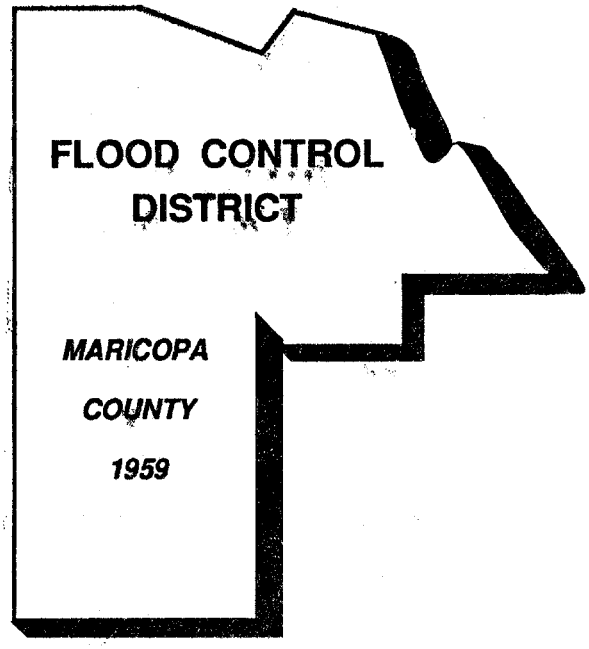
SALT - GILA RIVERS

GPS OBERSERVATION SHEETS

GPS CONTROL SURVEY

Property of
Flood Control District of MC Library
Please Return to
2801 W. Durango
Phoenix, AZ 85009

CONTRACT NO. 90-59



Baker
Michael Baker Jr., Inc

Greiner

MARICOPA COUNTY SALT-GILA WATERCOURSE MASTER PLAN PHASE 1 AERIAL MAPPING GPS CONTROL SURVEY NETWORK PHOENIX, ARIZONA GREINER, INC. 1991

SUMMARY

The intent of this GPS Control Survey was to provide a photogrammetric horizontal control network for a 400 scale 4-foot contour aerial topographic map of the Salt-Gila Rivers in the general vicinity of Phoenix Arizona. Approximately 150 record monuments were targeted and occupied using Trimble 4000 ST single frequency receivers in accordance with the FGCC "Geometric Accuracy Standards and Specifications for using GPS Relative Positioning Techniques" in order to develop the photogrammetric horizontal control for this aerial mapping project. The photogrammetric vertical control for this aerial mapping project was developed by a Least Squares Adjustment of conventional leveling and is not a part of this report.

In accordance with the contract specifications, this GPS horizontal control network was tied into the Arizona State Plane Coordinate System by direct measurements to 3 NGS first order triangulation stations within the immediate vicinity of this mapping project. These first order NGS triangulation stations are: Broadway, Etta and Val Vista. Additionally, in consideration of the fact that the East-West scope of this aerial mapping project extended approximately 80 miles, several other NGS first order triangulation stations were occupied around the project perimeter. These additional first order triangulation stations were occupied in order to verify the existence of a uniform State Plane Coordinate Network and to identify any "Local Control" coordinate discrepancies which may exist and thereby have an impact on this project or future projects within the same general area. Although verification of the existing NGS triangulation network is beyond the scope of this 400 scale 4-foot contour aerial topographic mapping project, all baselines between the NGS triangulation stations listed below were measured at least twice in order to provide redundant measurements as defined in the FGCC specifications. Due to its historical significance, as the initial point of the Arizona public lands survey system, one NGS second order triangulation station "Initial Point" was occupied instead of the NGS first order triangulation station "Initial Monument" only a few feet away. The published NAD83 record coordinates of triangulation stations Etta, Broadway, Squaw Peak, Litchfield, and Initial Point (not Initial Monument) appear to be in general agreement due to the lack of significant differences between the record coordinate values and the (measured) coordinate values generated by the unconstrained GPS project adjustment. However, triangulation stations Val Vista, Powers Butte, and Wintersburg exhibit larger positional differences between the published record coordinate values and the (measured) coordinate values generated by the unconstrained GPS project adjustment. This positional discrepancy would appear to cast some doubt on the accuracy of the published record coordinates of these three triangulation stations in relation to the overall area network. Please see the attached table entitled "NAD83 Grid Coordinate Value Comparisons (International Foot)".

Once again, it should be emphasized that the intent of this particular GPS control survey was to provide photogrammetric horizontal control for a 4-foot contour 400 scale aerial topographic map of the Salt-Gila Rivers, and an examination of the precision of the unconstrained adjustment proved to be well within the PPM requirements specified in the contract for this GPS control network. Under no circumstances should the resultant coordinate values of this GPS control survey be used for boundary analysis or land net control of a GIS digital mapping database.

THE FOLLOWING APPENDICES ARE INCLUDED AS PART OF THIS PROJECT REPORT:

An Appendix entitled GPS PROJECT COORDINATES which contains the following sections: NAD83 Arizona State Plane Ground Coordinates in International Feet, NAD83 Arizona State Plane Grid Coordinates in International Feet, NAD83 State Plane Grid Coordinates in Meters, and NAD27 Arizona State Plane Grid Coordinates in U.S. Survey Feet. Once again, it should be noted that the intent of this GPS control survey was to develop horizontal photogrammetric control for a 400 scale, 4-foot contour aerial topographic map of the Salt-Gila Rivers and under no circumstances should the resultant coordinate values be used for boundary analysis or land net control of a GIS digital mapping database.

An Appendix entitled GPS PROJECT ADJUSTMENTS which contains a GEOLAB least squares statistical adjustment with the title "Unscaled, #8 Constrained NAD83 Adjustment - Salt River GPS - 1991". This project adjustment was developed by the constrained NAD83 values of the following 8 NGS triangulation stations; Initial Point (not Initial Monument), Powers Butte, Wintersburg, Litchfield, Etta, Squaw Peak, Val Vista, and Broadway. It should be noted that due to the relatively large distance away from the immediate project, the record coordinate values of these 8 NGS control points were held "fixed" in the Geolab least squares adjustment but were not heavily weighted. Therefore, minor differences in the final coordinates of these points will be evident in the least squares adjustment report and the resultant coordinate listings due to a lack of agreement between the record coordinate values and the redundant GPS baseline vector measurements. The average ppm of the constrained project adjustment was 6 ppm, with a low value of 1 ppm and a high value of 35 ppm in a vector distance of 685 meters. This constrained adjustment was used to develop the NAD83 Coordinate values for this 400 scale 4-foot contour aerial topographic mapping project.

An Appendix entitled GPS PROJECT ADJUSTMENTS which contains a GEOLAB least squares statistical adjustment with the title: "Unscaled, #8 Constrained NAD27 Adjustment - Salt River GPS - 1991". This project adjustment was developed from the constrained NAD27 values of the following 8 NGS triangulation stations: Initial Point (not Initial Monument), Powers Butte, Wintersburg, Litchfield, Etta, Squaw Peak, Val Vista, and Broadway. It should be noted that due to the relatively large distance away from the immediate project, the record coordinate values of these 8 NGS control points were held "fixed" in the Geolab least squares adjustment but were not heavily weighted. Therefore, minor differences in the final coordinates of these points will be evident in the least squares adjustment report and the resultant coordinate listings due to a lack of agreement between the record coordinate values and the redundant GPS baseline vector measurements. The average ppm of this constrained project adjustment was 6 ppm with a low value of 1 ppm and a high value of 31 ppm in a vector distance of 685 meters. This constrained adjustment was used to develop the NAD27 coordinate values for this 400 scale 4-foot contour aerial topographic mapping project.

An Appendix entitled GPS PROJECT ADJUSTMENTS which contains a GEOLAB least squares statistical adjustment with the title: "Scaled Unconstrained Project Adjustment - Salt River GPS - 1991". This project adjustment was developed by constraining the NAD83 value of a single NGS triangulation station (Etta), in order to provide a quality check of the internal consistency of the GPS measurements. This adjustment was scaled to better fit a bell curve graph and to pass the Chi-squared test. The average ppm of this scaled unconstrained project network was 3 ppm with a low value of 1 ppm, and a high value of 13 ppm, in a vector distance of 685 meters. This scaled unconstrained adjustment is well within contract specifications and was produced in order to examine the actual precision of the GPS measurements used for this 400 scale 4-foot contour aerial topographic mapping project.

An Appendix entitled GPS PROJECT PROCESSING which contains the Trimble (Rev E) automatic baseline processing software parameters for the GPS observations of the NGS triangulation station network verification along with the resulting baseline summary reports and a Trimble "TMAP" plot of the baselines observed. In consideration of the relatively long baselines measured in the NGS triangulation station verification, the GPS observation data was first processed using the Trimble preset "automatic" processing parameters and then reprocessed using "manually" modified processing parameters in order to provide a comparison of the resultant vector differences. For all intents and purposes, the resultant raw GPS baseline vectors developed from the program preset "automatic" processing parameters were nearly identical to the resultant raw GPS baseline vectors developed from the "manually" modified processing. Therefore, the "automatic" GPS vectors were considered to be adequate for the NGS triangulation station verification of this 400 scale, 4 foot contour aerial mapping project. Please see the attached comparison tables entitled "Trimble 4000 ST Single Frequency Field Calibration and Comparisons".

An Appendix entitled GPS PROJECT PROCESSING which contains the Trimble (Rev E) manually modified baseline processing software parameters for the GPS observations of the NGS triangulation station verification along with the resulting baseline summary reports and a Trimble "TMAP" plot of the baselines observed. In consideration of the relatively long baseline measurements included in the NGS triangulation station verification, the Trimble processing parameters were manually modified in order to provide a comparison to the preset automatic processing sequence. Although the positional dilution of precision (PDOP) improved noticeably, the resultant raw GPS "Manual" baseline vectors were only slightly different than the processed preset "Automatic" baselines. Therefore, the program processed and adjusted "Automatic" baselines were considered to be adequate for the NGS triangulation station verification of this 400/scale, 4 foot contour aerial mapping project. Please see the attached comparison tables entitled "Trimble 4000 ST Single Frequency Field Calibration and Comparisons".

An Appendix entitled GPS PROJECT CLOSURES which contains the Trimble (Rev E) "Tclose" traverse closure reports for the NGS triangulation station verification and the 20 project loops. In accordance with the FGCC standards and specifications, all 20 project network loops were 10 sides or less. The average ppm closure for the loops in the project network was 2 ppm with a low value of 1 ppm and a high value of 5 ppm. The average value of 2 ppm for all the loops in this project network was considerably less than the specified allowable average of 16 ppm, and the maximum project loop closure of 4.53 ppm for Loop #8 was also considerably less than the allowable maximum of 25 ppm as specified in the FGCC standards.

An Appendix entitled GPS OBSERVATION REPORTS which contains the daily work reports recorded by the GPS field crew for each GPS observation day. These daily work reports are a general summary of the hours worked and points observed by each member of the GPS field crew. In order to satisfy contract requirements, daily work reports were recorded in addition to the GPS observation sheets which provide a detailed summary of each observation session.

An Appendix entitled GPS OBSERVATION SHEETS which contains the GPS observation sheets for all the points of this project as recorded by each member of the GPS field crew. These observation sheets show relevant information concerning each GPS occupation including: the name of the field operator, the model and serial number of the GPS receiver, the location and description of the point occupied, information regarding the satellite constellation for each individual observation session, and the antenna height entered into the receiver along with the three independent measurement checks required by the FGCC specifications.

MARICOPA COUNTY SALT-GILA WATERCOURSE MASTER PLAN
PHASE 1 AERIAL MAPPING GPS CONTROL SURVEY NETWORK
PHOENIX, ARIZONA
GREINER, INC.
1991

An Appendix entitled GPS OBSERVATION WINDOWS which contains the satellite windows available for this project as well as the Trimble satellite "SKYPLOT" configurations for the individual observation sessions. All observations sessions were designed according to the "FGCC Geometric Accuracy Standards and Specifications for using GPS Relative Positioning Techniques".

An Appendix entitled GPS OBSERVATION POINTS which contains the recon sheet "Visibility", "To Reach", and "Point Identification" descriptions for all the GPS observation points of this project. This binder also includes the published record coordinates and "To Reach" descriptions for the occupied NGS triangulation stations surrounding the general vicinity of this 400 scale 4-foot contour aerial topographic mapping project.

David Paul Johnson
Project Surveyor, G.P.S.

Robert J. Pecha, P.L.S.
Project Manager

REGISTERED LAND SURVEYOR
CERTIFICATE NO.
21080
ROBERT J.
PECHA
Date Signed 7-17-91
ARIZONA, U.S.A.

R00704

MARICOPA COUNTY SALT-GILA WATERCOURSE AERIAL MAPPING

NAD 83 GRID COORDINATE VALUE COMPARISONS (INTERNATIONAL FOOT)

NAME	NUMBER		RECORD	CONSTRAINED	± DIF	UNCONSTRAINED	± DIF
		N	864,981.997	864,981.987	-0.010	864,981.913	-0.084
INITIAL POINT	0001	E	581,116.248	581,116.362	+0.114	581,116.537	+0.289
		N	840,141.032	840,141.074	+0.042	840,141.285	+0.253
POWERS BUTTE	0005	E	450,010.732	450,011.135	+0.403	450,011.819	+1.087
		N	880,381.043	880,381.056	+0.013	880,381.027	-0.016
WINTERSBURG	0007	E	407,444.792	407,444.862	+0.070	407,446.665	+1.873
		N	917,126.638	917,126.633	-0.005	917,126.404	-0.234
LITCHFIELD	0009	E	564,283.971	564,283.975	+0.004	564,284.542	+0.571
		N	896,344.272	896,344.272	HELD	896,344.272	HELD
ETTA	0013	E	647,409.040	647,409.040	HELD	647.409.040	HELD
		N	926,687.833	926,687.747	-0.086	926,687.466	-0.367
SQUAW PEAK	0015	E	668,215.780	668,215.769	-0.011	668,215.654	-0.126
		N	900,292.414	900,292.274	-0.140	900,292.259	-0.155
VAL VISTA	0019	E	750,259.803	750,259.198	-0.605	750,258.834	-0.969
		N	875,535.738	875,535.795	+0.057	875,535.783	+0.045
BROADWAY	0021	E	684,546.463	684,546.424	-0.039	684,546.338	-0.125

* NOTE: Although verification of the local existing NGS triangulation network is beyond the scope of this 400 scale, 4-foot contour aerial mapping project, the published NAD83 Record Coordinates of Triangulation Stations Etta, Broadway, Squaw Peak, Litchfield, and Initial Point (not Initial Monument) appear to be in general agreement according the lack of major differences between the record coordinate values and the (measured) coordinate values generated by the unconstrained adjustment. Triangulation stations Val Vista, Powers Butte and Wintersburg exhibit larger positional differences between the (measured) unconstrained coordinates and the published record values. This discrepancy would appear to cast some doubt on the accuracy of the published record coordinates of these three triangulation stations relative to the overall area network.

MARICOPA COUNTY SALT-GILA WATERCOURSE AERIAL MAPPING

RAW GPS "AUTOMATIC" BASELINE MEASUREMENT COMPARISONS (DIRECTORY VCTR1)

TRIMBLE 4000 ST SINGLE FREQUENCY RECEIVER FIELD CALIBRATION AND COMPARISONS

STATION FROM	RECEIVER FROM	STATION TO	RECEIVER TO	GPS DAY	VECTOR DISTANCE (m)
0001	WHITE	0013	BLUE	330-1	22,356.121 *
0001	WHITE	0013	BLUE	330-2	22,356.297
0001	RED	0013	WHITE	337-1	22,356.248
0001	RED	0013	WHITE	337-2	22,356.214
0001	GREEN	0013	RED	339-1	22,356.396
0001	GREEN	0013	RED	339-4	22,356.352

#2934A00381 = RED #2934A00379 = WHITE #2934A00382 = BLUE #2934A00373 = GREEN

* NOTE: As noted per the attached letter, Trimble GPS receivers are calibrated before they leave the factory, and also undergo a self calibration routine each time they are turned on. However, in an effort to provide an actual project field comparison, a common network baseline was measured repeatedly using three different receiver combinations with the resultant raw GPS vector distances shown above. Except for the first raw GPS vector distance which would appear to contain operator error, the maximum difference between any pair of measured "automatic" vectors is 182mm in 22,356m, or 8ppm. Of further note is the fact that the maximum difference realized between any raw GPS vector developed from preset "Automatic" processing and the corresponding raw GPS vector developed from "Manual" processing (set to process each measurement observation) was only 91mm in 22,356 meters, or 4ppm (please refer to the following page).

MARICOPA COUNTY SALT-GILA WATERCOURSE AERIAL MAPPING

RAW GPS "MANUAL" BASELINE MEASUREMENT COMPARISONS (DIRECTORY VCTR1M)

TRIMBLE 4000 ST SINGLE FREQUENCY RECEIVER FIELD CALIBRATION AND COMPARISONS

STATION FROM	RECEIVER FROM	STATION TO	RECEIVER TO	GPS DAY	VECTOR DISTANCE (m)
0001	WHITE	0013	BLUE	330-1	22,356.139 *
0001	WHITE	0013	BLUE	330-2	22,356.273
0001	RED	0013	WHITE	337-1	22,356.291
0001	RED	0013	WHITE	337-2	22,356.281
0001	GREEN	0013	RED	339-1	22,356.305
0001	GREEN	0013	RED	339-4	22,356.288

#2934A00381 = RED #2934A00379 = WHITE #2934A00382 = BLUE #2934A00373 = GREEN

* NOTE: As noted per the attached letter, Trimble GPS receivers are calibrated before they leave the factory, and also undergo a self calibration routine each time they are turned on. However, in an effort to provide an actual project field comparison, a common network baseline was measured repeatedly using three different receiver combinations with the resultant raw GPS vector distances shown above. Except for the first raw GPS vector distance which would appear to contain operator error, the maximum difference between any pair of measured "manual" vectors is 32mm in 22,356m, or 1ppm. Of further note is the fact that the maximum difference realized between any raw GPS vector developed from preset "Automatic" processing and the corresponding raw GPS vector developed from "Manual" processing (set to process each measurement observation) was only 91mm in 22,356 meters, or 4ppm (please refer to the previous page).

RECEIVED
DEC 1991
GREINER ENG.

TrimbleNavigation

1 November 1991

Dave Johnson
GREINER, INC.
1261 East Dyer Road
Santa Ana, CA 92705-5605

Dear Mr. Johnson:

As per your request for information regarding the calibration of GPS Carrier Phase Tracking receivers. All receivers are calibrated before leaving Trimble Navigation Ltd by our Q.A. group. This calibration includes measuring a baseline of known coordinates to determine any abnormalities in the antenna phase center or the receivers tracking loop. The receivers also do a self calibration between all the channels every time a survey is started. The results of this calibration are available for the user to analyze, and are located in the double difference output file.

Should you have any further questions or if I can be of service to you, please call me at 1-800-874-6253 extension 2019.

Regards,

TRIMBLE NAVIGATION LTD.

Ken Mooyman

Ken Mooyman
Survey Sales
Western Region

645 North Mary Avenue
Post Office Box 3642
Sunnyvale, CA 94088-3642

(408) 730-2900
FAX (408) 730-2997
Telex 6713973

[illegible] - 1
INITIAL

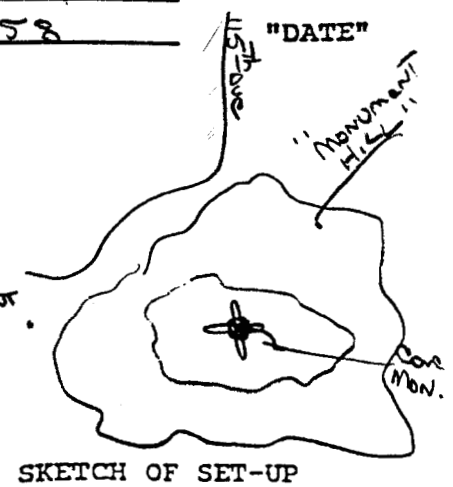
GREINER, INC. — **G.P.S FIELD OBSERVATION SHEET**

OFFICE FILE			JOB #
PATH/FILE		SALT - Gila	PROJECT
POINT		✓ 1	SESSION # (-S#)
NOTE		~~INITIAL~~ 000001	POINT # "FILE"
NOTE		Initial 330-01	POINT NAME
PRESS/HUMID	/	Nov. 26, 1991	DATE
TEMP/WEATHER	/	330	JULIAN (DAY) (FINAL)
ANTENNA #		WHITE	RECVR COLOR
RANGE POLE #		#379	RECVR # / MODEL
ENTER LAT.			OBSERVER
ENTER LONG.		Don & Vince	CREW

(IMPORTANT: READ THE DISPLAY AND PUSH GREEN SURVEY BUTTON INFO.)

	BEGIN		MIDDLE		FINAL		
FILE-DAY-S#	330-01		330-01		330-01		"SURVEY"
HI CM	149.7		149.8		149.7 ✓		"SURVEY"
HI METERS	1.497		1.498		1.497		"SURVEY"
HI-1/16 IN.	58 15/16	58.938 ✓	58 15/16	✓	58 15/16	✓	"SURVEY"
	58.94	CHECK	58.94	CHECK	58.94	CHECK	
SV.'S #	17 03 23 21		17 03 23 21		17 | 23 21		"ELEV/AZ"
SNR	23 21 22 08		23 20 21 12		17 | 23 23		"ELEV/AZ"
CONTINUOUS	1 2 2 2		261 261 261 221		606 | 606 566		"MORE"
TOTAL MEAS.	1 2 2 2		261 261 261 221		606 | 606 566		"MORE"
SV.'S #					11 12		"ELEV/AZ"
SNR					11 9		"ELEV/AZ"
CONTINOUS					117 31		"MORE"
TOTAL MEAS.					117 31		"MORE"
LATITUDE	33 °22'38.44"		33 °22'27.[illegible]"		33 °22'37.91"		"POSITION"
LONGITUDE	112 °18'22.[illegible]"		112 °18'23.[illegible]"		112 °18'22.53"		"POSITION"
PDOP / HDOP	2.6	2.6	6.7	2.8	3.4	2.5	"POSITION"
WATCH TIME	10:29:20 MST a.m		11:34		12:58 pm		"DATE"
UTC TIME	17:29:40		18:34		19:58		"DATE"

POINT DESCRIPTION: STAINLESS STEEL CAP / WITH 4 STAINLESS STRADDLERS ALL SET IN CONCRETE MONUMENT ORIENTATED N, S, E, & W. — U.S. DEPT. OF INTERIOR 1984 - CADASTRAL SURVEY - BUREAU LAND MANAGEMENT. I-10 - South on 115th AVE TO "MONUMENT" Hill. 10 MINUTE PACK.



SKETCH OF SET-UP

* NOTE SV'S = 21 DON'T [illegible] IN THE ON OTHERS

[illegible]tion ID: 000 Session #: 310-1 [illegible]
[illegible]erence Position: LOW ACCURACY:
[illegible] = 0:00'00.000" N Long. = 0:00'00.000" W Height = 0 [illegible]
[illegible]enna height = 1.4010 [meters] [illegible]
[illegible] station name:

[illegible]iver serial # = 379
Internal antenna
NF Software = 3.25 SP Software = 3.25 Download Software = [illegible].06

Survey schedule: UNSPECIFIED
Data-logging start time = 17:27
Data-logging stop time = 20:01

Tracking	SV 3	SV 11	SV 12	SV 17	SV 21	SV 23
total L1	536	128	42	616	576	616
cont L1	536	128	42	616	576	616

SV Selection mode = AUTOMATIC
Elevation mask = 14 [degrees] Minimum # of SVs = 1

3D Position	Best PDOP Position [2.4]	Mean Position [1371]
Latitude:	33:22'38.62280" N	33:22'38.19340" N
Longitude:	112:18'20.53992" W	112:18'21.97792" W
Height [m]:	297.9	315.5

2D Position	Best PDOP Position [1.6]	Mean Position [519]
Latitude:	33:22'43.91596" N	33:22'42.07745" N
Longitude:	112:18'19.28710" W	112:18'20.93065" W

INITIAL

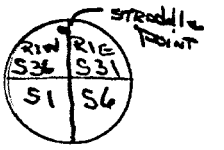
GREINER, INC. — **G.P.S FIELD OBSERVATION SHEET**

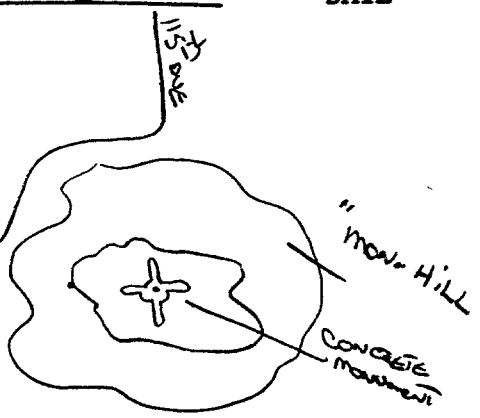
OFFICE FILE			JOB #
PATH/FILE		SALT- GILA	PROJECT
POINT		# 2	SESSION # (-S#)
NOTE		~~330-02~~ 0001	POINT # "FILE"
NOTE		INITIAL	POINT NAME
PRESS/HUMID	/	NOV. 26, 1991	DATE
TEMP/WEATHER	/	330	JULIAN (DAY) (FINAL)
ANTENNA #		WHITE	RECVR COLOR
RANGE POLE #		# 379	RECVR # / MODEL
ENTER LAT.			OBSERVER
ENTER LONG.		DON & VINCE	CREW

(IMPORTANT: READ THE DISPLAY AND PUSH GREEN SURVEY BUTTON INFO.)

	BEGIN				MIDDLE				FINAL				
FILE-DAY-S#	330-02				330-02				330-02				"SURVEY"
HI CM	138.3				138.4				138.2 ✓				"SURVEY"
HI METERS	1.383				1.384				1.382				"SURVEY"
HI-1/16 IN.	54 7/16	54.44 ✓			54 1/2	✓			54 7/16	✓			"SURVEY" 54.44 2.54 138.2
	54.44	CHECK			54.50	CHECK			54.44	CHECK			
SV.'S #	21	17	11	12	21	15	11	12	21	15	14		"ELEV/AZ"
SNR	24	11	17	11	26	12	17	08	18	25	08		"ELEV/AZ"
CONTINUOUS	2	2	2	2	266	131	266	266	616	111	28		"MORE"
TOTAL MEAS.	2	2	2	2	266	131	266	266	616	478	28		"MORE"
SV.'S #	23				23								"ELEV/AZ"
SNR	20				12								"ELEV/AZ"
CONTINOUS	3				266								"MORE"
TOTAL MEAS.	3				266								"MORE"
LATITUDE	33 °22'38.13"				33 °22'39.16"				33 °22'39.79"				"POSITION"
LONGITUDE	112 °18'23.00"				112 °18'22.82"				112 °18'20.59"				"POSITION"
PDOP / HDOP	4.2	1.8			3.0	1.5			3.5	3.5			"POSITION"
WATCH TIME	1:50 pm M.S.T.				3:02 p.m. M.S.T.				4:28 p.m. M.S.T.				"DATE"
UTC TIME	13:50				15:02				23:28				"DATE"

POINT DESCRIPTION: Stainless Steel Cap / with 4 Stainless straddlers All set in Concrete Monument Oriented N, S, E, & W. — U.S. Dept. of Interior — 1984 Cadastral Survey — Bureau Land Management. — I-10 & 115th Ave South on 115th to "Monument Hill" 10-minute dock





SKETCH OF SET-UP

Station ID: [illegible] Session #: [illegible] Nov. 24, 1991 20:52
Reference [illegible] tion = LOW ACCURACY:
Lat. = [illegible] 00.000" N Long. = 0:00'00.000" W Height = 0.0 [meters]
Antenna height = 1.7830 [meters] (entered in the field in meters)
[illegible]

[illegible] # = 379 JCH4Y3OL
Internal antenna
NP Software = 3.25 SP Software = 3.25 Download Software = 2.08.06

Survey schedule: UNSPECIFIED
Data-logging start time = 20:53
Data-logging stop time = 23:30

Tracking	SV 11	SV 12	SV 14	SV 15	SV 17	SV 21	SV 23
total L1	547	277	38	487	89	625	411
cont L1	547	277	38	348	89	625	411

SV Selection mode = AUTOMATIC
Elevation mask = 14 [degrees] Minimum # of SVs = 1

3D Position	Best PDOP Position [2.9]	Mean Position [1230]
Latitude:	33:22'38.19147" N	33:22'37.99620" N
Longitude:	112:18'22.21879" W	112:18'21.75680" W
Height [m]:	317.0	338.2

2D Position	Best PDOP Position [1.8]	Mean Position [520]
Latitude:	33:22'38.64970" N	33:22'37.98810" N
Longitude:	112:18'21.46734" W	112:18'21.68574" W

SES - 2:30 ECIS-330-1 ETTA

GREINER, INC. **G.P.S FIELD OBSERVATION SHEET**

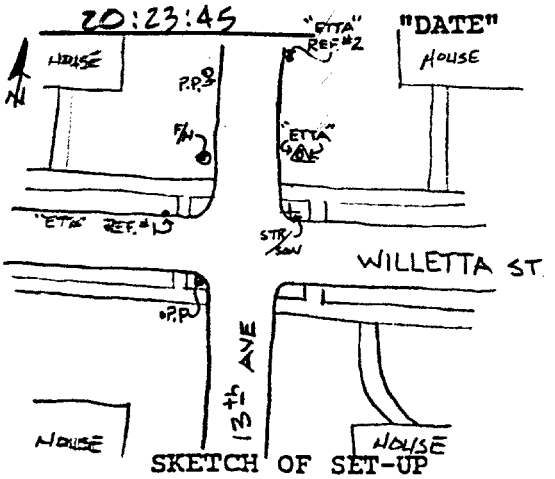
OFFICE FILE			JOB #
PATH/FILE		SALT / GILA	PROJECT
POINT		330-1	SESSION # (-S#)
NOTE		0013	POINT # "FILE"
NOTE		ETTA	POINT NAME
PRESS/HUMID	/	TUES-26-NOV-91	DATE
TEMP/WEATHER	/	330	JULIAN (DAY) (FINAL)
ANTENNA #		BLUE	RECVR COLOR
RANGE POLE #		382 / ST-4000	RECVR # / MODEL
ENTER LAT.		S. CROW	OBSERVER
ENTER LONG.		ME	CREW

(IMPORTANT: READ THE DISPLAY AND PUSH GREEN SURVEY BUTTON INFO.)

LOST ONE GAINED TWO

	BEGIN 12:15				MIDDLE 12:50				FINAL 1:20				
FILE-DAY-S#	0013-330-1				0013-330-1				0013-330-1				"SURVEY"
HI CM	140.7				140.7				140.7 ✓				"SURVEY"
HI METERS	1.404				1.404				1.404				"SURVEY"
HI-1/16 IN.	55 4/16	55.3701 ✓			55 6/16	55.3701 ✓			55 6/16	55.3701 ✓			"SURVEY" 55.37 / 2.54 / 140.63
	55.37	CHECK			55.37	CHECK			55.37	CHECK			
SV.'S #	17	03	23	21	17	12	23	21	17	12	23	21	"ELEV/AZ"
SNR	23	10	22	19	18	10	24	21	14	08	23	25	"ELEV/AZ"
CONTINUOUS	5	6	6	6	167	216	167	169	273	136	279	280	"MORE"
TOTAL MEAS.	5	6	6	6	167	216	167	169	273	136	279	280	"MORE"
SV.'S #					11				11				"ELEV/AZ"
SNR					09				15				"ELEV/AZ"
CONTINOUS					92				201				"MORE"
TOTAL MEAS.					104				213				"MORE"
LATITUDE	33 °27'51.14"				33 °27'49.23"				33 °27'50.60"				"POSITION"
LONGITUDE	112 °05'21.32"				112 °05'20.87"				112 °05'21.42"				"POSITION"
PDOP / HDOP	1.6	1.6			3.3	2.5			3.7	2.0			"POSITION"
WATCH TIME	12:17:32 PM				12:52:55 PM				1:23:25 PM				"DATE"
UTC TIME	19:17:44				19:53:07				20:23:45				"DATE"

POINT DESCRIPTION: FROM 13th AVE & McDOWELL GO SOUTH ON 13th AVE FOR 0.15 MILE TO STATION ON THE LEFT.
"ETTA" FALLS ON N/E CORNER OF 13th AVE & WILLETTA.



SKETCH OF SET-UP

Station ID: 0013 Session #: 330-1 Nov 26, 1991 19:13
Reference Position - LOW ACCURACY:
Lat. = 0:00'00.000" N Long. = 0:00'00.000" W Height = 0.0 [meters]
Antenna height = 1.8164 [meters] (entered in the field in inches)
Long station name:

Jamison

Receiver serial # = 322
Internal antenna
NP Software = 3.25 SP Software = 3.25 Download Software = 2.08.06

Survey schedule: UNSPECIFIED
Data-logging start time = 19:14
Data-logging stop time = 20:30

Tracking	SV 3	SV 11	SV 12	SV 17	SV 21	SV 23
total L1	105	239	162	303	303	303
cont L1	105	227	162	303	303	303

SV Selection mode = AUTOMATIC
Elevation mask = 14 [degrees] Minimum # of SVs = 1

3D Position	Best PDOP Position [2.4]	Mean Position [698]
Latitude:	33:27'50.59475" N	33:27'50.16476" N
Longitude:	112:05'19.38059" W	112:05'20.62944" W
Height [m]:	283.1	305.7

2D Position	Best PDOP Position [1.6]	Mean Position [251]
Latitude:	33:27'50.39644" N	33:27'51.46714" N
Longitude:	112:05'20.00160" W	112:05'19.96447" W

SQUAW PEAK

GREINER, INC. — G.P.S FIELD OBSERVATION SHEET

OFFICE FILE			JOB #
PATH/FILE		SALT / GILA	PROJECT
POINT		✓ #1	SESSION # (-S#)
NOTE		0015	POINT # "FILE"
NOTE		SQUAW PEAK	POINT NAME
PRESS/HUMID	/	26 NOV 1991	DATE
TEMP/WEATHER	/	330.	JULIAN (DAY) (FINAL)
ANTENNA #		GREEN	RECVR COLOR
RANGE POLE #		373-4000	RECVR # / MODEL
ENTER LAT.		RICK KLEBIEKO	OBSERVER
ENTER LONG.		MASON WOMBLE	CREW

(IMPORTANT: READ THE DISPLAY AND PUSH GREEN SURVEY BUTTON INFO.)

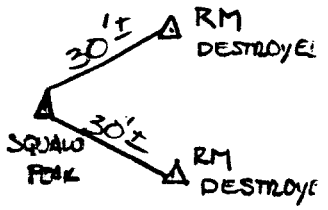
	BEGIN	MIDDLE	FINAL	
FILE-DAY-S#	0015-330-1 (12)	0015-330-1	0015-330-1	"SURVEY"
HI CM	124.3	124.3	124.3 ✓	"SURVEY"
HI METERS	1.243	1.243	1.243	"SURVEY"
HI-1/16 IN.	48 15/16 48.937 ✓ / 48.93 CHECK	48 15/16 48.937 ✓ / 48.93 CHECK	48 15/16 48.937 / 48.93 CHECK	"SURVEY"
SV.'S # (1)	17 23 3 21 (~10:40am)	17 23 3 21 (2)	17 23 12 21 (4)	"ELEV/AZ"
SNR	21 19 20 7	22 19 17 13	12 19 09 21	"ELEV/AZ"
CONTINUOUS	12 12 12 18	221 221 221 240	722 723 162 692	"MORE"
TOTAL MEAS.	12 12 12 18	221 221 221 240	722 723 162 692	"MORE"
SV.'S #		(3) 11 21 17 23 3	11	"ELEV/AZ"
SNR		06 19 19 21 07	14	"ELEV/AZ"
CONTINOUS		3 449 479 479 479	245	"MORE"
TOTAL MEAS.		3 449 479 479 479	245	"MORE"
		19:30 UTC 33.32.51.01 / 12:30 PM 112.01.14.31		
LATITUDE	33 °32'51.14"	33 °32'52.02"	33 °32'49.29"	"POSITION"
LONGITUDE	112 °01'16.42"	112 °01'13.64"	112 °01'15.06"	"POSITION"
PDOP / HDOP	2.6 2.6	7.7 / 3.2	3.9 1.9	"POSITION"
WATCH TIME	10:28 am	~11:40 am	1:30 PM	"DATE"
UTC TIME	17:28	~18:40	20:30	"DATE"

48.94
2.54
124.3

PDOP @ 11:50 - 13.2, @ 12:13 - 16
HDOP @ " 5.2, @ " - 1.6

POINT DESCRIPTION: "NATIONAL GEODETIC SURVEY - HORIZONTAL CONTROL MARK 'SQUAW PEAK 1963 & 1973' " (W/PM) BRASS CAP EPOXIED IN QUARTZITE ON SOUTHERLY SUMMIT (TALLEST PEAK) ON SQUAW PEAK MOUNTAIN, MARICOPA COUNTY, PHOENIX, ARIZONA

NATIONAL GEODETIC SURVEY



(REF. MON'S. STEMS STILL IN ROCK)

SKETCH OF SET-UP

Station ID: 0015 Session #: 330-1 Nov 26, 1991 17:29
Reference Position - LOW ACCURACY:
Lat. = 0:00'00.000" N Long. = 0:00'00.000" W Height = 0.0 [meters]
Antenna height = 1.2430 [meters] (entered in the field in meters)
Long station name:

Jordan

R eiver serial # = 373
Internal antenna
NP Software = 3.25 SP Software = 3.25 Download Software = 2.08.06

Survey schedule: UNSPECIFIED
Data-logging start time = 17:30
Data-logging stop time = 20:34

Tracking	SV 3	SV 11	SV 12	SV 17	SV 21	SV 23
total L1	522	262	180	737	707	737
cont L1	522	262	180	737	707	737

SV Selection mode = AUTOMATIC
Elevation mask = 14 [degrees] Minimum # of SVs = 1

3D Position	Best PDOP Position [2.4]	Mean Position [1759]
Latitude:	33:32'51.45464" N	33:32'50.71833" N
Longitude:	112:01'13.48253" W	112:01'15.57552" W
Height [m]:	748.4	760.8

2D Position	Best PDOP Position [1.6]	Mean Position [453]
Latitude:	33:32'57.12548" N	33:32'55.06213" N
Longitude:	112:01'12.03810" W	112:01'14.14553" W

* NOTE: 6 HR MEMORY @ FIRE-UP (TOOL)

0013-330-2
ETTA

GREINER, INC. — **G.P.S FIELD OBSERVATION SHEET**

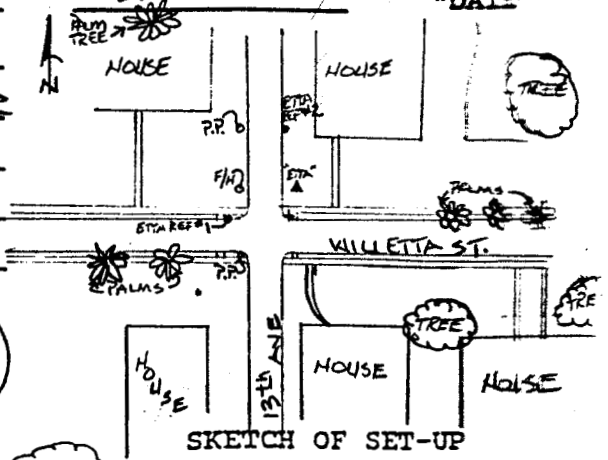
OFFICE FILE			JOB #
PATH/FILE		SALT / GILA	PROJECT
POINT		330-2	SESSION # (-S#)
NOTE		0013	POINT # "FILE"
NOTE		"ETTA"	POINT NAME
PRESS/HUMID	/	TUE-26-NOV-91	DATE
TEMP/WEATHER	/	330	JULIAN (DAY) (FINAL)
ANTENNA #		BLUE	RECVR COLOR
RANGE POLE #		382 / ST-4000	RECVR # / MODEL
ENTER LAT.		S. CROY	OBSERVER
ENTER LONG.		ME	CREW

(IMPORTANT: READ THE DISPLAY AND PUSH GREEN SURVEY BUTTON INFO.)

	BEGIN (1:55)				MIDDLE (3:17) (LOST SAT #17 GAINED SAT #15)				FINAL (4:20) (LOST SAT #23 LOST SAT #11)				
FILE-DAY-S#	0013-330-2				0013-330-2				0013-330-2				"SURVEY"
HI CM	134.4				134.4				134.4 ✓				"SURVEY"
HI METERS	1.3429				1.3429				1.3429				"SURVEY"
HI-1/16 IN.	52 14/16	52.8701 ✓			52 14/16	52.8701 ✓			52 14/16	52.8701 ✓			"SURVEY"
	52.87	CHECK			52.87	CHECK			52.87	CHECK			
SV.'S #	21	11	12	17	21	11	15	23	21	14	15		"ELEV/AZ"
SNR	26	18	13	10	25	14	19	10	17	09	26		"ELEV/AZ"
CONTINUOUS	5	6	6	6	315	316	184	316	567	04	89		"MORE"
TOTAL MEAS.	5	6	6	6	315	316	195	316	567	04	443		"MORE"
SV.'S #	23												"ELEV/AZ"
SNR	18												"ELEV/AZ"
CONTINOUS	6												"MORE"
TOTAL MEAS.	6												"MORE"
LATITUDE	33 °27'49.05"				33 °27'50.21"				33 °27'49.94"				"POSITION"
LONGITUDE	112 °05'19.66"				112 °05'20.41"				112 °05'22.05"				"POSITION"
PDOP / HDOP	4.2	1.8			3.6	1.8			3.8	3.8			"POSITION"
WATCH TIME	2:03:48 PM				3:20:59 PM				4:23:43 PM				"DATE"
UTC TIME	21:04:06				22:21:19				23:23:55				"DATE"

POINT DESCRIPTION: FROM 13th AVE AND McDOWELL GO SOUTH ON 13th AVE FOR 0.15 MILE TO STATION ON THE LEFT.

"ETTA" FALLS ON N/E CORNER OF 13th AVE & WILLETTA IN NATURAL GROUND. B/C IN CONCRETE.



SKETCH OF SET-UP

Station ID: 0013 Session #: 330-2 Nov 2?, 1991 20:59
Reference Position - LOW ACCURACY:
Lat. = 0:00'00.000" N Long. = 0:00'00.000" W Height = 0.0 [meters]
Antenna height = 1.3429 [meters] (entered in the field in meters)
Long station name:

R. .iver serial # = 382 Trimble
Internal antenna
NP Software = 3.25 SP Software = 3.25 Download Software = 2.08.06

Survey schedule: UNSPECIFIED
Data-logging start time = 21:00
Data-logging stop time = 23:30

Tracking	SV 11	SV 12	SV 14	SV 15	SV 17	SV 21	SV 23
total L1	517	254	35	474	63	598	387
cont L1	517	254	35	324	63	598	387

SV Selection mode = AUTOMATIC
Elevation mask = 14 [degrees] Minimum # of SVs = 1

3D Position	Best PDOP Position [2.9]	Mean Position [1155]
Latitude:	33:27'49.74088" N	33:27'50.07255" N
Longitude:	112:05'20.62910" W	112:05'20.53163" W
Height [m]:	289.3	317.8

2D Position	Best PDOP Position [1.8]	Mean Position [494]
Latitude:	33:27'49.93652" N	33:27'49.91832" N
Longitude:	112:05'20.54185" W	112:05'20.46220" W

0015-330-2
SQUAW PEAK

GREINER, INC.

G.P.S FIELD OBSERVATION SHEET

OFFICE FILE			JOB #
PATH/FILE		SALT/GILA	PROJECT
POINT		✓ #2	SESSION # (-S#)
NOTE		0015	POINT # "FILE"
NOTE		SQUAW PEAK	POINT NAME
PRESS/HUMID	/	26 Nov. 1991	DATE
TEMP/WEATHER	/	330	JULIAN (DAY) (FINAL)
ANTENNA #		GREEN	RECVR COLOR
RANGE POLE #		373-4000	RECVR # / MODEL
ENTER LAT.		RICK KLEBIEKO	OBSERVER
ENTER LONG.		MASON WOMBLE	CREW

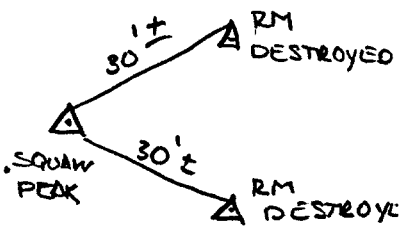
(IMPORTANT: READ THE DISPLAY AND PUSH GREEN SURVEY BUTTON INFO.)

	BEGIN	MIDDLE	FINAL	
FILE-DAY-S#	0015-330-2	0015-330-2	0015 330-2	"SURVEY"
HI CM	111.0	111.0	111.0 ✓	"SURVEY"
HI METERS	1.110	1.110	1.110	"SURVEY"
HI-1/16 IN.	43 11/16 43.7008 / 43.69 CHECK	43 11/16 43.7008 / 43.69 CHECK	43 11/16 43.7008 / 43.69 CHECK	"SURVEY"
SV.'S #	21 23 17 11	21 23 15 11	21 14 15	"ELEV/AZ"
SNR	22 17 09 16	23 10 11 14	15 08 23	"ELEV/AZ"
CONTINUOUS	5 5 5 5	261 261 131 261	617 33 118	"MORE"
TOTAL MEAS.	5 5 5 5	261 261 131 261	617 33 482	"MORE"
SV.'S #	12	12	617 33 118 / 617 33 482	"ELEV/AZ"
SNR	11	06		"ELEV/AZ"
CONTINOUS	5	261		"MORE"
TOTAL MEAS.	5	261		"MORE"
	LOST 17 @ 2:25 ~ GAINED 15 @ 2:30 ~ SNR: 6.0	LOST 12 @ 3:05 pm LOST 23 @ 3:35 pm	LOST 11 @ 4:10 pm	
LATITUDE	33 °32' 49.66"	33 °32' 51.57"	33 °32' 52.28"	"POSITION"
LONGITUDE	112 °01' 15.29"	112 °01' 16.32"	112 °01' 14.03"	"POSITION"
PDOP / HDOP	4.3 1.8	2.9 / 1.5	3.3 3.3	"POSITION"
WATCH TIME	1:58 PM	3:00	4:30 pm	"DATE"
UTC TIME	20:58	22:00	23:30	"DATE"

43.69
2.54
110.97
Jonny

POINT DESCRIPTION: "NATIONAL GEODETIC SURVEY - HORIZONTAL CONTROL MARK 'SQUAW PEAK 1963 & 1973 "W/PM') BRASS CAP EPOXED IN QUARTZITE ON SOUTHERLY SUMMIT (TALLEST PEAK) ON SQUAW PEAK MOUNTAIN, MARICOPA COUNTY, PHOENIX, ARIZONA

NATIONAL GEODETIC SURVEY



SKETCH OF SET-UP

Station ID: 0015 Session #: 330-2 Nov 26, 1991 20:5-
Reference Position - LOW ACCURACY:
Lat. = 0:00'00.000" N Long. = 0:00'00.000" W Height = 0.0 [meters]
Antenna height = 1.1100 [meters] (entered in the field in meters)
Long station name:

Thompson

Receiver serial # = 373
Internal antenna
NP Software = 3.25 SP Software = 3.25 Download Software = 2.08.06

Survey schedule: UNSPECIFIED
Data-logging start time = 20:55
Data-logging stop time = 23:31

Tracking	SV 11	SV 12	SV 14	SV 15	SV 17	SV 21	SV 23
total L1	537	277	40	489	81	623	404
cont L1	537	277	40	345	81	623	404

SV Selection mode = AUTOMATIC
Elevation mask = 14 [degrees] Minimum # of SVs = 1

3D Position	Best PDOP Position [2.9]	Mean Position [1216]
Latitude:	33:32'50.04575" N	33:32'50.56967" N
Longitude:	112:01'15.21517" W	112:01'15.30658" W
Height [m]:	751.2	779.7

2D Position	Best PDOP Position [1.8]	Mean Position [506]
Latitude:	33:32'50.26905" N	33:32'50.46146" N
Longitude:	112:01'15.28155" W	112:01'15.17670" W

GREINER, INC. — G.P.S FIELD OBSERVATION SHEET

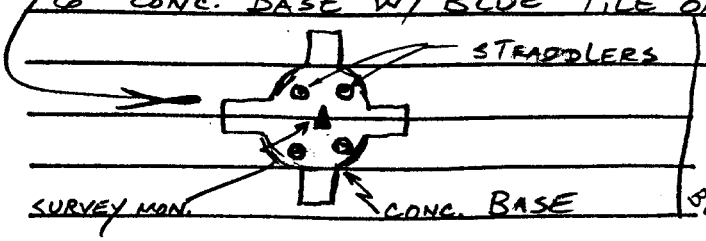
OFFICE FILE		E010200	JOB #
PATH/FILE		SALT-GILA	PROJECT
POINT		~~337-1~~ 337-2	SESSION # (-S#)
NOTE		0001	POINT # "FILE"
NOTE		INITIAL MON.	POINT NAME
PRESS/HUMID	/	TUES. 3 DEC. 91	DATE
TEMP/WEATHER	/	337	JULIAN (DAY) (FINAL)
ANTENNA #		RED	RECVR COLOR
RANGE POLE #		381 / 4000 ST	RECVR # / MODEL
ENTER LAT.		T. PRICE	OBSERVER
ENTER LONG.		PRICE - SCHULTE	CREW

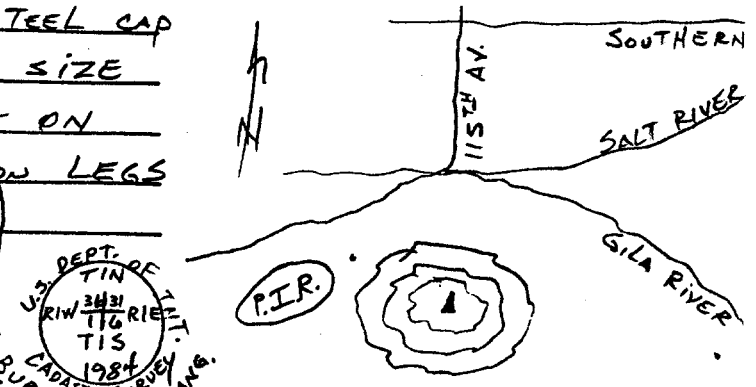
(IMPORTANT: READ THE DISPLAY AND PUSH GREEN SURVEY BUTTON INFO.)

	BEGIN (1:14)				MIDDLE (2:44)				FINAL (4:15)				
FILE-DAY-S#	0001-337-2				0001-337-2				0001-337-2				"SURVEY"
HI CM	144.8				144.75				144.75 ✓				"SURVEY"
HI METERS	1.448				1.4475				1.4475				"SURVEY"
HI-1/16 IN.	57 1/16	57.01 ✓			57 0/16	56.99 ✓			57 0/16	56.99 ✓			"SURVEY"
	57.06	CHECK			57.00	CHECK			57.00	CHECK			
SV.'S #	21	11	23	17	21	11	23	15	21	14	15		"ELEV/AZ"
SNR	24	18	20	11	25	16	10	15	15	12	24		"ELEV/AZ"
CONTINUOUS	15	15	16	16	380	380	380	119	735	94	474		"MORE"
TOTAL MEAS.	15	15	16	16	380	380	380	188	735	94	543		"MORE"
SV.'S #	12												"ELEV/AZ"
SNR	11												"ELEV/AZ"
CONTINOUS	17												"MORE"
TOTAL MEAS.	17												"MORE"
LATITUDE	33°22'37.49"				33°22'39.57"				33°22'37.93"				"POSITION"
LONGITUDE	112°18'23.48"				112°18'23.09"				112°18'19.70"				"POSITION"
PDOP / HDOP	4.2	1.8			3.6	1.7			2.5	2.5			"POSITION"
WATCH TIME	1:19:33 p.m.				2:50:46 p.m.				4:19:00				"DATE"
UTC TIME	20:19:45				21:50:55				23:19:11				"DATE"

57.0
2.54
144.78

POINT DESCRIPTION: 3" STAINLESS STEEL CAP W/ 4 STRADDLER CAPS OF SAME SIZE ± 1°' IN OPPOSING CORNERS — ON 6" CONC. BASE W/ BLUE TILE ON LEGS





SKETCH OF SET-UP

Station ID: 0001 Session #: 337-2 Dec 3, 1991 20:13
Reference Position - LOW ACCURACY:
Lat. = 0:00'00.000" N Long. = 0:00'00.000" W Height = 0.0 [meters]
Antenna height = 1.4475 [meters] (entered in the field in meters)
Long station name:

Jamboree 12-4-91

Receiver serial # = 381
Internal antenna
NP Software = 3.25 SP Software = 3.25 Download Software = 2.08.06

Survey schedule: UNSPECIFIED
Data-logging start time = 20:14
Data-logging stop time = 23:30

Tracking	SV 11	SV 12	SV 14	SV 15	SV 17	SV 21	SV 23
total L1	581	306	144	592	124	784	442
cont L1	581	306	144	523	124	784	442

SV Selection mode = AUTOMATIC
Elevation mask = 15 [degrees] Minimum # of SVs = 1

3D Position	Best PDOP Position [3.0]	Mean Position [1320]
Latitude:	33:22'38.78240" N	33:22'37.74464" N
Longitude:	112:18'22.23542" W	112:18'21.96836" W
Height [m]:	383.1	336.7

2D Position	Best PDOP Position [1.8]	Mean Position [859]
Latitude:	33:22'37.27932" N	33:22'38.47871" N
Longitude:	112:18'22.02578" W	112:18'21.02213" W

GREINER, INC. — G.P.S FIELD OBSERVATION SHEET

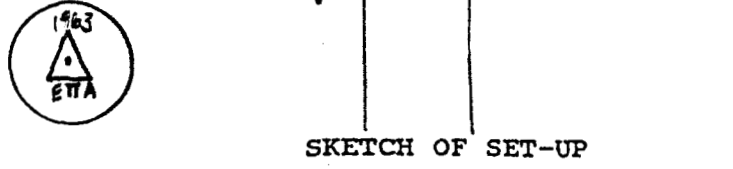
OFFICE FILE		E010200	JOB #
PATH/FILE		SALT / GILA	PROJECT
POINT		2	SESSION # (-S#)
NOTE		0013	POINT # "FILE"
NOTE		ETTA	POINT NAME
PRESS/HUMID	/	12/03/91	DATE
TEMP/WEATHER	/	337	JULIAN (DAY) (FINAL)
ANTENNA #		WHITE	RECVR COLOR
RANGE POLE #		379	RECVR # / MODEL
ENTER LAT.		VINCE NECHERO	OBSERVER
ENTER LONG.			CREW

(IMPORTANT: READ THE DISPLAY AND PUSH GREEN SURVEY BUTTON INFO.)

	BEGIN		MIDDLE		FINAL		
FILE-DAY-S#	0013-337-2		0013-337-2		0013-337-2		"SURVEY"
HI CM	142.9		142.9		142.9 ✓		"SURVEY"
HI METERS	1.429		1.429		1.429		"SURVEY"
HI-1/16 IN.	56 4/16	56.2598 CHECK	56 4/16	56.2598 CHECK	56 1/4	56.2598 CHECK	"SURVEY"
SV.'S #	21 23 11 12		21 23 11 15		21 14 15		"ELEV/AZ"
SNR	25 17 18 11		24 09 14 19		13 15 25		"ELEV/AZ"
CONTINUOUS	3 3 3 3		355 355 355 157				"MORE"
TOTAL MEAS.	3 3 3 3		355 355 355 223				"MORE"
SV.'S #	17						"ELEV/AZ"
SNR	09						"ELEV/AZ"
CONTINOUS	4						"MORE"
TOTAL MEAS.	4						"MORE"
LATITUDE	33 ° 27 ' 50 . 59 "		33 ° 27 ' 50 . 10 "		33 ° 27 ' 52 . 70 "		"POSITION"
LONGITUDE	112 ° 05 ' 20 . 45 "		112 ° 05 ' 20 . 52 "		112 ° 05 ' 18 . 29 "		"POSITION"
PDOP / HDOP	4.2	1.8	3.7	1.8	2.2	2.2	"POSITION"
WATCH TIME	1:31:40 PM		3:00:05 PM		4:30:10		"DATE"
UTC TIME	20:31:40		22:00:15		23:30:27		"DATE"

56.25
2.54
142.87
Jonathan

POINT DESCRIPTION: POINT "ETTA" LIES @ N.E. COR OF 13TH AVE & WILLETTA ST. 3 1/2" BRASS CAP FLUSH ±6' EAST OF BC & ±26' NORTH OF BC



SKETCH OF SET-UP

Station ID: 0013 Session #: 337-2 Dec 3, 1991 20:29
Reference Position - LOW ACCURACY:
Lat. = 0:00'00.000" N Long. = 0:00'00.000" W Height = 0.0 [meters]
Antenna height = 1.4290 [meters] (entered in the field in meters)
Long station name:

Johnson 12-4-91

eiver serial # = 379
Internal antenna
NP Software = 3.25 SP Software = 3.25 Download Software = 2.08.06

Survey schedule: UNSPECIFIED
Data-logging start time = 20:29
Data-logging stop time = 23:31

Tracking	SV 11	SV 12	SV 14	SV 15	SV 17	SV 21	SV 23
total L1	517	248	150	593	61	725	378
cont L1	517	248	147	527	61	725	361

SV Selection mode = AUTOMATIC
Elevation mask = 15 [degrees] Minimum # of SVs = 1

3D Position	Best PDOP Position [3.0]	Mean Position [1134]
Latitude:	33:27'50.93750" N	33:27'49.85078" N
Longitude:	112:05'21.20088" W	112:05'20.73408" W
Height [m]:	360.3	320.1

2D Position	Best PDOP Position [1.8]	Mean Position [849]
Latitude:	33:27'48.90234" N	33:27'50.92500" N
Longitude:	112:05'21.19227" W	112:05'19.53906" W

GREINER, INC. — G.P.S FIELD OBSERVATION SHEET

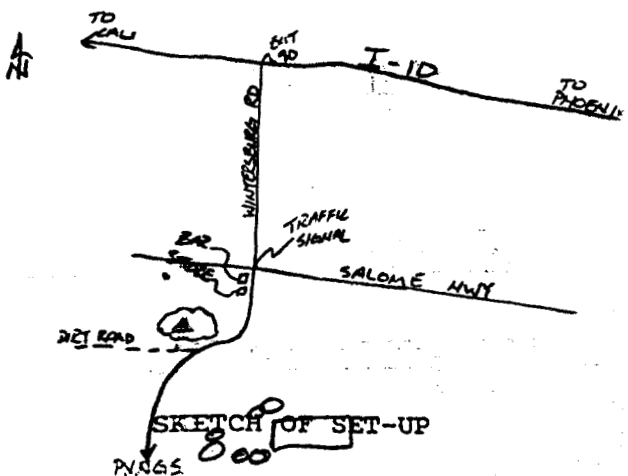
OFFICE FILE		E010200	JOB #
PATH/FILE	/	SALT/GILA	PROJECT
POINT		337-2	SESSION # (-S#)
NOTE		0007	POINT # "FILE"
NOTE		"WINTERSBURG"	POINT NAME
PRESS/HUMID	/	12-3-91 (TUES)	DATE
TEMP/WEATHER	/	337	JULIAN (DAY) (FINAL)
ANTENNA #		BLUE	RECVR COLOR
RANGE POLE #		382	RECVR # / MODEL
ENTER LAT.		CROY	OBSERVER
ENTER LONG.		KEEVER	CREW

(IMPORTANT: READ THE DISPLAY AND PUSH GREEN SURVEY BUTTON INFO.)

	BEGIN (1:27)				MIDDLE (2:49)				FINAL (4:24)				
FILE-DAY-S#	0007-337-2				0007-337-2				0007-337-2				"SURVEY"
HI CM	116.0				~~116.0~~ 115.9				115.9 ✓				"SURVEY"
HI METERS	1.160				~~1.160~~ 1.159				1.159				"SURVEY"
HI-1/16 IN.	45 11/16	45.6693 ✓			45 10/16	45.6299 ✓			45 10/16	45.6299 ✓			"SURVEY"
	45.68	CHECK			45.62	CHECK			45.62	CHECK			
SV.'S #	21	11	17	12	21	11	15	23	21	14	15		"ELEV/AZ"
SNR	25	18	10	12	27	16	14	10	12	12	28		"ELEV/AZ"
CONTINUOUS	5	5	5	5	331	331	126	332	690	113	404		"MORE"
TOTAL MEAS.	5	5	5	5	331	331	197	332	690	113	555		"MORE"
SV.'S #	23		16 (2:06 pm)	1									"ELEV/AZ"
SNR	19		10										"ELEV/AZ"
CONTINOUS	6		52										"MORE"
TOTAL MEAS.	6		52										"MORE"
LATITUDE	33 °24'59.70"				33 °24'59.81"				33 °24'58.45"				"POSITION"
LONGITUDE	112 °52'31.38"				112 °52'32.37"				112 °52'32.63"				"POSITION"
PDOP / HDOP	4.3	1.8			3.6	1.7			2.4	2.4			"POSITION"
WATCH TIME	1:30:50 PM				2:52:00 Pm				4:21:50 Pm.				"DATE"
UTC TIME	20:31:20				21:52:10				23:21:40				"DATE"

POINT DESCRIPTION: FROM PHOENIX PROCEED WEST TO WINTERSBURG RD (EXIT 90). THEN GO SOUTH ±3 MILE TO TRAFFIC SIGNAL. THRU LIGHT 0.8 MILE SOUTH TO DIRT ROAD (WEST SIDE). GO WEST ±400' PARK TRUCK. HIKE ±30 MIN NORTH UP TO STATION.

*NOTE: POINT IS ±2 MILE NORTH WEST OF PALO VERDE NUCLEAR GENERATING STATION



SKETCH OF SET-UP

Station ID: 0007 Session #: 337-2 Dec 3, 1991 20:27
Reference Position - LOW ACCURACY:
Lat. = 0:00'00.000" N Long. = 0:00'00.000" W Height = 0.0 [meters]
Antenna height = 1.1590 [meters] (entered in the field in inches)
Long station name:

Jackson 12-4-91

ceiver serial # = 382
Internal antenna
MP Software = 3.25 SP Software = 3.25 Download Software = 2.08.06

Survey schedule: UNSPECIFIED
Data-logging start time = 20:28
Data-logging stop time = 23:30

Tracking	SV 11	SV 12	SV 14	SV 15	SV 17	SV 21	SV 23
total L1	529	249	153	594	61	728	377
cont L1	405	249	153	523	61	728	377

SV Selection mode = AUTOMATIC
Elevation mask = 15 [degrees] Minimum # of SVs = 1

3D Position	Best PDOP Position [3.1]	Mean Position [1129]
Latitude:	33:24'59.50586" N	33:24'59.09731" N
Longitude:	112:52'31.53146" W	112:52'31.52712" W
Height [m]:	370.3	357.2

2D Position	Best PDOP Position [1.8]	Mean Position [907]
Latitude:	33:24'59.92220" N	33:24'58.77789" N
Longitude:	112:52'31.37253" W	112:52'31.41229" W

0009-337-2
LITCHFIELD
SESSION No2

GREINER, INC.

G.P.S FIELD OBSERVATION SHEET

OFFICE FILE		E010200	JOB #
PATH/FILE		SALT/GILA	PROJECT
POINT		#2 (TWO)	SESSION # (-S#)
NOTE		0009	POINT # "FILE"
NOTE		LITCHFIELD	POINT NAME
PRESS/HUMID	/	3 DEC. 1991	DATE
TEMP/WEATHER	/	337	JULIAN (DAY) (FINAL)
ANTENNA #		GREEN	RECVR COLOR
RANGE POLE #		373-4000	RECVR # // MODEL
ENTER LAT.		RICK KLEBIELKO	OBSERVER
ENTER LONG.		—	CREW

(IMPORTANT: READ THE DISPLAY AND PUSH GREEN SURVEY BUTTON INFO.)

	BEGIN	MIDDLE	FINAL	
FILE-DAY-S#	0009-337-2	0009-337-2	0009-337-2	"SURVEY"
HI CM	132.2	132.2	132.2 ✓	"SURVEY"
HI METERS	1.322	1.322	1.322	"SURVEY"
HI-1/16 IN.	52 1/32 52.047 / 52.04 CHECK	52 1/32 52.047 / 52.04 CHECK	52 1/32 52.047 / 52.04 CHECK	"SURVEY" 52.04 52.03 2.54 132.1 JOHNSON
SV.'S #	21 17 11 12	21 15 11 23	21 15 14	"ELEV/AZ"
SNR	22 09 16 09	22 15 13 08	11 23 11	"ELEV/AZ"
CONTINUOUS	3 3 3 3	351 156 351 351	718 522 149	"MORE"
TOTAL MEAS.	3 3 3 3	351 225 351 351	718 522 149	"MORE"
	LOST SV 17 @ 12:43pm LOST SV 12 @ 2:33pm	LOST SV 23 @ 2:06pm LOST SV 11 @ 3:40pm		
SV.'S #	23 15 @ 2:07pm	14 @ 3:50pm		"ELEV/AZ"
SNR	18 07	08		"ELEV/AZ"
CONTINOUS	3 32	14		"MORE"
TOTAL MEAS.	3 32	14		"MORE"
LATITUDE	33 °31' 13.56"	33 °31' 13.09"	33 °31' 15.51"	"POSITION"
LONGITUDE	112 °21' 42.61"	112 °21' 42.96"	112 °21' 40.91"	"POSITION"
PDOP / HDOP	4.2 1.8	3.7 1.8	2.2 2.2	"POSITION"
WATCH TIME	1:30 pm	3:00pm	4:30 pm	"DATE"
UTC TIME	20:30	22:00	23:30	"DATE"

POINT DESCRIPTION: U.S. COAST & GEODETIC SURVEY BRASS CAP SET IN 1' SQUARE CONCRETE PIER .4' ABV. NG STAMPED "LITCHFIELD 1934" W/ PM IN CENTER OF TRIANGLE

SEE SESSION 1
3 DEC 1991
0009-337-1
SKETCH OF SET-UP

Station ID: 0009 Session #: 337-2 Dec 3, 1991 20:29
Reference Position - LOW ACCURACY:
Lat. = 0:00'00.000" N Long. = 0:00'00.000" W Height = 0.0 [meters]
Antenna height = 1.3220 [meters] (entered in the field in meters)
Long station name:

Receiver serial # = 373
Internal antenna
NP Software = 3.25 SP Software = 3.25 Download Software = 2.08.06

Survey schedule: UNSPECIFIED
Data-logging start time = 20:30
Data-logging stop time = 23:30

Tracking	SV 11	SV 12	SV 14	SV 15	SV 17	SV 21	SV 23
total L1	516	245	153	595	56	721	375
cont L1	516	245	153	526	56	721	375

SV Selection mode = AUTOMATIC
Elevation mask = 15 [degrees] Minimum # of SVs = 1

3D Position	Best PDOP Position [3.0]	Mean Position [1120]
Latitude:	33:31'14.09071" N	33:31'13.07056" N
Longitude:	112:21'43.44613" W	112:21'43.04587" W
Height [m]:	373.7	330.5

2D Position	Best PDOP Position [1.8]	Mean Position [875]
Latitude:	33:31'12.86419" N	33:31'13.58466" N
Longitude:	112:21'43.34781" W	112:21'42.28299" W

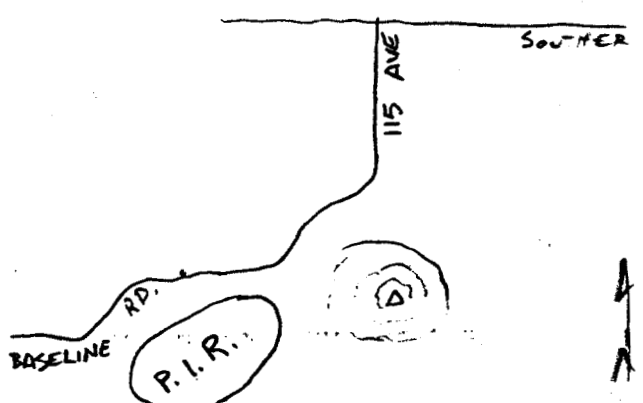
GREINER, INC. **G.P.S FIELD OBSERVATION SHEET**

OFFICE FILE		E010200	JOB #
PATH/FILE		SALT-GILA	PROJECT
POINT		337-1	SESSION # (-S#)
NOTE		0001	POINT # "FILE"
NOTE		INITIAL MON.	POINT NAME
PRESS/HUMID	1	TUES. 3-DEC.-91	DATE
TEMP/WEATHER	1	337	JULIAN (DAY) (FINAL)
ANTENNA #		RED	RECVR COLOR
RANGE POLE #		381 / 4000 ST	RECVR # / MODEL
ENTER LAT.		C. SCHULTE	OBSERVER
ENTER LONG.		T. PRICE, C. SCHULTE	CREW

(IMPORTANT: READ THE DISPLAY AND PUSH GREEN SURVEY BUTTON INFO.)

	BEGIN (10:22)		MIDDLE (11:30)		FINAL (12:45)		
FILE-DAY-S#	0001-337-1		0001-337-1		0001-337-1		"SURVEY"
HI CM	138.5		138.5		138.5 ✓		"SURVEY"
HI METERS	1.385		1.385		1.385		"SURVEY"
HI-1/16 IN.	54 9/16	54.53 ✓	54 8/16	54.527 ✓	54 9/16	54.527	"SURVEY"
	54.56	CHECK	54.50	CHECK	54.56	CHECK	
SV.'S #	17 23 03 21		17 23 03 21		17 23 12 21		"ELEV/AZ"
SNR	23 22 22 10		24 22 14 17		14 23 10 24		"ELEV/AZ"
CONTINUOUS	6 6 7 7		266 266 267 267		586 586 92 587		"MORE"
TOTAL MEAS.	6 6 7 7		266 266 267 267		586 586 92 587		"MORE"
SV.'S #	— — — —		— — — —		11 — — —		"ELEV/AZ"
SNR	— — — —		— — — —		15 — — —		"ELEV/AZ"
CONTINOUS	— — — —		— — — —		185 — — —		"MORE"
TOTAL MEAS.	— — — —		— — — —		185 — — —		"MORE"
LATITUDE	33 °22'38.31"		33 °22'31.79"		33 °22'37.89"		"POSITION"
LONGITUDE	112 °18'21.28"		112 °18'24.72"		112 °18'22.25"		"POSITION"
PDOP / HDOP	4.7	2.6	1.6 ~~4.4~~	~~5.5~~ 1.6	3.6	2.1	"POSITION"
WATCH TIME	10:26:17 AM		11:31:29 AM		12:50:30 P.M.		"DATE"
UTC TIME	17:26:50		18:31:41		19:50:44		"DATE"

POINT DESCRIPTION: POINT IS A STAINLESS STEEL CAP WITH 4 STRADDLER STAINLESS STEEL CAPS ± 1 FOOT AWAY ALL SET IN A CONC. BASE IN SHAPE OF A CROSS W. BLUE REFLECTORS



SKETCH OF SET-UP

Station ID: 0001 Session #: 337-1 Dec 3, 1991 17:22
Reference Position - LOW ACCURACY:
Lat. = 0:00'00.000" N Long. = 0:00'00.000" W Height = 0.0 [meters]
Antenna height = 1.3550 [meters] (entered in the field in inches)
Long station name:

Jennifer 12-4-91

Receiver serial # = 381
Internal antenna
NP Software = 3.25 SP Software = 3.25 Download Software = 2.08.06

Survey schedule: UNSPECIFIED
Data-logging start time = 17:22
Data-logging stop time = 20:00

Tracking	SV 3	SV 11	SV 12	SV 17	SV 21	SV 23
total L1	430	229	136	629	629	629
cont L1	430	229	136	629	629	629

SV Selection mode = AUTOMATIC
Elevation mask = 15 [degrees] Minimum # of SVs = 1

3D Position	Best PDOP Position [2.5]	Mean Position [1513]
Latitude:	33:22'38.26183" N	33:22'37.45523" N
Longitude:	112:18'20.83919" W	112:18'22.37425" W
Height [m]:	292.0	364.5

2D Position	Best PDOP Position [1.6]	Mean Position [378]
Latitude:	33:22'30.75158" N	33:22'31.52263" N
Longitude:	112:18'22.73274" W	112:18'23.77347" W

GREINER, INC. — G.P.S FIELD OBSERVATION SHEET

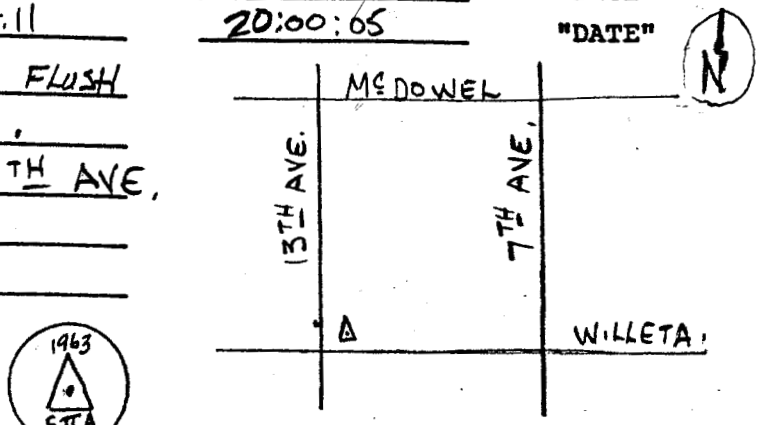
OFFICE FILE		E010200	JOB #
PATH/FILE		SALT/GILA	PROJECT
POINT		1	SESSION # (-S#)
NOTE		0013	POINT # "FILE"
NOTE		ETTA	POINT NAME
PRESS/HUMID	/	12/03/91	DATE
TEMP/WEATHER	/	337	JULIAN (DAY) (FINAL)
ANTENNA #		WHITE	RECVR COLOR
RANGE POLE #		379	RECVR # / MODEL
ENTER LAT.		VINCE NECHERO	OBSERVER
ENTER LONG.			CREW

10:25 AM (IMPORTANT: READ THE DISPLAY AND PUSH GREEN SURVEY BUTTON INFO.)

	BEGIN				MIDDLE				FINAL				
FILE-DAY-S#	0013-337-1				0013-337-1				0013-337-1				"SURVEY"
HI CM	146.2				146.2				146.2 ✓				"SURVEY"
HI METERS	1.462				1.462				1.462				"SURVEY"
HI-1/16 IN.	57 9/16		57.5591 CHECK		57 9/16		57.5591 CHECK		57 9/16		57.5591 CHECK		"SURVEY"
SV.'S #	17	03	21	23	17	03	21	23	17	12	21	23	"ELEV/AZ"
SNR	24	22	10	21	23	12	18	21	13	11	23	18	"ELEV/AZ"
CONTINUOUS	1	1	1	1	300	300	300	300	601	146	601	602	"MORE"
TOTAL MEAS.	1	1	1	1	300	300	300	300	601	146	601	602	"MORE"
SV.'S #									11				"ELEV/AZ"
SNR									18				"ELEV/AZ"
CONTINOUS									229				"MORE"
TOTAL MEAS.									229				"MORE"
LATITUDE	33 ° 27 ' 51.34 "				33 ° 27 ' 43.11 "				33 ° 27 ' 47.19 "				"POSITION"
LONGITUDE	112 ° 05 ' 19.21 "				112 ° 05 ' 23.46 "				112 ° 05 ' 22.15 "				"POSITION"
PDOP / HDOP	4.7		2.6		1.6		1.6		3.9		1.9		"POSITION"
WATCH TIME	10:27:20 AM				11:47:05 AM				1:00:00 PM				"DATE"
UTC TIME	17:27:23				18:47:11				20:00:05				"DATE"

57.56
2.54
146.20
Johnson

POINT DESCRIPTION: 3 1/2" BRASS CAP FLUSH ±6' EAST OF BC & 26' NORTH OF BC. POINT FALLS @ NE COR OF 13TH AVE. & WILLETA ST.



SKETCH OF SET-UP

Station ID: 0013 Session #: 337-1 Dec 3, 1991 17:30
Reference Position - LOW ACCURACY:
Lat. = 0:00'00.000" N Long. = 0:00'00.000" W Height = 0.0 [meters]
Antenna height = 1.4620 [meters] (entered in the field in meters)
Long station name:

Jackson 12-4-91

k .eiver serial # = 379
Internal antenna
NP Software = 3.25 SP Software = 3.25 Download Software = 2.08.06

Survey schedule: UNSPECIFIED
Data-logging start time = 17:31
Data-logging stop time = 20:03

Tracking	SV 3	SV 11	SV 12	SV 17	SV 21	SV 23
total L1	396	237	155	609	609	609
cont L1	396	237	155	609	609	609

SV Selection mode = AUTOMATIC
Elevation mask = 15 [degrees] Minimum # of SVs = 1

3D Position	Best PDOP Position [2.5]	Mean Position [1434]
Latitude:	33:27'50.11177" N	33:27'49.42061" N
Longitude:	112:05'20.28669" W	112:05'21.31753" W
Height [m]:	285.3	344.7

2D Position	Best PDOP Position [1.6]	Mean Position [401]
Latitude:	33:27'42.64639" N	33:27'43.36906" N
Longitude:	112:05'21.68655" W	112:05'22.71930" W

GREINER, INC.

G.P.S FIELD OBSERVATION SHEET

OFFICE FILE	E01D200	JOB # —
PATH/FILE	SALT GILA	PROJECT
POINT	337-1	SESSION # (-S#)
NOTE	0007	POINT # "FILE"
NOTE	"WINTERSBURG"	POINT NAME
PRESS/HUMID	12-3-91 (TUES)	DATE
TEMP/WEATHER	337	JULIAN (DAY) (FINAL)
ANTENNA #	BLUE	RECVR COLOR
RANGE POLE #	382 / 4000	RECVR # / MODEL
ENTER LAT.	CROY	OBSERVER
ENTER LONG.	KEEVER	CREW

(IMPORTANT: READ THE DISPLAY AND PUSH GREEN SURVEY BUTTON INFO.)

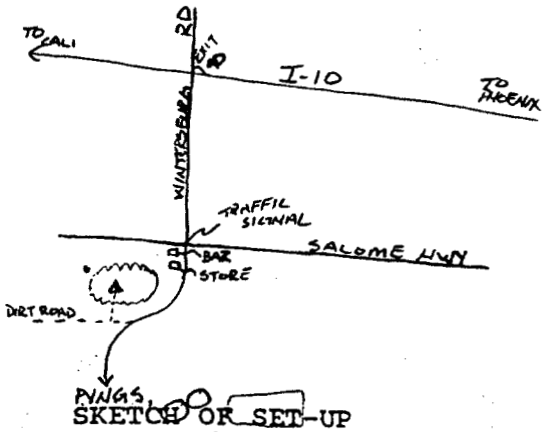
	BEGIN 10:20				MIDDLE 11:54				FINAL 12:53				
FILE-DAY-S#	0007-337-1				0007-337-1				0007-337-1				"SURVEY"
HI CM	126.7				126.8				126.8 ✓				"SURVEY"
HI METERS	1.267				1.268				1.268				"SURVEY"
HI-1/16 IN.	49 14/16	49.88 ✓			49 14/16	49.88 ✓			49 15/16	49.9213 ✓			"SURVEY"
	49.87	CHECK			49.87	CHECK			49.93	CHECK			
SV.'S #	17	03	23	21	17	03	23	21	17	12	23	21	"ELEV/AZ"
SNR	24	23	23	08	23	10	22	21	15	10	22	23	"ELEV/AZ"
CONTINUOUS	9	9	9	9	366	366	366	361	584	101	585	579	"MORE"
TOTAL MEAS.	9	9	9	9	408	408	408	408	626	101	627	626	"MORE"
					12:03 pm S (pick up)			12:28 pm					
SV.'S #					11			12	11				"ELEV/AZ"
SNR					06			09	15				"ELEV/AZ"
CONTINOUS					7			11	205				"MORE"
TOTAL MEAS.					7			11	205				"MORE"
LATITUDE	33 °24'57.73"				33 °24'51.80"				33 °24'59.20"				"POSITION"
LONGITUDE	112 °52'31.14"				112 °52'34.32"				112 °52'31.97"				"POSITION"
PDOP / HDOP	4.6	2.6			1.6	1.6			3.7	2.0			"POSITION"
WATCH TIME	10:20:50 AM				12:00:43 PM				12:55:10 PM				"DATE"
UTC TIME	17:21:15				19:00:58				19:55:20				"DATE"

49.94
2.54
126.84
Jumpoff

POINT DESCRIPTION: FROM PHOENIX PROCEED WEST ON I-10 TO WINTERSBURG RD. (EXIT 90.) THEN GO SOUTH ±3.0 MILE TO TRAFFIC SIGNAL. THRU LIGHT GOING SOUTH 0.8 MILE TO DIRT ROAD WEST. PROCEED WEST ON DIRT ROAD ±400'. PARK TRUCK. ±30 MIN. HIKE NORTH UP TO STATION.

*NOTE: POINT IS ±2.0 MILE NORTH WEST OF PALO VERDE NUCLEAR GENERATING STATION

U.S.G.S. WINTERSBURG 1954



SKETCH OF SET-UP

Station ID: 0007 Session #: 337-1 Dec 7, 1991 17:15
Reference Position - LOW ACCURACY:
Lat. = 0:00'00.000" N Long. = 0:00'00.000" W Height = 0.0 [meters]
Antenna height = 1.2680 [meters] (entered in the field in inches)
Long station name:

Johnson 12-1-91

Receiver serial # = 382
Internal antenna
NP Software = 3.25 SP Software = 3.25 Download Software = 2.08.06

Survey schedule: UNSPECIFIED
Data-logging start time = 17:17
Data-logging stop time = 20:00

Tracking	SV 3	SV 11	SV 12	SV 17	SV 21	SV 23
total L1	452	230	128	652	652	652
cont L1	410	230	128	610	605	610

SV Selection mode = AUTOMATIC
Elevation mask = 15 [degrees] Minimum # of SVs = 1

3D Position	Best PDOP Position [2.5]	Mean Position [1577]
Latitude:	33:24'59.47093" N	33:24'58.68864" N
Longitude:	112:52'30.47403" W	112:52'31.93140" W
Height [m]:	304.3	374.0

2D Position	Best PDOP Position [1.6]	Mean Position [415]
Latitude:	33:24'51.78182" N	33:24'53.00299" N
Longitude:	112:52'32.16142" W	112:52'33.09310" W

D009-337-1

LITCHFIELD
SESSION 1

GREINER, INC. — **G.P.S FIELD OBSERVATION SHEET**

OFFICE FILE		E010200	JOB #
PATH/FILE		SALT/GILA	PROJECT
POINT		#1 (ONE)	SESSION # (-S#)
NOTE		0009	POINT # "FILE"
NOTE		LITCHFIELD	POINT NAME
PRESS/HUMID	/	3 DEC 1991	DATE
TEMP/WEATHER	/	337	JULIAN (DAY) (FINAL)
ANTENNA #		GREEN	RECVR COLOR
RANGE POLE #		3113-4000	RECVR # / MODEL
ENTER LAT.		RICK KLEBIEKO	OBSERVER
ENTER LONG.		—	CREW

(IMPORTANT: READ THE DISPLAY AND PUSH GREEN SURVEY BUTTON INFO.)

	BEGIN		MIDDLE		FINAL		
FILE-DAY-S#	0009-337-1		0009-337-1		0009-337-1		"SURVEY"
HI CM	140.35		140.35		140.35		"SURVEY"
HI METERS	1.4035		1.4035		1.4035		"SURVEY"
HI-1/16 IN.	55 4/16	55.25	55 4/16	55.25	55 4/16	55.25	"SURVEY"
	55.25	CHECK	55.25	CHECK	55.25	CHECK	
SV.'S #	17 03 23 21		17 03 23 21		17 12 23 21		"ELEV/AZ"
SNR	21 19 19 10		21 10 20 16		13 09 20 21		"ELEV/AZ"
CONTINUOUS	17 17 17 17		320 320 320 320		613 132 613 613		"MORE"
TOTAL MEAS.	17 17 17 17		320 320 320 320		613 132 613 613		"MORE"
SV.'S #	— — — —		@12:06 pm 11 — — @12:40 pm 12		11 — — —		"ELEV/AZ"
SNR	— — — —		07 — — 08		14 — — —		"ELEV/AZ"
CONTINOUS	— — — —		16 — — 56		225 — — —		"MORE"
TOTAL MEAS.	— — — —		16 — — 56		225 — — —		"MORE"
LATITUDE	33 °31'12.93"		33 °31'06.05"		33 °31'13.84"		"POSITION"
LONGITUDE	112 °21'42.47"		112 °21'46.01"		112 °21'41.86"		"POSITION"
PDOP / HDOP	4.8	2.6	1.6	1.6	3.8	2.0	"POSITION"
WATCH TIME	10:30 AM		11:45 AM		1:00 PM		"DATE"
UTC TIME	17:30		18:45		20:00		"DATE"

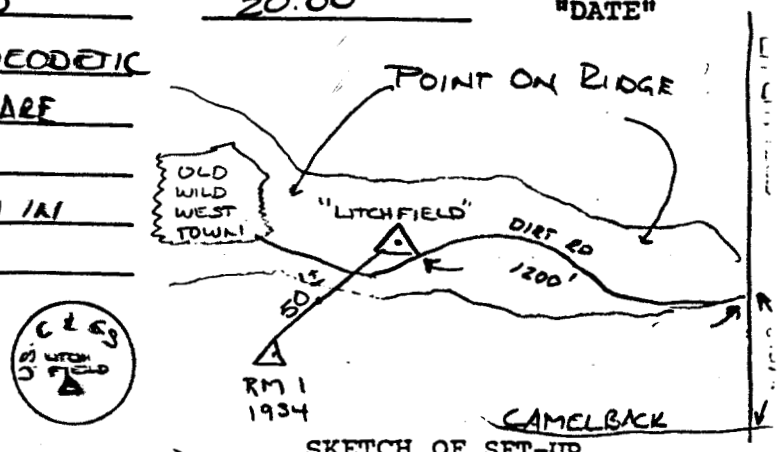
55.25
2.54
140.35

POINT DESCRIPTION: U.S. COAST & GEODETIC SURVEY BRASS CAP SET IN 1' SQUARE CONCRETE POST .4' ABV NG. STAMPED "LITCHFIELD 1934" W/ PM IN CENTER OF TRIANGLE.

RM #1 LOCATED 14.2 METERS SW OF LITCHFIELD

RM #2 - DESTROYED - FOUND RM-2?

+ 1' SQUARE CONC. POST 150' I N.NE OF LITCHFIELD LAYING IN WASH ON ITS SIDE (VANDALIZED)



SKETCH OF SET-UP

Station ID: 0009 Session #: 337-1 Dec 3, 1991 17:24
Reference Position - LOW ACCURACY:
Lat. = 0:00'00.000" N Long. = 0:00'00.000" W Height = 0.0 [meters]
Antenna height = 1.4035 [meters] (entered in the field in meters)
Long station name:

Johnson 12-4-91

Receiver serial # = 373
Internal antenna
NP Software = 3.25 SP Software = 3.25 Download Software = 2.08.06

Survey schedule: UNSPECIFIED
Data-logging start time = 17:25
Data-logging stop time = 20:00

Tracking	SV 3	SV 11	SV 12	SV 17	SV 21	SV 23
total L1	418	230	137	618	618	618
cont L1	418	230	137	618	618	618

SV Selection mode = AUTOMATIC
Elevation mask = 15 [degrees] Minimum # of SVs = 1

3D Position	Best PDOP Position [2.5]	Mean Position [1468]
Latitude:	33:31'13.46249" N	33:31'12.68359" N
Longitude:	112:21'41.98542" W	112:21'43.50470" W
Height [m]:	282.8	350.4

2D Position	Best PDOP Position [1.6]	Mean Position [397]
Latitude:	33:31'05.64199" N	33:31'06.77293" N
Longitude:	112:21'43.92439" W	112:21'44.85397" W

GREINER, INC. — G.P.S FIELD OBSERVATION SHEET

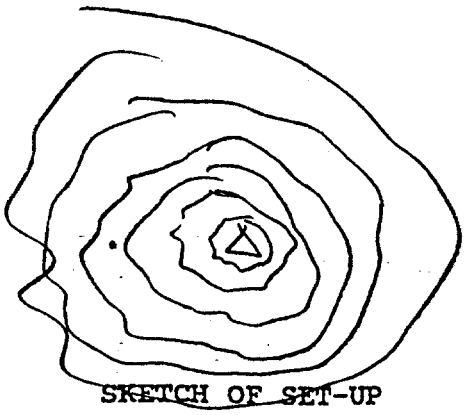
OFFICE FILE		E010200	JOB #
PATH/FILE		SALT / GILA	PROJECT
POINT		338-1	SESSION # (-S#)
NOTE		0015	POINT # "FILE"
NOTE		"SQUAW PEAK"	POINT NAME
PRESS/HUMID	/	WENS - 4 - 12 - 91	DATE
TEMP/WEATHER	/	338	JULIAN (DAY) (FINAL)
ANTENNA #		RED	RECVR COLOR
RANGE POLE #		381 / ST4000	RECVR # / MODEL
ENTER LAT.		S. CROY	OBSERVER
ENTER LONG.		C. SHULTE	CREW

(IMPORTANT: READ THE DISPLAY AND PUSH GREEN SURVEY BUTTON INFO.)

	BEGIN (9:49)				MIDDLE (11:25)				FINAL (2:10)				
FILE-DAY-S#	0015-338-1				0015-338-1				0015-338-1				"SURVEY"
HI CM	~~126.6~~ 126.4				126.7				126.7 ✓				"SURVEY"
HI METERS	~~1.266~~ 1.264				1.267				1.267				"SURVEY"
HI-1/16 IN.	49 13/16	49.76 ✓			49 14/16	49.8819			49 14/16	49.8819 ✓			"SURVEY"
	49.71	CHECK 10:06			LOST S#3 @ 12:08	CHECK			GAINED SV #12 @ 12:20	CHECK			
SV.'S #	17	03	23	21	17	03	23	21	17	12	23	21	"ELEV/AZ"
SNR	23	22	21	08	23	13	22	18	15	09	22	24	"ELEV/AZ"
CONTINUOUS	2	2	2	1	401	401	68	68	681	75	347	348	"MORE"
TOTAL MEAS.	2	2	2	1	401	401	400	336	681	75	679	1616	"MORE"
SV.'S #						11:59 11			11				"ELEV/AZ"
SNR						07			13				"ELEV/AZ"
CONTINOUS						7			164				"MORE"
TOTAL MEAS.						7			164				"MORE"
LATITUDE	33 °32'52.23"				33 °32'47.38"				33 °32'50.33"				"POSITION"
LONGITUDE	112 °01'16.56"				112 °01'4.82"				112 °01'14.81"				"POSITION"
PDOP / HDOP	2.6	2.6			1.6	1.6			3.6	2.2			"POSITION"
WATCH TIME	9:52:43 AM				11:31:20 AM				12:41:28 PM				"DATE"
UTC TIME	16:52:50				18:31:27				19:41:35				"DATE"

49.88
2.54
126.7

POINT DESCRIPTION: POINT IS @ SUMMIT OF SQUAW PEAK A BRASS CAP EPOXIED IN QUARTZITE. NATIONAL GEODETIC SURVEY 1963, 1973. HORIZ. CONT. MARK SQUAW PEAK



SKETCH OF SET-UP

Station ID: 0015 Session #: 338-1 Dec 4, 1991 16:49
Reference Position - LOW ACCURACY:
Lat. = 0:00'00.000" N Long. = 0:00'00.000" W Height = 0.0 [meters]
Antenna height = 1.2670 [meters] (entered in the field in inches)
Long station name:

Jamison 12-5-91

.eiver serial # = 381
Internal antenna
NP Software = 3.25 SP Software = 3.25 Download Software = 2.08.06

Survey schedule: UNSPECIFIED
Data-logging start time = 16:49
Data-logging stop time = 19:50

Tracking	SV 3	SV 11	SV 12	SV 17	SV 21	SV 23
total L1	546	204	116	719	655	719
cont L1	546	204	116	719	387	387

SV Selection mode = AUTOMATIC
Elevation mask = 15 [degrees] Minimum # of SVs = 1

3D Position	Best PDOP Position [2.5]	Mean Position [1579]
Latitude:	33:32'51.26646" N	33:32'50.40631" N
Longitude:	112:01'13.43540" W	112:01'15.49170" W
Height [m]:	722.4	800.0

2D Position	Best PDOP Position [1.6]	Mean Position [585]
Latitude:	33:32'45.61758" N	33:32'48.12207" N
Longitude:	112:01'14.97500" W	112:01'16.08371" W

GREINER, INC. — G.P.S FIELD OBSERVATION SHEET

OFFICE FILE		E010200	JOB #
PATH/FILE		SALT/GILA	PROJECT
POINT		1	SESSION # (-S#)
NOTE		0021	POINT # "FILE"
NOTE		BROADWAY	POINT NAME
PRESS/HUMID	/	12/04/91	DATE
TEMP/WEATHER	/	338	JULIAN (DAY) (FINAL)
ANTENNA #		WHITE	RECVR COLOR
RANGE POLE #		379	RECVR # / MODEL
ENTER LAT.		VINCE NECHERO	OBSERVER
ENTER LONG.			CREW

9:40 AM

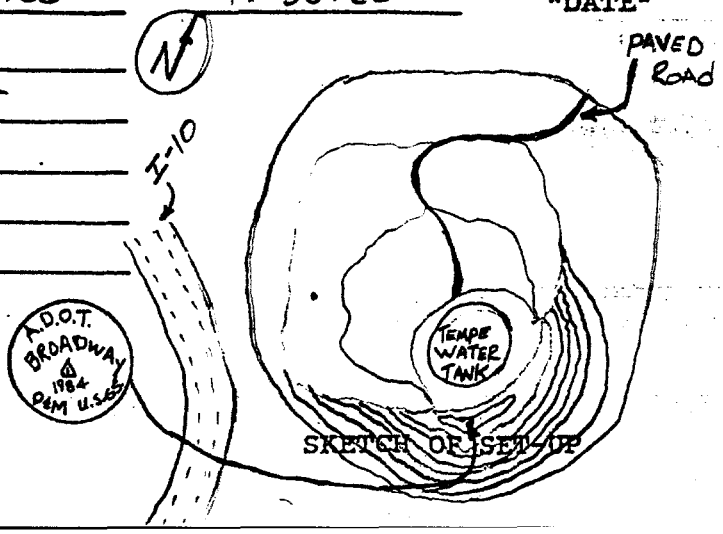
(IMPORTANT: READ THE DISPLAY AND PUSH GREEN SURVEY BUTTON INFO.)

	BEGIN				MIDDLE				FINAL				
FILE-DAY-S#	0021·338-1				0021·338·1				0021-338-1				"SURVEY"
HI CM	136.7				136.7				136.7 ✓				"SURVEY"
HI METERS	1.367				1.367				1.367				"SURVEY"
HI-1/16 IN.	53.13/16	53.8/16			53.13/16				53 13/16				"SURVEY"
		CHECK					CHECK				CHECK		
SV.'S #	17	23	03		17	23	03	21	17	23	12	21	"ELEV/AZ"
SNR	24	21	21		24	21	16	16	15	21	10	24	"ELEV/AZ"
CONTINUOUS	5	5	5		407	407	407	300	768	768	120	660	"MORE"
TOTAL MEAS.	5	5	5		407	407	407	300	768	768	120	660	"MORE"
SV.'S #									11				"ELEV/AZ"
SNR									15				"ELEV/AZ"
CONTINOUS									184				"MORE"
TOTAL MEAS.									205				"MORE"
LATITUDE	33 °24:24.97"				33 °24:23.55"				33 °24:24.77"				"POSITION"
LONGITUDE	111 °58:01.36"				111 °58:02.18"				111 °58:02.57"				"POSITION"
PDOP / HDOP	2.6	2.6			11.5	4.4			3.7	2.0			"POSITION"
WATCH TIME	9:40:30 AM				11:20:05 AM				12:50:24 AM				"DATE"
UTC TIME	16:40:30				18:20:05				19:50:25				"DATE"

13 53 13/16 53.81 2.54 136.7

POINT DESCRIPTION:

4" ALUM. DISK ON HIGHEST
DT. ON BELL BUTTE



SKETCH OF SET-UP

Station ID: 0021 Session #: 338-1 Dec 4, 1991 16:38
Reference Position - LOW ACCURACY:
Lat. = 0:00'00.000" N Long. = 0:00'00.000" W Height = 0.0 [meters]
Antenna height = 1.3670 [meters] (entered in the field in feet)
Long station name:

Receiver serial # = 379
Internal antenna
NP Software = 3.25 SP Software = 3.25 Download Software = 2.08.06

Survey schedule: UNSPECIFIED
Data-logging start time = 16:38
Data-logging stop time = 19:53

Tracking	SV 3	SV 11	SV 12	SV 16	SV 17	SV 21	SV 23
total L1	589	215	130	2	777	670	777
cont L1	589	194	130	2	777	670	777

SV Selection mode = AUTOMATIC
Elevation mask = 15 [degrees] Minimum # of SVs = 1

3D Position	Best PDOP Position [2.5]	Mean Position [1618]
Latitude:	33:24'25.31106" N	33:24'24.43449" N
Longitude:	111:58'00.19601" W	111:58'02.26491" W
Height [m]:	329.6	418.1

2D Position	Best PDOP Position [1.6]	Mean Position [717]
Latitude:	33:24'19.30495" N	33:24'22.57118" N
Longitude:	111:58'01.81187" W	111:58'02.79007" W

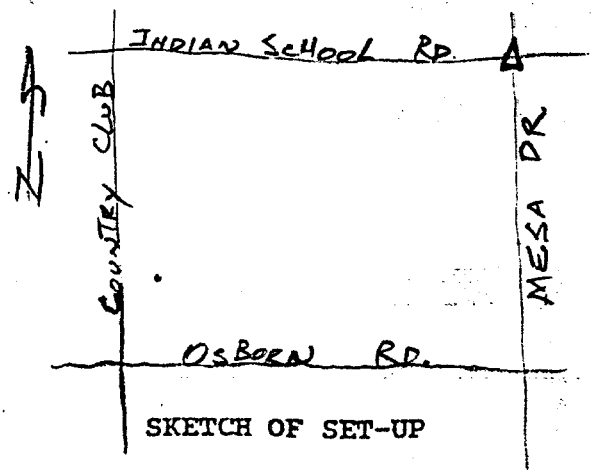
GREINER, INC. — G.P.S FIELD OBSERVATION SHEET

OFFICE FILE		E0102000	JOB #
PATH/FILE		SALT-GILA	PROJECT
POINT		338-1	SESSION # (-S#)
NOTE		0513	POINT # "FILE"
NOTE		—	POINT NAME
PRESS/HUMID	/	WED 4-DEC-91	DATE
TEMP/WEATHER	/	338	JULIAN (DAY) (FINAL)
ANTENNA #		BLUE	RECVR COLOR
RANGE POLE #		382 / 4000 ST	RECVR # / MODEL
ENTER LAT.		T. PRICE	OBSERVER
ENTER LONG.		—	CREW

(IMPORTANT: READ THE DISPLAY AND PUSH GREEN SURVEY BUTTON INFO.)

	9:50 BEGIN		10:25 MIDDLE		11:00 FINAL		
FILE-DAY-S#	0513-338-1		0513-338-1		0513-338-1		"SURVEY"
HI CM	199.8		199.9		199.9 ✓		"SURVEY"
HI METERS	1.998		1.999		1.999		"SURVEY"
HI-1/16 IN.	78 11/16	78.66 ✓	78 12/16	78.70 ✓	78 12/16	78.70 ✓	"SURVEY" 78.75 2.54 200.02
	78.68	CHECK	78.75	CHECK	78.75	CHECK	
SV.'S #	17 03 23 —		17 03 23 21		17 03 23 21		"ELEV/AZ"
SNR	23 23 22 —		25 23 21 07		25 20 21 14		"ELEV/AZ"
CONTINUOUS	4 4 4 —		139 140 140 76		280 281 281 217		"MORE"
TOTAL MEAS.	4 4 4 —		139 140 140 76		280 281 281 217		"MORE"
SV.'S #	— — — —		— — — —		— — — —		"ELEV/AZ"
SNR	— — — —		— — — —		— — — —		"ELEV/AZ"
CONTINOUS	— — — —		— — — —		— — — —		"MORE"
TOTAL MEAS.	— — — —		— — — —		— — — —		"MORE"
LATITUDE	33°29'44.33"		33°29'42.39"		33°29'43.51"		"POSITION"
LONGITUDE	111°49'20.10"		111°49'19.10"		111°49'19.26"		"POSITION"
PDOP / HDOP	2.6	2.6	4.8	2.6	6.9	2.9	"POSITION"
WATCH TIME	9:52:34 A.M.		10:27:03 A.M.		11:02:10		"DATE"
UTC TIME	16:52:51		17:27:15		18:02:18		"DATE"

POINT DESCRIPTION: BRASS CAP IN HAND-HOLE AT INT. OF COUNTRY CLUB AND N. MESA DR. CAP IS DE-FACED OTHER than "+". POSSIBLY BUREAU OF INDIAN AFFAIRS. PANEL FALLS IN A.C. @ ℄ INT. MODERATE TRAFFIC IN A.M. COLD & WINDY @ SET-UP



SKETCH OF SET-UP

Station ID: 0513 Session #: 338-1 Dec 4, 1991 16:50
Reference Position - LOW ACCURACY:
Lat. = 0:00'00.000" N Long. = 0:00'00.000" W Height = 0.0 [meters]
Antenna height = 1.9990 [meters] (entered in the field in inches)
Long station name:

. .eiver serial # = 382
Internal antenna
NP Software = 3.25 SP Software = 3.25 Download Software = 2.08.06

Survey schedule: UNSPECIFIED
Data-logging start time = 16:50
Data-logging stop time = 18:05

Tracking	SV 3	SV 17	SV 21	SV 23
total L1	299	299	236	299
cont L1	299	299	236	299

SV Selection mode = AUTOMATIC
Elevation mask = 15 [degrees] Minimum # of SVs = 1

3D Position	Best PDOP Position [3.3]	Mean Position [698]
Latitude:	33:29'44.49111" N	33:29'42.93356" N
Longitude:	111:49'20.38288" W	111:49'19.41080" W
Height [m]:	360.7	360.9

2D Position	Best PDOP Position [2.6]	Mean Position [205]
Latitude:	33:29'42.58427" N	33:29'44.10369" N
Longitude:	111:49'19.61371" W	111:49'19.54861" W

GRIENER, INC. — G.P.S FIELD OBSERVATION SHEET

OFFICE FILE		E010200	JOB #
PETH/FILE		SALT/GILA	PROJECT
POINT		#1	SESSION # (-S#)
NOTE		0019	POINT # "FILE"
NOTE		VAL VISTA	POINT NAME
PRESS/HUMID	/	4 DEC 1991	DATE
TEMP/WEATHER	/	338	JULIAN (DAY) (FINAL)
ANTENNA #		GREEN	RECVR COLOR
RANGE POLE #		373-4000	RECVR # / MODEL
ENTER LAT.		RICK KLOBECO	OBSERVER
ENTER LONG.			CREW

(IMPORTANT: READ THE DISPLAY AND PUSH GREEN SURVEY BUTTON INFO.)

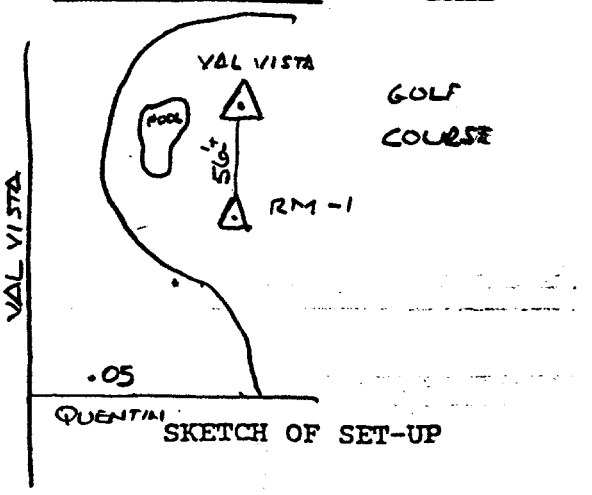
	BEGIN		MIDDLE		FINAL		
FILE-DAY-S#	0019-338-1		0019-338-1		0019-338-1		"SURVEY"
HI CM	144.5		144.5		144.5 ✓		"SURVEY"
HI METERS	1.445		1.445		1.445		"SURVEY"
HI-1/16 IN. (14/16 + 1/32)	56 29/32	56.8898	56 29/32	56.8898	56 29/32	56.8898	"SURVEY"
	56.90	CHECK	56.90	CHECK	56.90	CHECK	
SV. #'S	23	03	17	21 @10:07 am	23	03	17	21	23	12	17	21	"ELEV/AZ"
SNR	21	19	19	08	19	13	22	16	19	09	13	21	"ELEV/AZ"
CONTINUOUS	5	5	5	2	369	369	369	338	686	121	686	656	"MORE"
TOTAL MEAS.	5	5	5	2	369	369	369	338	686	121	686	656	"MORE"
SV. #'S							12 @12:20	11 @12:06	11				"ELEV/AZ"
SNR							07	09	13				"ELEV/AZ"
CONTINOUS							11	12	185				"MORE"
TOTAL MEAS.							11	29	202				"MORE"
LATITUDE	33 °28'29.74"		33 °28'25.75"		33 °28'29.51"		"POSITION"
LONGITUDE	111 °45'05.30"		111 °45'05.55"		111 °45'07.08"		"POSITION"
PDOP / HDOP	2.6	2.6	1.6	1.6	3.7	2.0	"POSITION"
WATCH TIME	10:00 am		11:31 am		12:50		"DATE"
UTC TIME	17:00		18:31		19:50		"DATE"

56.88
2.54
144.4

POINT DESCRIPTION: U.S. COAST & GEODETIC SURVEY TRIANGULATION STATION BRASS CAP STAMPED "VAL VISTA 1935" W/ PM SET IN 1' SQUARE CONC. POST 5" ABV. NG W/ 1 VAL VISTA RM STAMPED RM-1 1935

RM 2 - GONE

VAL VISTA USC&GS



SKETCH OF SET-UP

Station ID: 0019 Session #: 338-1 Dec 4, 1991 16:57
Reference Position - LOW ACCURACY:
Lat. = 0:00'00.000" N Long. = 0:00'00.000" W Height = 0.0 [meters]
Antenna height = 1.4450 [meters] (entered in the field in meters)
Long station name:

Receiver serial # = 273
Internal antenna
NP Software = 3.25 SP Software = 3.25 Download Software = 2.08.06

Jamison 12-5-91

Survey schedule: UNSPECIFIED
Data-logging start time = 16:58
Data-logging stop time = 19:51

Tracking	SV 3	SV 11	SV 12	SV 17	SV 21	SV 23
total L1	513	206	126	691	660	691
cont L1	513	189	126	691	660	691

SV Selection mode = AUTOMATIC
Elevation mask = 15 [degrees] Minimum # of SVs = 1

3D Position	Best PDOP Position [2.5]	Mean Position [1588]
Latitude:	33:28'29.84244" N	33:28'28.99586" N
Longitude:	111:45'04.48898" W	111:45'06.58075" W
Height [m]:	328.6	415.2

2D Position	Best PDOP Position [1.6]	Mean Position [493]
Latitude:	33:28'23.82831" N	33:28'25.62527" N
Longitude:	111:45'06.18103" W	111:45'07.06474" W

DOUBLE SESSION
DUPLICATE OF #1

GREINER, INC.

G.P.S FIELD OBSERVATION SHEET

OFFICE FILE		E0102200	JOB #
PATH/FILE		SALT / GILA	PROJECT
POINT		338 (1) 2	SESSION # (-S#)
NOTE		0015	POINT # "FILE"
NOTE		"SQUAW PEAK"	POINT NAME
PRESS/HUMID	/	WENS - 4 - 12 - 91	DATE
TEMP/WEATHER	/	338	JULIAN (DAY) (FINAL)
ANTENNA #		RED	RECVR COLOR
RANGE POLE #		381 / ST4000	RECVR # / MODEL
ENTER LAT.		S. CROY	OBSERVER
ENTER LONG.		C. SHULTE	CREW

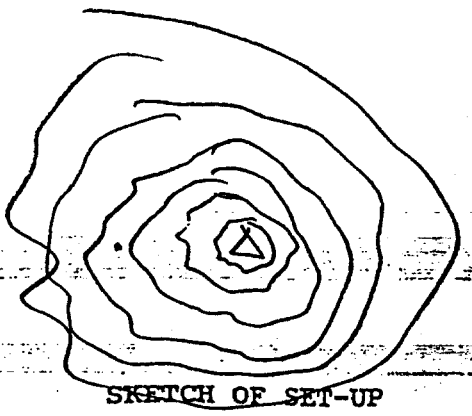
(IMPORTANT: READ THE DISPLAY AND PUSH GREEN SURVEY BUTTON INFO.)

	BEGIN (9:49)	MIDDLE (11:25)	FINAL (12:40)	
FILE-DAY-S#	0015-338(1) 2	0015-338(1) 2	0015-338(1)	"SURVEY"
HI CM	~~126.6~~ 126.4	126.7	126.7	"SURVEY"
HI METERS	~~1.266~~ 1.264	1.267	1.267	"SURVEY"
HI-1/16 IN.	49 13/16 49.76	49 14/16 49.8819	49 14/16 49.8819	"SURVEY"
	49.711 CHECK 10:06	LOST SV #3 @ 12:08 CHECK	GAINED SV #12 @ 12:20 CHECK	
SV.'S #	17 03 23 21	17 03 23 21	17 12 23 21	"ELEV/AZ"
SNR	23 22 21 08	23 13 22 18	15 09 22 24	"ELEV/AZ"
CONTINUOUS	2 2 2 1	401 401 68 68	681 75 347 348	"MORE"
TOTAL MEAS.	2 2 2 1	401 401 400 336	681 75 679 616	"MORE"
SV.'S #		11:59 11	11	"ELEV/AZ"
SNR		07	13	"ELEV/AZ"
CONTINOUS		7	164	"MORE"
TOTAL MEAS.		7	164	"MORE"
LATITUDE	33 °32'52.23"	33 °32'47.38"	33 °32'50.33"	"POSITION"
LONGITUDE	112 °01'16.56"	112 °01'14.82"	112 °01'14.81"	"POSITION"
PDOP / HDOP	2.6 2.6	1.6 1.6	3.6 2.2	"POSITION"
WATCH TIME	9:52:43 AM	11:31:20 AM	12:41:28 PM	"DATE"
UTC TIME	16:52:50	18:31:27	19:41:35	"DATE"

49.88
2.54
126.7

POINT DESCRIPTION: POINT IS @ SUMMIT OF SQUAW PEAK A BRASS CAP EPOXIED IN QUARTZITE. NATIONAL GEODETIC SURVEY 1963, 1973. HORIZ. CONT. MARK SQUAW PEAK

SQUAW PEAK 1963 1973



SKETCH OF SET-UP

Station ID: 0015 Session #: 338-2 Dec 4, 1991 16:49
Reference Position - LOW ACCURACY:
Lat. = 0:00'00.000" N Long. = 0:00'00.000" W Height = 0.0 [meters]
Antenna height = 1.2670 [meters] (entered in the field in inches)
Long station name:

Receiver serial # = 381 Johnson 12-5-91
Internal antenna
NP Software = 3.25 SP Software = 3.25 Download Software = 2.08.06

Survey schedule: UNSPECIFIED
Data-logging start time = 16:49
Data-logging stop time = 19:50

Tracking	SV 3	SV 11	SV 12	SV 17	SV 21	SV 23
total L1	546	204	116	719	655	719
cont L1	546	204	116	719	387	387

SV Selection mode = AUTOMATIC
Elevation mask = 15 [degrees] Minimum # of SVs = 1

3D Position	Best PDOP Position [2.5]	Mean Position [1579]
Latitude:	33:32'51.26646" N	33:32'50.40631" N
Longitude:	112:01'13.43540" W	112:01'15.49170" W
Height [m]:	722.4	800.0

2D Position	Best PDOP Position [1.6]	Mean Position [585]
Latitude:	33:32'45.61758" N	33:32'48.12207" N
Longitude:	112:01'14.97500" W	112:01'16.08371" W

NOTE

DUPLICATE OF SESSION #1

Johnson

DOUBLE DESSION
DUPLICATE OF #1

GREINER, INC. — G.P.S FIELD OBSERVATION SHEET

OFFICE FILE		E010200	JOB #
PATH/FILE		SALT/GILA	PROJECT
POINT		1	SESSION # (-S#)
NOTE		0021	POINT # "FILE"
NOTE		BROADWAY	POINT NAME
PRESS/HUMID	/	12/04/91	DATE
TEMP/WEATHER	/	338	JULIAN (DAY) (FINAL)
ANTENNA #		WHITE	RECVR COLOR
RANGE POLE #		379	RECVR # / MODEL
ENTER LAT.		VINCE NECHERO	OBSERVER
ENTER LONG.			CREW

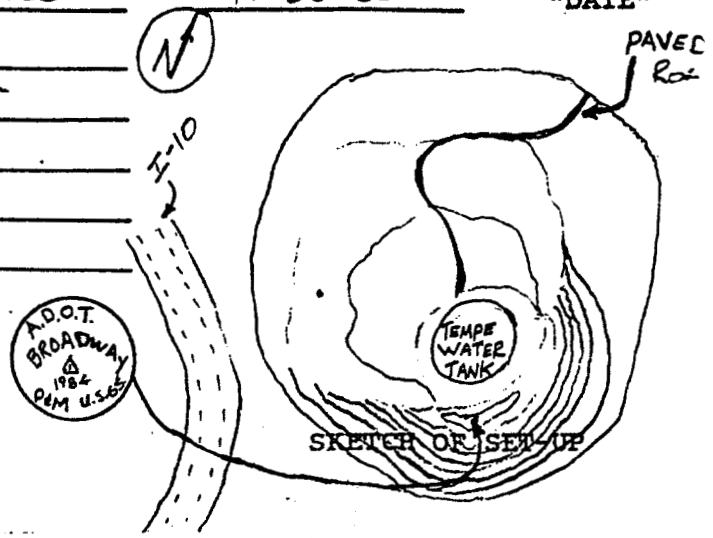
1:40 AM (IMPORTANT: READ THE DISPLAY AND PUSH GREEN SURVEY BUTTON INFO.) Johnson

	BEGIN	MIDDLE	FINAL	
FILE-DAY-S#	0021-338-1	0021-338-1	0021-338-1	"SURVEY"
HI CM	136.7	136.7	136.7	"SURVEY"
HI METERS	1.367	1.367	1.367	"SURVEY"
HI-1/16 IN.	53 13/16 53 8/16 (CHECK)	53 13/16 (CHECK)	53 13/16 (CHECK)	"SURVEY"

SV.'S #	17	23	03		17	23	03	21	17	23	12	21	"ELEV/AZ"
SNR	24	21	21		24	21	16	16	15	21	10	24	"ELEV/AZ"
CONTINUOUS	5	5	5		407	407	407	300	768	768	120	660	"MORE"
TOTAL MEAS.	5	5	5		407	407	407	300	768	768	120	660	"MORE"
SV.'S #									11				"ELEV/AZ"
SNR									15				"ELEV/AZ"
CONTINOUS									184				"MORE"
TOTAL MEAS.									205				"MORE"

	BEGIN	MIDDLE	FINAL	
LATITUDE	33 °24'24.97"	33 °24'23.55"	33 °24'24.77"	"POSITION"
LONGITUDE	111 °58'01.36"	111 °58'02.18"	111 °58'02.59"	"POSITION"
PDOP / HDOP	2.6 2.6	11.5 / 4.4	3.7 2.0	"POSITION"
WATCH TIME	9:40:30 AM	11:20:05 AM	12:50:24 PM	"DATE"
UTC TIME	16:40:30	18:20:05	19:50:25	"DATE"

POINT DESCRIPTION:
4" ALUM. DISK ON HIGHEST
DT. ON RELIC BUTTE



SKETCH OF SET-UP

Station ID: 0021 Session #: 338-2 Dec 4, 1991 16:38
Reference Position - LOW ACCURACY:
Lat. = 0:00'00.000" N Long. = 0:00'00.000" W Height = 0.0 [meters]
Antenna height = 1.3670 [meters] (entered in the field in feet)
Long station name:

Receiver serial # = 379
Internal antenna
NP Software = 3.25 SP Software = 3.25 Download Software = 2.08.06

Johnson 12.6.91

Survey schedule: UNSPECIFIED
Data-logging start time = 16:38
Data-logging stop time = 19:53

Tracking	SV 3	SV 11	SV 12	SV 16	SV 17	SV 21	SV 23
total L1	589	215	130	2	777	670	777
cont L1	589	194	130	2	777	670	777

SV Selection mode = AUTOMATIC
Elevation mask = 15 [degrees] Minimum # of SVs = 1

3D Position	Best PDOP Position [2.5]	Mean Position [1618]
Latitude:	33:24'25.31106" N	33:24'24.43449" N
Longitude:	111:58'00.19601" W	111:58'02.26491" W
Height [m]:	329.6	418.1

2D Position	Best PDOP Position [1.6]	Mean Position [717]
Latitude:	33:24'19.30495" N	33:24'22.57118" N
Longitude:	111:58'01.81187" W	111:58'02.79007" W

NOTES

DUPLICATE OF SESSION #1

Johnson

GREINER, INC. — G.P.S FIELD OBSERVATION SHEET

OFFICE FILE		E0102:00	JOB #
PATH/FILE		SALT-GILA	PROJECT
POINT		338-2	SESSION # (-S#)
NOTE		0301	POINT # "FILE"
NOTE		—	POINT NAME
PRESS/HUMID	/	WED. 04-DEC-91	DATE
TEMP/WEATHER	/	338	JULIAN (DAY) (FINAL)
ANTENNA #		BLUE	RECVR COLOR
RANGE POLE #		382/4000 ST	RECVR # / MODEL
ENTER LAT.		T. PRICE	OBSERVER
ENTER LONG.		—	CREW

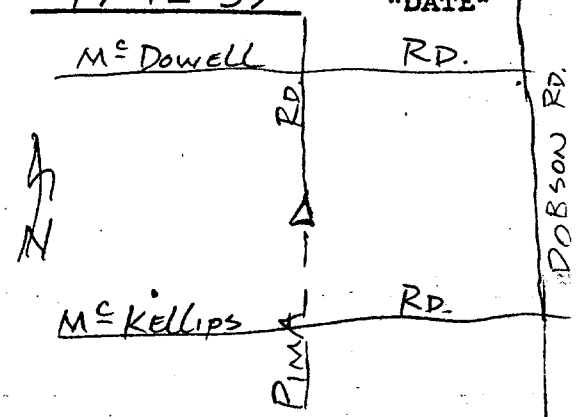
(IMPORTANT: READ THE DISPLAY AND PUSH GREEN SURVEY BUTTON INFO.)

	11:29 BEGIN	12:00 MIDDLE	12:40 FINAL	
FILE-DAY-S#	0301-338-2	0301-338-2	0301-338-2	"SURVEY"
HI CM	153.4	153.5	153.45 ✓.61	"SURVEY"
HI METERS	1.534	1.535	1.5345	"SURVEY"
HI-1/16 IN.	60 6/16 60.39✓	60 6/16 60.43✓	60 7/16 60.41✓	"SURVEY"
	60.37 CHECK	60.375 CHECK	60.42 CHECK	
SV.'S #	17 03 21 23	17 03 21 23	17 12 21 23	"ELEV/AZ"
SNR	24 14 17 24	21 09 22 23	16 10 25 23	"ELEV/AZ"
CONTINUOUS	3 3 4 4	127 128 128 128	288 84 289 289	"MORE"
TOTAL MEAS.	3 3 4 4	127 128 128 128	288 84 289 289	"MORE"
SV.'S #	— — — —	11 — — —	11 — — —	"ELEV/AZ"
SNR	— — — —	07 — — —	14 — — —	"ELEV/AZ"
CONTINOUS	— — — —	7 — — —	167 — — —	"MORE"
TOTAL MEAS.	— — — —	7 — — —	167 — — —	"MORE"
LATITUDE	33°27'28.19"	33°27'31.50"	33°27'31.98"	"POSITION"
LONGITUDE	111°53'30.01"	111°53'29.51"	111°53'29.41"	"POSITION"
PDOP / HDOP	1.6 1.6	2.5 / 1.6	3.6 2.2	"POSITION"
WATCH TIME	11:31:02 AM	12:03:20	12:42-31	"DATE"
UTC TIME	18:31:16	19:03:33	19:42-39	"DATE"

60.44
2.54
153.5
Johnson

POINT DESCRIPTION: 1/2" IRON PIPE IN DIRT 1/2 MI. SO. OF MCDOWELL RD. ± 20' E. OF E/P ON PIMA RD. STATION FALLS @ TOE OF DIRT MOUND. PAINT ON A.C. LABELS THIS W1/4 SEC. 6 T1N R5E COOL & WINDY SET-UP

1/2" IRON PIPE



SKETCH OF SET-UP

Station ID: 0301 Session #: 338-2 Dec 4, 199[illegible] 1[illegible]:27
Reference Position - LOW ACCURACY:
Lat. = 0:00'00.000" N Long. = 0:00'00.000" W Height = 0.0 [meters]
Antenna height = 1.5345 [meters] (entered in the field in inches)
Long station name:

[illegible]ceiver serial # = 382
Internal antenna
NP Software = 3.25 SP Software = 3.25 Download Software = 2.08.06

Survey schedule: UNSPECIFIED
Data-logging start time = 18:29
Data-logging stop time = 19:45

Tracking	SV 3	SV 11	SV 12	SV 17	SV 21	SV 23
total L1	148	183	100	303	303	303
cont L1	148	183	100	303	303	303

SV Selection mode = AUTOMATIC
Elevation mask = 15 [degrees] Minimum # of SVs = 1

3D Position	Best PDOP Position [2.5]	Mean Position [536]
Latitude:	33:27'31.74824" N	33:27'31.39792" N
Longitude:	111:53'28.92426" W	111:53'30.46226" W
Height [m]:	273.9	350.5

2D Position	Best PDOP Position [1.6]	Mean Position [410]
Latitude:	33:27'26.34702" N	33:27'26.95697" N
Longitude:	111:53'30.24695" W	111:53'31.47549" W

DOUBLE DESSION
DUPLICATE OF #1

GREINER, INC.

G.P.S FIELD OBSERVATION SHEET

OFFICE FILE		E010200	JOB #
PATH/FILE		SALT/GILA	PROJECT
POINT		#1 2	SESSION # (-S#)
NOTE		0019	POINT # "FILE"
NOTE		VAL VISTA	POINT NAME
PRESS/HUMID	/	4 DEC 1991	DATE
TEMP/WEATHER	/	338	JULIAN (DAY) (FINAL)
ANTENNA #		GREEN	RECVR COLOR
RANGE POLE #		373-4000	RECVR # / MODEL
ENTER LAT.		RICK KLOBECO	OBSERVER
ENTER LONG.			CREW

(IMPORTANT: READ THE DISPLAY AND PUSH GREEN SURVEY BUTTON INFO.)

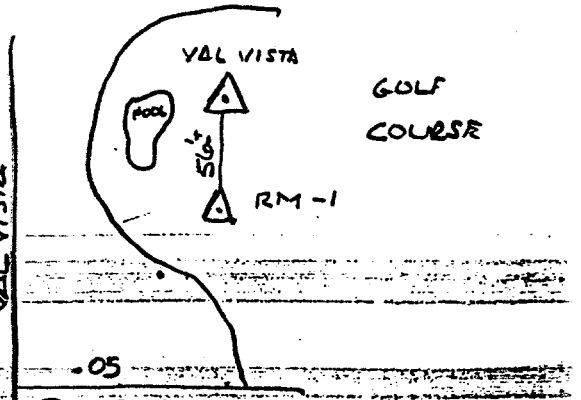
Transferred

	BEGIN		MIDDLE		FINAL		
FILE-DAY-S#	0019-338-1 2		0019-338-1 2		0019-338-1 2		"SURVEY"
HI CM	144.5		144.5		144.5		"SURVEY"
HI METERS	1.445		1.445		1.445		"SURVEY"
HI-1/16 IN. (1 4/16 + 1/32)	56 29/32	56.8898	56 29/32	56.8898	56 29/32	56.8898	"SURVEY" 56.88 2.54 144.4
	56.90	CHECK	56.90	CHECK	56.90	CHECK	
SV.'S #	23 03 17 21 @10:07 am		23 03 17 21		23 12 17 21		"ELEV/AZ"
SNR	21 19 19 08		19 13 22 16		19 09 13 21		"ELEV/AZ"
CONTINUOUS	5 5 5 2		369 369 369 338		686 121 686 656		"MORE"
TOTAL MEAS.	5 5 5 2		369 369 369 338		686 121 686 656		"MORE"
SV.'S #					17 @12:20 11 @12:06		"ELEV/AZ"
SNR					07 09		"ELEV/AZ"
CONTINOUS					11 12		"MORE"
TOTAL MEAS.					11 29		"MORE"
LATITUDE	33 °28'29.74"		33 °28'25.75"		33 °28'29.51"		"POSITION"
LONGITUDE	111 °45'05.30"		111 °45'05.55"		111 °45'07.08"		"POSITION"
PDOP / HDOP	2.6	2.6	1.6	1.6	3.7	2.0	"POSITION"
WATCH TIME	10:00 am		11:31 am		12:50		"DATE"
UTC TIME	17:00		18:31		19:50		"DATE"

POINT DESCRIPTION: U.S. COAST & GEODETIC SURVEY TRIANGULATION STATION BRASS CAP STAMPED" VAL VISTA 1935" W/ PM SET IN 1' SQUARE CONC. POST 5" ABV. NG W/ 1 VAL VISTA RM STAMPED RM-1 1935

RM 2 - GONE

VAL VISTA USC&GS



SKETCH OF SET-UP

Station ID: 0019 Session #: 338-2 Dec 4, 1991 16:57
Reference Position - LOW ACCURACY:
Lat. = 0:00'00.000" N Long. = 0:00'00.000" W Height = 0.0 [meters]
Antenna height = 1.4450 [meters] (entered in the field in meters)
Long station name:

Jonkson 12-5-91

Receiver serial # = 373
Internal antenna
NP Software = 3.25 SP Software = 3.25 Download Software = 2.08.06

Survey schedule: UNSPECIFIED
Data-logging start time = 16:58
Data-logging stop time = 19:51

Tracking	SV 3	SV 11	SV 12	SV 17	SV 21	SV 23
total L1	513	206	126	691	660	691
cont L1	513	189	126	691	660	691

SV Selection mode = AUTOMATIC
Elevation mask = 15 [degrees] Minimum # of SVs = 1

3D Position	Best PDOP Position [2.5]	Mean Position [1588]
Latitude:	33:28'29.84244" N	33:28'28.99586" N
Longitude:	111:45'04.48898" W	111:45'06.58075" W
Height [m]:	328.6	415.2

2D Position	Best PDOP Position [1.6]	Mean Position [493]
Latitude:	33:28'23.82831" N	33:28'25.62527" N
Longitude:	111:45'06.18103" W	111:45'07.06474" W

NOTE

DUPLICATE OF SESSION #1

Jonkson

DOUBLE SESSION
DUPLICATE OF 4

GREINER, INC.

G.P.S FIELD OBSERVATION SHEET

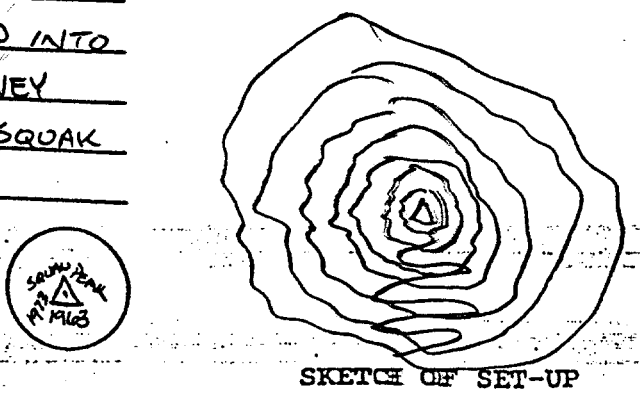
OFFICE FILE		E010200	JOB #
PATH/FILE		SALT / GILA	PROJECT
POINT		338-4 3	SESSION # (-S#)
NOTE		0015	POINT # "FILE"
NOTE		SQUAW PEAK	POINT NAME
PRESS/HUMID	/	WED-04-DEC-91	DATE
TEMP/WEATHER	/	338	JULIAN (DAY) (FINAL)
ANTENNA #		RED	RECVR COLOR
RANGE POLE #		381	RECVR # / MODEL
ENTER LAT.		S.CROY	OBSERVER
ENTER LONG.		C. SHULTE	CREW

(IMPORTANT: READ THE DISPLAY AND PUSH GREEN SURVEY BUTTON INFO.)

	12:57 BEGIN 3				2:20 MIDDLE 3				3:50 FINAL 3				
FILE-DAY-S#	0015-338-4				0015-338-4				0015-338-4				"SURVEY"
HI CM	121.4				121.3				121.5 ✓				"SURVEY"
HI METERS	1.214				1.213				1.215				"SURVEY"
HI-1/16 IN.	47 13/16	47.7953✓			47 9/16	47.7559✓			47 13/16	47.8346			"SURVEY" 47.81 2.54
	47.81	CHECK			47.75	CHECK			47.81	CHECK			
		LOST SV#17 @1:50			LOST SV#23 @3:00	LOST SV#11 @3:35							
SV.'S #	21	23	17	11	21	23	15	11	21	14	15		"ELEV/AZ"
SNR	24	21	13	16	26	12	10	18	17	9	24		"ELEV/AZ" 121.4
CONTINUOUS	11	11	11	11	322	323	78	323	701	12	457		"MORE"
TOTAL MEAS.	11	11	11	11	322	323	78	323	701	12	457		"MORE"
				1:68	LOST SV#12 @2:25								
SV.'S #	12			15	12								"ELEV/AZ"
SNR	10			09	09								"ELEV/AZ"
CONTINOUS	12			7	323								"MORE"
TOTAL MEAS.	12			7	323								"MORE"
LATITUDE	33 °32'49.89"				33 °32'49.03"				33 °32'54.67"				"POSITION"
LONGITUDE	112 °01'15.70"				112 °01'15.59"				112 °01'14.36"				"POSITION"
PDOP / HDOP	3.9	1.9			3.2	1.7			3.6	3.6			"POSITION"
WATCH TIME	1:00:59 PM				2:18:55 PM				3:53:20				"DATE"
UTC TIME	20:01:15				21:19:05				22:53:30				"DATE"

POINT DESCRIPTION: POINT IS AT SUMMIT OF SQUAW PEAK. A BRASS CAP EPOXIED INTO QUARTZITE. NATIONAL GEODETIC SURVEY 1963 & 1973. HORIZ CONT MARK SQUAW PEAK.

1 HR HIKE TO TOP



SKETCH OF SET-UP

Station ID: 0015 Session #: 338-3 Dec 4, 1991 19:56
Reference Position - LOW ACCURACY:
Lat. = 0:00'00.000" N Long. = 0:00'00.000" W Height = 0.0 [meters]
Antenna height = 1.2150 [meters] (entered in the field in inches)
Long station name:

Johnson 12.5.91

ceiver serial # = 381
Internal antenna
NP Software = 3.25 SP Software = 3.25 Download Software = 2.08.06

Survey schedule: UNSPECIFIED
Data-logging start time = 19:57
Data-logging stop time = 23:00

Tracking	SV 11	SV 12	SV 14	SV 15	SV 17	SV 21	SV 23
total L1	630	361	43	487	175	731	494
cont L1	630	361	43	487	175	731	494

SV Selection mode = AUTOMATIC
Elevation mask = 15 [degrees] Minimum # of SVs = 1

3D Position	Best PDOP Position [3.0]	Mean Position [1480]
Latitude:	33:32'48.84342" N	33:32'49.92083" N
Longitude:	112:01'14.73332" W	112:01'15.61377" W
Height [m]:	726.4	758.2

2D Position	Best PDOP Position [1.8]	Mean Position [527]
Latitude:	33:32'48.96622" N	33:32'50.71006" N
Longitude:	112:01'15.56480" W	112:01'15.49843" W

NOTE:

DUPLICATE OF SESSION #4 / Johnson

DELETE SESSION

DUPLICATE OF #2

GREINER, INC.

G.P.S FIELD OBSERVATION SHEET

OFFICE FILE		E010200	JOB #
PATH/FILE		SALT/GILA	PROJECT
POINT	3	4	SESSION # (-S#)
NOTE		0021	POINT # "FILE"
NOTE		BROADWAY	POINT NAME
PRESS/HUMID	/	12/04/91	DATE
TEMP/WEATHER	/	338	JULIAN (DAY) (FINAL)
ANTENNA #		WHITE	RECVR COLOR
RANGE POLE #		379	RECVR # / MODEL
ENTER LAT.		VINCE NECHERO	OBSERVER
ENTER LONG.			CREW

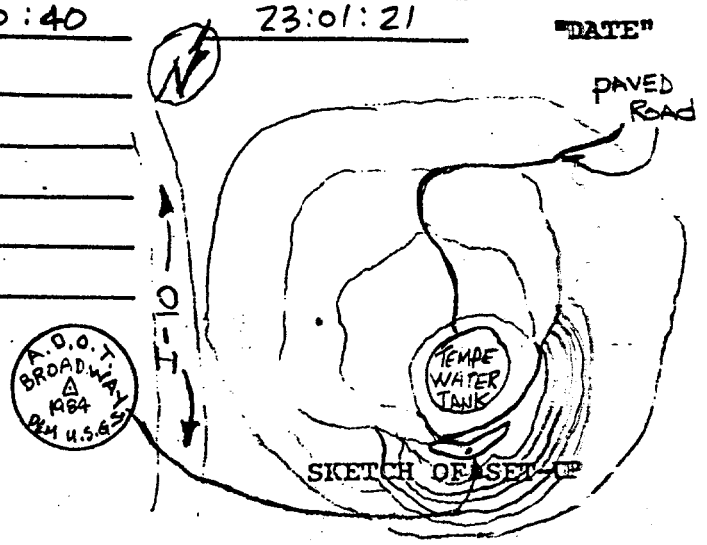
(IMPORTANT: READ THE DISPLAY AND PUSH GREEN SURVEY BUTTON INFO.)

	BEGIN	MIDDLE	FINAL	
FILE-DAY-S#	0021-338-4 3	0021-338-4 3	0021-338-4 3	"SURVEY"
HI CM	132.1	132.1	132.1	"SURVEY"
HI METERS	1.321	1.321	1.321	"SURVEY"
HI-1/16 IN.	52 / 52 CHECK	52 / CHECK	52 / CHECK	"SURVEY"
SV.'S #	21 11 12 17	21 11 15 23	21 14 15	"ELEV/AZ"
SNR	24 18 11 12	26 16 11 11	16 10 26	"ELEV/AZ"
CONTINUOUS	3 3 3 3	343 343 128 343	701 40 484	"MORE"
TOTAL MEAS.	3 3 3 3	343 343 128 343	701 40 484	"MORE"
SV.'S #	23			"ELEV/AZ"
SNR	20			"ELEV/AZ"
CONTINOUS	3			"MORE"
TOTAL MEAS.	3			"MORE"
LATITUDE	33 24 24.42"	33 24 23.65"	33 24 29.15"	"POSITION"
LONGITUDE	111 58 01.83"	111 58 02.20"	111 57 59.63"	"POSITION"
PDOP / HDOP	4.1 1.8	3.4 1.7	3.1 3.1	"POSITION"
WATCH TIME	1:04:25 PM	2:30:29 PM	4:01:21	"DATE"
UTC TIME	20:04:25	21:30:40	23:01:21	"DATE"

52.00
2.54
132.08

POINT DESCRIPTION:

4" ALUM. DISK ON HIGHEST PT
ON BELL BUTTE



SKETCH OF SET-UP

Station ID: 0021 Session #: 338-3 Dec 4, 1991 20:04
Reference Position - LOW ACCURACY:
Lat. = 0:00'00.000" N Long. = 0:00'00.000" W Height = 0.0 [meters]
Antenna height = 1.3210 [meters] (entered in the field in meters)
Long station name:

Receiver serial # = 379
Internal antenna
NP Software = 3.25 SP Software = 3.25 Download Software = 2.08.06

Jathson 12-5-91

Survey schedule: UNSPECIFIED
Data-logging start time = 20:05
Data-logging stop time = 23:02

Tracking	SV 11	SV 12	SV 14	SV 15	SV 17	SV 21	SV 23
total L1	599	331	49	493	147	708	465
cont L1	599	331	49	493	147	708	465

SV Selection mode = AUTOMATIC
Elevation mask = 15 [degrees] Minimum # of SVs = 1

3D Position	Best PDOP Position [3.0]	Mean Position [1391]
Latitude:	33:24'22.94375" N	33:24'23.91198" N
Longitude:	111:58'01.46013" W	111:58'02.36500" W
Height [m]:	357.4	374.4

2D Position	Best PDOP Position [1.8]	Mean Position [544]
Latitude:	33:24'23.17806" N	33:24'24.89800" N
Longitude:	111:58'02.46802" W	111:58'02.15931" W

NOTE

DUPLICATE OF SESSION #4

Jathson

GREINER, INC. — G.P.S FIELD OBSERVATION SHEET

OFFICE FILE		E0102.00	JOB #
PATH/FILE		SALT-GILA	PROJECT
POINT		338-3	SESSION # (-S#)
NOTE		0705	POINT # "FILE"
NOTE		—	POINT NAME
PRESS/HUMID	/	WED. 04-DEC-91	DATE
TEMP/WEATHER	/	338	JULIAN (DAY) (FINAL)
ANTENNA #		BLUE	RECVR COLOR
RANGE POLE #		382/4000ST	RECVR # / MODEL
ENTER LAT.		T. PRICE	OBSERVER
ENTER LONG.		—	CREW

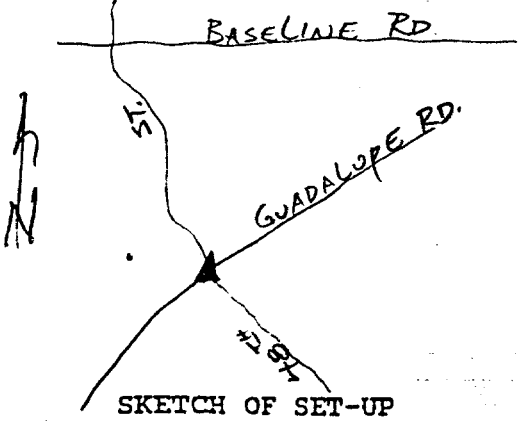
(IMPORTANT: READ THE DISPLAY AND PUSH GREEN SURVEY BUTTON INFO.)

	BEGIN (1:18)				MIDDLE (1:51)				FINAL (2:20)				
FILE-DAY-S#	0705-338-3				0705-338-3				0705-338-3				"SURVEY"
HI CM	154.0				154.0				154.0				"SURVEY"
HI METERS	1.540				1.540				1.540				"SURVEY"
HI-1/16 IN.	60 10/16	60.63			60 10/16	60.63			60 10/16	60.63			"SURVEY"
	60.62	CHECK			60.62	CHECK			60.625	CHECK			
SV.'S #	21	11	12	17	21	11	12	23	21	11	12	15	"ELEV/AZ"
SNR	24	18	11	10	26	20	11	17	27	19	10	11	"ELEV/AZ"
CONTINUOUS	3	3	4	4	127	127	128	128	249	250	251	24	"MORE"
TOTAL MEAS.	3	3	4	4	127	127	128	128	249	250	251	96	"MORE"
SV.'S #	23	—	—	—	—	—	—	—	23	—	—	—	"ELEV/AZ"
SNR	20	—	—	—	—	—	—	—	12	—	—	—	"ELEV/AZ"
CONTINOUS	4	—	—	—	—	—	—	—	251	—	—	—	"MORE"
TOTAL MEAS.	4	—	—	—	—	—	—	—	251	—	—	—	"MORE"
LATITUDE	33°21'47.64"				33°21'50.44"				33°21'48.27"				"POSITION"
LONGITUDE	111°58'27.77"				111°58'29.55"				111°58'28.27"				"POSITION"
PDOP / HDOP	4.3	1.8			4.8	3.5			3.1	1.6			"POSITION"
WATCH TIME	1:21:30				1:53:22				2:22:39				"DATE"
UTC TIME	20:21:41				20:53:29				21:22:47				"DATE"

60.62 2:54 153.9 Junk

POINT DESCRIPTION: BRASS CAP FLUSH @ INT. OF 48TH ST. & GUADALUPE RD. STA. FALLS IN A.C. @ ℄ INT. MODERATE TRAFFIC THIS TIME OF DAY. COOL & WINDY AT SET-UP

CITY OF PHOENIX 19__



SKETCH OF SET-UP

Station ID: 0705 Session #: 338-3 Dec 4, 1991 20:18
Reference Position - LOW ACCURACY:
Lat. = 0:00'00.000" N Long. = 0:00'00.000" W Height = 0.0 [meters]
Antenna height = 1.5400 [meters] (entered in the field in meters)
Long station name:

Receiver serial # = 382
Internal antenna
NP Software = 3.25 SP Software = 3.25 Download Software = 2.08.06

Survey schedule: UNSPECIFIED
Data-logging start time = 20:19
Data-logging stop time = 21:25

Tracking	SV 11	SV 12	SV 15	SV 17	SV 21	SV 23
total L1	263	263	109	88	263	263
cont L1	263	263	72	57	263	263

SV Selection mode = AUTOMATIC
Elevation mask = 15 [degrees] Minimum # of SVs = 1

3D Position	Best PDOP Position [3.1]	Mean Position [792]
Latitude:	33:21'48.08746" N	33:21'48.50206" N
Longitude:	111:58'27.76863" W	111:58'28.38717" W
Height [m]:	329.7	347.0

2D Position Position not available

DOUBLE SESSION
DUPLICATE OF #4

GREINER, INC.

G.P.S FIELD OBSERVATION SHEET

OFFICE FILE		E010200	JOB #
PATH/FILE		SALT / GILA	PROJECT
POINT		3 (~~#4~~)	SESSION # (-S#)
NOTE		0019	POINT # "FILE"
NOTE		VAL VISTA	POINT NAME
PRESS/HUMID	/	4 DEC 1991	DATE
TEMP/WEATHER	60° / WINDY	338	JULIAN (DAY) (FINAL)
ANTENNA #		GREEN	RECVR COLOR
RANGE POLE #		373-4000	RECVR # / MODEL
ENTER LAT.		DICK KLEBIEKO	OBSERVER
ENTER LONG.			CREW

(IMPORTANT: READ THE DISPLAY AND PUSH GREEN SURVEY BUTTON INFO.) Checked

	BEGIN		MIDDLE		FINAL		
FILE-DAY-S#	0019-338-4 3		0019-338-4 3		0019-338-4 3		"SURVEY"
HI CM	136.0		136.0		136.0 ✓		"SURVEY"
HI METERS	1.360		1.360		1.360		"SURVEY"
HI-1/16 IN.	53 17/32	53.5433	53 17/32	53.5433	53 17/32	53.5433	"SURVEY" 53.54
	53.53	CHECK	53.53	CHECK	53.53	CHECK	2.54 / 136.04
SV.'S #	21 23 11 12		15 21 23 11		21 14 15		"ELEV/AZ"
SNR	22 21 14 10		12 25 10 14		14 08 22		"ELEV/AZ"
CONTINUOUS	2 2 2 2		120 331 331 331		700 44 488		"MORE"
TOTAL MEAS.	2 2 2 2		120 331 331 331		700 44 488		"MORE"
	LOST 17 @ 1:43pm		LOST SV 12 @ 2:30 pm		LOST SV 11 @ 3:30		
SV.'S #	17 15 @ 1:55 pm		12 LOST SV 23 @ 3:03 pm		SV 14 @ 3:50 8/8		"ELEV/AZ"
SNR	10 07		06				"ELEV/AZ"
CONTINOUS	2 3		330				"MORE"
TOTAL MEAS.	2 3		330				"MORE"
LATITUDE	33 °28'28.94"		33 °28'27.32"		33 °28'34.74"		"POSITION"
LONGITUDE	111 °45'06.18"		111 °45'06.32"		111 °45'03.73"		"POSITION"
PDOP / HDOP	4.1	1.8	3.4	1.8	3.1	3.1	"POSITION"
WATCH TIME	1:05 pm		2:30pm		4:00pm		"DATE"
UTC TIME	20:05		21:30		23:00		"DATE"

POINT DESCRIPTION: U.S. COAST & GEODETIC SURVEY TRIANGULATION STATION BRASS CAP STAMPED "VAL VISTA 1935" W/ PM SET IN 1' SQUARE CONC POST 5" ABV NG W/ 1 VAL VISTA RM STAMPED RM-1 1935

RM-2 GONE

VAL VISTA A USC&GS

SKETCH OF SET-UP
SEE SESSION 1

Station ID: 0019 Session #: 338-3 Dec 4, 1991 20:05
Reference Position - LOW ACCURACY:
Lat. = 0:00'00.000" N Long. = 0:00'00.000" W Height = 0.0 [meters]
Antenna height = 1.3600 [meters] (entered in the field in meters)
Long station name:

Receiver serial # = 373
Internal antenna
NP Software = 3.25 SP Software = 3.25 Download Software = 2.08.06

Survey schedule: UNSPECIFIED
Data-logging start time = 20:05
Data-logging stop time = 23:01

Tracking	SV 11	SV 12	SV 14	SV 15	SV 17	SV 21	SV 23
total L1	595	331	46	490	143	702	466
cont L1	595	331	46	490	143	702	466

SV Selection mode = AUTOMATIC
Elevation mask = 15 [degrees] Minimum # of SVs = 1

3D Position	Best PDOP Position [3.0]	Mean Position [389]
Latitude:	33:28'27.35222" N	33:28'28.52475' N
Longitude:	111:45'05.82866" W	111:45'06.67390' W
Height [m]:	329.7	371.8

2D Position	Best PDOP Position [1.8]	Mean Position [518]
Latitude:	33:28'27.82204" N	33:28'29.46219' N
Longitude:	111:45'06.69696" W	111:45'06.52355' W

NOTE
DUPLICATE OF SESSION #4

GREINER, INC. — G.P.S FIELD OBSERVATION SHEET

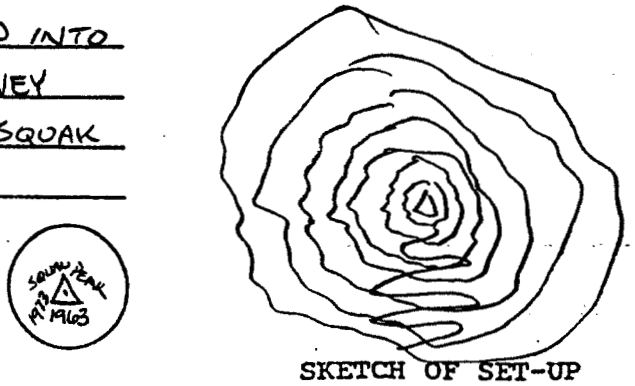
OFFICE FILE		E010200	JOB #
PATH/FILE		SALT / GILA	PROJECT
POINT		338-4	SESSION # (-S#)
NOTE		0015	POINT # "FILE"
NOTE		SQUAW PEAK	POINT NAME
PRESS/HUMID	/	WED-04-DEC-91	DATE
TEMP/WEATHER	/	338	JULIAN (DAY) (FINAL)
ANTENNA #		RED	RECVR COLOR
RANGE POLE #		381	RECVR # / MODEL
ENTER LAT.		S. CROY	OBSERVER
ENTER LONG.		C. SHULTE	CREW

(IMPORTANT: READ THE DISPLAY AND PUSH GREEN SURVEY BUTTON INFO.)

	12:57 BEGIN				2:20 MIDDLE				3:50 FINAL				
FILE-DAY-S#	0015-338-4				0015-338-4				0015-338-4				"SURVEY"
HI CM	121.4				121.3				121.5 ✓		.43		"SURVEY"
HI METERS	1.214				1.213				1.215				"SURVEY"
HI-1/16 IN.	47 13/16	47.7953✓			47 12/16	47.7559✓			47 13/16	47.8346			"SURVEY" 47.81 2.54
	47.81	CHECK			47.75	CHECK			47.81	CHECK			
		LOST SV #17 @ 1:50				LOST SV #23 @ 2:00		LOST SV #11 @ 2:35					
SV.'S #	21	23	17	11	21	23	15	11	21	14	15		"ELEV/AZ"
SNR	24	21	13	16	26	12	10	18	17	9	24		"ELEV/AZ" 121.43
CONTINUOUS	11	11	11	11	322	323	78	323	701	12	457		"MORE"
TOTAL MEAS.	11	11	11	11	322	323	78	323	701	12	457		"MORE"
				1:58	LOST SV #12 @ 2:25								
SV.'S #	12			15	12								"ELEV/AZ"
SNR	10			09	09								"ELEV/AZ"
CONTINOUS	12			7	323								"MORE"
TOTAL MEAS.	12			7	323								"MORE"
LATITUDE	33 °32'49.89"				33 °32'49.03"				33 °32'54.67"				"POSITION"
LONGITUDE	112 °01'15.70"				112 °01'15.59"				112 °01'14.36"				"POSITION"
PDOP / HDOP	3.9	1.9			3.2	1.7			3.6	3.6			"POSITION"
WATCH TIME	1:00:59 PM				2:18:55 PM				3:53:20				"DATE"
UTC TIME	20:01:15				21:19:05				22:53:30				"DATE"

POINT DESCRIPTION: POINT IS AT SUMMIT OF SQUAW PEAK. A BRASS CAP EPOXIED INTO QUARTZITE. NATIONAL GEODETIC SURVEY 1963 & 1973. HORIZ CONT MARK SQUAW PEAK.

1 HR HIKE TO TOP



SKETCH OF SET-UP

Station ID: 0015 Session #: 338-4 Dec 4, 1991 19:56
Reference Position - LOW ACCURACY:
Lat. = 0:00'00.000" N Long. = 0:00'00.000" W Height = 0.0 [meters]
Antenna height = 1.2150 [meters] (entered in the field in inches)
Long station name:

Receiver serial # = 381
Internal antenna
NP Software = 3.25 SP Software = 3.25 Download Software = 2.08.06

Survey schedule: UNSPECIFIED
Data-logging start time = 19:57
Data-logging stop time = 23:00

Tracking	SV 11	SV 12	SV 14	SV 15	SV 17	SV 21	SV 23
total L1	630	361	43	487	175	731	494
cont L1	630	361	43	487	175	731	494

SV Selection mode = AUTOMATIC
Elevation mask = 15 [degrees] Minimum # of SVs = 1

3D Position	Best PDOP Position [3.0]	Mean Position [1480]
Latitude:	33:32'48.84342" N	33:32'49.92083" N
Longitude:	112:01'14.73332" W	112:01'15.61377" W
Height [m]:	726.4	758.2

2D Position	Best PDOP Position [1.8]	Mean Position [527]
Latitude:	33:32'48.96622" N	33:32'50.71006" N
Longitude:	112:01'15.56480" W	112:01'15.49843" W

GREINER, INC. — G.P.S FIELD OBSERVATION SHEET

OFFICE FILE		E010200	JOB #
PATH/FILE		SALT/GILA	PROJECT
POINT		4	SESSION # (-S#)
NOTE		0021	POINT # "FILE"
NOTE		BROADWAY	POINT NAME
PRESS/HUMID	/	12/04/91	DATE
TEMP/WEATHER	/	338	JULIAN (DAY) (FINAL)
ANTENNA #		WHITE	RECVR COLOR
RANGE POLE #		379	RECVR # / MODEL
ENTER LAT.		VINCE NECHERO	OBSERVER
ENTER LONG.			CREW

(IMPORTANT: READ THE DISPLAY AND PUSH GREEN SURVEY BUTTON INFO.)

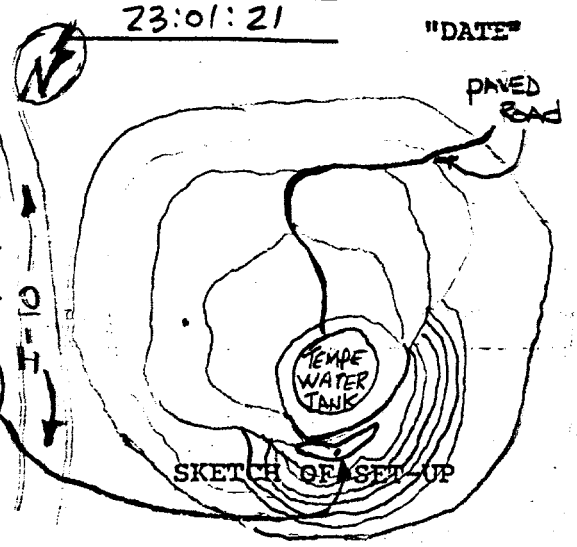
	BEGIN		MIDDLE		FINAL		
FILE-DAY-S#	0021-338-4		0021-338-4		0021-338-4		"SURVEY"
HI CM	132.1		132.1		132.1 ✓		"SURVEY"
HI METERS	1.321		1.321		1.321		"SURVEY"
HI-1/16 IN.	52	52 CHECK	52	CHECK	52	CHECK	"SURVEY"
SV.'S #	21 11 12 17		21 11 15 23		21 14 15		"ELEV/AZ"
SNR	24 18 11 12		26 16 11 11		16 10 26		"ELEV/AZ"
CONTINUOUS	3 3 3 3		343 343 128 343		701 40 484		"MORE"
TOTAL MEAS.	3 3 3 3		343 343 128 343		701 40 484		"MORE"
SV.'S #	23						"ELEV/AZ"
SNR	20						"ELEV/AZ"
CONTINOUS	3						"MORE"
TOTAL MEAS.	3						"MORE"
LATITUDE	33°24'24.42"		33°24'23.65"		33°24'29.15"		"POSITION"
LONGITUDE	111°58'01.83"		111°58'02.20"		111°57'59.63"		"POSITION"
PDOP / HDOP	4.1	1.8	3.4	1.7	3.1	3.1	"POSITION"
WATCH TIME	1:04:25 PM		2:30:29 PM		4:01:21		"DATE"
UTC TIME	20:04:25		21:30:40		23:01:21		"DATE"

52.00
2.54
132.08
Tempe!

POINT DESCRIPTION:

4" ALUM. DISK ON HIGHEST PT
ON BELL BUTTE

A.D.O.T. BROADWAY 1984 BLM U.S.G.S.



SKETCH OF SET-UP

Station ID: 0021 Session #: 338-4 Dec 4, 1991 20:04
Reference Position - LOW ACCURACY:
Lat. = 0:00'00.000" N Long. = 0:00'00.000" W Height = 0.0 [meters]
Antenna height = 1.3210 [meters] (entered in the field in meters)
Long station name:

Receiver serial # = 379 Johnson 12-5-91
Internal antenna
NP Software = 3.25 SP Software = 3.25 Download Software = 2.08.06

Survey schedule: UNSPECIFIED
Data-logging start time = 20:05
Data-logging stop time = 23:02

Tracking	SV 11	SV 12	SV 14	SV 15	SV 17	SV 21	SV 23
total L1	599	331	49	493	147	708	465
cont L1	599	331	49	493	147	708	465

SV Selection mode = AUTOMATIC
Elevation mask = 15 [degrees] Minimum # of SVs = 1

3D Position	Best PDOP Position [3.0]	Mean Position [1391]
Latitude:	33:24'22.94375" N	33:24'23.91198" N
Longitude:	111:58'01.46013" W	111:58'02.36500" W
Height [m]:	357.4	374.4

2D Position	Best PDOP Position [1.8]	Mean Position [544]
Latitude:	33:24'23.17806" N	33:24'24.89800" N
Longitude:	111:58'02.46802" W	111:58'02.15931" W

GREINER, INC.

G.P.S FIELD OBSERVATION SHEET

OFFICE FILE		E 010200	JOB #
PATH/FILE		SALT-GILA	PROJECT
POINT		338-4	SESSION # (-S#)
NOTE		0306	POINT # "FILE"
NOTE		—	POINT NAME
PRESS/HUMID	/	WED 4-DEC-91	DATE
TEMP/WEATHER	/	338	JULIAN (DAY) (FINAL)
ANTENNA #		BLUE	RECWR COLOR
RANGE POLE #		382 / 4000 ST	RECWR # / MODEL
ENTER LAT.		T. PRICE	OBSERVER
ENTER LONG.		—	CREW

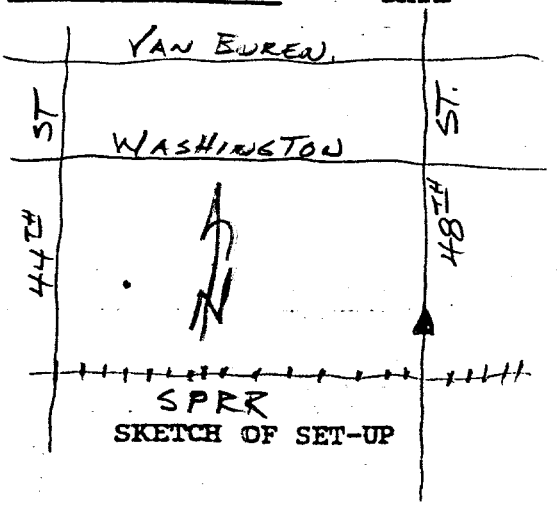
(IMPORTANT: READ THE DISPLAY AND PUSH GREEN SURVEY BUTTON INFO.)

	2:58 BEGIN	3:26 MIDDLE	3:53 FINAL	
FILE-DAY-S#	0306-338-4	0306-338-4	0306-338-4	"SURVEY"
HI CM	167.6	167.7	167.65 ✓	"SURVEY"
HI METERS	1.676	1.677	1.6765	"SURVEY"
HI-1/16 IN.	66 9/16 / 66.00 / 65.98 ✓ CHECK	66 1/16 / 66.06 / 66.02 ✓ CHECK	66 9/16 / 66.00 / 66.00 ✓ CHECK	"SURVEY"
SV.'S #	15 21 11 —	15 21 11 —	15 21 14 —	"ELEV/AZ"
SNR	21 23 12 —	26 17 12 —	26 16 11 —	"ELEV/AZ"
CONTINUOUS	8 8 8 —	103 103 103 —	218 218 23 —	"MORE"
TOTAL MEAS.	8 8 8 —	103 103 103 —	218 218 23 —	"MORE"
SV.'S #	— — — —	— — — —	— — — —	"ELEV/AZ"
SNR	— — — —	— — — —	— — — —	"ELEV/AZ"
CONTINOUS	— — — —	— — — —	— — — —	"MORE"
TOTAL MEAS.	— — — —	— — — —	— — — —	"MORE"
LATITUDE	33°26'36.62"	33°26'36.48"	33°26'40.62"	"POSITION"
LONGITUDE	111°58'42.14"	111°58'43.20"	111°58'41.62"	"POSITION"
PDOP / HDOP	1.8 1.8	1.8 / 1.8	3.4 3.4	"POSITION"
WATCH TIME	3:03:40 p.m.	3:27:22 pm	3:56:25 p.m.	"DATE"
UTC TIME	22:03:51	22:27:31	22:56:32	"DATE"

Ht. end 2.54 / 167.65 Johnson

POINT DESCRIPTION: BRASS CAP IN HAND HOLE ± 1/2 MI. SO. OF VAN BUREN ST. ON 48TH ST. STA. FALLS IN A.C. @ ℄ TOT. ± 75' N. OF R.R. & ± 40' N. OF C.O.P. B/c FLUSH. LIGHT TRAFFIC @ THIS TIME OF DAY COOL & BREEZY AT SET-UP

CITY OF PHOENIX



SKETCH OF SET-UP

Station ID: 0306 Session #: 773-4 Dec 4, 1991 21:59
Reference Position - LOW ACCURACY:
Lat. = 0:00'00.000" N Long. = 0:00'00.000" W Height = 0.0 [meters]
Antenna height = 1.6765 [meters] (entered in the field in inches)
Long station name:

Transport 12 6-91

ceiver serial # = 382
Internal antenna
NP Software = 3.25 SP Software = 3.25 Download Software = 2.08.06

Survey schedule: UNSPECIFIED
Data-logging start time = 22:00
Data-logging stop time = 23:00

Tracking	SV 11	SV 14	SV 15	SV 21
total L1	137	43	237	237
cont L1	137	43	237	237

SV Selection mode = AUTOMATIC
Elevation mask = 15 [degrees] Minimum # of SVs = 1

3D Position	Best PDOP Position [3.8]	Mean Position [1]
Latitude:	33:26'37.25717" N	33:26'37.25717" N
Longitude:	111:58'42.34355" W	111:58'42.34355" W
Height [m]:	409.0	409.0

2D Position	Best PDOP Position [1.8]	Mean Position [525]
Latitude:	33:26'36.46785" N	33:26'38.21995" N
Longitude:	111:58'42.52212" W	111:58'42.29817" W

GREINER, INC.

G.P.S FIELD OBSERVATION SHEET

OFFICE FILE		E010200	JOB #
PATH/FILE		SALT/GILA	PROJECT
POINT		#4	SESSION # (-S#)
NOTE		0019	POINT # "FILE"
NOTE		VAL VISTA	POINT NAME
PRESS/HUMID	/	4 DEC. 1991	DATE
TEMP/WEATHER	60° / WINDY	338	JULIAN (DAY) (FINAL)
ANTENNA #		GREEN	RECVR COLOR
RANGE POLE #		373-4000	RECVR # / MODEL
ENTER LAT.		DICK KLEBIEKO	OBSERVER
ENTER LONG.			CREW

(IMPORTANT: READ THE DISPLAY AND PUSH GREEN SURVEY BUTTON INFO.)

	BEGIN				MIDDLE				FINAL				
FILE-DAY-S#	0019-338-4				0019-338-4				0019-338-4				"SURVEY"
HI CM	136.0				136.0				136.0 ✓				"SURVEY"
HI METERS	1.360				1.360				1.360				"SURVEY"
HI-1/16 IN.	53 17/32	53.5433			53 17/32	53.5433			53 17/32	53.5433			"SURVEY"
	53.53	CHECK			53.53	CHECK			53.53	CHECK			
SV.'S #	21	23	11	12	15	21 ✓	23 ✓	11 ✓	21	14	15		"ELEV/AZ"
SNR	22	21	14	10	12	25	10	14	14	08	22		"ELEV/AZ"
CONTINUOUS	2	2	2	2	120	331	331	331	700	44	488		"MORE"
TOTAL MEAS.	2	2	2	2	120	331	331	331	700	44	488		"MORE"
	LOST 17 @ 1:43 pm				LOST SV 12 @ 2:30 pm				LOST SV 11 @ 3:30				
SV.'S #	17	15 @ 1:55 pm			12				SV 14 @ 3:50 8/8				"ELEV/AZ"
SNR	10	07			06								"ELEV/AZ"
CONTINOUS	2	3			330								"MORE"
TOTAL MEAS.	2	3			330								"MORE"
LATITUDE	33 °28'28.94"				33 °28'27.32"				33 °28'34.74"				"POSITION"
LONGITUDE	111 °45'06.18"				111 °45'06.32"				111 °45'03.73"				"POSITION"
PDOP / HDOP	4.1	1.8			3.4	1.8			3.1	3.1			"POSITION"
WATCH TIME	1:05 pm				2:30 pm				4:00 pm				"DATE"
UTC TIME	20:05				21:30				23:00				"DATE"

53.54
2.54
136.0

POINT DESCRIPTION: U.S. COAST & GEODETIC SURVEY TRIANGULATION STATION BRASS CAP STAMPED "VAL VISTA 1935" W/ PM SET IN 1' SQUARE CONC POST 5" ABV NG W/ 1 VAL VISTA RM STAMPED RM-1 1935

RM-2 GONE

VAL VISTA A USCGS

SKETCH OF SET-UP
SEE SESSION 1

Station ID: 0019 Session #: 338-4 Ja: 4, 1991 20:05
Reference Position - LOW ACCURACY:
Lat. = 0:00'00.000" N Long. = 0:00'00.000" W Height = 0.0 [meters]
Antenna height = 1.3600 [meters] (entered in the field in meters)
Long station name:

Jonkford 12-5-91

eiver serial # = 373
Internal antenna
NP Software = 3.25 SP Software = 3.25 Download Software = 2.08.06

Survey schedule: UNSPECIFIED
Data-logging start time = 20:05
Data-logging stop time = 23:01

Tracking	SV 11	SV 12	SV 14	SV 15	SV 17	SV 21	SV 23
total L1	595	331	46	490	143	702	466
cont L1	595	331	46	490	143	702	466

SV Selection mode = AUTOMATIC
Elevation mask = 15 [degrees] Minimum # of SVs = 1

3D Position	Best PDOP Position [3.0]	Mean Position [1389]
Latitude:	33:28'27.35222" N	33:28'28.52475" N
Longitude:	111:45'05.82866" W	111:45'06.67390" W
Height [m]:	329.7	371.8

2D Position	Best PDOP Position [1.8]	Mean Position [518]
Latitude:	33:28'27.82204" N	33:28'29.46219" N
Longitude:	111:45'06.69696" W	111:45'06.52355" W

0013·339-1

GREINER, INC. — G.P.S FIELD OBSERVATION SHEET

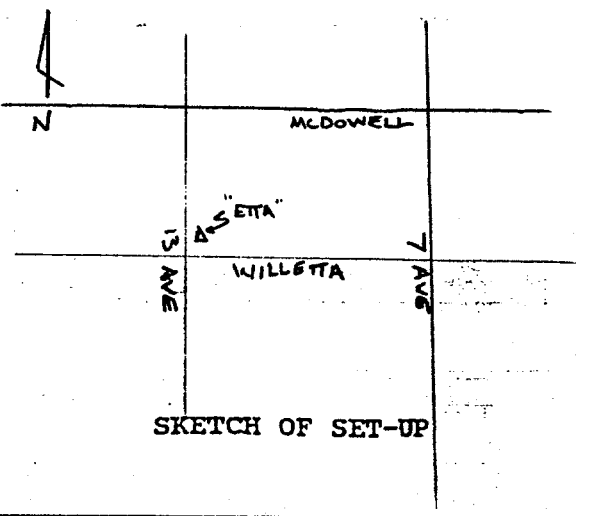
OFFICE FILE		E010200	JOB #
PATH/FILE		SALT GILA	PROJECT
POINT		339-1	SESSION # (-S#)
NOTE		0013	POINT # "FILE"
NOTE		"ETTA"	POINT NAME
PRESS/HUMID	/	5 DEC. 1991	DATE
TEMP/WEATHER	/	339	JULIAN (DAY) (FINAL)
ANTENNA #		RED	RECVR COLOR
RANGE POLE #		#381 4000 ST	RECVR # / MODEL
ENTER LAT.		C. SCHULTE	OBSERVER
ENTER LONG.		—	CREW

(IMPORTANT: READ THE DISPLAY AND PUSH GREEN SURVEY BUTTON INFO.)

	9:45 AM BEGIN		11:20 MIDDLE		12:40 FINAL		
FILE-DAY-S#	0013-339-1		0013-339-1		0013-339-1		"SURVEY"
HI CM	138.1		138.0		138.0	137.94	"SURVEY"
HI METERS	1.381		1.380		1.380		"SURVEY"
HI-1/16 IN.	54 5/16 / 54.31	54.37 CHECK	54 5/16 / 54.31	54.33 CHECK	54 5/16 / 54.31	54.33 CHECK	"SURVEY" 54.31 / 2.54 / 137.94
SV.'S #	17 23 03		17 23 03 21		17 23 12 21		"ELEV/AZ"
SNR	24 21 21		23 22 14 18		16 20 10 24		"ELEV/AZ"
CONTINUOUS	1 1 1		397 397 397 338		699 699 95 640		"MORE"
TOTAL MEAS.	1 1 1		397 39 397 338		699 699 95 640		"MORE" Jonathan
SV.'S #					11		"ELEV/AZ"
SNR					13		"ELEV/AZ"
CONTINOUS					178		"MORE"
TOTAL MEAS.					183		"MORE"
LATITUDE	33 ° 27 ' 50.93 "		33 ° 27 ' 56.32 "		33 ° 27 ' 52.99 "		"POSITION"
LONGITUDE	112 ° 05 ' 24.81 "		112 ° 05 ' 18.65 "		112 ° 05 ' 18.70 "		"POSITION"
PDOP / HDOP	2.6	2.6	1.6	1.6	3.6	2.1	"POSITION"
WATCH TIME	9:48		11:20		12:42		"DATE"
UTC TIME	16:48		18:27		19:42		"DATE"

POINT DESCRIPTION: PT. IS A B/C IN CONC SET FLUSH WITH O.G. ON N.E. COR. OF 13 AVE & WILLETTA ST. ± 6' E. OF B/CURB ON 13 AVE ± 26' N. OF B/CURB ON WILLETTA. MARKINGS ARE US COAST & GEODETIC SURVEY, TRAVERSE STATION ELEV. ____ FEET ABOVE MEAN SEA LEVEL ETTA △ 1963, R.M. ETTA NO. 1 1963 END IN T/CURB N.W. CURB RET @ INT 13 AVE & WILLETTA PT. FALLS IN FRONT YARD OF 1146 W. WILLETTA

ETTA △ 1963



SKETCH OF SET-UP

Station ID: 0013 Session #: 339-1 Dec 5, 1991 16:45
Reference Position - LOW ACCURACY:
Lat. = 0:00'00.000" N Long. = 0:00'00.000" W Height = 0.0 [meters]
Antenna height = 1.3800 [meters] (entered in the field in inches)
Long station name:

Jankowski 12-6-91

.ceiver serial # = 381
Internal antenna
NP Software = 3.25 SP Software = 3.25 Download Software = 2.08.06

Survey schedule: UNSPECIFIED
Data-logging start time = 16:46
Data-logging stop time = 19:50

Tracking	SV 3	SV 11	SV 12	SV 17	SV 21	SV 23
total L1	545	220	132	734	676	734
cont L1	545	215	132	734	676	734

SV Selection mode = AUTOMATIC
Elevation mask = 15 [degrees] Minimum # of SVs = 1

3D Position	Best PDOP Position [2.5]	Mean Position [1623]
Latitude:	33:27'49.11422" N	33:27'49.92858" N
Longitude:	112:05'21.89025" W	112:05'20.68611" W
Height [m]:	285.7	300.5

2D Position	Best PDOP Position [1.6]	Mean Position [622]
Latitude:	33:27'49.07015" N	33:27'54.63489" N
Longitude:	112:05'21.93336" W	112:05'20.89746" W

0108-339-1

GREINER, INC.

G.P.S FIELD OBSERVATION SHEET

OFFICE FILE		E010200	JOB #
PATH/FILE		SALT-GILA	PROJECT
POINT		339-1	SESSION # (-S#)
NOTE		0108	POINT # "FILE"
NOTE		—	POINT NAME
PRESS/HUMID	/	TH. 5-DEC 91	DATE
TEMP/WEATHER	/	339	JULIAN (DAY) (FINAL)
ANTENNA #		WHITE	RECVR COLOR
RANGE POLE #		379 / HOON ST	RECVR # / MODEL
ENTER LAT.		T. PRICE	OBSERVER
ENTER LONG.		—	CREW

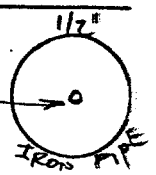
(IMPORTANT: READ THE DISPLAY AND PUSH GREEN SURVEY BUTTON INFO.)

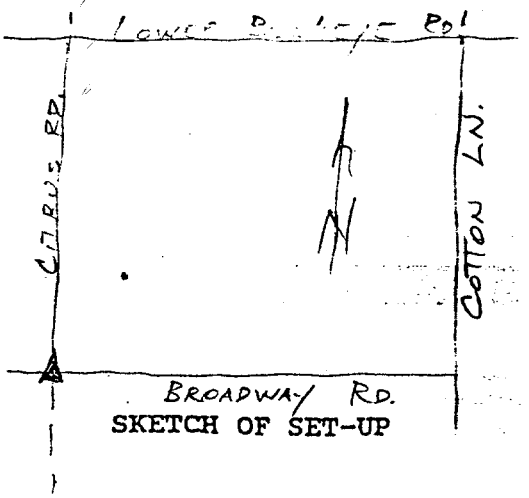
	BEGIN (9:45)	MIDDLE (10:23)	FINAL (11:01)	
FILE-DAY-S#	0108-339-1	0108-339-1	0108-339-1	"SURVEY"
HI CM	167.8	167.7	167.75 ✓	"SURVEY"
HI METERS	1.678	1.677	1.6775	"SURVEY"
HI-1/16 IN.	66 1/16 66.06 / 66.06 CHECK	66 0/16 66.02 ✓ / 66.00 CHECK	66 1/16 66.04 ✓ / 66.06 CHECK	"SURVEY"
SV.'S #	17 23 03 —	17 23 03 21	17 23 03 21	"ELEV/AZ"
SNR	23 22 22 —	25 21 22 10	24 21 20 15	"ELEV/AZ"
CONTINUOUS	19 19 19 —	150 151 151 94	297 298 298 241	"MORE"
TOTAL MEAS.	19 19 19 —	150 151 151 94	297 298 298 241	"MORE"
SV.'S #	— — — —	— — — —	— — — —	"ELEV/AZ"
SNR	— — — —	— — — —	— — — —	"ELEV/AZ"
CONTINOUS	— — — —	— — — —	— — — —	"MORE"
TOTAL MEAS.	— — — —	— — — —	— — — —	"MORE"
LATITUDE	33°24'22.42"	33°24'23.18"	33°24'23.57"	"POSITION"
LONGITUDE	112°26'42.08"	112°26'40.82"	112°26'38.04"	"POSITION"
PDOP / HDOP	2.6 2.6	4.9 / 2.5	7.4 3.0	"POSITION"
WATCH TIME	9:51:52 A.M.	10:25:03 A.M.	11:01:49	"DATE"
UTC TIME	16:51:58	17:25:15	18:01:56	"DATE"

66.06
2.54
167.7
Jump

POINT DESCRIPTION: 1/2" IRON PIPE IN POTHOLE @ INT. OF CITRUS RD. & COTTON LN. - STA. FALLS IN PAVEMENT @ ℄ INT. - LIGHT TRAFFIC AT THIS TIME - COLD & WINDY

* SET CUP TACK MIDDLE OF PIPE FOR CENTERING





SKETCH OF SET-UP

Station ID: 0102 Session #: 339-1 Dec 5, 1991 16:45
Reference Position - LOW ACCURACY:
Lat. = 0:00'00.000" N Long. = 0:00'00.000" W Height = 0.0 [meters]
Antenna height = 1.6775 [meters] (entered in the field in meters)
Long station name:

Jamison 12-4-91

ceiver serial # = 379
Internal antenna
NP Software = 3.25 SP Software = 3.25 Download Software = 2.08.06

Survey schedule: UNSPECIFIED
Data-logging start time = 16:46
Data-logging stop time = 18:05

Tracking	SV 3	SV 17	SV 21	SV 23
total L1	315	315	259	315
cont L1	315	315	259	315

SV Selection mode = AUTOMATIC
Elevation mask = 15 [degrees] Minimum # of SVs = 1

3D Position	Best PDOP Position [3.3]	Mean Position [772]
Latitude:	33:24'25.29459" N	33:24'23.78403" N
Longitude:	112:26'39.31717" W	112:26'38.72049" W
Height [m]:	291.1	252.0

2D Position	Best PDOP Position [2.6]	Mean Position [181]
Latitude:	33:24'22.26527" N	33:24'23.97345" N
Longitude:	112:26'38.96925" W	112:26'39.78829" W

0021-339-1

GREINER, INC.

G.P.S FIELD OBSERVATION SHEET

OFFICE FILE			JOB #
PATH/FILE		SALT/GILA	PROJECT
POINT		1	SESSION # (-S#)
NOTE		0021	POINT # "FILE"
NOTE		BROADWAY	POINT NAME
PRESS/HUMID	/	12/05/91	DATE
TEMP/WEATHER	/	339	JULIAN (DAY) (FINAL)
ANTENNA #		BLUE	RECVR COLOR
RANGE POLE #		382	RECVR # / MODEL
ENTER LAT.		VINCE NECHERO	OBSERVER
ENTER LONG.			CREW

(IMPORTANT: READ THE DISPLAY AND PUSH GREEN SURVEY BUTTON INFO.)

9:45 AM

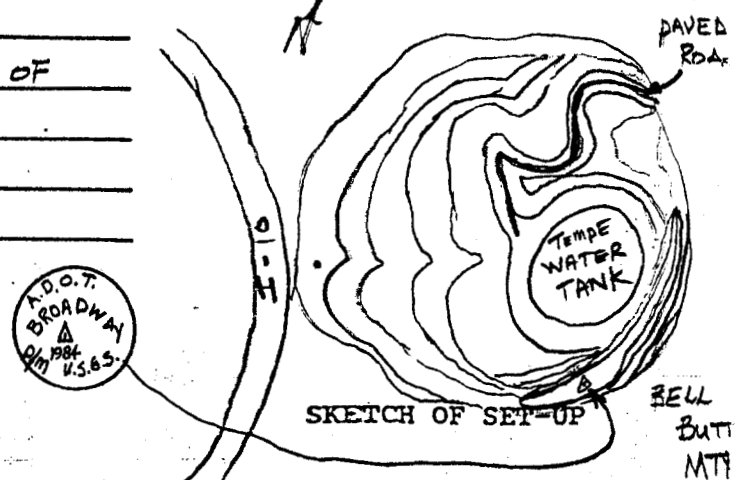
	BEGIN	MIDDLE	FINAL	
FILE-DAY-S#	0021-339-1	0021-339-1	0021-339-1	"SURVEY"
HI CM	130.2	130.2	130.2 ✓	"SURVEY"
HI METERS	1.302	1.302	1.302	"SURVEY"
HI-1/16 IN.	51 1/4 / 51.2598 CHECK	51 1/4 / .25 / 51.2598 CHECK ✓	51 1/4 / .25 / CHECK	"SURVEY"
SV.'S #	17 03 23	17 03 23 21	17 12 23 21	"ELEV/AZ"
SNR	23 22 21	23 14 23 18	15 10 24 24	"ELEV/AZ"
CONTINUOUS	1 1 1	403 403 403 342	737 133 737 676	"MORE"
TOTAL MEAS.	1 1 1	403 403 403 342	737 133 737 676	"MORE"
SV.'S #	SV-21 @ 10:01 AM		11	"ELEV/AZ"
SNR			17	"ELEV/AZ"
CONTINOUS			207	"MORE"
TOTAL MEAS.			216	"MORE"
LATITUDE	33 °24'25.98"	33 °24'31.39"	33 °24'22.68"	"POSITION"
LONGITUDE	111 °58'02.44"	111 °58'00.82"	111 °58'03.31"	"POSITION"
PDOP / HDOP	2.6 / 2.6	1.6 / 1.6	3.8 / 1.9	"POSITION"
WATCH TIME	9:47:30 AM	11:25:43 AM	12:51:03 PM	"DATE"
UTC TIME	16:47:30	18:25:43	19:51:03	"DATE"

81.25
2.54
130.1

Vincent

POINT DESCRIPTION:

4" ALUM. DISK ON HIGHEST PT OF BELL BUTTE.



SKETCH OF SET-UP

Station ID: 0021 Session #: 339-1 Dec 5, 1991 16:44
Reference Position - LOW ACCURACY:
Lat. = 0:00'00.000" N Long. = 0:00'00.000" W Height = 0.0 [meters]
Antenna height = 1.302 [meters] (entered in the field in meters)
Long station name:

. ceiver serial # = 382
Internal antenna
NP Software = 3.25 SP Software = 3.25 Download Software = 2.08.06

Survey schedule: UNSPECIFIED
Data-logging start time = 16:45
Data-logging stop time = 19:52

Tracking	SV 3	SV 11	SV 12	SV 17	SV 21	SV 23
total L1	546	224	141	745	684	745
cont L1	546	215	141	745	684	745

SV Selection mode = AUTOMATIC
Elevation mask = 15 [degrees] Minimum # of SVs = 1

3D Position	Best PDOP Position [2.5]	Mean Position [1641]
Latitude:	33:24'23.47714" N	33:24'24.41895" N
Longitude:	111:58'03.73301" W	111:58'02.17467" W
Height [m]:	375.5	384.8

2D Position	Best PDOP Position [1.6]	Mean Position [594]
Latitude:	33:24'32.54125" N	33:24'29.71496" N
Longitude:	111:57'59.89196" W	111:58'00.97891" W

John Knott 12-6-91

0001-339-1

GREINER, INC. — **G.P.S FIELD OBSERVATION SHEET**

OFFICE FILE		E010200	JOB #
PATH/FILE		SALT/GILA	PROJECT
POINT		#1	SESSION # (-S#)
NOTE		0001	POINT # "FILE"
NOTE		INITIAL POINT	POINT NAME
PRESS/HUMID	/	5 DEC 1991	DATE
TEMP/WEATHER	/	339	JULIAN (DAY) (FINAL)
ANTENNA #		GREEN	RECVR COLOR
RANGE POLE #		373-4000	RECVR # / MODEL
ENTER LAT.		RICK KLEBERG	OBSERVER
ENTER LONG.		MASON WOMBLE	CREW

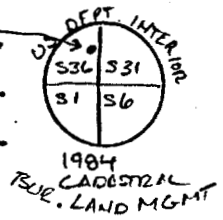
(IMPORTANT: READ THE DISPLAY AND PUSH GREEN SURVEY BUTTON INFO.)

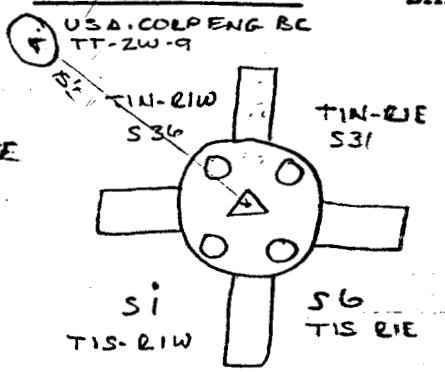
	BEGIN				MIDDLE				FINAL				
FILE-DAY-S#	0001-339-1				0001-339-1				0001-339-1				"SURVEY"
HI CM	163.75				163.75				163.75				"SURVEY"
HI METERS	1.6375				1.6375				1.6375 ✓				"SURVEY"
HI-1/16 IN.	64 15/32	64.4685			64 15/32	64.4685			64 15/32	64.4685			"SURVEY" 64.44 03
	64.47	CHECK			64.47	CHECK			64.47	CHECK			
SV.'S #	17	03	23	21 @10:02am	17	03	21	23	17	12	21	23	"ELEV/AZ" 64.47
SNR	20	19	17	7	21	12	16	19	12	09	21	19	"ELEV/AZ" X2.54
CONTINUOUS	2	2	2	9	404	404	358	404	722	177	676	722	"MORE"
TOTAL MEAS.	2	2	2	9	404	404	404	404	722	177	676	722	"MORE" 163.75
					LOST SV 03 @12:55								
SV.'S #					11 @11:58	12 @12:18			11				"ELEV/AZ" Volts
SNR					07	08			13				"ELEV/AZ"
CONTINOUS					22	8			219				"MORE"
TOTAL MEAS.					22	8			219				"MORE"
LATITUDE	33 °22'38.16"				33 °22'44.98"				33 °22'35.73"				"POSITION"
LONGITUDE	112 °18'24.56"				112 °18'19.57"				112 °18'23.30"				"POSITION"
PDOP / HDOP	2.6	2.6			1.6	1.6			3.7	2.0			"POSITION"
WATCH TIME	9:49 am				11:30				12:50pm				"DATE"
UTC TIME	16:49				18:30				19:50				"DATE"

POINT DESCRIPTION: STAINLESS STEEL CAP SET IN LARGE TILED CONCRETE MONUMENT POINTING N, S, E & W WITH 4 REFERENCE STAINLESS STEEL MONUMENTS

STRADDLE POINT

STRADDLE PT IN CM N & CM W OF + ON MONUMENT





SKETCH OF SET-UP

Station ID: 0001 Session #: 339-1 Dec 5, 1991 16:47
Reference Position - LOW ACCURACY:
Lat. = 0:00'00.000" N Long. = 0:00'00.000" W Height = 0.0 [meters]
Antenna height = 1.6375 [meters] (entered in the field in meters)
Long station name:

Johnson 12-6-91

ceiver serial # = 373
Internal antenna
NP Software = 3.25 SP Software = 3.25 Download Software = 2.08.06

Survey schedule: UNSPECIFIED
Data-logging start time = 16:49
Data-logging stop time = 19:50

Tracking	SV 3	SV 11	SV 12	SV 17	SV 21	SV 23
total L1	534	223	131	726	680	726
cont L1	534	223	131	726	680	726

SV Selection mode = AUTOMATIC
Elevation mask = 15 [degrees] Minimum # of SVs = 1

3D Position	Best PDOP Position [2.5]	Mean Position [1651]
Latitude:	33:22'37.34392" N	33:22'37.84321" N
Longitude:	112:18'22.19001" W	112:18'21.87639" W
Height [m]:	303.4	323.8

2D Position	Best PDOP Position [1.6]	Mean Position [531]
Latitude:	33:22'45.95767" N	33:22'43.39388" N
Longitude:	112:18'19.87011" W	112:18'20.83368" W

DUPLICATE OF #1
DOUBLE SESSION

0013-339-2

GREINER, INC.

G.P.S FIELD OBSERVATION SHEET

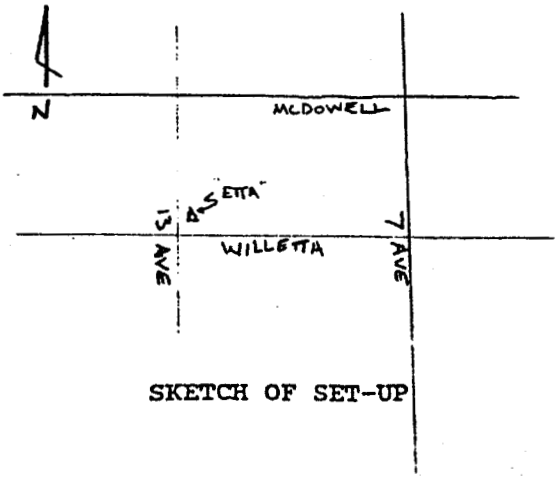
OFFICE FILE		E010200	JOB #
PATH/FILE		SALT GILA	PROJECT
POINT		339-1	SESSION # (-S#)
NOTE		0013	POINT # "FILE"
NOTE		"ETTA"	POINT NAME
PRESS/HUMID	/	5 DEC 1991	DATE
TEMP/WEATHER	/	339	JULIAN (DAY) (FINAL)
ANTENNA #		RED	RECVR COLOR
RANGE POIN #		#381 4000 ST	RECVR # / MODEL
ENTER LAT.		C. SCHULTE	OBSERVER
ENTER LONG.			CREW

(IMPORTANT: READ THE DISPLAY AND PUSH GREEN SURVEY BUTTON INFO.)

	BEGIN (9:45 AM)				MIDDLE (11:20)				FINAL (12:30)				
FILE-DAY-S#	0013-339-1 2				0013-339-1 2				0013-339-1 2				"SURVEY"
HI CM	138.1				138.0				138.0	137.94			"SURVEY"
HI METERS	1.381				1.380				1.380				"SURVEY"
HI-1/16 IN.	54 5/16 54.31	54.37 CHECK			54 5/16 54.31	54.33 CHECK			54 5/16 54.31	54.33 CHECK			"SURVEY" 54.31 2.54
SV.'S #	17	23	03		17	23	03	21	17	23	12	21	"ELEV/AZ"
SNR	24	21	21		23	22	14	18	16	20	10	24	"ELEV/AZ" 137.94
CONTINUOUS	1	1	1		397	397	397	338	699	699	95	640	"MORE"
TOTAL MEAS.	1	1	1		397	39	397	338	699	699	95	640	"MORE"
SV.'S #									11				"ELEV/AZ"
SNR									13				"ELEV/AZ"
CONTINOUS									178				"MORE"
TOTAL MEAS.									183				"MORE"
LATITUDE	33 ° 27 ' 50.93 "				33 ° 27 ' 56.32 "				33 ° 27 ' 52.99 "				"POSITION"
LONGITUDE	112 ° 05 ' 24.81 "				112 ° 05 ' 18.65 "				112 ° 05 ' 18.70 "				"POSITION"
PDOP / HDOP	2.6	2.6			1.6	1.6			3.6	2.1			"POSITION"
WATCH TIME	9:48				11:20				12:42				"DATE"
UTC TIME	16:48				18:27				19:42				"DATE"

POINT DESCRIPTION: PT. IS A B/C IN CONC SET FLUSH WITH G.G ON N.E. COR OF 13 AVE & WILLETTA ST. ± 6' E. OF B/CURB ON 13 AVE ± 26' N. OF B/CURB ON WILLETTA. MARKINGS ARE US COAST & GEODETIC SURVEY, TRAVERSE STATION ELEV. ____ FEET ABOVE MEAN SEA LEVEL ETTA △ 1963, R.M. ETTA NO. 1 1963 END IN T/CURB N.W. CURB RET FOINT 13 AVE WILLETTA PT. FALLS IN FRONT YARD OF 1146 W. WILLETTA

ETTA △ 1963



SKETCH OF SET-UP

Station ID: 0013 Session #: 339-2 Dec 5, 1991 16:45
Reference Position - LOW ACCURACY:
Lat. = 0:00'00.000" N Long. = 0:00'00.000" W Height = 0.0 [meters]
Antenna height = 1.3800 [meters] (entered in the field in inches)
Long station name:

Receiver serial # = 381
Internal antenna
NP Software = 3.25 SP Software = 3.25 Download Software = 2.08.06

Jamison 12-6-91 DUPLICATE SESSION #1

Survey schedule: UNSPECIFIED
Data-logging start time = 16:46
Data-logging stop time = 19:50

Tracking	SV 3	SV 11	SV 12	SV 17	SV 21	SV 23
total L1	545	220	132	734	676	734
cont L1	545	215	132	734	676	734

SV Selection mode = AUTOMATIC
Elevation mask = 15 [degrees] Minimum # of SVs = 1

3D Position	Best PDOP Position [2.5]	Mean Position [1623]
Latitude:	33:27'49.11422" N	33:27'49.92858" N
Longitude:	112:05'21.89025" W	112:05'20.68611" W
Height [m]:	285.7	300.5

2D Position	Best PDOP Position [1.6]	Mean Position [622]
Latitude:	33:27'49.07015" N	33:27'54.63489" N
Longitude:	112:05'21.93336" W	112:05'20.89746" W

0192-339-2

GREINER, INC. — G.P.S FIELD OBSERVATION SHEET

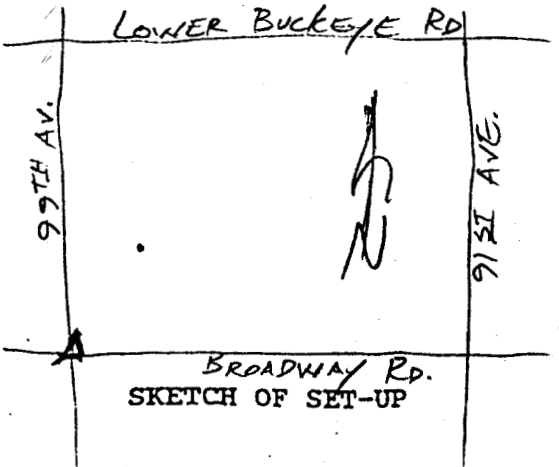
OFFICE FILE			JOB #
PATH/FILE		SALT-GILA	PROJECT
POINT		339-2	SESSION # (-S#)
NOTE		0192	POINT # "FILE"
NOTE		—	POINT NAME
PRESS/HUMID	/	THU. 5-DEC-91	DATE
TEMP/WEATHER	/	339	JULIAN (DAY) (FINAL)
ANTENNA #		WHITE	RECVR COLOR
RANGE POLE #		379/4000 ST	RECVR # / MODEL
ENTER LAT.		T. PRICE	OBSERVER
ENTER LONG.		—	CREW

(IMPORTANT: READ THE DISPLAY AND PUSH GREEN SURVEY BUTTON INFO.)

	BEGIN 11:35				MIDDLE 12:05				FINAL 12:35				
FILE-DAY-S#	0192-339-2				0192-339-2				0192-339-2				"SURVEY"
HI CM	165.5				165.5				165.5 ✓				"SURVEY"
HI METERS	1.655				1.655				1.655				"SURVEY"
HI-1/16 IN.	65 2/16	65.16 ✓			65 2/16	65.16 ✓			65 2/16	65.16 ✓			"SURVEY"
	65.12	CHECK			65.12	CHECK			65.12	CHECK			
SV.'S #	17	23	03	21	17	23	21		17	23	12	21	"ELEV/AZ"
SNR	21	22	10	20	20	22	22		15	23	09	26	"ELEV/AZ"
CONTINUOUS	13	13	14	14	109	109	109		228	229	73	230	"MORE"
TOTAL MEAS.	13	13	14	14	109	109	109		228	229	73	230	"MORE"
SV.'S #													"ELEV/AZ"
SNR													"ELEV/AZ"
CONTINOUS													"MORE"
TOTAL MEAS.													"MORE"
LATITUDE	33°24'04.20"				33°24'13.17"				33°24'22.10"				"POSITION"
LONGITUDE	112°16'26.22"				112°16'21.35"				112°16'20.84"				"POSITION"
PDOP / HDOP	1.6	1.6			3.1	3.1			5.5	2.8			"POSITION"
WATCH TIME	11:42:12 A.M.				12:06:25 P.M.				12:36:44 P.M.				"DATE"
UTC TIME	18:42:21				19:06:38				19:36:51				"DATE"

65.12
2.54
16.54

POINT DESCRIPTION: 4" BRASS CAP IN HANDHOLE @ INT. OF BROADWAY RD. & 99TH AV. – STA. FALLS IN A.C. @ INT. OF 4 WAY STOP. MODERATE TRAFFIC @ THIS TIME. COOL & WINDY @ SET-UP



SKETCH OF SET-UP

Station ID: 0192 Session #: 339-2 Dec 5, 1991 18:36
Reference Position - LOW ACCURACY:
Lat. = 0:00'00.000" N Long. = 0:00'00.000" W Height = 0.0 [meters]
Antenna height = 1.6550 [meters] (entered in the field in inches)
Long station name:

Jamison 12-6-91

.eiver serial # = 379
Internal antenna
NP Software = 3.25 SP Software = 3.25 Download Software = 2.08.06

Survey schedule: UNSPECIFIED
Data-logging start time = 18:38
Data-logging stop time = 19:40

Tracking	SV 3	SV 11	SV 12	SV 17	SV 21	SV 23
total L1	90	3	91	246	246	246
cont L1	60	2	91	246	246	246

SV Selection mode = AUTOMATIC
Elevation mask = 15 [degrees] Minimum # of SVs = 1

3D Position	Best PDOP Position [4.4]	Mean Position [261]
Latitude:	33:24'22.96207" N	33:24'23.00161" N
Longitude:	112:16'20.00976" W	112:16'21.59495" W
Height [m]:	290.3	224.0

2D Position	Best PDOP Position [1.6]	Mean Position [513]
Latitude:	33:24'01.91478" N	33:24'07.10724" N
Longitude:	112:16'25.55847" W	112:16'23.81574" W

DUPLICATE OF #1
DOUBLE SESSION
0021-339-2

GREINER, INC.

G.P.S FIELD OBSERVATION SHEET

OFFICE FILE			JOB #
PATH/FILE		SALT/GILA	PROJECT
POINT		1	SESSION # (-S#)
NOTE		0021	POINT # "FILE"
NOTE		BROADWAY	POINT NAME
PRESS/HUMID	/	12/05/91	DATE
TEMP/WEATHER	/	339	JULIAN (DAY) (FINAL)
ANTENNA #		BLUE	RECVR COLOR
RANGE POLE #		382	RECVR # / MODEL
ENTER LAT.		VINCE NECHERO	OBSERVER
ENTER LONG.			CREW

(IMPORTANT: READ THE DISPLAY AND PUSH GREEN SURVEY BUTTON INFO.)

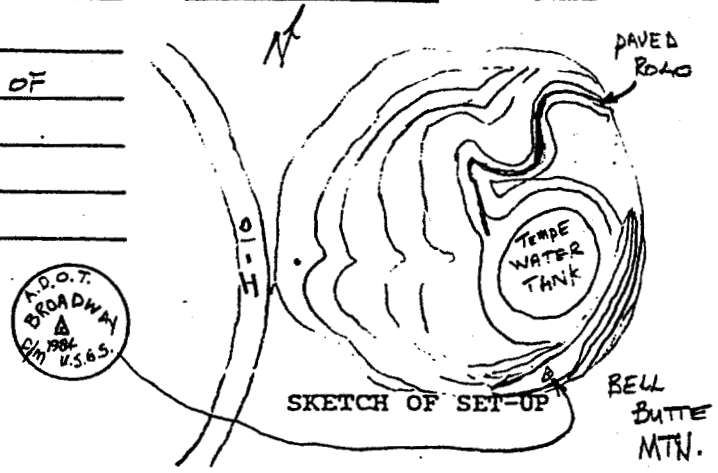
9:45 AM

	BEGIN		MIDDLE		FINAL		
FILE-DAY-S#	0021-339-1 2		0021-339-1 2		0021-339-1 2		"SURVEY"
HI CM	130.2		130.2		130.2		"SURVEY"
HI METERS	1.302		1.302		1.302		"SURVEY"
HI-1/16 IN.	51 1/4	51.2598 CHECK	51 1/4 .25	51.2598 CHECK	51 1/4 .25	CHECK	"SURVEY"
SV.'S #	17 03 23		17 03 23 21		17 12 23 21		"ELEV/AZ"
SNR	23 22 21		23 14 23 18		15 10 24 24		"ELEV/AZ"
CONTINUOUS	1 1 1		403 403 403 342		737 133 737 676		"MORE"
TOTAL MEAS.	1 1 1		403 403 403 342		737 133 737 676		"MORE"
SV.'S #	SV-21 @ 10:01 AM				11		"ELEV/AZ"
SNR					17		"ELEV/AZ"
CONTINOUS					207		"MORE"
TOTAL MEAS.					216		"MORE"
LATITUDE	33 °24'25.98"		33 °24'31.39"		33 °24'22.68"		"POSITION"
LONGITUDE	111 °58'02.44"		111 °58'00.82"		111 °58'03.31"		"POSITION"
PDOP / HDOP	2.6	2.6	1.6	1.6	3.8	1.9	"POSITION"
WATCH TIME	9:47:30 AM		11:25:43 AM		12:51:03 PM		"DATE"
UTC TIME	16:47:30		18:25:43		19:51:03		"DATE"

51.25
2.54
130.17
Verified

POINT DESCRIPTION:

4" ALUM. DISK ON highest PT OF BELL BUTTE.



Station ID: 0021 Session #: 339-2 Dec 5, 1991 16:44
Reference Position - LOW ACCURACY:
Lat. = 0:00'00.000" N Long. = 0:00'00.000" W Height = 0.0 [meters]
Antenna height = 1.3020 [meters] (entered in the field in meters)
Long station name:

Jackson 12-6-91 Duplicate Session #1

Receiver serial # = 382
Internal antenna
NP Software = 3.25 SP Software = 3.25 Download Software = 2.08.06

Survey schedule: UNSPECIFIED
Data-logging start time = 16:45
Data-logging stop time = 19:52

Tracking	SV 3	SV 11	SV 12	SV 17	SV 21	SV 23
total L1	546	224	141	745	684	745
cont L1	546	215	141	745	684	745

SV Selection mode = AUTOMATIC
Elevation mask = 15 [degrees] Minimum # of SVs = 1

3D Position	Best PDOP Position [2.5]	Mean Position [1641]
Latitude:	33:24'23.47714" N	33:24'24.41895" N
Longitude:	111:58'03.73301" W	111:58'02.17467" W
Height [m]:	375.5	384.8

2D Position	Best PDOP Position [1.6]	Mean Position [594]
Latitude:	33:24'32.54125" N	33:24'29.71496" N
Longitude:	111:57'59.89196" W	111:58'00.97891" W

DUPLICATE OF 1
DOUBLE SESSION
0001-339-2

GREINER, INC.

G.P.S FIELD OBSERVATION SHEET

OFFICE FILE		E010200	JOB #
PATH/FILE		SLET/GILA	PROJECT
POINT		#11	SESSION # (-S#)
NOTE		0001	POINT # "FILE"
NOTE		INITIAL POINT	POINT NAME
PRESS/HUMID	/	5 DEC 1991	DATE
TEMP/WEATHER	/	339	JULIAN (DAY) (FINAL)
ANTENNA #		GREEN	RECVR COLOR
RANGE POLE #		373-4000	RECVR # / MODEL
ENTER LAT.		RICK KLEBIKO	OBSERVER
ENTER LONG.		MASON NOBLE	CREW

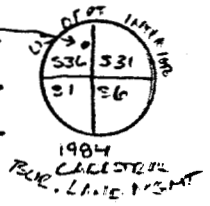
(IMPORTANT: READ THE DISPLAY AND PUSH GREEN SURVEY BUTTON INFO.)

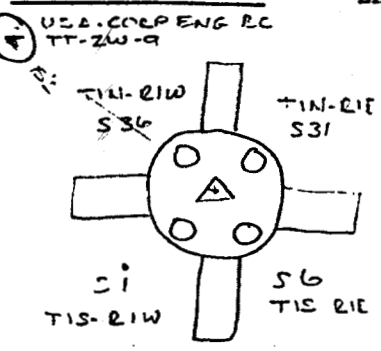
	BEGIN		MIDDLE		FINAL		
FILE-DAY-S#	0001-339-1		0001-339-1		0001-339-1		"SURVEY"
HI CM	163.75		163.75		163.75		"SURVEY"
HI METERS	1.6375		1.6375		1.6375		"SURVEY"
HI-1/16 IN.	64 15/32	64.4685	64 15/32	64.4685	64 15/32	64.4685	"SURVEY" 64.44 03
	64.47	CHECK	64.47	CHECK	64.47	CHECK	
SV.'S #	17 03 23 21 @10:02am		17 03 21 23		17 12 21 23		"ELEV/AZ" 64.47
SNR	20 19 17 7		21 12 16 19		12 09 21 19		"ELEV/AZ" X2.54
CONTINUOUS	2 2 2 9		404 404 358 404		722 122 676 722		"MORE"
TOTAL MEAS.	2 2 2 9		404 404 404 404		722 122 676 722		"MORE" 163.75
			LOST SV 03 @12:55 @11:53				
SV.'S #			11 12 @12:19		11		"ELEV/AZ" Jamison
SNR			07 08		13		"ELEV/AZ"
CONTINOUS			22 8		219		"MORE"
TOTAL MEAS.			22 8		219		"MORE"
LATITUDE	33 °22' 32.116"		33 °22' 44.98"		33 °22' 35.19"		"POSITION"
LONGITUDE	112 °18' 24.56"		112 °18' 19.57"		112 °18' 23.30"		"POSITION"
PDOP / HDOP	2.6	2.6	1.6	1.6	3.7	2.0	"POSITION"
WATCH TIME	9:49 am		11:30		12:50 pm		"DATE"
UTC TIME	16:49		18:30		19:50		"DATE"

POINT DESCRIPTION: STAINLESS STEEL CAP SET IN LARGE TILET CONTROL MONUMENT POINTING N, S, E & W WITH 4 REFERENCE STAINLESS STEEL MONUMENTS

STRADDLE POINT

STRADDLE FT IN CM N & CM W OF + ON MONUMENT





SKETCH OF SET-UP

Station ID: 0101 Session #: 339-2 Dec 5, 1991 16:47
Reference Position - LOW ACCURACY:
Lat. = 0:00'00.000" N Long. = 0:00'00.000" W Height = 0.0 [meters]
Antenna height = 1.6375 [meters] (entered in the field in meters)
Long station name:

Receiver serial # = 373 Jonathan 12-6-91 DUPLICATE SESSION #1
Internal antenna
NP Software = 3.25 SP Software = 3.25 Download Software = 2.08.06

Survey schedule: UNSPECIFIED
Data-logging start time = 16:49
Data-logging stop time = 19:50

Tracking	SV 3	SV 11	SV 12	SV 17	SV 21	SV 23
total L1	534	223	131	726	680	726
cont L1	534	223	131	726	680	726

SV Selection mode = AUTOMATIC
Elevation mask = 15 [degrees] Minimum # of SVs = 1

3D Position	Best PDOP Position [2.5]	Mean Position [1651]
Latitude:	33:22'37.34392" N	33:22'37.84321" N
Longitude:	112:18'22.19001" W	112:18'21.87639" W
Height [m]:	303.4	323.8

2D Position	Best PDOP Position [1.6]	Mean Position [531]
Latitude:	33:22'45.95767" N	33:22'43.39388" N
Longitude:	112:18'19.87011" W	112:18'20.83368" W

DUPLICATE OF 4
DOUBLE SESSION

0013-339.3

GREINER, INC.

G.P.S FIELD OBSERVATION SHEET

OFFICE FILE		E 010200	JOB #
PATH/FILE		SALT GILA	PROJECT
POINT		339-4 3	SESSION # (-S#)
NOTE		0013	POINT # "FILE"
NOTE		"ETTA"	POINT NAME
PRESS/HUMID	/	5 DEC. 1991	DATE
TEMP/WEATHER	/	339	JULIAN (DAY) (FINAL)
ANTENNA #		RED	RECVR COLOR
RANGE POLE #		4000 ST	RECVR # / MODEL
ENTER LAT.		C. SCHULTE	OBSERVER
ENTER LONG.			CREW

Johnson

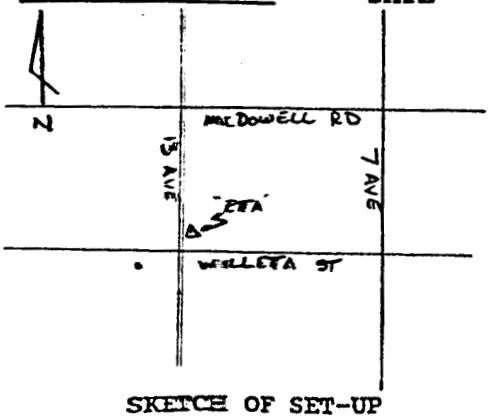
(IMPORTANT: READ THE DISPLAY AND PUSH GREEN SURVEY BUTTON INFO.)

	BEGIN (12:58 P.M)		MIDDLE (2:30)		FINAL (4:00)		
FILE-DAY-S#	0013-339-4 3		0013-339-4 3		0013-339-4 3		"SURVEY"
HI CM	143.5		143.5		143.5		"SURVEY"
HI METERS	1.435		1.435		1.435		"SURVEY"
HI-1/16 IN.	56 8/16	56.496	56 8/16	56.496	56 8/16	56.496	"SURVEY"
	56.50	CHECK	56.50	CHECK	56.50	CHECK	
SV.'S #	21 23 17 11		21 23 15 11		21 14 15		"ELEV/AZ"
SNR	24 24 12 15		26 11 14 16		10 10 26		"ELEV/AZ"
CONTINUOUS	2 2 3 3		365 366 133 366		726 55 494		"MORE"
TOTAL MEAS.	2 2 3 3		365 366 145 366		726 56 506		"MORE"
SV.'S #	23						"ELEV/AZ"
SNR	11						"ELEV/AZ"
CONTINOUS	3						"MORE"
TOTAL MEAS.	3						"MORE"
LATITUDE	33 °27'49.27"		33 °27'49.15"		33 °27'57.72"		"POSITION"
LONGITUDE	112 °05'20.58"		112 °05'20.08"		112 °05'18.53"		"POSITION"
PDOP / HDOP	4.0	1.8	3.5	1.7	2.9	2.9	"POSITION"
WATCH TIME	1:01		2:31		4:01		"DATE"
UTC TIME	20:01		21:31		23:01		"DATE"

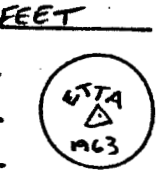
56.50
2.54
143.51
Johnson

POINT DESCRIPTION: PT IS B/C IN CONC. FLSH WITH O.G. @ N.E COR OF 13 AVE & WILLETTA ST ± 6' E OF B.CURB ON 13 AVE ± 26' FROM B.CURB ON WILLETTA ST. MARKINGS ON CAP ARE US COAST & GEODETIC SURVEY, TRAVERSE STATION, ELEV. ____ FEET ABOVE MEAN SEA LEVEL ETTA △ A63. RM 1 ETTA NO. 1 A63 FND IN T/CURB N.W. CURB BET @ INT 13 AVE & WILLETTA

PT. FALLS IN FRONT YARD OF 1146 W. WILLETTA



SKETCH OF SET-UP



Station ID: 0013 Session #: 339-3 Dec 5, 1991 19:58
Reference Position - LOW ACCURACY:
Lat. = 0:00'00.000" N Long. = 0:00'00.000" W Height = 0.0 [meters]
Antenna height = 1.4350 [meters] (entered in the field in meters)
Long station name:

Jankowski 12-6-91 DUPLICATE SESSION #4

Receiver serial # = 381
Internal antenna
NP Software = 3.25 SP Software = 3.25 Download Software = 2.08.06

Survey schedule: UNSPECIFIED
Data-logging start time = 19:58
Data-logging stop time = 23:09

Tracking	SV 11	SV 12	SV 14	SV 15	SV 17	SV 21	SV 23
total L1	611	338	91	540	153	760	471
cont L1	611	338	90	528	153	760	471

SV Selection mode = AUTOMATIC
Elevation mask = 15 [degrees] Minimum # of SVs = 1

3D Position	Best PDOP Position [3.0]	Mean Position [1410]
Latitude:	33:27'49.57708" N	33:27'49.78284" N
Longitude:	112:05'20.49675" W	112:05'20.59980" W
Height [m]:	260.7	296.0

2D Position	Best PDOP Position [1.8]	Mean Position [672]
Latitude:	33:27'50.67419" N	33:27'50.05618" N
Longitude:	112:05'21.13124" W	112:05'20.24463" W

0326-339-3

GREINER, INC.

G.P.S FIELD OBSERVATION SHEET

OFFICE FILE			JOB #
PATH/FILE		SALT-GILA	PROJECT
POINT		339-3	SESSION # (-S#)
NOTE		0326	POINT # "FILE"
NOTE		—	POINT NAME
PRESS/HUMID	/	THU 5-DEC-91	DATE
TEMP/WEATHER	/	339	JULIAN (DAY) (FINAL)
ANTENNA #		WHITE	RECVR COLOR
RANGE POLE #		379 / 4000 ST.	RECVR # / MODEL
ENTER LAT.		T. PRICE	OBSERVER
ENTER LONG.		—	CREW

(IMPORTANT: READ THE DISPLAY AND PUSH GREEN SURVEY BUTTON INFO.)

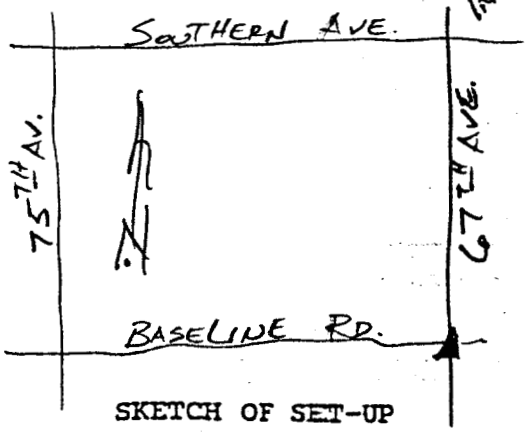
	1:07 BEGIN	1:44 MIDDLE	2:19 FINAL	
FILE-DAY-S#	0326-339-3	0326-339-3	0326-339-3	"SURVEY"
HI CM	170.9	170.8	170.85	"SURVEY"
HI METERS	1.709	1.708		"SURVEY"
HI-1/16 IN.	67 5/16 67.28	67 4/16 67.24	67 5/16 67.26	"SURVEY"
	67.31 CHECK	67.25 CHECK	67.31 CHECK	
SV.'S #	21 11 12 17	21 11 12 23	21 11 12 15	"ELEV/AZ"
SNR	25 18 11 11	26 19 12 16	26 17 08 11	"ELEV/AZ"
CONTINUOUS	7 7 7 8	147 147 148 148	291 291 11 105	"MORE"
TOTAL MEAS.	7 7 7 8	147 147 148 148	291 291 288 105	"MORE"
SV.'S #	23 — — —	— — — —	23 — — —	"ELEV/AZ"
SNR	19 — — —	— — — —	11 — — —	"ELEV/AZ"
CONTINOUS	8 — — —	— — — —	291 — — —	"MORE"
TOTAL MEAS.	8 — — —	— — — —	291 — — —	"MORE"
LATITUDE	33°22'38.69"	33°22'37.63"	33°22'37.58"	"POSITION"
LONGITUDE	112°12'07.95"	112°12'08.29"	112°12'08.25"	"POSITION"
PDOP / HDOP	4.2 1.8	5.0 / 3.7	3.0 1.8	"POSITION"
WATCH TIME	1:10:42 P.M.	1:45:51 P.M.	2:22:42 P.M.	"DATE"
UTC TIME	20:10:53	20:45:59	21:22:53	"DATE"

67.31
2.54
170.9
67.26
2.54
170.

OK JOHN ENTER IN INCHES

POINT DESCRIPTION: 4" BRASS CAP IN HANDHOLE @ INT. OF BASELINE RD. & 67TH AVE. – STA. FALLS IN A.C. @ & INT. – NO STOP SIGN E-W ON BASELINE – MODERATE to HEAVY TRAFFIC @ FASTER SPEEDS. COOL & BREEZY @ SET-UP

MARICOPA COUNTY ENGINEER



SKETCH OF SET-UP

Station ID: 0326 Session #: 339-3 Dec 5, 1991 20:07
Reference Position - LOW ACCURACY:
Lat = 0:00'00.000" N Long. = 0:00'00.000" W Height = 0.0 [meters]
Antenna height = 1.7085 [meters] (entered in the field in inches)
Long station name:

Johnson 12-6-91

Receiver serial # = 379
Internal antenna
NF Software = 3.25 SF Software = 3.25 Download Software = 2.08.06

Survey schedule: UNSPECIFIED
Data-logging start time = 20:08
Data-logging stop time = 21:25

Tracking	SV 11	SV 12	SV 15	SV 17	SV 21	SV 23
total L1	308	298	123	117	308	308
cont L1	308	277	123	117	308	308

SV Selection mode = AUTOMATIC
Elevation mask = 15 [degrees] Minimum # of SVs = 1

3D Position	Best PDOP Position [3.0]	Mean Position [927]
Latitude:	33:22'37.73353" N	33:22'38.41793" N
Longitude:	112:12'08.41224" W	112:12'08.45605" W
Height [m]:	213.9	275.7

2D Position Position not available

0711-339-4

GREINER, INC.

G.P.S FIELD OBSERVATION SHEET

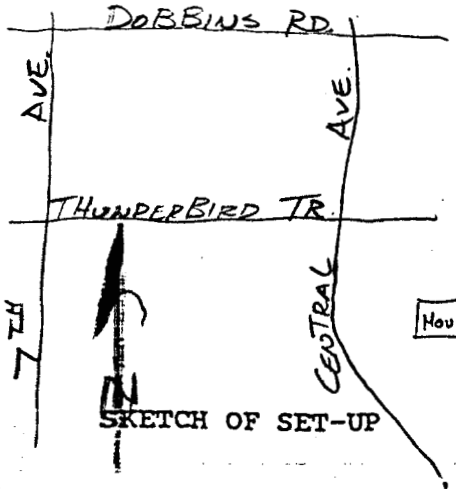
OFFICE FILE			JOB #
PATH/FILE		SALT-GILA	PROJECT
POINT		339-4	SESSION # (-S#)
NOTE		0711	POINT # "FILE"
NOTE		—	POINT NAME
PRESS/HUMID	/	THU 5-DEC-91	DATE
TEMP/WEATHER	/	339	JULIAN (DAY) (FINAL)
ANTENNA #		WHITE	RECVR COLOR
RANGE POLE #		379/4000 ST	RECVR # / MODEL
ENTER LAT.		T. PRICE	OBSERVER
ENTER LONG.		—	CREW

(IMPORTANT: READ THE DISPLAY AND PUSH GREEN SURVEY BUTTON INFO.)

	2:49 BEGIN				3:25 MIDDLE				4:03 FINAL				
FILE-DAY-S#	0711-339-4				0711-339-4				0711-339-4				"SURVEY"
HI CM	153.0				153.1				153.05				"SURVEY"
HI METERS	1.530				1.531				1.5305				"SURVEY"
HI-1/16 IN.	60 4/16	60.24			60 4/16	60.28			60 4/16	60.26			"SURVEY" 60.25 2.54
	60.25	CHECK			60.25	CHECK			60.25	CHECK			
SV.'S #	21	11	15	23	21	11	15		21	14	15		"ELEV/AZ"
SNR	24	14	18	08	21	09	23		15	10	25		"ELEV/AZ" 153.02
CONTINUOUS	3	3	4	4	140	140	140		292	73	292		"MORE"
TOTAL MEAS.	3	3	4	4	140	140	140		292	73	292		"MORE" Jamie
SV.'S #													"ELEV/AZ"
SNR													"ELEV/AZ"
CONTINOUS													"MORE"
TOTAL MEAS.													"MORE"
LATITUDE	33°21'27.28"				33°21'24.77"				33°21'26.92"				"POSITION"
LONGITUDE	112°04'21.81"				112°04'21.20"				112°04'19.79"				"POSITION"
PDOP / HDOP	3.7	1.8			1.8	1.8			2.7	2.7			"POSITION"
WATCH TIME	2:51:30 p.m.				3:26:04 p.m.				4:05:11 p.m.				"DATE"
UTC TIME	21:51:41				22:26:15				23:05:22				"DATE"

POINT DESCRIPTION: 1/2" REBAR @ GROUND LEVEL, ± 0.4 MI. SO. OF DOBBINS RD. & ± 75' E. OF CENTRAL AVE. STA. FALLS IN DESERT ± 300' SO. OF LG. PINK HOUSE — NO TRAFFIC. COOL & CALM @ SET-UP.

1/2" REBAR



SKETCH OF SET-UP

Station ID: 0711 Session #: 339-4 Dec 5, 1991 21:49
Reference Position - LOW ACCURACY:
Lat. = 0:00'00.000" N Long. = 0:00'00.000" W Height = 0.0 [meters]
Antenna height = 1.5305 [meters] (entered in the field in meters)
Long station name:

Jonkson 12-6-91

Receiver serial # = 379
Internal antenna
NP Software = 3.25 SP Software = 3.25 Download Software = 2.08.06

Survey schedule: UNSPECIFIED
Data-logging start time = 21:50
Data-logging stop time = 23:06

Tracking	SV 11	SV 14	SV 15	SV 21	SV 23
total L1	163	85	304	304	26
cont L1	163	85	304	304	26

SV Selection mode = AUTOMATIC
Elevation mask = 15 [degrees] Minimum # of SVs = 1

3D Position	Best PDOP Position [3.7]	Mean Position [69]
Latitude:	33:21'27.02446" N	33:21'27.07569" N
Longitude:	112:04'22.20411" W	112:04'21.71716" W
Height [m]:	276.5	260.7

2D Position	Best PDOP Position [1.8]	Mean Position [659]
Latitude:	33:21'26.86892" N	33:21'26.44110" N
Longitude:	112:04'21.90037" W	112:04'21.00171" W

0021-339-4

GREINER, INC.

G.P.S FIELD OBSERVATION SHEET

OFFICE FILE			JOB #
PATH/FILE		SALT/GILA	PROJECT
POINT		4	SESSION # (-S#)
NOTE		0021	POINT # "FILE"
NOTE		BROADWAY	POINT NAME
PRESS/HUMID	/	12/05/91	DATE
TEMP/WEATHER	/	339.	JULIAN (DAY) (FINAL)
ANTENNA #		BLUE	RECVR COLOR
RANGE POLE #		382	RECVR # / MODEL
ENTER LAT.		VINCE NECHERO	OBSERVER
ENTER LONG.			CREW

1:00 PM

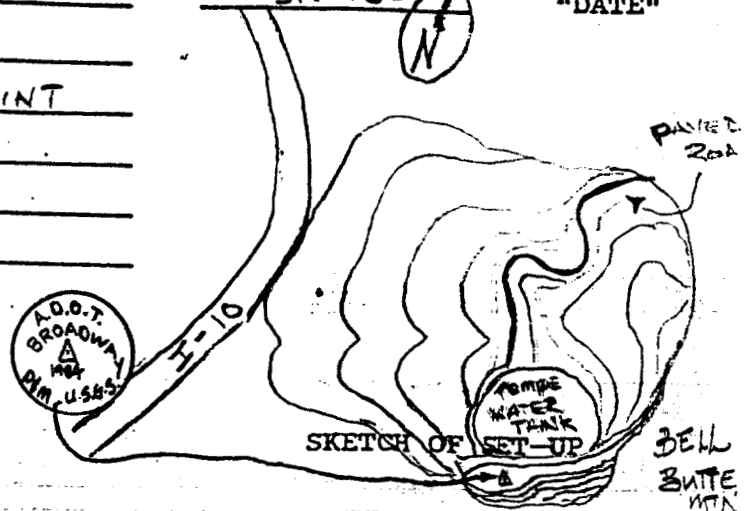
(IMPORTANT: READ THE DISPLAY AND PUSH GREEN SURVEY BUTTON INFO.)

3:45:30

	BEGIN	MIDDLE	FINAL	
FILE-DAY-S#	0021-339-4	0021-339-4	0021-339-4	"SURVEY"
HI CM	134.7	134.7	134.7 ✓ .62	"SURVEY"
HI METERS	1.347	1.347	1.347	"SURVEY"
HI-1/16 IN.	53.″ 53.0315 CHECK	53″- CHECK	53″- CHECK	"SURVEY" 53.00 2.54
SV.'S #	21 11 12 17	21 11 15 23	21 14 15	"ELEV/AZ"
SNR	25 18 12 12	26 16 16 11	15 13 26	"ELEV/AZ" 134.6
CONTINUOUS	8 8 8 7	372 372 160 370	753 100 542	"MORE"
TOTAL MEAS.	8 8 8 7	372 372 160 370	753 100 542	"MORE"
SV.'S #	23			"ELEV/AZ"
SNR	20			"ELEV/AZ"
CONTINOUS	6			"MORE"
TOTAL MEAS.	6			"MORE"
LATITUDE	33 °24' 23.23"	33 °24' 24.35"	33 °24' 28.87"	"POSITION"
LONGITUDE	111 °58' 02.35"	111 °58' 02.11"	111 °57' 58.30"	"POSITION"
PDOP / HDOP	4.1 1.8	3.5 / 1.7	2.5 2.5	"POSITION"
WATCH TIME	1:03:40 PM	2:35:12 PM	4:11:30	"DATE"
UTC TIME	20:03:40	21:35:12	23:11:30	"DATE"

POINT DESCRIPTION:

4" ALUM. DISK ON HIGHEST POINT OF BELL BUTTE MTN.



Station ID: 0021 ✓ Session #: 339-4 ✓ Dec 5, 1991 20:00
Reference Position - LOW ACCURACY:
Lat. = 0:00'00.000" N Long. = 0:00'00.000" W Height = 0.0 [meters]
Antenna height = 1.3470 [meters] (entered in the field in inches)
Long station name:

R eiver serial # = 382
Internal antenna
NP Software = 3.25 SP Software = 3.25 Download Software = 2.08.06

Survey schedule: UNSPECIFIED
Data-logging start time = 20:02
Data-logging stop time = 23:12

Tracking	SV 11	SV 12	SV 14	SV 15	SV 17	SV 21	SV 23
total L1	595	327	108	550	139	761	459
cont L1	595	327	108	550	139	761	459

SV Selection mode = AUTOMATIC
Elevation mask = 15 [degrees] Minimum # of SVs = 1

3D Position	Best PDOP Position [3.0]	Mean Position [1370]
Latitude:	33:24'24.17279" N	33:24'24.32983" N
Longitude:	111:58'02.00064" W	111:58'02.08667" W
Height [m]:	350.6	380.0

2D Position	Best PDOP Position [1.8]	Mean Position [724]
Latitude:	33:24'25.01099" N	33:24'24.88803" N
Longitude:	111:58'02.65879" W	111:58'01.48990" W

0001-339-4

GREINER, INC. — **G.P.S FIELD OBSERVATION SHEET**

OFFICE FILE		E010200	JOB #
PATH/FILE		SALT/GILA	PROJECT
POINT		#4	SESSION # (-S#)
NOTE		0001	POINT # "FILE"
NOTE		INITIAL POINT	POINT NAME
PRESS/HUMID	/	SDLC. 1991	DATE
TEMP/WEATHER	/	339	JULIAN (DAY) (FINAL)
ANTENNA #		GREEN	RECVR COLOR
RANGE POLE #		373-4000	RECVR # / MODEL
ENTER LAT.		RICK KLEBIEKO	OBSERVER
ENTER LONG.		MASON WOMBLE	CREW

(IMPORTANT: READ THE DISPLAY AND PUSH GREEN SURVEY BUTTON INFO.)

	BEGIN		MIDDLE		FINAL		
FILE-DAY-S#	0001-339-4		0001-339-4		0001-339-4		"SURVEY"
HI CM	156.60		156.60		156.60		"SURVEY"
HI METERS	1.5660		1.5660		1.5660		"SURVEY"
HI-1/16 IN.	61 21/32	61.6535	61 21/32	61.6535	61 21/32	61.6535	"SURVEY"
	61.66	CHECK	61.66	CHECK	61.66	CHECK	
SV.'S #	21 11 23 17		21 11 23 15		21 14 15		"ELEV/AZ"
SNR	22 16 18 11		22 15 10 13		11 11 22		"ELEV/AZ"
CONTINUOUS	3 3 3 3		332 332 332 145		743 112 555		"MORE"
TOTAL MEAS.	3 3 3 3		332 332 332 145		743 112 555		"MORE"
SV.'S #	12 15 @1:56		14 @3:45				"ELEV/AZ"
SNR	10 07		07				"ELEV/AZ"
CONTINOUS	3 12		3				"MORE"
TOTAL MEAS.	3 12		3				"MORE"
	LOST 17 @ 1:37 pm LOST 12 @ 2:20 pm		LOST 23 @ 2:56 pm LOST 11 @ 3:31 pm				
LATITUDE	33 °22'38.67"		33 °22'37.06"		33 °22'40.54"		"POSITION"
LONGITUDE	112 °18'20.78"		112 °18'21.17"		112 °18'19.88"		"POSITION"
PDOP / HDOP	4.7	1.8	3.5	1.7	2.4	2.4	"POSITION"
WATCH TIME	1:07 pm		2:30 pm		4:12 pm		"DATE"
UTC TIME	20:07		21:30		23:12		"DATE"

61.66 CHECK

61.45 2.54

156.4

POINT DESCRIPTION: STAINLESS STEEL CAP SET IN LARGE TILED CONCRETE MONUMENT POINTING N, S, E & W WITH 4 REFERENCE STAINLESS STEEL MONUMENTS

SKETCH OF SET-UP
SEE SESSION 1

Station ID: 0001 Session #: 339-4 Dec 5, 1991 20:06
Reference Position - LOW ACCURACY:
Lat. = 0:00'00.000" N Long. = 0:00'00.000" W Height = 0.0 [meters]
Antenna height = 1.5660 [meters] (entered in the field in meters)
Long station name:

Johnson 12-6-91

Receiver serial # = 373
Internal antenna
NP Software = 3.25 SP Software = 3.25 Download Software = 2.08.06

Survey schedule: UNSPECIFIED
Data-logging start time = 20:07
Data-logging stop time = 23:14

Tracking	SV 11	SV 12	SV 14	SV 15	SV 17	SV 21	SV 23
total L1	575	300	116	560	117	747	436
cont L1	575	300	116	560	117	747	436

SV Selection mode = AUTOMATIC
Elevation mask = 15 [degrees] Minimum # of SVs = 1

3D Position	Best PDOP Position [3.0]	Mean Position [1302]
Latitude:	33:22'36.86706" N	33:22'37.75187" N
Longitude:	112:18'21.46721" W	112:18'21.76986" W
Height [m]:	251.3	317.3

2D Position	Best PDOP Position [1.8]	Mean Position [763]
Latitude:	33:22'39.06723" N	33:22'38.05198" N
Longitude:	112:18'22.11065" W	112:18'21.41758" W

DUPLICATE OF 3/
DOUBLE SESSION
0021-339-3

GREINER, INC.

G.P.S FIELD OBSERVATION SHEET

OFFICE FILE		JOB #
PATH/FILE	SALT/GILA	PROJECT
POINT	3 4	SESSION # (-S#)
NOTE	0021	POINT # "FILE"
NOTE	BROADWAY	POINT NAME
PRESS/HUMID	12/05/91	DATE
TEMP/WEATHER	339.	JULIAN (DAY) (FINAL)
ANTENNA #	BLUE	RECVR COLOR
RANGE POLE #	382	RECVR # / MODEL
ENTER LAT.	VINCE NECHERO	OBSERVER
ENTER LONG.		CREW

Jackson

1:00 PM

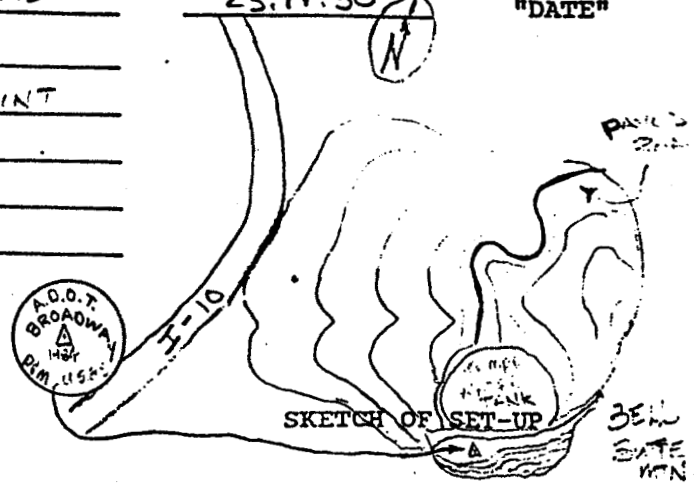
(IMPORTANT: READ THE DISPLAY AND PUSH GREEN SURVEY BUTTON INFO.)

3:45:30

	BEGIN	MIDDLE	FINAL	
FILE-DAY-S#	0021-339-4 3	0021-339-4 3	0021-339-4 3	"SURVEY"
HI CM	134.7	134.7	134.7 ✓ .62	"SURVEY"
HI METERS	1.347	1.347	1.347	"SURVEY"
HI-1/16 IN.	53" 53.0315 CHECK	53"- CHECK	53"- CHECK	"SURVEY" 53.00 2.54
SV.'S #	21 11 12 17	21 11 15 23	21 14 15	"ELEV/AZ"
SNR	25 18 12 12	26 16 16 11	15 13 26	"ELEV/AZ" 134.62
CONTINUOUS	8 8 8 7	372 372 160 370	753 100 542	"MORE"
TOTAL MEAS.	8 8 8 7	372 372 160 370	753 100 542	"MORE" Jackson
SV.'S #	23			"ELEV/AZ"
SNR	20			"ELEV/AZ"
CONTINOUS	6			"MORE"
TOTAL MEAS.	6			"MORE"
LATITUDE	33 °24' 23.23"	33 °24' 24.35"	33 °24' 28.87"	"POSITION"
LONGITUDE	111 °58' 02.35"	111 °58' 02.11"	111 °57' 58.30"	"POSITION"
PDOP / HDOP	4.1 1.8	3.5 / 1.7	2.5 2.5	"POSITION"
WATCH TIME	1:02:40 PM	2:35:12 PM	4:11:30	"DATE"
UTC TIME	20:03:40	21:35:12	23:11:30	"DATE"

POINT DESCRIPTION:

4" ALUM. DISK ON HIGHEST POINT OF BELL BUTTE MTN.



SKETCH OF SET-UP

Station ID: 0021 Session #: 339-3 Dec 5, 1991 20:00
Reference Position - LOW ACCURACY:
Lat. = 0:00'00.000" N Long. = 0:00'00.000" W Height = 0.0 [meters]
Antenna height = 1.3470 [meters] (entered in the field in inches)
Long station name:

Receiver serial # = 382 Jamboree 12-6-91 DUPLICATE OF SESSION #4
Internal antenna
NP Software = 3.25 SP Software = 3.25 Download Software = 2.08.06

Survey schedule: UNSPECIFIED
Data-logging start time = 20:02
Data-logging stop time = 23:12

Tracking	SV 11	SV 12	SV 14	SV 15	SV 17	SV 21	SV 23
total L1	595	327	108	550	139	761	459
cont L1	595	327	108	550	139	761	459

SV Selection mode = AUTOMATIC
Elevation mask = 15 [degrees] Minimum # of SVs = 1

3D Position	Best PDOP Position [3.0]	Mean Position [1370]
Latitude:	33:24'24.17279" N	33:24'24.32983" N
Longitude:	111:58'02.00064" W	17:58'02.08667" W
Height [m]:	350.6	380.0

2D Position	Best PDOP Position [1.8]	Mean Position [724]
Latitude:	33:24'25.01099" N	33:24'24.88803" N
Longitude:	111:58'02.65879" W	111:58'01.48990" W

DUPLICATE OF #4
DOUBLE SESSION

0001-339-3

GREINER, INC.

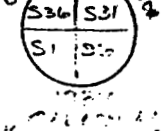
G.P.S FIELD OBSERVATION SHEET

OFFICE FILE		E010200	JOB #
PATH/FILE		SALT/GILA	PROJECT
POINT		3 #4	SESSION # (-S#)
NOTE		0001	POINT # "FILE"
NOTE		INITIAL POINT	POINT NAME
PRESS/HUMID	/	5 DEC. 1991	DATE
TEMP/WEATHER	/	339	JULIAN (DAY) (FINAL)
ANTENNA #		GREEN	RECVR COLOR
RANGE POLE #		273-4000	RECVR # / MODEL
ENTER LAT.		RICK KLEEKLIN	OBSERVER
ENTER LONG.		MASON WOMPLE	CREW

(IMPORTANT: READ THE DISPLAY AND PUSH GREEN SURVEY BUTTON INFO.)

	BEGIN	MIDDLE	FINAL	
FILE-DAY-S#	0001-339-4 3	0001-339-4 3	0001-339-4 3	"SURVEY"
HI CM	156.60	156.60	156.60	"SURVEY"
HI METERS	1.5660	1.5660	1.5660	"SURVEY"
HI-1/16 IN.	61 21/32 61.66 / 61.6535 CHECK	61 21/32 61.66 / 61.6535 CHECK	61 21/32 61.66 / 61.6535 CHECK	"SURVEY" 61.66 03
SV.'S #	21 11 23 17	21 11 23 15	21 14 15	"ELEV/AZ" 61.65
SNR	22 16 18 11	22 15 10 13	11 11 22	"ELEV/AZ" 2.54
CONTINUOUS	3 3 3 3	332 332 332 145	743 112 555	"MORE"
TOTAL MEAS.	3 3 3 3	332 332 332 145	743 112 555	"MORE"
SV.'S #	12 15 @1:56	14 @3:45		"ELEV/AZ" 156.59
SNR	10 07	07		"ELEV/AZ"
CONTINOUS	3 12	3		"MORE"
TOTAL MEAS.	3 12	3		"MORE"
	LOST 17 @ 1:37 pm LOST 12 @ 2:20 pm	LOST 23 @ 2:56 pm LOST 11 @ 3:31 pm		
LATITUDE	33 °22'38.67"	33 °22'37.06"	33 °22'40.54"	"POSITION"
LONGITUDE	112 °18'20.78"	112 °18'21.17"	112 °18'19.88"	"POSITION"
PDOP / HDOP	4.7 1.8	2.5 1.7	2.4 2.4	"POSITION"
WATCH TIME	1:07 pm	2:30 pm	4:12 pm	"DATE"
UTC TIME	20:07	21:30	23:12	"DATE"

POINT DESCRIPTION: [illegible]
SET IN LARGE TILED CONCRETE [illegible]
POINTING N.S.E & W [illegible]
[illegible]



SKETCH OF SET-UP

Station ID: 0001 Session #: 339-3 Dec 5, 1991 20:06
Reference Position - LOW ACCURACY:
Lat. = 0:00'00.000" N Long. = 0:00'00.000" W Height = 0.0 [meters]
Antenna height = 1.5660 [meters] (entered in the field in meters)
Long station name:

Jackson 12-6-91 DUPLICATE OF SESSION #4

Receiver serial # = 373
Internal antenna
NP Software = 3.25 SP Software = 3.25 Download Software = 2.08.06

Survey schedule: UNSPECIFIED
Data-logging start time = 20:07
Data-logging stop time = 23:14

Tracking	SV 11	SV 12	SV 14	SV 15	SV 17	SV 21	SV 23
total L1	575	300	116	560	117	747	436
cont L1	575	300	116	560	117	747	436

SV Selection mode = AUTOMATIC
Elevation mask = 15 [degrees] Minimum # of SVs = 1

3D Position	Best PDOP Position [3.0]	Mean Position [1302]
Latitude:	33:22'36.86706" N	33:22'37.75187" N
Longitude:	112:18'21.46721" W	112:18'21.76986" W
Height [m]:	251.3	317.3

2D Position	Best PDOP Position [1.8]	Mean Position [763]
Latitude:	33:22'39.06723" N	33:22'38.05198" N
Longitude:	112:18'22.11065" W	112:18'21.41758" W

0013-339-4

GREINER, INC. — G.P.S FIELD OBSERVATION SHEET

OFFICE FILE		E 010200	JOB #
PATH/FILE		SALT GILA	PROJECT
POINT		339-4	SESSION # (-S#)
NOTE		0013	POINT # "FILE"
NOTE		"ETTA"	POINT NAME
PRESS/HUMID	/	5 DEC. 1991	DATE
TEMP/WEATHER	/	339	JULIAN (DAY) (FINAL)
ANTENNA #		RED	RECVR COLOR
RANGE POLE #		4000 ST	RECVR # / MODEL
ENTER LAT.		C. SCHULTE	OBSERVER
ENTER LONG.			CREW

(IMPORTANT: READ THE DISPLAY AND PUSH GREEN SURVEY BUTTON INFO.)

	BEGIN (12:58 P.M.)		MIDDLE (2:30)		FINAL (4:00)		
FILE-DAY-S#	0013-339-4		0013-339-4		0013-339-4		"SURVEY"
HI CM	143.5		143.5		143.5 ✓		"SURVEY"
HI METERS	1.435		1.435		1.435		"SURVEY"
HI-1/16 IN.	56 8/16	56.496 ✓	56 8/16	56.496 ✓	56 8/16	56.496 ✓	"SURVEY"
	56.50	CHECK	56.50	CHECK	56.50	CHECK	

56.50
2.54
143.5

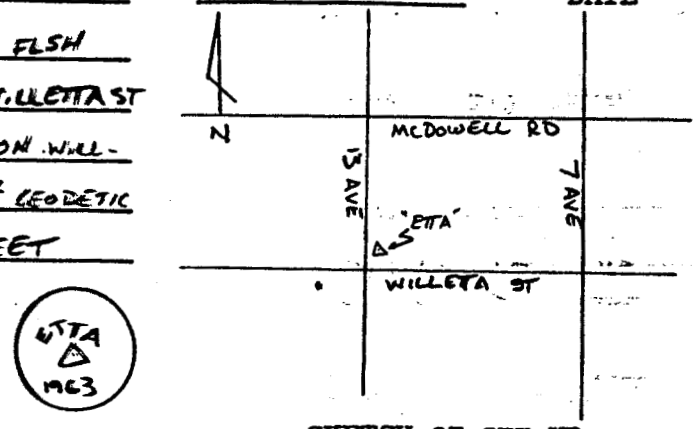
SV.'S #	21	23	17	11	21	23	15	11	21	14	15		"ELEV/AZ"
SNR	24	24	12	15	26	11	14	16	10	10	26		"ELEV/AZ"
CONTINUOUS	2	2	3	3	365	366	133	366	726	55	494		"MORE"
TOTAL MEAS.	2	2	3	3	365	366	145	366	726	56	506		"MORE"

Total

SV.'S #	23												"ELEV/AZ"
SNR	11												"ELEV/AZ"
CONTINOUS	3												"MORE"
TOTAL MEAS.	3												"MORE"

LATITUDE	33 °27'49.27"		33 °27'49.15"		33 °27'51.72"	"POSITION"
LONGITUDE	112 °05'20.58"		112 °05'20.08"		112 °05'18.53"	"POSITION"
PDOP / HDOP	4.0	1.8	3.5	1.7	2.9	2.9	"POSITION"
WATCH TIME	1:01		2:31		4:01		"DATE"
UTC TIME	20:01		21:31		23:01		"DATE"

POINT DESCRIPTION: PT IS B/C IN CONC. FLSH WITH O.G. @ N.E COR OF 13 AVE & WILLETTA ST ± 6' E OF B.CURB ON 13 AVE ± 26' FROM B.CURB ON WILLETTA ST. MARKINGS ON CAP ARE US COAST & GEODETIC SURVEY, TRAVERSE STATION, ELEV. ____ FEET ABOVE MEAN SEA LEVEL. ETTA △ P163. RM 1 ETTA NO. 1 FND IN T/CURB N.W. CURB AFT @ INT 13 AVE & WILLETTA PT. FALLS IN FRONT YARD OF 1146 W. WILLETTA



SKETCH OF SET-UP

Station ID: 0013 Session #: 339-4 Dec 5, 1991 19:58
Reference Position - LOW ACCURACY:
Lat. = 0:00'00.000" N Long. = 0:00'00.000" W Height = 0.0 [meters]
Antenna height = 1.4350 [meters] (entered in the field in meters)
Long station name:

Receiver serial # = 381
Internal antenna
NP Software = 3.25 SP Software = 3.25 Download Software = 2.08.06

Jamison 12-6-91

Survey schedule: UNSPECIFIED
Data-logging start time = 19:58
Data-logging stop time = 23:09

Tracking	SV 11	SV 12	SV 14	SV 15	SV 17	SV 21	SV 23
total L1	611	338	91	540	153	760	471
cont L1	611	338	90	528	153	760	471

SV Selection mode = AUTOMATIC
Elevation mask = 15 [degrees] Minimum # of SVs = 1

3D Position	Best PDOP Position [3.0]	Mean Position [1410]
Latitude:	33:27'49.57708" N	33:27'49.78284" N
Longitude:	112:05'20.49675" W	112:05'20.59980" W
Height [m]:	260.7	296.0

2D Position	Best PDOP Position [1.8]	Mean Position [672]
Latitude:	33:27'50.67419" N	33:27'50.05618" N
Longitude:	112:05'21.13124" W	112:05'20.24463" W

DOUBLE DESSION POWER BUTTE 0005-340-~~1~~ 2

DUPLICATE OF #1

GREINER, INC.

G.P.S FIELD OBSERVATION SHEET

OFFICE FILE		E010200	JOB #
PATH/FILE		SALT/GILA	PROJECT
POINT		2 #1	SESSION # (-S#)
NOTE		0005	POINT # "FILE"
NOTE		POWER BUTTE	POINT NAME
PRESS/HUMID	1	16 DEC 1991	DATE
TEMP/WEATHER	1 PART. CLDY	340	JULIAN (DAY) (FINAL)
ANTENNA #		BLUE	RECVR COLOR
RANGE POLE #		382-4000	RECVR # / MODEL
ENTER LAT.		RICK KLEBIECKO	OBSERVER
ENTER LONG.		MASON WOMBLE	CREW

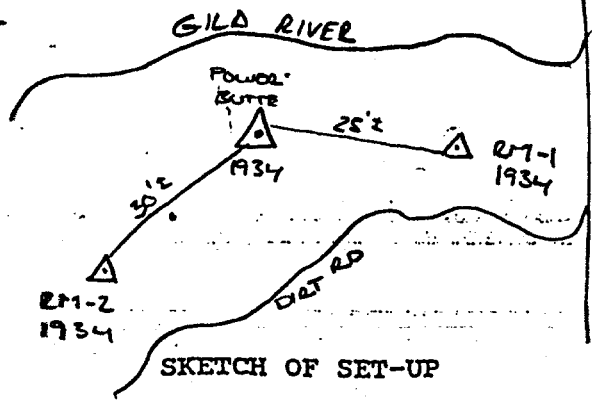
$56\frac{19}{16} = 56\frac{20}{32}$

(IMPORTANT: READ THE DISPLAY AND PUSH GREEN SURVEY BUTTON INFO.)

$56\frac{20}{32} = 56.63$

	BEGIN		MIDDLE		FINAL		
FILE-DAY-S#	0005-340-1 2		0005-340-1 2		0005-340-1 2		"SURVEY"
HI CM	143.85		143.85		143.85 ✓		"SURVEY"
HI METERS	1.4385		1.4385		1.4385		"SURVEY"
HI-1/16 IN.	$56\frac{19}{32}$ 56.63	56.6339 CHECK	$56\frac{19}{32}$ 56.63	56.6339 CHECK	$56\frac{19}{32}$ 56.63	56.6339 CHECK	"SURVEY"
SV.'S #	17 16 03 23		17 21 03 23		17 21 12 23		"ELEV/AZ"
SNR	23 07 23 20		25 15 19 22		17 24 09 23		"ELEV/AZ"
CONTINUOUS	17 14 17 17		384 267 384 384		719 602 43 719		"MORE"
TOTAL MEAS.	17 14 17 17		384 267 384 384		719 602 43 719		"MORE"
	LOST 16 @ 9:30am @ 10:01am		LOST 03 @ 11:58am				
SV.'S #	21		11 @ 11:51		11		"ELEV/AZ"
SNR	09		06		13		"ELEV/AZ"
CONTINOUS	25		5		141		"MORE"
TOTAL MEAS.	25		5		141		"MORE"
LATITUDE	33 °18' 23.21"		33 °18' 23.26"		33 °18' 25.97"		"POSITION"
LONGITUDE	112 °44' 06.16"		112 °44' 05.96"		112 °44' 04.19"		"POSITION"
PDOP / HDOP	2.6	2.6	8.4	3.2	3.5	2.4	"POSITION"
WATCH TIME	9:30am		11:02am		12:25		"DATE"
UTC TIME	16:30		18:02		19:25		"DATE"

POINT DESCRIPTION: U.S. COAST & GEODETIC SURVEY BRASS CAP EPOXIED IN BASALT ON TOP OF POWER BUTTE, STAMPED "POWER BUTTE 1934" TRIANGULATION STATION"; W/ RM-1 25'± E AND RM-2 30'± SW OF MONUMENT & BOTH EPOXIED IN BASALT AND STAMPED 1934



SKETCH OF SET-UP

56.56
2.54
143.
56.6
2.54
143.2

Station ID: 0005 Session #: 340-2 Dec 6, 1991 16:24
Reference Position - LOW ACCURACY:
Lat. = 0:00'00.000" N Long. = 0:00'00.000" W Height = 0.0 [meters]
Antenna height = 1.4385 [meters] (entered in the field in meters)
Long station name:

Jonson 12-8-91

Receiver serial # = 382
Internal antenna
NP Software = 3.25 SP Software = 3.25 Download Software = 2.08.06

Survey schedule: UNSPECIFIED
Data-logging start time = 16:25
Data-logging stop time = 19:26

Tracking	SV 3	SV 11	SV 12	SV 16	SV 17	SV 21	SV 23
total L1	611	143	45	13	721	604	721
cont L1	611	143	45	13	721	604	721

SV Selection mode = AUTOMATIC
Elevation mask = 15 [degrees] Minimum # of SVs = 1

3D Position	Best PDOP Position [2.5]	Mean Position [1443]
Latitude:	33:18'23.50082" N	33:18'24.03065" N
Longitude:	112:44'07.43553" W	112:44'06.04153" W
Height [m]:	409.4	386.6

2D Position	Best PDOP Position [1.6]	Mean Position [719]
Latitude:	33:18'23.57766" N	33:18'23.91716" N
Longitude:	112:44'07.22573" W	112:44'06.11201" W

SINGLE SESSION

GREINER, INC.

G.P.S FIELD OBSERVATION SHEET

OFFICE FILE		E010200	JOB #
PATH/FILE		SALT-G.LA	PROJECT
POINT		340-1	SESSION # (-S#)
NOTE		0141	POINT # "FILE"
NOTE		—	POINT NAME
PRESS/HUMID	/	FRI. 6-DEC-91	DATE
TEMP/WEATHER	/	340	JULIAN (DAY) (FINAL)
ANTENNA #		RED	RECVR COLOR
RANGE POLE #		381/4000ST	RECVR # / MODEL
ENTER LAT.		T. PRICE	OBSERVER
ENTER LONG.		—	CREW

(IMPORTANT: READ THE DISPLAY AND PUSH GREEN SURVEY BUTTON INFO.)

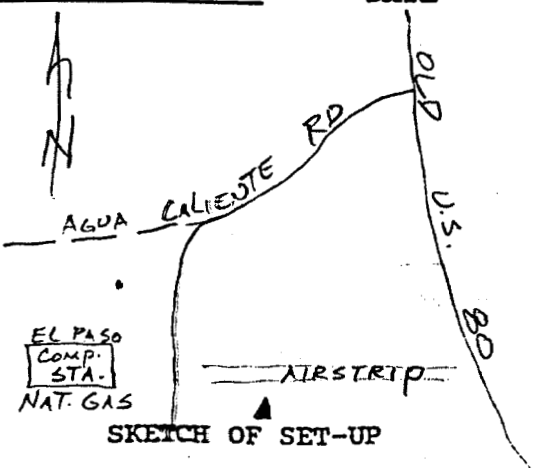
Jantzen

	9:15 BEGIN		9:57 MIDDLE		10:35 FINAL		
FILE-DAY-S#	0141-340-1		0141-340-1		0141-340-1		"SURVEY"
HI CM	129.0		129.1		129.05		"SURVEY"
HI METERS	1.290		1.291		1.2905		"SURVEY"
HI-1/16 IN.	50 13/16	50.79	50 13/16	50.83	50 13/16	50.81	"SURVEY"
	50.81	CHECK	50.81	CHECK	50.81	CHECK	
SV.'S #	17 03 20 16		17 03 21 23		17 03 21 23		"ELEV/AZ"
SNR	23 22 09 09		23 22 09 22		23 22 12 21		"ELEV/AZ"
CONTINUOUS	10 10 11 11		170 170 14 170		318 319 162 319		"MORE"
TOTAL MEAS.	10 10 11 11		170 170 14 170		318 319 162 319		"MORE"
SV.'S #	23 — — —		— — — —		— — — —		"ELEV/AZ"
SNR	20 — — —		— — — —		— — — —		"ELEV/AZ"
CONTINOUS	11 — — —		— — — —		— — — —		"MORE"
TOTAL MEAS.	11 — — —		— — — —		— — — —		"MORE"
LATITUDE	33°14'54.57"		33°14'53.72"		33°14'53.94"		"POSITION"
LONGITUDE	112°48'24.75"		112°48'24.84"		112°48'24.29"		"POSITION"
PDOP / HDOP	3.2	2.1	4.5	2.7	5.5	2.5	"POSITION"
WATCH TIME	9:19:50 A.M.		9:59:28 A.M.		10:36:15 A.M.		"DATE"
UTC TIME	16:19:58		16:59:39		17:36:21		"DATE"

50.81
2.54
129.0

POINT DESCRIPTION: BRASS CAP ON 3" IRON PIPE ± 0.3 MI. E. OF DIRT RD. & ± 300' SO. OF FENCE ALONG SO. SIDE OF LANDING STRIP - HAS CAIRN OF ROCK PAINTED WHITE SURROUNDING STA. - TODAY CALM & COOL @ SET UP

U.S. DEPT. OF INT. BUR. OF LAND MGT. SURVEY T25S R5W 1/4 S18 S19 1958



SKETCH OF SET-UP

Station ID: 0141 Session #: 340-1 Dec 6, 1991 16:15
Reference Position - LOW ACCURACY:
Lat. = 0:00'00.000" N Long. = 0:00'00.000" W Height = 0.0 [meters]
Antenna height = 1.2905 [meters] (entered in the field in meters)
Long station name:

Receiver serial # = 381 Jackson 12-8-91
Internal antenna
NP Software = 3.25 SP Software = 3.25 Download Software = 2.08.06

Survey schedule: UNSPECIFIED
Data-logging start time = 16:15
Data-logging stop time = 17:40

Tracking	SV 3	SV 16	SV 17	SV 20	SV 21	SV 23
total L1	338	53	338	30	182	338
cont L1	338	53	338	30	182	338

SV Selection mode = AUTOMATIC
Elevation mask = 15 [degrees] Minimum # of SVs = 1

3D Position	Best PDOP Position [3.0]	Mean Position [699]
Latitude:	33:14'53.70012" N	33:14'53.78222" N
Longitude:	112:48'25.36374" W	112:48'24.46333" W
Height [m]:	232.2	220.3

2D Position	Best PDOP Position [2.6]	Mean Position [319]
Latitude:	33:14'53.01058" N	33:14'53.31847" N
Longitude:	112:48'24.66256" W	112:48'24.67929" W

SINGLE SESSION

GREINER, INC.

G.P.S FIELD OBSERVATION SHEET

OFFICE FILE		E010:200	JOB #
PATH/FILE		SALT-GILA	PROJECT
POINT		340-2	SESSION # (-S#)
NOTE		0129	POINT # "FILE"
NOTE			POINT NAME
PRESS/HUMID	/	FRI. 6-DEC-91	DATE
TEMP/WEATHER	/	340	JULIAN (DAY) (FINAL)
ANTENNA #		RED	RECVR COLOR
RANGE POLE #		381/4000ST	RECVR # / MODEL
ENTER LAT.		T. PRICE	OBSERVER
ENTER LONG.			CREW

(IMPORTANT: READ THE DISPLAY AND PUSH GREEN SURVEY BUTTON INFO.)

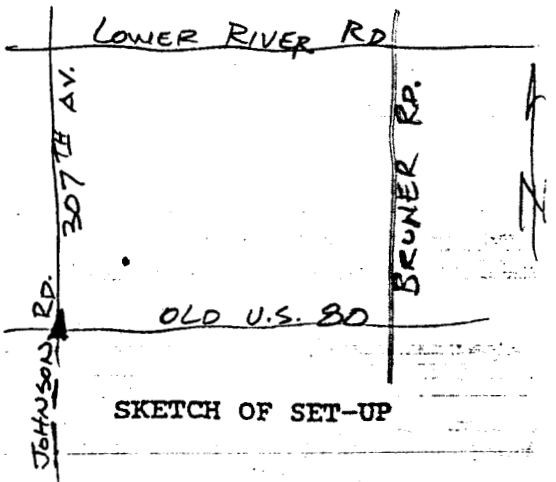
	BEGIN (11:08)	MIDDLE (11:42)	FINAL (12:15)	
FILE-DAY-S#	0129-340-2	0129-340-2	0129-340-2	"SURVEY"
HI CM	182.5	182.6	182.55	"SURVEY"
HI METERS	1.825	1.826	1.8255	"SURVEY"
HI-1/16 IN.	71 14/16 71.85 / 71.87 CHECK	71 14/16 71.89 / 71.87 CHECK	71 14/16 71.87 / 71.87 CHECK	"SURVEY"
SV.'S #	17 03 21 23	17 03 21 23	17 12 21 23	"ELEV/AZ"
SNR	25 14 16 22	21 09 18 23	17 07 23 23	"ELEV/AZ"
CONTINUOUS	16 16 16 16	140 140 140 140	272 7 273 273	"MORE"
TOTAL MEAS.	16 16 16 16	140 140 140 140	272 7 273 273	"MORE"
SV.'S #	— — — —	— — — —	11 — — —	"ELEV/AZ"
SNR	— — — —	— — — —	07 — — —	"ELEV/AZ"
CONTINOUS	— — — —	— — — —	105 — — —	"MORE"
TOTAL MEAS.	— — — —	— — — —	108 — — —	"MORE"
LATITUDE	33°20'49.24"	33°20'54.51"	33°20'51.50"	"POSITION"
LONGITUDE	112°42'44.47"	112°42'43.49"	112°42'42.44"	"POSITION"
PDOP / HDOP	11.8 ↑ 4.5	1.6 / 1.6	3.4 2.6	"POSITION"
WATCH TIME	11:12:20 AM	11:44:23 AM	12:18:03 P.M.	"DATE"
UTC TIME	18:12:31	18:44:45	19:18:16	"DATE"

Transport

182.5
2.54
182.6

POINT DESCRIPTION: 1/2" IRON PIPE SET IN CONC - BELOW A.C. ± 1'0' IN POTHOLE - INT. OF OLD US 80 & 307TH AVE. (JOHNSON RD. SOUTH) STA. FALLS ON ℄ OF BUSY HWY. COOL & CALM THIS SET-UP

* CUP TACK SET IN PIPE FOR CENTER



SKETCH OF SET-UP

Station ID: 0129 Session #: 340-2 Dec 6, 1991 18:08
Reference Position - LOW ACCURACY:
Lat. = 0:00'00.000" N Long. = 0:00'00.000" W Height = 0.0 [meters]
Antenna height = 1.8255 [meters] (entered in the field in meters)
Long station name:

eiver serial # = 301 Jankowski 12-8-91
Internal antenna
NP Software = 3.25 SP Software = 3.25 Download Software = 2.08.06

Survey schedule: UNSPECIFIED
Data-logging start time = 18:08
Data-logging stop time = 19:20

Tracking	SV 3	SV 11	SV 12	SV 17	SV 21	SV 23
total L1	196	120	20	284	284	284
cont L1	196	117	20	284	284	284

SV Selection mode = AUTOMATIC
Elevation mask = 15 [degrees] Minimum # of SVs = 1

3D Position	Best PDOP Position [2.5]	Mean Position [473]
Latitude:	33:20'53.59663" N	33:20'52.88791" N
Longitude:	112:42'44.22540" W	112:42'43.42805" W
Height [m]:	271.3	334.1

2D Position	Best PDOP Position [1.6]	Mean Position [385]
Latitude:	33:20'53.91328" N	33:20'54.31202" N
Longitude:	112:42'43.96190" W	112:42'42.87286" W

GREINER, INC. — G.P.S FIELD OBSERVATION SHEET

OFFICE FILE		E010200	JOB #
PATH/FILE		SALT-GILA	PROJECT
POINT		340-3	SESSION # (-S#)
NOTE		0161	POINT # "FILE"
NOTE		—	POINT NAME
PRESS/HUMID	/	FRI. 6-DEC-91	DATE
TEMP/WEATHER	/	340	JULIAN (DAY) (FINAL)
ANTENNA #		RED	RECVR COLOR
RANGE POLE #		381 / 4000 ST	RECVR # / MODEL
ENTER LAT.		T. PRICE	OBSERVER
ENTER LONG.		—	CREW

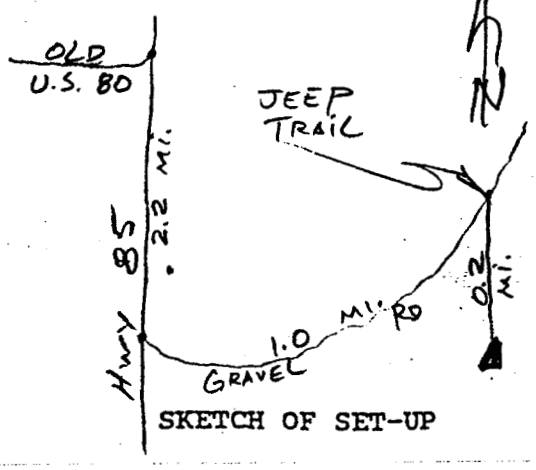
(IMPORTANT: READ THE DISPLAY AND PUSH GREEN SURVEY BUTTON INFO.)

	12:45 BEGIN	1:15 MIDDLE	1:50 FINAL	
FILE-DAY-S#	0161-340-3	0161-340-3	0161-340-3	"SURVEY"
HI CM	132.0	131.9	131.95 ✓	"SURVEY"
HI METERS	1.320	1.319	1.3195	"SURVEY"
HI-1/16 IN.	51 15/16 51.97 ✓ / 51.94 CHECK	51 15/16 51.93 ✓ / 51.94 CHECK	51 15/16 51.95 ✓ / 51.94 CHECK	"SURVEY"
SV.'S #	21 17 11 23	21 17 11 23	21 15 11 23	"ELEV/AZ"
SNR	23 14 17 20	23 09 16 24	27 08 16 08	"ELEV/AZ"
CONTINUOUS	22 22 22 23	138 138 138 138	262 11 262 262	"MORE"
TOTAL MEAS.	22 22 22 23	138 138 138 138	262 11 262 262	"MORE"
SV.'S #	12 — — —	12 — — —	12 — — —	"ELEV/AZ"
SNR	10 — — —	14 — — —	14 — — —	"ELEV/AZ"
CONTINOUS	23 — — —	24 — — —	168 — — —	"MORE"
TOTAL MEAS.	23 — — —	106 — — —	250 — — —	"MORE"
LATITUDE	33°19'10.53"	33°19'10.57"	33°19'11.10"	"POSITION"
LONGITUDE	112°36'28.99"	112°36'29.06"	112°36'29.27"	"POSITION"
PDOP / HDOP	3.9 1.9	4.1 1.8	3.6 2.4	"POSITION"
WATCH TIME	12:52:56 P.M.	1:19:23 P.M	1:51:52 P.M.	"DATE"
UTC TIME	19:53:17	20:19:31	20:52:02	"DATE"

51.94
2.54
131.0

POINT DESCRIPTION: B.L.M. BRASS CAP ON 2" PIPE - ± 1' ABOVE F/S. NE COR. SEC 25 T1S R4W. STA. FALLS @ JCT. OF BARBED WIRE FENCE - VERY TALL SET-UP COOL & CALM @ THIS STA.

R4W R3W T1S 24 19 25 30



SKETCH OF SET-UP

Station ID: 0161 Session #: 340-3 Dec 6, 1991 19:45
Reference Position - LOW ACCURACY:
Lat. = 0:00'00.000" N Long. = 0:00'00.000" W Height = 0.0 [meters]
Antenna height = 1.3195 [meters] (entered in the field in meters)
Long station name:

ceiver serial # = 381 Tanphal 12-8-91
Internal antenna
NP Software = 3.25 SP Software = 3.25 Download Software = 2.08.06

Survey schedule: UNSPECIFIED
Data-logging start time = 19:46
Data-logging stop time = 20:56

Tracking	SV 11	SV 12	SV 15	SV 17	SV 21	SV 23
total L1	278	265	27	180	278	278
cont L1	278	183	27	161	278	278

SV Selection mode = AUTOMATIC
Elevation mask = 15 [degrees] Minimum # of SVs = 1

3D Position	Best PDOP Position [3.5]	Mean Position [836]
Latitude:	33:19'12.82900" N	33:19'10.51282" N
Longitude:	112:36'28.65162" W	112:36'29.13433" W
Height [m]:	406.2	246.3

2D Position Position not available

GREINER, INC. — G.P.S FIELD OBSERVATION SHEET

OFFICE FILE		E010200	JOB #
PATH/FILE		SALT-GILA	PROJECT
POINT		340-4	SESSION # (-S#)
NOTE		0172	POINT # "FILE"
NOTE		—	POINT NAME
PRESS/HUMID	/	FRI. 6-DEC-91	DATE
TEMP/WEATHER	/	340	JULIAN (DAY) (FINAL)
ANTENNA #		RED	RECVR COLOR
RANGE POLE #		381/4000 ST	RECVR # / MODEL
ENTER LAT.		T. PRICE	OBSERVER
ENTER LONG.		—	CREW

(IMPORTANT: READ THE DISPLAY AND PUSH GREEN SURVEY BUTTON INFO.)

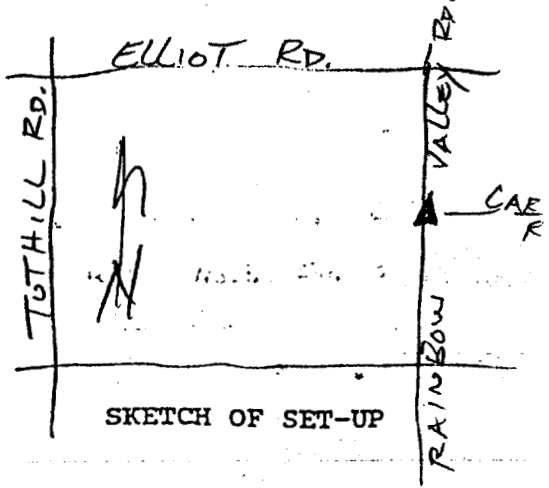
Johnson

	2:25 BEGIN	3:00 MIDDLE	3:25 FINAL	
FILE-DAY-S#	0172-340-4	0172-340-4	0172-340-4	"SURVEY"
HI CM	172.3	172.2	172.25 ✓	"SURVEY"
HI METERS	1.723	1.722	1.7225	"SURVEY"
HI-1/16 IN.	67 13/16 6783 ✓	67 13/16 6780 ✓	67 13/16 67.82 ✓	"SURVEY"
	67.81 CHECK	67.81 CHECK	67.81 CHECK	
SV.'S #	11 23 15 21	11 15 21 —	11 15 21 —	"ELEV/AZ"
SNR	17 09 16 24	11 21 22 —	08 24 18 —	"ELEV/AZ"
CONTINUOUS	30 30 30 30	137 137 137 —	43 239 240 —	"MORE"
TOTAL MEAS.	30 30 30 30	137 137 137 —	239 239 240 —	"MORE"
SV.'S #	— — — —	— — — —	— — — —	"ELEV/AZ"
SNR	— — — —	— — — —	— — — —	"ELEV/AZ"
CONTINOUS	— — — —	— — — —	— — — —	"MORE"
TOTAL MEAS.	— — — —	— — — —	— — — —	"MORE"
LATITUDE	33°20'27.79"	33°20'26.67"	33°20'25.32"	"POSITION"
LONGITUDE	112°28'10.63"	112°28'12.08"	112°28'12.08"	"POSITION"
PDOP / HDOP	3.6 1.7	1.8 1.8	1.8 1.8	"POSITION"
WATCH TIME	2:35:35 p.m.	3:02:24 p.m.	3:27:45 p.m.	"DATE"
UTC TIME	21:35:48	22:02:33	22:27:56	"DATE"

67.81
2.64
172.

POINT DESCRIPTION: BRASS CAP IN HAND-HOLE @ INT. OF RAINBOW VALLEY RD. & CARVER RD. - STA. FALLS IN A.C. W/ BUSY TRAFFIC THIS TIME OF DAY. - USED "+" ON CAP STATION FOR CENTER. CALM & COOL THIS SET-UP.

HWY. DEPT. ELEV 1716 STA 474+76.79 1956



SKETCH OF SET-UP

Station ID: 0172 Session #: 340-4 Dec 6, 1991 21:26
Reference Position - LOW ACCURACY:
Lat. = 0:00'00.000" N Long. = 0:00'00.000" W Height = 0.0 [meters]
Antenna height = 1.7225 [meters] (entered in the field in meters)
Long station name:

Receiver serial # = 381 Johnson 12-8-91
Internal antenna
NP Software = 3.25 SP Software = 3.25 Download Software = 2.08.06

Survey schedule: UNSPECIFIED
Data-logging start time = 21:27
Data-logging stop time = 22:30

Tracking	SV 11	SV 15	SV 21	SV 23
total L1	242	253	253	95
cont L1	196	253	253	95

SV Selection mode = AUTOMATIC
Elevation mask = 15 [degrees] Minimum # of SVs = 1

3D Position	Best PDOP Position [2.9]	Mean Position [285]
Latitude:	33:20'28.11150" N	33:20'28.00282" N
Longitude:	112:28'09.84446" W	112:28'11.23678" W
Height [m]:	329.3	289.1

2D Position	Best PDOP Position [1.3]	Mean Position [442]
Latitude:	33:20'28.54138" N	33:20'26.43939" N
Longitude:	112:28'09.43298" W	112:28'11.77507" W

0001-340-1
DOUBLE SESSION

GREINER, INC. — **G.P.S FIELD OBSERVATION SHEET**

OFFICE FILE		E010200	JOB #
PATH/FILE		SALT / GILA	PROJECT
POINT		340-1	SESSION # (-S#)
NOTE		0007	POINT # "FILE"
NOTE		"WINTERSBURG"	POINT NAME
PRESS/HUMID	/	FRI-06-DEC-91	DATE
TEMP/WEATHER	/	340	JULIAN (DAY) (FINAL)
ANTENNA #		WHITE	RECVR COLOR
RANGE POLE #		379 / ST 4000	RECVR # / MODEL
ENTER LAT.		C. SCHULTE	OBSERVER
ENTER LONG.		S. CROY	CREW

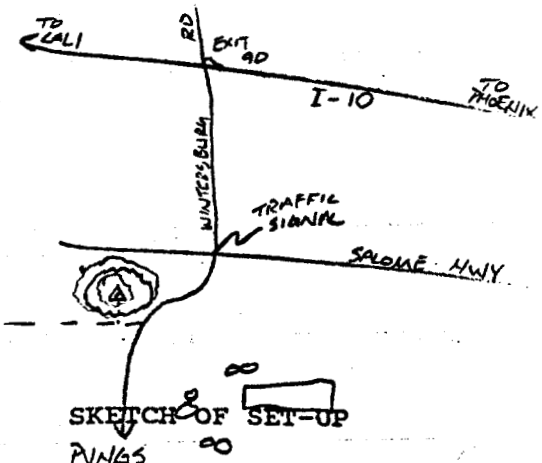
(IMPORTANT: READ THE DISPLAY AND PUSH GREEN SURVEY BUTTON INFO.)

	BEGIN	MIDDLE	FINAL	
FILE-DAY-S#	0007-340-1	0007-340-1	0007-340-1	"SURVEY"
HI CM	129.75	129.70	129.70	"SURVEY"
HI METERS	1.2975	1.2970	1.2970	"SURVEY"
HI-1/16 IN.	51 2/16 51.08 / 51.12 CHECK (9:12 A.M.)	51 1/16 51.06 / 51.06 CHECK (11:00 AM)	51 1/16 51.06 / 51.06 CHECK (12:20 P.M.)	"SURVEY"
SV.'S #	03 23 17 20	03 23 17 21	12 23 17 21	"ELEV/AZ"
SNR	24 17 22 09	19 21 25 16	08 23 17 23	"ELEV/AZ"
CONTINUOUS	7 7 7 7	437 437 437 262	17 759 760 584	"MORE"
TOTAL MEAS.	7 7 7 7	437 437 437 262	17 759 760 584	"MORE"
SV.'S #	16		11	"ELEV/AZ"
SNR	10		11	"ELEV/AZ"
CONTINOUS	8		120	"MORE"
TOTAL MEAS.	8		120	"MORE"
LATITUDE	33 °24'58.80"	33 °24'56.95"	33 °24'57.66"	"POSITION"
LONGITUDE	112 °52'29.52"	112 °52'31.96"	112 °52'31.16"	"POSITION"
PDOP / HDOP	3.4 2.1	8.0 3.2	3.5 2.5	"POSITION"
WATCH TIME	9:14	11:01	12:21	"DATE"
UTC TIME	16:14	18:01	19:21	"DATE"

51.06
2.54
129.7

POINT DESCRIPTION: FROM PHOENIX PROCEED WEST ON I-10 TO WINTERSBURG RD (EXIT 90). THEN GO SOUTH ± 3 MILE TO TRAFFIC SIGNAL THENSE 0 MILE SOUTH TO DIRT RD. (WEST). GO WEST ON DIRT RD. ± 400'. PARK TRUCK. ± 30 MIN HIKE NORTHERLY UP TO STATION.

* NOTE: POINT IS ± 2 MILE NORTHWEST OF PALO VERDE NUCLEAR GENERATING STATION.



SKETCH OF SET-UP

MARKINGS: U.S. COAST & GEODETIC SURVEY TRIANGULATION STATION

Station ID: 0007 Session #: 340-1 Dec 6, 1991 16:10
Reference Position - LOW ACCURACY:
Lat. = 0:00'00.000" N Long. = 0:00'00.000" W Height = 0.0 [meters]
Antenna height = 1.2970 [meters] (entered in the field in meters)
Long station name:

Jackson 12-8-91

R eiver serial # = 379
Internal antenna
NP Software = 3.25 SP Software = 3.25 Download Software = 2.08.06

Survey schedule: UNSPECIFIED
Data-logging start time = 16:10
Data-logging stop time = 19:25

Tracking	SV 3	SV 11	SV 12	SV 16	SV 17	SV 20	SV 21	SV 23
total L1	670	139	36	76	777	50	602	777
cont L1	670	139	36	76	777	50	602	777

SV Selection mode = AUTOMATIC
Elevation mask = 15 [degrees] Minimum # of SVs = 1

3D Position	Best PDOP Position [2.5]	Mean Position [1639]
Latitude:	33:24'58.13987" N	33:24'58.52496" N
Longitude:	112:52'33.03864" W	112:52'31.85033" W
Height [m]:	381.0	360.4

2D Position	Best PDOP Position [1.6]	Mean Position [695]
Latitude:	33:24'58.61618" N	33:24'58.64913" N
Longitude:	112:52'32.86324" W	112:52'31.95341" W

0007-340-2
DOUBLE SESSION
DUPLICATE OF #1

GREINER, INC.

G.P.S FIELD OBSERVATION SHEET

OFFICE FILE		E010200	JOB #
PATH/FILE		SALT / GILA	PROJECT
POINT		~~3407~~	SESSION # (-S#)
NOTE		0007	POINT # "FILE"
NOTE		"WINTERSBURG"	POINT NAME
PRESS/HUMID	/	FRI-06-DEC-91	DATE
TEMP/WEATHER	/	240	JULIAN (DAY) (FINAL)
ANTENNA #		WHITE	RECVR COLOR
RANGE POLE #		379 / ST 4000	RECVR # / MODEL
ENTER LAT.		C. SCHULTE	OBSERVER
ENTER LONG.		S. CROY	CREW

(2)

Johnson

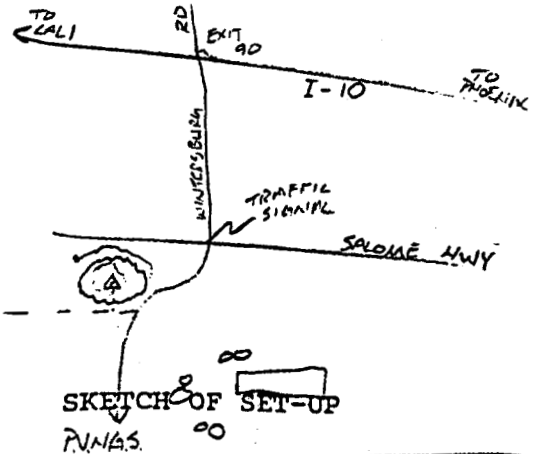
(IMPORTANT: READ THE DISPLAY AND PUSH GREEN SURVEY BUTTON INFO.)

	BEGIN	MIDDLE	FINAL	
FILE-DAY-S#	0007-340-1 2	0007-340-1 2	0007-340-1 2	"SURVEY"
HI CM	129.75	129.70	129.70	"SURVEY"
HI METERS	1.2975	1.2970	1.2970	"SURVEY"
HI-1/16 IN.	51 2/16 51.08 / 51.12 CHECK 9:12 A.M.	51 1/16 51.06 / 51.06 CHECK 11:00 AM	51 1/16 51.06 / 51.06 CHECK 12:20 P.M.	"SURVEY"
SV.'S #	03 23 17 20	03 23 17 21	12 23 17 21	"ELEV/AZ"
SNR	24 17 22 09	19 21 25 16	08 23 17 23	"ELEV/AZ"
CONTINUOUS	7 7 7 7	437 437 437 262	17 759 760 584	"MORE"
TOTAL MEAS.	7 7 7 7	437 437 437 262	17 759 760 584	"MORE"
SV.'S #	16		11	"ELEV/AZ"
SNR	10		11	"ELEV/AZ"
CONTINOUS	8		120	"MORE"
TOTAL MEAS.	8		120	"MORE"
LATITUDE	33 °24'58.80"	33 °24'56.95"	33 °24'57.66"	"POSITION"
LONGITUDE	112 °52'29.52"	112 °52'31.96"	112 °52'31.16"	"POSITION"
PDOP / HDOP	3.4 2.1	8.0 3.2	3.5 2.5	"POSITION"
WATCH TIME	9:14	11:01	12:21	"DATE"
UTC TIME	16:14	18:01	19:21	"DATE"

51.06
2.54
129.7

POINT DESCRIPTION: FROM PHOENIX PROCEED WEST ON I-10 TO WINTERSBURG RD (EXIT 90). THEN GO SOUTH ± 3 MILE TO TRAFFIC SIGNAL THENSE 0.8 MILE SOUTH TO DIRT RD. (WEST). GO WEST ON DIRT RD. ± 400'. PARK TRUCK. ± 30 MIN HIKE NORTHERLY UP TO STATION.

* NOTE: POINT IS ± 2 MILE NORTH WEST OF PALOVERDE NUCLEAR GENERATING STATION.



SKETCH OF SET-UP

WINTERSBURG 1934

RKINGS:
COAST & GEODETIC SURVEY
TRIANGULATION STATION

Station ID: 0007 Session #: 340-2 Dec 6, 1991 16:10
Reference Position - LOW ACCURACY:
Lat. = 0:00'00.000" N Long. = 0:00'00.000" W Height = 0.0 [meters]
Antenna height = 1.2970 [meters] (entered in the field in meters)
Long station name:

Jackson 12-8-91

R aiver serial # = 379
Internal antenna
NP Software = 3.25 SP Software = 3.25 Download Software = 2.08.06

Survey schedule: UNSPECIFIED
Data-logging start time = 16:10
Data-logging stop time = 19:25

Tracking	SV 3	SV 11	SV 12	SV 16	SV 17	SV 20	SV 21	SV 23
total L1	670	139	36	76	777	50	602	777
cont L1	670	139	36	76	777	50	602	777

SV Selection mode = AUTOMATIC
Elevation mask = 15 [degrees] Minimum # of SVs = 1

3D Position	Best PDOP Position [2.5]	Mean Position [1639]
Latitude:	33:24'58.13987" N	33:24'58.52496" N
Longitude:	112:52'33.03864" W	112:52'31.85033" W
Height [m]:	381.0	360.4

2D Position	Best PDOP Position [1.6]	Mean Position [695]
Latitude:	33:24'58.61618" N	33:24'58.64913" N
Longitude:	112:52'32.86324" W	112:52'31.95341" W

0007-340-3
DOUBLE SESSION
DUPLICATE OF #4

GREINER, INC.

G.P.S FIELD OBSERVATION SHEET

OFFICE FILE		E 010200	JOB #
PATH/FILE		SALT/GILA	PROJECT
POINT	3	340.4	SESSION # (-S#)
NOTE		0007	POINT # "FILE"
NOTE		WINTERSBURG	POINT NAME
PRESS/HUMID	/	6 DEC. 91 - FRIDAY	DATE
TEMP/WEATHER	/	340	JULIAN (DAY) (FINAL)
ANTENNA #		WHITE	RECVR COLOR
RANGE POLE #		379 / ST 4000	RECVR # / MODEL
ENTER LAT.		S. CROW	OBSERVER
ENTER LONG.		C. SCHULTE	CREW

Johnson

(IMPORTANT: READ THE DISPLAY AND PUSH GREEN SURVEY BUTTON INFO.)

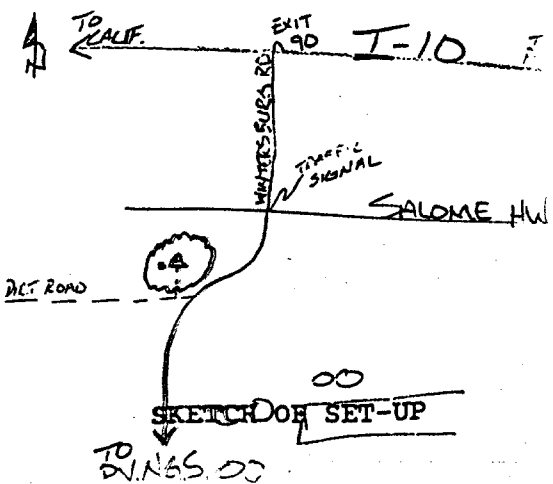
Johnson

	BEGIN				2:00 MIDDLE				3:16 FINAL				
FILE-DAY-S#	0007-340-4 3				0007-340-4 3				0007-340-4 3				"SURVEY"
HI CM	134.90				134.80				134.80				"SURVEY"
HI METERS	1.3490				1.3480				1.3480				"SURVEY"
HI-1/16 IN.	53 3/16	53.11			53 1/16	53.0709			53 1/16	53.0709			"SURVEY"
	53.12	CHECK			53.0625	CHECK			53.12	CHECK			
12:32		LOST SV #17 @ 1:30			LOST SV #23 @ 2:30	LOST SV #15 @ 2:15							
SV.'S #	21	23	12	17	21	23	12	15	21	15	11		"ELEV/AZ"
SNR	23	22	10	15	26	13	08	08	20	22	09		"ELEV/AZ"
CONTINUOUS	4	5	5	5	3616	3616	3616	48	1614	3616	1605		"MORE"
TOTAL MEAS.	4	5	5	5	3616	3616	3616	48	1614	3616	1605		"MORE"
SV.'S #	11				11								"ELEV/AZ"
SNR	13				19								"ELEV/AZ"
CONTINOUS	5				3648								"MORE"
TOTAL MEAS.	5				3648								"MORE"
LATITUDE	33 °24'57.71"				33 °24'58.55"				33 °24'56.10"				"POSITION"
LONGITUDE	112 °52'30.94"				112 °52'31.45"				112 °52'32.83"				"POSITION"
PDOP / HDOP	3.6	2.2			3.3	2.0			1.8	1.8			"POSITION"
WATCH TIME	12:34 PM				2:03:10 PM				3:19:43 PM				"DATE"
UTC TIME	19:34				21:03:25				22:19:57				"DATE"

53.0
2.54
134

POINT DESCRIPTION: FROM PHOENIX PROCEED WEST ON I-10 TO WINTERSBURG RD. (EXIT 90) THEN GO SOUTH ±3 MILE TO TRAFFIC SIGNAL. CONTINUING SOUTH 0.8 MILE TO DIRT RD (WEST) GO WEST ±400' PARK TRUCK ±30 MIN HIKE NORTH UP TO POINT.

*NOTE: POINT IS ±2 MILE NORTH WEST OF PALO VERDE NUCLEAR GENERATING STATION



SKETCH OF SET-UP

Station ID: 0007 ✓ Session #: 340-3 ✓ Dec 6, 1991 19:31
Reference Position - LOW ACCURACY:
Lat. = 0:00'00.000" N Long. = 0:00'00.000" W Height = 0.0 [meters]
Antenna height = 1.3480 ✓ [meters] (entered in the field in meters)
Long station name:

Jamboy 12-8-91

ceiver serial # = 379
internal antenna
NF Software = 3.25 SP Software = 3.25 Download Software = 2.08.06

Survey schedule: UNSPECIFIED
Data-logging start time = 19:32
Data-logging stop time = 22:30

Tracking	SV 11	SV 12	SV 15	SV 17	SV 21	SV 23
total L1	704	420	402	236	710	549
cont L1	704	420	402	236	710	549

SV Selection mode = AUTOMATIC
Elevation mask = 15 [degrees] Minimum # of SVs = 1

3D Position	Best PDOP Position [3.1]	Mean Position [1649]
Latitude:	33:24'59.71312" N	33:24'59.08209" N
Longitude:	112:52'31.40004" W	112:52'31.40091" W
Height [m]:	377.3	348.6

2D Position	Best PDOP Position [1.8]	Mean Position [460]
Latitude:	33:24'58.41238" N	33:24'57.25443" N
Longitude:	112:52'32.35536" W	112:52'31.87295" W

0001-340-4
DOUBLE SESSION

GREINER, INC.

G.P.S FIELD OBSERVATION SHEET

OFFICE FILE		E 010200	JOB #
PATH/FILE		SALT/GILA	PROJECT
POINT		340-4	SESSION # (-S#)
NOTE		0007	POINT # "FILE"
NOTE		WINTERSBURG	POINT NAME
PRESS/HUMID	/	6 DEC. 91 - FRIDAY	DATE
TEMP/WEATHER	/	340	JULIAN (DAY) (FINAL)
ANTENNA #		WHITE	RECVR COLOR
RANGE POLE #		379 / ST 4000	RECVR # / MODEL
ENTER LAT.		S. CROW	OBSERVER
ENTER LONG.		C. SCHULTE	CREW

(IMPORTANT: READ THE DISPLAY AND PUSH GREEN SURVEY BUTTON INFO.)

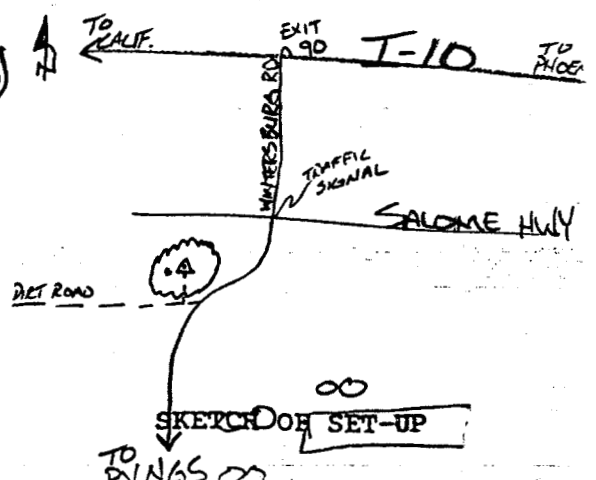
	BEGIN				2:00 MIDDLE				3:16 FINAL				
FILE-DAY-S#	0007-340-4				0007-340-4				0007-340-4				"SURVEY"
HI CM	134.90				134.80				134.80				"SURVEY"
HI METERS	1.3490				1.3480				1.3480				"SURVEY"
HI-1/16 IN.	53 2/16	53.11			53 1/16	53.0709			53 1/16	53.0709			"SURVEY"
	53.12	CHECK			53.0625	CHECK			53.12	CHECK			
12:32		LOST SV #17 @ 1:30			LOST SV #23 @ 2:30	LOST SV #15 @ 2:15							
SV.'S #	21	23	12	17	21	23	12	15	21	15	11		"ELEV/AZ"
SNR	23	22	10	15	26	13	08	08	20	22	09		"ELEV/AZ"
CONTINUOUS	4	5	5	5	3616	3616	3616	48	1614	3616	1605		"MORE"
TOTAL MEAS.	4	5	5	5	3616	3616	3616	48	1614	3616	1605		"MORE"
SV.'S #	11				11								"ELEV/AZ"
SNR	13				19								"ELEV/AZ"
CONTINOUS	5				3648								"MORE"
TOTAL MEAS.	5				3648								"MORE"
LATITUDE	33 °24'57.71"				33 °24'58.59"				33 °24'56.10"				"POSITION"
LONGITUDE	112 °52'30.94"				112 °52'31.45"				112 °52'32.83"				"POSITION"
PDOP / HDOP	3.6	2.2			3.3	2.0			1.8	1.8			"POSITION"
WATCH TIME	12:34 PM				2:03:10 PM				3:19:43 PM				"DATE"
UTC TIME	19:34				21:03:25				22:19:57				"DATE"

Transport

63.04
2.54
134.9

POINT DESCRIPTION: FROM PHOENIX PROCEED WEST ON I-10 TO WINTERSBURG RD. (EXIT 90) THEN GO SOUTH ±3 MILE TO TRAFFIC SIGNAL. CONTINUING SOUTH 0.8 MILE TO DIRT RD (WEST) GO WEST ±400' PARK TRUCK. ±30 MIN HIKE NORTH UP TO POINT.

*NOTE: POINT IS ±2 MILE NORTH WEST OF PALO VERDE NUCLEAR GENERATING STATION



Station ID: 0007 Session #: 340-4 Dec 6, 1991 19:31
Reference Position - LOW ACCURACY:
Lat. = 0:00'00.000" N Long. = 0:00'00.000" W Height = 0.0 [meters]
Antenna height = 1.3480 [meters] (entered in the field in meters)
Long station name:

Johnson 12-8-91

:eiver serial # = 379
internal antenna
NP Software = 3.25 SP Software = 3.25 Download Software = 2.08.06

Survey schedule: UNSPECIFIED
Data-logging start time = 19:32
Data-logging stop time = 22:30

Tracking	SV 11	SV 12	SV 15	SV 17	SV 21	SV 23
total L1	704	420	402	236	710	549
cont L1	704	420	402	236	710	549

SV Selection mode = AUTOMATIC
Elevation mask = 15 [degrees] Minimum # of SVs = 1

3D Position	Best PDOP Position [3.1]	Mean Position [1649]
Latitude:	33:24'59.71312" N	33:24'59.08209" N
Longitude:	112:52'31.40004" W	112:52'31.40091" W
Height [m]:	377.3	348.6

2D Position	Best PDOP Position [1.8]	Mean Position [460]
Latitude:	33:24'58.41238" N	33:24'57.25443" N
Longitude:	112:52'32.35536" W	112:52'31.87295" W

POWER BUTTE
0005-340-1
DOUBLE SESSION

GREINER, INC.

G.P.S FIELD OBSERVATION SHEET

OFFICE FILE		E010200	JOB #
PATH/FILE		SALT / GILA	PROJECT
POINT		#1	SESSION # (-S#)
NOTE		0005	POINT # "FILE"
NOTE		POWER BUTTE	POINT NAME
PRESS/HUMID	1	16 DEC 1991	DATE
TEMP/WEATHER	1 PART. CLDY	340	JULIAN (DAY) (FINAL)
ANTENNA #		BLUE	RECVR COLOR
RANGE POLE #		382-4000	RECVR # / MODEL
ENTER LAT.		RICK KLEBIEKO	OBSERVER
ENTER LONG.		MASON WOMBLE	CREW

$56\frac{19}{16} = 56\frac{20}{32}$

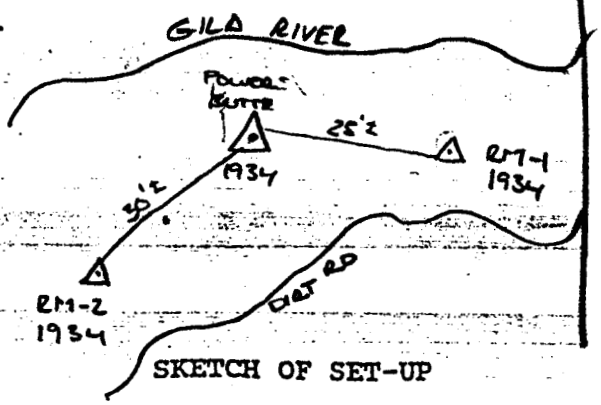
(IMPORTANT: READ THE DISPLAY AND PUSH GREEN SURVEY BUTTON INFO.)

$56\frac{20}{32} = 56.63$

	BEGIN		MIDDLE		FINAL		
FILE-DAY-S#	0005-340-1		0005-340-1		0005-340-1		"SURVEY"
HI CM	143.85		143.85		143.85 ✓		"SURVEY"
HI METERS	1.4385		1.4385		1.4385		"SURVEY"
HI-1/16 IN.	$56\frac{19}{32}$ 56.63	56.6339 CHECK	$56\frac{19}{32}$ 56.63	56.6339 CHECK	$56\frac{19}{32}$ 56.63	56.6339 CHECK	"SURVEY"
SV.'S #	17 16 03 23		17 21 03 23		17 21 12 23		"ELEV/AZ"
SNR	23 07 23 20		25 15 19 22		17 24 09 23		"ELEV/AZ"
CONTINUOUS	17 14 17 17		384 267 384 384		719 602 43 719		"MORE"
TOTAL MEAS.	17 14 17 17		384 267 384 384		719 602 43 719		"MORE"
	LOST 16 @ 9:30am		LOST 03 @ 11:58am				
SV.'S #	21 @ 10:01am		11 @ 11:51		11		"ELEV/AZ"
SNR	09		06		13		"ELEV/AZ"
CONTINOUS	25		5		141		"MORE"
TOTAL MEAS.	25		5		141		"MORE"
LATITUDE	33 °18' 23.21"		33 °18' 23.26"		33 °18' 25.97"		"POSITION"
LONGITUDE	112 °44' 06.16"		112 °44' 05.96"		112 °44' 04.19"		"POSITION"
PDOP / HDOP	2.6	2.6	8.4	3.2	3.5	2.4	"POSITION"
WATCH TIME	9:30am		11:02am		12:25		"DATE"
UTC TIME	16:30		18:02		19:25		"DATE"

POINT DESCRIPTION: U.S. COAST & GEODETIC SURVEY BRASS CAP EPOXIED IN BASALT ON TOP OF POWER BUTTE, STAMPED "POWER BUTTE 1934" TRIANGULATION STATION"; W/ RM-1 25'± E. AND RM-2 30'± SW OF MONUMENT & BOTH EPOXIED IN BASALT AND STAMPED 1934

USC & GS POWER BUTTE 1934



SKETCH OF SET-UP

Station ID: 0005 Session #: 340-1 Dec 6, 1991 16:24
Reference Position - LOW ACCURACY:
Lat. = 0:00'00.000" N Long. = 0:00'00.000" W Height = 0.0 [meters]
Antenna height = 1.4385 [meters] (entered in the field in meters)
Long station name:

eiver serial # = 382 Jonathan 12-8-91
Internal antenna
NP Software = 3.25 SP Software = 3.25 Download Software = 2.08.06

Survey schedule: UNSPECIFIED
Data-logging start time = 16:25
Data-logging stop time = 19:26

Tracking	SV 3	SV 11	SV 12	SV 16	SV 17	SV 21	SV 23
total L1	611	143	45	13	721	604	721
cont L1	611	143	45	13	721	604	721

SV Selection mode = AUTOMATIC
Elevation mask = 15 [degrees] Minimum # of SVs = 1

3D Position	Best PDOP Position [2.5]	Mean Position [1443]
Latitude:	33:18'23.50082" N	33:18'24.03065" N
Longitude:	112:44'07.43553" W	112:44'06.04153" W
Height [m]:	409.4	386.6

2D Position	Best PDOP Position [1.6]	Mean Position [719]
Latitude:	33:18'23.57766" N	33:18'23.91716" N
Longitude:	112:44'07.22573" W	112:44'06.11201" W

POWER BUTTE
0005-340-4 3
DOUBLE SESSION
DUPLICATE OF #4

GREINER, INC.

G.P.S FIELD OBSERVATION SHEET

OFFICE FILE		E010200	JOB #
PATH/FILE		SALT/GILA	PROJECT
POINT		3 #4	SESSION # (-S#)
NOTE		0005	POINT # "FILE"
NOTE		POWER BUTTE	POINT NAME
PRESS/HUMID	/	16 DEC 1991	DATE
TEMP/WEATHER	/	340	JULIAN (DAY) (FINAL)
ANTENNA #		BLUE	RECVR COLOR
RANGE POLE #		382-4000	RECVR # / MODEL
ENTER LAT.		RICK KLEBIEKO	OBSERVER
ENTER LONG.		MASON WOMBLE	CREW

Johnson

(IMPORTANT: READ THE DISPLAY AND PUSH GREEN SURVEY BUTTON INFO.)

$52\frac{15}{16} = 52.93$
$\times 2.54$
134.4

	BEGIN		MIDDLE		FINAL		
FILE-DAY-S#	0005-340-4 3		0005-340-4 3		0005-340-4 3		"SURVEY"
HI CM	134.35		134.35		134.35		"SURVEY"
HI METERS	1.3435		1.3435		1.3435		"SURVEY"
HI-1/16 IN.	52 15/32	52.8937	52 15/32	52.8937	52 15/32	52.8937	"SURVEY"
	52.90	CHECK	52.90	CHECK	52.90	CHECK	
SV.'S #	21 17 11 12		21 15 11 12		15 21 11 LOST @		"ELEV/AZ"
SNR	24 15 14 09		27 08 19 10		19 25 07		"ELEV/AZ"
CONTINUOUS	8 8 8 8		347 42 347 347		402 707 701		"MORE"
TOTAL MEAS.	8 8 8 8		347 42 347 347		402 707 701		"MORE"
	LOST 17 @ 1:31 pm		LOST SV 12 @ 2:18 pm; SV 23 @ 2:50; SV 11 @ 3:28				
SV.'S #	23	15 @ 1.50pm	23				"ELEV/AZ"
SNR	23	07	13				"ELEV/AZ"
CONTINOUS	8	2	347				"MORE"
TOTAL MEAS.	8	2	347				"MORE"
LATITUDE	33 °18'25.71"		33 °18'23.97"		33 °18'21.51"		"POSITION"
LONGITUDE	112 °44'04.99"		112 °44'05.40"		112 °44'06.40"		"POSITION"
PDOP / HDOP	3.6	2.2	3.4	2.1	1.8	1.8	"POSITION"
WATCH TIME	12:35 pm		2:00pm		3:30pm		"DATE"
UTC TIME	19:35		21:00		22:30		"DATE"

POINT DESCRIPTION: U.S. COAST & GEODETIC SURVEY BRASS CAP EPOXIED IN BASALT ON TOP OF POWER BUTTE, STAMPED "POWER BUTTE 1934 TRIANGULATION STATION; W/ RM-1 25'± E. AND RM-2 30'± SW OF MONUMENT ℄ BOTH EPOXIED IN BASALT AND STAMPED 1934

CK'D 3 POWER BUTTE 1934

SKETCH OF SET-UP
SEE SESSION 1

Station ID: 0005 Session #: 340-3 Dec 6, 1991 19:32
Reference Position - LOW ACCURACY:
Lat. = 0:00'00.000" N Long. = 0:00'00.000" W Height = 0.0 [meters]
Antenna height = 1.3435 [meters] (entered in the field in meters)
Long station name:

Jonkson 12-8-91

Receiver serial # = 382
Internal antenna
NP Software = 3.25 SP Software = 3.25 Download Software = 2.08.06

Survey schedule: UNSPECIFIED
Data-logging start time = 19:33
Data-logging stop time = 22:30

Tracking	SV 11	SV 12	SV 15	SV 17	SV 21	SV 23
total L1	701	418	404	234	709	549
cont L1	701	418	404	234	709	549

SV Selection mode = AUTOMATIC
Elevation mask = 15 [degrees] Minimum # of SVs = 1

3D Position	Best PDOP Position [3.1]	Mean Position [1645]
Latitude:	33:18'25.24377" N	33:18'24.58689" N
Longitude:	112:44'05.53463" W	112:44'05.51598" W
Height [m]:	408.3	377.5

2D Position	Best PDOP Position [1.8]	Mean Position [454]
Latitude:	33:18'24.01573" N	33:18'22.67065" N
Longitude:	112:44'06.57575" W	112:44'06.02683" W

POWER BUTTE
0005-340-4
DOUBLE SESSION

GREINER, INC. — **G.P.S FIELD OBSERVATION SHEET**

OFFICE FILE		E010200	JOB #
PATH/FILE		SALT/GILA	PROJECT
POINT		#4	SESSION # (-S#)
NOTE		0005	POINT # "FILE"
NOTE		POWER BUTTE	POINT NAME
PRESS/HUMID	/	16 DEC 1991	DATE
TEMP/WEATHER	/	340	JULIAN (DAY) (FINAL)
ANTENNA #		BLUE	RECVR COLOR
RANGE POLE #		382-4000	RECVR # / MODEL
ENTER LAT.		RICK KLEBIEKO	OBSERVER
ENTER LONG.		MASON WOMBLE	CREW

(IMPORTANT: READ THE DISPLAY AND PUSH GREEN SURVEY BUTTON INFO.)

52 15/16 = 52.93 X 2.54 = 134.4

	BEGIN		MIDDLE		FINAL		
FILE-DAY-S#	0005-340-4		0005-340-4		0005-340-4		"SURVEY"
HI CM	134.35		134.35		134.35 ✓		"SURVEY"
HI METERS	1.3435		1.3435		1.3435		"SURVEY"
HI-1/16 IN.	52 15/32	52.8937	52 15/32	52.8937	52 15/32	52.8937	"SURVEY"
	52.90	CHECK	52.90	CHECK	52.90	CHECK	
SV.'S #	21 17 11 12		21 15 11 12		15 21 11	LOST @	"ELEV/AZ"
SNR	24 15 14 09		27 08 19 10		19 25 07		"ELEV/AZ"
CONTINUOUS	8 8 8 8		347 42 347 347		402 707 701		"MORE"
TOTAL MEAS.	8 8 8 8		347 42 347 347		402 707 701		"MORE"
	LOST 17 @ 1:31 pm		LOST SV 12 @ 2:18 pm				
SV.'S #	23	15 @ 1:50pm	23	SV 23 @ 2:50 SV 11 @ 3:28			"ELEV/AZ"
SNR	23	07	13				"ELEV/AZ"
CONTINOUS	8	2	347				"MORE"
TOTAL MEAS.	8	2	347				"MORE"
LATITUDE	33 °18'25.71"		33 °18'23.97"		33 °18'21.51"		"POSITION"
LONGITUDE	112 °44'04.99"		112 °44'05.40"		112 °44'06.40"		"POSITION"
PDOP / HDOP	3.6	2.2	3.4	2.1	1.8	1.8	"POSITION"
WATCH TIME	12:35 pm		2:00pm		3:30pm		"DATE"
UTC TIME	19:35		21:00		22:30		"DATE"

POINT DESCRIPTION: U.S. COAST & GEODETIC SURVEY BRASS CAP EPOXIED IN BASALT ON TOP OF POWER BUTTE, STAMPED "POWER BUTTE 1934 TRIANGULATION STATION; w/ RM-1 25'± E. AND RM-2 30'± SW OF MONUMENT ∡ BOTH EPOXED IN BASALT AND STAMPED 1934

C&GS POWEL BUTTE 1934

SKETCH OF SET-UP
SEE SESSION 1

Station ID: 0005 Session #: 340-4 Dec 6, 1991 19:32
Reference Position - LOW ACCURACY:
Lat. = 0:00'00.000" N Long. = 0:00'00.000" W Height = 0.0 [meters]
Antenna height = 1.3435 [meters] (entered in the field in meters)
Long station name:

Jonkford 12.8.91

. .eiver serial # = 382
Internal antenna
NP Software = 3.25 SP Software = 3.25 Download Software = 2.08.06

Survey schedule: UNSPECIFIED
Data-logging start time = 19:33
Data-logging stop time = 22:30

Tracking	SV 11	SV 12	SV 15	SV 17	SV 21	SV 23
total L1	701	418	404	234	709	549
cont L1	701	418	404	234	709	549

SV Selection mode = AUTOMATIC
Elevation mask = 15 [degrees] Minimum # of SVs = 1

3D Position	Best PDOP Position [3.1]	Mean Position [1645]
Latitude:	33:18'25.24377" N	33:18'24.58689" N
Longitude:	112:44'05.53463" W	112:44'05.51598" W
Height [m]:	408.3	377.5

2D Position	Best PDOP Position [1.8]	Mean Position [454]
Latitude:	33:18'24.01573" N	33:18'22.67065" N
Longitude:	112:44'06.57575" W	112:44'06.02683" W

0001-340-1
DOUBLE SESSION

GREINER, INC.

G.P.S FIELD OBSERVATION SHEET

OFFICE FILE		E010200	JOB #
PATH/FILE		SALT/GILA	PROJECT
POINT		1	SESSION # (-S#)
NOTE		0001	POINT # "FILE"
NOTE		INITIAL POINT	POINT NAME
PRESS/HUMID	/	12/06/91	DATE
TEMP/WEATHER	/	340	JULIAN (DAY) (FINAL)
ANTENNA #		GREEN	RECVR COLOR
RANGE POLE #		373	RECVR # / MODEL
ENTER LAT.		VINCE NECHERO	OBSERVER
ENTER LONG.			CREW

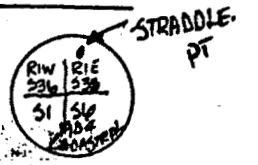
(IMPORTANT: READ THE DISPLAY AND PUSH GREEN SURVEY BUTTON INFO.)

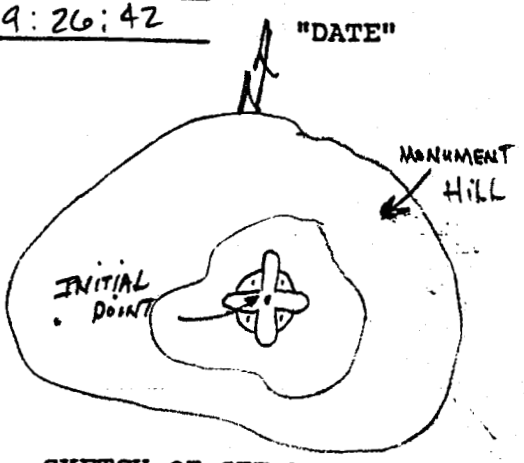
	BEGIN				MIDDLE				FINAL				
FILE-DAY-S#	0001-340-1				0001-340-1				0001-340-1				"SURVEY"
HI CM	153.1				153.0				153.0 ✓				"SURVEY"
HI METERS	1.531				1.530				1.530				"SURVEY"
HI-1/16 IN.	60 1/4"	60.2756			60 1/4"	60.2362			60 1/4	60.2362			"SURVEY"
	60.25	CHECK				CHECK			60.25	CHECK			
SV.'S #	03	16	17	23	03	21	17	23	12	21	17	23	"ELEV/AZ"
SNR	20	10	19	16	17	14	22	19	09	21	16	21	"ELEV/AZ"
CONTINUOUS	2	2	2	2	432	262	432	432	50	601	771	771	"MORE"
TOTAL MEAS.	2	2	2	2	432	262	432	432	50	601	771	771	"MORE"
SV.'S #	20								11				"ELEV/AZ"
SNR	08								11				"ELEV/AZ"
CONTINOUS	2								143				"MORE"
TOTAL MEAS.	2								143				"MORE"
LATITUDE	33 °22'37.14"				33 °22'36.51"				33 °22'35.87"				"POSITION"
LONGITUDE	112 °18'19.99"				112 °18'22.27"				112 °18'23.03"				"POSITION"
PDOP / HDOP	3.4	2.1			8.5	3.3			3.5	2.4			"POSITION"
WATCH TIME	9:15:15 AM				11:01:28 AM				12:26:42 PM				"DATE"
UTC TIME	16:15:15				18:01:28				19:26:42				"DATE"

60.25 X 2.54 = 153.0 Total

POINT DESCRIPTION:

STAINLESS STEAL 3" CAP SET IN CONCRETE MONUMENT WITH 4 STAINLESS STEEL STRADDLERS





SKETCH OF SET-UP

Station ID: 0001 Session #: 340-1 Dec 6, 1991 16:12
Reference Position - LOW ACCURACY:
Lat. = 0:00'00.000" N Long. = 0:00'00.000" W Height = 0.0 [meters]
Antenna height = 1.5300 [meters] (entered in the field in inches)
Long station name:

ceiver serial # = 373 Jerrod 12-8-91
internal antenna
NP Software = 3.25 SP Software = 3.25 Download Software = 2.08.06

Survey schedule: UNSPECIFIED
Data-logging start time = 16:13
Data-logging stop time = 19:28

Tracking	SV 3	SV 11	SV 12	SV 16	SV 17	SV 20	SV 21	SV 23
total L1	659	149	57	66	777	37	607	777
cont L1	659	149	57	66	777	37	607	777

SV Selection mode = AUTOMATIC
Elevation mask = 15 [degrees] Minimum # of SVs = 1

3D Position	Best PDOP Position [2.5]	Mean Position [1615]
Latitude:	33:22'36.63813" N	33:22'37.31489" N
Longitude:	112:18'23.92926" W	112:18'22.23507" W
Height [m]:	374.5	344.1

2D Position	Best PDOP Position [1.6]	Mean Position [731]
Latitude:	33:22'36.85083" N	33:22'37.20485" N
Longitude:	112:18'23.52006" W	112:18'22.31926" W

0001-340-2
DOUBLE SESSION
DUPLICATE OF #1

GREINER, INC.

G.P.S FIELD OBSERVATION SHEET

OFFICE FILE		E010200	JOB #
PATH/FILE		SALT/GILA	PROJECT
POINT		1 (2)	SESSION # (-S#)
NOTE		0001	POINT # "FILE"
NOTE		INITIAL POINT	POINT NAME
PRESS/HUMID	/	12/06/91	DATE
TEMP/WEATHER	/	340	JULIAN (DAY) (FINAL)
ANTENNA #		GREEN	RECVR COLOR
RANGE POLE #		373	RECVR # / MODEL
ENTER LAT.		VINCE NECHERO	OBSERVER
ENTER LONG.			CREW

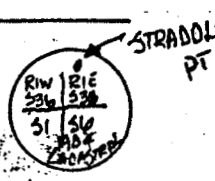
(IMPORTANT: READ THE DISPLAY AND PUSH GREEN SURVEY BUTTON INFO.)

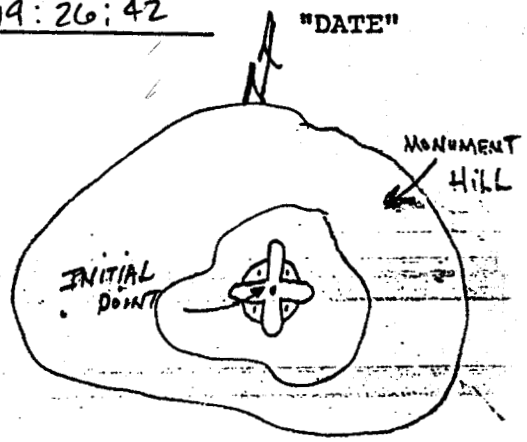
	BEGIN		MIDDLE		FINAL		
FILE-DAY-S#	0001-340-1 (2)		0001-340-1 (2)		0001-340-1 (2)		"SURVEY"
HI CM	153.1		153.0		153.0 ✓		"SURVEY"
HI METERS	1.531		1.530		1.530		"SURVEY"
HI-1/16 IN.	60 1/4"	60.2756	60 1/4"	60.2362	60 1/4	60.2362	"SURVEY"
	60.25	CHECK		CHECK	60.25	CHECK	
SV.'S #	03 16 17 23		03 21 17 23		12 21 17 23		"ELEV/AZ"
SNR	20 10 19 16		17 14 22 19		09 21 16 21		"ELEV/AZ"
CONTINUOUS	2 2 2 2		432 262 432 432		50 601 771 771		"MORE"
TOTAL MEAS.	2 2 2 2		432 262 432 432		50 601 771 771		"MORE"
SV.'S #	20				11		"ELEV/AZ"
SNR	08				11		"ELEV/AZ"
CONTINOUS	2				143		"MORE"
TOTAL MEAS.	2				143		"MORE"
LATITUDE	33 °22'37.14"		33 °22'36.51"		33 °22'35.87"		"POSITION"
LONGITUDE	112 °18'19.99"		112 °18'22.27"		112 °18'23.03"		"POSITION"
PDOP / HDOP	3.4	2.1	8.5	3.3	3.5	2.4	"POSITION"
WATCH TIME	9:15:15 AM		11:01:28 AM		12:26:42 PM		"DATE"
UTC TIME	16:15:15		18:01:28		19:26:42		"DATE"

60.25 x 2.54 = 153.0 JOHNSON!

POINT DESCRIPTION:

STAINLESS STEAL 3" CAP SET IN CONCRETE MONUMENT WITH 4 STAINLESS STEEL STRADDLERS





SKETCH OF SET-UP

Station ID: 0001 Session #: 340-2 Dec 6, 1991 16:12
Reference Position - LOW ACCURACY:
Lat. = 0:00'00.000" N Long. = 0:00'00.000" W Height = 0.0 [meters]
Antenna height = 1.5300 [meters] (entered in the field in inches)
Long station name:

ceiver serial # = 373
Internal antenna
NP Software = 3.25 SP Software = 3.25 Download Software = 2.08.06

Survey schedule: UNSPECIFIED
Data-logging start time = 16:13
Data-logging stop time = 19:28

Tracking	SV 3	SV 11	SV 12	SV 16	SV 17	SV 20	SV 21	SV 23
total L1	659	149	57	66	777	37	607	777
cont L1	659	149	57	66	777	37	607	777

SV Selection mode = AUTOMATIC
Elevation mask = 15 [degrees] Minimum # of SVs = 1

3D Position	Best PDOP Position [2.5]	Mean Position [1615]
Latitude:	33:22'36.63813" N	33:22'37.31489" N
Longitude:	112:18'23.92926" W	112:18'22.23507" W
Height [m]:	374.5	344.1

2D Position	Best PDOP Position [1.6]	Mean Position [731]
Latitude:	33:22'36.85083" N	33:22'37.20485" N
Longitude:	112:18'23.52006" W	112:18'22.31926" W

0001-340-5
DOUBLE SESSION
DUPLICATE OF #4

303

GREINER, INC.

G.P.S FIELD OBSERVATION SHEET

OFFICE FILE		E010200	JOB #
PATH/FILE		SALT/GILA	PROJECT
POINT		4	SESSION # (-S#)
NOTE		0001	POINT # "FILE"
NOTE		INITIAL POINT/(MON. HILL)	POINT NAME
PRESS/HUMID	/	12/06/91	DATE
TEMP/WEATHER	/	340	JULIAN (DAY) (FINAL)
ANTENNA #		GREEN	RECVR COLOR
RANGE POLE #		373	RECVR # / MODEL
ENTER LAT.		VINCE NECHERO	OBSERVER
ENTER LONG.			CREW

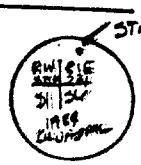
(IMPORTANT: READ THE DISPLAY AND PUSH GREEN SURVEY BUTTON INFO.)

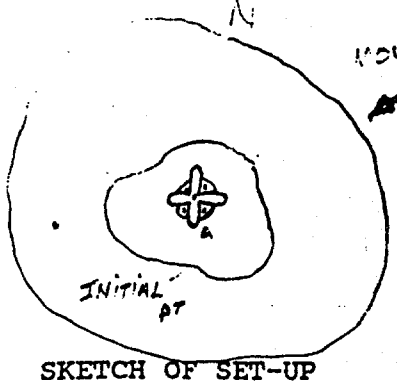
	BEGIN				MIDDLE				FINAL				
FILE-DAY-S#	0001-340-~~4~~ 3								0001-340-3				"SURVEY"
HI CM	157.9				157.9				157.9 ✓				"SURVEY"
HI METERS	1.579				1.579				1.579				"SURVEY"
HI-1/16 IN.	62 3/16	62.1654			62 3/16	62.1654			62 3/16	62.1654			"SURVEY"
	62.1875	CHECK			62.1875	CHECK			62.1875	CHECK			
SV.'S #	21	11	23	17	21	11	23	15	21	11	15		"ELEV/AZ"
SNR	21	13	20	14	24	16	12	08	17	07	21		"ELEV/AZ"
CONTINUOUS	2	2	2	2	336	336	336	40	686	685	390		"MORE"
TOTAL MEAS.	2	2	2	2	336	336	336	40	686	685	390		"MORE"
SV.'S #	20				12								"ELEV/AZ"
SNR	09				09								"ELEV/AZ"
CONTINOUS	2				336								"MORE"
TOTAL MEAS.	2				336								"MORE"
LATITUDE	33 ° 22 ' 37 . 41 "				33 ° 22 ' 37 . 05 "				33 ° 22 ' 34 . 69 "				"POSITION"
LONGITUDE	112 ° 18 ' 22 . 95 "				112 ° 18 ' 21 . 75 "				112 ° 18 ' 22 . 65 "				"POSITION"
PDOP / HDOP	3.6	2.1			3.3	2.0			1.8	1.8			"POSITION"
WATCH TIME	12:36:12 pm				2:01:05 pm				3:30:00 pm				"DATE"
UTC TIME	19:36:12				21:01:05				22:30:00				"DATE"

Vertical
6318
254
160.4
6218
254
157.9

POINT DESCRIPTION:

STAINLESS STEEL 3" CAP SET IN CONC. MONUMENT WITH 4 STAINLESS STEEL STRADDLERS.





SKETCH OF SET-UP

Station ID: 0001 Session #: 340-3 Dec 6, 1991 19:36
Reference Position - LOW ACCURACY:
Lat. = 0:00'00.000" N Long. = 0:00'00.000" W Height = 0.0 [meters]
Antenna height = 1.5790 [meters] (entered in the field in inches)
Long station name:

ceiver serial # = 373 Johnson 12-8-91
Internal antenna
NP Software = 3.25 SP Software = 3.25 Download Software = 2.08.06

Survey schedule: UNSPECIFIED
Data-logging start time = 19:36
Data-logging stop time = 22:30

Tracking	SV 11	SV 12	SV 15	SV 17	SV 21	SV 23
total L1	685	408	398	223	694	541
cont L1	685	408	398	223	694	541

SV Selection mode = AUTOMATIC
Elevation mask = 15 [degrees] Minimum # of SVs = 1

3D Position	Best PDOP Position [3.0]	Mean Position [1618]
Latitude:	33:22'37.96214" N	33:22'37.85652" N
Longitude:	112:18'21.75544" W	112:18'21.78100" W
Height [m]:	332.4	338.3

2D Position	Best PDOP Position [1.8]	Mean Position [428]
Latitude:	33:22'37.08912" N	33:22'35.72847" N
Longitude:	112:18'22.98477" W	112:18'22.47669" W

0001-340-4
DOUBLE SESSION

308

GREINER, INC.

G.P.S FIELD OBSERVATION SHEET

OFFICE FILE		E010200	JOB #
PATH/FILE		SALT/GILA	PROJECT
POINT		4	SESSION # (-S#)
NOTE		0001	POINT # "FILE"
NOTE		INITIAL POINT/MON. HILL	POINT NAME
PRESS/HUMID	/	12/06/91	DATE
TEMP/WEATHER	/	340	JULIAN (DAY) (FINAL)
ANTENNA #		GREEN	RECVR COLOR
RANGE POLE #		373	RECVR # / MODEL
ENTER LAT.		VINCE NECHERO	OBSERVER
ENTER LONG.			CREW

(IMPORTANT: READ THE DISPLAY AND PUSH GREEN SURVEY BUTTON INFO.)

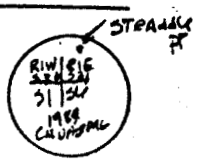
	BEGIN				MIDDLE				FINAL				
FILE-DAY-S#	0001-340-4												"SURVEY"
HI CM	157.9				157.9				157.9				"SURVEY"
HI METERS	1.579				1.579				1.579				"SURVEY"
HI-1/16 IN.	62 3/16	62.1654			62 3/16	62.1654			62 3/16	62.1654			"SURVEY"
	62.1875	CHECK			62.1875	CHECK			62.1875	CHECK			
SV.'S #	21	11	23	17	21	11	23	15	21	11	15		"ELEV/AZ"
SNR	21	13	20	14	24	16	12	08	17	07	21		"ELEV/AZ"
CONTINUOUS	2	2	2	2	336	336	336	40	686	685	390		"MORE"
TOTAL MEAS.	2	2	2	2	336	336	336	40	686	685	390		"MORE"
SV.'S #	20				12								"ELEV/AZ"
SNR	09				09								"ELEV/AZ"
CONTINOUS	2				336								"MORE"
TOTAL MEAS.	2				336								"MORE"
LATITUDE	33 °22'37.41"				33 °22'37.05"				33 °22'34.69"				"POSITION"
LONGITUDE	112 °18'22.95"				112 °18'21.75"				112 °18'22.65"				"POSITION"
PDOP / HDOP	3.6	2.1			3.3	2.0			1.8	1.8			"POSITION"
WATCH TIME	12:36:12 pm				2:01:05 pm				3:30:00 pm				"DATE"
UTC TIME	19:36:12				21:01:05				22:30:00				"DATE"

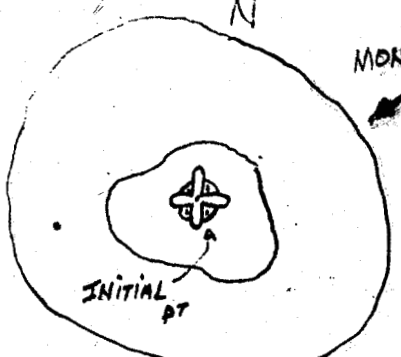
Vertical

~~43.18~~ 2.54 ~~160.4~~ 62.18 2.54 157.9

POINT DESCRIPTION:

STAINLESS STEEL 3" CAP SET IN CONC. MONUMENT WITH 4 STAINLESS STEEL STRADDLERS.





SKETCH OF SET-UP

Station ID: 0001 Session #: 340-4 Dec 6, 1991 19:36
Reference Position - LOW ACCURACY:
Lat. = 0:00'00.000" N Long. = 0:00'00.000" W Height = 0.0 [meters]
Antenna height = 1.5790 [meters] (entered in the field in inches)
Long station name:

Jempson 12 8 91

Receiver serial # = 373
Internal antenna
NP Software = 3.25 SP Software = 3.25 Download Software = 2.08.06

Survey schedule: UNSPECIFIED
Data-logging start time = 19:36
Data-logging stop time = 22:30

Tracking	SV 11	SV 12	SV 15	SV 17	SV 21	SV 23
total L1	685	408	398	223	694	541
cont L1	685	408	398	223	694	541

SV Selection mode = AUTOMATIC
Elevation mask = 15 [degrees] Minimum # of SVs = 1

3D Position	Best PDOP Position [3.0]	Mean Position [1618]
Latitude:	33:22'37.96214" N	33:22'37.85652" N
Longitude:	112:18'21.75544" W	112:18'21.78100" W
Height [m]:	332.4	338.3

2D Position	Best PDOP Position [1.8]	Mean Position [428]
Latitude:	33:22'37.08912" N	33:22'35.72847" N
Longitude:	112:18'22.98477" W	112:18'22.47669" W