686416.94	2209.87	EDR1
60007	1044696.02	686417.96	2209.76	EDR
60008	1044699.84	686435.84	2208.90	GB
60009	1044701.66	686462.04	2207.51	GB
60010	1044701.91	686472.94	2207.59	GB
60011	1044701.58	686483.95	2207.41	GB
60012	1044704.66	686473.19	2204.96	CMP 25IN X 32N
60013	1044703.83	686466.17	2205.01	CMP 25IN X 32N
60014	1044703.81	686466.21	2205.02	INV
60015	1044704.75	686473.04	2204.99	INV
60016	1044677.40	686459.61	2204.47	CMP
60017	1044676.49	686452.60	2204.60	CMP
60018	1044675.13	686461.62	2204.59	GB
60019	1044678.31	686469.92	2206.65	GB
60020	1044679.97	686492.19	2207.74	GB
60021	1044659.54	686481.81	2207.07	SH
60022	1044640.72	686472.98	2206.69	SH
60023	1044645.28	686456.67	2205.84	GB
60024	1044646.32	686447.65	2203.83	GB1
60025	1044663.23	686453.35	2204.57	GB1
60026	1044662.19	686461.79	2206.49	GB
60027	1044672.54	686464.02	2206.24	GB
60028	1044676.35	686460.64	2204.49	GB1
60029	1044675.08	686455.39	2204.17	GB1
60030	1044676.30	686452.08	2204.32	GB1
60031	1044673.74	686449.49	2204.52	GB1
60032	1044676.67	686447.70	2206.66	GB
60033	1044662.42	686444.16	2205.62	GB
60034	1044661.69	686446.37	2204.38	GB1
60035	1044643.38	686441.61	2204.11	GB1
60036	1044642.61	686432.16	2206.12	GB
60037	1044642.92	686402.70	2207.21	SH
60038	1044662.89	686402.53	2208.57	SH
60039	1044702.34	686400.87	2211.62	GB
60040	1044724.75	686413.78	2212.23	SH
60041	1044747.03	686429.84	2212.43	SH
60042	1044704.10	686434.76	2209.44	GB
60043	1044706.21	686454.87	2208.07	GB
60044	1044707.33	686465.95	2205.37	GB1
60045	1044723.52	686479.94	2205.63	GB1
60046	1044749.77	686496.64	2206.31	GB1
60047	1044731.03	686465.95	2208.77	GB
60048	1044756.51	686475.85	2209.75	GB
60049	1044748.61	686505.55	2206.12	GB
60050	1044727.45	686489.07	2205.73	GB
60051	1044714.06	686480.95	2205.67	GB
60052	1044705.99	686476.27	2205.49	GB
60053	1044704.26	686474.09	2205.25	GB
60054	1044705.18	686472.29	2205.18	GB
60055	1044708.50	686471.87	2205.42	GB
60056	1044705.28	686469.02	2205.39	GB
60057	1044703.51	686467.24	2205.25	GB
60058	1044704.44	686465.33	2205.19	GB
60059	1044707.26	686465.43	2205.45	GB
60060	1044702.10	686481.27	2207.13	GB
60061	1044714.42	686488.90	2207.74	GB
60062	1044742.74	686510.96	2208.80	GB
60063	1044750.34	686545.42	2211.65	SH
60064	1044722.66	686541.47	2211.56	SH

SYMBOL LEGEND	
EJB	ELECTRIC JUNCION BOX
	GATE
INV=	INVERT ELEVATION
	LIGHT
	MESQUITE TREE
P El=	PAVEMENT ELEVATION
	POWER POLE
	PALO VERDE TREE
	SET 60d NAIL
	SAGUARO CACTUS
SH=	SPOT HEIGHT
	SIGN





CULVERT CROSSING HONDA BOW RD BETWEEN PARCELS 202-19-022-Q AND 211-01-028-C (2- 33"x26" CMP's)

PLEASE NOTE THAT ALL COORDINATE VALUES SHOWN HEREON ARE NAD83(92) GRID, AZ SPCS, ZONE 0202 (CENTRAL, INTERNATIONAL FEET. ELEVATIONS ARE NAVD88.

STATEMENT

I STONE E. WAHL, A PROFESSIONAL LAND SURVEYOR, REGISTERED IN THE STATE OF ARIZONA, STATE THAT THIS SURVEY & PLAT WAS COMPLETED UNDER MY DIRECT SUPERVISION AND THAT ALL MONUMENTS FOUND OR SET ARE CORRECTLY SHOWN.

REGISTERED LAND SURVEYOR CERTIFICATE NO. 28237 STONE E. WAHL ARIZONA U.S.A.

Prepared for: HDR/MCFCD
Owner: UNKNOWN
Address: UNKNOWN
N/A
Phone: N/A

1920 W. Peoria Ave.
Phoenix, Arizona 85029
Phone:(602) 906-0020
Fax:(602) 906-0019
TEAM PROFESSIONAL ASSOCIATES, INC.

TOPOGRAPHIC SURVEY
OF
STRUCTURE 5
WILLOW SPRINGS WASH

Drn: J.MALEK
Ck'd: S.E.WAHL
Scale: 1"= 20'
Date: 09/19/07 Job No: 1686.1
Sheet 1 of 1

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STRUCTURE 5

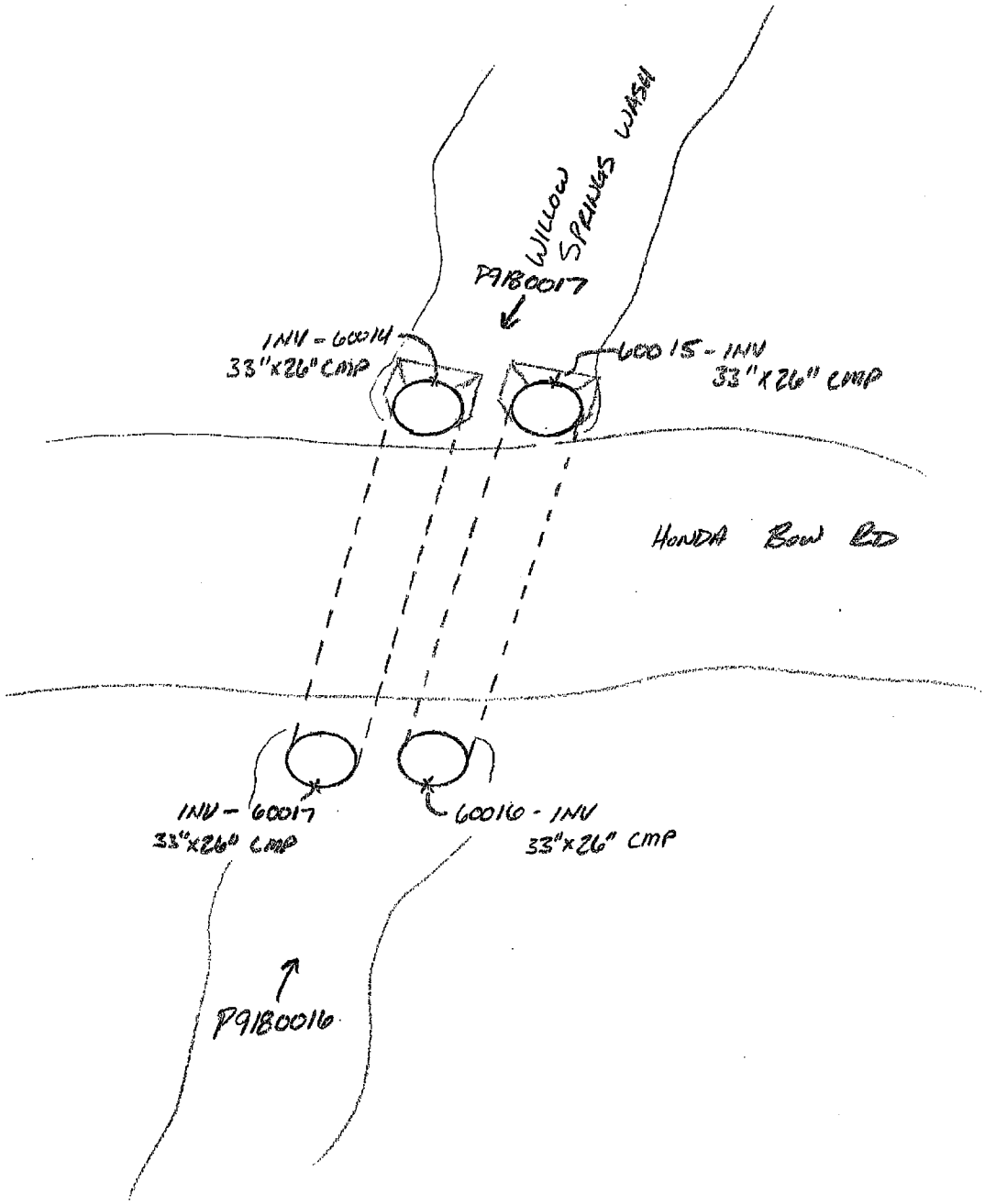
LOOKING NORTH

LOOKING SOUTH

1920 WEST PEORIA AVENUE PHOENIX, ARIZONA 85029
TEL. (602) 906-0020 FAX (602) 906-0019

COMPUTATION SHEET

JOB# 1686.1 SHEET# ____ OF ____
SUBJECT: STRUCTURE 5 HONDA BOW RD
BY: J. MALEK DATE: 9/19/07
CHECKED BY: _____ DATE: _____



SECTION 4

FINISH FLOOR ELEVATION (F.F.E.) SURVEYS

REPORT NAME:FINISH FLOOR ELEVATION COORDINATE REPORT

All values are in Grid NAD83 Arizona Central 0202 Geoid 99 W/ GDAC's Inclined Plane Adjustment

Sketch No.	Address	Parcel No.	Last Name	First Name
1	38892 N. School House Rd.	211-07-004-A	Kramer	Ed & Paula
		FINISH FLOOR ELEVATION:	2171.85	
Point #	**Northing**	**Easting**	**Elevation**	**Description**
100	1032789.591	690907.281	2171.69	S60N
101	1032773.561	690974.183	2170.55	SH 10.0 O.S. BLDG COR
102	1032762.253	690982.966	2170.68	SH 10.0 O.S. BLDG COR
103	1032716.507	690968.473	2171.43	SH 10.0 O.S. BLDG COR
104	1032704.763	690959.367	2171.24	SH 7.0 O.S. BLDG COR
105	1032776.241	690932.220	2171.04	SH 12.0 O.S. BLDG COR
106	1032769.787	690905.674	2171.16	SH 18.0 O.S. BLDG COR
107	1032735.757	690860.105	2170.49	SH 10.0 O.S. BLDG COR
108	1032722.837	690860.477	2170.91	SH 8.0 O.S. BLDG COR
109	1032692.298	690881.615	2171.10	SH 10.0 O.S. BLDG COR
110	1032683.675	690889.233	2170.79	SH 14.0 O.S. BLDG COR

Sketch No.	Address	Parcel No.	Last Name	First Name
2	38660 N. School House Rd.	211-07-004-E	Vassallo	Allan A & Florence A
		FINISH FLOOR ELEVATION:	2164.36	
Point #	**Northing**	**Easting**	**Elevation**	**Description**
200	1032496.360	691414.815	2162.31	S60N
201	1032502.765	691425.081	2163.47	SH 10.0 O.S. BLDG COR
202	1032507.562	691412.369	2162.46	SH 10.0 O.S. BLDG COR
203	1032561.488	691387.225	2162.43	SH 10.0 O.S. BLDG COR
204	1032566.837	691390.534	2162.56	SH 10.0 O.S. BLDG COR
205	1032529.072	691494.918	2163.74	SH 10.0 O.S. BLDG COR
206	1032542.711	691499.483	2164.27	SH 10.0 O.S. BLDG COR
207	1032590.302	691474.066	2162.91	SH 10.0 O.S. BLDG COR
208	1032599.830	691466.466	2162.95	SH 10.0 O.S. BLDG COR

Sketch No.	Address	Parcel No.	Last Name	First Name
3	38910 N. School House Rd.	211-07-004-D	Reardon	Michael T & Bruce J
		FINISH FLOOR ELEVATION:	2177.82	
Point #	**Northing**	**Easting**	**Elevation**	**Description**
300	1032496.360	691414.815	2162.31	S60N
301	1032502.765	691425.081	2163.47	SH 10.0 O.S. BLDG COR
302	1032507.562	691412.369	2162.46	SH 10.0 O.S. BLDG COR
303	1032561.488	691387.225	2162.43	SH 10.0 O.S. BLDG COR
304	1032566.837	691390.534	2162.56	SH 10.0 O.S. BLDG COR
305	1032529.072	691494.918	2163.74	SH 10.0 O.S. BLDG COR
306	1032542.711	691499.483	2164.27	SH 10.0 O.S. BLDG COR
307	1032590.302	691474.066	2162.91	SH 10.0 O.S. BLDG COR
308	1032599.830	691466.466	2162.95	SH 10.0 O.S. BLDG COR

Sketch No.	Address	Parcel No.	Last Name	First Name
5	39000 N. School House Rd.	211-07-014-S	Stanford	Stanley T & Dianne B
		FINISH FLOOR ELEVATION:	2185.90	
Point #	**Northing**	**Easting**	**Elevation**	**Description**
500	1033021.218	691276.029	2183.63	S60N
501	1033125.936	691315.819	2185.09	BLD O/S 7FT
502	1033119.742	691323.702	2185.02	BLD O/S 7FT
503	1033071.489	691337.597	2184.89	BLD O/S 15FT
504	1033049.851	691324.894	2184.76	BLD O/S 20FT
505	1033053.102	691242.967	2184.46	BLD O/S 7FT
506	1033059.474	691235.360	2184.27	BLD O/S 7FT
507	1033080.295	691232.896	2184.02	BLD O/S 7FT 12.5FT
508	1033109.263	691239.970	2184.62	BLD O/S 7FT
509	1033115.191	691246.578	2184.87	BLD O/S 7FT

All values are in Grid NAD83 Arizona Central 0202 Geoid 99 W/ GDAC's Inclined Plane Adjustment

Sketch No.	Address	Parcel No.	Last Name	First Name
6	39145 N. School House Rd.	216-11-002-T	Clifton	Scott C
		FINISH FLOOR ELEVATION:	2183.55	
Point #	**Northing**	**Easting**	**Elevation**	**Description**
600	1033079.917	692217.707	2182.99	S60N
601	1033086.794	692187.904	2182.64	BLD O/S 7FT
602	1033100.392	692173.045	2182.35	BLD O/S 6FT &8FT
603	1033110.488	692164.118	2182.04	BLD O/S 5FT
604	1033117.561	692164.305	2182.22	BLD O/S 5FT
605	1033134.632	692179.578	2182.56	BLD O/S 6FT & 8.5FT
606	1033141.302	692188.740	2182.94	4CMU BLD O/S 7FT & 9FT
607	1033146.007	692197.445	2182.59	BLD O/S 7.5FT
608	1033146.281	692195.571	2182.39	BLD O/H O/S 11FT
609	1033177.574	692265.104	2182.32	BLD O/S 6FT SOUTH 11 W BLD THEN 6FT W O/H
610	1033172.402	692270.448	2182.38	BLD O/S 5FT
611	1033161.744	692271.466	2182.92	BLD O/S 5FT
612	1033156.886	692276.280	2182.60	BLD O/S 5FT
613	1033149.295	692276.191	2183.02	BLD O/S 5FT
614	1033144.193	692280.769	2182.69	BLD O/S 5FT &9.5FT
615	1033124.168	692282.624	2182.56	BLD O/S 5FT
616	1033119.453	692277.413	2182.62	BLD O/S 5FT
617	1033093.186	692252.011	2182.70	BLD O/S 7FT
618	1033093.121	692242.126	2183.04	BLD O/S 7FT

Sketch No.	Address	Parcel No.	Last Name	First Name
7	39201 N. School House Rd.	216-11-002-Q	Kewley	Josh
		FINISH FLOOR ELEVATION:	2209.85	
Point #	**Northing**	**Easting**	**Elevation**	**Description**
700	1033604.274	692290.462	2208.74	S60N
701	1033586.939	692311.474	2207.21	BLD O/S 5FT
702	1033579.923	692313.183	2207.25	BLD O/S 5FT
703	1033555.398	692354.332	2206.84	BLD O/S 5FT
704	1033556.799	692361.368	2207.26	BLD O/S 5FT
705	1033579.728	692425.970	2209.09	BLD O/S 5FT
706	1033581.305	692432.822	2209.02	BLD O/S 5FT
707	1033589.428	692449.754	2208.96	BLD O/S 5FT
708	1033624.155	692470.168	2210.30	BLD O/S 5FT
709	1033632.825	692469.590	2209.38	BLD O/S 5FT 7FT
710	1033652.191	692436.715	2209.17	BLD O/S 5FT 10FT
711	1033650.575	692429.827	2209.46	BLD O/S 5FT
712	1033652.177	692426.469	2209.27	BLD O/S 5FT
713	1033652.248	692417.161	2209.75	BLD O/S 8FT
714	1033650.570	692363.303	2209.31	BLD O/S 5FT
715	1033649.080	692356.049	2209.40	BLD O/S 5FT
716	1033640.614	692353.767	2209.31	BLD O/S 5FT
717	1033639.244	692346.817	2209.32	BLD O/S 5FT 8FT
718	1033604.725	692328.101	2209.18	BLD O/S 5FT
719	1033603.068	692321.068	2209.04	BLD O/S 5FT 8FT

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Sketch No.	Address	Parcel No.	Last Name	First Name
8	27609 N. 64th St.	216-11-002-W	Rafacz	Bronislawa
		FINISH FLOOR ELEVATION:	2216.88	
Point #	**Northing**	**Easting**	**Elevation**	**Description**
800	1033202.971	692803.710	2214.76	S60N
801	1033249.428	692841.027	2216.33	BLD O/S 8FT
802	1033238.634	692837.006	2216.47	BLD O/S 8FT
803	1033228.117	692814.023	2216.20	BLD O/S 8FT
804	1033232.063	692803.327	2216.25	BLD O/S 8FT
805	1033259.106	692790.795	2216.44	BLD O/S 8FT 8FT
806	1033249.426	692769.380	2216.36	BLD O/S 8FT 8FT
807	1033222.206	692781.869	2216.32	BLD O/S 8FT
808	1033211.523	692777.806	2216.11	BLD O/S 8FT
809	1033201.014	692754.903	2215.79	BLD O/S 8FT
810	1033205.046	692744.369	2215.00	BLD O/S 8FT
811	1033262.507	692719.396	2213.67	BLD O/S 8FT
812	1033273.230	692722.007	2215.23	BLD O/S 8FT
813	1033307.274	692730.465	2208.00	BLD O/S 8FT
814	1033311.935	692734.638	2207.86	BLD O/S 8FT
815	1033323.525	692760.252	2208.41	BLD O/S 8FT
816	1033323.789	692766.582	2209.09	BLD O/S 8FT
817	1033322.870	692787.901	2211.66	BLD O/S 10FT
818	1033316.092	692805.651	2213.62	BLD O/S 10FT
819	1033295.661	692821.819	2215.92	BLD O/S 10FT

Sketch No.	Address	Parcel No.	Last Name	First Name
9	39207 N. School House Rd.	216-11-002-P	Blazina	Carol Anne
		FINISH FLOOR ELEVATION:	2208.66	
Point #	**Northing**	**Easting**	**Elevation**	**Description**
900	1033750.850	692732.968	2208.34	S60N BLD O/S 4.2FT & 9FT
901	1033744.047	692756.844	2208.09	BLD O/S 5FT & 16.3FT
902	1033725.936	692763.371	2207.98	BLD O/S 5FT
903	1033722.373	692767.762	2208.08	BLD O/S 5FT & 9.5FT
904	1033713.782	692786.127	2207.68	BLD O/S 5FT
905	1033707.222	692788.048	2206.93	BLD O/S 5FT
906	1033692.522	692779.961	2205.98	BLD O/S 5FT
907	1033685.240	692770.165	2205.95	BLD O/S 11.75FT
908	1033676.061	692714.071	2207.08	BLD O/S 10FT
909	1033676.298	692702.925	2207.43	BLD O/S 5FT
910	1033678.904	692688.360	2207.60	BLD O/S 10FT
911	1033689.607	692688.310	2208.06	BLD O/S 5FT
912	1033726.308	692691.685	2208.33	BLD O/S 5FT
913	1033732.785	692695.152	2208.57	BLD O/S 5FT
914	1033740.072	692709.959	2208.49	BLD O/S 10FT
915	1033747.559	692717.999	2208.44	BLD O/S 5FT & 13FT

Sketch No.	Address	Parcel No.	Last Name	First Name
10	38550 N. Ridgeway Dr.	216-11-002-K	Harris	Edward S & Shirley A
		FINISH FLOOR ELEVATION:	2228.35	
Point #	**Northing**	**Easting**	**Elevation**	**Description**
1000	1034076.162	693030.657	2231.09	S60N
1001	1034062.461	692952.584	2227.56	SH 10.0 O.S. BLDG COR
1002	1034070.218	692962.024	2227.56	SH 8.0 O.S. BLDG COR
1003	1034070.218	692987.745	2227.53	SH 8.0 O.S. BLDG COR
1004	1034062.515	692997.621	2227.59	SH 10.0 O.S. BLDG COR
1005	1034054.959	693040.761	2227.18	SH 8.0 O.S. BLDG COR
1006	1034047.377	693047.994	2226.69	SH 8.0 O.S. BLDG COR
1007	1033994.370	693047.412	2223.02	SH 7.0 O.S. BLDG COR
1008	1033983.328	693040.519	2222.25	SH 11.0 O.S. BLDG COR
1009	1033992.391	692964.659	2227.56	SH 8.0 O.S. BLDG COR
1010	1034000.329	692957.053	2227.29	SH 8.0 O.S. BLDG COR

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Sketch No.	Address	Parcel No.	Last Name	First Name
11	39225 N. Ridgeway Dr.	216-11-009-X	Rector	Gary L
FINISH FLOOR ELEVATION: 2213.57 (Front Door) 2212.47(Bedroom Door)				
Point #	**Northing**	**Easting**	**Elevation**	**Description**
1100	1033876.811	693329.122	2211.58	S60N
1101	1033894.241	693349.817	2212.43	BLD O/S 5FT 15.5FT
1102	1033888.897	693370.819	2212.81	BLD O/S 5FT
1103	1033894.946	693411.994	2212.51	BLD O/S 10.5FT 20FT
1104	1033907.388	693419.326	2213.90	BLD O/S 10FT
1105	1033906.949	693421.464	2213.83	BLD O/S 7FT
1106	1033914.196	693426.795	2214.09	BLD O/S 5FT
1107	1033926.892	693426.479	2214.83	BLD O/S 5FT
1108	1033932.112	693421.384	2214.98	BLD O/S 5FT
1109	1033938.422	693384.240	2214.56	BLD O/S 5FT
1110	1033943.456	693379.383	2214.06	BLD O/S 5FT
1111	1033938.129	693364.268	2213.09	BLD
1112	1033924.188	693338.958	2211.80	BLD O/S 5FT 18FT

Sketch No.	Address	Parcel No.	Last Name	First Name
12	6612 E. Saber Rd.	216-11-009-Y	Weinberg	Faith R
FINISH FLOOR ELEVATION: 2236.58				
Point #	**Northing**	**Easting**	**Elevation**	**Description**
1200	1033555.357	693467.261	2236.37	S60N
1201	1033560.182	693473.111	2236.41	BLD O/S 5FT
1202	1033556.727	693460.195	2236.24	BLD O/S 13FT 18FT
1203	1033567.241	693435.703	2235.88	BLD O/S 5FT
1204	1033590.711	693426.637	2235.89	BLD O/S 5FT
1205	1033597.319	693429.947	2236.07	BLD O/S 5FT
1206	1033603.809	693431.618	2235.95	BLD O/S 5FT
1207	1033610.298	693434.530	2236.04	BLD O/S 5FT
1208	1033617.878	693453.398	2236.36	BLD O/S 5FT
1209	1033629.935	693512.435	2236.13	BLD O/S 5FT
1210	1033629.052	693525.543	2236.14	BLD O/S 12FT
1211	1033599.054	693530.047	2236.46	BLD O/S 5FT
1212	1033592.551	693526.907	2236.36	BLD O/S 5FT
1213	1033570.168	693498.393	2236.59	BLD O/S 5FT 15FT

Sketch No.	Address	Parcel No.	Last Name	First Name
13	6689 E. Mesquite Rd.	216-11-009-V	Cox	Robert A & Gayla C
FINISH FLOOR ELEVATION: 2242.47				
Point #	**Northing**	**Easting**	**Elevation**	**Description**
1300	1034023.609	693947.855	2245.48	S60N
1301	1034025.969	693944.688	2246.12	BLD
1302	1034041.303	693933.464	2247.39	BLD
1303	1034029.798	693918.814	2245.78	BLD
1304	1034029.734	693917.471	2245.40	BLD
1305	1033998.723	693917.415	2241.83	BLD O/S 9FT
1306	1033963.101	693959.746	2240.26	BLD O/S 10FT
1307	1033999.631	694046.501	2247.56	BLD
1308	1034010.550	694025.709	2249.94	BLD
1309	1033997.417	694003.715	2248.38	BLD

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Sketch No.	Address	Parcel No.	Last Name	First Name
14	???	216-11-009-W	Cox	Robert & Gayla
		FINISH FLOOR ELEVATION:	2238.89	
Point #	**Northing**	**Easting**	**Elevation**	**Description**
1400	1033962.181	694385.769	2238.07	S60N
1401	1033916.779	694345.976	2238.19	BLD O/S 8FT
1402	1033886.852	694330.169	2234.03	BLD O/S 10FT
1403	1033890.472	694319.220	2233.94	BLD O/S 6FT
1404	1033899.422	694297.058	2231.82	BLD O/S 5FT 10FT
1405	1033908.466	694288.517	2232.29	BLD O/S 5FT 10FT
1406	1033915.422	694288.847	2234.21	BLD O/S 5FT
1407	1033919.794	694291.591	2235.10	BLD O/S 5FT
1408	1033926.886	694291.705	2235.69	BLD O/S 5FT
1409	1033943.709	694308.657	2236.78	BLD O/S 5FT
1410	1033943.669	694315.593	2238.11	BLD O/S 5FT
1411	1033946.209	694312.872	2237.94	BLD1 O/S 5FT
1412	1033953.311	694312.802	2236.29	BLD1 O/S 5FT
1413	1033968.968	694335.845	2238.05	BLD1 O/S 7FT
1414	1033965.284	694346.369	2238.22	BLD1 O/S 12FT
1415	1033945.112	694349.054	2238.23	BLD1 O/S 16FT

Sketch No.	Address	Parcel No.	Last Name	First Name
15	6902 E Grapevine Rd.	216-10-004-A	Swanson	Kay S
		FINISH FLOOR ELEVATION:	Cancelled	

Sketch No.	Address	Parcel No.	Last Name	First Name
17	5425 E Morning Star Rd.	211-01-059	Falke	David & Kim
		FINISH FLOOR ELEVATION:	2193.68	
Point #	**Northing**	**Easting**	**Elevation**	**Description**
1700	1043084.868	685604.534	2192.50	S60N
1701	1043095.914	685498.876	2194.99	BLD O/S 9FT
1702	1043096.793	685503.253	2193.37	BLD O/S 9FT
1703	1043098.738	685554.935	2193.76	BLD O/S 12FT
1704	1043097.311	685560.515	2192.85	BLD O/S 9FT
1705	1043106.545	685575.235	2192.43	BLD O/S 9FT
1706	1043107.066	685582.434	2192.84	BLD O/S 9FT
1707	1043080.269	685598.533	2192.56	BLD O/S 9FT
1708	1043072.943	685594.783	2192.64	BLD O/S 9FT
1709	1043058.362	685567.078	2192.29	BLD O/S 7FT W
1710	1043041.316	685503.923	2195.51	BLD O/S 7FT 17FT N
1711	1043032.314	685490.279	2195.44	BLD O/S 7FT
1712	1043035.872	685479.592	2195.29	BLD O/S 7FT E
1713	1043067.002	685462.996	2195.32	BLD O/S 7FT E

Sketch No.	Address	Parcel No.	Last Name	First Name
18	5455 E Morning Star Rd.	211-01-058	Worthington	William & Barbara
		FINISH FLOOR ELEVATION:	2185.68	
Point #	**Northing**	**Easting**	**Elevation**	**Description**
1800	1043168.419	685813.488	2185.29	S60N
1850	1043139.752	685929.667	2184.83	SH 10.0 O.S. BLDG COR
1851	1043129.488	685919.735	2185.00	SH 10.0 O.S. BLDG COR
1852	1043117.208	685862.245	2184.67	SH 10.0 O.S. BLDG COR
1853	1043125.688	685852.351	2184.47	SH 10.0 O.S. BLDG COR
1854	1043199.573	685846.021	2186.02	SH 10.0 O.S. BLDG COR
1855	1043209.623	685856.126	2185.81	SH 10.0 O.S. BLDG COR
1856	1043205.785	685906.893	2184.91	SH 10.0 O.S. BLDG COR
1857	1043196.009	685926.882	2185.00	SH 20.0 O.S. BLDG COR

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Sketch No.	Address	Parcel No.	Last Name	First Name
19	5404 E Morning Star Rd.	211-01-019-B	Bridges	Kenneth & Patti Windes
FINISH FLOOR ELEVATION: 2193.85 2192.36				
Point #	**Northing**	**Easting**	**Elevation**	**Description**
1900	1043599.513	685447.836	2191.59	S60N
1950	1043620.827	685389.750	2193.71	SH 10.0 O.S. BLDG COR
1951	1043630.752	685379.584	2193.72	SH 10.0 O.S. BLDG COR
1952	1043680.540	685390.839	2193.55	SH 16.0 O.S. BLDG COR
1953	1043696.216	685406.665	2192.85	SH 16.0 O.S. BLDG COR
1954	1043694.607	685482.112	2191.47	SH 12.0 O.S. BLDG COR
1955	1043682.285	685494.178	2191.14	SH 12.0 O.S. BLDG COR
1956	1043617.901	685485.251	2188.49	SH 14.0 O.S. BLDG COR
1957	1043610.828	685466.689	2189.17	SH 20.0 O.S. BLDG COR

Sketch No.	Address	Parcel No.	Last Name	First Name
20	5454 E Morning Star Rd.	211-01-020	Dowd	Daniel T & Tamara L
FINISH FLOOR ELEVATION: 2194.28				
Point #	**Northing**	**Easting**	**Elevation**	**Description**
2000	1043752.389	685849.707	2192.09	S60N
2001	1043769.386	685880.352	2192.98	BLD O/S 10FT
2002	1043782.257	685904.193	2192.83	BLD O/S 7FT
2003	1043791.467	685908.250	2193.47	BLD O/S 7FT
2004	1043824.556	685892.280	2193.37	BLD O/S 7FT
2005	1043828.353	685883.199	2193.31	BLD O/S 7FT
2006	1043856.195	685865.796	2193.40	BLD O/S 7FT
2007	1043860.231	685856.593	2193.30	BLD O/S 7FT
2008	1043831.100	685787.013	2193.47	BLD O/S 7FT
2009	1043821.789	685783.101	2193.68	BLD O/S 7FT
2010	1043789.404	685796.562	2193.61	BLD O/S 7FT 9.5FT
2011	1043781.140	685802.620	2193.61	BLD O/S 7FT
2012	1043777.098	685812.073	2193.38	BLD O/S 7FT

Sketch No.	Address	Parcel No.	Last Name	First Name
21	5502 E Morning Star Rd.	211-01-030	Pirotte	Daniel J & Katherine R
FINISH FLOOR ELEVATION: 2197.54				
Point #	**Northing**	**Easting**	**Elevation**	**Description**
2100	1043745.325	686179.699	2194.16	S60N
2101	1043775.401	686075.088	2196.80	BLD O/S 5FT
2102	1043770.608	686080.482	2196.87	BLD O/S 5FT
2103	1043770.682	686083.687	2196.88	BLD O/S 5FT
2104	1043766.028	686089.066	2196.70	BLD O/S 5FT
2105	1043765.170	686171.883	2196.68	BLD O/S 5FT
2106	1043770.792	686176.588	2196.66	BLD O/S 5FT
2107	1043783.074	686177.167	2196.97	BLD O/S 5FT 6.8FT
2108	1043832.344	686188.558	2196.50	BLD O/S 7FT
2109	1043861.838	686163.472	2197.23	BLD O/S 7FT
2110	1043838.027	686087.821	2196.80	BLD O/S 7FT
2111	1043840.604	686075.401	2196.46	BLD O/S 20FT

All values are in Grid NAD83 Arizona Central 0202 Geoid 99 W/ GDAC's Inclined Plane Adjustment

Sketch No.	Address	Parcel No.	Last Name	First Name
22	5574 E Morning Star Rd.	211-01-031	Chicote	Arthur C & Andrea L
		FINISH FLOOR ELEVATION:	2211.09	
Point #	**Northing**	**Easting**	**Elevation**	**Description**
2200	1043499.966	686586.530	2208.95	S60N
2201	1043560.159	686499.865	2210.16	BLD O/S 7FT 16.3FT
2202	1043577.091	686494.197	2209.66	BLD O/S 7FT
2203	1043613.225	686496.354	2209.02	BLD O/S 7FT
2204	1043619.876	686504.036	2209.35	BLD O/S 7FT
2205	1043610.075	686625.767	2211.08	BLD O/S 7FT
2206	1043602.576	686632.353	2211.13	BLD O/S 7FT
2207	1043585.941	686631.461	2210.99	BLD O/S 7FT 18FT
2208	1043562.606	686612.044	2210.85	BLD O/S 7FT 24.5FT N
2209	1043561.454	686601.536	2210.87	BLD O/S 7FT
2210	1043555.075	686593.956	2210.33	BLD O/S 7FT 15.5FT

Sketch No.	Address	Parcel No.	Last Name	First Name
23	5401 E Honda Bow Rd.	211-01-019-C	Bonnamy	William M & Janice A
		FINISH FLOOR ELEVATION:	2211.62	
Point #	**Northing**	**Easting**	**Elevation**	**Description**
2300	1044639.019	685520.954	2212.86	S60N
2305	1044531.062	685544.915	2209.87	SH 10.0 O.S. BLDG COR
2306	1044523.193	685542.511	2209.22	SH 12.0 O.S. BLDG COR
2307	1044478.419	685437.601	2208.28	SH 12.0 O.S. BLDG COR
2308	1044492.403	685427.734	2209.54	SH 12.0 O.S. BLDG COR
2309	1044580.557	685411.891	2211.12	SH 10.0 O.S. BLDG COR
2310	1044584.747	685425.220	2211.69	SH 10.0 O.S. BLDG COR
2311	1044589.985	685549.948	2210.85	SH 24.0 O.S. BLDG COR
2312	1044581.637	685565.241	2210.19	SH 24.0 O.S. BLDG COR

Sketch No.	Address	Parcel No.	Last Name	First Name
24	5411 E Honda Bow Rd.	211-01-019-D	Marshall	Larry V & Mary S
		FINISH FLOOR ELEVATION:	2205.96	
Point #	**Northing**	**Easting**	**Elevation**	**Description**
2400	1044616.995	685799.489	2207.66	S60N
2405	1044516.378	685865.648	2205.02	SH 10.0 O.S. BLDG COR
2406	1044529.694	685870.980	2205.21	SH 10.0 O.S. BLDG COR
2407	1044568.007	685854.764	2205.30	SH 10.0 O.S. BLDG COR
2408	1044573.459	685841.271	2205.43	SH 10.0 O.S. BLDG COR
2409	1044557.167	685760.926	2204.98	SH 15.0 O.S. BLDG COR
2410	1044536.877	685752.737	2205.25	SH 15.0 O.S. BLDG COR
2411	1044476.050	685778.999	2205.10	SH 15.0 O.S. BLDG COR
2412	1044462.744	685787.409	2204.99	SH 20.0 O.S. BLDG COR

Sketch No.	Address	Parcel No.	Last Name	First Name
25	5515 E Honda Bow Rd.	211-01-028-A	Stockford	Paul & Barbara H
		FINISH FLOOR ELEVATION:	2200.72	
Point #	**Northing**	**Easting**	**Elevation**	**Description**
2500	1044352.740	686114.663	2200.89	S60N
2505	1044298.075	686189.524	2199.92	SH 10.0 O.S. BLDG COR
2506	1044292.137	686202.308	2199.97	SH 10.0 O.S. BLDG COR
2507	1044248.640	686218.921	2199.10	SH 10.0 O.S. BLDG COR
2508	1044235.761	686213.542	2199.69	SH 10.0 O.S. BLDG COR
2509	1044207.606	686144.270	2199.65	SH 10.0 O.S. BLDG COR
2510	1044214.421	686132.654	2199.47	SH 10.0 O.S. BLDG COR
2511	1044279.989	686097.700	2199.74	SH 10.0 O.S. BLDG COR
2512	1044292.913	686103.823	2199.87	SH 10.0 O.S. BLDG COR

All values are in Grid NAD83 Arizona Central 0202 Geoid 99 W/ GDAC's Inclined Plane Adjustment

Sketch No.	Address	Parcel No.	Last Name	First Name
26	5511 E Honda Bow Rd.	211-01-028-B	Morgan	Kedzi
		FINISH FLOOR ELEVATION:	2208.15	
Point #	**Northing**	**Easting**	**Elevation**	**Description**
2600	1044610.578	686244.369	2209.55	S60N
2605	1044552.279	686149.074	2207.85	SH 10.0 O.S. BLDG COR
2606	1044565.642	686144.395	2206.85	SH 10.0 O.S. BLDG COR
2607	1044588.950	686152.916	2207.08	SH 12.0 O.S. BLDG COR
2608	1044601.132	686162.203	2207.02	SH 18.0 O.S. BLDG COR
2609	1044571.118	686211.777	2207.67	SH 10.0 O.S. BLDG COR
2610	1044567.005	686216.276	2207.83	SH 10.0 O.S. BLDG COR
2611	1044524.659	686202.922	2207.47	SH 17.0 O.S. BLDG COR
2612	1044529.433	686201.334	2207.63	SH 12.0 O.S. BLDG COR

Sketch No.	Address	Parcel No.	Last Name	First Name
27	5525 E Honda Bow Rd.	211-01-028-C	Haff	Stephen L & Jannelle A Smith
		FINISH FLOOR ELEVATION:	2209.36	
Point #	**Northing**	**Easting**	**Elevation**	**Description**
2708	1044607.081	686513.863	2209.45	S60N
2700	1044464.885	686494.825	2207.14	SH 10.0 O.S. BLDG COR
2701	1044458.767	686483.666	2206.98	SH 8.0 O.S. BLDG COR
2702	1044471.161	686422.759	2206.90	SH 8.0 O.S. BLDG COR
2703	1044480.350	686416.467	2206.97	SH 8.0 O.S. BLDG COR
2704	1044537.768	686427.642	2207.90	SH 8.0 O.S. BLDG COR
2705	1044545.104	686431.080	2208.11	SH 10.0 O.S. BLDG COR
2706	1044543.276	686484.717	2208.37	SH 10.0 O.S. BLDG COR
2707	1044538.558	686491.279	2208.49	SH 10.0 O.S. BLDG COR

Sketch No.	Address	Parcel No.	Last Name	First Name
28	42631 N 54th St.	202-19-022-D	Ekrom	Jane H
		FINISH FLOOR ELEVATION:	2214.07	
Point #	**Northing**	**Easting**	**Elevation**	**Description**
2800	1044845.647	685786.547	2213.58	S60N
2806	1044895.881	685816.196	2215.89	SH 10.0 O.S. BLDG COR
2807	1044897.242	685830.685	2214.41	SH 10.0 O.S. BLDG COR
2808	1044919.962	685845.896	2214.71	SH 8.0 O.S. BLDG COR
2809	1044935.765	685848.087	2215.27	SH 14.0 O.S. BLDG COR
2810	1045005.352	685783.454	2216.54	SH 18.0 O.S. BLDG COR
2811	1045019.056	685763.529	2213.22	SH 16.0 O.S. BLDG COR
2812	1045016.791	685742.926	2212.71	SH 16.0 O.S. BLDG COR
2813	1044999.542	685732.696	2214.76	SH 12.0 O.S. BLDG COR
2814	1044933.423	685740.272	2213.87	SH 12.0 O.S. BLDG COR
2815	1044925.106	685749.495	2213.36	SH 10.0 O.S. BLDG COR

Sketch No.	Address	Parcel No.	Last Name	First Name
29	5516 E Honda Bow Rd.	202-19-022-P	Christopher	James G Anderson
		FINISH FLOOR ELEVATION:	2232.00	
Point #	**Northing**	**Easting**	**Elevation**	**Description**
2900	1045077.004	686258.254	2226.77	S60N
2905	1045175.885	686288.655	2232.16	SH 10.0 O.S. BLDG COR
2906	1045164.505	686279.774	2231.93	SH 10.0 O.S. BLDG COR
2907	1045226.798	686284.002	2235.65	SH 10.0 O.S. BLDG COR
2908	1045237.634	686274.305	2235.35	SH 10.0 O.S. BLDG COR
2909	1045231.879	686194.278	2232.35	SH 12.0 O.S. BLDG COR
2910	1045220.245	686181.400	2231.33	SH 12.0 O.S. BLDG COR
2911	1045174.401	686170.396	2228.24	SH 20.0 O.S. BLDG COR
2912	1045157.860	686187.595	2229.97	SH 16.0 O.S. BLDG COR

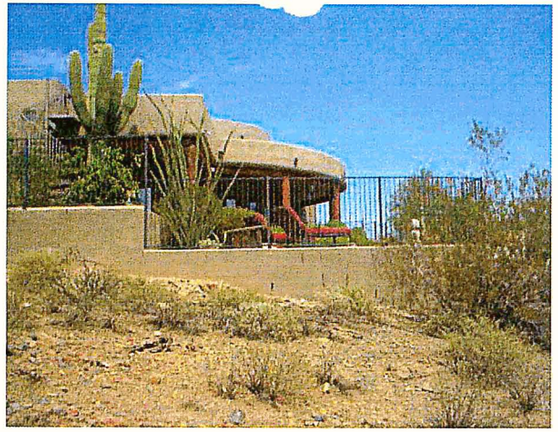
All values are in Grid NAD83 Arizona Central 0202 Geoid 99 W/ GDAC's Inclined Plane Adjustment				
Sketch No.	**Address**	**Parcel No.**	**Last Name**	**First Name**
30	*40647 N Flemind Springs Rd.*	*202-15-010-A*	*Diefenderfer*	*Paul & Marsolo Anna*
		FINISH FLOOR ELEVATION:	2249.59	
Point #	**Northing**	**Easting**	**Elevation**	**Description**
3000	1038732.694	693138.641	2248.73	S60N
3001	1038738.706	693153.485	2248.68	SH 10.0 O.S. BLDG COR
3002	1038739.805	693161.930	2248.57	SH 10.0 O.S. BLDG COR
3003	1038718.917	693124.246	2249.72	SH 10.0 O.S. BLDG COR
3004	1038704.859	693120.444	2249.06	SH 10.0 O.S. BLDG COR
3005	1038673.823	693153.833	2239.50	SH 20.0 O.S. BLDG COR
3006	1038667.158	693140.311	2239.26	SH 23.0 O.S. BLDG COR
3007	1038693.774	693183.474	2240.22	SH 20.0 O.S. BLDG COR
3008	1038723.907	693192.104	2240.50	SH 24.0 O.S. BLDG COR

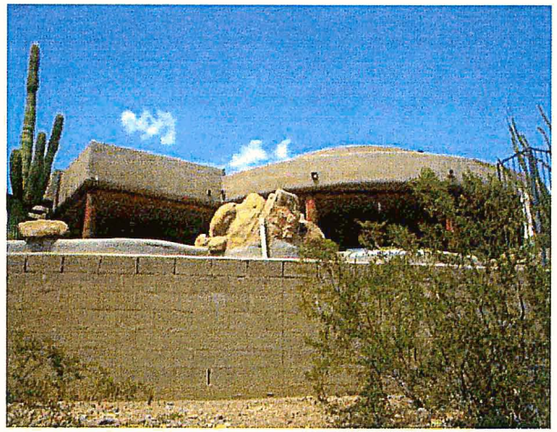
SECTION 4.1.1

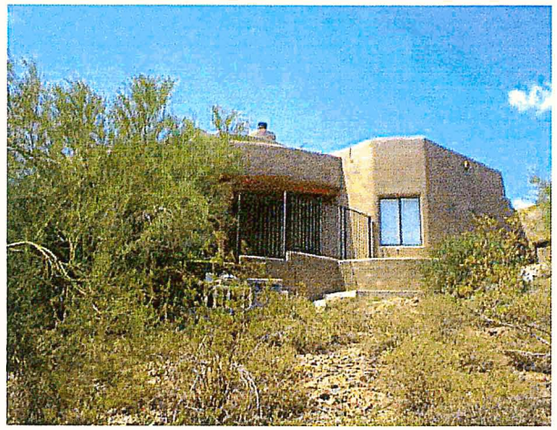
F.F.E. COORDINATE REPORT

SECTION 4.1.2

F.F.E. FIELD PHOTOS AND SKETCHES







APN# 211-07-004A

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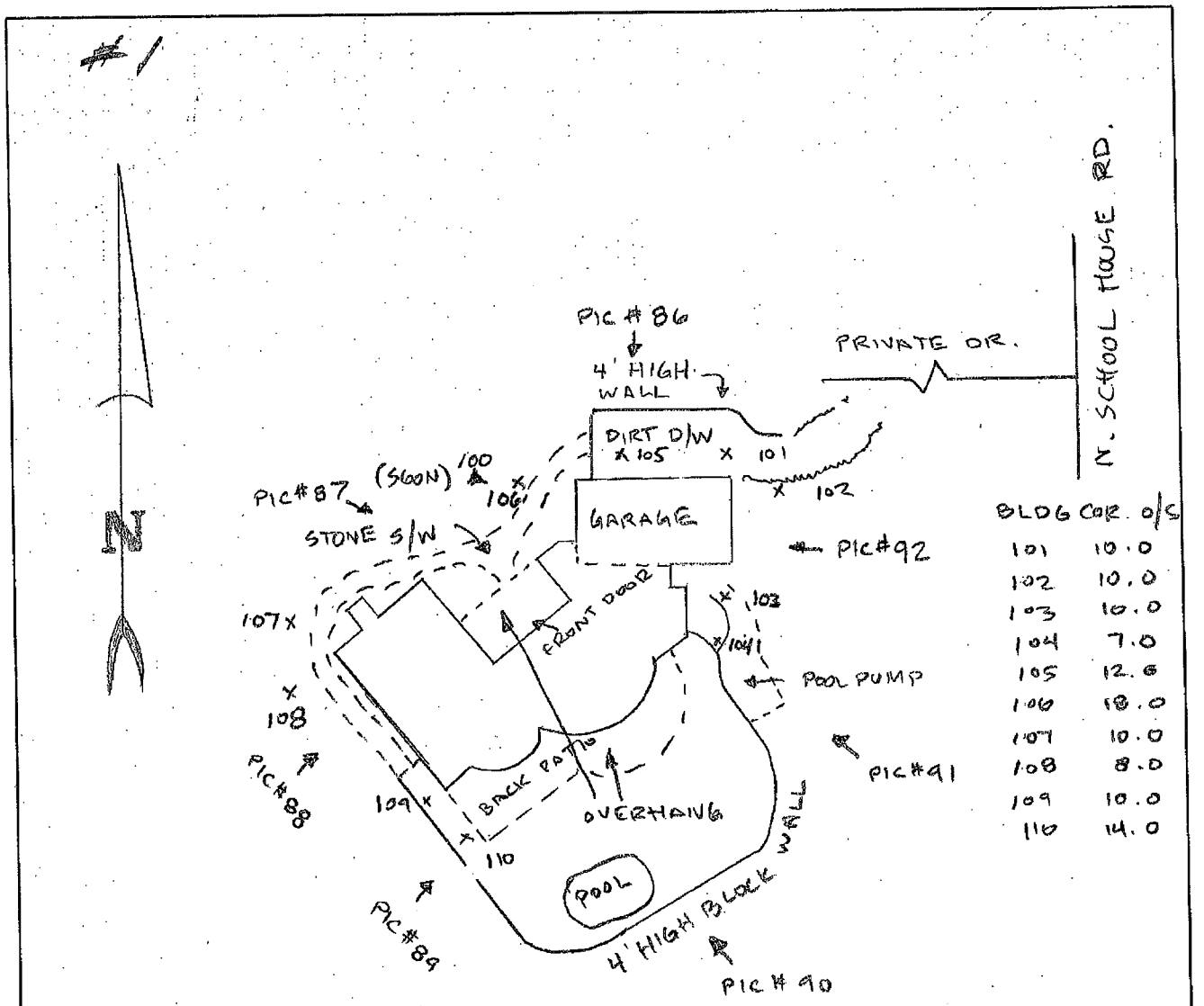
COMPUTATION SHEET

JOB# 1686.1 SHEET# 1 OF ____
SUBJECT: 38892 N. SCHOOL HOUSE RD
BY: L. SPEAN DATE: 09-04-07 RD KRAMER
CHECKED BY: ____ DATE: ____



BLDG COR.	O/S
101	10.0
102	10.0
103	10.0
104	7.0
105	12.6
106	18.0
107	10.0
108	8.0
109	10.0
110	14.0

STA/PT#	+	ΔHI	−	ELEV.	DESC.
100	4.53	2176.215		2171.685	(S60N)
			4.37	2171.845	F.F. @ 38892 N. SCHOOL HOUSE RD
	4.45	2176.295			
100			4.62	2171.675	S60N

ADJ FFEL = 2171.850

FFE 2

APN# 211-07-004 E

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COMPUTATION SHEET 2

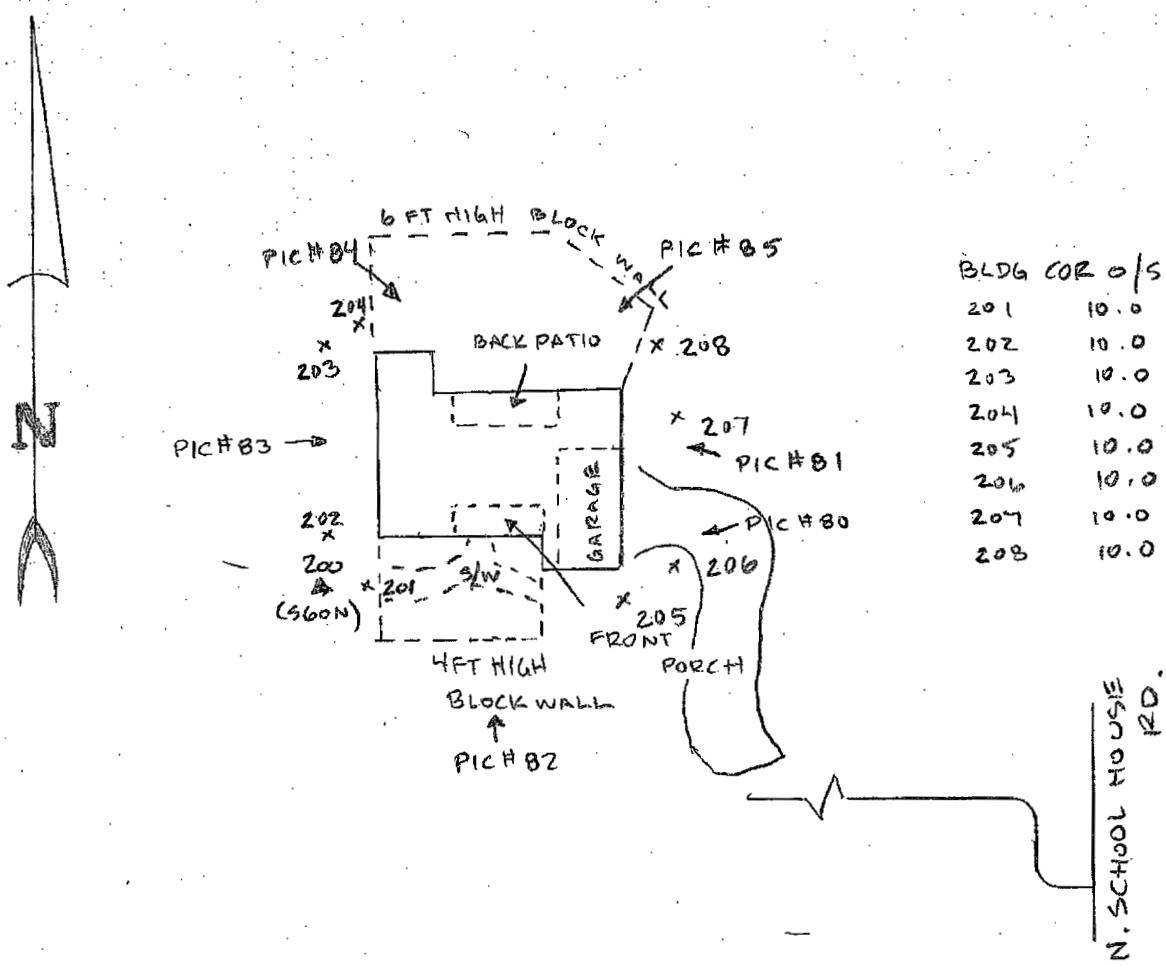
JOB# 1686.1 SHEET# 2 OF ____

SUBJECT: 38860 N. SCHOOL HOUSE RD.

BY: L. SPEAN DATE: 09-04-07 ALLAN VASALLO

CHECKED BY: _____ DATE: _____

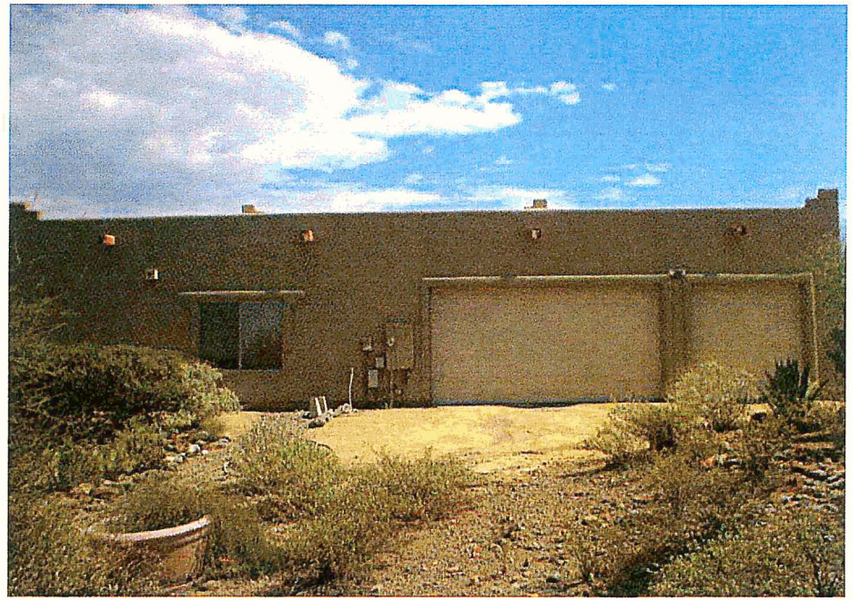
#2

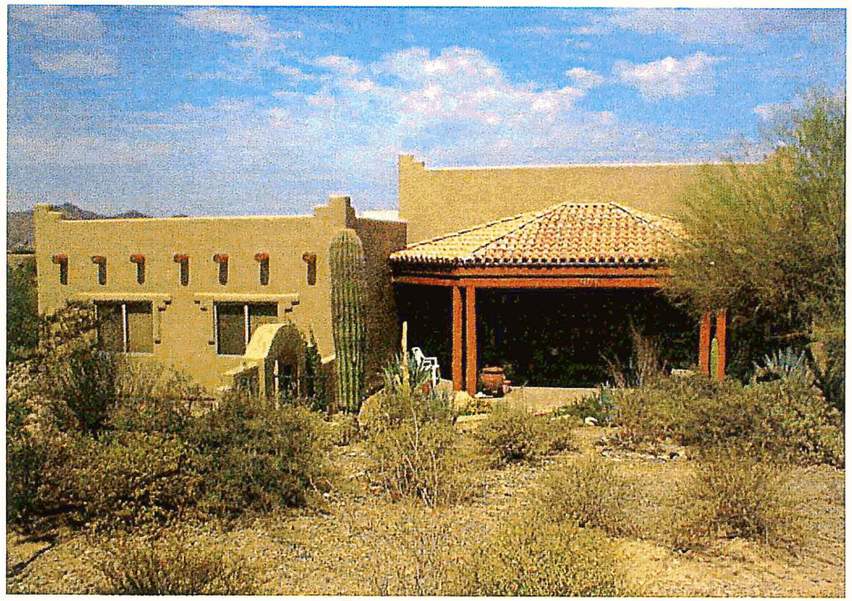


BLDG COR	O/S
201	10.0
202	10.0
203	10.0
204	10.0
205	10.0
206	10.0
207	10.0
208	10.0

STA/PT#	+	HI	−	ELEV.	DESC.
200	6.23	2168.54		2162.31	S60N
			4.18	2164.36	F.F. @ 38860 N. SCHOOL HOUSE RD
	4.07	2168.43			
200			6.12	2162.31	S60N

FFE 3





APN# 211-07-004D

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COMPUTATION SHEET

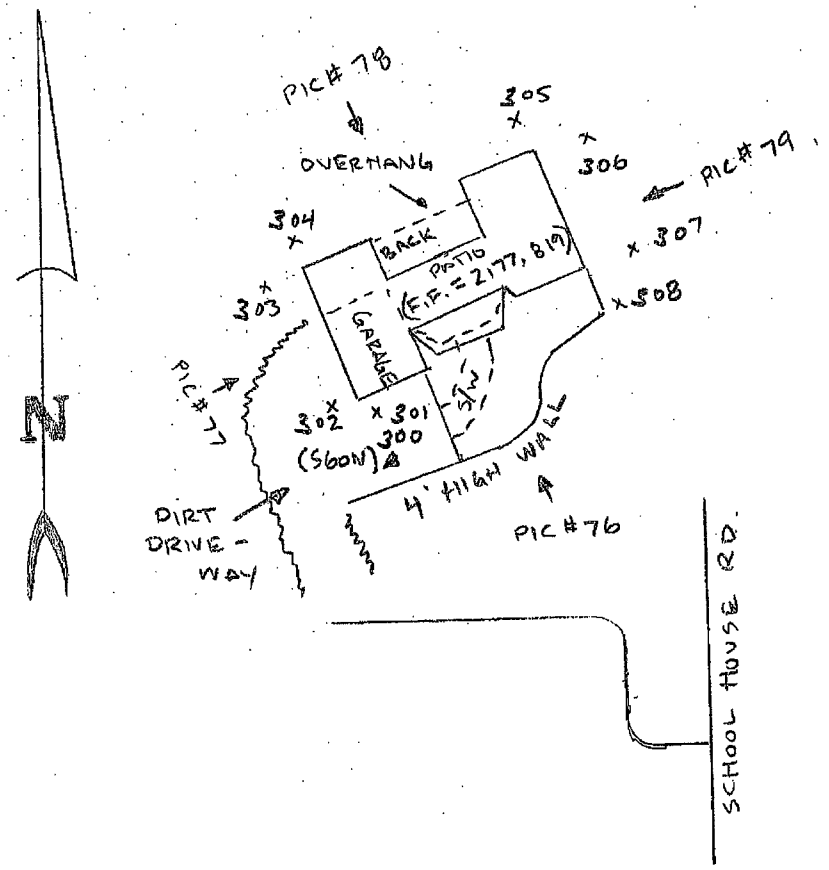
JOB# 1686.1 SHEET# 3 OF ____

SUBJECT: 38910 N. SCHOOL HOUSE RD

BY: L. SPEAN DATE: 09-04-07 MICHAEL REARDON

CHECKED BY: ____ DATE: ____

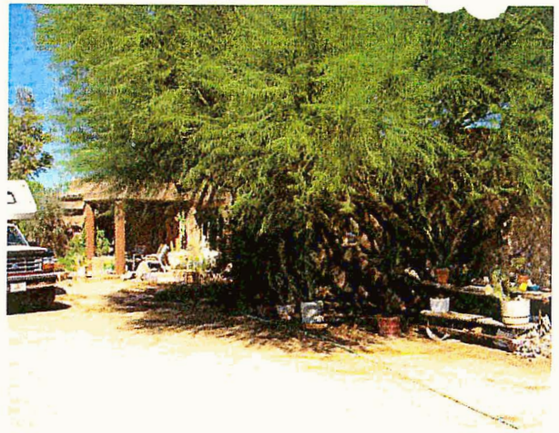
#3

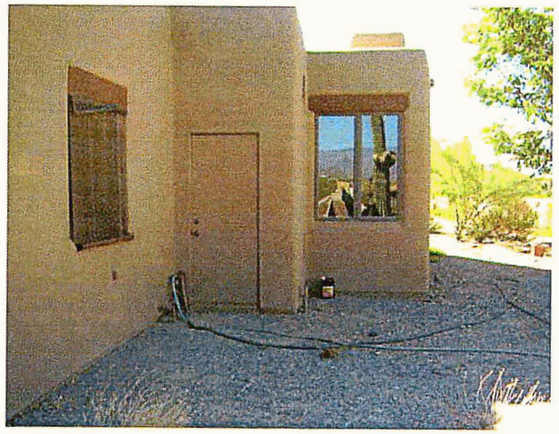


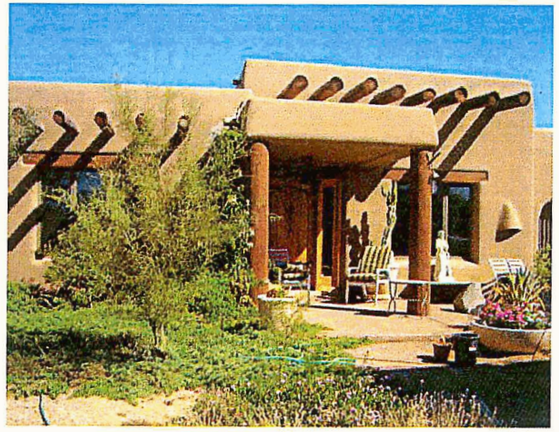
BLDG COR. O/S

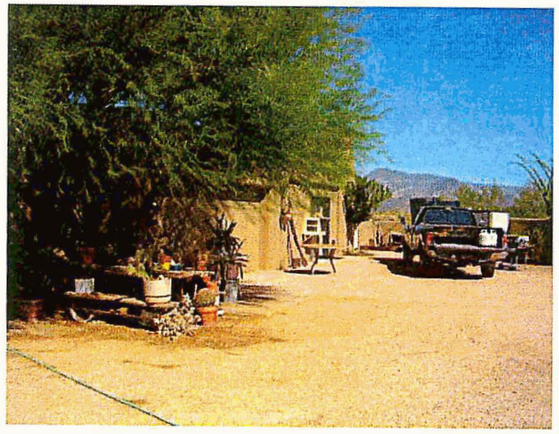
301	10.0
302	10.0
303	7.0
304	7.0
305	7.0
306	7.0
307	7.0
308	7.0

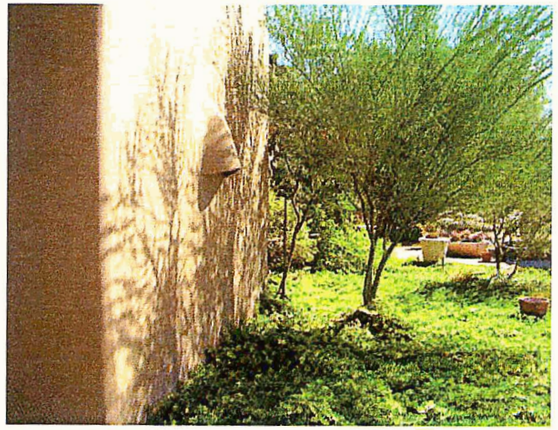
STA/PT.#	+	THI	−	ELEV.	DESC.
300	5.10	2182.139		2177.039	S60N
F.F.			4.52	2177.619	FF EL @ 38910 N. SCHOOL HOUSE RD.
	4.44	2182.059			→ + 0.20 = 2177.819
			5.01	2177.049	S60N
					ADJ FFEL = 2177.824
					COULD NOT SHOOT FFEL (LOCKED SCREEN) SHOT IN FRONT W/ MEASURE UP











APN# 211-07-045

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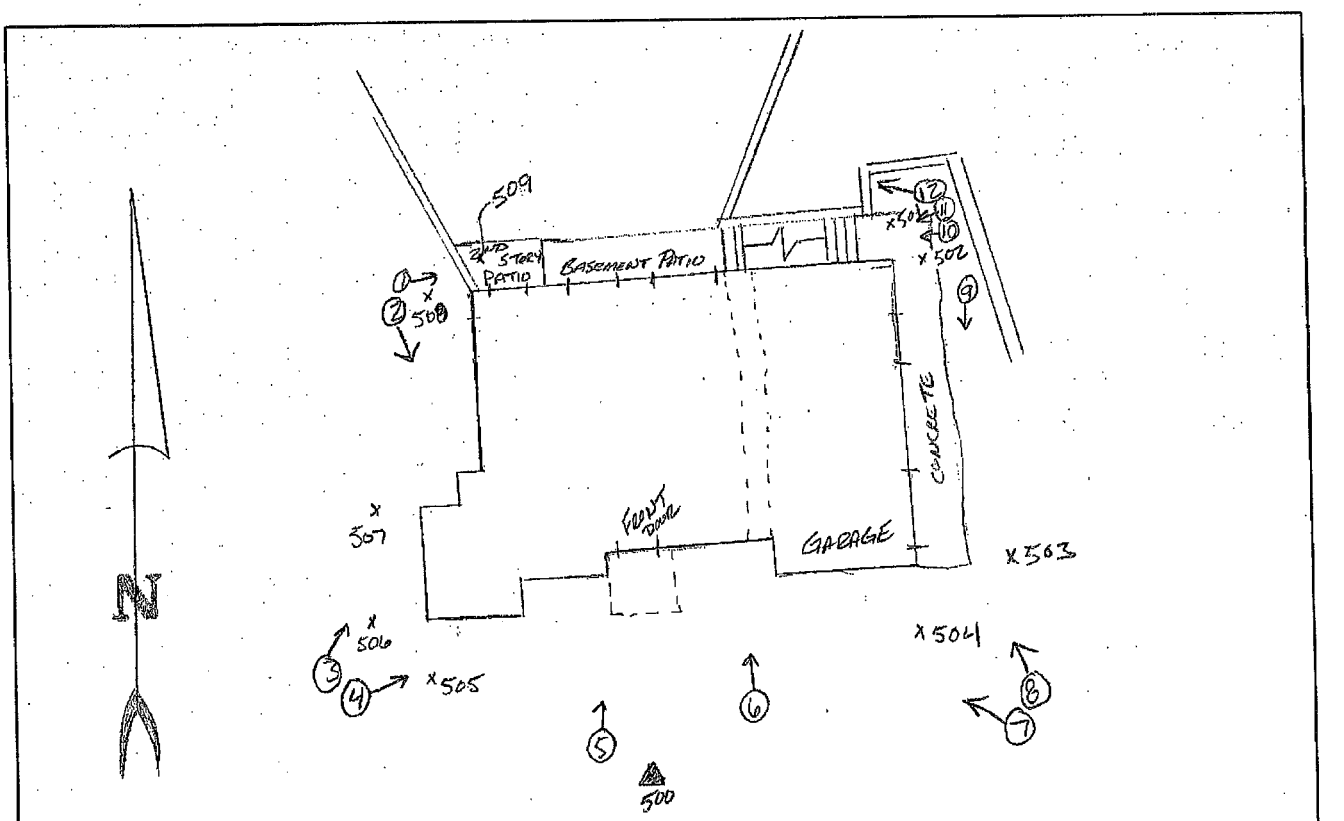
COMPUTATION SHEET

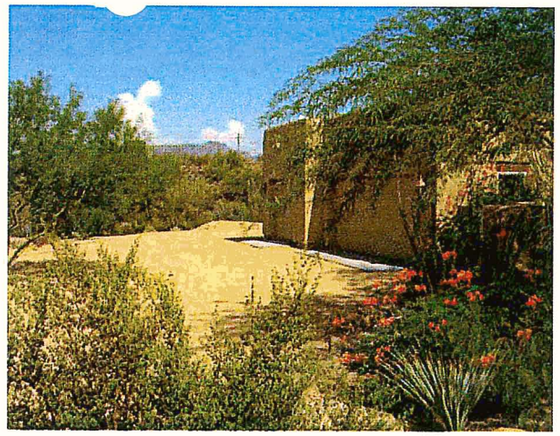
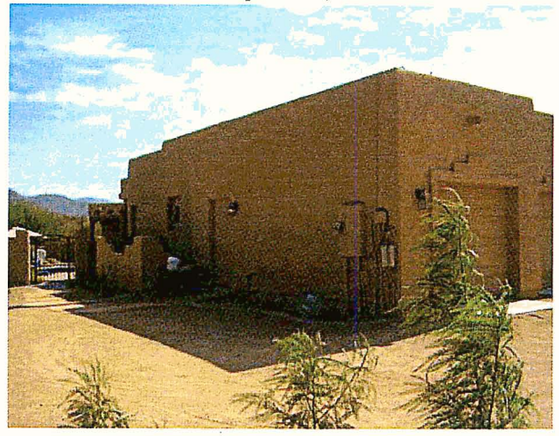
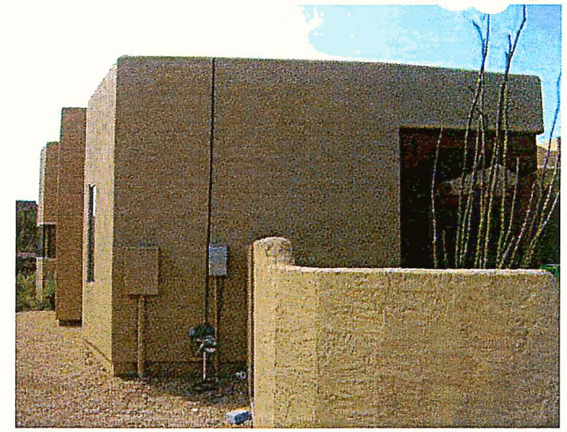
JOB# 11686.1 SHEET# 5 OF ____
SUBJECT: 39000 N SCHOOL HOUSE RD
BY: J. MALEK DATE: 9/13/07
CHECKED BY: ____ DATE: ____

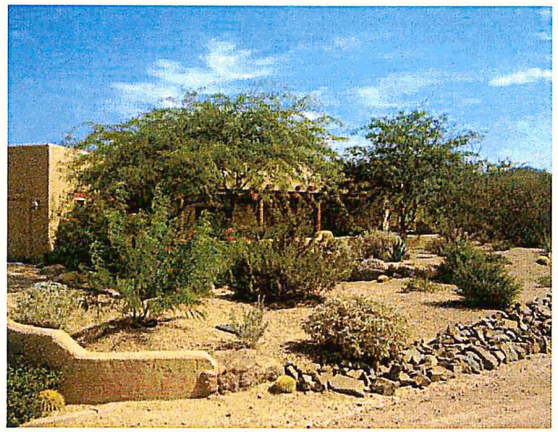


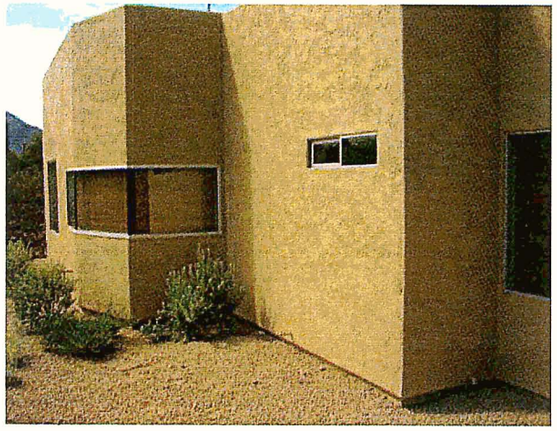
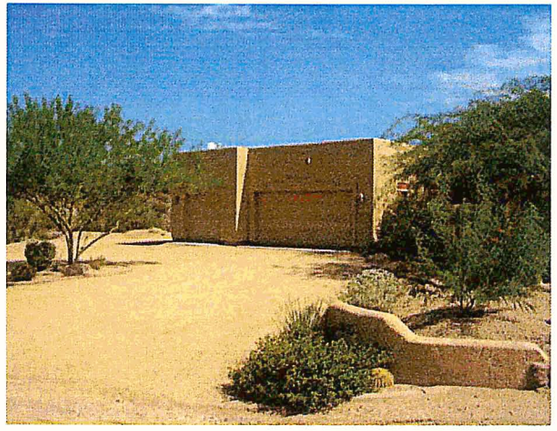
OWNER DID NOT ALLOW US TO DO ANY OBSERVATIONS ON LOWER LEVEL/BASEMENT.

STA/PT#	+	HI	−	ELEV.	DESC.
500				2183.629	S60N
	6.481	2190.110			
FFEL			4.214	2185.896	FINISH FLOOR @ FRONT DOOR
FFEL	3.822	2189.718			FINISH FLOOR @ FRONT DOOR
500			6.088	2183.630	S60N

ADJ FFEL 2185.90



APN# 216-11-002 T

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COMPUTATION SHEET

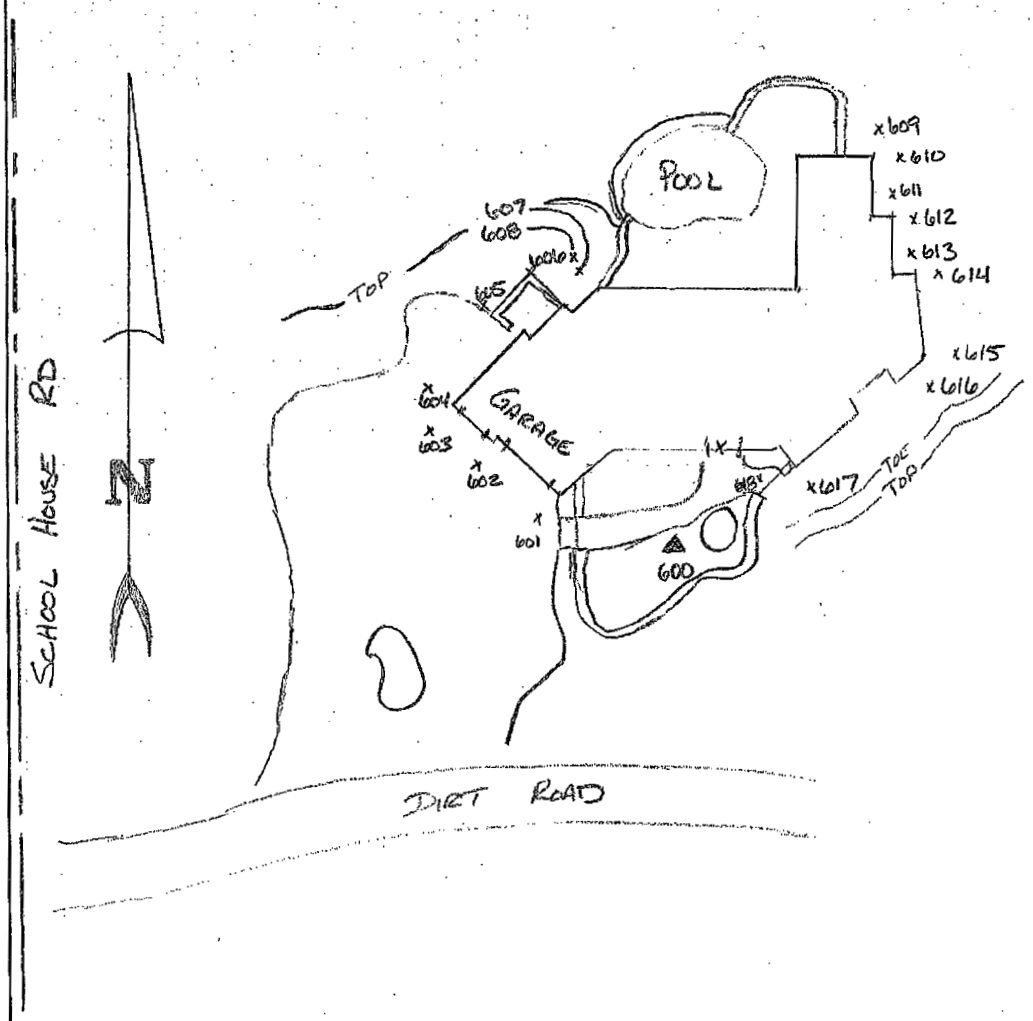
JOB# 1686.1 SHEET# 6 OF ____

SUBJECT: 39145 N SCHOOL HOUSE RD

BY: S. MALEK DATE: 9/6/07

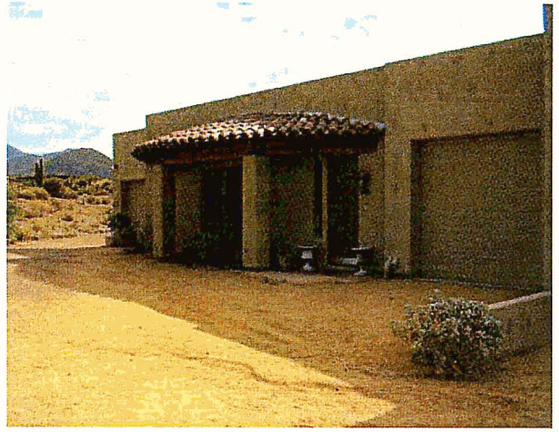
CHECKED BY: _____ DATE: _____

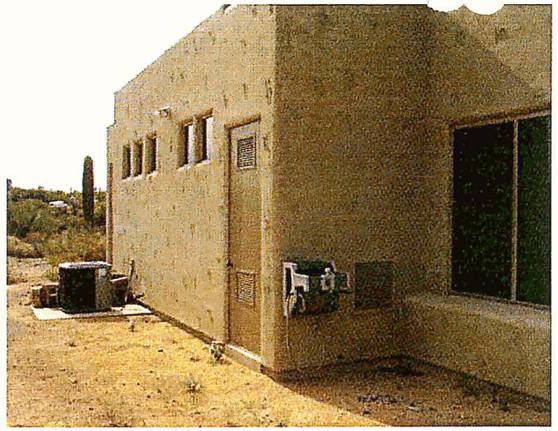
PICTURES 1-16

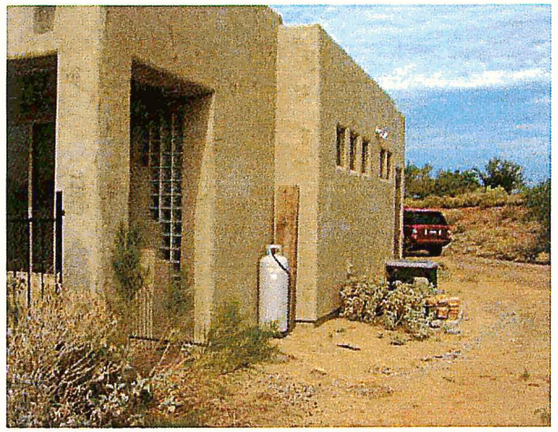


STA/PT#	+	THI	−	ELEV.	DESC.
600				2182.985	SGON
	4.796	2187.781			
FFEL			4.227	2183.554	FINISH FLOOR @ FRONT DOOR
FFEL	3.980	2187.534			" " " " "
600			4.551	2182.983	SGON
					ADJ FFEL= 2183.553

F







APN# 216-11-002 Q

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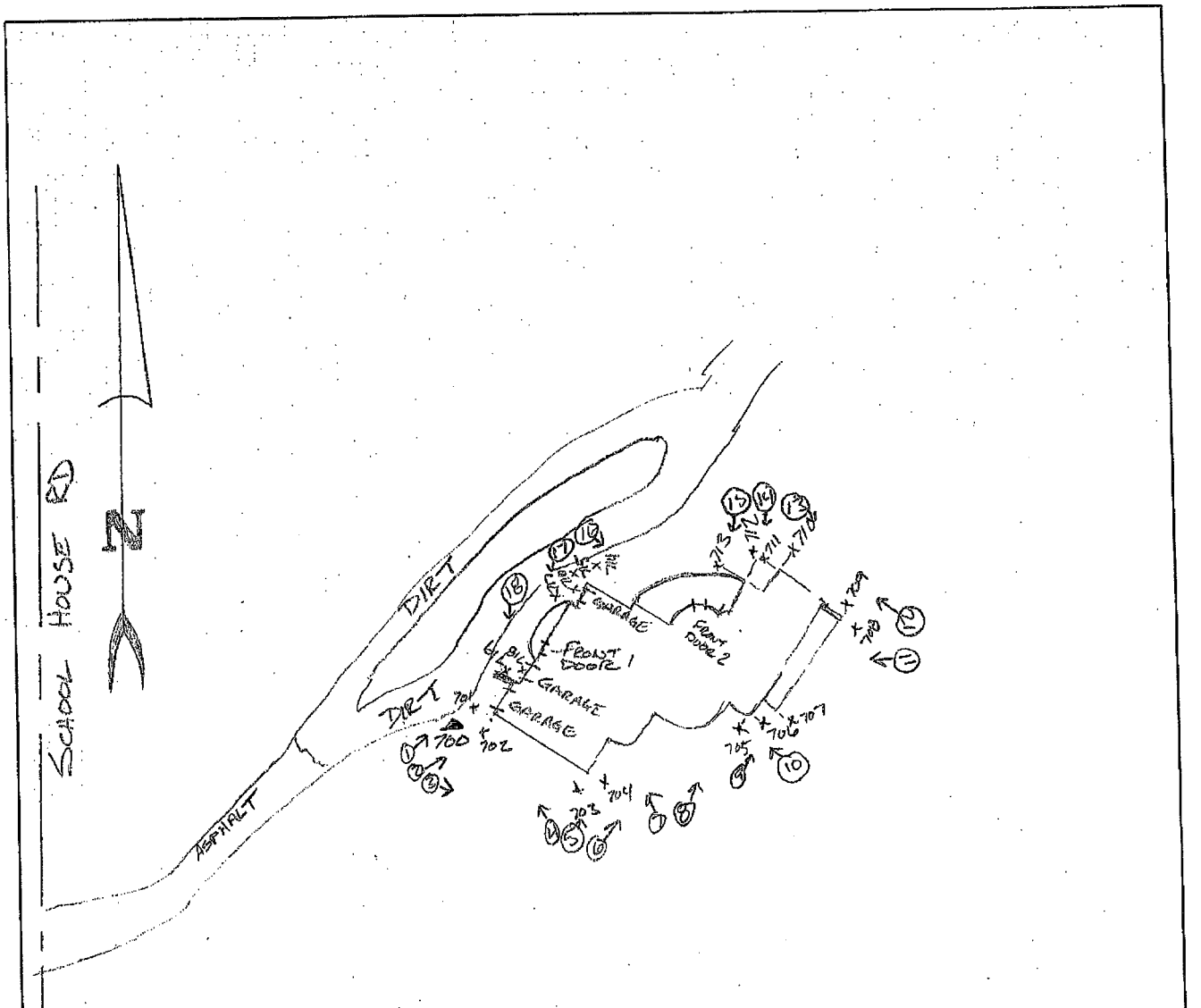
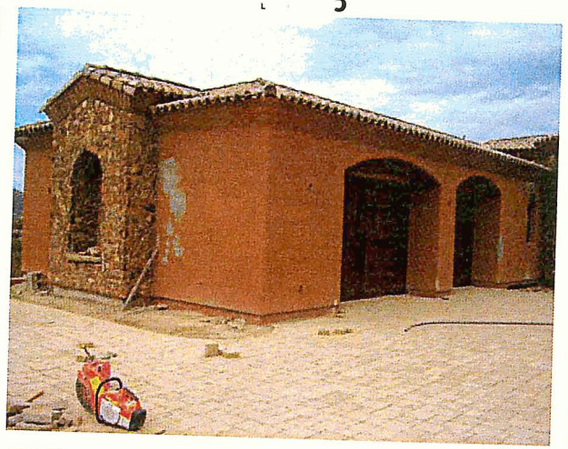
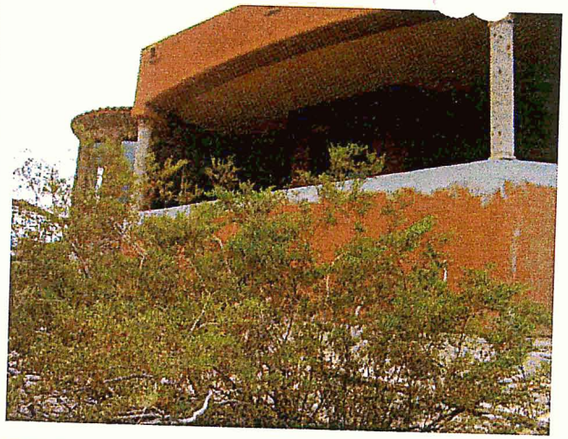
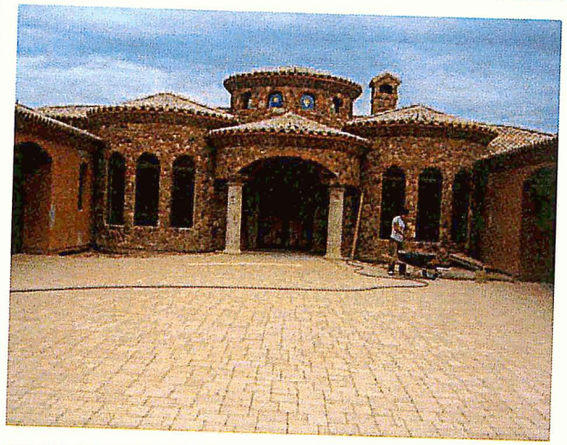
COMPUTATION SHEET

JOB# 16816.1 SHEET# 7 OF ____
SUBJECT: 39201 N SCHOOL HOUSE RD
BY: J. MALEK DATE: 9/16/07
CHECKED BY: ____ DATE: ____



STA/PT#	+	ΔHI	−	ELEV.	DESC.
700				2208.735	SLON
	6.403	2215.138			
FFEL1			5.319	2209.819	FFEL @ FRONT DOOR 1
FFEL2			5.767	2209.871	FFEL @ FRONT DOOR 2
FFEL2	5.500	2215.371			FFEL @ FRONT DOOR 2 ADJ = 2209.874
FFEL1			5.542	2209.829	FFEL @ FRONT DOOR 1 ADJ = 2209.824
700			6.621	2208.750	SLON



APN# 216-11-002W

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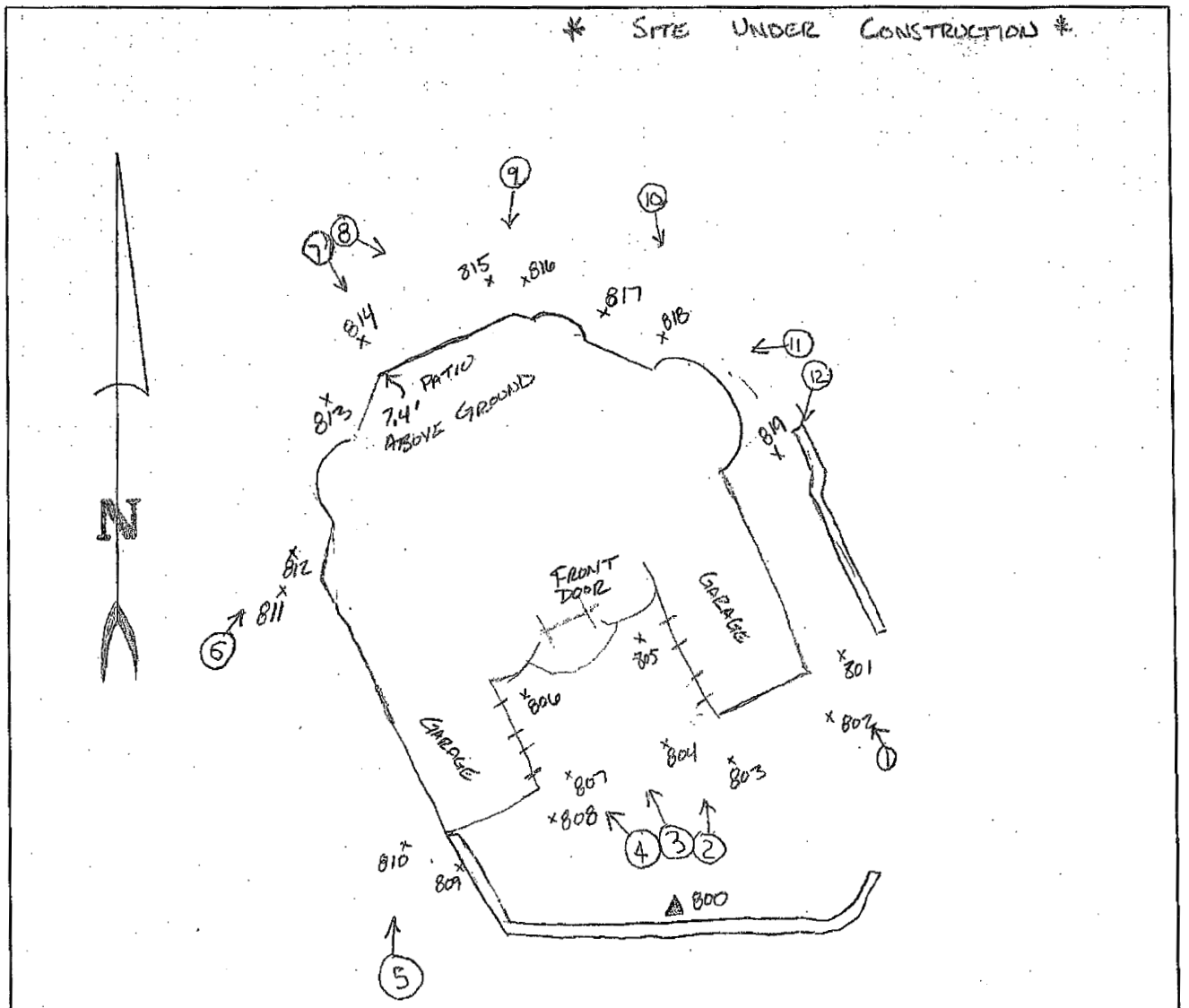
COMPUTATION SHEET

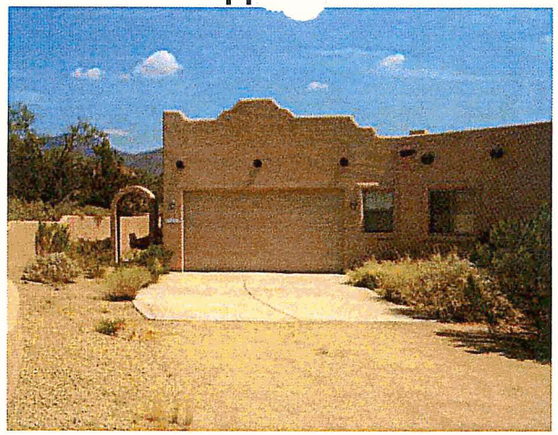
JOB# 11686.1 SHEET# 8 OF ____
SUBJECT: 27609 N 64TH ST
BY: J. MALEK DATE: 9/7/06
CHECKED BY: ____ DATE: ____

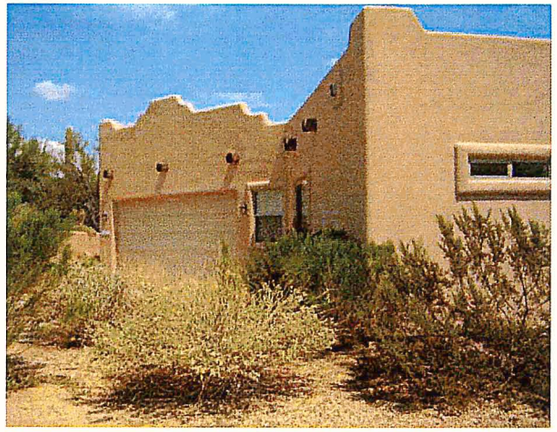
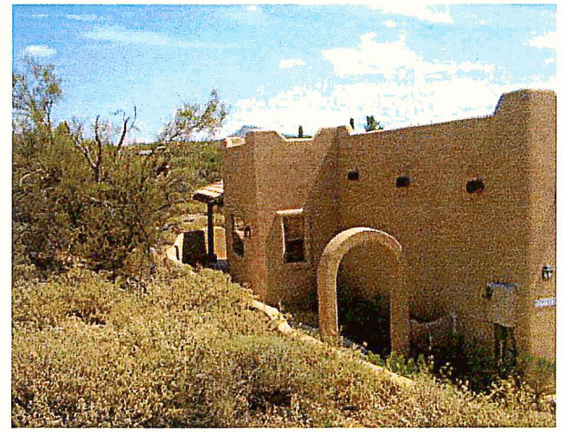


STA/PT#	+	THI	−	ELEV.	DESC.
800				2214.762	S60N
	+6.696	2221.458			
FFEL			-4.580	2216.878	FINISH FLOOR @ FRONT DOOR
	+4.149	2221.027			FINISH FLOOR @ FRONT DOOR
800			-6.267	2214.760	S60N

ADJ FFEL = 2216.877

Fi



APN# 216-11-002 P

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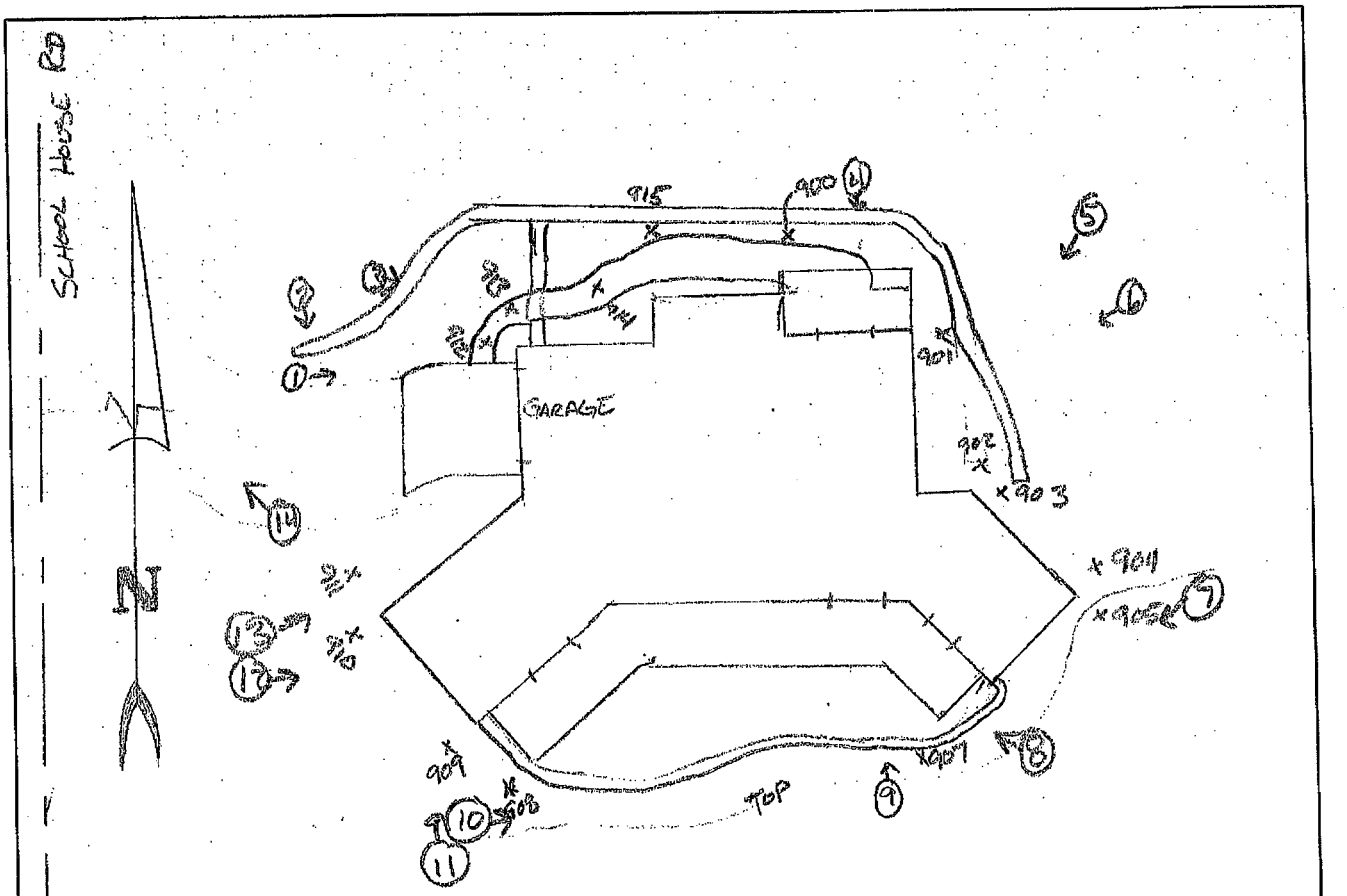
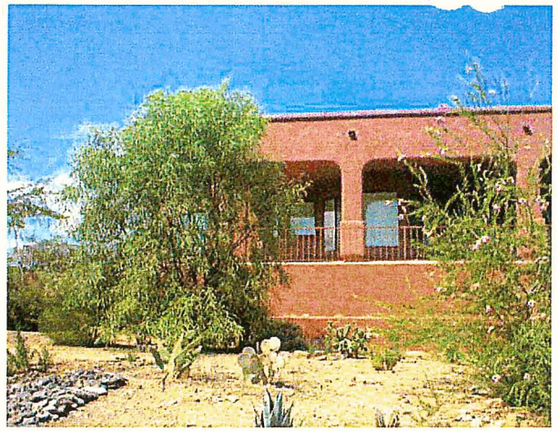
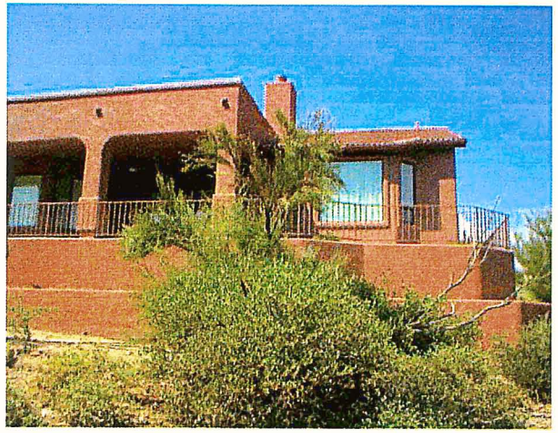
JOB# 16816.1 SHEET# 9 OF ____
SUBJECT: 39207 N School House Rd
BY: J. Maley DATE: 9/6/07
CHECKED BY: ____ DATE: ____

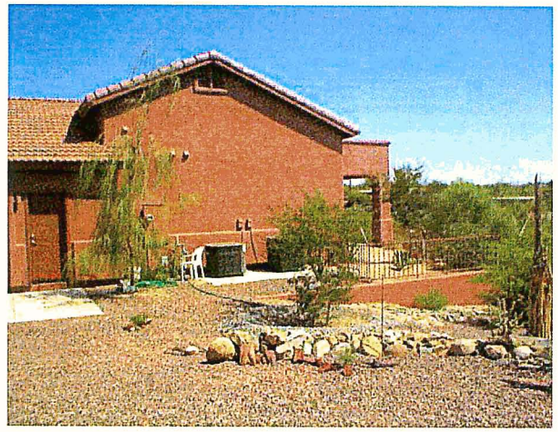


STA/PT#	+	THI	−	ELEV.	DESC.
900				2208.338	SGO D
	+4.591	2212.929			
FFEL			-4.267	2208.662	FINISH FLOOR @ FRONT DOOR
FFEL					
	+4.064	2212.726			FINISH FLOOR @ FRONT DOOR
900			-4.388	2208.338	SWCM
					FFEL = 2208.662

Fi







APN# 216-11-002 K

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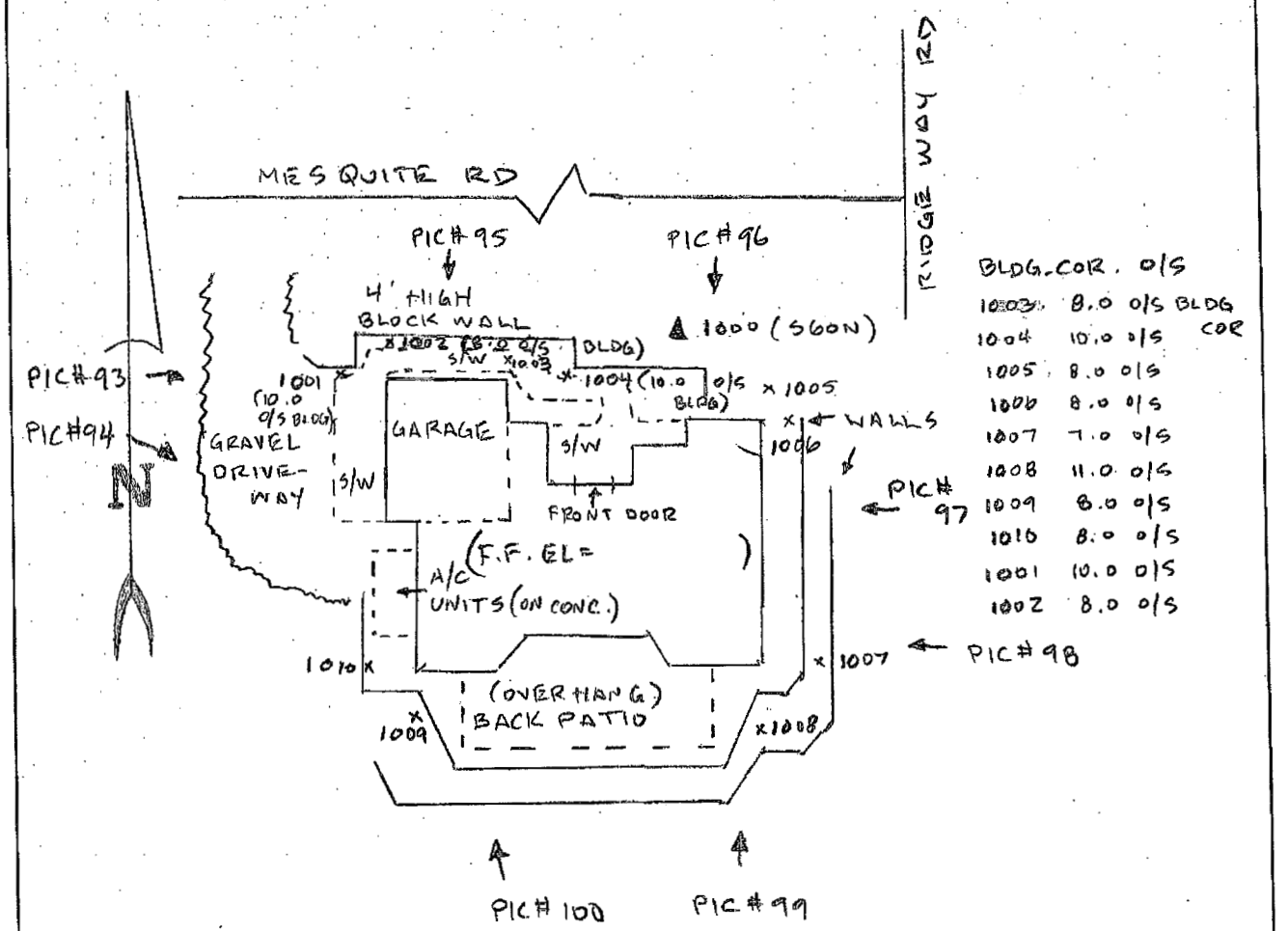
COMPUTATION SHEET

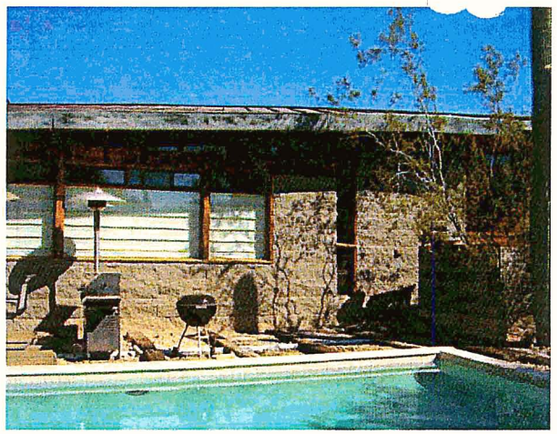
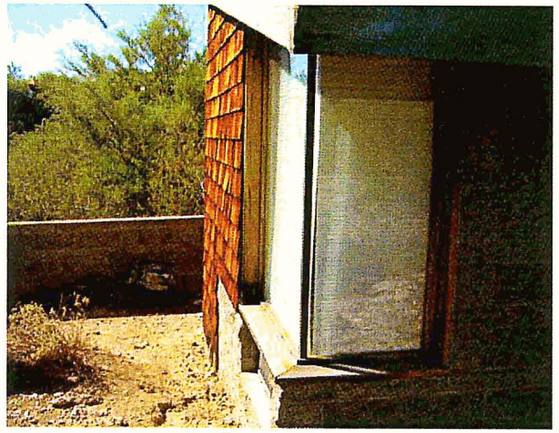
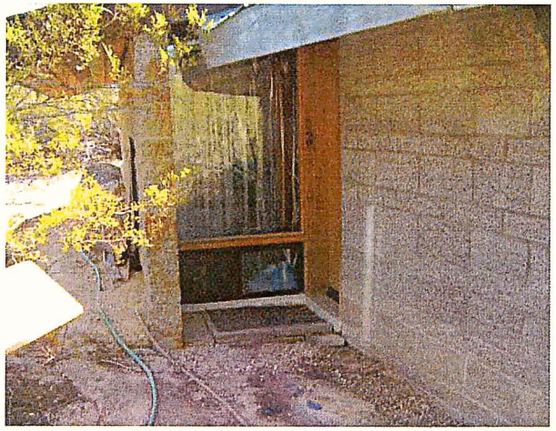
JOB# 1686.1 SHEET# 10 OF ____
SUBJECT: 38550 N. RIDGE WAY DR
BY: L. SPEAN DATE: ~~08-04~~ 09-04-07 EDWARD HARRIS
CHECKED BY: ____ DATE: ____

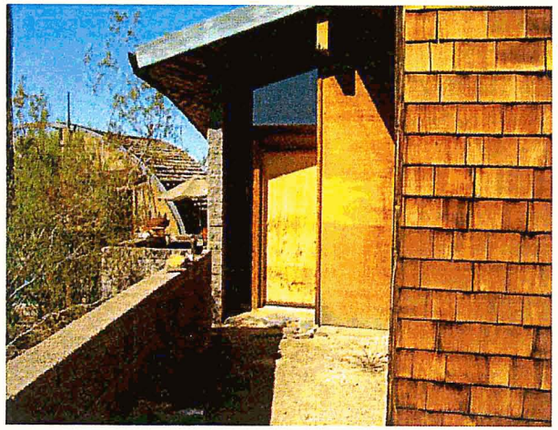
10



STA/PT#	+	HI	−	ELEV.	DESC.
1000	2.02	2233.107		2231.087	560N
F.F.			4.76	2228.347	F.F. @ 38550 N. RIDGEWAY DR.
	4.88	2237.227			
1700			2.14	2231.087	

FFEL= 2228.347



APN# 216-11-009X

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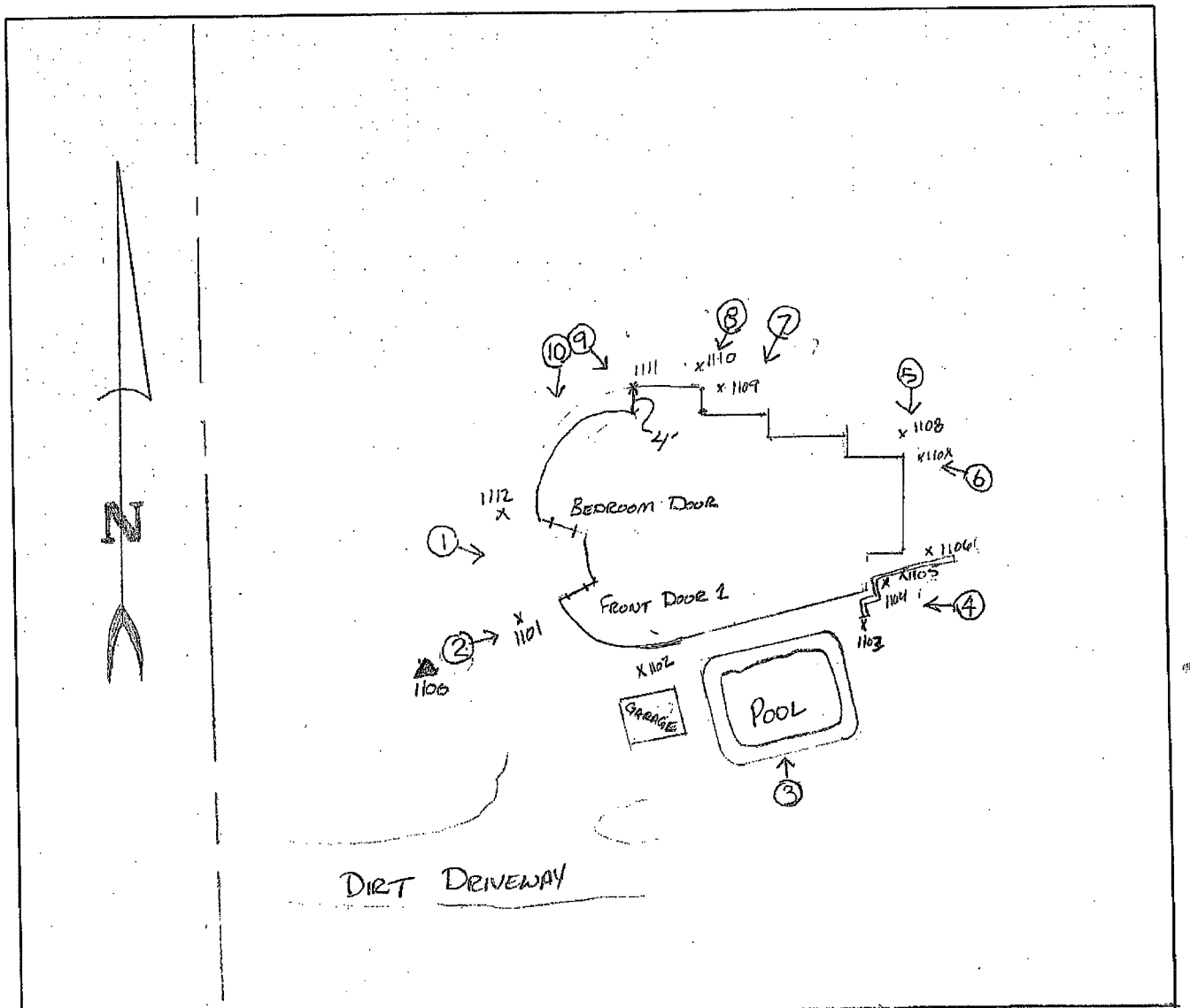
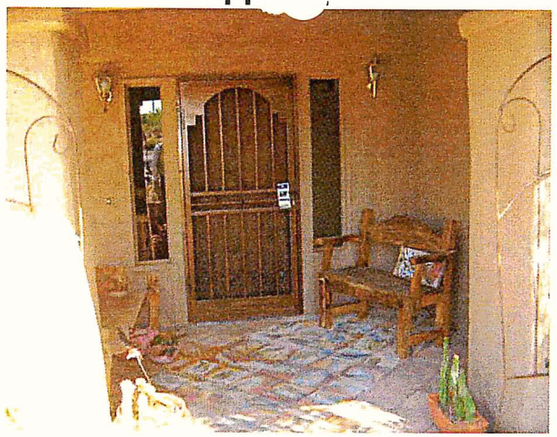
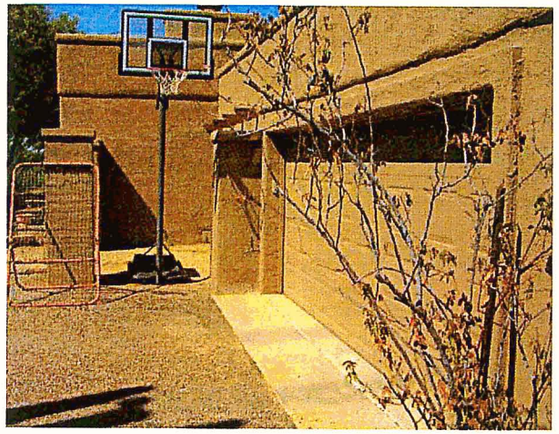
COMPUTATION SHEET

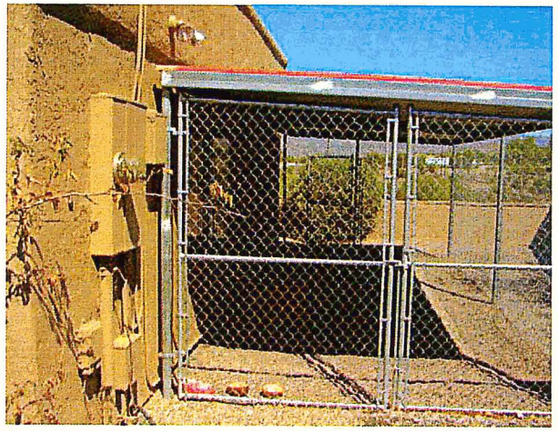
JOB# 1686.1 SHEET# 11 OF ____
SUBJECT: 39225 N RIDGEWAY DRIVE
BY: J. MALEK DATE: 9/10/07
CHECKED BY: ____ DATE: ____



STA/PT#	+	THI	−	ELEV.	DESC.
1100				2211.576	S60N
	5.849	2217.425			
			3.858	2213.567	FINISH FLOOR @ FRONT DOOR
FFEL1					
			4.953	2212.472	FINISH FLOOR @ BEDROOM DOOR
FFEL2					
	4.602	2217.074			
1100			5.498	2211.576	S60N







APN# 216-11-009 Y

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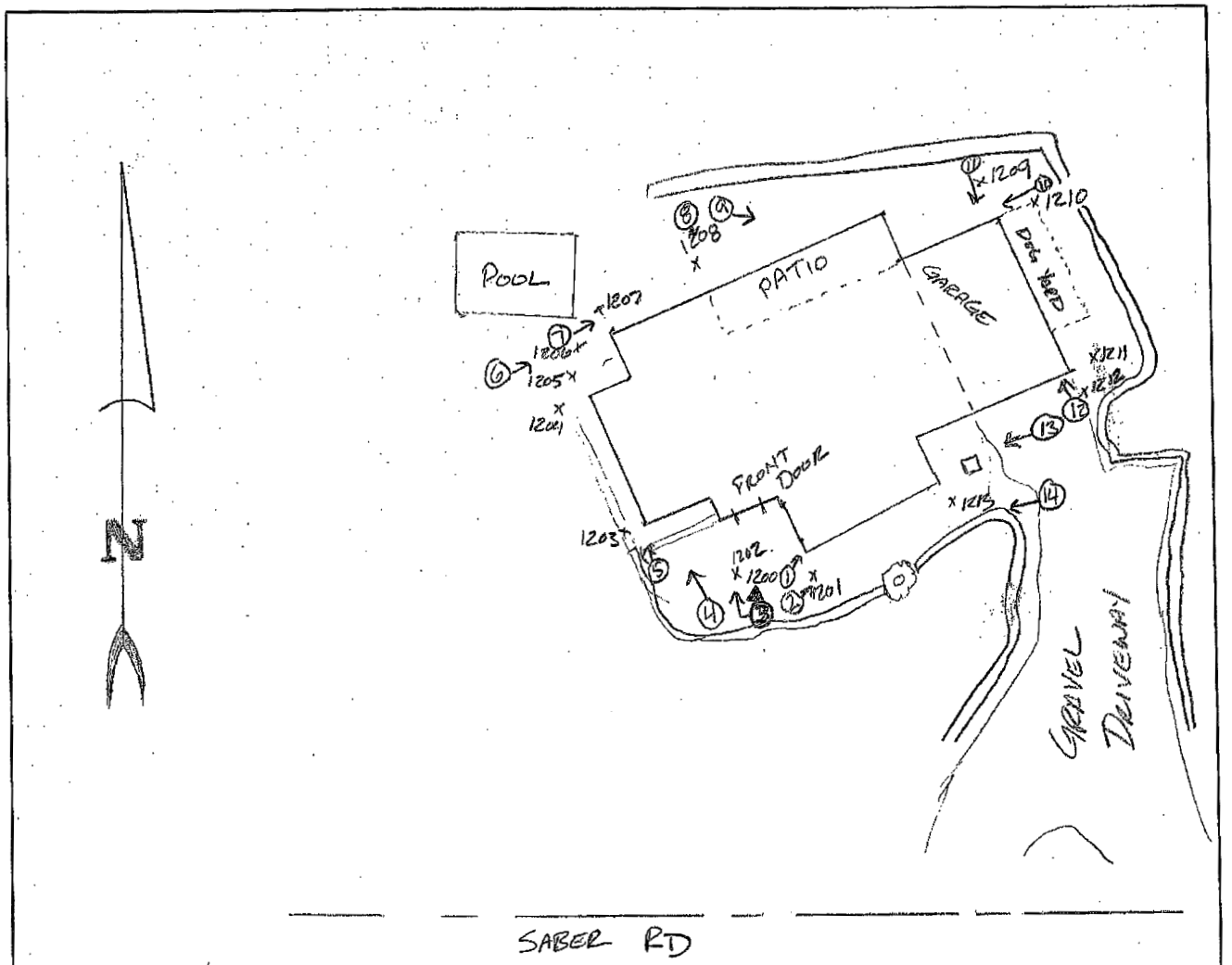
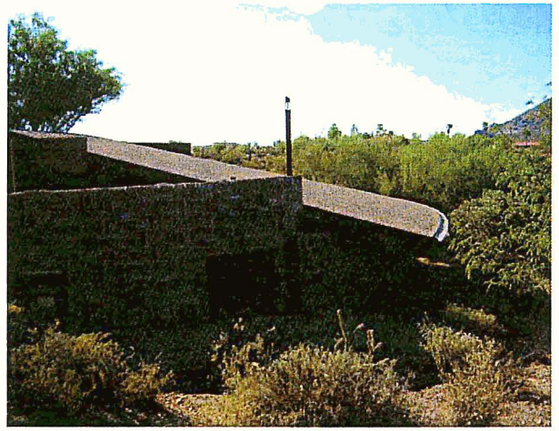
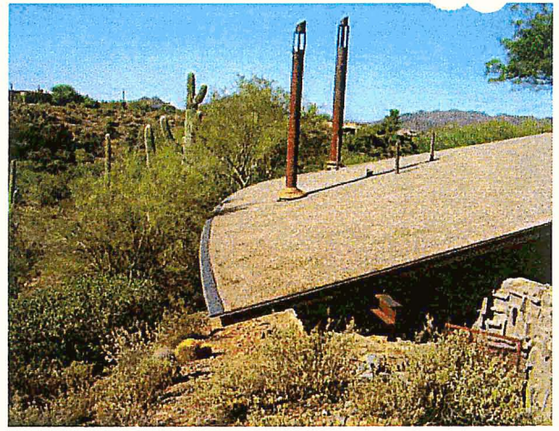
COMPUTATION SHEET

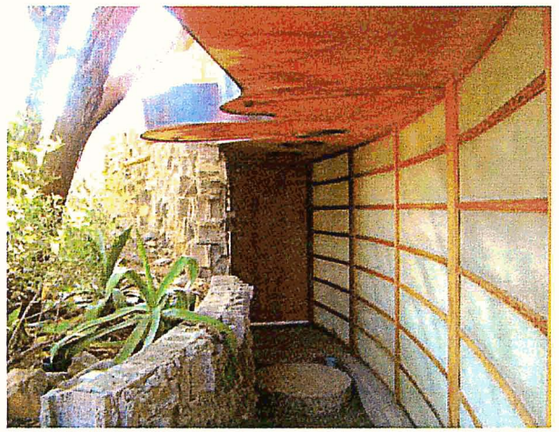
JOB# 16816.1 SHEET# 12 OF ____
SUBJECT: 6612 E SABER RD
BY: J. MALEK DATE: 9/10/07
CHECKED BY: ____ DATE: ____

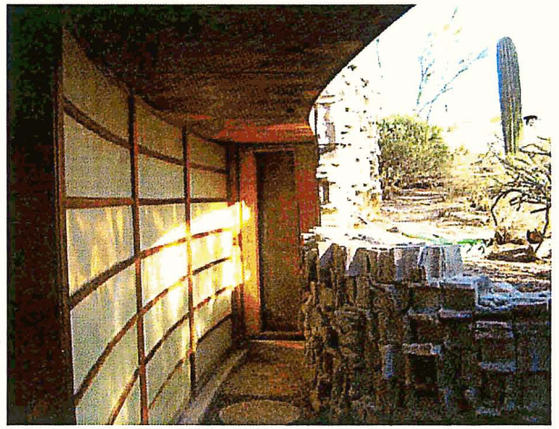


STA/PT#	+	THI	−	ELEV.	DESC.
1200				2236.368	
	4.934	2241.302			S60N
FFEL		2240.968	4.724	2236.578	FINISH FLOOR @ FRONT DOOR
FFEL	4.390	~~2241.568~~			FINISH FLOOR @ FRONT DOOR
1200			4.596	2236.372	S60N
					ADJ FFEL = 2236.580

F





APN# 216-11-009V

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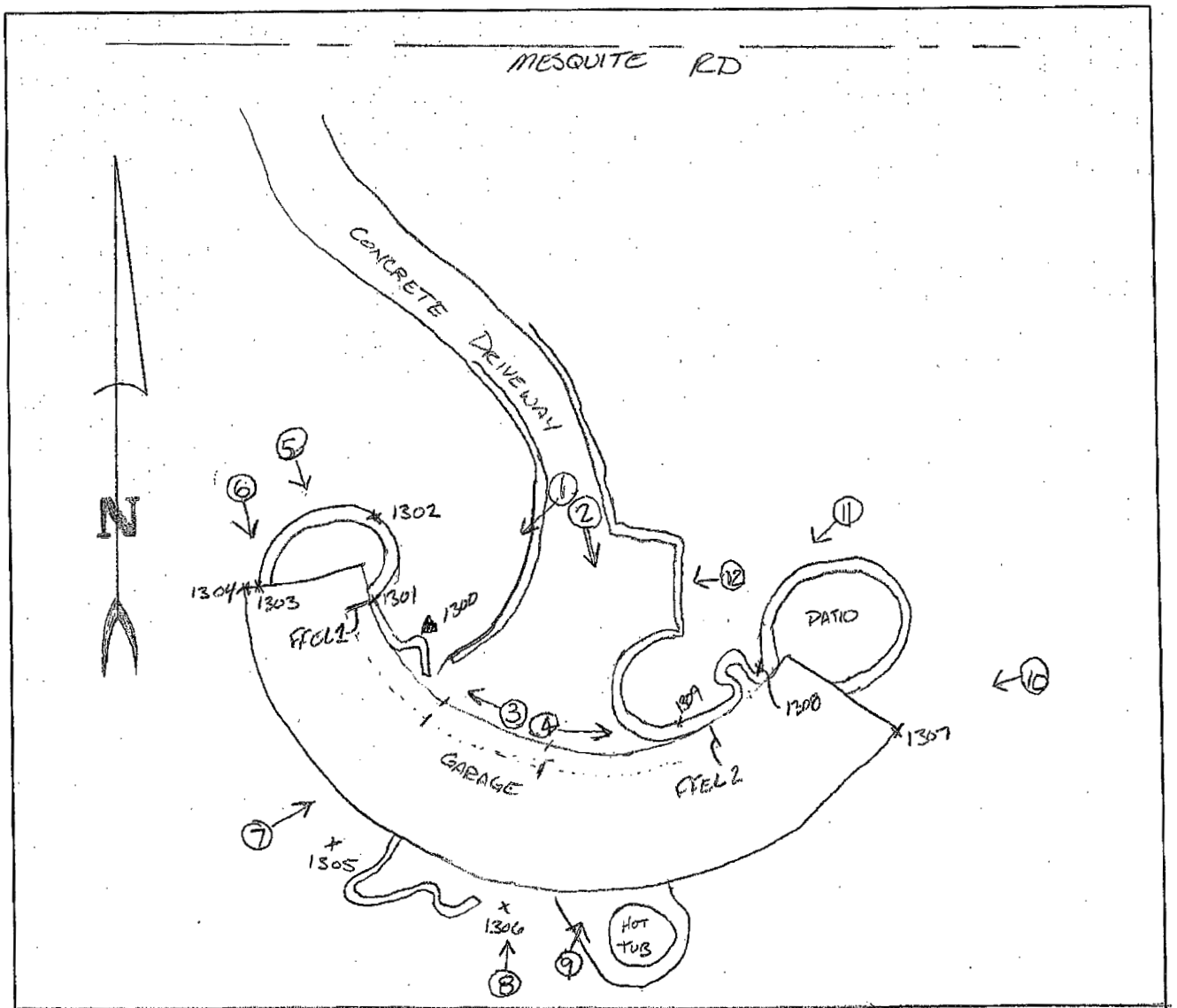
COMPUTATION SHEET

JOB# 1686.1 SHEET# 13 OF ____
SUBJECT: 6689 E MESQUITE RD
BY: J. MALEK DATE: 9/10/07
CHECKED BY: ____ DATE: ____



STA/PT#	+	THI	−	ELEV.	DESC.
1300				2245.48	SLON
	1.590	2247.07			
FFEL1			4.59	2242.48	FINISH FLOOR @ FRONT DOOR 1
FFEL2			4.61	2242.46	FINISH FLOOR @ FRONT DOOR 2
FFEL2	4.41	2246.87			FINISH FLOOR @ FRONT DOOR 2
1300			1.39	2245.48	SLON

F

APN # 216-11-009 W

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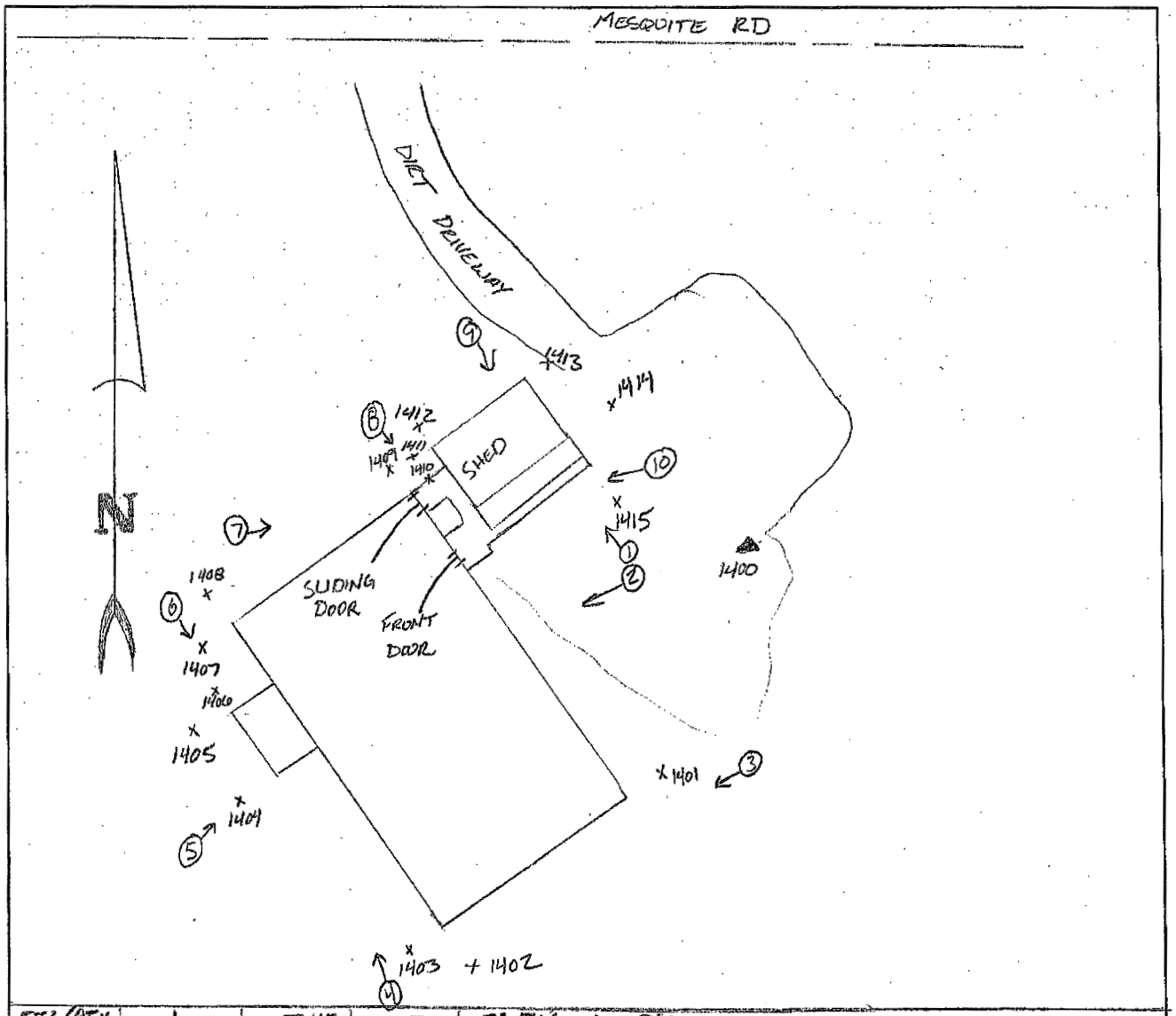
COMPUTATION SHEET

JOB# 1686-1 SHEET# 14 OF ____

SUBJECT: ____

BY: J. MALEK DATE: 9/7/07

CHECKED BY: ____ DATE: ____



STA/PT#	+	THI		ELEV.	DESC.
1400				2238.069	S60N
	4.961	2243.030			
FFEL			4.142	2238.888	FINISH FLOOR @ FRONT DOOR.
FFEL	3.711	2242.599			FINISH FLOOR @ FRONT DOOR
1400			4.530	2238.069	S60N

APN# 216-10-004 A

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COMPUTATION SHEET

JOB# 1686.1 SHEET# 15 OF ____

SUBJECT: 6902 E GRAPEVINE RD

BY: J. MILLER DATE: 9/13/07

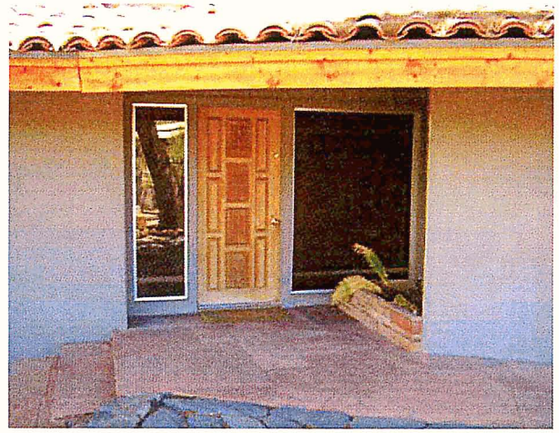
CHECKED BY: ____ DATE: ____

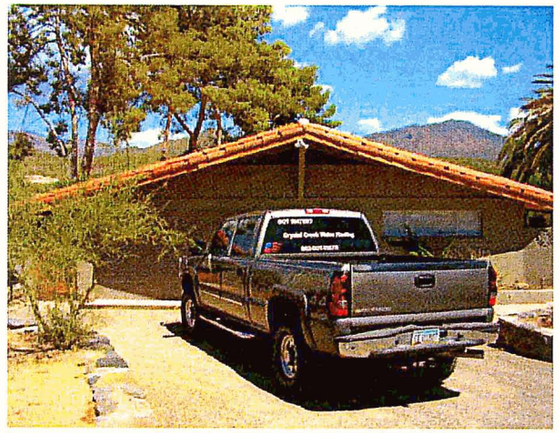
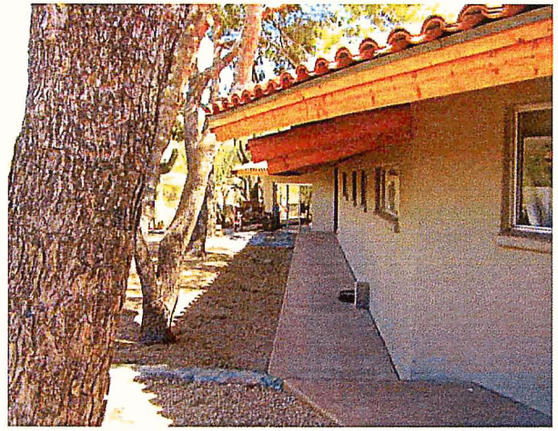
N

CANCELLED

STA/PT#	+	THI	=	ELEV.	DESC.

FF



APN# 211-01-059

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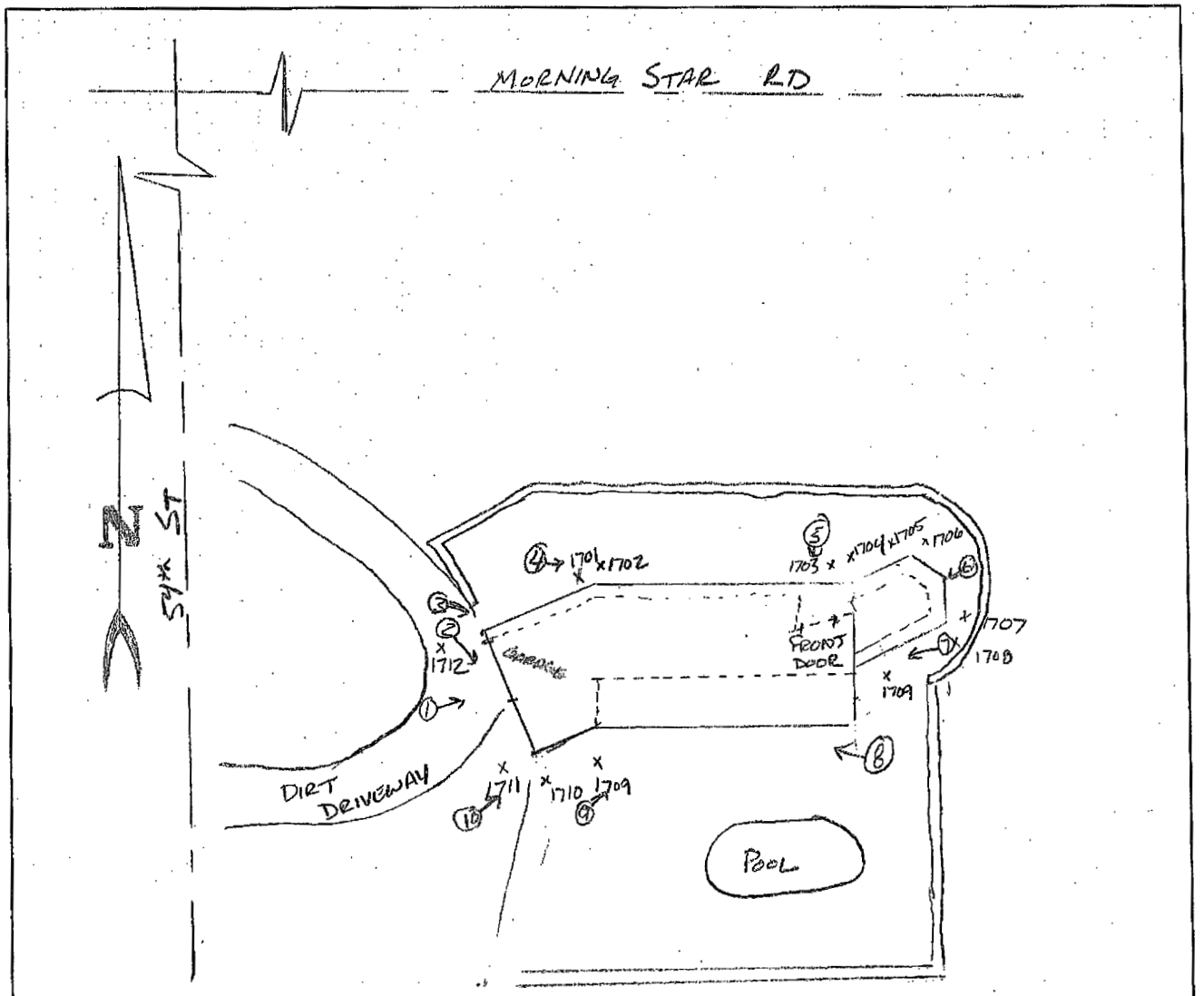
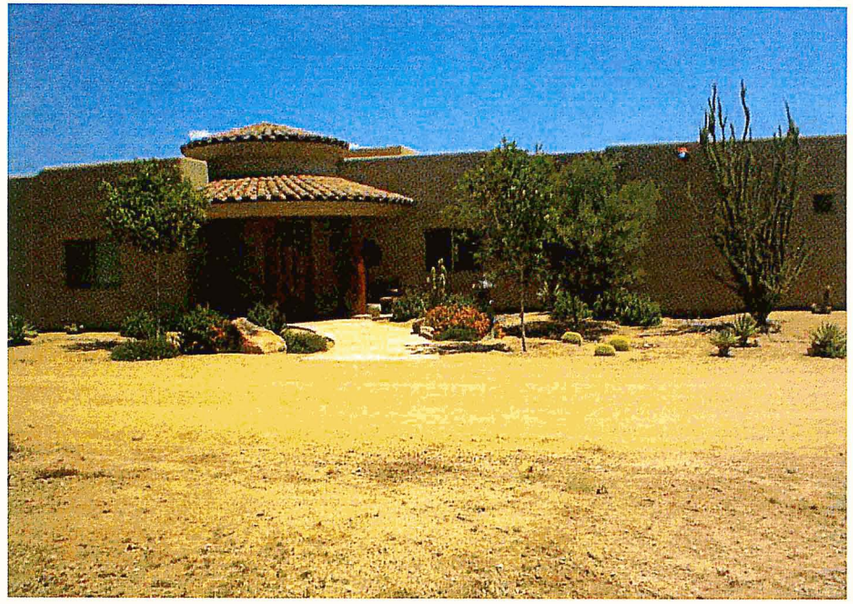
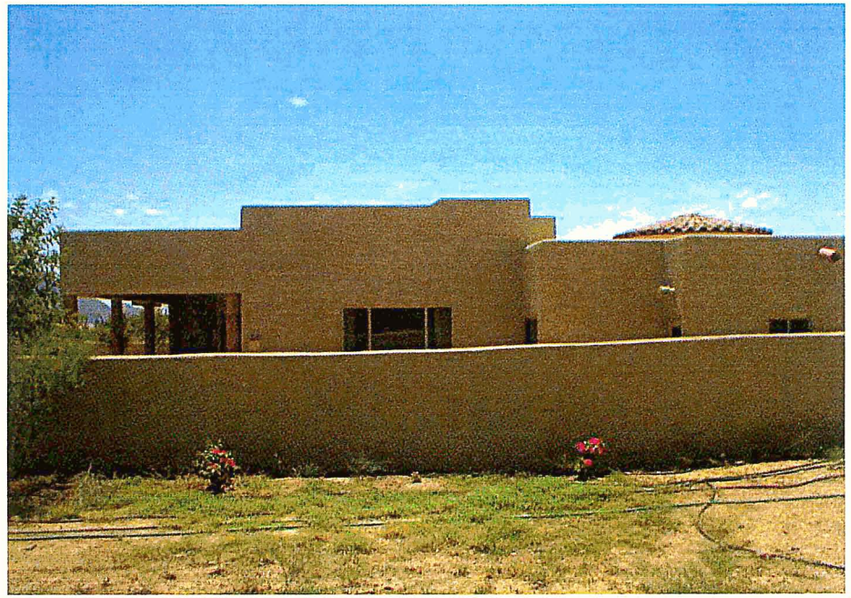
JOB# 1686.1 SHEET# 17 OF ____
SUBJECT: 5425 E MORNING STAR RD
BY: J. MALEK DATE: 9/12/07
CHECKED BY: ____ DATE: ____



STA/PT#	+	THI	−	ELEV.	DESC.
1700				2192.501	SLOON
	4.754	2197.255			
FFEL			3.574	2193.681	FINISH FLOOR @ FRONT DOOR
FFEL	4.003	2197.684			FINISH FLOOR @ FRONT DOOR
1700			5.180	2192.504	SLOON
					ADJ FFEL = 2193.683

FFE 18





APN# 211-01-058

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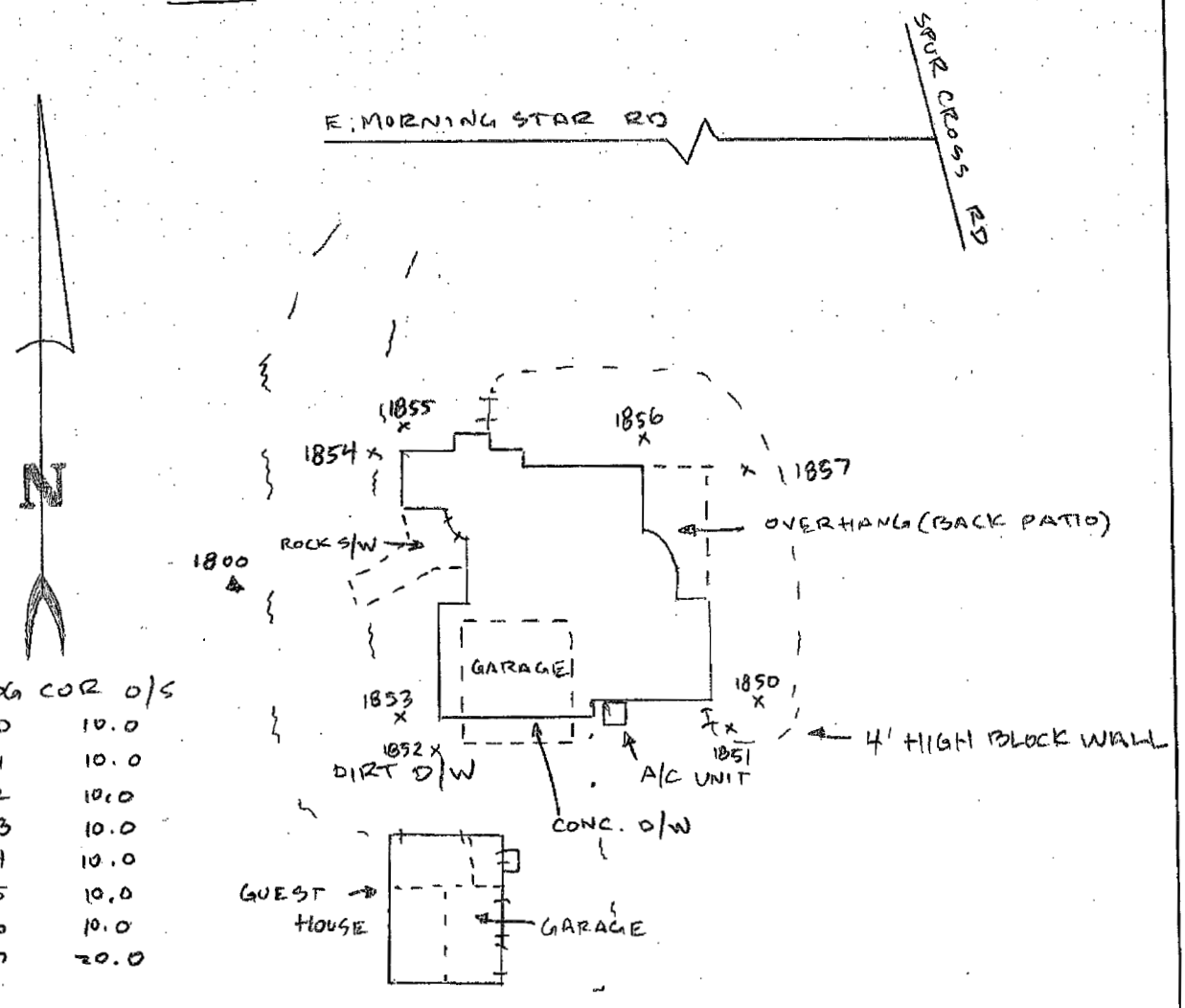
COMPUTATION SHEET

JOB# 1686.1 SHEET# 18 OF ____
SUBJECT: 5455 E. MORNING STAR RD
BY: L. SPEAN DATE: 09-11-07 WILLIAM WORTHINGTON
CHECKED BY: ____ DATE: ____

#18

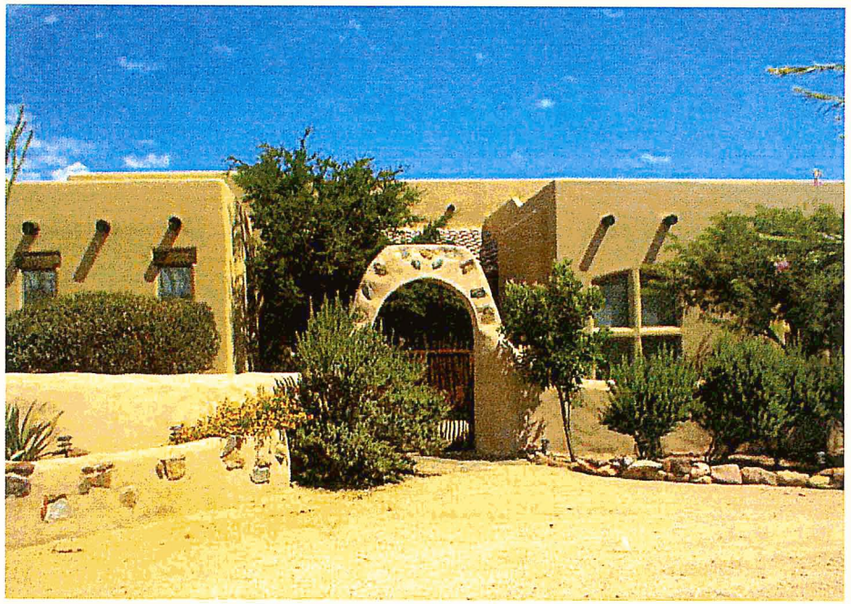


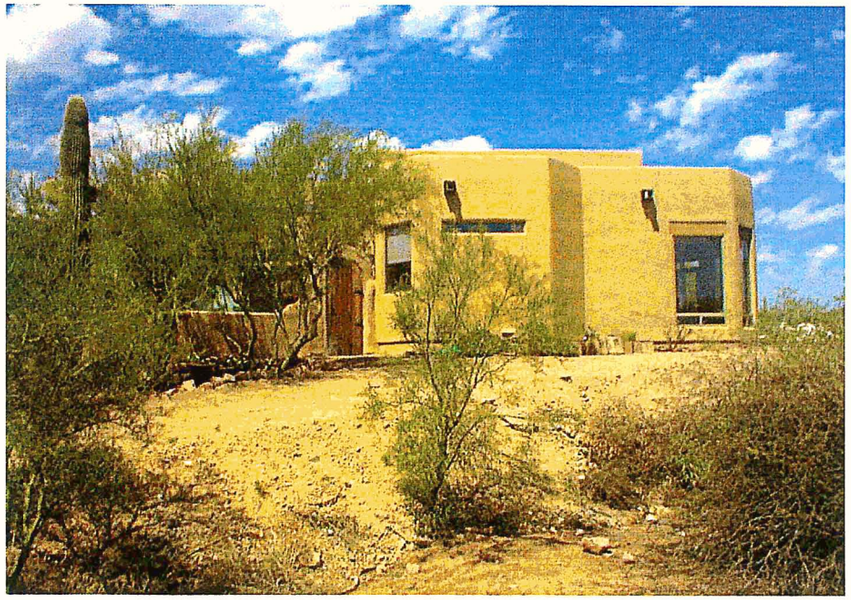
BLDG COR	O/S
1850	10.0
1851	10.0
1852	10.0
1853	10.0
1854	10.0
1855	10.0
1856	10.0
1857	20.0

STA/PT#	+	THI	−	ELEV.	DESC.
1800	4.81	2190.097		2185.287	S60N
F.F.			4.42	2185.677	F.F. @ 5455 E. MORNING STAR RD
F.F.	4.44	2190.117			
			4.84	2185.277	S60N

ADJ FFEL = 2185.682

FFE 19





APN# 211-01-098

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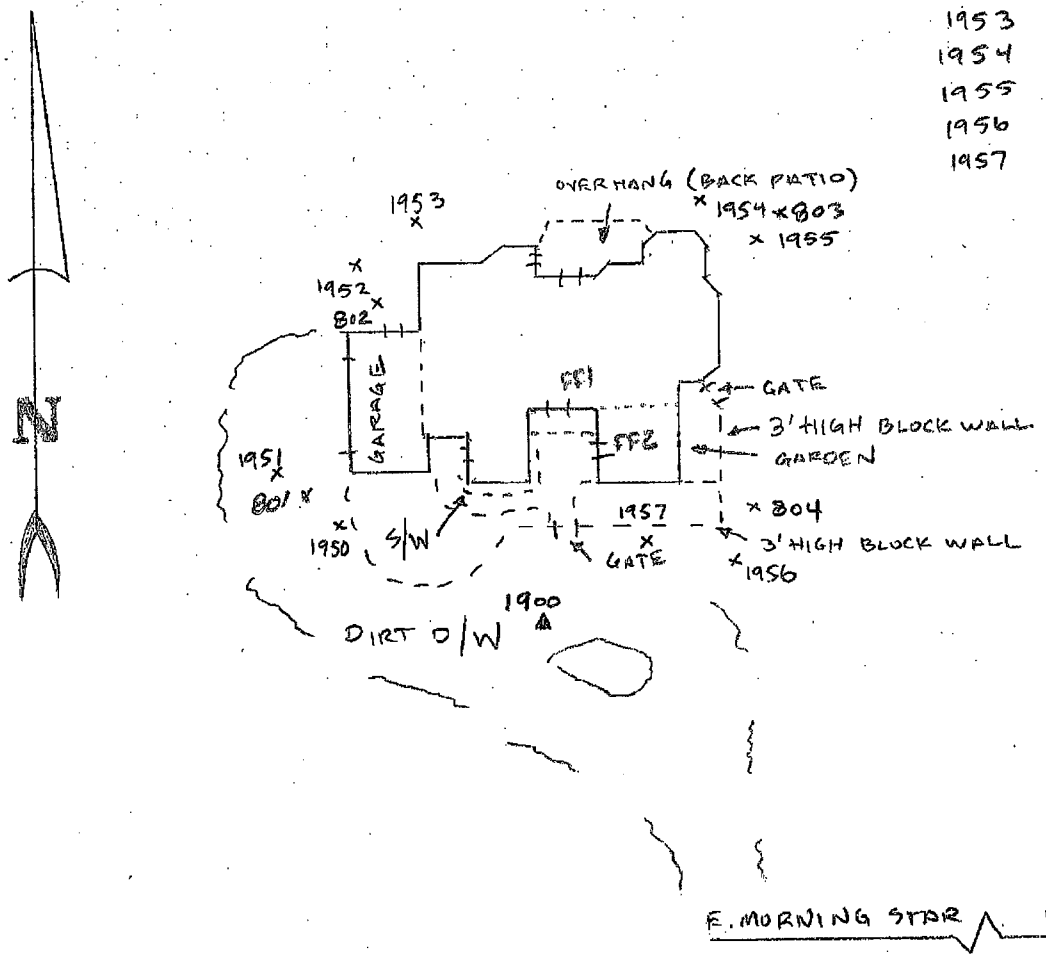
COMPUTATION SHEET

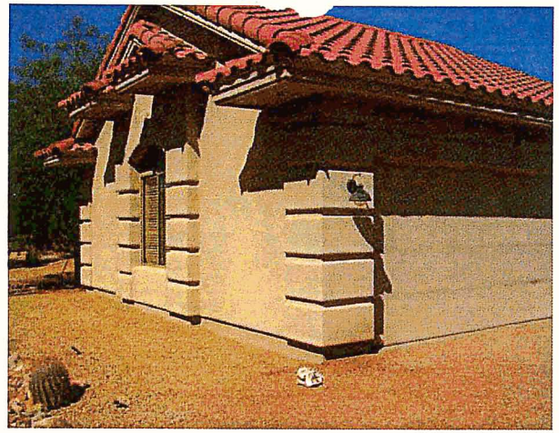
JOB# 1686.1 SHEET# 19 OF ____
SUBJECT: 5404 E. MORNING STAR RD
BY: L. SPEAN DATE: 09-11-07 KENNETH BRIDGES
CHECKED BY: ____ DATE: ____

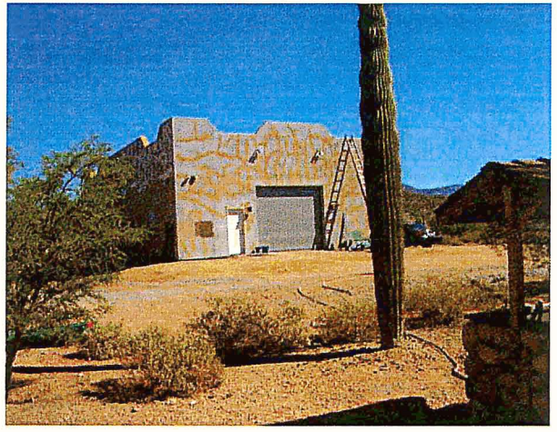
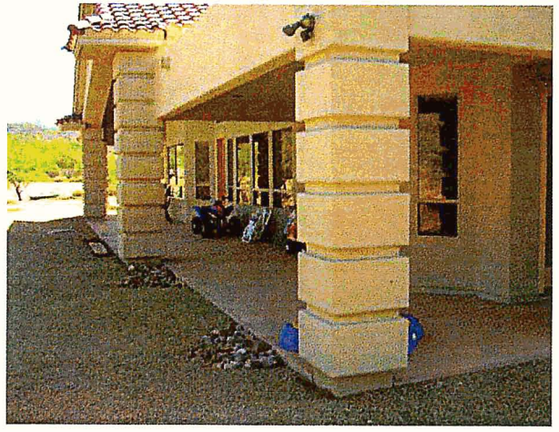
19

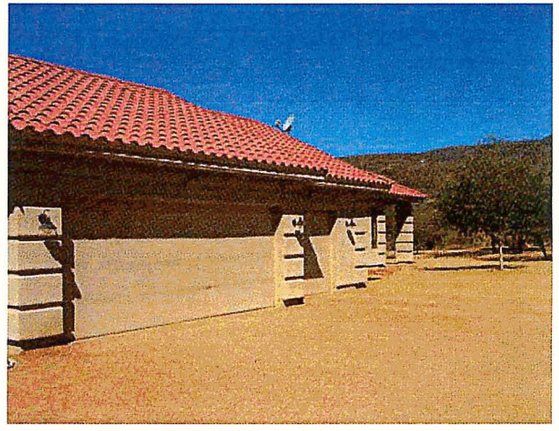
BLDG COR	O/S
1950	10.0
1951	10.0
1952	16.0
1953	16.0
1954	12.0
1955	12.0
1956	14.0
1957	20.0



STA/PT#	+	THI	−	ELEV.	DESC.
1900	5.28	2196.866		2191.586	S60N
FF1			3.02	2193.846	FF1 @ 5404 E. MORNING STAR RD
FF2			4.51	2192.356	FF2 @ "
FF1	3.12	2196.966			
			5.37	2191.596	





APN# 211-01-020

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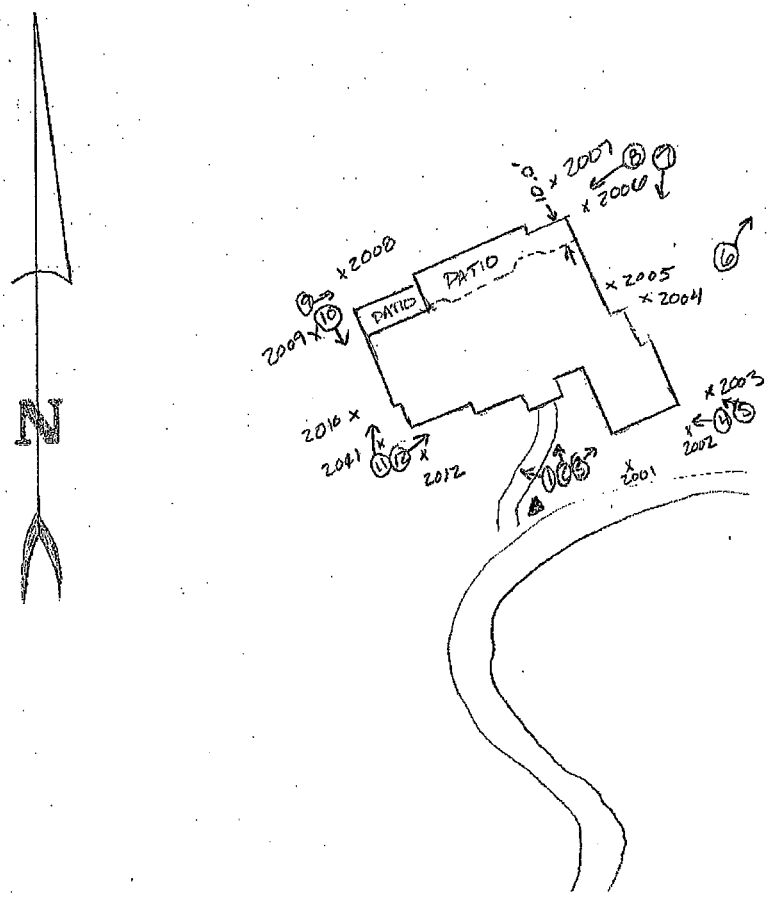
COMPUTATION SHEET

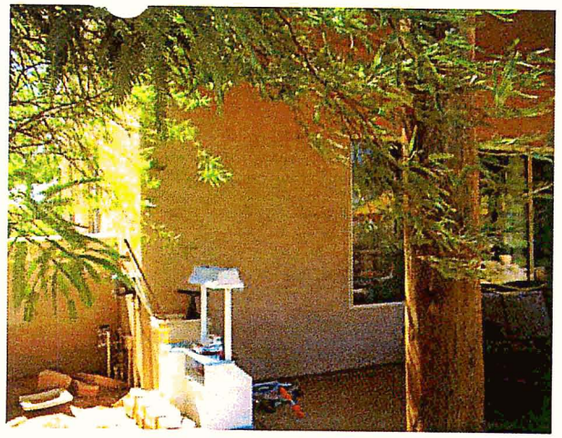
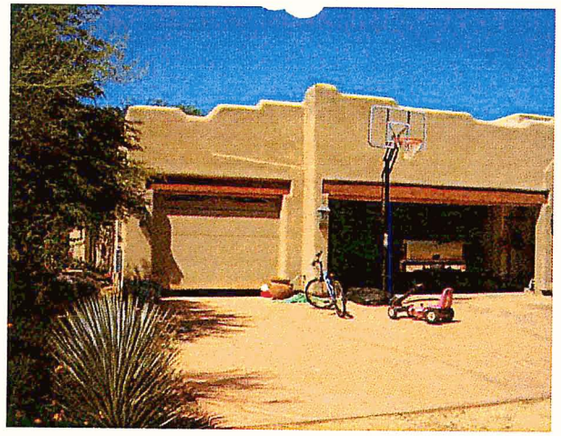
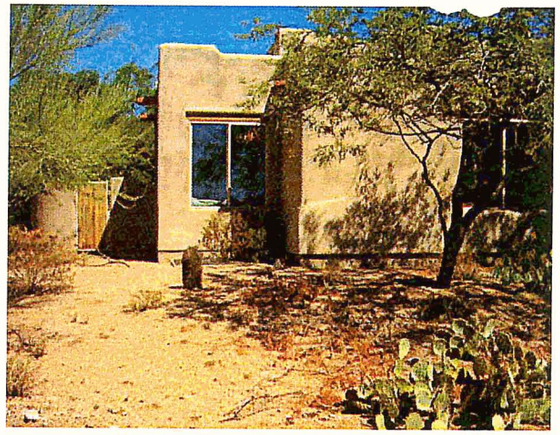
JOB# 16816.1 SHEET# 20 OF ____
SUBJECT: 5454 E MORNING STAR RD
BY: J. MALEK DATE: 09/12/07
CHECKED BY: ____ DATE: ____

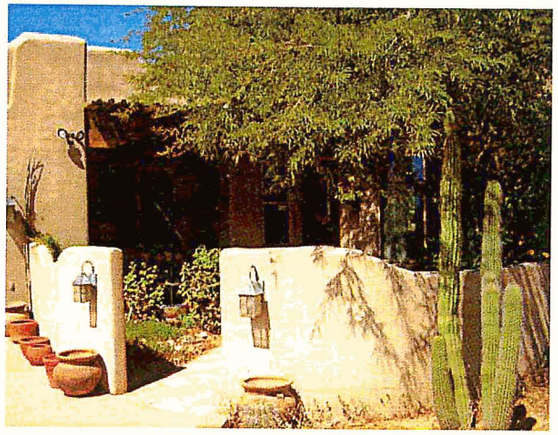
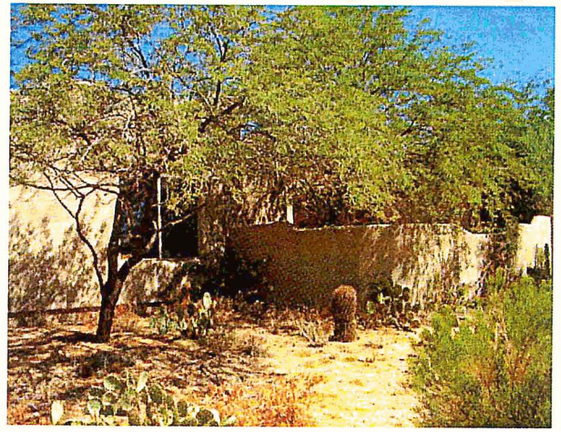


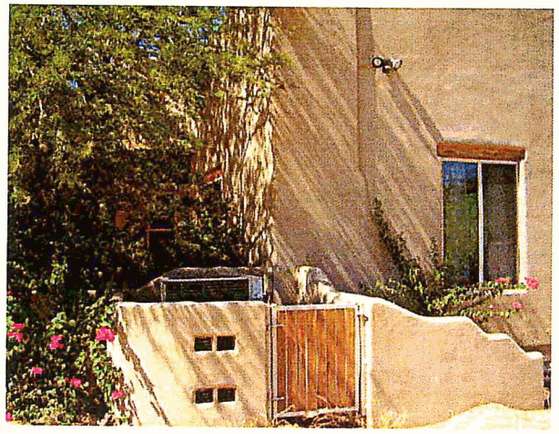
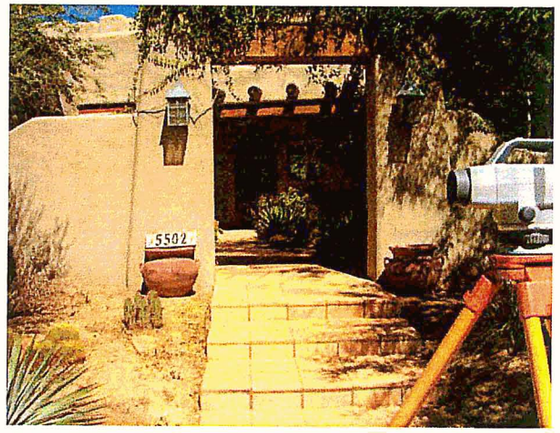
STA/PT#	+	THI	=	ELEV.	DESC.
2000				2192.092	S60 N
	6.087	2198.179			
FFEL			3.897	2194.282	FINISH FLOOR @ FRONT DOOR
FFEL	3.503	2197.785			FINISH FLOOR @ FRONT DOOR
2000			5.691	2192.094	S60 N

ADJ. FFEL = 2194.283

F 1

APN# 211-01-030

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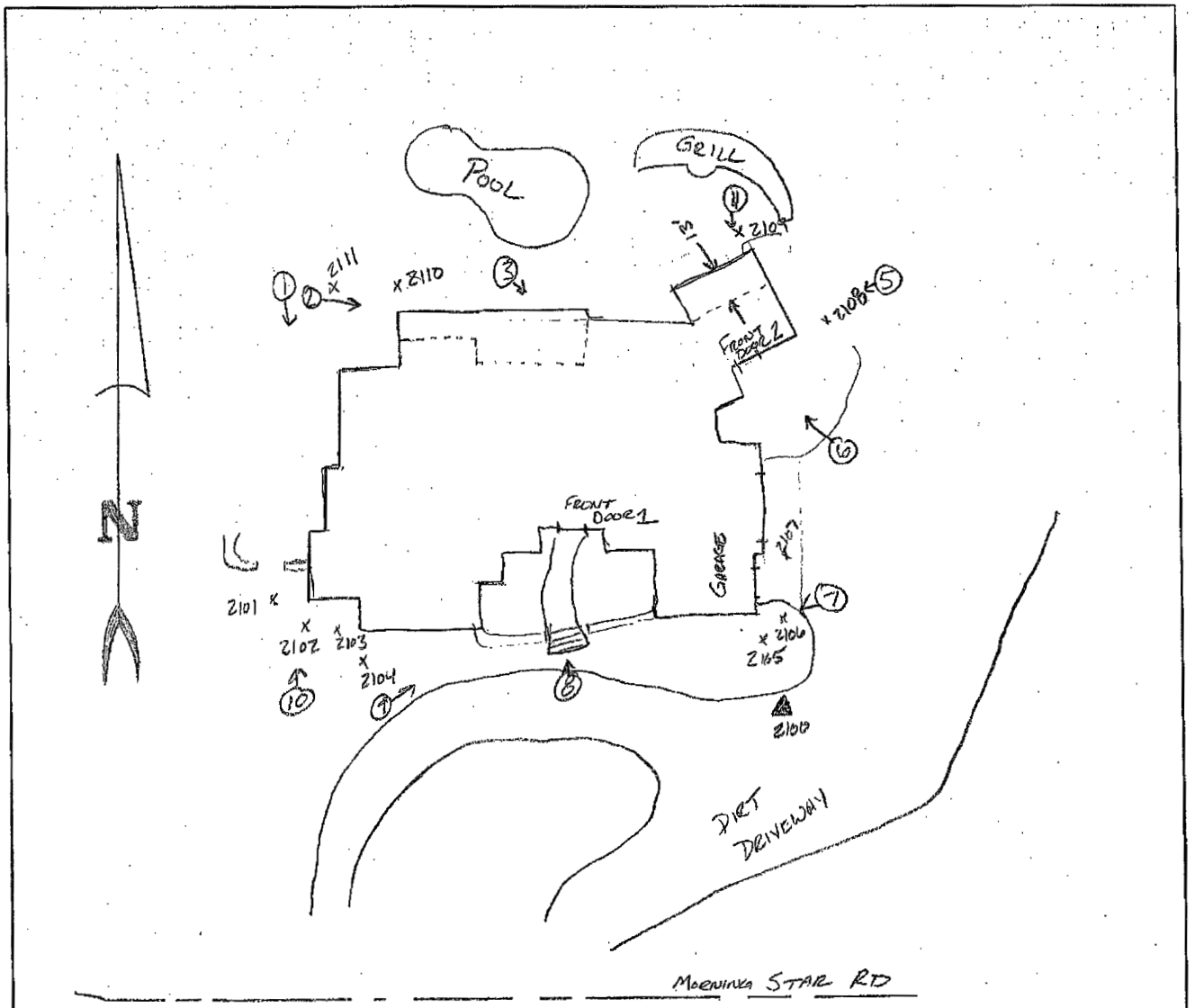
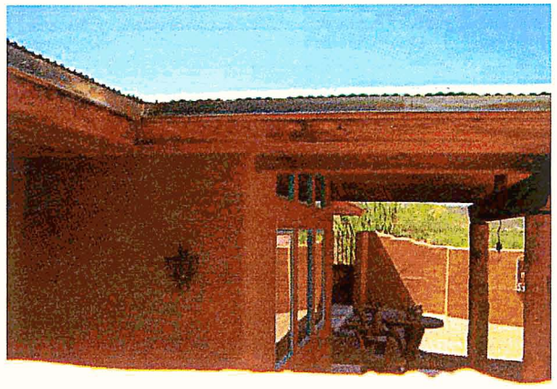
COMPUTATION SHEET

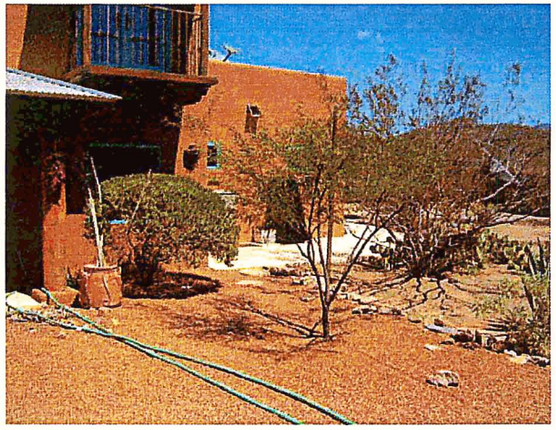
JOB# 1686.1 SHEET# 21 OF ____
SUBJECT: 5502 E MORNING STAR RD
BY: J. MALEK DATE: 9/12/07
CHECKED BY: ____ DATE: ____



STA/PT#	+	HI	−	ELEV.	DESC.
2100				2194.156	S60N
	5.351	2199.507			ADJ FFEL1 = 2197.524
FFEL1			1.984	2197.523	FINISH FLOOR @ FRONT DOOR 1
FFEL1	1.564	2199.087			FINISH FLOOR @ FRONT DOOR 1
2100			4.929	2194.158	S60N AVG FFEL = 2197.54
2100				2194.156	S60N
	7.242	2201.398			
FFEL2			3.852	2197.546	FINISH FLOOR @ FRONT DOOR 2
FFEL2	3.456	2201.002			FINISH FLOOR @ FRONT DOOR 2
2100			6.842	2194.160	S60N
					ADJ FFEL2 = 2197.548

FF





APN# 211-01-031

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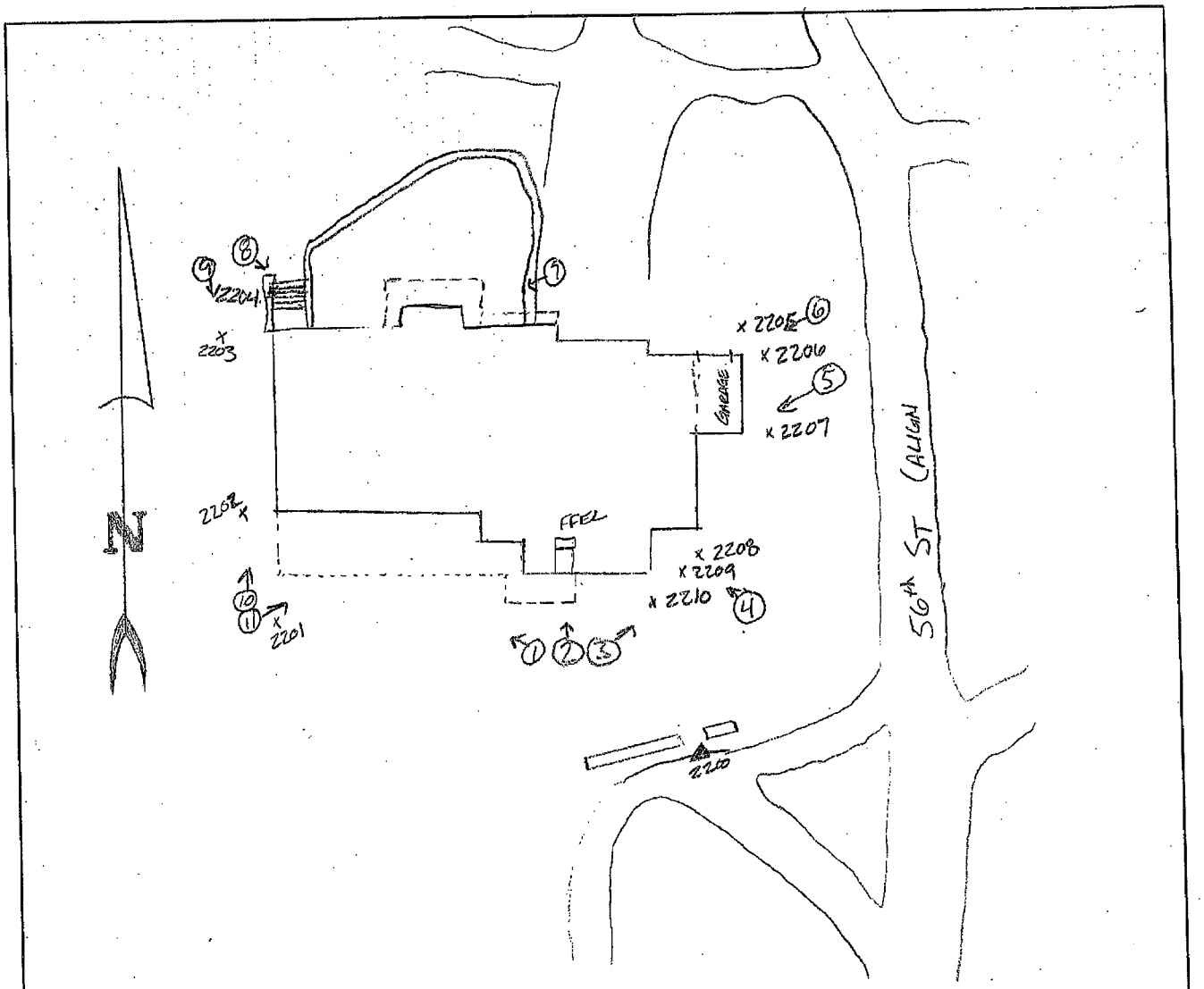
COMPUTATION SHEET

JOB# 1686.1 SHEET# 22 OF ____ WRONG ADDRESS
SUBJECT: 5574 E. MORNING STAR (42202 N 56th ST) VERIFIED OWNER NAME
BY: J. MALEK DATE: 9/12/07
CHECKED BY: ____ DATE: ____

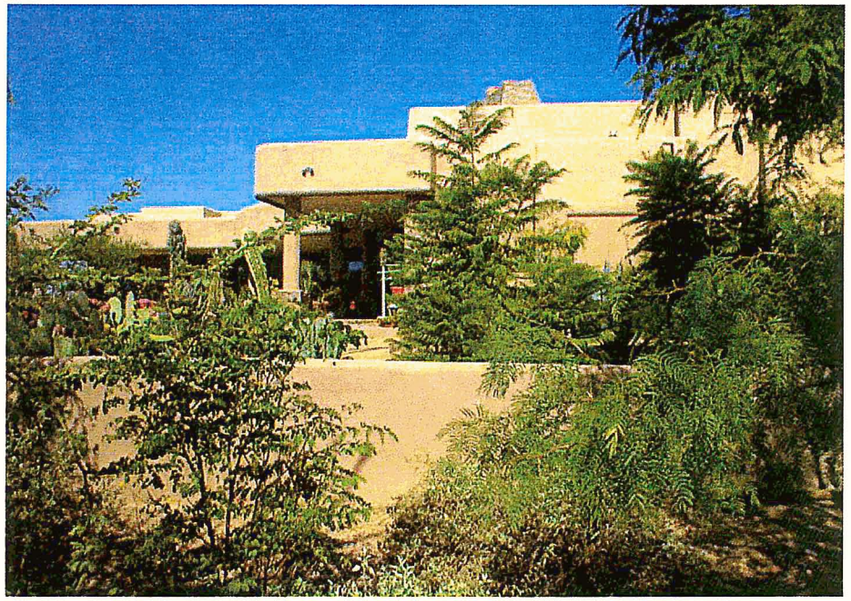


MORNING STAR

STA/PT#	+	THI	−	ELEV.	DESC.
2200				2208.947	S60N
	5.542	2214.489			
FFEL			3.404	2211.085	FINISH FLOOR @ FRONT DOOR
FFEL	3.986	2215.071			FINISH FLOOR @ FRONT DOOR
2200			6.124	2208.947	S60N

FFEL = 2211.085

FFE 23



APN # 211-01-096

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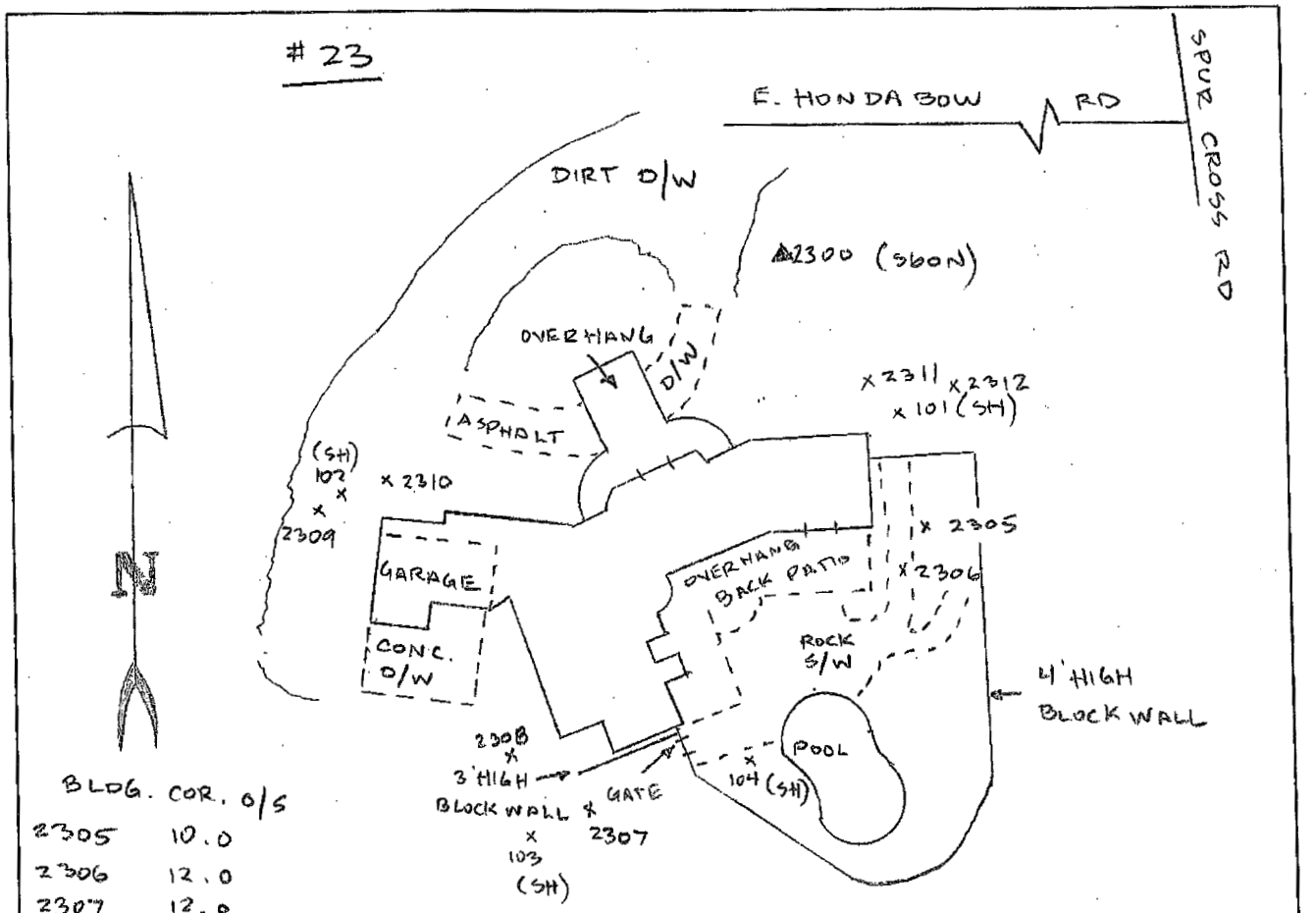
COMPUTATION SHEET

JOB# 1686.1 SHEET# 23 OF ____
SUBJECT: 5401 E. HONDA BOW RD
BY: L. SPEAN DATE: 09-07-07
CHECKED BY: ____ DATE: ____



BLDG. COR. O/S

2305	10.0
2306	12.0
2307	12.0
2308	12.0
2309	10.0
2310	10.0
2311	24.0
2312	24.0

STA/PT#	+	THI	−	ELEV.	DESC.
2300	4.15	2217.006		2212.856	560N
F.F.			5.38	2211.626	FF @ 5401 E. HONDA BOW RD
F.F.	5.08	2216.706			
			3.86	2212.846	560N

ADJ FFEL = 2211.621

FFE 24

APN# 211-01-019 D

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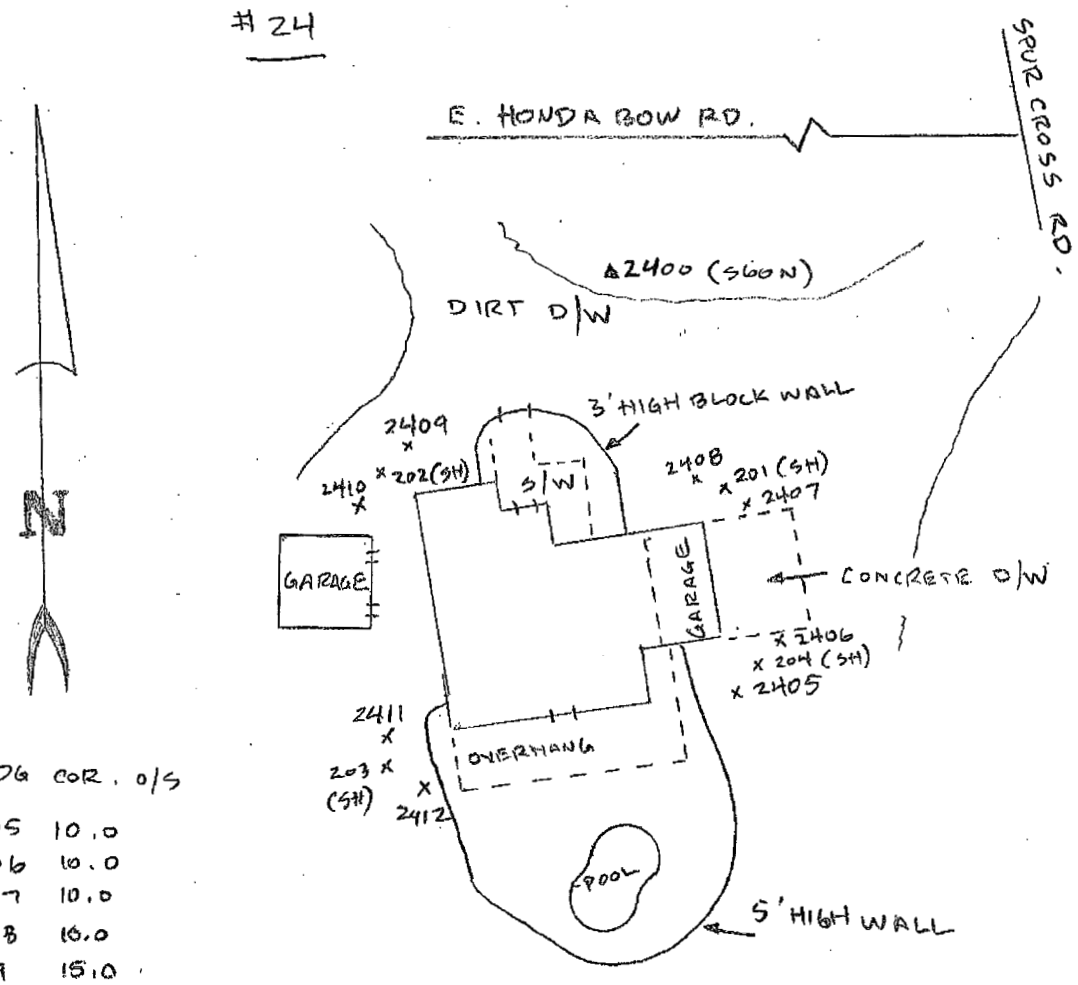
COMPUTATION SHEET

JOB# 1686.1 SHEET# 24 OF ____
SUBJECT: 5411 E. HONDA BOW RD
BY: L. SPEAN DATE: 09-07-07
CHECKED BY: ____ DATE: ____

#24



BLDG COR. O/S

2405	10.0
2406	10.0
2407	10.0
2408	10.0
2409	15.0
2410	15.0
2411	15.0
2412	20.0

STA/PT#	+	HI	−	ELEV.	DESC.
2400	2.44	2210.10		2207.66	S60N
F.F.			4.15	2205.95	F.F. @ 5411 E. HONDA BOW RD
F.F.	4.27	2210.22			
			2.54	2207.68	

ADJ FEL 2205.96

FFE 25

APN# 211-01-028A

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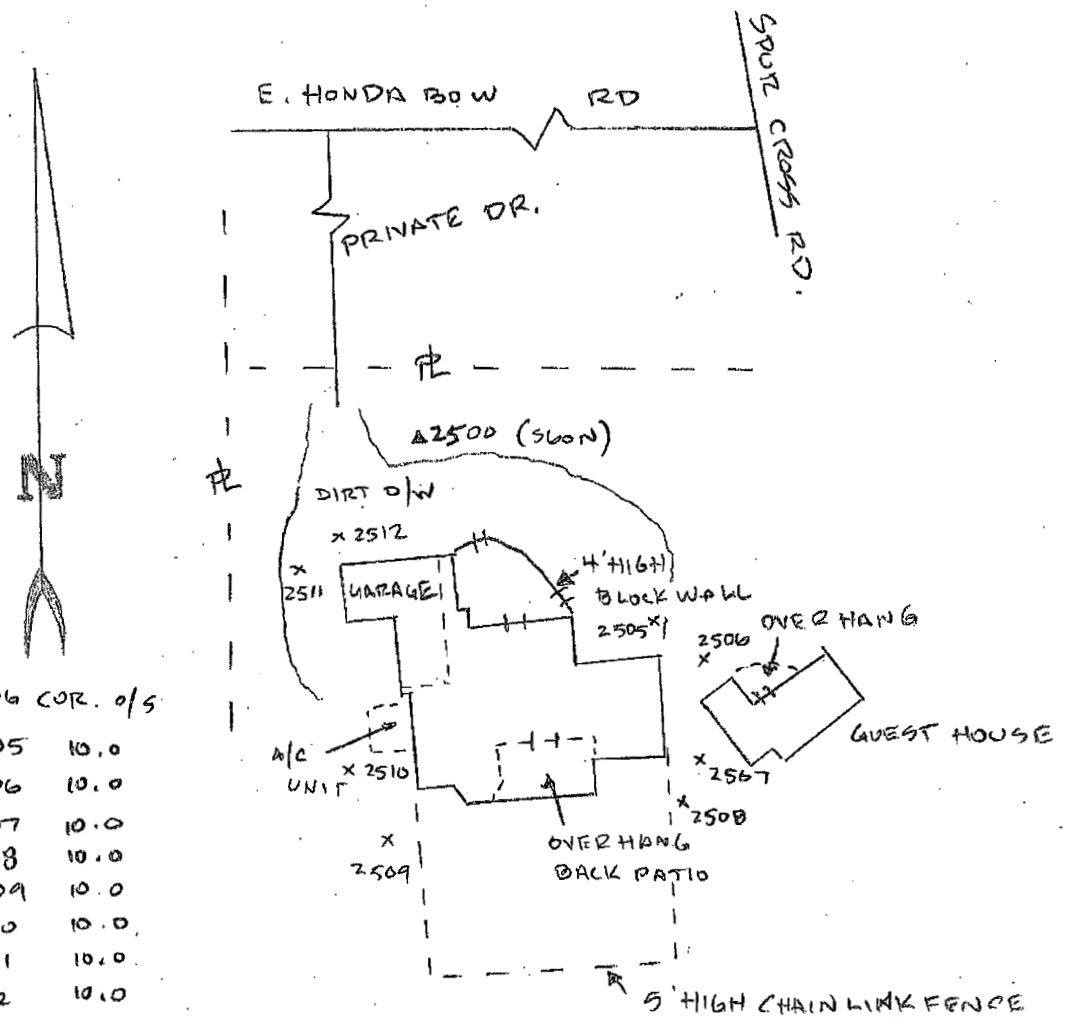
COMPUTATION SHEET

JOB# 1686.1 SHEET# 25 OF ____
SUBJECT: 5515 E. HONDA BOW RD
BY: L. SPEAN DATE: 09-07-07
CHECKED BY: ____ DATE: ____

25



BLDG COR.	o/s
2505	10.0
2506	10.0
2507	10.0
2508	10.0
2509	10.0
2510	10.0
2511	10.0
2512	10.0

STA/PT#	+	THI	−	ELEV.	DESC.
2500	4.08	2204.968		2200.888	560N
F.F.			4.25	2200.718	F.F. @ 5515 E. HONDA BOW RD
F.F.	4.51	2205.228			
			4.33	2200.898	560N

FFE 25

APN# 211-01-028B

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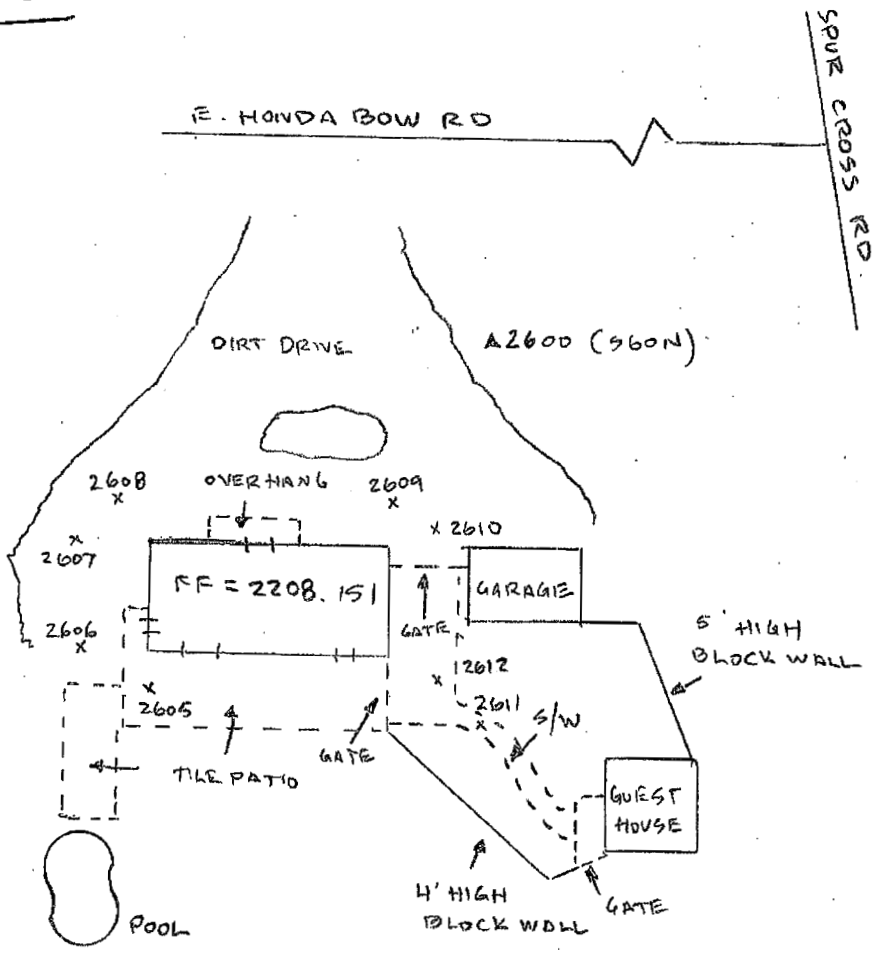
COMPUTATION SHEET

JOB# 1686.1 SHEET# 26 OF ____
SUBJECT: 5511 E. HONDA BOW RD
BY: L. SPEAN DATE: 09-07-07
CHECKED BY: ____ DATE: ____

#26



BLDG COR	o/s
2605	10.0
2606	10.0
2607	12.0
2608	18.0
2609	10.0
2610	10.0
2611	17.0
2612	12.0

STA/PT#	+	HI	−	ELEV.	DESC.
2600	2.15	2211.701		2209.551	560N
F.F.			3.95	2207.751	F.F. @ 5511 E. HONDA BOW RD
					+ 0.40 = F.F.
F.F.	4.19	2211.941			
			2.39	2209.551	560N

F.F. = 2208.151

FFE 26

APN# 211-01-028C

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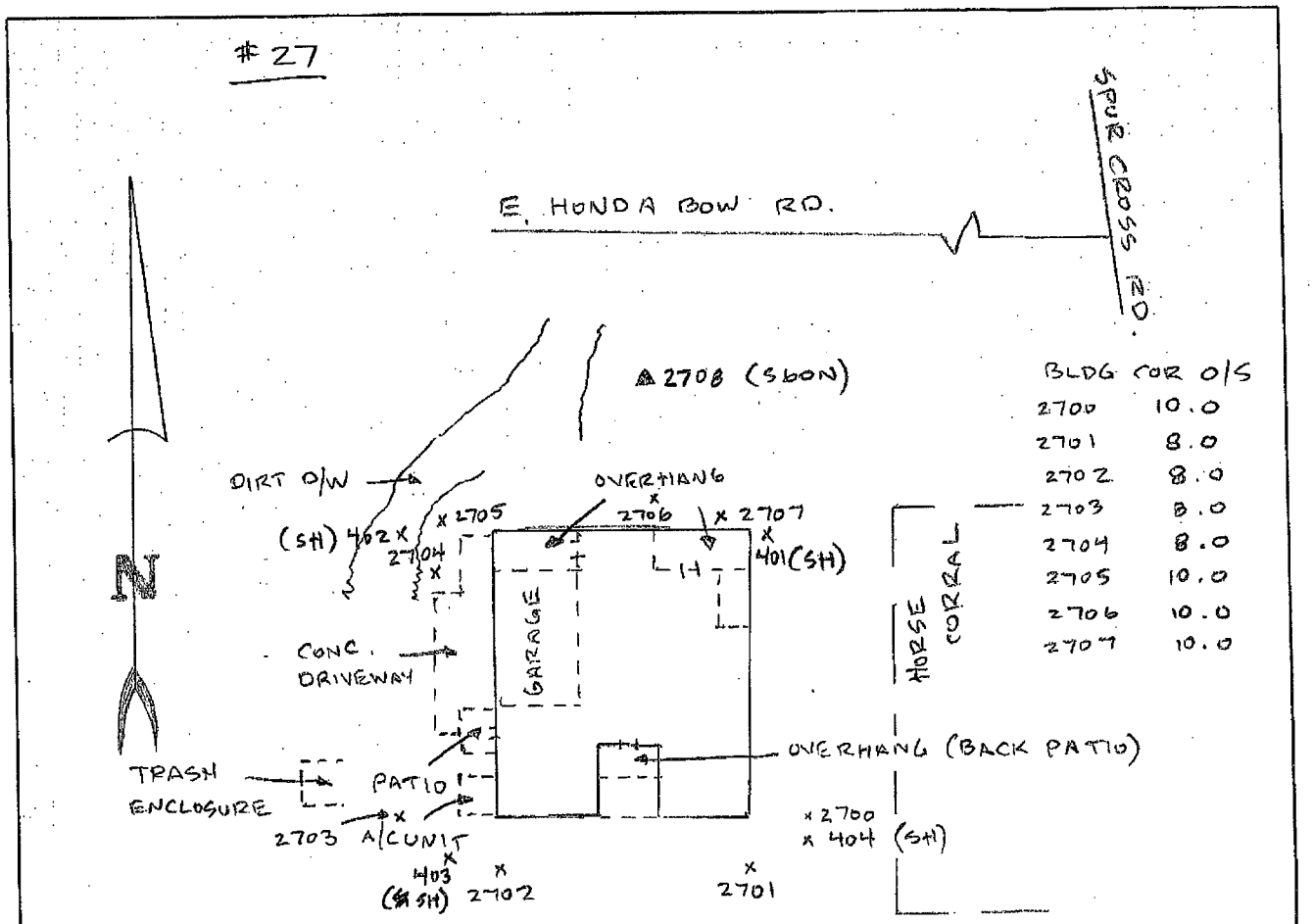
COMPUTATION SHEET

JOB# 1686.1 SHEET# 27 OF ____

SUBJECT: 5525 E. HONDA BOW RD.

BY: L. SPEAN DATE: 09-07-07

CHECKED BY: ____ DATE: ____



STA/PT.#	+	THI	−	ELEV.	DESC.
2708	4.50	2213.952		2209.452	S60N
F.F.			4.60	2209.352	F.F. @ 5525 E. HONDA BOW RD
F.F.	4.42	2213.772			
			4.31	2209.462	

ADJ FFEL=2209.357

FFE 27

APN# 202-19-022D

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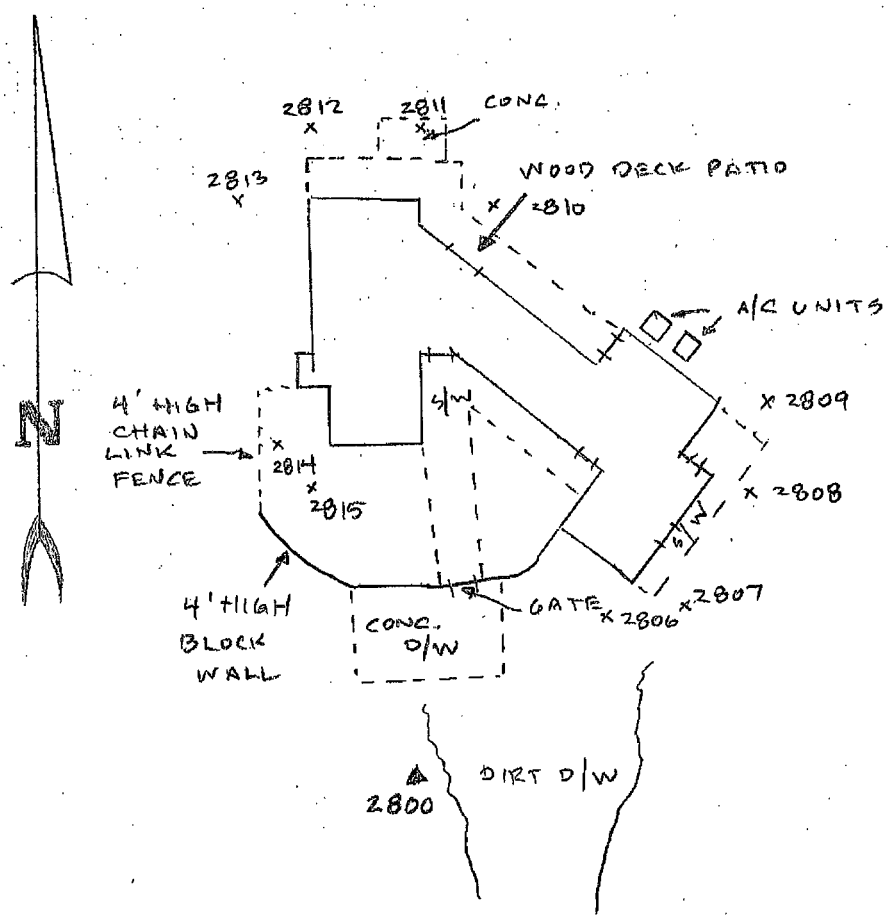
COMPUTATION SHEET

JOB# 1686.1 SHEET# 28 OF ____
SUBJECT: 42631 N. 54TH ST
BY: L. SPEAN DATE: 09-11-07 JANE EKROM
CHECKED BY: ____ DATE: ____

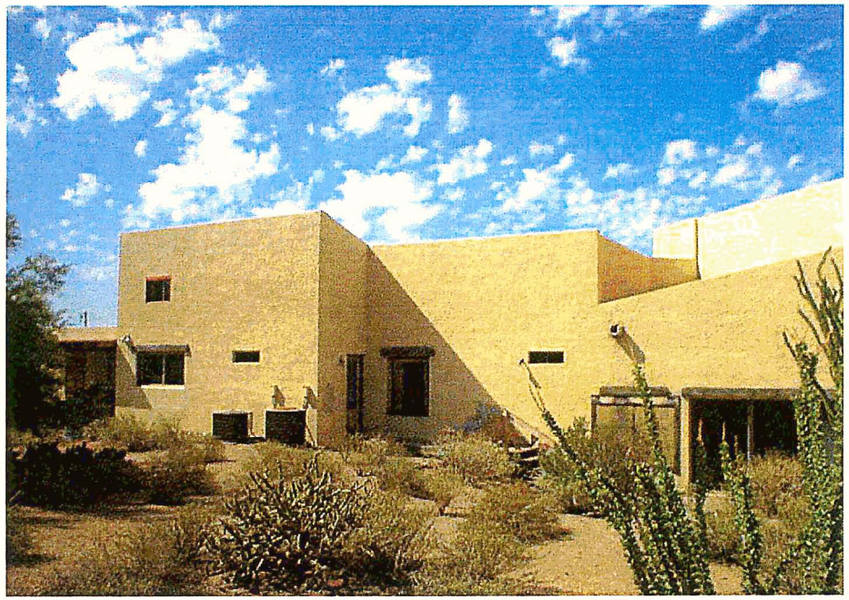
28

BLDG COR	O/S
2806	10.0
2807	10.0
2808	8.0
2809	14.0
2810	18.0
2811	16.0
2812	16.0
2813	12.0
2814	12.0
2815	10.0



STA/PT#	+	THI	−	ELEV.	DESC.
2800	5.33	2218.905		2213.575	S60N
F.F.			4.84	2214.065	F.F. @ 42631 N. 54TH ST
F.F.	5.16	2219.225			
			5.65	2213.575	S60N

FFE 28



APN# 202-A-022-P

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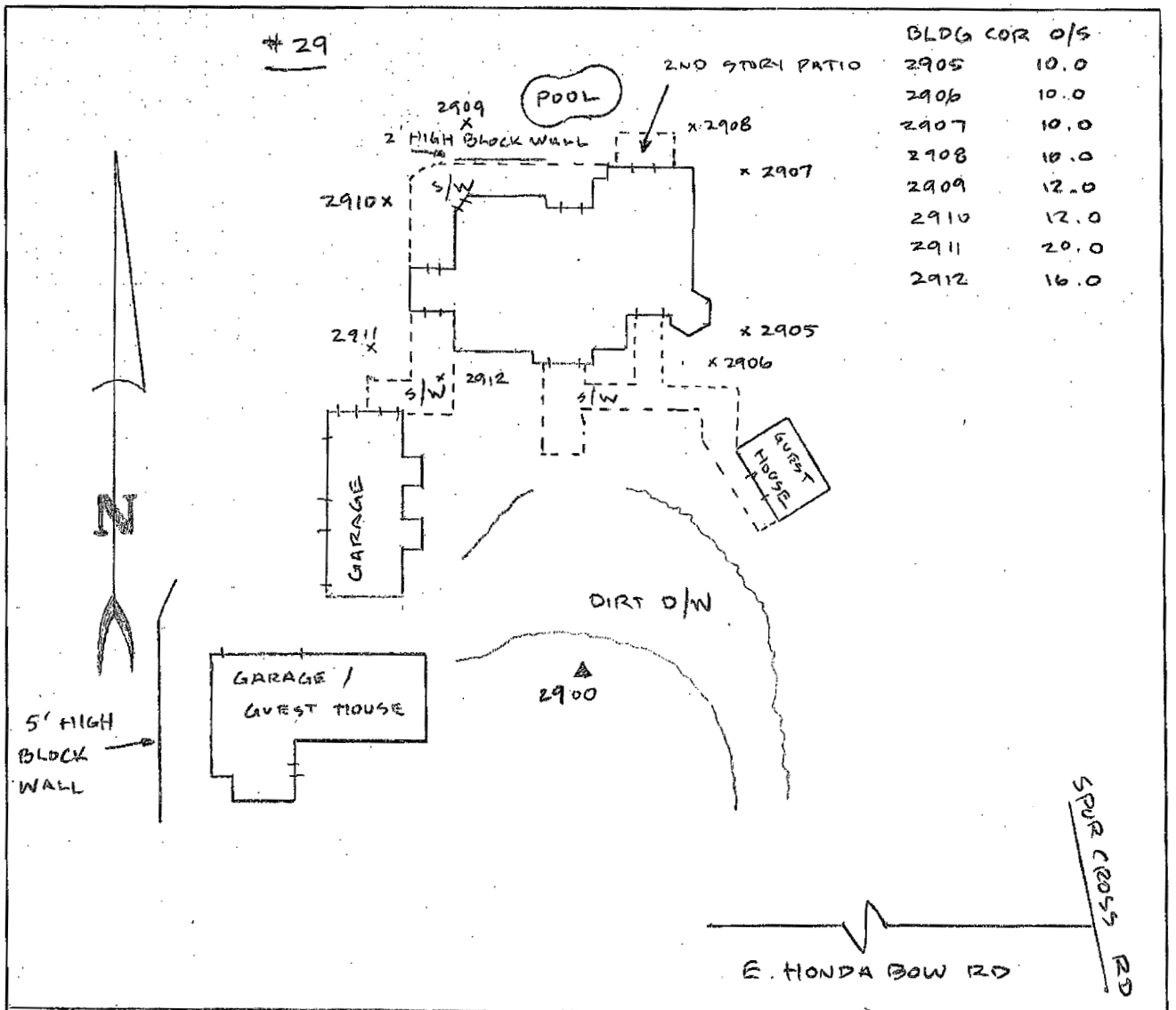
COMPUTATION SHEET

JOB# 1686.1 SHEET# 29 OF ____
SUBJECT: 5516 E. HONDA BOW RD
BY: L. SPEAN DATE: 09-11-07 CHRISTOPHER TRUST
CHECKED BY: ____ DATE: ____

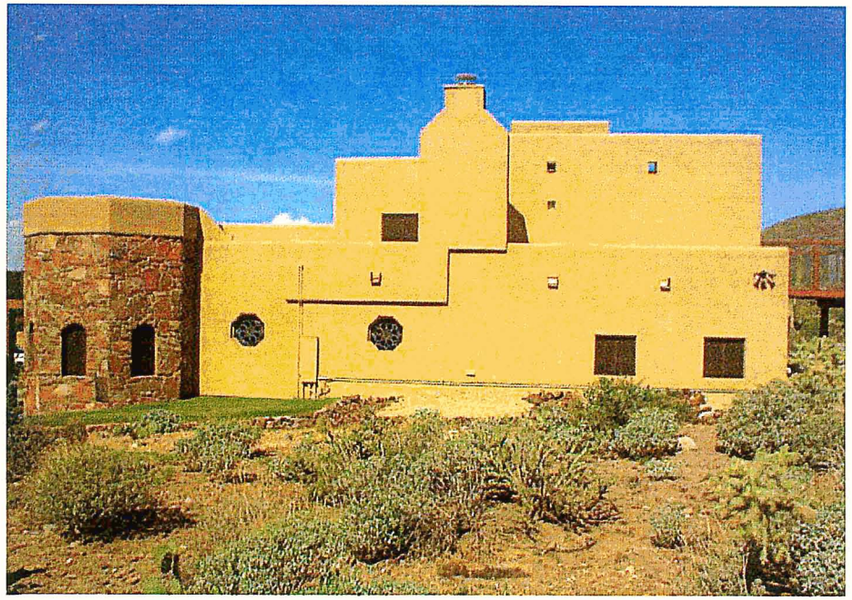


BLDG COR	O/S
2905	10.0
2906	10.0
2907	10.0
2908	10.0
2909	12.0
2910	12.0
2911	20.0
2912	16.0

STA/PT.#	+	HI	−	ELEV.	DESC.
2900	7.21	2233.984		2226.774	S60N
F.F.			1.49	2231.994	F.F. @ 5516 E. HONDA BOW RD
F.F.	1.80	2233.794			
			7.03	2226.764	S60N

ADJ FFEL = 2231.999

FFE 29



APN# 216-15-010 A

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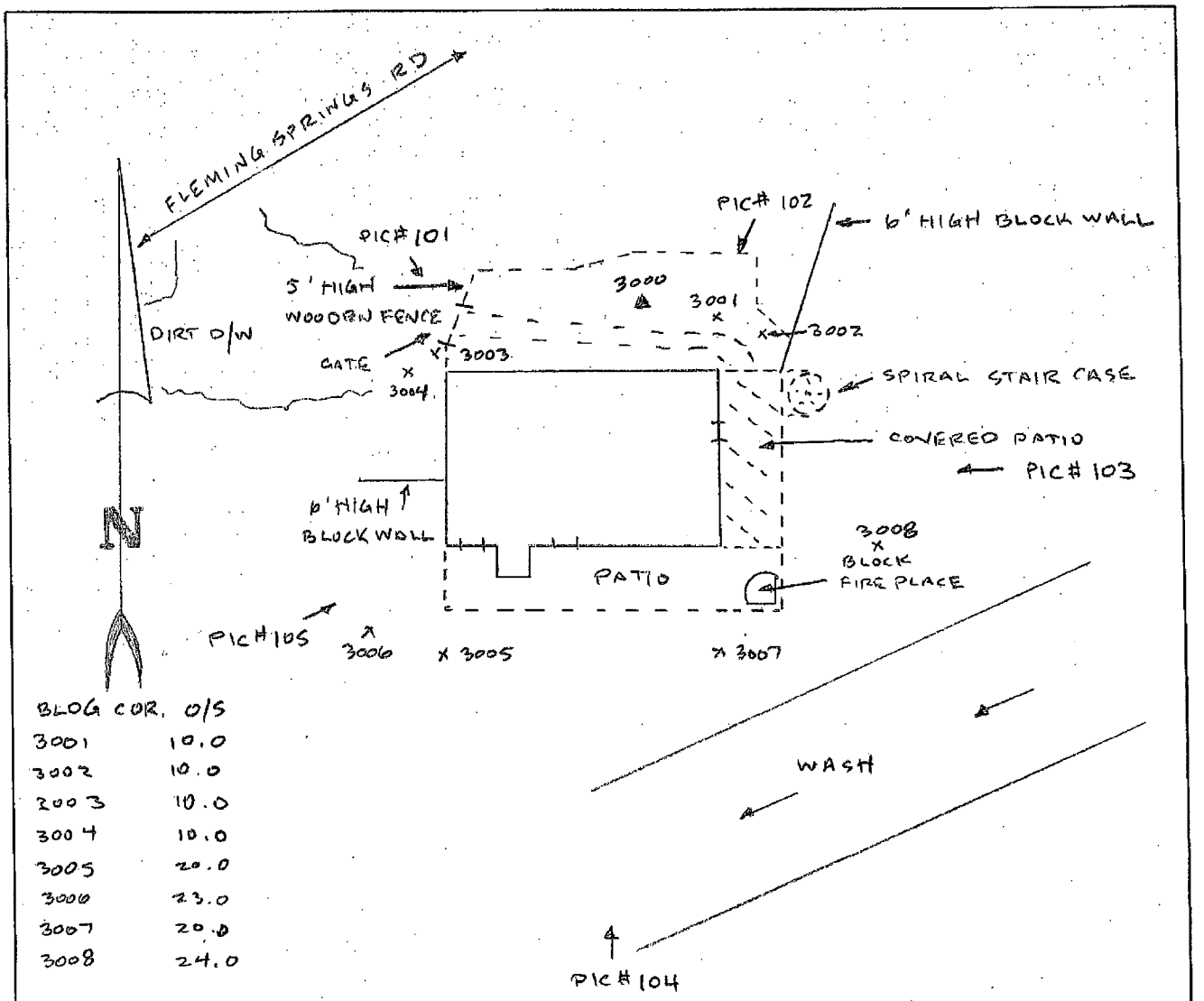
COMPUTATION SHEET

JOB# 1686.1 SHEET# 30 OF ____
SUBJECT: 40647 N. FLEMING SPRINGS RD
BY: L. SPEAN DATE: 9/11/07
CHECKED BY: ____ DATE: ____



BLDG COR.	O/S
3001	10.0
3002	10.0
3003	10.0
3004	10.0
3005	20.0
3006	23.0
3007	20.0
3008	24.0

STA/PT#	+	TH	−	ELEV.	DESC.
3000					S60N
	4.99	2253.716		2248.726	
FFEL 1			4.14	2249.576	F.F.EL #1 @ 40647 N. FLEMING SPRINGS RD
FFEL	4.17	2253.746			
FFEL 2			4.14	2249.606	F.F.EL #2 @ 40647 N. FLEMING SPRINGS RD
	4.03	2253.636			
			4.05	2249.586	
	3.96	2253.546			AVG FFEL = 2249.59

4.82 2248.726 S60N

FFE 30