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RESULTS OF CONTROLLED SURVEY

WICKENBURG ADMS-FCDMC EAST PORTION

Morrison Maierle/CSSA

ENGINEERS
PLANNERS
SURVEYORS

RESULTS OF CONTROLLED SURVEY

WICKENBURG ADMS-FCDMC EAST PORTION

SUBMITTED TO:

Western Air Maps
10331 West 95th Street
Lenexa, KS 66215

SUBMITTED BY:

Morrison Maierle/CSSA INC.
An Arizona Corporation

ENGINEERS
PLANNERS
SURVEYORS

4621 North 16th Street
Suite D-401
Phoenix, Arizona 85016
Phone: 602/277-2828

JANUARY 6, 1993

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Morrison Maierle/CSSA INC.

An Arizona Corporation

ENGINEERS
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4621 North 16th Street
Suite D-401
Phoenix, Arizona 85016
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January 5, 1993

Scott Perkins
Western Air Maps, Inc.
13001 West 95th Street
Lenexa, KS 66215

RE: Results of Controlled Survey
Wickenburg ADMS-FCDMC - East Portion

Dear Mr. Perkins:

The methods used during the survey of this project are as follows:

EQUIPMENT STATISTICS

Upon receiving Notice to Proceed on this project, MM/CSSA purchased a TopCon GTS4B 1 Second instrument to utilize. We felt by purchasing this equipment, it would provide us, and you, the most effective means of survey information and results.

All distances were measured with the GTS4B. Reciprocal vertical angles were turned utilizing a Kern DKMZ 1 Second instrument. (EDM calibration was also done by TopCon Representatives prior to shipment.) Differential levels were established by utilizing a Lietz B-1 Automatic Level and Standard 25 ft. fiber glass leveling rod.

HORIZONTAL CONTROL

This project was divided into two separate portions, McLain Harbers Co., Inc. (MH) performing survey services and aerial mapping for the west portion and Western Air Maps & MM/CSSA performing surveys on the east portion. The main concern by both parties was that all primary and secondary control be established on the same controlling network for both portions. USC&GS Tri Station "Burg" became the common point used for both east and west portions.

Morrison Maierle/CSSA

Utilizing "Burg" and MH's control point #202, a north/south traverse net was established tieing into USC&GS Tri Station "Orion", located in the southeast portion of the project. A combined scale factor was established utilizing NAD 83 valves of Burg and Orion and applied to each measured distance and reduced to sea level distances. One primary and two secondary traverse loops were established on this project. Balancing of all traverse loops were accomplished by using Survey 3.0 COGO Compass Rule Adjustment Package. Error of closure met or exceeded the requirement set for this project.

VERTICAL CONTROL

Vertical Control Net was established by using trig leveling and standard differential leveling methods. Because of extreme terrain conditions, trig leveling was used on 80% of the project. Basis of vertical control were two USC&GS monuments established on both ends of the project, N-24 on the north and H-24 to the south. Level loops were run from both USC&GS monuments to traverse control points along the project site for trig level adjustments.

Permanent bench marks were established along State Route 93 utilizing found ADOT Brass Caps. Locations of Bench Marks were determined by the Owner's Engineer.

MORRISON-MAIERLE/CSSA, INC.

James G. Spring, P.L.S.
Survey Manager

22282
JAMES G. SPRING
Date Signed 1/6/93
ARIZONA, U.S.A.

JGS/cjs

f:misc\wicken.ltr

SECTION A: GRID FACTOR

- NGS HORIZONTAL and VERTICAL CONTROL SHEETS

COMBINATION FACTOR
TO ADJUST GROUND DISTANCE TO SEA LEVEL DATUM

NGS Stations utilized for this project were Burg, located in the northwest portion of the project and Orion, located in the southeast portion of the project. Grid values were established by utilizing NAD 83 Geodetic and State plane Coordinates published for the above mentioned stations:

(U.S. Survey Foot Conversion: 39.37/12.0 = 3.280833333)

Burg:	N 325,321.576 Meters	x	39.37/12.0	=	N 1,067,325.87	Feet
	E 151,953.660 Meters	x	39.37/12.0	=	E 454,681.522	Feet
Orion:	N 319,420.946 Meters	x	39.37/12.0	=	N 1,047,966.887	Feet
	E 151,953.660 Meters	x	39.27/12.0	=	E 498,534.633	Feet

SCALE FACTOR (S.F.)

Burg: 0.9999689

> Mean S.F. = 0.9999577

Orion: 0.9999465

SEA LEVEL FACTOR

$$\frac{20,925,646 \text{ (Earth Radius)}}{20,925,646 + 2,150 \text{ (mean project elevation)}} = 0.99989727$$

COMBINATION FACTOR

0.9999577 (Mean S.F)	x	0.99989727 (Sea Level Factor)	=	0.99985497

NOTE: All horizontal ground distances were multiplied by the Combination Factor.

GEODETIC CONTROL DATA

NAD 83 COORDINATES for
Geodetic Control Diagram Area

PHOENIX

LATITUDE N33°
LONGITUDE W112° and W113°

Compiled and published by
National Geodetic Survey
Rockville, MD
JULY 1988

U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
National Ocean Service
Charting and Geodetic Services

NAD 83 GEODETIC AND STATE PLANE COORDINATES

QIDQSN	STATION NAME	LATITUDE (NORTH)	LONGITUDE (WEST)	NORTHING METERS*	EASTING METERS*	ZONE	CONVERGENCE	SCALE FACTOR	ELEV. (M)	GEOID HGT (±1 M)	POS QUAL
331123240001	BOLLINGER	33 10 21.10530	112 38 54.92541	241122.727	145098.887	AZ C	-0 24 1.79	0.9999574	328.4	- 32	2 2
331134440002	BOUSE	33 53 37.04402	113 55 37.83676	320880.405	196972.259	AZ W	-0 05 55.69	0.9999366	386.1	- 32	2 1
331122340002	BOW	33 08 10.50786	112 29 37.38596	237009.377	159520.724	AZ C	-0 18 55.59	0.9999357	423.0	- 32	3 3
331134240001	BRADFORD	33 38 24.54383	113 40 49.97125	292755.629	219802.848	AZ W	0 02 18.51	0.9999338	448.0	- 32	0 2
331122430001	BRADLEY	33 22 23.58043	112 24 46.87719	263250.098	167174.717	AZ C	-0 16 22.96	0.9999263	390.6	- 31	9 1
331122440005	BROWN	33 28 45.17279	112 27 6.35153	275023.420	163630.174	AZ C	-0 17 42.66	0.9999305	316 SC	- 31	8 1
331123130003	BUCK	33 15 17.07716	112 38 2.24611	250230.916	146526.168	AZ C	-0 23 36.06	0.9999551	313.9	- 32	1 2
331123120002	BUCKEYE	33 19 39.28205	112 33 57.26540	258266.920	152917.129	AZ C	-0 21 24.19	0.9999450	359.0	- 32	0 1
331123110001	BUCKEYE WATER TANK	33 22 48.25521	112 35 0.48922	264098.801	151319.351	AZ C	-0 22 0.77	0.9999474			4
331121140006	BUD	33 56 3.33261	112 08 23.65894	325384.920	192722.320	AZ C	-0 07 28.64	0.9999052	641.78	- 29	5 2
331123220001	BUMP	33 02 29.64922	112 35 59.16241	226568.693	149557.762	AZ C	-0 22 20.90	0.9999502	345.4	- 32	3 2
331124140007	BURG	33 55 52.44281	112 43 31.61607	325321.576	138587.205	AZ C	-0 27 5.33	0.9999689	775.6	- 30	4 1
331131220003	BURNT WELL	33 32 54.14455	113 04 44.65819	283170.393	105414.372	AZ C	-0 38 32.84	1.0000436	889.4	- 31	7 1
331123410003	C	33 27 0.46389	112 46 53.44118	272004.152	132957.205	AZ C	-0 28 36.25	0.9999797	325.72	- 31	8 1
331123410001	C 2	33 27 1.10712	112 46 53.89150	272024.065	132945.740	AZ C	-0 28 36.51	0.9999797	328.	- 31	8 2
331133420002	CAIRN AT STA ALAMO 1949	33 18 48.99443	113 45 32.02717	256538.226	212531.608	AZ W	-0 00 17.59	0.9999333	633 SC	- 32	5 4
331132440001	CAIRN AT STA EAGLE 1950	33 28 36.26034	113 24 7.82471	274684.041	245687.485	AZ W	0 11 30.70	0.9999462	971 SC	- 31	8 4
	CAIRN AT STA EAGLE 1950	33 28 36.26034	113 24 7.82471	275608.156	75293.718	AZ C	-0 49 10.32	1.0001349	971 SC	- 31	8 4
331133110002	CAIRN AT STA FISH 1949	33 28 49.48346	113 33 35.59614	275053.451	231028.520	AZ W	0 06 17.55	0.9999372	687 SC	- 31	9 4
331133120001	CAIRN AT STA LITTLE HORN 1949	33 21 12.24593	113 37 7.77079	260958.936	225568.791	AZ W	0 04 19.63	0.9999352	946 SC	- 32	1 4
331132430001	CAIRN AT STA MOTTBUSCH 1950	33 19 45.47921	113 25 1.95271	258327.718	244342.340	AZ W	0 10 58.27	0.9999452	666 SC	- 32	0 4
	CAIRN AT STA MOTTBUSCH 1950	33 19 45.47921	113 25 1.95271	259274.932	73660.320	AZ C	-0 49 28.58	1.0001405	666 SC	- 32	0 4
331121130008	CAL BASELINE A	33 47 4.11572	112 07 58.42551	308771.300	193335.377	AZ C	-0 07 12.86	0.9999049	498.3	- 30	2 2
331121130007	CAL BASELINE D	33 46 19.37192	112 07 48.98966	307392.342	193575.253	AZ C	-0 07 7.48	0.9999048	487.0	- 30	3 2
331131320003	CALL	33 34 48.76217	113 22 10.09652	286170.596	248684.799	AZ W	0 12 37.71	0.9999487	422.05	- 31	8 2
	CALL	33 34 48.76217	113 22 10.09652	287042.020	78494.174	AZ C	-0 48 13.22	1.0001242	422.05	- 31	8 2
331121430007	CALL	33 50 14.03541	112 28 24.95837	314740.786	161814.791	AZ C	-0 18 36.46	0.9999327	610.6	- 30	6 2
331121140007	CAN	33 54 3.71526	112 09 49.11572	321704.729	190518.951	AZ C	-0 08 15.92	0.9999064	614.9	- 29	7 2
331122410007	CANAL	33 23 40.83493	112 22 30.59149	265613.854	170707.794	AZ C	-0 15 8.50	0.9999224	280.00	- 31	8 2
331121140002	CARL	33 58 13.45564	112 08 0.29557	329392.534	193330.754	AZ C	-0 07 16.00	0.9999049	797.6	- 29	5 2
331122140001	CART	33 27 36.09275	112 11 11.69827	272799.820	188269.652	AZ C	-0 08 55.75	0.9999078	322.72	- 31	4 2
331122410004	CASHION	33 26 8.01297	112 17 28.94155	270116.630	178518.976	AZ C	-0 12 23.27	0.9999150	303 SC	- 31	6 2
331124110002	CASTLE 1924	33 56 55.98248	112 31 15.28672	327149.006	157508.612	AZ C	-0 20 14.83	0.9999384	1089 SC	- 30	2 1
331122130002	CATHERINE	33 16 2.85553	112 08 46.69266	251435.222	191966.798	AZ C	-0 07 33.48	0.9999056	322 SC	- 31	7 2
331131330003	CENTENNIAL	33 32 7.85141	113 23 35.08741	281205.497	246510.254	AZ W	0 11 49.86	0.9999469	475.1	- 31	8 2
	CENTENNIAL	33 32 7.85141	113 23 35.08741	282115.276	76231.734	AZ C	-0 48 56.80	1.0001318	475.1	- 31	8 2
331122110035	CENTRAL	33 27 41.12311	112 04 26.47943	272933.275	198733.109	AZ C	-0 05 12.34	0.9999026	330.41	- 31	3 2
331121410001	CHOLLA 1924	33 53 26.94601	112 18 20.66158	320612.611	177373.177	AZ C	-0 13 1.03	0.9999160	664 SC	- 30	1 2
331124410004	CITRUS 1924	33 59 59.20003	112 49 40.79877	333003.614	129173.556	AZ C	-0 30 34.70	0.9999873	788.	- 30	5 2
331133210001	CLANTON	33 13 51.00586	113 30 53.82072	247382.954	235267.345	AZ W	0 07 43.72	0.9999392	416.3	- 32	1 2
331122110022	CLYDE	33 27 35.46480	112 03 23.63737	272756.644	200355.501	AZ C	-0 04 37.68	0.9999021	333.71	- 31	3 2
331124440006	CO MON 6	33 59 59.67145	112 56 53.47442	333123.415	118070.667	AZ C	-0 34 36.70	1.0000119	742.8	- 30	6 2
331124410008	CO MON 8	33 59 59.67787	112 49 40.79764	333018.336	129173.716	AZ C	-0 30 34.70	0.9999873	792.9	- 30	5 2
331132310001	CODY	33 14 35.13465	113 20 36.46420	249617.141	80395.987	AZ C	-0 46 56.18	1.0001179	593.6	- 32	1 2
	CODY	33 14 35.13465	113 20 36.46420	248791.438	251245.331	AZ W	0 13 22.31	0.9999510	593.6	- 32	1 2

* For conversion of meters to U.S. Survey Feet multiply the meters by 39.37/12.0 which is 3.28083333333 to 12 significant figures

* For conversion of meters to International Feet multiply the meters by 100.0/30.48 which is 3.28083989501 to 12 significant figures

NAD 83 GEODETIC AND STATE PLANE COORDINATES

QIDQSN	STATION NAME	LATITUDE (NORTH)	LONGITUDE (WEST)	NORTHING METERS*	EASTING METERS*	ZONE	CONVERGENCE	SCALE FACTOR	ELEV. (M)	GEOID HGT (±1 M)	PO QU
331132240001	MONTEZUMA USGS CAIRN	33 08 31.68827	113 12 13.04316	238250.931	93290.911	AZ C	-0 42 13.27	1.0000777			
	MONTEZUMA USGS CAIRN	33 08 31.68827	113 12 13.04316	237654.423	264335.564	AZ W	0 17 55.39	0.9999654			
331121140003	MOP	33 59 54.93747	112 08 14.90688	332519.858	192962.434	AZ C	-0 07 24.49	0.9999051	628.97	- 29 5	
331122110014	MORE	33 27 41.94072	112 04 47.94020	272959.317	198179.016	AZ C	-0 05 24.18	0.9999028	330.01	- 31 3	
331121440001	MORGAN 1924	33 55 33.02370	112 26 43.70851	324554.634	164468.405	AZ C	-0 17 42.52	0.9999295	1024 SC	- 30 3	
331132320001	MORRIS RS	33 00 33.65292	113 21 3.00669	222866.382	250656.937	AZ W	0 13 2.85	0.9999505	378.0	- 32 3	
	MORRIS RS	33 00 33.65292	113 21 3.00669	223701.964	79354.144	AZ C	-0 46 53.10	1.0001213	378.0	- 32 3	
331124120003	MORRISTOWN MAGNETIC 1948	33 51 13.06237	112 37 23.22021	316644.296	147988.937	AZ C	-0 23 36.81	0.9999527	601.5	- 30 6	
331124120002	MORRISTOWN RR STATION SE COR	33 51 6.98831	112 37 21.55629	316456.867	148030.423	AZ C	-0 23 35.82	0.9999526			
331131230002	MOSHER	33 33 47.79314	113 12 52.63738	284972.676	92846.572	AZ C	-0 43 3.61	1.0000790	400.5	- 31 7	
	MOSHER	33 33 47.79314	113 12 52.63738	284355.806	263069.476	AZ W	0 17 45.58	0.9999638	400.5	- 31 7	
331132430002	MOTTBUSCH	33 19 45.37358	113 25 1.90289	258324.468	244343.639	AZ W	0 10 58.30	0.9999452	665.7	- 32 0	
	MOTTBUSCH	33 19 45.37358	113 25 1.90289	259271.659	73661.561	AZ C	-0 49 28.55	1.0001405	665.7	- 32 0	
331121130003	MUNSON	33 46 3.04815	112 07 46.09199	306889.291	193648.767	AZ C	-0 07 5.81	0.9999048	483.04	- 30 3	
331131430001	N 25	33 51 11.63846	113 27 52.22542	316423.129	239778.759	AZ W	0 09 32.54	0.9999419	600.69	- 31 3	
	N 25	33 51 11.63846	113 27 52.22542	317453.852	70125.296	AZ C	-0 51 44.63	1.0001528	600.69	- 31 3	
331121430002	NADA	33 48 12.15095	112 28 55.37526	310989.989	161012.173	AZ C	-0 18 52.40	0.9999338	543 SC	- 30 7	
331124120001	NADA SCHOOLHOUSE	33 46 53.11497	112 31 31.55672	308577.923	156980.895	AZ C	-0 20 18.59	0.9999392			
331132410002	NEEDLES	33 24 12.23147	113 18 16.32339	267348.013	84260.646	AZ C	-0 45 51.01	1.0001054			
	NEEDLES	33 24 12.23147	113 18 16.32339	266584.680	254797.131	AZ W	0 14 42.89	0.9999545			
331121140005	NEW	33 53 38.40574	112 08 37.52227	320920.743	192356.440	AZ C	-0 07 35.90	0.9999054	617.65	- 29 7	
331121140004	NEW RIVER	33 54 19.47447	112 08 34.65617	322185.837	192432.862	AZ C	-0 07 34.44	0.9999054	641.35	- 29 7	
331133410001	NEW WATER	33 24 25.60821	113 51 24.45579	266913.189	203426.572	AZ W	-0 03 31.68	0.9999345	1020.4	- 32 6	
331133240002	OLD TIMER	33 13 42.59943	113 38 53.41882	247103.983	222850.928	AZ W	0 03 20.88	0.9999344	388.89	- 32 3	
331122340001	ORA	33 10 35.29374	112 27 52.01085	241454.859	162275.071	AZ C	-0 17 59.15	0.9999322	641.0	- 32 2	
331124110001	ORION *	33 52 44.04092	112 34 49.68193	319420.946	151953.660	AZ C	-0 22 12.14	0.9999465	800.0	- 30 5	
331132220001	PAINTED	33 00 55.37966	113 01 29.49889	224003.059	109821.382	AZ C	-0 36 13.93	1.0000321	442.2	- 32 2	
331131110001	PALO	33 54 59.38104	113 00 20.01745	323926.139	112672.219	AZ C	-0 36 27.49	1.0000249	771.2	- 30 7	
331122230002	PALO AMS 1949	33 01 34.23841	112 10 34.08661	224684.354	189121.388	AZ C	-0 08 29.10	0.9999072	422 SC	- 32 2	
331121240002	PAT	33 42 45.66185	112 07 57.97569	300808.954	193330.264	AZ C	-0 07 11.80	0.9999049	434.96	- 30 6	
331121240001	PAT 2	33 42 45.21887	112 07 58.74971	300795.348	193310.308	AZ C	-0 07 12.23	0.9999050	434.85	- 30 6	
331121220004	PEORIA	33 34 48.86343	112 06 56.91745	286117.065	194873.983	AZ C	-0 06 36.53	0.9999042	380.08	- 31 2	
331121230005	PEORIA WATER TANK	33 35 0.12451	112 14 20.57182	286492.780	183435.210	AZ C	-0 10 41.97	0.9999110			
331121130013	PESO	33 47 51.19078	112 14 32.99953	310248.281	183189.701	AZ C	-0 10 52.50	0.9999112	480.3	- 30 4	
331123320001	PETRO	33 00 2.77299	112 45 24.12665	222150.385	134863.391	AZ C	-0 27 27.18	0.9999759	280.3	- 32 3	
331122110013	PHOENIX	33 25 19.56930	112 04 49.25722	268573.483	198138.105	AZ C	-0 05 24.57	0.9999029	326.24	- 31 3	
331122110006	PHOENIX 2	33 25 20.48973	112 04 49.43507	268601.845	198133.556	AZ C	-0 05 24.67	0.9999029	326 SC	- 31 3	
331121240004	PHOENIX AM TEL AND TEL MAST	33 37 32.30538	112 08 30.74956	291157.144	192465.431	AZ C	-0 07 28.97	0.9999054			
331122110002	PHOENIX BASELINE EAST	33 22 39.19747	112 04 49.02346	263633.100	198136.378	AZ C	-0 05 24.05	0.9999029	354.8	- 31 4	
331122140009	PHOENIX BASELINE WEST	33 22 38.77164	112 09 7.62285	263632.788	191452.697	AZ C	-0 07 46.32	0.9999059	315.6	- 31 5	
331122140011	PHOENIX BUR RECLAMATION TANK	33 26 32.54238	112 09 1.33637	270833.927	191631.350	AZ C	-0 07 43.66	0.9999058			
331122110026	PHOENIX EAST RADIO TOWER	33 26 56.82217	112 04 25.23337	271568.491	198763.222	AZ C	-0 05 11.56	0.9999026			
331122110037	PHOENIX GREAT AZ SAV BLDG TWR	33 26 59.07525	112 04 26.53188	271637.950	198729.794	AZ C	-0 05 12.28	0.9999026			
331122110031	PHOENIX INDIAN SCH BOILER STK	33 29 49.44974	112 04 16.82907	276886.148	198988.176	AZ C	-0 05 7.31	0.9999025			
331122140013	PHOENIX PUB SER CO TANK	33 26 33.95201	112 09 18.05167	270878.332	191199.753	AZ C	-0 07 52.88	0.9999061			

* For conversion of meters to U.S. Survey Feet multiply the meters by 39.37/12.0 which is 3.28083333333 to 12 significant figures

* For conversion of meters to International Feet multiply the meters by 100.0/30.48 which is 3.28083989501 to 12 significant figures

U.S. DEPARTMENT OF COMMERCE
ENVIRONMENTAL SCIENCE SERVICES ADMINISTRATION
COAST AND GEODETIC SURVEY

REPLACES ELEV. DATED JULY 1964

VERTICAL CONTROL DATA

by the
Coast and Geodetic Survey
SEA-LEVEL DATUM OF 1929

ARIZONA
LATITUDE 33°30' TO 34°00'
LONGITUDE 112°30' TO 113°00'
DIAGRAM PHOENIX NI 12-7

LINE 101
(Second-order)

This line follows the Atchison, Topeka and Santa Fe Railway NW to the end of the quad.

The original field work (L-701) was done in March 1933 by a party supervised by A.C. Thorson. The line was releveled (L-2203) from bench mark R 24 to the end of the line in August 1934 by a party supervised by G.R. Fish, and in May 1939 (L-8632) from the beginning of the line to 0.5 mile west of Matthie by a party supervised by G.R. Shelton.

These elevations are derived from a combination of the 1933 leveling, the 1934 and 1939 relevelings and are based on a supplementary adjustment of 1954.

BENCH MARK	ADJUSTED (Meters)	ELEVATION (Feet)
C 24	489.661	1606.496
RV 101 (AT&SFRY)	498.541	1635.630
RV 102 (AT&SFRY)	511.620	1678.540
D 24	511.789	1679.094
1697 (USGS)	516.918	1695.922
RV 104 (AT&SFRY)	538.788	1767.674
E 24	543.011	1781.529
RV 105 (AT&SFRY)	555.674	1823.074
F 24	568.619	1865.544
RV 106 (AT&SFRY)	570.949	1873.188
1883 (USGS)	573.897	1882.860
RV 107 (AT&SFRY)	580.336	1903.986
RV 108 (AT&SFRY)	592.053	1942.427
G 24	597.830	1961.381
1971 (USGS) PHNX	600.665	1970.682
RV 109 (AT&SFRY)	598.506	1963.598
H 24	596.160	1955.902
RV 111 (AT&SFRY)	[illegible]	[illegible]
J 24	571.428	1874.760
RV 112 (AT&SFRY)	570.205	1870.748
1865 (USGS)	568.368	1864.721
RV 113 (AT&SFRY)	566.056	1857.135
RV 114 (AT&SFRY)	571.071	1873.589
K 24	572.138	1877.089
1935 (USGS)	589.714	1934.753
RV 115 (AT&SFRY)	577.048	1893.198
L 24	591.734	1941.381
RV 116 (AT&SFRY)	585.161	1919.816
RV 117 (AT&SFRY)	597.441	1960.104
M 24	607.704	1993.776

LINE 101
(Continued)

BENCH MARK	ADJUSTED (Meters)	ELEVATION (Feet)
RV 118 (AT&SFRY)	606.334	1989.281
2004 (USGS)	610.786	2003.887
RV 119 (AT&SFRY)	612.844	2010.639
RV 120 (AT&SFRY)	620.788	2036.702
N 24	627.833	2059.815
RV 122 (AT&SFRY)	646.974	2122.614
Q 24	650.722	2134.910
RV 123 (AT&SFRY)	664.376	2179.707
2171 (USGS)	664.169	2179.028
RV 124 (AT&SFRY)	677.353	2222.282
R 24	691.875	2269.927
RV 125 (AT&SFRY)	695.029	2280.274
S 24	697.657	2288.896
RV 127 (AT&SFRY)	701.622	2301.905
T 24	716.212	2349.772
RV 128 (AT&SFRY)	716.902	2352.036

THE LINE LEAVES AND RE-ENTERS THE QUADRANGLE

W 24	744.097	2441.258
X 24	735.450	2412.889
Y 24	721.097	2365.799

LINE 102
(Second-order)

This line follows gravel road across the SW section of the quad.

The field work (L-18715) was done in the summer of 1962 by a party supervised by C.A. Annis and in cooperation with the Arizona Highway Department.

These elevations are based on a supplementary adjustment of 1962.

BENCH MARK	ADJUSTED (Meters)	ELEVATION (Feet)
K 415 (60)	368.387	1208.616
60 A (AHD)		1195.9
L 415 (61)	361.090	1184.676
M 415 (62)	352.076	1155.103

U. S. DEPARTMENT OF COMMERCE
ENVIRONMENTAL SCIENCE SERVICES ADMINISTRATION
COAST AND GEODETIC SURVEY

VERTICAL CONTROL DATA

by the
Coast and Geodetic Survey
SEA-LEVEL DATUM OF 1929

ARIZONA
LATITUDE 33°30' TO 34°00'
LONGITUDE 112°30' TO 113°00'
DIAGRAM PHOENIX NI 12-7

LINE 101

DESIGNATION G 24	STATE Arizona	COUNTY Maricopa	k
NEAREST TOWN Hot Springs Junction	COUNTY	CHIEF OF PARTY A.C.Thorson	
DISTANCE AND DIRECTION FROM NEAREST TOWN 0.8 mile southeast		RECOVERY DATE May 1939	
CHARACTER OF MARK Standard disk		STAMPING "G 24 1933"	
ESTABLISHED BY C & G S	PRESENT CONDITION Recovered as described		

DETAILED REPORT

0.8 mile southeast along the Atchison, Topeka & Santa Fe Railway from Hot Springs Junction, at a concrete highway overpass, in the top of the west wing of the north abutment, and 3 feet higher than the track. A standard disk, stamped "G 24 1933."

DESIGNATION H 24	STATE Arizona	COUNTY Maricopa	R
NEAREST TOWN Hot Springs Junction	COUNTY	CHIEF OF PARTY A.C.Thorson	
DISTANCE AND DIRECTION FROM NEAREST TOWN 0.6 mile west		RECOVERY DATE May 1939	
CHARACTER OF MARK Standard disk		STAMPING "H 24 1933"	
ESTABLISHED BY C & G S	PRESENT CONDITION Recovered as described		

DETAILED REPORT

0.6 mile west along the Atchison, Topeka & Santa Fe Railway from Hot Springs Junction, Maricopa County, 700 feet northwest of milepost 150 and a trestle, at a ridge northwest of a wash, at the shoulder of a bank, and 35 feet northeast of the centerline of the track. A standard disk, stamped "H 24 1933" and set in the top of a concrete post

DESIGNATION 1971 (USGS) PHNX	STATE Arizona	COUNTY Maricopa	R
NEAREST TOWN Hot Springs Junction	COUNTY	CHIEF OF PARTY A.C.Thorson	
DISTANCE AND DIRECTION FROM NEAREST TOWN At Hot Springs Junction		RECOVERY DATE Jan. 1947	
CHARACTER OF MARK Standard disk		STAMPING "1971 PHNX"	
ESTABLISHED BY U.S.G.S.	PRESENT CONDITION Good		

DETAILED REPORT

At Hot Springs Junction (Morristown), Maricopa County, 250 feet northwest of the Atchison, Topeka & Santa Fe Railway station, at a road crossing, 60 feet northeast of the centerline of the track, and 30 feet north of the centerline of the road. A United States Geological Survey standard cap, stamped "1971 PHNX" and riveted on the top of a 3-1/2 inch iron pipe.

DESIGNATION RV 111 (A.T.& S.F.Ry.)	STATE Arizona	COUNTY Maricopa	R
NEAREST TOWN Hot Springs Junction	COUNTY	CHIEF OF PARTY A.C.Thorson	
DISTANCE AND DIRECTION FROM NEAREST TOWN 1.6 miles northwest along the		RECOVERY DATE May 1939	
CHARACTER OF MARK Monel metal rivet		STAMPING	
ESTABLISHED BY A.T. & S.F. Ry.	PRESENT CONDITION Recovered as described		

DETAILED REPORT

1.6 miles northwest along the Atchison, Topeka & Santa Fe Railway from Hot Springs Junction, northwest of milepost 149, at culvert J 149 and in the top of the northeast concrete headwall. A standard Monel-metal rivet.

DESIGNATION RV 109 (A.T.& S.F.Ry.)	STATE Arizona	COUNTY Maricopa	R
NEAREST TOWN Hot Springs Junction	COUNTY	CHIEF OF PARTY A.C.Thorson	
DISTANCE AND DIRECTION FROM NEAREST TOWN At Hot Springs Junction		RECOVERY DATE May 1939	
CHARACTER OF MARK Monel metal rivet		STAMPING	
ESTABLISHED BY A.T.& S.F. Ry.Co.	PRESENT CONDITION Recovered as described		

DETAILED REPORT

At Hot Springs Junction (Morristown), Maricopa County, on the Atchison, Topeka & Santa Fe Railway, northwest of milepost 151, at culvert E 151, and in the top of the southwest concrete headwall. A standard Monel-metal rivet.

DESIGNATION J 24	STATE Arizona	COUNTY Maricopa	R
NEAREST TOWN Hot Springs Junction	COUNTY	CHIEF OF PARTY A.C.Thorson	
DISTANCE AND DIRECTION FROM NEAREST TOWN 2.4 miles northwest		RECOVERY DATE May 1939	
CHARACTER OF MARK Standard disk		STAMPING "J 24 1933"	
ESTABLISHED BY C & G S	PRESENT CONDITION Recovered as described		

DETAILED REPORT

2.4 miles northwest along the Atchison, Topeka & Santa Fe Railway from Hot Springs Junction, Maricopa County, 175 feet northwest of milepost 148, 450 feet southeast of bridge G 148, in a rock point jutting out from the west slope of a ravine, and 20 feet northeast of the centerline of the track. A standard disk, stamped "J 24 1933."

U.S. DEPARTMENT OF COMMERCE
ENVIRONMENTAL SCIENCE SERVICES ADMINISTRATION
COAST AND GEODETIC SURVEY

VERTICAL CONTROL DATA

by the
Coast and Geodetic Survey
SEA LEVEL DATUM OF 1929

DESIGNATION 2004 (USGS)	STATE Arizona	COUNTY Maricopa	R
NEAREST TOWN Wickenburg	COUNTY	CHIEF OF PARTY A.C.Thorson	
DISTANCE AND DIRECTION FROM NEAREST TOWN 1.7 miles southeast		RECOVERY DATE May 1939	
CHARACTER OF MARK Iron pipe with brass cap		STAMPING "2004 PHNX"	
ESTABLISHED BY U.S.G.S.	PRESENT CONDITION Recoveeed as described		

DETAILED REPORT

1.7 miles southeast along the Atchison, Topeka & Santa Fe Railway from Wickenburg, 2.1 miles northwest of the siding at Allah, 100 feet south of culvert C 142, and in a flat at the north base of a small ridge. A United States Geological Survey standard cap, stamped "2004 PHNX" and riveted on the top of a 3-1/2 inch iron pipe.

DESIGNATION N 24	STATE Arizona	COUNTY Maricopa	R
NEAREST TOWN Wickenburg	COUNTY	CHIEF OF PARTY A.C.Thorson	
DISTANCE AND DIRECTION FROM NEAREST TOWN At Wickenburg		RECOVERY DATE May 1939	
CHARACTER OF MARK Standard disk		STAMPING "N 24 1933"	
ESTABLISHED BY C & G S	PRESENT CONDITION Recovered as described		

DETAILED REPORT

At Wickenburg, 0.4 mile south of the Atchison, Topeka & Santa Fe Railway station, 600 feet south of milepost 140, 55 feet west of the centerline of the track, and in the corner of a residence yard. A standard disk, stamped "N 24 1933" and set in the top of a concrete post.

DESIGNATION RV 119 (A.T.& S.F.Ry.)	STATE Arizona	COUNTY Maricopa	R
NEAREST TOWN Wickenburg	COUNTY	CHIEF OF PARTY A.C.Thorson	
DISTANCE AND DIRECTION FROM NEAREST TOWN 1.6 miles southeast		RECOVERY DATE May 1939	
CHARACTER OF MARK Monel metal rivet		STAMPING	
ESTABLISHED BY A.T.& S.F.Ry.	PRESENT CONDITION Recovered as described		

DETAILED REPORT

1.6 miles southeast along the Atchison, Topeka & Santa Fe Railway from Wickenburg, northwest of milepost 142, at culvert A 142, and in the top of the southwest concrete headwall. A standard Monel-metal rivet.

DESIGNATION RV 122 (A.T.& S.F.Ry.)	STATE Arizona	COUNTY Maricopa	R
NEAREST TOWN Wickenburg	COUNTY	CHIEF OF PARTY A.C.Thorson	
DISTANCE AND DIRECTION FROM NEAREST TOWN 1.4 miles northwest		RECOVERY DATE May 1939	
CHARACTER OF MARK Monel metal rivet		STAMPING	
ESTABLISHED BY A.T.& S.F.Ry.	PRESENT CONDITION Recovered as described		

DETAILED REPORT

1.4 miles northwest along the Atchison, Topeka & Santa Fe Railway from Wickenburg, northwest of milepost 139, at culvert B 139, and in the top of the southwest concrete headwall. A standard Monel-metal rivet.

DESIGNATION RV 120 (A.T.& S.F. Ry.)	STATE Arizona	COUNTY Maricopa	R
NEAREST TOWN Wickenburg	COUNTY	CHIEF OF PARTY A.C.Thorson	
DISTANCE AND DIRECTION FROM NEAREST TOWN 0.5 miles southeast		RECOVERY DATE May 1939	
CHARACTER OF MARK Monel metal rivet		STAMPING	
ESTABLISHED BY A.T. & S.F. Ry.	PRESENT CONDITION Recovered as described		

DETAILED REPORT

0.5 mile southeast along the Atchison, Topeka & Santa Fe Railway from Wickenburg, northwest of milepost 141, at culvert C 141, and in the top of the southwest concrete headwall. A standard Monel-metal rivet.

DESIGNATION Q 24	STATE Arizona	COUNTY Maricopa	R
NEAREST TOWN Wickenburg	COUNTY	CHIEF OF PARTY A.C.Thorson	
DISTANCE AND DIRECTION FROM NEAREST TOWN 1.6 miles northwest		RECOVERY DATE May 1939	
CHARACTER OF MARK Standard disk		STAMPING "Q 24 1933"	
ESTABLISHED BY C & G S	PRESENT CONDITION Recovered as described		

DETAILED REPORT

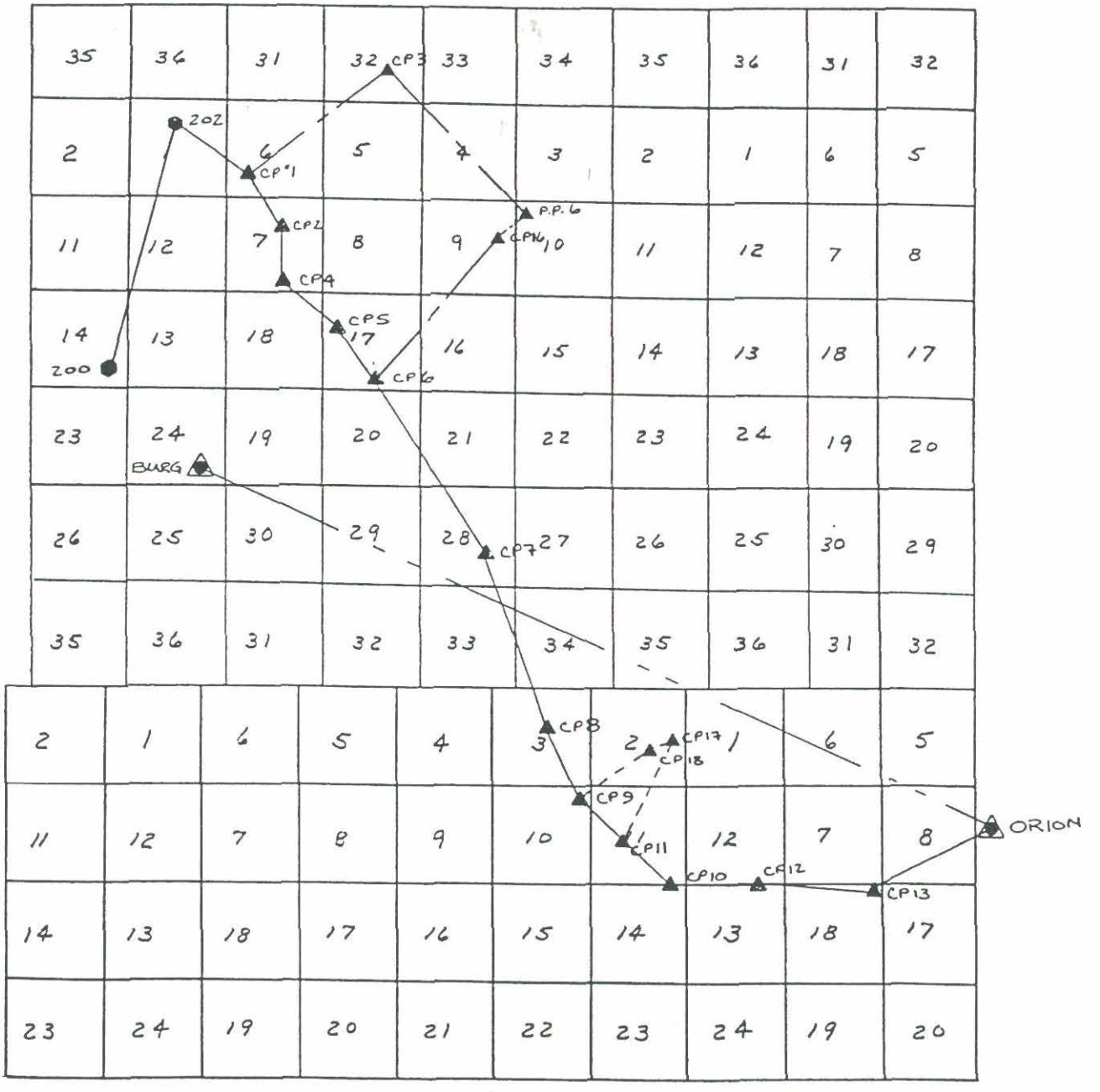
1.6 miles northwest along the Atchison, Topeka & Santa Fe Railway from Wickenburg, 600 feet southeast of milepost 138, at Trestle A 139, in the top of the northeast corner of the southeast wing wall, and 18 feet northeast of the centerline of the track. A standard disk, stamped "Q 24 1933."

SECTION B: TRAVERSE DATA

- TRAVERSE DIAGRAM
- TRAVERSE CALCULATIONS & ADJUSTMENTS
- COPIED FIELD NOTES

TRAVERSE DIAGRAM

DENOTES TRAVERSE NO. 1 ———
DENOTES TRAVERSE NO. 2 — - —
DENOTES TRAVERSE NO. 3 - - - -



▲ DENOTES NGS CONTROL POINTS

PRIMARY TRAVERSE #1

Program: SURVEY 3.03 01-11-1991 4:34 pm Page 2
Filename: WICFACTR

Job: WICK. AREIAL
PHOTO CONTROL

By: JGS/CT

Point	Quad	Direction	Distance	Northing	Easting
Start					
202				1085827.830	454107.660
TR	SE	55 14 31.0	4656.690		
101				1083172.994	457933.442
TR	SE	29 37 39.0	3808.690		
102				1079862.261	459816.303
TR	SW	0 46 16.0	3124.410		
104				1076738.134	459774.254
TR	SE	44 59 44.0	6747.110		
105				1071966.836	464544.811
TR	SE	34 13 19.0	7695.150		
106				1065608.984	468872.565
TR	SE	32 37 15.0	3905.260		
107				1062314.754	470977.801
TR	SE	15 01 45.0	9612.660		
108				1053030.905	473470.466
TR	SE	29 19 29.0	4010.660		
109				1049534.179	475434.722
TR	SE	46 08 39.0	7093.920		
110				1044619.183	480550.044
TR	SE	87 53 37.0	4818.930		
112				1044442.063	485365.718
TR	SE	81 57 30.0	5910.520		
113				1043613.221	491218.118
TC	NE	59 15 41.0	8511.680		
Temporary Intersection Point				1047963.730	498523.975
TC	NE	29 38 02.2	1.331		
400				1047966.887	498534.633

Precision Ratio 1: 52528

NW 66 10 51.3 is the fixed foresight bearing

Traverse Leg List

Leg #	Quad	Direction	Distance	Occ.Point	BS Point	FS Point
1	AR	291 16 15.0	4656.690	202	0	101
2	AR	205 36 52.0	3808.690	101	202	102
3	AR	210 29 55.0	3124.410	102	101	104
4	AR	134 14 00.0	6747.110	104	102	105
5	AR	190 46 25.0	7695.150	105	104	106
6	AR	181 36 04.0	3905.260	106	105	107
7	AR	197 35 30.0	9612.660	107	106	108
8	AR	165 42 16.0	4010.660	108	107	109
9	AR	163 10 50.0	7093.920	109	108	110
10	AR	138 15 02.0	4818.930	110	109	112
11	AR	165 56 07.0	5910.520	112	110	113
12	AR	141 13 11.0	8511.680	113	112	400

Traverse courses after Compass Rule Adjustment

202				1085827.830	454107.660
IN	SE	55 14 34.9	4656.682		
101				1083173.071	457933.486
IN	SE	29 37 42.4	3808.658		
102				1079862.401	459816.382
IN	SW	0 46 14.1	3124.358		
104				1076738.325	459774.368
IN	SE	44 59 47.8	6747.076		
105				1071967.140	464544.984
IN	SE	34 13 22.5	7695.085		
106				1065604.415	468872.810
IN	SE	32 37 18.5	3905.225		
107				1062315.249	470978.082
IN	SE	15 01 47.8	9612.530		
108				1053031.559	473470.839
IN	SE	29 19 32.4	4010.621		
109				1049534.900	475435.132
IN	SE	46 08 42.8	7093.887		
110				1044620.022	480550.521
IN	SE	87 53 40.5	4818.972		
112				1044442.981	485366.240
IN	SE	81 57 33.7	5910.561		
113				1043616.237	491218.695
IN	NE	59 15 39.1	8511.821		
400				1047966.887	498534.633
IN	NE	0 00 00.0	0.000		
500				1047966.887	498534.633

SECONDARY TRAVERSE# 1

Program: SURVEY 3.03 01-11-1991 8:49 AM Page
Filename: WICK\CTR

Job: WICK. AREIAL
PHOTO CONTROL

By: JGS/CT

Point	Quad	Direction	Distance	Northing	Easting
Start					
101				1083173.071	457933.486
TR	NE	51 08 11.1	9582.450		
103				1089185.755	465394.784
TR	SE	41 15 31.9	11396.970		
306				1080618.222	472910.655
TR	SW	25 54 46.1	2633.620		
116				1078249.386	471759.755
TC	SW	12 51 50.1	12970.940		
Temporary Intersection Point				1065603.995	468871.956
TC	NE	63 50 36.2	0.952		
600				1065604.415	468872.810
Precision Ratio 1: 38430					
	NW	34 13 22.5	is the fixed foresight bearing		

Leg #	Quad	Direction	Distance	Occ.Point	BS Point	FS Point

Traverse Leg List

Leg #	Quad	Direction	Distance	Occ.Point	BS Point	FS Point
1	AR	106 22 46.0	9582.450	101	0	103
2	AR	267 36 17.0	11396.970	103	101	306
3	AR	247 10 18.0	2633.620	306	103	116
4	AR	166 57 04.0	12970.940	116	306	600

Traverse courses after Compass Rule Adjustment

101				1083173.071	457933.486
IN	NE	51 08 12.3	9582.693		
103				1089185.865	465395.008
IN	SE	41 15 37.1	11397.047		
306				1080618.463	472911.145
IN	SW	25 54 42.8	2633.566		
116				1078249.657	471760.307
IN	SW	12 51 45.9	12970.728		
600				1065604.415	468872.810
IN	SW	83 54 50.5	0.000		
106				1065604.415	468872.810

SECONDARY TRAVERSE # 2

Program: SURVEY 3.03 01-11-1991 9:21 AM Page 6
Filename: WICK\CTR

Job: WICK. AREIAL
PHOTO CONTROL

By: JGS/CT

Point	Quad	Direction	Distance	Northing	Easting
Start					
109				1049534.900	475435.132
TR	SE	45 02 37.4	2022.040		
111				1048106.193	476866.021
TR	NE	25 26 47.6	5455.800		
117				1053032.706	479210.210
TR	SW	81 50 41.6	1213.460		
118				1052860.573	478009.021
TC	SW	37 44 05.6	4205.470		
Temporary Intersection Point				1049534.673	475435.236
TC	NW	24 32 02.3	0.249		
109				1049534.900	475435.132

Precision Ratio 1: 51722

Traverse Leg List

Leg #	Quad	Direction	Distance	Occ.Point	BS Point	FS Point
1	AR	164 16 55.0	2022.040	109	0	111
2	AR	70 29 25.0	5455.800	111	109	117
3	AR	56 23 54.0	1213.460	117	111	118
4	AR	135 53 24.0	4205.470	118	117	109

Traverse courses after Compass Rule Adjustment

109				1049534.900	475435.132
IN	SE	45 02 38.8	2022.003		
111				1048106.228	476866.004
IN	NE	25 26 44.6	5455.868		
117				1053032.837	479210.150
IN	SW	81 50 45.5	1213.467		
118				1052860.725	478008.951
IN	SW	37 44 09.2	4205.432		
109				1049534.900	475435.132

INDEX BOOK #1 (horizontal)
(Office Reference #71)

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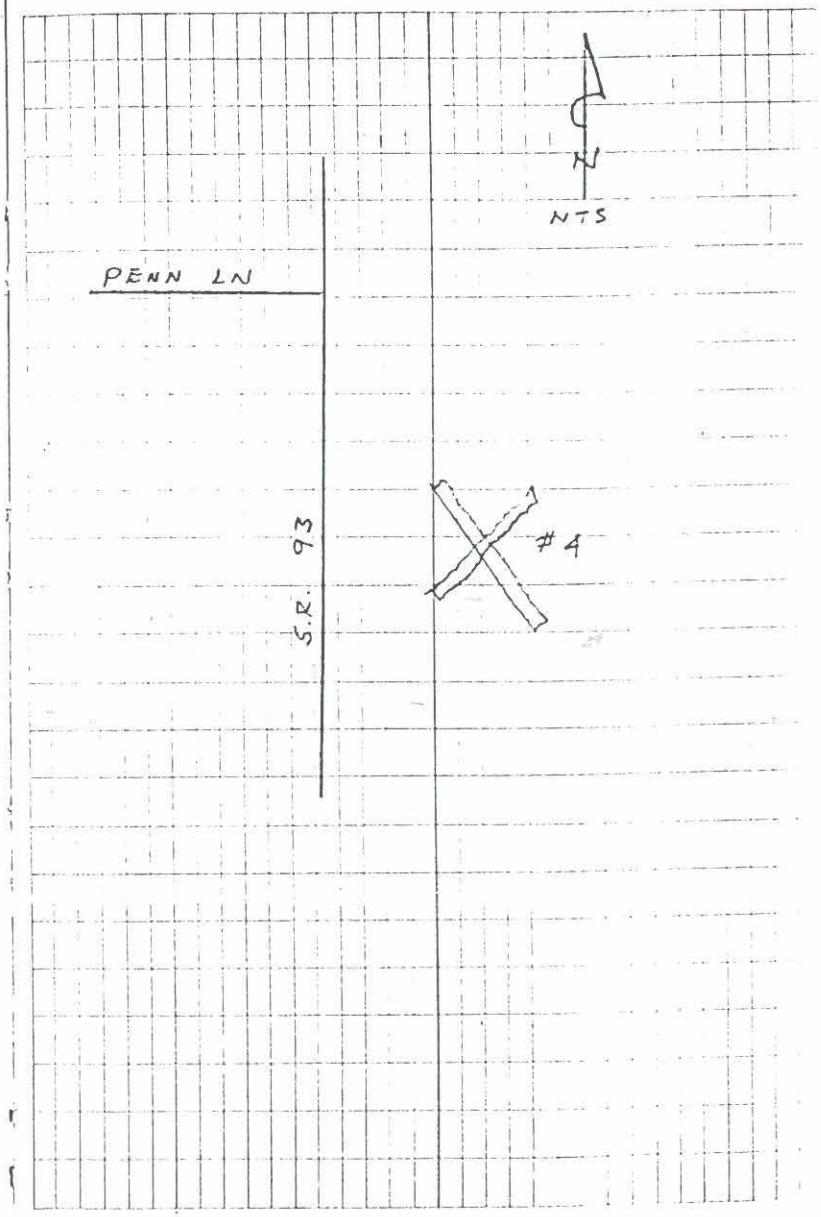
11/6/90
R.D.
L.G.

	P.P. #4	H & V		
	36" x 12' PANEL	75' ± EAST OF		
	S.R. 93 & 250' SOUTH OF PENN LN.			

1

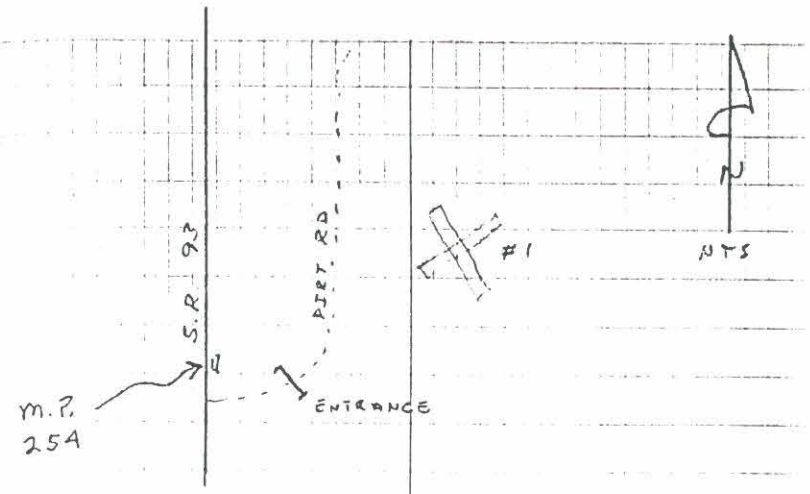


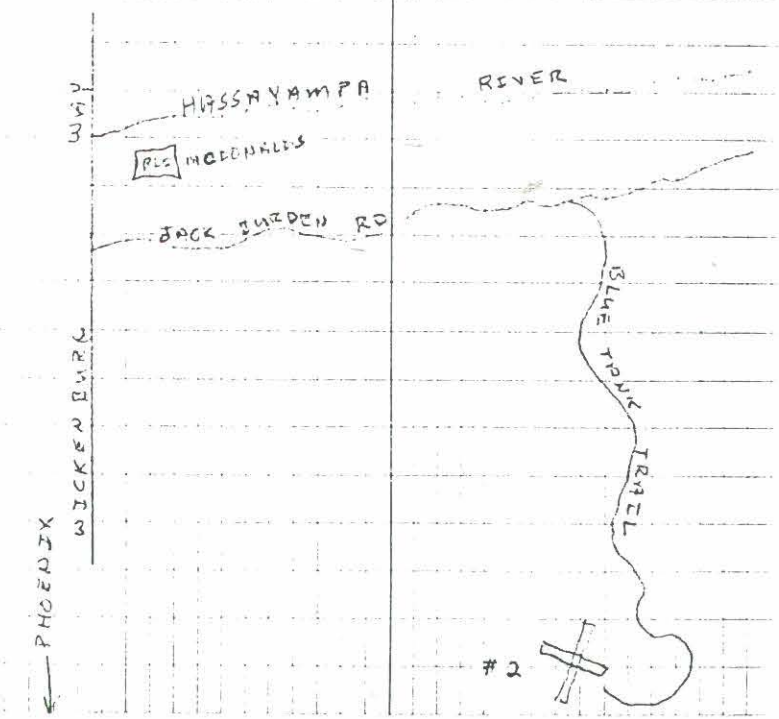
P.P. # 1 VERT.

36" x 12' PANEL 600'± EAST OF S.R. 93 100'± EAST OF DIRT RD & 500'± NORTH OF DIRT RD ENTRANCE MARKED G.D.L.E.

P.P. # 2 H & V

36" x 12' PANEL TURN RT OFF WICKENBURG WAY 1.3 MI. ALONG JACK BURDEN RD THEN RT. ON BLUE TANK TRAIL 1.2 MI. TO END. FORKS IN TRAIL MARKED WITH YELLOW FLAGGING





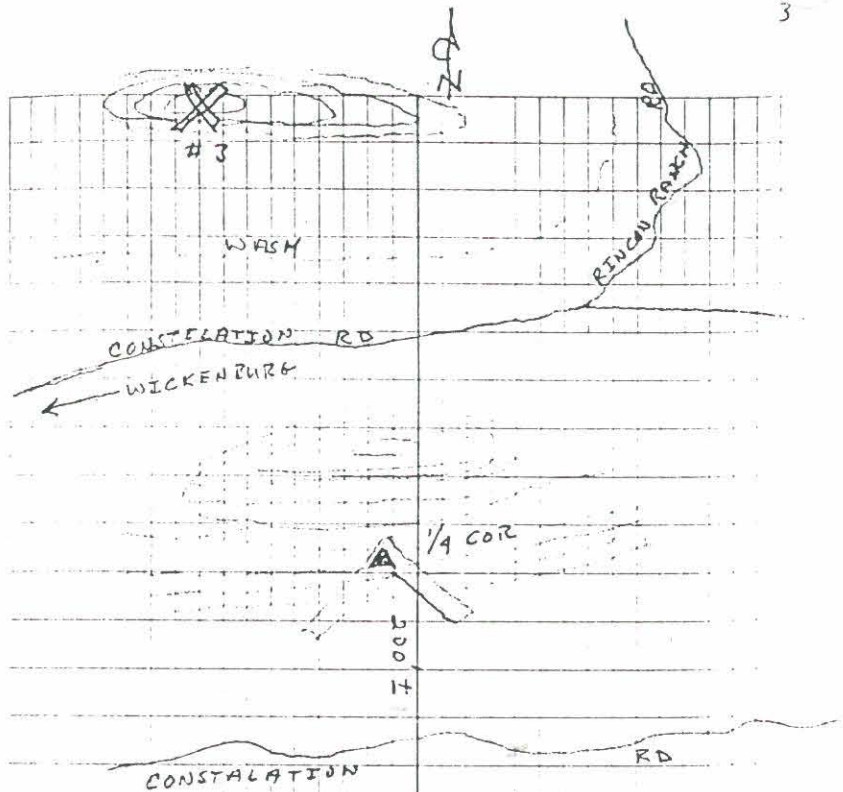
11/7/90
R.D.
L.G.

P.I. # 3 VERT.

36" x 12' PANEL 1000'± WEST OF
RINCON RANCH RD. ON HIGH PT. OF RIDGE

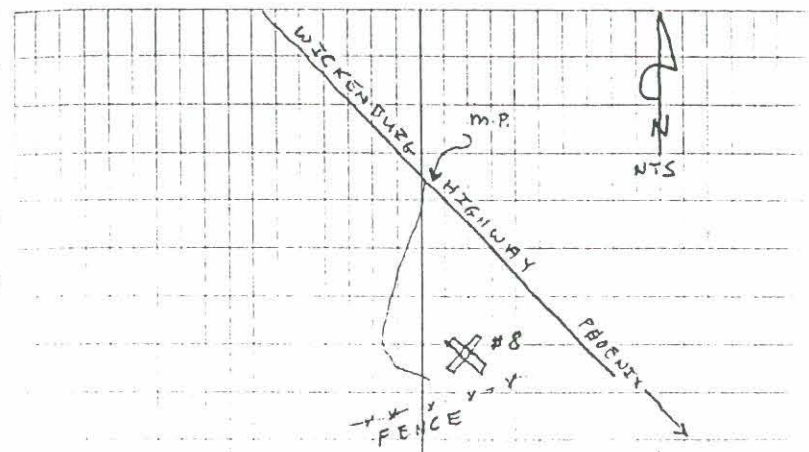
FND GLO B.C. 32/33 T8N R4W

SET 12'± LEGS IN "L" SHAPE



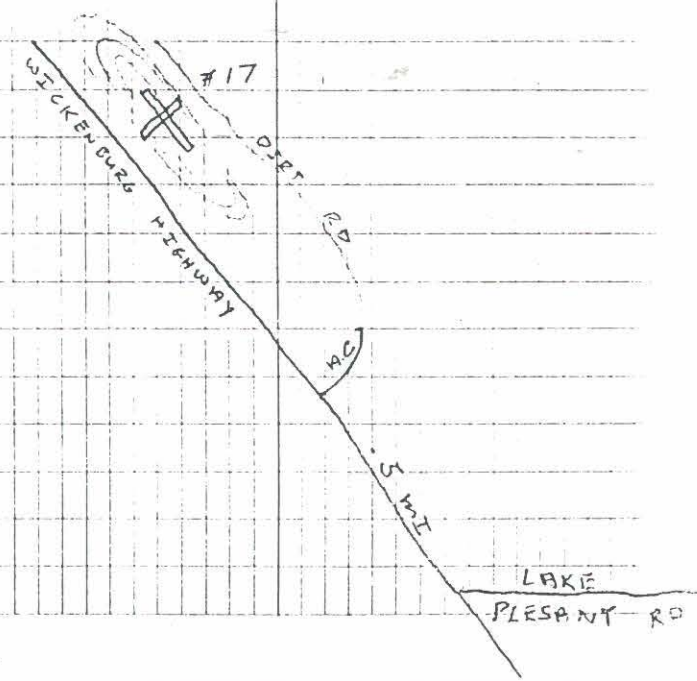
P.P #8 HEY

36" X 12' PANEL S.W. OFF WICKENBURG HIGHWAY @ M.P. 213. .3 MI. TO END OF DIRT RD. PANEL SET IN FIELD BY TWO 500 GAL STEEL DRUMS



P.P #17 HEY

36" X 12' PANEL 75'± EAST OF WICKENBURG HIGHWAY N.B. ON TOP OF CUT .5 MI NW FROM END OF LAKE PLEASANT RD. (CAREFREE HIGHWAY)



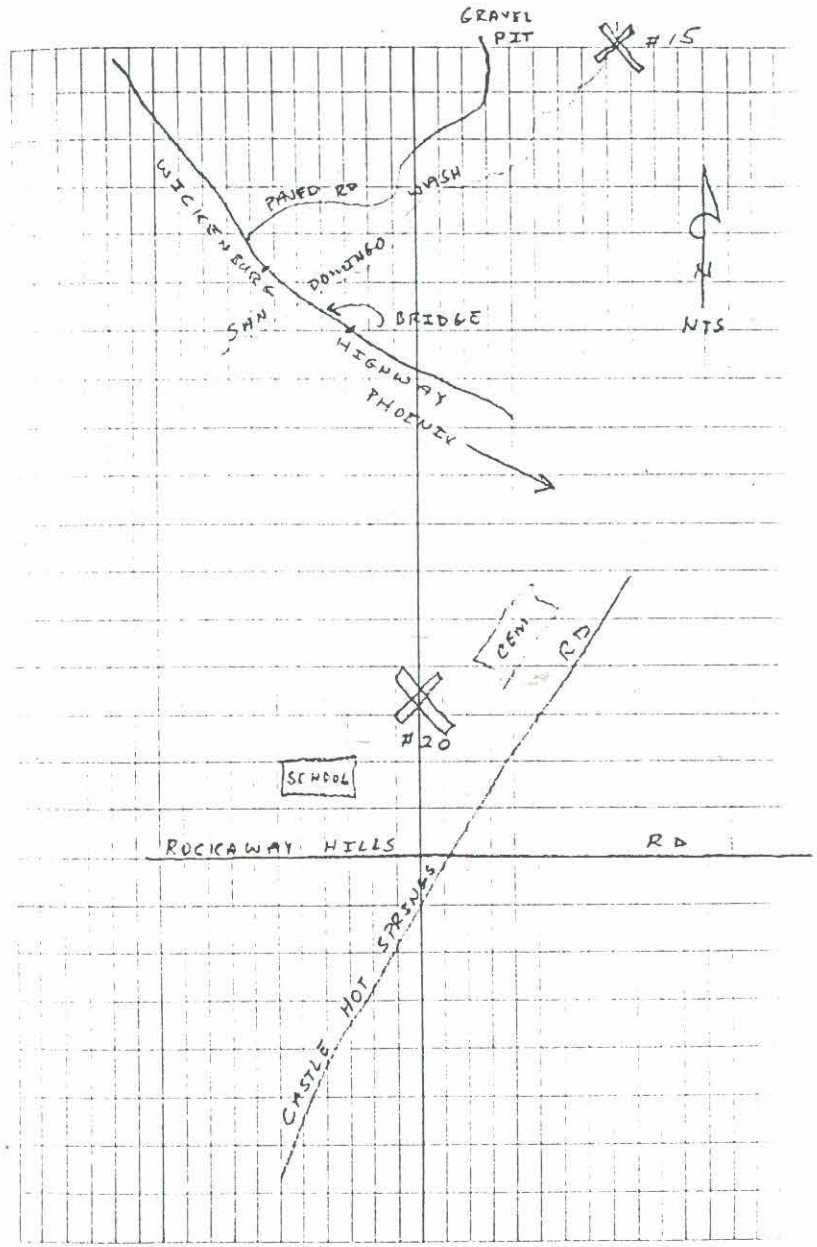
11/7/90

P.P. # 15 VERT.

36" x 12' PANEL SET IN SAN DOMINGO WASH 1.2 MI N.E. OF BRIDGE ON WICKENBURG HIGHWAY

11/8/90 P.P. #20 H & V

36" X 12' PANEL 300'± N OF ROCKAWAY HILLS RD & 300'± W. OF CASTLE SPRINGS RD JUST SOUTH OF CEMETARY IN MORRISTOWN



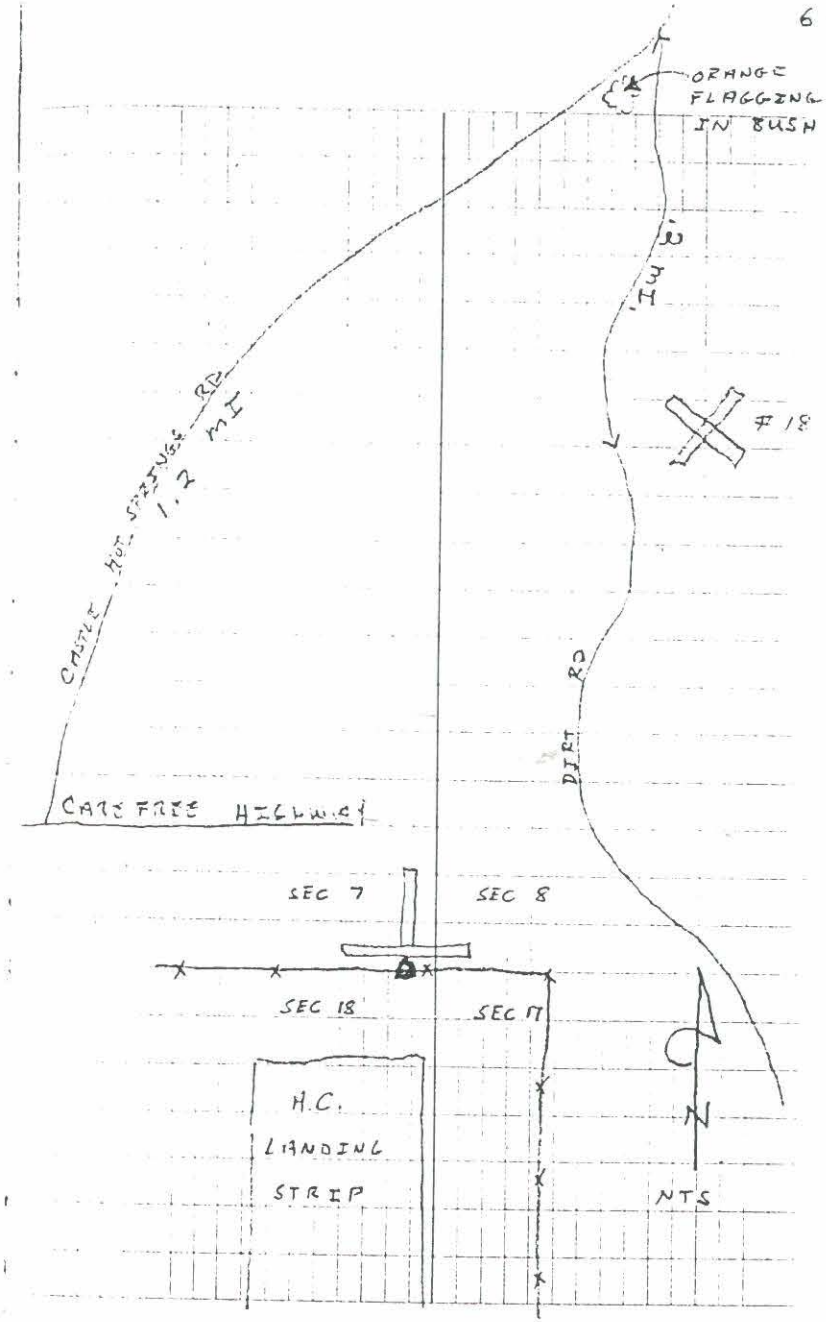
1/8/90

P.P #18 VERT.

36" x 12' PANEL 350' NE OF SE COR SEC 8 T6N R3W. TURN N. FROM CAREFREE HIGHWAY ON CASTLE HOT SPRINGS RD 1.2 MI TO DIRT RD THEN .2 MI SOUTH TO TARGET

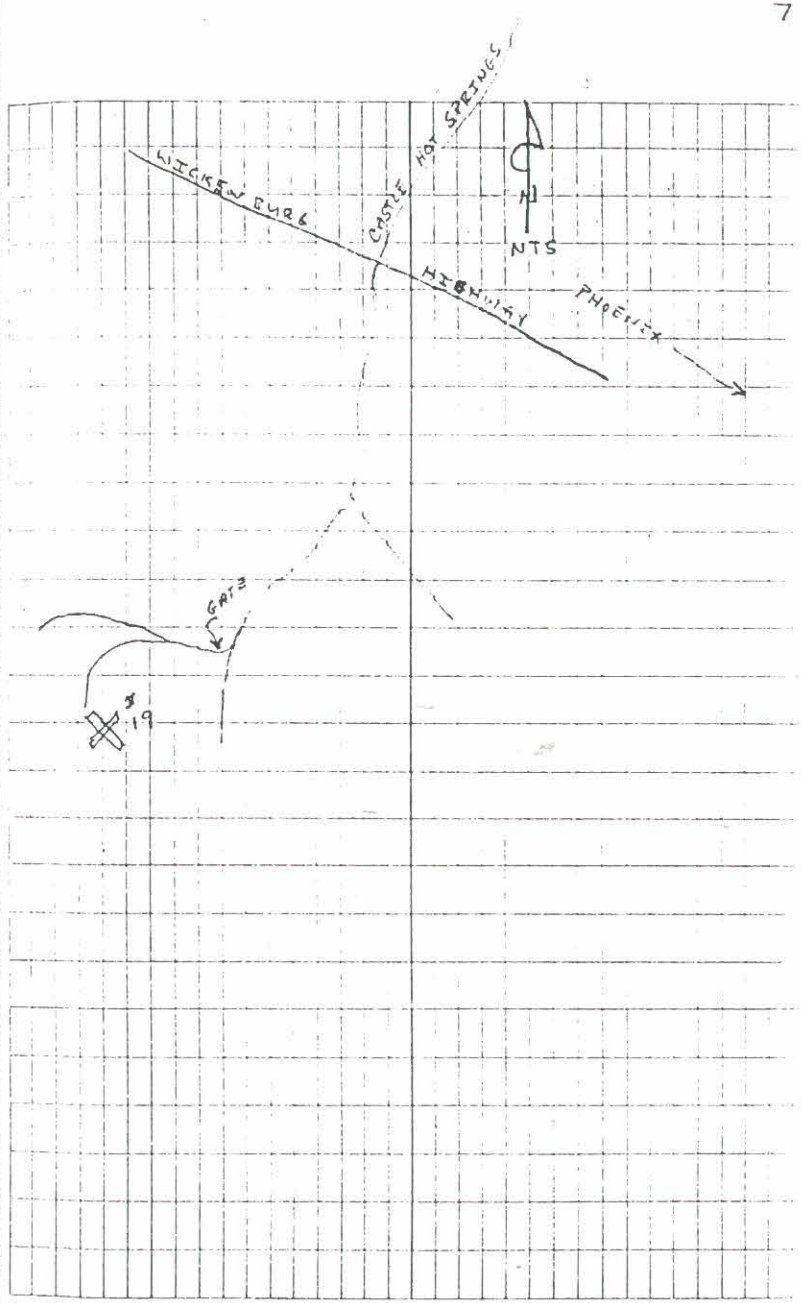
GLO BC 7 | 8 / 18 | 17 T6N R3W

PANEL WITH 12'± LEGS IN SHAPE OF "T" WITH TOP OF "T" ON NORTH SIDE OF MONUMENT



P.P. # 19 VERT.

36" X 12' PANEL. SOUTH OFF WICKENBURG HIGHWAY @ CASTLE HOT SPRINGS RD THE mi. TO GATE HEADING NORTH WITH SIGN 062152 THEN BEAR LT ON RD TO TOP OF RIDGE 500'± TO TARGET



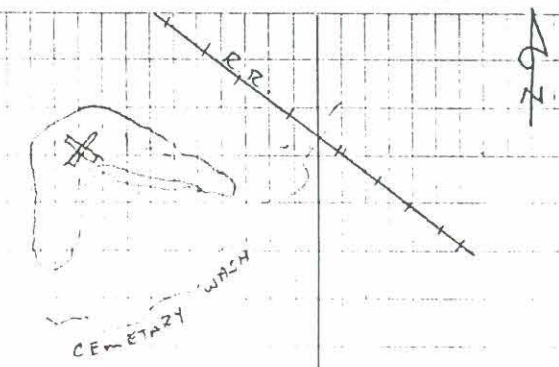
11/12/90

P.P. #7 VERT.

36"x12' PANEL 2000'± S.W. OF R.R. BRIDGE OVER CEMETARY WASH ON TOP OF RIDGE

PP # 5 VERT.

36"x12' PANEL 1 mi ± UP CALAMITY WASH ON TOP OF RIDGE



11/13/90

P.P. # 10 VERT

36" x 12' PANEL FROM WICKENBURG HIGHWAY 3 MI ± NW ALONG MONARCH WASH TO WELL WITH WINDMILL PANEL IS ON TOP OF RIDGE JUST SOUTH OF WELL

11/27/90

HORIZ. & VERT CONTROL

R. DESMOND

L. GOODWIN

TOPCON GTS 4

WILD T1

11/27/90 CLENE & COLL
R.D.
L.G.

	π @ 202		HI = 4.53	
	B.S. 200		TAR. HT 4.93 (0.10 ABOVE N.G.)	
F.S. PANEL #4	62-20-30	242-20-40	152-26-15	332-25-55
B.S.	00-00-00	180-00-10	90-05-40	270-05-25
∡	62-20-30	62-20-30	62-20-35	62-20-30
m	62-20-30		62-20-325	
	mN ∡ 62-20-32			
F.S. 200	297-39-30	117-39-45	27-45-10	207-45-00
B.S. PANEL #4	00-00-00	180-00-15	90-05-40	270-05-30
∡	297-39-30	297-39-30	297-39-30	297-39-30
m	297-39-30		297-39-30	
	mN ∡ 297-39-30			
π VERT ∡	D 93-15-35		D 93-15-35	
	R 266-44-30		R 266-44-20	
m	93-15-33		93-15-37	
	mN ∡ 93-15-35			
HD	2968.17			
SD	2972.96			
VD	-168.875		(CALC) -168.83	
TAR. VERT ∡ HI = 5.20	D 86-45-57		D 86-45-54	
	R 273-16-05		R 273-16-00	
m	86-44-57		86-44-54	
	mN ∡ 86-44-55			

11/27

(FLWH)

TAR. HT = 4.96
HI = 4.54

	π @ 202		
	B.S. 200		
F.S. PANEL #403	104-58-40	284-59-00	
B.S.	00-00-00	180-00-15	
∡	104-58-40	104-58-45	
m	104-58-42		
VERT. ∡	D ~~90-30-55~~	D 90-30-20	
	R ~~269-29-10~~	R 269-29-25	
m	~~90-30-57~~	90-30-28	
H.D.	~~8344.18~~	8344.26	
S.I.	~~8344.47~~	8344.56	
V.D.	~~-73.42~~	-72.48	(CHCC) -73.02
			-72.75 mN
TAR. VERT. ∡	~~D 89-30-12~~		
HI = 5.04	~~R 270-30-48~~		
m.			
TAR. VERT ∡	D 89-31-06		
HI = 5.20	R 270-30-31		
	m 89-30-18		

11/27

(FLUSH)

TAR. HI = 5.25

HI = 4.55

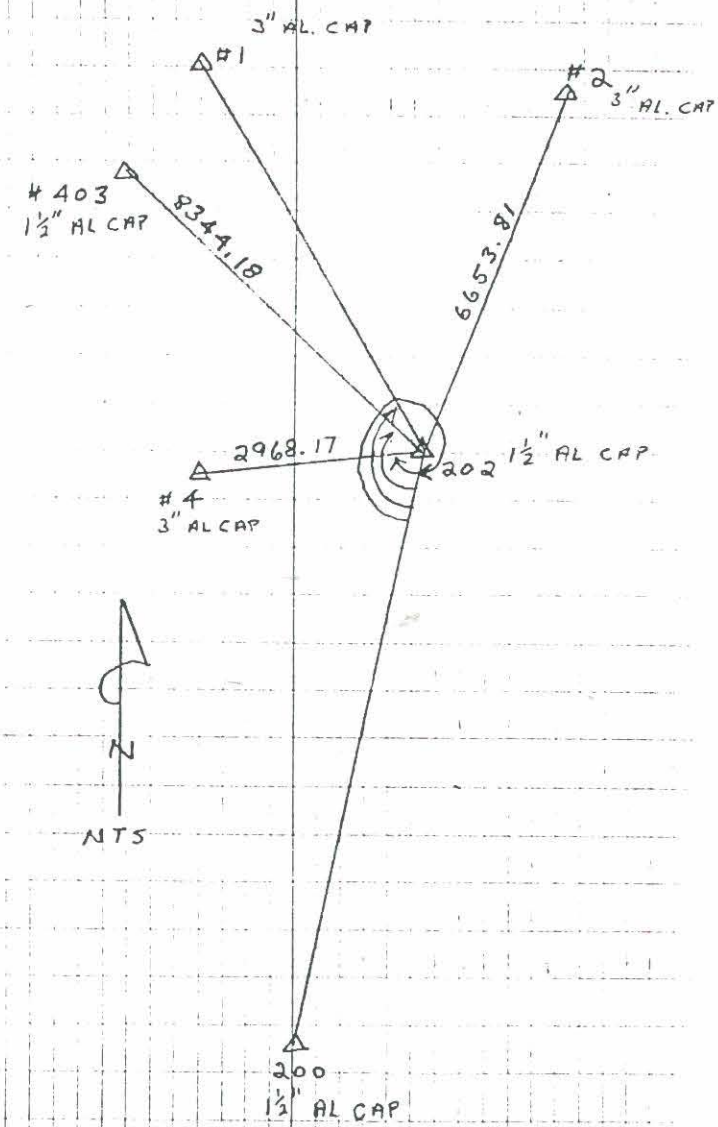
	T @ 202			
	B.S. 200			
F.S. PANEL #1	108-28-50	288-29-00	198-34-35	18-34-25
B.S.	00-00-00	180-00-10	90-05-40	270-05-30
∡	108-28-50	108-28-50	108-28-55	108-28-55
m	108-28-50		108-28-55	
	MN ∡ = 108-28-525			
F.S. 200	251-31-05	71-31-20	341-32-45	161-32-30
B.S. PANEL #1	00-00-00	180-00-10	90-05-40	270-05-25
∡	251-31-05	251-31-10	251-31-05	251-31-05
m	251-31-075		251-31-05	
	MN ∡ = 251-31-06			
T VERT ∡	D 90-13-05		D 90-13-00	
	R 269-46-50		R 269-46-50	
	90-13-07		90-13-05	
	MN ∡ 90-13-06			
HD	8836.58		(8839.97 +3.39 m)	
SD	8836.63			
VD	-30.45			
TAR VERT ∡	D		D	
HI =	R		R	
	MN ∡			

11/27

(0.40 ABOVE N.G.)
TOR HI = 4.50
HI = 4.53

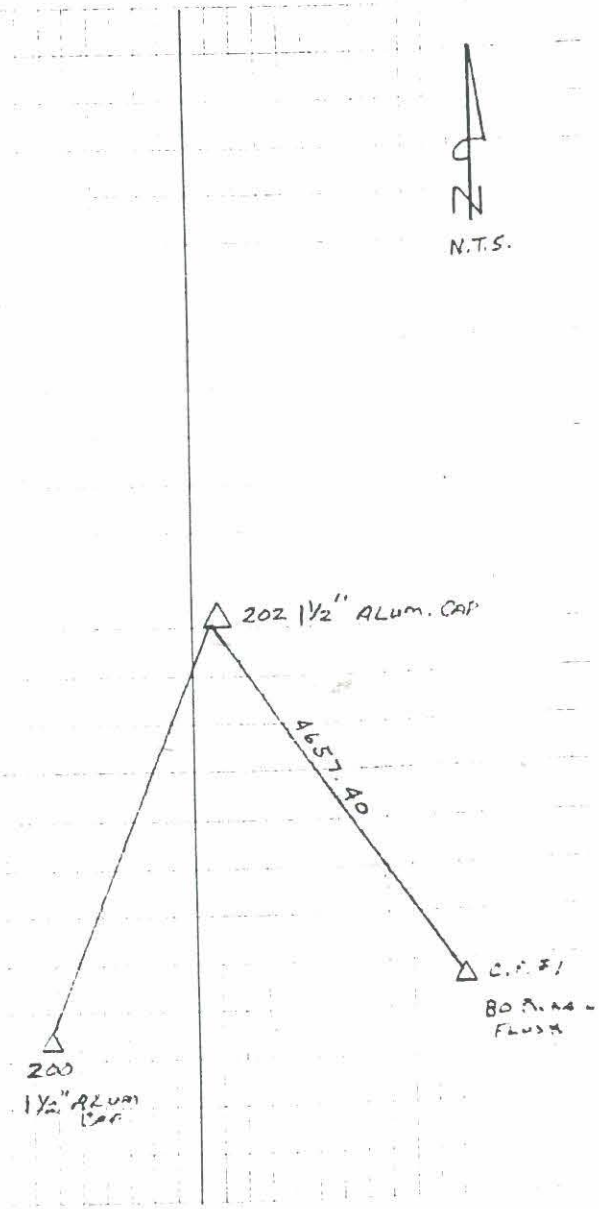
T @ 202
B.S. 200

F.S. PANEL #2		
	184-31-00	4-31-15
B.S. 200	00-00-00	180-00-15
∡	184-31-00	184-31-00
	MN ∡ 184-31-00	
F.S. PANEL #2	175-29-00	355-29-10
	00-00-00	180-00-20
∡	175-29-00	175-28-50
	MN ∡ 175-28-55	
VERT. ∡	D 88-59-55	D 88-59-50
	R 271-00-10	R 271-00-10
m	88-59-53	88-59-50 MN ∡ 88-59-52
H.D.	6653.81	
S.D.	6654.86	
V.D.	+116.97	
VERT. ∡	D 91-01-56	D 91-02-06
HI = 4.74	R 268-59-42	R 268-59-49
m	91-01-07	91-01-09
	MN ∡ 91-01-08	

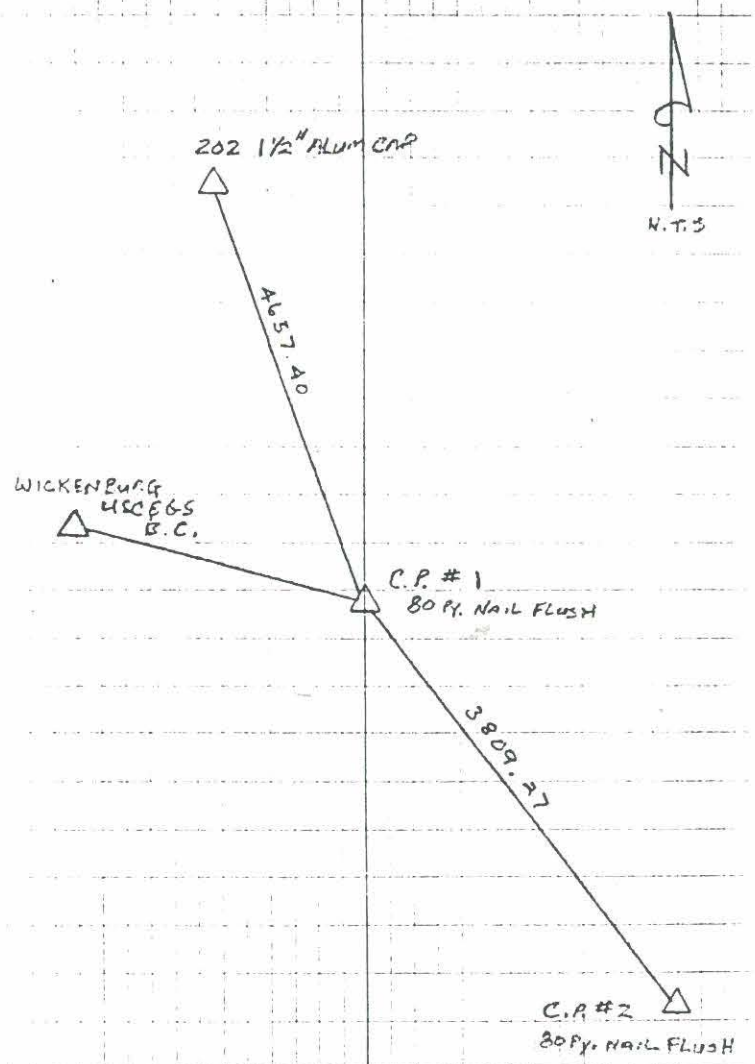


11 /28/90 CLEAR & COOL

			TAR. HI = 4.98	BRASS SPIKE FLUSH
	⊼	202	⊼ HI = 4.54	
	B.S.	200		
F.S. C.P. #1	291-16-25	111-16-40	21-21-55	201-22-05
B.S.	00-00-00	180-00-30	90-05-40	270-05-55
⊼	291-16-25	291-16-10	291-16-15	291-16-10
m	291-16-18		291-16-12	
	mN ⊼ 291-16-15			
F.S. 200				
B.S.	00-00-00			
VERT. ∡	D 88-25-50		D 88-25-50	
	R 271-34-15		R 271-34-15	
m	88-25-48		88-25-48	
	mN ⊼ 88-25-48			
HD	4657.40	+3	4657.39	
SD	4659.17			
VD	+128.04	(CALC) +128.15		
VERT. ∡ HI = 5.28	D 91-35-39		D 91-32-42	
	R 268-25-48		R 268-25-48	
m	91-34-56		91-34-56	
	mN ⊼ 91-34-56			

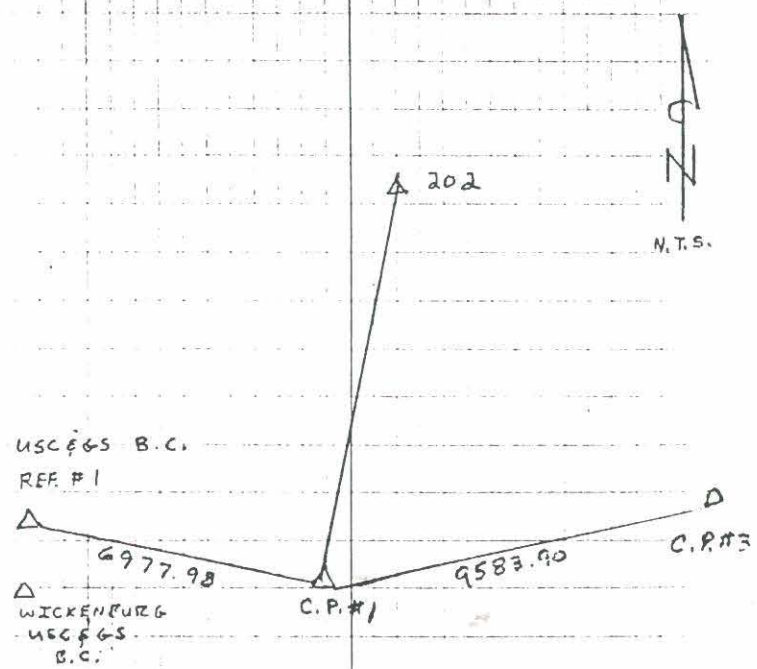


		T @ C.P. #1		
		B.S. 202		T HI = 5.17
				TAR. HI = 5.17 80 PY. NAIL FLUSH
F.S. C.P. #2	205-36-55	25-37-10	295-42-35	115-42-50
	00-00-00	180-00-20	90-05-40	270-06-00
∡	205-36-55	205-36-50	205-36-55	205-36-50
m	205-36-52		205-36-52	
	mN ∡ 205-36-52			
VERT. ∡	D 91-35-05		D. 91-35-00	
	R 268-25-05		R. 268-25-05	
m	91-35-00		91-35-02	
	mN ∡ 91-35-01			
HD	3809.27	+3' = 3809.27		
SD	3810.71			
VD	-104.83	Comp. -104.89		
VERT. ∡	58-26-17		D 58-26-35	
HI = 5.40	R 271-34-58		R 271-34-57	
m	88-25-40		88-25-50	
	mN ∡ 88-25-45			



		T @ C.P. #1		
		B.S. 202	HI=5.17	
F.S. WICKENBURG	307-52-30	127-52-50	37-58-20	217-58-30
	00-00-00	180-00-10	90-05-40	270-06-05
∡	307-52-30	307-52-40	307-52-40	307-52-25
m	307-52-35		307-52-32	
	MN ∡ 307-52-34			
VERT. ∡	D		D	
	R		R	
HD.				
ST				
VD.				

	⊼ @ C.P. #1			⊼
	B.S. 202		TAR. HI = 5.10	HI = 5.20
F.S., RE. #1				
B.C.	308-03-50	268-04-00	38-09-30	218-09-35
B.S.	00-00-00	180-00-10	90-05-40	270-05-55
∡	308-03-50	308-03-50	308-03-50	308-03-40
m	308-03-50		308-03-95	
	mn ∡ 308-03-48			
VERT. ∡	D 92-05-30		D 92-05-35	
	R 267-54-25		R 267-54-20	
m	92-05-32		92-05-32	
	mn ∡			
HD	6977.98	(6982.04 + 4.06 m)		
SD	6982.59			
VD.	-254.66			

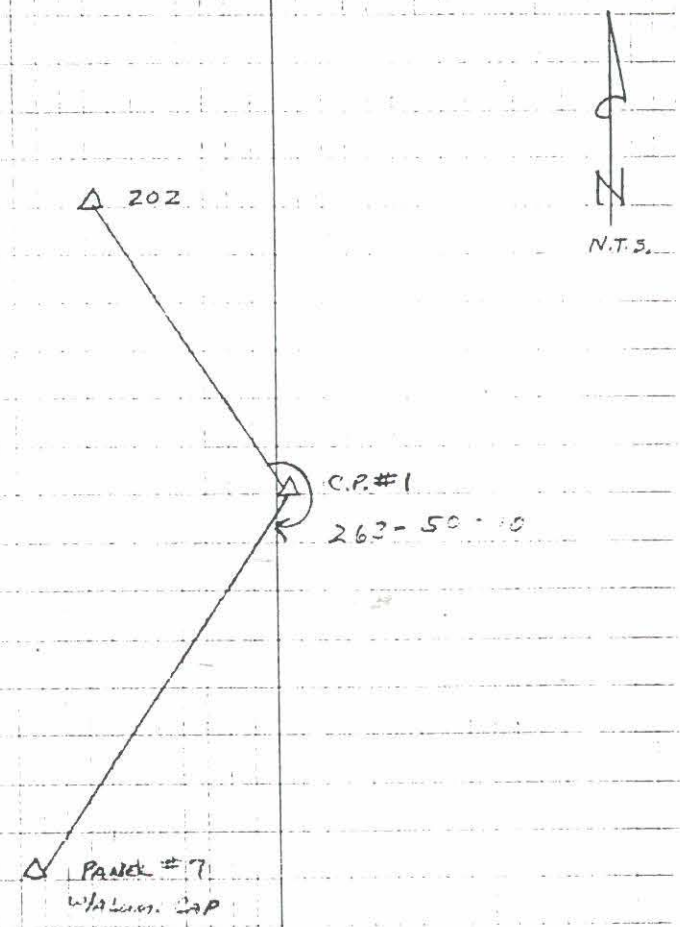


		⊼ @ C.P. #1		
		B.S. 202	TAR. HI = 5.15 80 P NAIL FLUSH	⊼ HI = 5.20
F.S. C.P. #3	106-22-45	286-23-00	196-28-30	16-28-15
B.S.	00-00-00	180-00-15	90-05-40	270-05-30
∠	106-22-45	106-22-45	106-22-50	106-22-45
m	106-22-45		106-22-48	
	mN ∠ 106-22-46			
VERT. ∠	D 88-54-50		D 88-54-50	
	R 271-05-10		R 271-05-05	
	88-54-50		88-54-52	
	mN ∠ 88-54-51			
HD	9583.90			
SD	9585.70			
VD	+183.59	(calc) +182.05		(mN) +182.82
VERT ∠ FROM #3	D 91-05-27		D 91-05-23	
HI = 5.30	R 268-54-31		R 268-54-33	
m	91-05-28		91-05-25	
TAR. HT. = 8.00	mN ∠		91-05-26	

12-3-90 CLEAR & COOL
R.D
L.G.

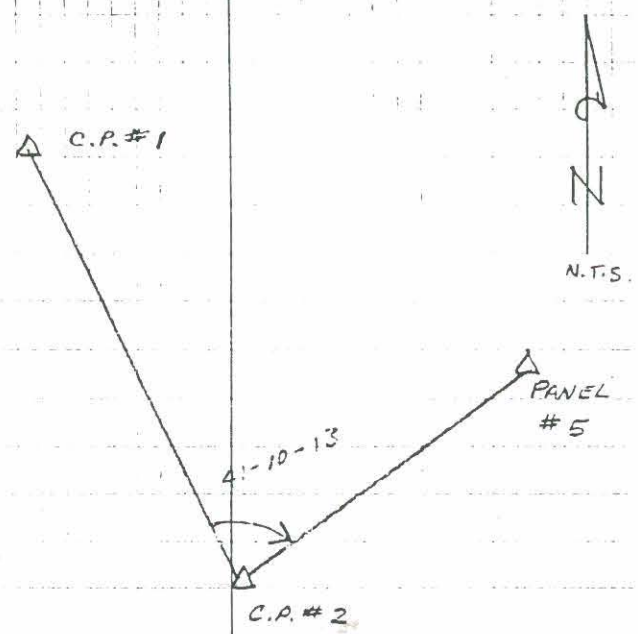
T @ P.C. #1
B.S. 202

			T HI = 5.35	TAR. HI = 4.77	ALUM CAP 35 ABOVE N.G.
F.S. PANEL #7	263-50-11	83-50-17	353-55-53	173-55-43	
B.S.	00-00-00	180-00-00	90-05-40	270-05-26	
∡	263-50-11	263-50-17	263-50-13	263-50-17	
m	263-50-14		263-50-15		
	MN ∡ 263-50-14				
F.S.	96-10-00	276-10-04	186-15-22	270-05-59	
	00-00-00	180-00-12	90-05-40	6-15-27	
∡	96-10-00	96-09-52	96-09-52	96-09-12	
m	96-09-56		96-09-52		
	MN ∡ 96-09-54				
VERT. ∡	D 91-56-17		D 91-56-24		
	R 268-03-32		R 268-03-39		
	91-56-23		91-56-22		
	MN ∡ 91-56-22				
HD	7529.82				
SD	7534.05				
V.D.	-253.64		(CALC) -253.48		
TAR. VERT. ∡	D 88-06-10		D 88-06-14		
HI = 5.11	R 271-56-15		R 271-56-13		
	88-04-58		88-05-01		
	MN ∡ 88-05-00				

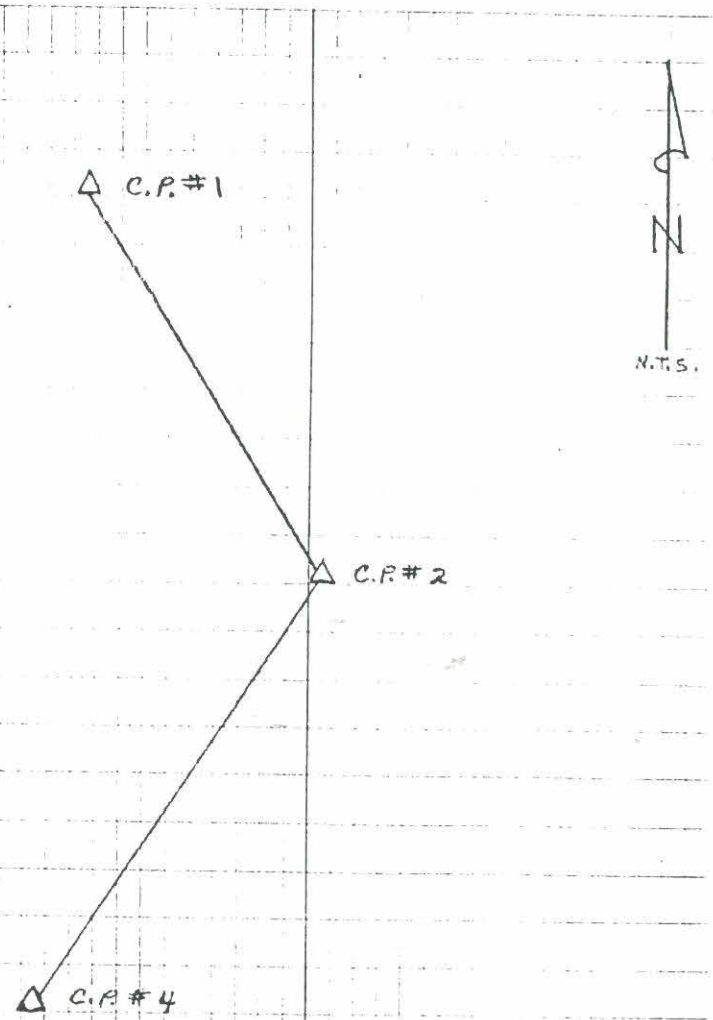


		T @ C.P. #2			
		B.S. C.P. #1	T HI = 5.15	TAR. HI = 4.58	.10 ABOVE N.G. TAKE
F.S. PANEL #5	41-10-07	221-10-13	131-15-51	311-15-43	
B.S.	00-00-00	180-00-07	90-05-40	270-05-32	
∡	41-10-07	41-10-06	41-10-11	41-10-10	
	41-10-06		41-10-10		
		mN ∡ 41-10-08			
F.S. C.P. #1	318-49-42	178-49-50	131-15-50	311-15-51	
B.S.	00-00-00	179-59-55	90-05-[illegible]	270-05-32	
	318-49-42	[illegible]-55			
		mN ∡			
VERT. ∡	90-30-30		90-30-31		
	269-29-28		269-29-30		
	90-30-31		90-30-31		
		mN ∡ 90-30-31			
HD.	1863.78				
S.D	1863.85	(calc)			
V.D.	-16.50	-16.26			
TAR. VERT. ∡	D 89-31-36	D 89-31-30			
HI = 4.96	R 270-30-30	R 270-30-27			
	89-30-33	89-30-32			

mN ∡ 89-30-32



		T @ C.P. #2			
		B.S. C.P. #1,	HI=5.15	TAR. HI.=4.84	BOPY. SPIKE FLUSH
F.S. C.P. #4	210-23-51	30-24-00	300-29-36	120-29-26	
B.S.	00-00-00	180-00-04	90-05-40	270-05-[illegible]	
∠	210-23-51	210-23-56	210-23-56	210-23-57	
m	210-23-54		210-23-56		
	MN ∠ 210-23-55				
VERT. ∠	D 92-01-01		D 92-01-07		
	R 267-58-58		R 267-59-02		
	92-01-01		92-01-03		
	m 92-01-02				
HD	3124.88				
SD	3126.80				
VD	-109.90	(CALC) -109.65			
TAR VERT. ∠	D 88-00-50		D 88-01-00		
HI = 5.22	R 272-01-12		R 272-01-08		
	87-59-49		87-59-56		
	MN ∠ 87-59-52				



12-4-90

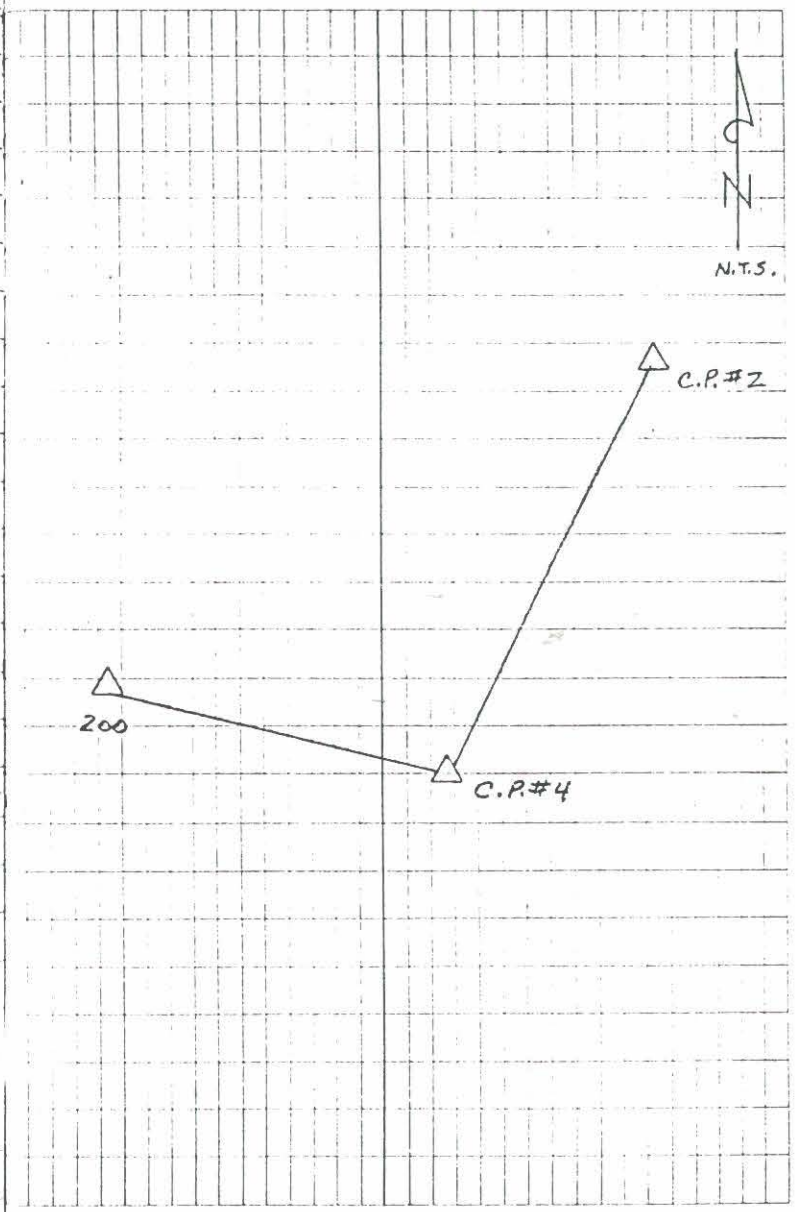
R.D.
L.G.

T @ C.P.#4
B.S. C.P.#2

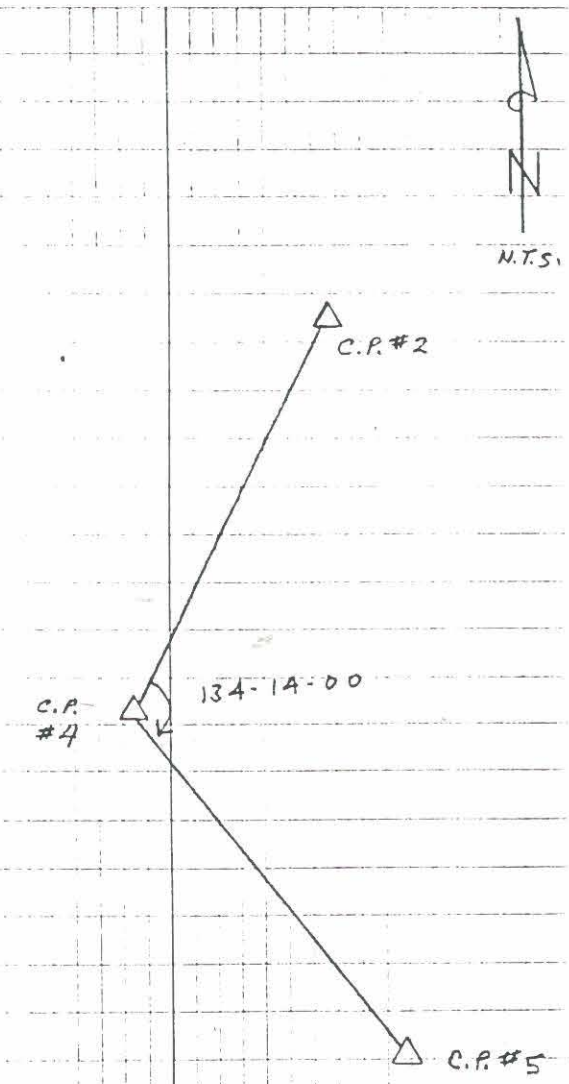
F.S. 200	244-14-01	64-13-56	334-19-39	154-19-43
B.S.	00-00-00	179-59-52	90-05-40	270-05-38
	244-14-01	244-14-03	244-14-03	244-14-05

244-14-02 244-14-04

MN ∡ 244-14-03

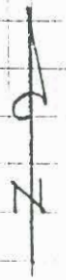


	T @ C.P.#4		T	TAR.	GOD. NAIL
	B.S. C.P.#2		HI = 5.15	HI = 5.23	FLUSH
F.S. C.P. # 5	134-13-58	314-14-07	224-19-41	44-19-32	
B.S.	00-00-00	180-00-06	90-05-40	270-05-36	
∡	134-13-58	134-14-01	134-14-01	134-13-59	
m	134-14-00		134-14-00		
	mN ∡ 134-14-00				
VERT. ∡	D 89-34-01		D 89-33-57		
	mN ∡ 89-33-59				
HD	6748.13				
SD	6748.34				
VD	+51.82	(calc) +51.95			
TAR. VERT. ∡	D. 90-27-00		D. 90-27-06		
HI = 5.47	R. 269-33-20		R. 269-33-06		
m	90-26-50		90-27-00		
	mN ∡ 90-26-55				

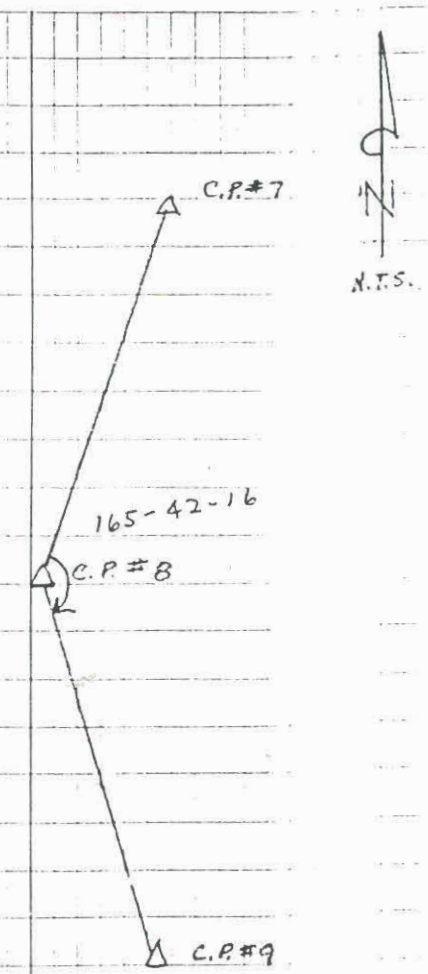


	T @ C.P. #7				
	B.S. C.P. #6				
F.S. BURLT	319-42-39	139-42-39	49-48-26	299-48-22	
	00-00-00	180-00-03	90-05-40	270-05-40	
	319-42-39	319-42-36	319-42-46	319-42-42	
	319-42-38		319-42-44		
	MN X 319-42-41				

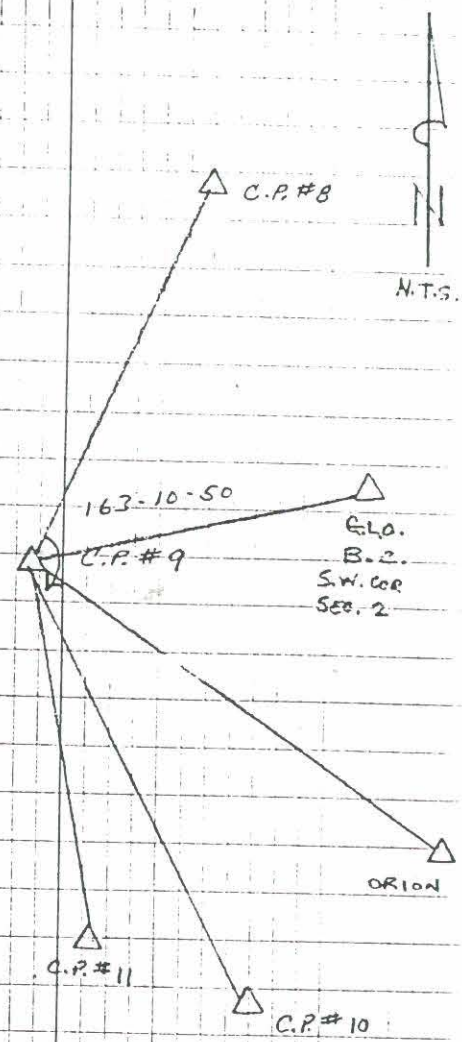
	T @ C.P. #7		T	TAR.	.25 ABOVE
	B.S. C.P. #6		HI = 5.26	HT = 4.72	N.G.
F.S. PANEL #12	102-21-35	282-21-24	192-27-04	12-27-06	
B.S.	00-00-00	179-59-51	90-05-40	270-05-34	
	102-21-35	102-21-27	102-21-24	102-21-32	
	102-21-31		102-21-28		
	MN ∡ 102-21-30				
F.S. C.P. #12	102-21-27	282-21-24	192-27-06	12-27-05	
B.S.	00-00-00	179-59-59	90-05-40	270-05-35	
	102-21-27	102-21-25	102-21-26	102-21-30	
	102-21-26		102-21-28		
	MN ∡ 102-21-27				
VERT. ∡	D 270-20-17		D 270-20-11		
	R 89-39-57		R 89-39-45		
	89-39-53		89-39-47	MN ∡ 89-39-50	
HD	3474.31				(3.8)
SD	3474.38		(CALC)		
VD	+20.70		+20.68		
TAR. VERT. ∡	D 90-20-27		D 90-21-00		
HI = 4.98	R 269-39-05		R 269-39-07		
	90-20-35		90-20-56		
	MN ∡ 90-20-46				



	T @ C.P. #8				
	B.S. C.P. #7		T HI = 5.07	TAR. HI = 4.88	GOD. NAIL FLUSH
F.S. C.P. #9	165-42-18	345-42-07	255-47-51	75-47-54	
B.S.	00-00-00	179-59-51	90-05-43	270-05-25	
∡	165-42-18	165-42-16	165-42-11	165-42-18	
m	165-42-17		165-42-14		
	mN ∡ 165-42-16				
VERT. ∡	D 90-45-41		I 90-45-43		
	C 269-14-16		R 269-14-18		
m	90-45-43		90-45-43		
	mN ∡ 90-45-43				
HD	4011.27				
SD	4011.61		(CALC)		
VD	-52.75		-52.87		
TAR. VERT. ∡	89-14-39		D 89-14-50		
HI = 5.14	270-44-28		R 270-44-34		
m	89-15-04		89-15-08		
	mN ∡ 89-15-06				



	T @ C.P. #9				
	B.S.	C.P. #8	T HI = 5.13	TAR. HI = 4.78	60D WHITE FLUCK
F.S. C.P. #10	163-10-36	343-10-41	253-16-31	73-16-29	
	00-00-00	179-53-47	90-05-40	270-05-30	
∠	163-10-36	163-10-54	163-10-51	163-10-59	
m	163-10-45		163-10-55		
	mN ∠ 163-10-50				
VERT. ∠	D 90-17-33		D 90-17-41		
	R 269-42-16		R 269-42-15		
m	90-17-41		90-17-45		
	mN ∠ 90-17-43				
HD	7094.99				
SD	7095.05		(CALC)		
VD	-35.24		-35.41		
TAR. VERT. ∠	D 89-43-16		D. 89-43-14		
HI = 5.03	R 270-16-31		R 270-16-28		
m	89-43-22		89-43-26		
	mN ∠ 89-43-24				



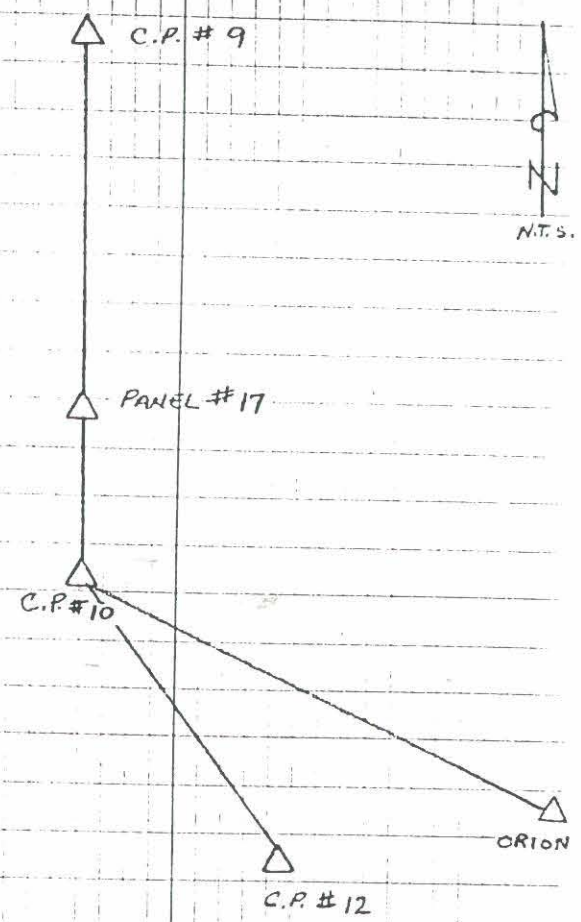
12-6-90
R.D.
L.G.

	T@ C.P #9		T	TAR.	G.L.O.B.C. 2'
	B.S.	C.P. #8	HI=5.19	HI=5.11 N.G.	ABOVE N.G.
F.S.					
ERM	79-45-03	259-45-05	169-51-04	349-51-06	
B.S.	00-00-00	179-59-45	90-05-40	270-05-48	
∡	79-45-03	79-45-20	79-45-24	79-45-18	
m	79-45-12		79-45-21		
	MN ∡		79-45-16		
F.S.					
	280-14-36	100-14-48	10-20-25	190-20-15	
B.S.	00-00-00	180-00-05	90-05-40	270-05-29	
	280-14-36	280-14-43	280-14-45	280-14-44	
	280-14-40		280-14-44		
		MN ∡	280-14-42		
VERT. ∡	D 92-56-18		D 92-56-23		
	R 269-03-23		R 267-03-22		
	92-56-28		92-56-31	MN ∡ 92-56-30	
HD	549.04				
SD	549.77		(CALC)		
VD	-28.22		-28.09		
TAR. VERT. ∡	D 87-05-11		D 87-05-06		
HI=5.39	R 272-55-07		R 272-55-09		
	87-05-02		87-04-58		
	MN ∡		87-05-00		

	T @ C.P. #1		T	TAR.	GOD. NAIL
	B.S. C.P. #8		HI = 5.19	HI = 5.12	FLUSH
F.S. C.P. #11	164-16-52	344-16-58	254-22-37	74-22-34	
F.S.	00-00-00	180-00-02	90-05-40	270-05-39	
∡	164-16-52	164-16-56	164-16-57	164-16-55	
m	164-16-54		164-16-56		
	mN ∡	164-16-55			
VERT ∡	D 91-17-36		D 91-17-39		
	R 268-42-18		R 265-42-19		
	91-17-39		91-17-40	mN ∡ 91-17-40	
HD	2022.35				
SD	2022.87		(CALC)		
VD	-45.67		-45.51		
TAR. VERT ∡					
HI = 5.38	D 88-43-00		D 88-43-06		
	R 271-17-02		R 271-17-09		
	88-42-59		88-42-58		
	mN ∡	88-42-58			

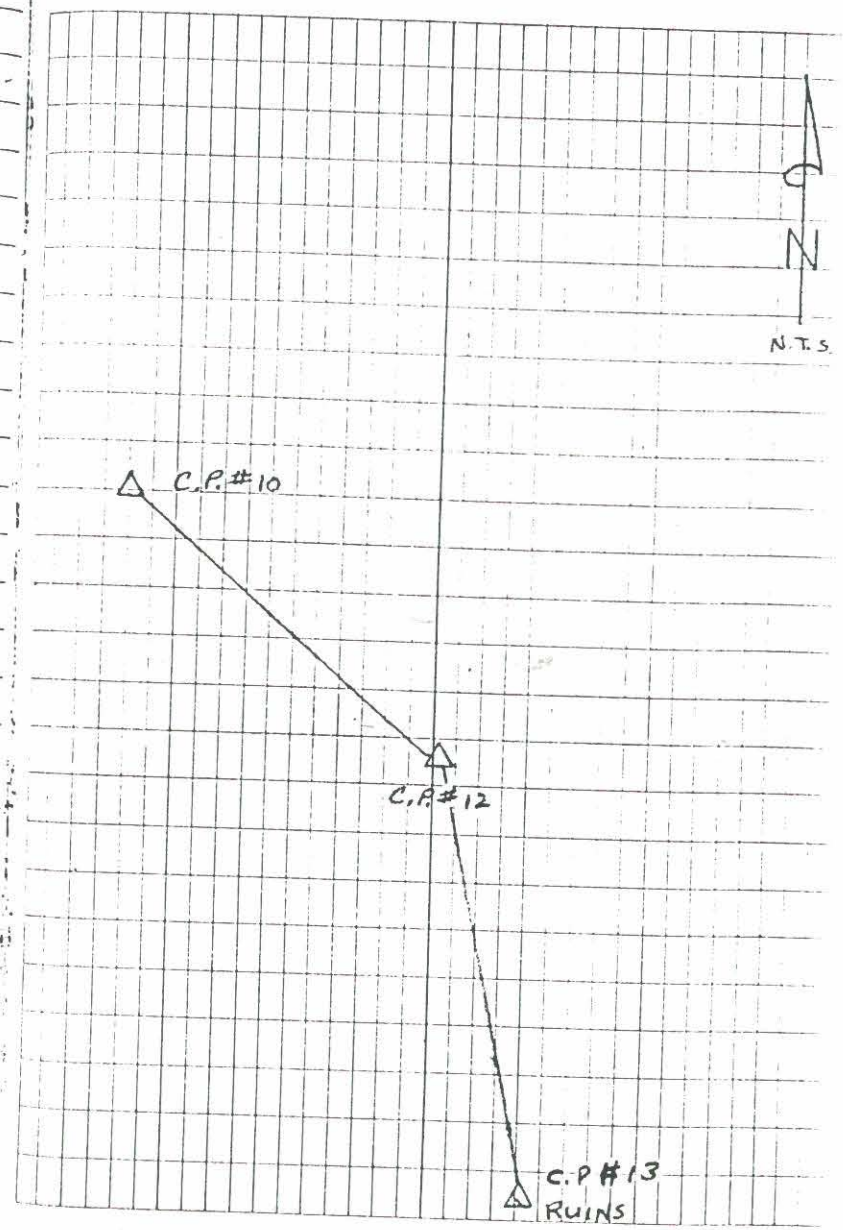
	T @ C.P. #9			
	B.S. C.P. #8			
F.S. ORION	123-12-31	303-12-34	213-18-10	33-18-09
	00-00-00	179-59-57	90-05-40	270-05-38
☿	123-12-31	123-12-37	123-12-30	123-12-51
m	123-12-34		123-12-40	
	mN ∠ 123-12-36			

	T @ C.P. #10		HI = 5.07		ALUM CAP .12 ABOVE M.G.
	B.S. C.P. #9 FOR LINE ONLY		TAR HT. 4.90		
F.S. PANEL #17					
	00-00-00				
H.D.	359.36				
S.D.	359.60				
V.D	-13.34				
VERT ∠	D 92-07-35		D		
	R 267-52-17		R		
	T @ C.P. #10				
	B.S. C.P. #9				
F.S. ORION	125-36-11	305-36-15	215-41-54	35-41-56	
B.S.	00-00-00	179-59-53	90-05-40	270-05-45	
	125-36-11	125-36-22	125-36-14	125-36-11	



	T @ C.P. #10		T	TAR.
	B.S.	C.P. #9	HI = 5.07	HI = 5.08
F.S. C.P. #12	138-15-07	S18-15-01	228-20-45	48-20-37
	90-00-00	179-59-59	90-05-50	270-05-23
∡	138-15-07	138-15-02	138-15-00	138-14-59
m	138-15-04		138-15-00	
	MN ∡ 138-15-02			
VERT. ∡	D 89-02-06		D 89-02-04	
	R 270-58-00		R 270-58-02	
	89-02-03		89-02-03	
	MN ∡ 89-02-03			
HI	4819.66			
SD	4820.35		(CALC)	
VI	+81.75		+81.92	
TAR. VERT. ∡	D 90-58-47		D 90-58-48	
HI = 5.26	R 269-01-10		R 269-01-12	
	90-58-59		90-58-48	
	MN ∡ 90-58-54			

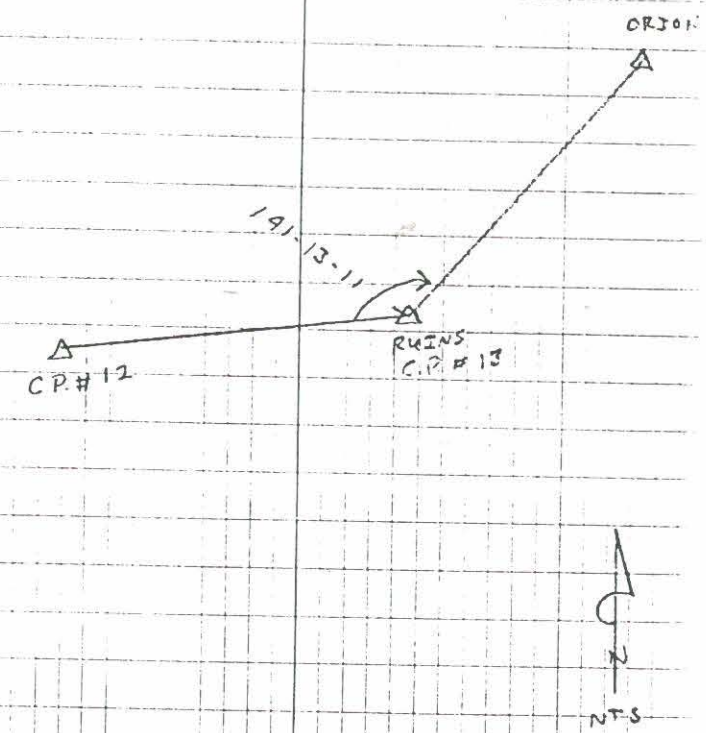
	∡ @ C.P. #12			
	B.S.	C.P. #10	∡ HI = 5.22	TAR. HI = 5.35
F.S.				
C.P. #13	185-55-57	5-56-00	276-01-51	96-01-49
B.S	00-00-00	179-59-48	90-05-40	270-03-44
	185-55-57	185-56-12	185-56-11	185-56-05
	185-56-05		185-56-08	
		MN ∡	185-56-06	
VERT. ∡	D. 89-15-06		D. 89-15-04	
	R. 270-45-04		R. 270-45-01	
	89-15-01		89-15-02	
		MN ∡	89-15-02	
HD	5911.41			
SD	5911.95	(CALC)		
VD	+78.11	+77.93		
TAR.				
VERT. ∡	D. 90-45-32		D. 90-45-32	
HI = 5.31	R. 269-14-16		R. 269-14-06	
	90-45-38		90-45-43	
		MN ∡	90-45-40	



	T@	C.P #12			
	B.S.	C.P #10			
F.S. ORIN	162-55-01	342-54-48	253-00-29	73-00-22	
B.S	00-00-00	179-59-49	90-05-40	270-05-33	
	162-55-01	162-54-59	162-54-50	162-54.49	
	162-55-00		162-54-50		
	mN ∡ 162-54-55				

12/10/90

	T@ C.P. # 13 (RUINS)			
	B.S. C.P # 12			
F.S. ORION	141-13-12	321-13-18	231-18-53	51-18-45
	00-00-00	180-00-13	90-05-40	270-05-30
∡	141-13-12	141-13-05	141-13-13	141-13-15
m	141-13-08		141-13-14	
	mN∡	141-13-11		

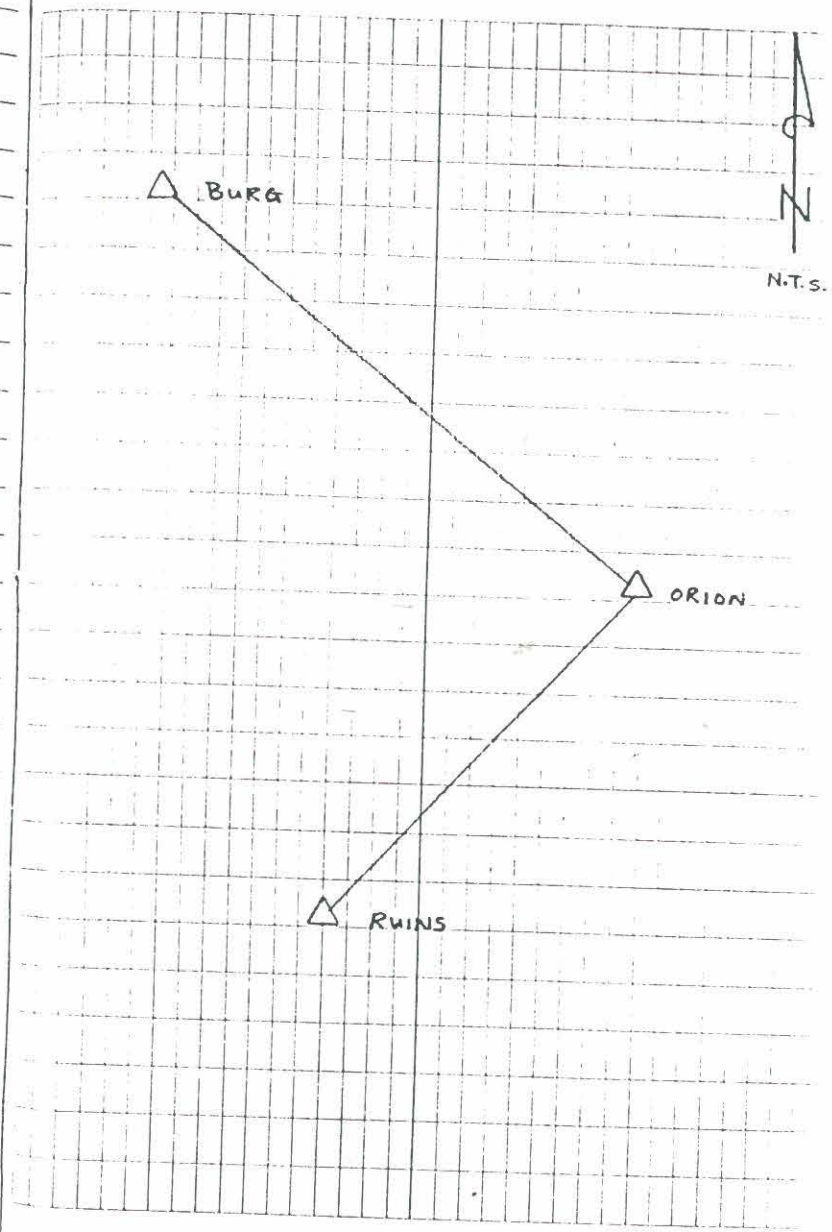


12/11/90
R.D
L.G.

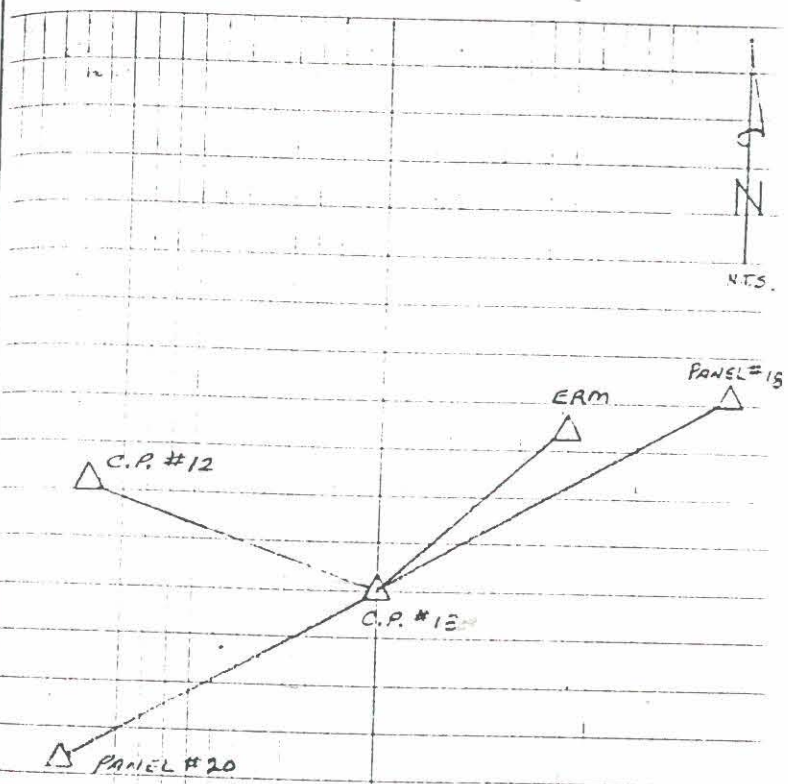
T @ ORION

B.S. C.P. #13 (RUINS)

F.S				
BURG	54-33-49	234-33-52	144-39-27	324-39-26
#13	00-00-00	180-00-05	90-05-40	270-05-33
∡	54-33-49	54-33-52	54-33-47	54-33-53
m	54-33-50		54-33-50	
	MN ∡ 54-33-50			
FS #13				
BURG	00-00-00		90-05-40	
∡				
m				
	MN ∡			
TO #13				
VERT ∡	D 93-20-53		D 93-20-50	
	R 266-39-15		R 266-39-16	
m	93-20-49		93-20-47	
	MN ∡ 93-20-48			
S.D.	8527.35			
H.D.	8512.97	2ND	8512.97	
V.D.	-496.73			



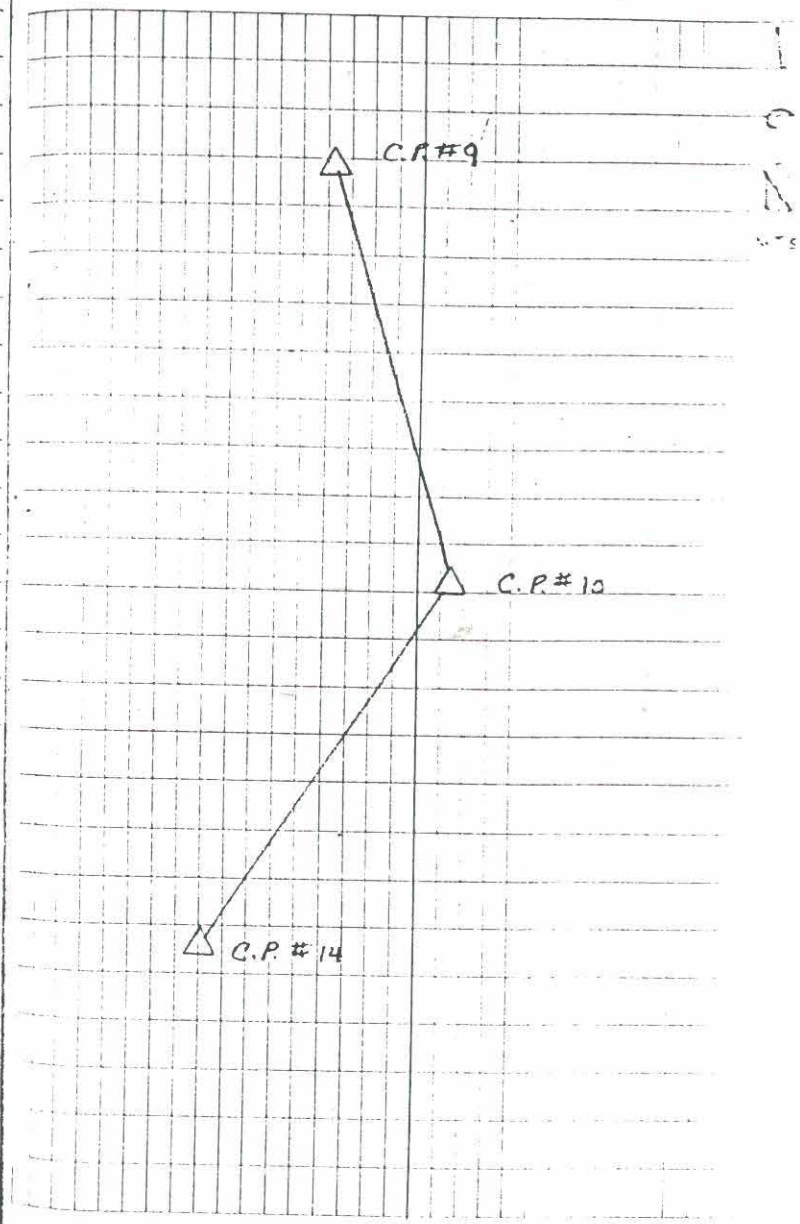
	T @ C.P. #13				
	B.S. C.P. #12		T HI=5.25	TAR. HI=4.77	ALUM. CAP .15 ABOVE N.G.
F.S. PANEL #18	110-59-07	290-59-07	201-04-52	21-04-45	
	00-00-00	179-59-59	90-05-40	270-05-36	
∡	110-59-07	110-59-08	110-59-12	110-59-09	
m	110-59-08		110-59-10		
	MN ∡	110-59-09			
F.S. C.P. #12	249-00-58	69-01-00	339-06-27	159-06-34	
	00-00-00	180-00-05	90-05-40	270-05-35	
∡	249-00-58	249-00-55	249-00-47	249-00-59	
m	249-00-56		249-00-53		
	MN ∡	249-00-54			
VERT. ∡	D 91-36-57		D 91-36-53		
	R 268-23-11		R. 268-23-09		
	91-36-53		91-36-52	MN ∡ 91-36-52	
HD	1331.81	(1334.83 + 3.02 m 3.02)			
SD	1332.34				
VD	-37.48				
T VERT. ∡ HI=5.04	D 88-23-49		D. 88-23-45		
	R 271-36-09		R. 271-35-57		
	88-23-50		88-23-54		
	MN ∡	88-23-52			



	T @ C.P. #13		T	TAR	.90 ABOVE N.G.
	B.S. C.P. #12		HI = 5.25	HI = 4.15	G.L.O. B.C.
					N.E. COR. SEC. 18
F.S. ERM	106-18-57	286-18-55	196-24-36	16-24-36	
	00-00-00	179-59-59	90-05-40	270-05-39	
∡	106-18-57	106-18-56	106-18-56	106-18-57	
m	106-18-56		106-18-56		
	mN ∡	106-18-56			
VERT. ∡	D 92-29-27		D 92-29-28		
	R 267-30-39		R 267-30-41		
	92-29-25		92-29-24		
	mN ∡	92-29-24			
HD	978.79	(981.84 + 3.05 3.03 m)			
SD	979.72				
VD	-42.52				
T					
VERT. ∡	D 87-31-27		D. 87-31-17		
HI = 4.41	R 272-28-07		R. 272-28-09		
	87-31-36		87-31-29		
	mN ∡	87-31-32			

	T @ C.P. #13		T	TAR.	ALUM CAP
	B.S. C.P. #12		HI = 5.25	HI = 4.97	15 ABOVE N.G.
F.S. PANEL #20	312-16-56	132-16-57	42-22-32	222-22-26	
	00-00-00	180-00-03	90-05-40	270-05-38	
∡	312-16-56	312-16-54	312-16-52	312-16-48	
m	312-16-55		312-16-50		
	MN ∡ 312-16-52				
F.S. C.P. #12	47-43-06	227-43-02	137-48-47	317-48-43	
	00-00-00	180-00-01	90-05-40	270-05-37	
∡	47-43-06	47-43-01	47-43-07	47-43-06	
m	47-43-04		47-43-06		
	MN ∡ 47-43-05				
VERT. ∡	D 91-16-10		D 91-16-20		
	R 268-43-53		R 268-43-58		
	91-16-08		91-16-11	MN ∡ 91-16-10	
HD	6247.86	(6250.86 + 3.00 m)			
SD	6249.38				
VD	-137.89	CALC. -137.36		MN -137.63	
T VERT ∡ HI = 5.21	D 88-44-54		D 88-44-55		
	R 271-14-41		R 271-14-48		
	88-45-02		88-45-03		
	MN ∡ 88-45-02				

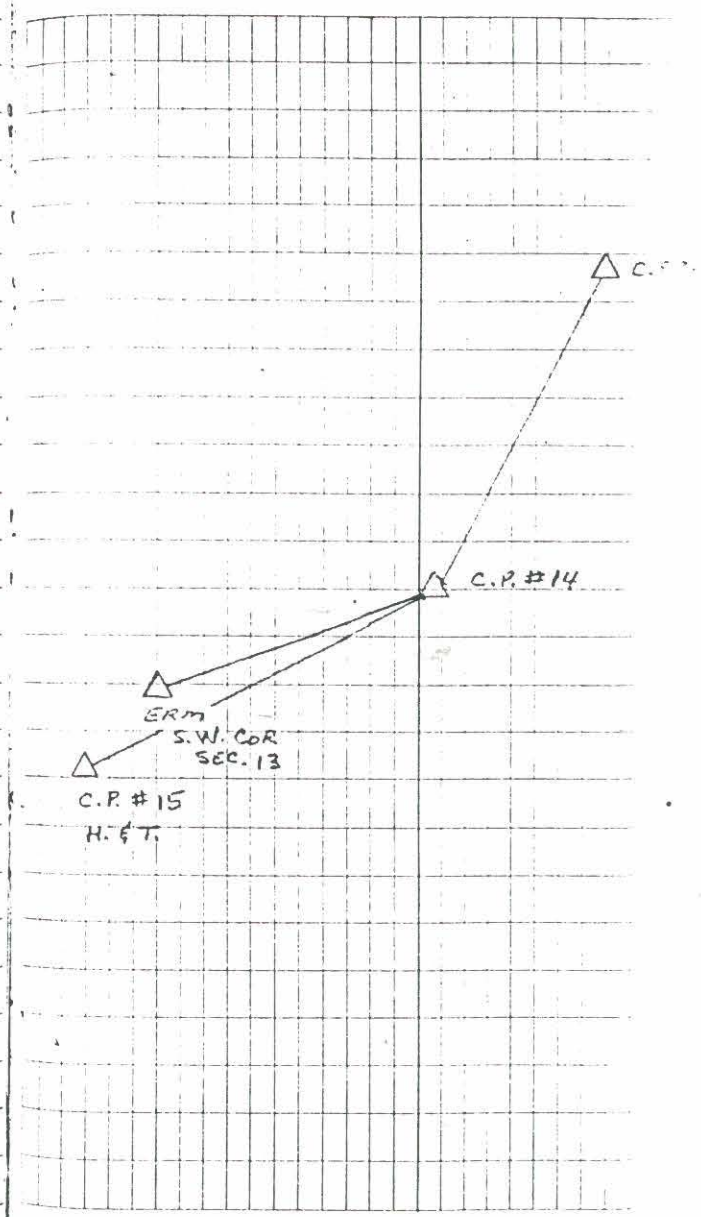
	T @ C.P. #10		T	TAR.	GOD NAIL
	B.S. C.P. #9		HI = 5.07	HI = 4.97	FLUSH
F.S. C.P. #14	217-11-56	37-12-03	307-17-48	127-17-46	
	00-00-00	179-59-50	90-05-40	270-05-40	
∡	217-11-56	217-12-10	217-12-08	217-12-06	
m	217-12-03		217-12-07		
	MN ∡ 217-12-05				
VERT. ∡	D 90-20-40		D 90-20-40		
	R 269-39-27		R 269-39-29		
	90-12-36		90-20-36	MN ∡ 90-20-36	
HD	5163.72				
SD	5163.81				
VD	-30.39				
T					
VERT. ∡	D 89-40-12		D 89-40-11		
HI = 5.25	R 270-19-04		R 270-19-15		
	89-40-34		89-40-28		
	MN ∡ 89-40-31				



12-12-90 Cloudy

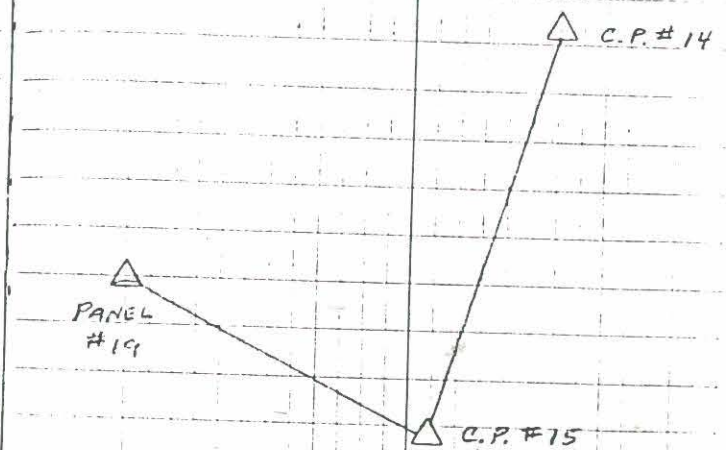
R.P.
L.P.

	T @ C.P. #14		T	TAR	G.L.O., B.C
	B.S. C.P. #10		HI=5.17	HI = 8.50	1.1' ABOVE
					N.G.
F.S., ERM					
S.W. COR SEC 13	241-10-47	61-10-57			
B.S.	00-00-00	180-00-00			
	241-10-47	241-10-57			
	mN ∡ 241-10-52				
VERT. ∡	D 91-13-15	D			
	R				
m					
	mN ∡ 91-13-15				
HD	364.82				
SD	364.96				
VD	-7.78				
T					
VERT ∡	P.	D.			
HI=	C.	R.			

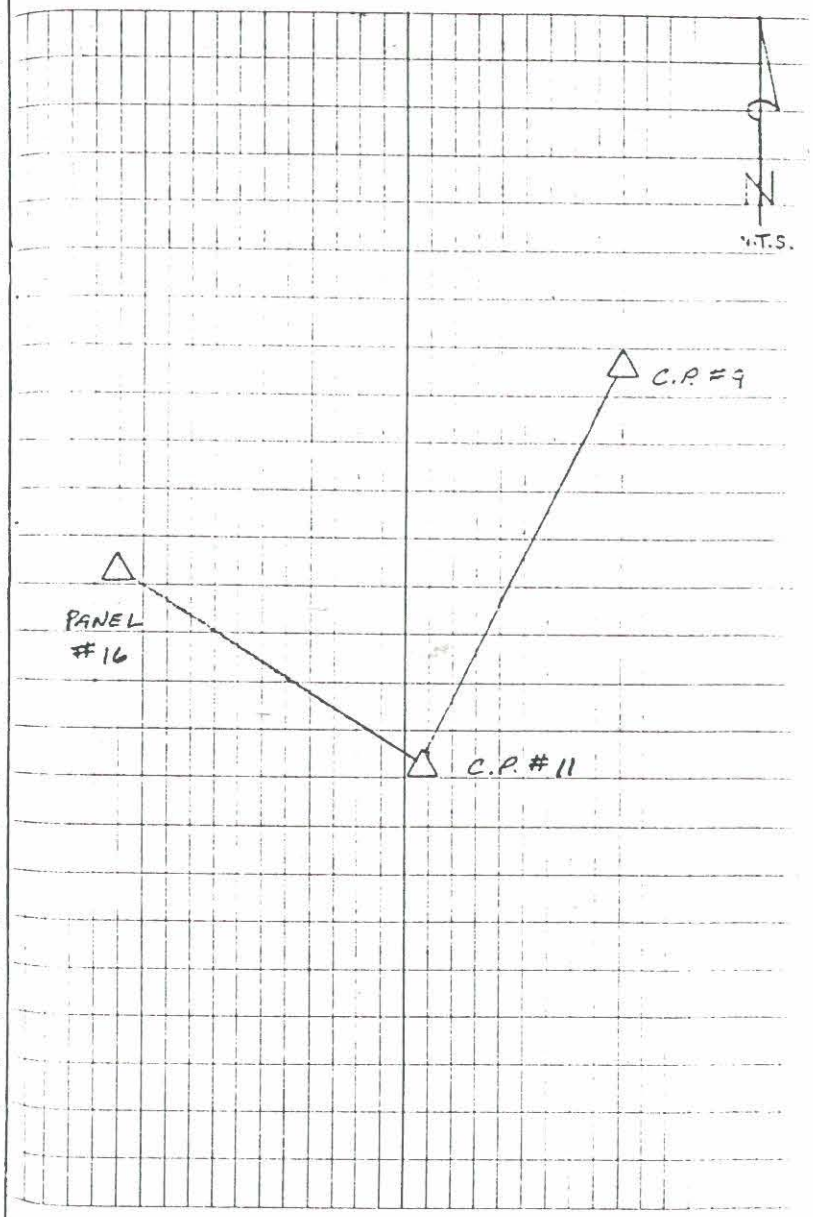


	T @ C.P. #14			
	F.S. C.P. #10		T HI = 5.17	TAR. HI = 4.58
F.S. C.P. #15 H&T	240-26-49	60-26-47	330-32-32	150-32-31
	00-00-00	180-00-04	90-05-40	270-05-47
∡	240-26-49	240-26-43	240-26-52	240-26-44
m	240-26-46		240-26-48	
	mN ∡	240-26-47		
F.S. C.P. #10	119-33-13	299-33-15	209-38-54	29-38-58
	00-00-00	180-00-04	90-05-40	270-05-45
∡	119-33-13	119-33-11	119-33-14	119-33-13
m	119-33-12		119-33-14	
	mN ∡	119-33-13		
VERT. ∡	D 90-31-47		D 90-31-40	
	R 269-28-18		R 269-28-13	
	90-31-45		90-31-44	
		mN ∡	90-31-44	
HD	4132.71			
SD	4132.85			
VD	-37.77			
T VERT. ∡	D 89-28-55		D 89-28-56	
HI = 4.84	R 270-30-51		R 270-30-56	
	89-29-02		89-29-00	
	mN ∡ 89-29-01			

	T @ C.P.#15 H&T				
	B.S. C.P. #14		HI = 5.07	TGR. HI = 4.84	BOPY. NAIL FLUSH
F.S. PANEL #19	262-02-42	82-02-47	352-08-28	172-08-23	
B.S.	00-00-00	180-00-00	90-05-40	270-05-42	
	262-02-42	262-02-47	262-02-48	262-02-41	
m	262-02-44		262-02-44		
	mN ∡ 262-02-44				
F.S. C.P. #14	97-57-21	277-57-21	188-02-58	8-02-54	
B.S.	00-00-00	180-00-06	90-05-40	270-05-39	
	97-57-21	97-57-15	97-57-18	97-57-20	
m	97-57-18		97-57-19		
	mN ∡ 97-57-18				
VERT. ∡	D 90-02-15		D. 90-02-16		
	R 269-57-45		R. 269-57-38		
	90-02-16		90-02-19		
	mN ∡ 90-02-18				
HD	2070.57				
SD	2070.58				
VD	-1.31				
T VERT. ∡					
HI = 5.08	D 89-58-24		D 89-58-23		
	R 270-01-36		R 270-01-38		
	89-58-24		89-58-23		
	mN ∡ 89-58-24				

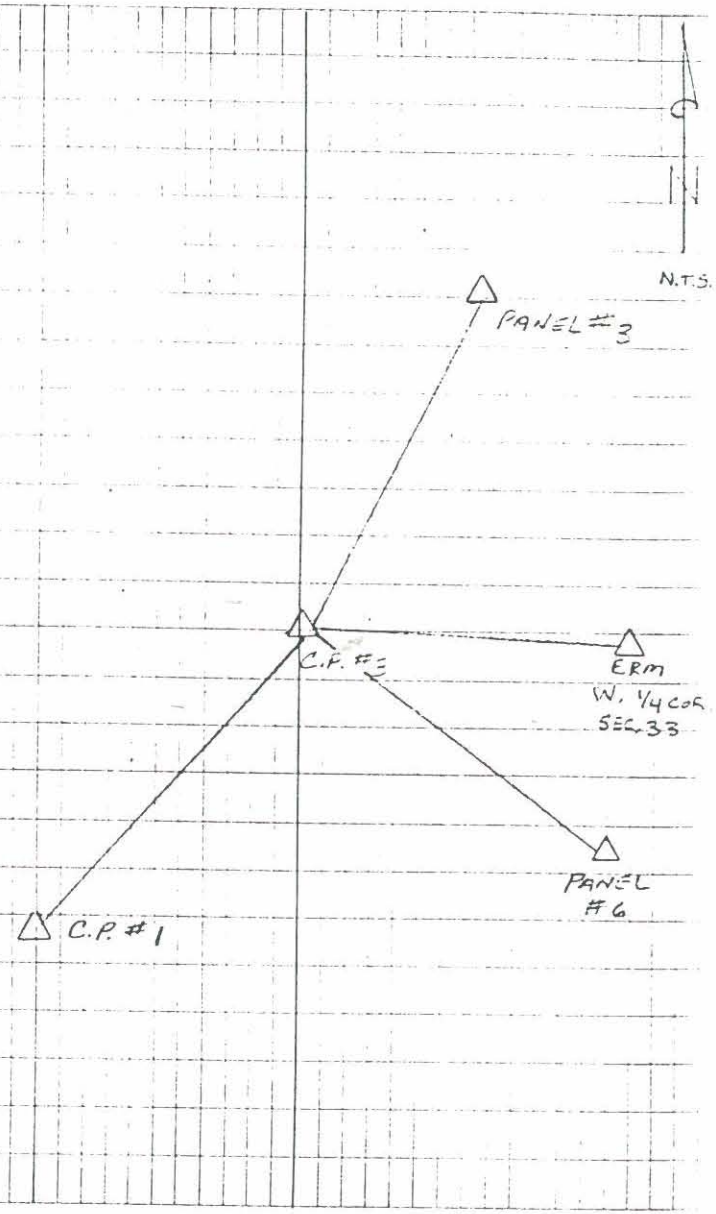


	T @ C.P. #11		T	TAR.	60D NAIL
	B.S. C.P. #9		HI = 5.21	HI = 4.83	FLUSH
F.S. PANEL #16	287-00-56	107-00-57	17-06-34	197-06-29	
B.S.	00-00-00	18-00-03	90-05-40	270-05-40	
	287-00-56	287-00-54	287-00-54	287-00-49	
m	287-00-55		287-00-52		
	mN ∡ 287-00-54				
F.S. C.P. #9	72-59-08	252-59-07	163-04-46	343-04-46	
B.S.	00-00-00	180-00-03	90-05-40	270-05-40	
	72-59-08	72-59-04	72-59-06	72-59-06	
m	72-59-06		72-59-06		
	mN ∡ 72-59-06				
VERT. ∡	D 91-38-56		D. 91-38-59		
	R 268-21-03		R. 268-21-06		
m	91-38-56		91-39-01		
	mN ∡ 91-38-58				
HD	3919.58	(3922.65 + 3.07	3.05 m)		
SD	3921.19				
VD	-112.54				
T VERT. ∡	D 88-21-45		D. 88-21-44		
HI = 5.06	R 271-38-24		R. 271-38-11		
	88-21-41		88-21-46		
	mN ∡ 88-21-44				



12-13-90

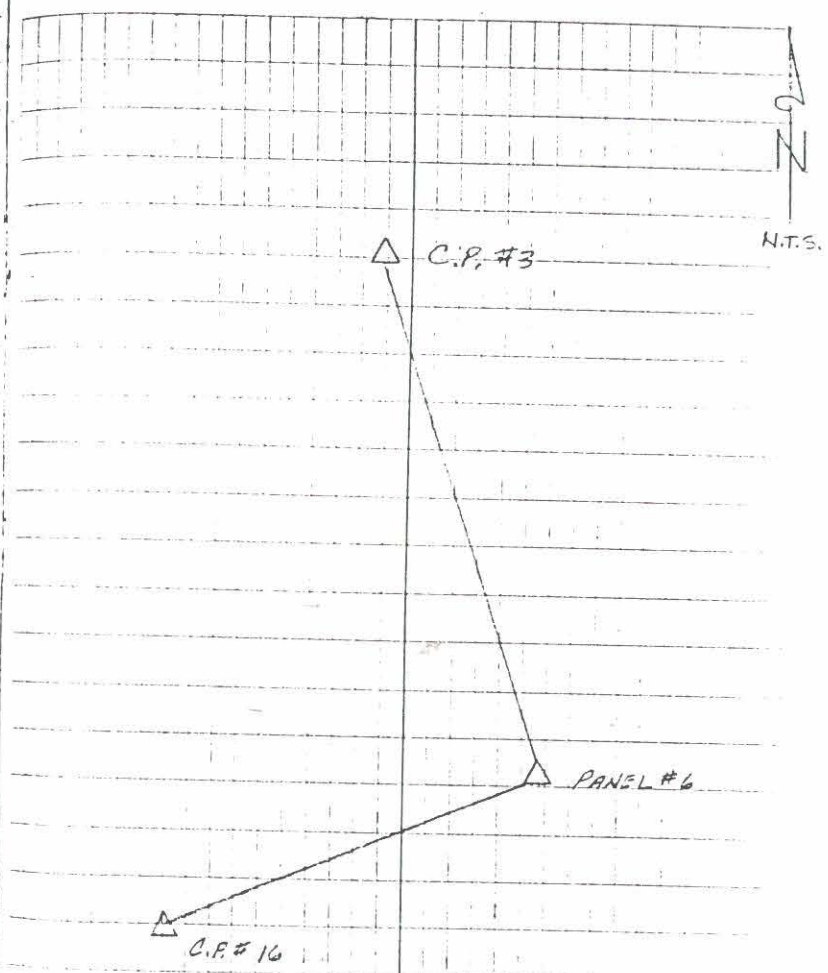
R.D. L.G.	T @ C.P. #3		T HI = 5.30	TAR HI = 4.65	ALUM. CAP .40 ABOVE N.G.
	B.S. C.P. #1				
F.S. PANEL #6	267-36-20	87-36-17	87-41-56	171-41-56	
	00-00-00	180-00-01	00-07-40	270-05-42	
	267-36-20	267-36-18	267-36-16	267-36-14	
	267-36-19		267-36-15		
	mN ∡ 267-36-17				
VERT. ∡	L 90-35-36		L 90-35-26		
	R 269-24-40		R 269-24-32		
	90-35-28		90-35-26		
	mN ∡ 90-35-27				
HD	11398.69				
SD	11399.24				
VD	-115.27				
T VERT. ∡	D 89-26-02		D 89-26-15		
HI = 4.63	R 270-33-53		R 270-33-46		
	89-26-04		89-26-11		
TAR HT 5.30	mN ∡ 89-26-08				



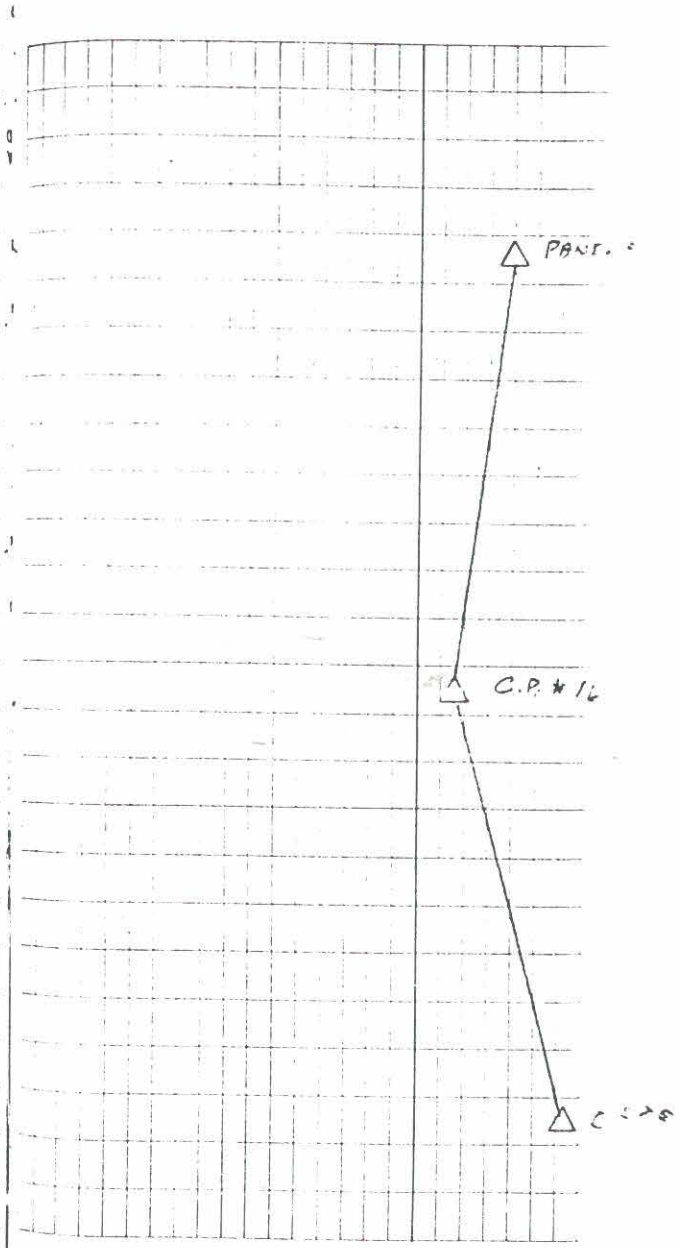
	T @ C.P. #3		T	TAR.	ALUM. CAP .40 ABOVE N.G.
	B.S. C.P. #1		HI = 5.30	HI = 4.43	
F.S. PANEL #3	167-42-17	347-42-16	257-47-56	77-47-56	
	00-00-00	180-00-01	90-05-40	270-05-43	
	167-42-17	167-42-25	167-42-16	167-42-13	
	167-42-21		167-42-14		
	mN ∡ 167-42-18				
F.S. C.P. #1	192-17-43	12-17-45	282-23-25	102-23-23	
B.S.	00-00-00	180-00-00	90-05-40	270-05-40	
	192-17-43	192-17-45	192-17-45	192-17-43	
	192-17-44		192-17-44		
	mN ∡ 192-17-44				
VERT. ∡	D 90-15-43		D. 90-15-47		
	R 269-44-10		R. 269-44-21		
m	90-15-47		90-15-43		
	mN ∡ 90-15-45				
HD	2255.45				
SD	2255.48				
VD	-10.35				
T VERT. ∡	I. 89-44-47		D. 89-44-50		
HI = 4.68	R. 270-14-48		R. 270-14-55		
	89-44-59		89-44-58		
	mN ∡ 89-44-58				

	T @ C.P. #3		T	TAR	G.L.O. B.P.
	B.S. C.P. #1		HI = 5.30	HI = 8.50	W. 1/4 COR
					SEC. 35
F.S., ERM					
	207-27-37	27-27-31			
	00-00-00	179-59-58			
	207-27-37	207-27-33			
MN ∡	207-27-35				
VERT ∡	D. 90-56-38				
	P. 269-03-08				
MN ∡	90-56-45				
HI	1803.31				
ST	1803.54				
VD	-29.75				

	T @ PANEL #6				
	B.S. C.P. #3		T HI = 4.69	TAR. HI = 4.77	X IN A ROCK FLUSH
FS C.P. #16	247-10-17	67-10-16	337-15-55	157-15-57	
	00-00-00	180-00-00	90-05-40	270-05-32	
∡	247-10-17	247-10-16	247-10-15	247-10-27	
m	247-10-16		247-10-21		
	mN ∡	247-10-18			
VERT. ∡	D 90-34-44		D 90-34-39		
	R 269-25-25		R 269-25-22		
m	90-34-40		90-34-39		
	mN ∡	90-34-40			
HD	2634.02				
SD	2634.15				
VD	-26.54				
T VERT. ∡	D. 89-26-02		D. 89-25-56		
HI = 5.03	R. 270-33-56		R. 270-33-54		
	89-26-03		89-26-01		
		mN ∡	89-26-02		



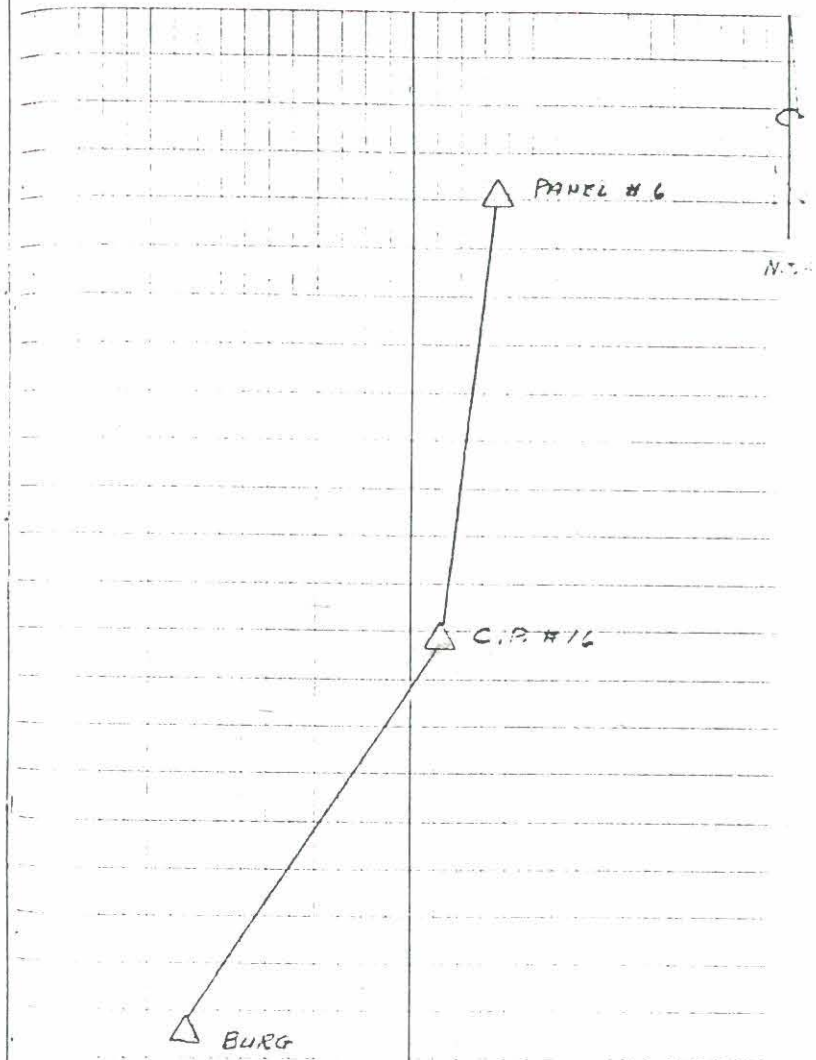
	T @ C.P.#16		T	TAR.	X ON FATIO.
	B.S. PANEL #6		HI = 5.10	HI = 5.35	
F.S.					
C.P.#6	166-57-01	346-57-07	257-02-47	77-02-47	
	00-00-00	180-00-02	90-05-40	270-05-44	
	166-57-01	166-57-07	166-57-01	166-57-03	
m	166-57-04		166-57-05		
	mN ∡ 166-57-04				
VERT. ∡	D. 91-24-11		D. 91-24-01		
	R. 268-34-05		R. 268-36-06		
	91-24-03		91-23-57	mN ∡ 91-24-00	
HD1	12972.79				
HD2	12973.02				
SD	12976.69				
VD	-315.57				
T					
VERT. ∡	D. 88-37-42		D. 88-37-48		
HI=5.31	R 271-22-12		R 271-22-30		
	88-37-45		88-37-39		
	mN ∡ 88-37-42				



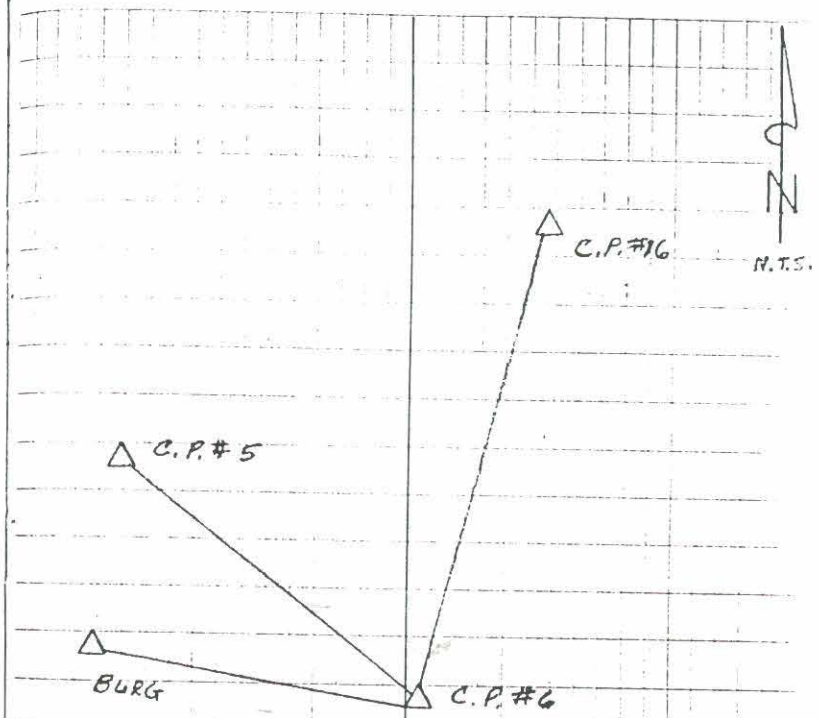
T @ C.P. #16

B.S. PANEL #6

F.S. BURG	211-29-06	31-29-16	301-34-48	121-34-46
	00-00-00	180-00-07	90-05-40	270-05-39
	211-29-06	211-29-09	211-29-08	211-29-07
	211-29-08		211-29-08	
	MN ∡ 211-29-08			



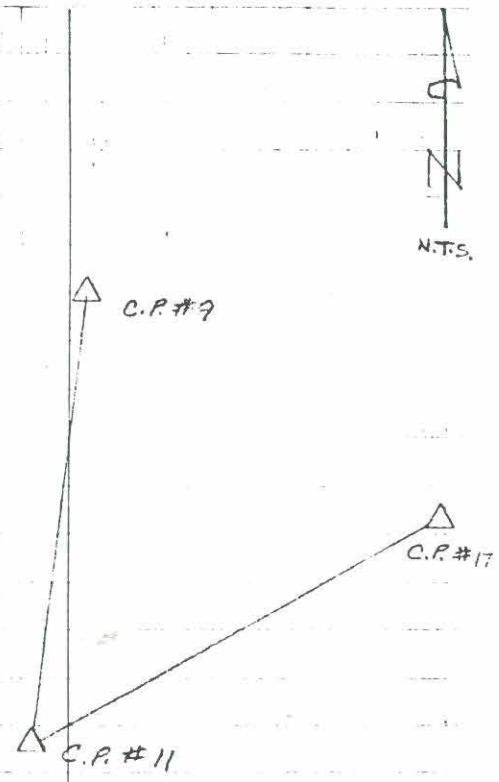
	T @ C.P. #6		T	TAR.
	B.S. C.P. #16		HI = 5.15	HI =
FS, C.P. #5	312-54-59	132-54-47	43-00-36	223-00-38
	00-00-00	179-59-56	90-05-40	270-05-44
	312 54-59	312-54-51	312-54-56	312-54-54
	312-54-55		312-54-55	
		MN ∡	312-54-55	
VERT. ∡	D.	D.		
	R.	R.		
T VERT. ∡	D.	D.		
HI =	R.	R.		



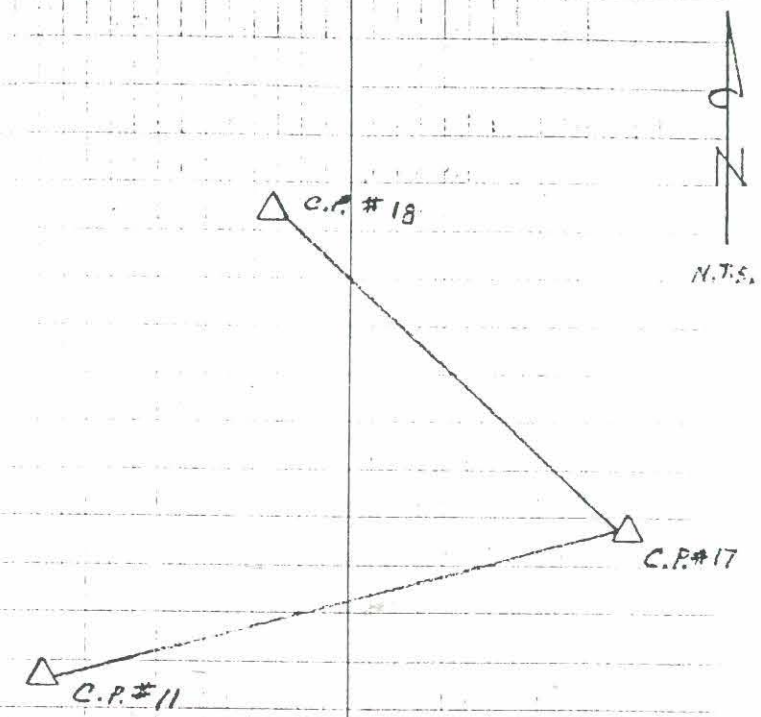
	X @ C.P. #6			
	B.S. C.P. #16			
F.S. BURG	264-03-14	84-03-15	354-08-56	174-08-57
	00-00-00	179-59-56	90-05-40	270-05-42
	264-03-14	264-03-19	264-03-16	264-03-15
	264-03-16		264-03-16	
	MN X 264-03-16			

12-17-90
R.D.
L.G

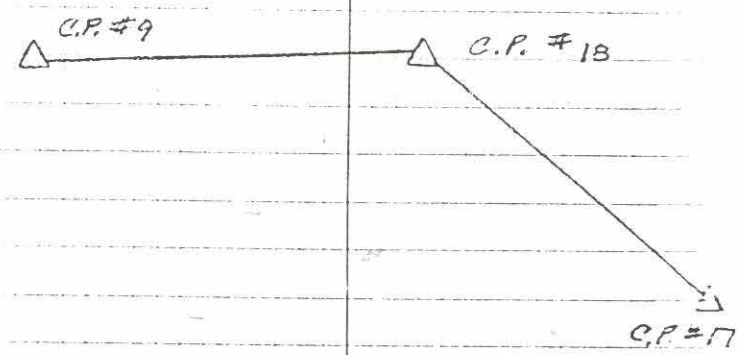
	T @ C.P. #11			
	B.S. C.P. #9		T HI = 5.27	TAR HI = 4.83
F.S. C.P. #17	70-29-24	250-29-27	160-35-07	340-35-02
B.S.	00-00-00	180-00-03	90-25-40	270-05-37
	70-29-24	70-29-24	70-29-27	70-29-25
	70-29-24		70-29-26	
	MN ∡ 70-29-25			
VERT ∡	D 88-51-42		D 88-50-44	
	R 271-10-00		R 271-10-05	
	88-50-51		88-50-49	
	MN ∡ 88-50-50			
HD	5456.63			
SD	5457.72			
VD	+108.76			
VERT ∡ HT = 5.18	D 91-10-56		D 91-10-53	
	R 268-49-02		R 268-49-09	
TAR HT = 2.68	91-10-57		91-10-53	
	MN ∡ 91-10-55			



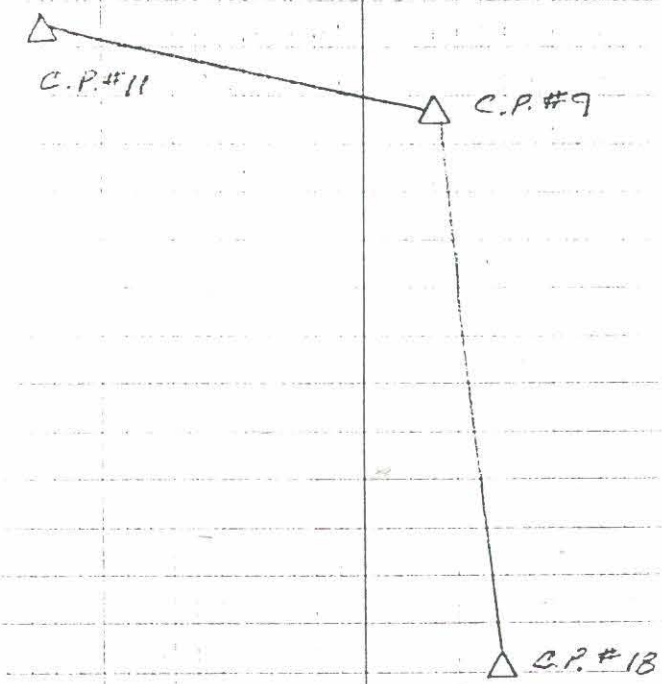
	T @ C.P.#17		T	TAR.	GOD. NAIL
	B.S. C.P.#11		HI = 5.22	HI = 5.05	FLUSH
F.S. C.P.#18	56-23-52	236-24-00	146-29-41	326-29-27	
B.S.	00-00-00	180-00-04	90-05-40	270-05-36	
	56-23-52	56-23-56	56-24-01	56-23-51	
	56-23-54		56-23-55		
	mN ∡ 56-23-54				
F.S. C.P.11	303-35-43	123-36-00	33-41-40	213-41-34	
B.S.	00-00-00	180-00-01	90-05-40	270-05-35	
	303-35-43	303-35-59	303-36-00	303-35-59	
	303-35-51		303-36-00		
	303-35-55				
VERT. ∡	D 91-04-26		D 91-04-30		
	R 268-55-35		R 268-55-40		
	91-04-26		91-04-25		
	91-04-26				
HD	1213.64				
SD	1213.86				
YD	- 22.66				
VERT. ∡ HI = 5.22	D 88-55-59		D 88-56-02		
	R 271-03-52		R 271-03-57		
TAR = 5.18	88-56-03		88-56-02		
	mN ∡ 88-56-02				



	T @ C.P. #18			
	B.S. C.P. #17		HI = 5.16	TAR HI = 4.48
F.S. C.P. #9	135-53-17	315-53-22	225-53-03	45-59-03
	00-00-00	179-59-56	90-05-40	270-05-44
	135-53-17	135-53-26	135-53-23	135-53-29
	135-53-22		135-53-26	
	MN ∡ 135-53-24			
F.S. CP #17	224-06-31	44-06-29	314-12-15	134-12-18
	00-00-00	179-59-56	90-05-40	270-05-44
	224-06-31	224-06-33	224-06-35	224-06-34
	224-06-32		224-06-34	
	MN 224-06-33			
VERT. ∡	D 90-34-08		D 90-34-12	
	R 269-25-53		R 269-25-50	
	90-34-08		90-34-11	
	MN ∡ 90-34-10			
HD	4206.11			
SD	4206.31			
VD	-41.56			

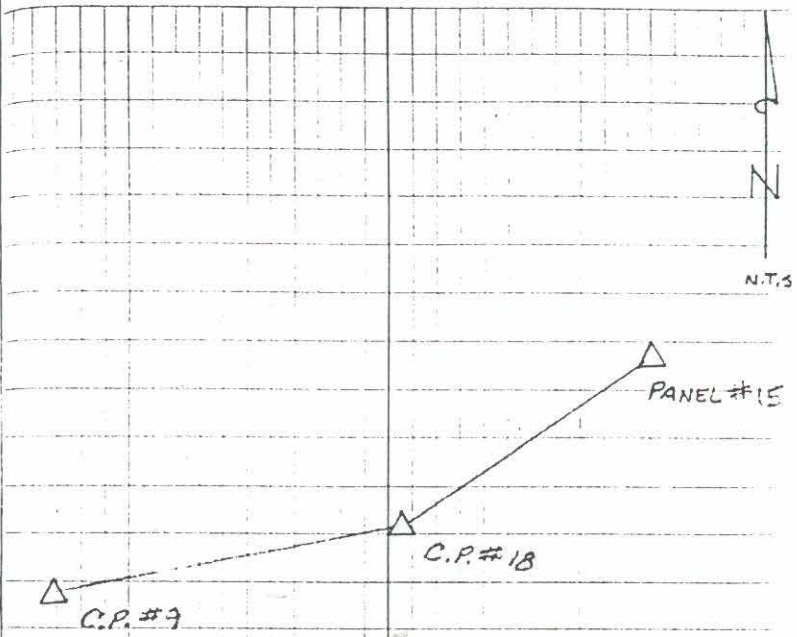


	T @ C.P. #9			
	B.S. C.P. #18			
F.S. C.P. #11	97-13-03	277-13-07	187-18-42	07-18-41
	00-00-00	179-59-54	90-05-40	270-05-25
	97-13-03	97-13-13	97-13-02	97-13-16
	97-13-08		97-13-08	
	MN ∡		97-13-08	

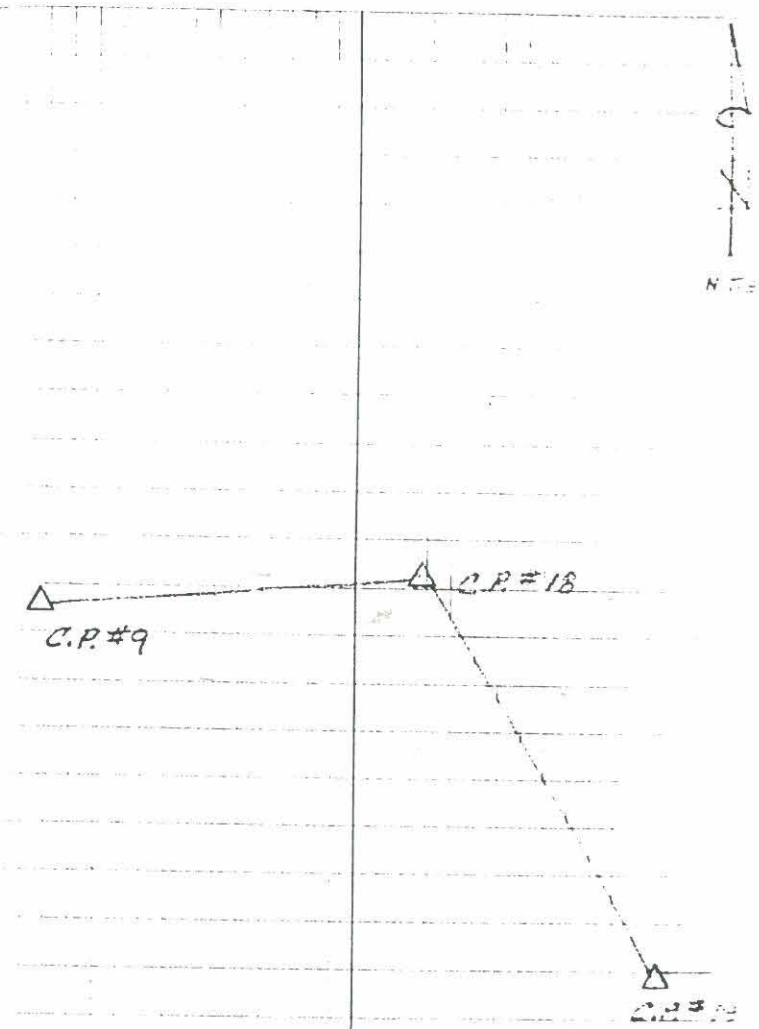


12-18-90

R.D. L.G	T @ C.P #18		T	TAR.	ALUM. CAP .10 ABOVE GRD.
	B.S. C.P. #9		HI 5.19	HI 4.82	
F.S. PANEL #15	149-06-39	327-06-51	237-12-20	57-12-12	
	00-00-00	180-00-11	90-05-40	270-05-34	
	149-06-39	147-06-42	149-06-40	147-06-38	
	149-06-40		149-06-39		
	MN ∡ 149-06-40				
F.S.	210-53-17	30-53-29	300-58-39	120-58-51	
	00-00-00	180-00-11	90-05-40	270-05-35	
	210-53-17	210-53-18	210-53-19	210-53-16	
	210-53-18		210-53-18		
	MN ∡ 210-53-18				
VERT. ∡	D 93-27-44		93-27-45		
	R 266-31-56		266-31-55		
	93-27-54		93-27-55		
	MN ∡ 93-27-54				
HD	1722.13				
SD	1725.28				
VD	-104.28				
VERT. ∡					
HI					
TAR. HI					



	T @ C.P. #18			
	B.S. C.P. #9		HI 5.20	TAR. HI 4.82
F.S. C.P. #19	190-45-38	10-45-43		
	00-00-00	180-00-05		
	190-45-38	190-45-38		
MN ∡	190-45-38			
VERT. ∡	I. 88-49-55			
	R 271-10-01			
	MN ∡ 88-49-57			
HD	2933.31			
SD	2933.94			
VD	+6.01			
VERT.	D 91-12-52			
HI	R 268-47-07			
TAR. 3.58	MN ∡ 91-12-52			



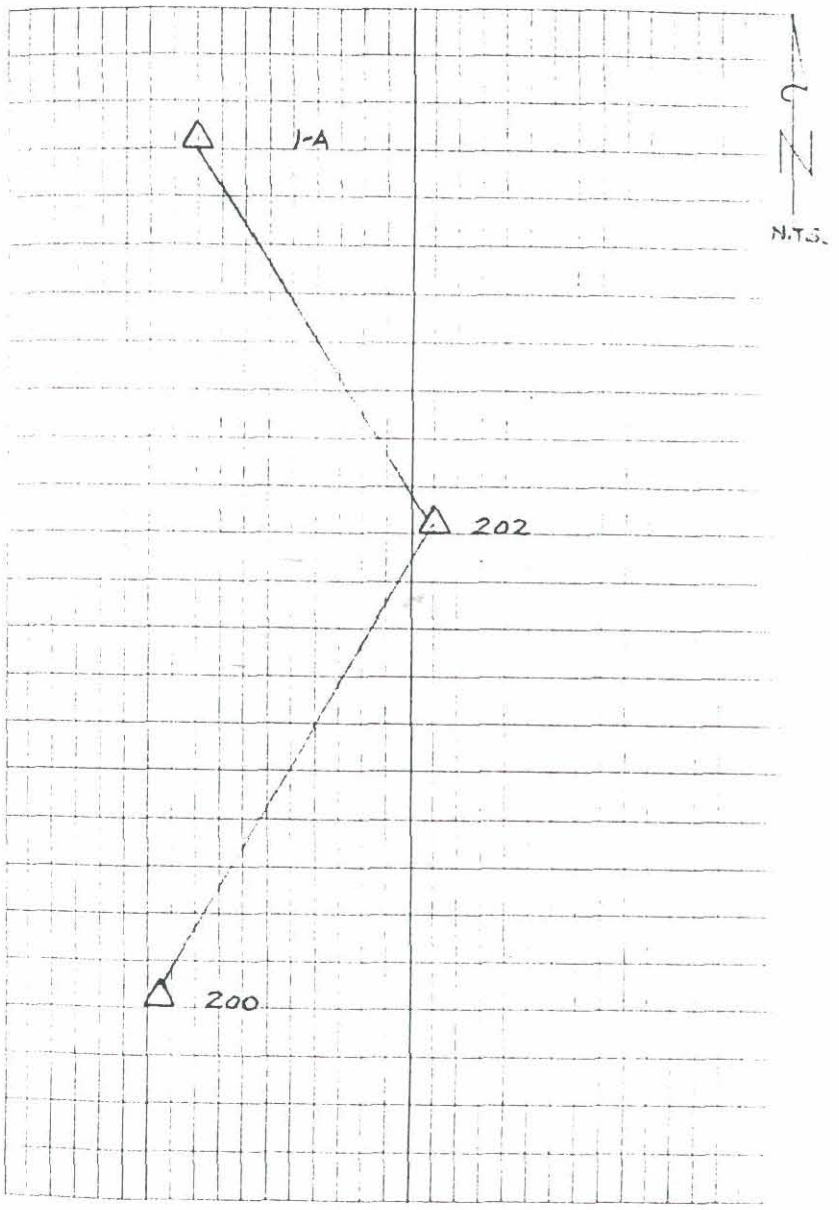
INDEX BOOK #2 (horizontal)
(Office Reference #72)

DESCRIPTION	PAGE NO.
Side Shot Panel #1-A	1
Side Shot Panel #10	2
Side Shot Panel #14	5
Vertical and Angle Checks	7 - 10

12-18-90

R.D.				
L.G.	⊼ @ 202		⊼	TAR.
	B.S. 200		HI 4.62	HI 5.60
F.S.				
1-A	108-42-13	288-42-09	198-47-50	18-47-51
	00-00-00	180-00-00	90-05-40	270-05-29
	108-42-13	108-42-09	108-42-10	108-42-22
	108-42-11		108-42-16	
		MN ∡ 108-42-14		
F.S.				
200	251-17-34	71-17-47	341-23-25	161-23-21
B.S.	00-00-00	180-00-00	90-05-40	270-05-33
	251-17-34	251-17-47	251-17-45	251-17-48
	251-17-40		251-17-46	
		MN ∡ 251-17-43		
VERT. ∡	D 90-25-36		D 90-25-34	
	R 269-37-09		R 269-37-12	
HD	8094.57			
SD	8094.80			
VD	-53.75			

1

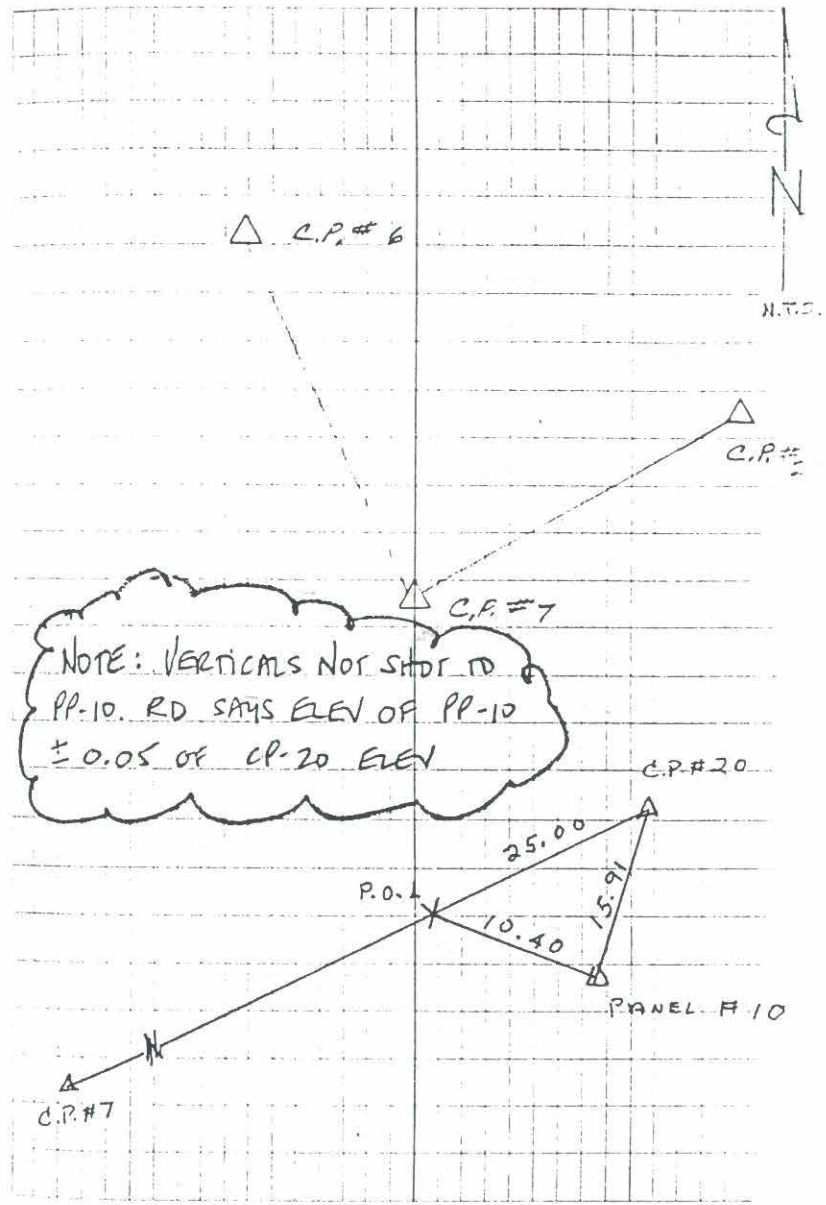


12-19-90

R.P.

L.G.

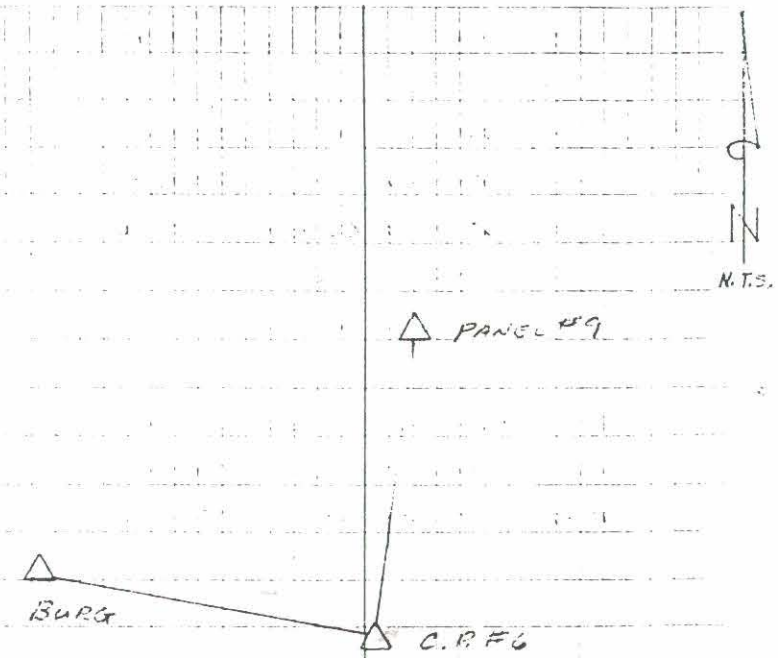
	T @ C.P. #7		T	TAR.	60D NAIL
	B.S. C.P. #6		HI 5.24	HI 5.12	FLUSH
FS C.P. #20	74-26-03	254-26-05	164-31-40	344-31-38	
	00-00-00	180-00-07	90-05-40	270-05-32	
	74-26-03	74-25-58	74-26-00	74-26-06	
	74-26-00		74-26-03		
	MN ∡ 74-26-02				
ATS	285-33-58	105-33-59	15-39-34	195-39-31	
	00-00-00	180-00-04	90-05-41	270-05-41	
	285-33-58	285-33-55	285-33-54	285-33-50	
	285-33-54		285-33-52		
	MN ∡ 285-33-53				
VERT. ∡	88-58-26	D.	88-58-20		
	271-01-24	R.	271-01-22		
	88-58-31		88-58-29		
	MN ∡ 88-58-30				
HD	6426.82				
SD	6427.88				
VD	+116.00				



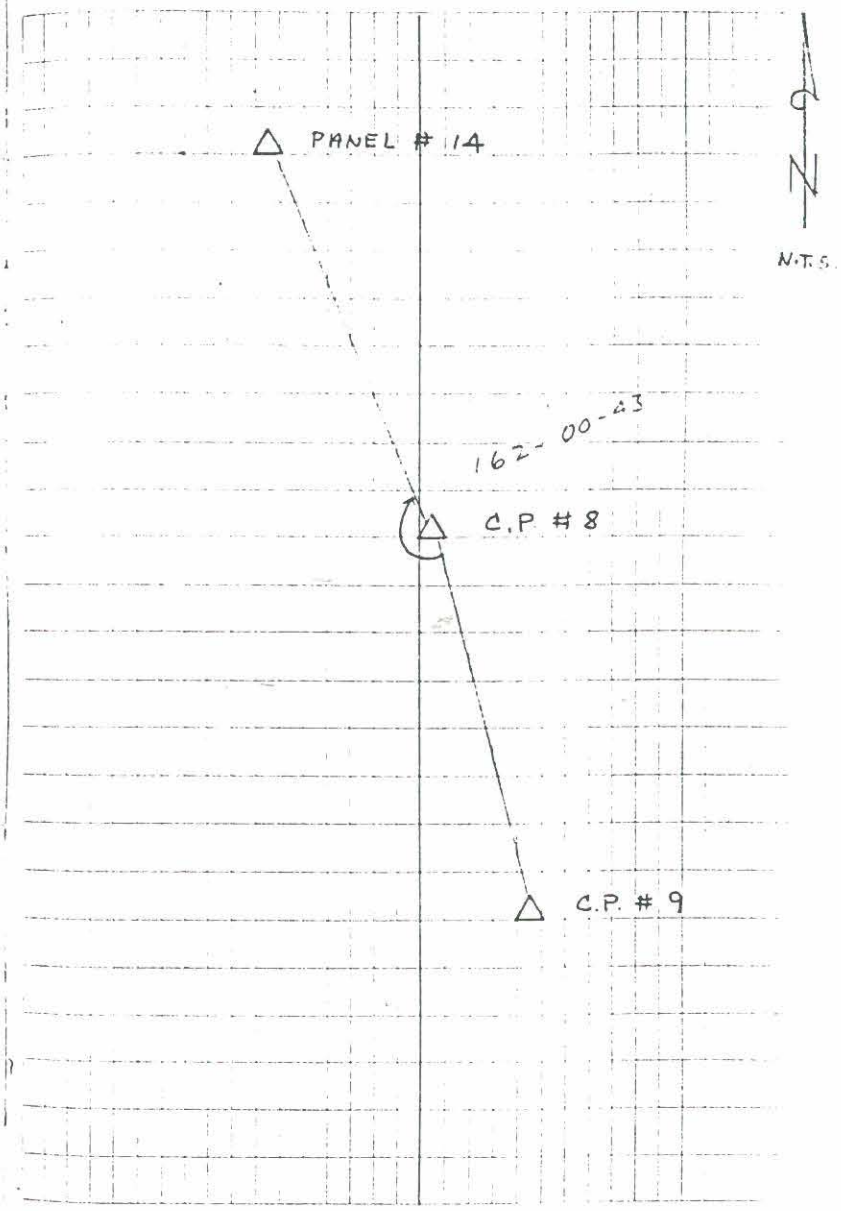
T @ C.P. #7
B.S. C.P. #6

F.S. BURG	319-42-43	139-42-44	49-48-28	229-48-23
	00-00-00	180-00-00	90-05-40	270-05-39
	319-42-43	319-42-44	319-42-48	319-42-44
	319-42-44		319-42-46	
	mN ∠ 319-42-45			

	T @ C.P.#6		T	TAR
	B.S. BURG		HI 5.22	HI 5.10
F.S. PANEL #9	62-43-24	242-43-21	152-47-00	332-48-58
B.S.	00-00-00	180-00-01	90-05-40	270-05-39
	62-43-24	62-43-20	62-43-20	62-43-24
	62-43-22		62-43-22	
	mN ∡ 62-43-22			
F.S. BURG	297-16-36	117-16-42	27-22-21	207-22-21
B.S.	00-00-00	180-00-02	90-05-40	270-05-37
	297-16-36	297-16-40	297-16-41	297-16-44
	297-16-38		297-16-42	
	mN ∡ 297-16-40			
VERT. ∡	D 89-15-41		D 89-15-41	
	R 270-44-08		R 270-44-10	
	89-15-47		89-15-45	
	mN ∡ 89-15-46			
HD	5198.98			
SD	5199.43			
VD	+67.75			



	T @ C.P. #8 B.S. C.P. #9		T HI = 5.08	TAR. HI = 4.40	ALUM. CAP 40' ABOVE GRD.
F.S. PANEL #	162-00-49	342-00-58	252-06-25	72-06-22	
B.S.	00-00-00	180-00-10	90-05-40	270-05-36	
	162-00-49	162-00-48	162-00-45	162-00-46	
	162-00-48		162-00-46		
		MN ∡	162-00-47		
F.S. C.P. #9	197-59-19	17-59-28	288-05-03	108-04-57	
F.S.	00-00-00	180-00-07	90-05-40	270-05-31	
	197-59-19	197-59-21	197-59-23	197-59-20	
	197-59-20		197-59-22		
		MN ∡	197-59-21		
VERT. ∡	D. 91-44-50		D. 91-44-51		
	R. 268-15-05		R. 268-15-00		
	91-44-52		91-44-55		
		MN ∡	91-44-54		
HD	4561.25				
SD	4563.35				
VD	-138.71				
T HI = 4.67	D. 88-16-05		D. 88-16-03		
	R. 271-44-40		R. 271-44-42		
	88-15-43		88-15-41		
		MN ∡	88-15-42		



1/10/91
R.D.
L.G.

VERT ∡
CHECKS

	HI	TAR		ZN ∡	
C.P#13	5.36	#20 5.36	D 91-16-09 R 268-44-50	91-15-40	
P.P. ~~#20~~ 13	5.36	~~#12~~ 12 5.36	D 90-46-08 R 269-14-49	90-45-40	
CP# ~~12~~ 20	5.36	~~#12~~ 13 5.36	D 88-45-23 R 271-15-28	88-44-58	
CP# ~~12~~ 12	5.36	#13 5.36	D 89-15-24 R 270-45-18	89-15-03	
CP# 12	5.36	#10 5.36	D 91-00-00 R 269-00-54	90-59-32	
CP# 10	5.36	#12 5.36	D 89-02-15 R 270-58-39	89-01-48	

CP#13	5.36	#20	5.36	D 91-16-11 R 268-44-36
P.P. 20	5.36	#13	5.36	D 90-46-09 R 269-14-36

SIT
NIT PHS

1/10/91
R.D.
L.G.

VERT & CHECKS

NOTE: HIL HIS & THR'S = 5.36

	π @ C.P #13 HI = 5.36				
FS P.P. #20	D 91-16-09	91-15-40			91-15-21
	R 268-44-50		180-00-38		
	π @ 20				
FS. 13	D 88-45-23	88-44-58			88-44-39
	R 271-15-28				
	π @ 13				
FS #12	D 90-46-08	90-45-40			90-45-18
	R 269-14-49				
			180-00-43		
	π @ 12				
FS #13	D 89-15-24	89-15-03			89-14-41
	R 270-45-18				
	π @ 12				
FS #10	D 91-00-00	90-59-33			90-58-52
	R 269-00-54				
			180-01-21		
	π @ 10				
FS #12	D 89-02-15	89-01-48			89-01-07
	R 270-58-39				

MN ZN

1/1
R.
L

	T @ C.P. #6		T	TAR.	ALUM. CAP .20 ABOVE GRD.
	B.S. C.P. #7		HI = 5.26	HI = 5.05	
FS #11	104-13-09	284-13-12	194-13-53	14-18-54	
B.S.	00-00-00	180-00-08	90-05-40	270-05-35	
	104-13-09	104-13-04	104-13-48	104-13-15	
	104-13-06		104-13-16		
	MN ∡ 104-13-11				
F.S.	255-46-40	75-46-54	345-52-26	165-52-13	
B.S.	00-00-00	180-00-06	90-05-40	270-05-35	
	255-46-40	255-46-48	255-46-46	255-46-38	
	255-46-44		255-46-42		
	MN ∡ 255-46-43				
VERT. ∡	D 93-19-04		D. 93-19-01		
	R 266-40-58		R. 266-40-59		
	93-19-03		93-19-01		
	MN ∡ 93-19-02				
HD	2789.64				
SD	2794.34				
VD	-162.19				
VERT. ∡	D 86-41-44		D 86-41-23		
	R 273-19-24		R 273-19-18		
	m = 86-41-10		m = 86-41-08		
	MN ∡ 86-41-09				

	T @ P.P. #1				
	B.S. 202		HI = 5.09	= POD HT	
FS (403)	44-08-55	= 224-05-54	134-14-26	53-	314-14-31
B.S. (202)	00-00-00	= 180-00-10	90-05-40		270-05-46
	44-08-55	44-08-44	44-03-16		44-08-45
FS 202	315-51-16	135-51-08	45-57-03		225-57-10
B.S. 403	00-00-00	180-00-03	90-05-40		270-05-47
	315-51-16	315 51 -12 -05			
VERT. ∡	D 93-16-05		DJ 93-16-02		
	R 266-43-57		RJ 266-44-09		
~~HT~~					
SD	720 95				
	720 91				
	720 90				

C. TSCHINKEL
L. GOODWIN

2/14/91

	T@ 403			
	BS P.P. #1		Ht = 5.05' = Rod Ht	
PP.1 FS 202)	133 ~~183~~-38-18	313-38-29	223-44-04	43-44-04
BS (PP#1) 202	00-00-00	179-59-50	90-05-40	270-05-35
	133-38-18	133-38-39	133-38-24	133-38-29
202 FS PP	226-21-13	46-21-15	316-27-09	136-27-06
BS 202 PP.1	00-00-00	179-59-40	90-05-40	270-05-52
	226-21-13	2-35		
VERT 4	D 86-44-01		D 86-44-09	
	R 273-15-46		R 273-15-38	
~~HD~~ SD	720.83			
	720.84			
	720.83			

C.T.
L.G.

2/14/9

FS	133-38-23	313-38-33	223-44-05	43-44-10
BS	00-00-00	179-59-46	90-05-40	270-05-44
	133-33-23	133-38-47	133-38-25	133-38-26
	226-21-44	46-21-38	316	
	00-00-00	180-00-33		
	226-21-57	46-21-56	316-26-51	136-26-58
	00-00-00	180-00-27	90-05-40	270-05-50

SECTION C: LEVEL DATA

- LEVEL CIRCUIT DIAGRAM
- TRIG LEVEL LOOP CALCULATIONS and ADJUSTMENTS
- SIDE SHOT CALCULATIONS
- COPIED FIELD NOTES

LEVEL CIRCUIT DIAGRAM

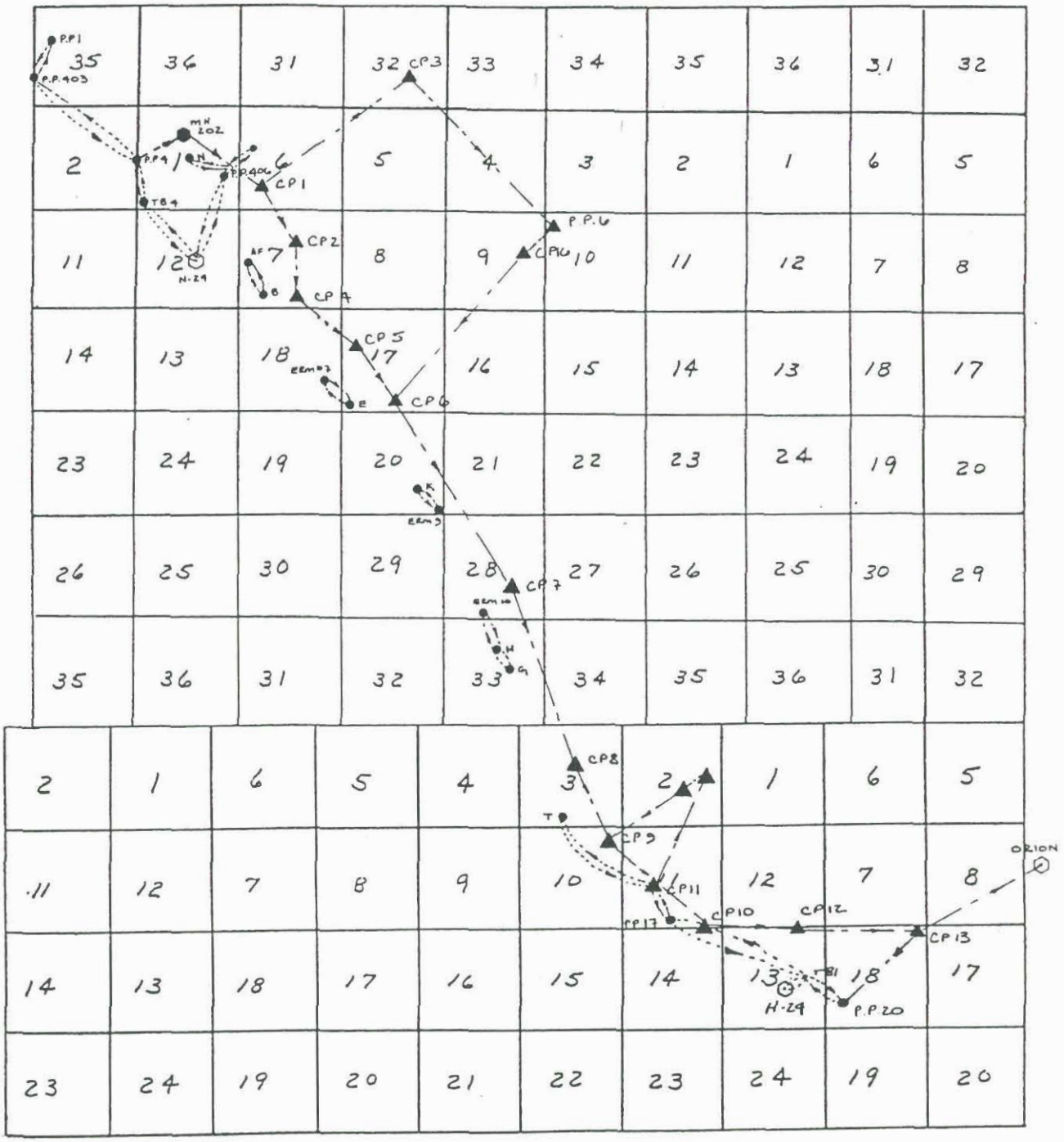
⊙ USC&GS BRASS CAP

—— - —— TRIG. LEVEL LOOP

---------- DIFFERENT LEVEL LOOP

• POINT NUMBER

ERM'S DATA FROM HASSAYAMPA RIVER BY C.B.A.



TRIG LEVEL LOOP #1 (FIELD DATA)

INST. LOCATION	INST. HGT.	TARGET HGT.	MEAN ZENITH ANGLE	SLOPE DISTANCE	VERTICAL DIFFERENCE	VERT. DIFF. MEAN	ELEVATION
110	5.03	5.13	89-43-24	7095.05	+34.16	+35.17	Diff. (1965.74)
109	5.13	4.78	90-17-42		-36.18		2000.91
109	5.14	5.07	89-15-05.75	4011.61	+52.47	+52.81	2000.91
108	5.07	4.88	90-45-42.5		-53.15		2053.72
108	5.24	5.29	89-51-17.25	9614.15	+24.32	+26.27	2053.72
107	5.29	4.98	90-10-12		-28.22		2099.99
107	5.27	5.19	89-36-23.5	3905.94	+26.90	+27.23	2080.99
106	5.19	5.04	90-24-23		-27.55		2107.22
106	5.54	5.29	89-12-10.25	7697.05	+107.34	+108.30	2107.22
105	5.29	5.30	90-48-47.5		-109.25		2215.52
105	5.47	5.15	90-26-55	6748.34	-52.52	-51.76	2215.52
104	5.15	5.23	89-33-59		+50.99		2163.76
104	5.22	5.15	87-59-52.5	3126.80	+109.31	+109.53	2163.76
102	5.15	4.84	92-01-02		-109.75		2273.29
102	5.40	5.17	88-25-44.25	3810.71	+104.71	+104.99	2273.29
101	5.17	5.17	91-34-58.25		-105.26		2378.28
101	5.28	4.54	91-36-24.8	4659.17	-129.91	-128.51	2378.28
202	4.54	4.98	88-25-52.5		+127.11		2249.77
202	4.53	4.93	93-15-35	2972.96	-169.45	-169.36	2249.77
P-4	5.20	4.53	86-44-56.5		+169.27		2080.41
							Diff. (2080.08)
						Trig Level Error =	+0.33 Feet

TRIG LEVEL LOOP #1 (ADJUSTMENT)

STATION	HORZ. DISTANCE (ADJUSTMENT)	ERROR CORRECTION (-0.00615 Per 1000 ft.)	VERTICAL DIFFERENCE	VERTICAL DIFFERENCE + E.C.	ELEVATION (ADJUSTMENT)
110					1965.74
	7093.89	-0.044	+35.17	+35.13	
109					2000.87
	4010.62	-0.025	+52.81	+52.78	
108					2053.65
	9612.53	-0.059	+26.27	+26.21	
107					2079.86
	3905.22	-0.024	+27.23	+27.21	
106					2107.07
	7695.09	-0.047	+108.30	+108.25	
105					2215.32
	6747.08	-0.042	-51.76	-51.80	
104					2163.52
	3124.36	-0.019	+109.53	+109.51	
102					2273.03
	3808.65	-0.023	+104.99	+104.97	
101					2378.00
	4656.68	-0.029	-128.51	-128.54	
202					2249.46
	2967.74	-0.018	-169.36	-169.38	
P-4					2080.08
	53621.86 Feet				
	Correction Formula: 0.33 (Elevation Error)/53621.86 Trig Length = -0.00615 Per 1000 ft.				

f:\misc\loop1.adj

TRIG LEVEL LOOP #1-A (FIELD DATA)

INST. LOCATION	INST. HGT.	TARGET HGT.	MEAN ZENITH ANGLE	SLOPE DISTANCE	VERTICAL DIFFERENCE	VERT. DIFF. MEAN	ELEVATION
P-20	5.21	5.25	88-45-05	6249.38	+136.14	+137.15	Diff. (1988.68)
113	5.25	4.97	91-16-09.75		-138.16		2125.83
113	5.31	5.22	90-45-40.5	5911.95	-78.46	-77.84	2125.83
112	5.22	5.35	89-15-01.25		+77.22		2047.99
112	5.36	5.07	90-58-48.25	4820.35	-82.18	-81.73	2047.99
110	5.07	5.08	89-02-02		+81.27		1966.26
							Diff. (1965.74)
						Trig Level Error =	+0.52 Feet

TRIG LEVEL LOOP #1-A (ADJUSTMENT)

STATION	HORZ. DISTANCE (ADJUSTMENT)	ERROR CORRECTION (+0.0306 Per 1000 ft.)	VERTICAL DIFFERENCE	VERTICAL DIFFERENCE + E.C.	ELEVATION (ADJUSTMENT)
110					1965.74
	4818.97	+0.15	+81.73	+81.88	
112					2047.62
	5910.56	+0.18	+77.84	+78.02	
113					2125.64
	6246.96	+0.19	-137.15	-136.96	
P-20					1988.68
	16967.49 feet				
	Correction Formula: 0.52 (Elevation Error)/16976.49 Trig Length = +0.0306 Per 1000 ft.				

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TRIG LEVEL LOOP #2 (FIELD DATA)

INST. LOCATION	INST. HGT.	TARGET HGT.	MEAN ZENITH ANGLE	SLOPE DISTANCE	VERTICAL DIFFERENCE	VERT. DIFF. MEAN	ELEVATION
101	5.20	5.15	88-54-51.25	9585.70	+181.69	+181.69	2378.00
103							2559.69
103	5.30	4.65	90-35-27	11399.24	-116.90	-114.27	2559.69
P-6	4.63	5.30	89-26-07.75		+111.64		2445.42
P-6	4.69	4.77	90-34-39	2634.15	-26.63	-26.48	2445.42
116	5.03	4.69	89-26-05		+26.33		2418.94
116	5.10	5.35	91-24-00.25	12976.69	-317.31	-314.08	2418.94
106	5.31	5.10	88-37-42		+310.84		2104.86
							Diff. (2107.07)
						Trig Level Error =	-2.21 Feet

TRIG LEVEL LOOP #2 (ADJUSTMENT)

STATION	HORZ. DISTANCE (ADJUSTMENT)	ERROR CORRECTION (+.0604 Per 1000 ft.)	VERTICAL DIFFERENCE	VERTICAL DIFFERENCE + E.C.	ELEVATION (ADJUSTMENT)
101					2378.00
	9582.45	+0.58	+181.69	+182.27	
103					2560.27
	11396.97	+0.69	-114.27	-113.58	
P-6					2446.69
	2633.62	+0.16	-26.48	-26.32	
116					2420.37
	12970.94	+0.78	-314.08	-313.30	
106					2107.07
	36583.98 Feet				
	Correction Formula: 2.21 (Elevation Error)/36583.98 Trig Length = +.0604 Per 1000 ft.				

f:\misc\loop2.f&a

TRIG LEVEL LOOP #3 (FIELD DATA)

INST. LOCATION	INST. HGT.	TARGET HGT.	MEAN ZENITH ANGLE	SLOPE DISTANCE	VERTICAL DIFFERENCE	VERT. DIFF. MEAN	ELEVATION
109	5.19	5.12	91-17-44.5	2022.87	-45.67	-45.59	2000.87
111	5.38	5.19	88-42-58.5		+45.51		1955.28
111	5.27	4.83	88-50-50.25	5457.72	+110.23	+110.15	1955.28
117	5.18	2.68	91-10-54.5		-110.07		2065.43
117	5.22	5.05	91-04-27.75	1213.86	-22.59	-22.60	2065.43
118	5.22	5.18	88-56-03.75		+22.61		2042.83
118	5.16	4.48	90-34-11.25	4206.31	-41.15	-41.15	2042.83
109							2001.68
							Diff. (2000.87)
						Trig Level Error =	+0.81 Feet

TRIG LEVEL LOOP #3 (ADJUSTMENT)

STATION	HORZ. DISTANCE (ADJUSTMENT)	ERROR CORRECTION (+.0628 Per 1000 ft.)	VERTICAL DIFFERENCE	VERTICAL DIFFERENCE + E.C.	ELEVATION (ADJUSTMENT)
109					2000.87
	2022.04	-0.13	-45.59	-45.72	
111					1955.15
	5455.81	-0.34	+110.15	+109.81	
117					2064.96
	1213.46	-0.08	-22.60	-22.68	
118					2042.28
	4205.47	-0.26	-41.15	-41.41	
109					2000.87
	12896.78 Feet				
	Correction Formula: 0.81 (Elevation Error)/12896.78 Trig Length = +.0628 Per 1000 ft.				

f:\misc\loop3.f&a

SIDE SHOTS - ELEVATIONS BY TRIG METHOD

	HEIGHT	TARGET	MEAN ZENITH ANGLE	SLOPE DISTANCE	VERTICAL DIFFERENCE	VERTICAL DIFF. MEAN	ELEVATION
202	4.55	5.25	90-13-16	8836.63	-34.36	-34.36	2249.46
P-1							2215.10
202	4.53	4.5	88-59-025	6654.86	+117.72	117.93	2249.46
P-2	4.73	4.53	91-01-08		-118.14		2367.39
101	5.35	4.77	91-56-22.5	7534.05	-254.41	-253.10	2378.00
P-7	5.11	5.35	88-04-59		+251.78		2124.90
102	5.15	4.53	90-30-31	1863.85	-15.98	-15.89	2273.03
P-5	4.96	5.15	89-30-32		+15.79		2257.14
105	5.20	4.92	94-18-23	3271.09	-245.35	-245.17	2215.32
P-8	5.18	5.20	85-42-16		+244.99		1970.15
107	5.26	5.02	94-10-00	1054.14	-76.35	-76.37	2107.07
ERM 7-1	5.28	5.26	85-50-44.25		+76.39		2030.72
107	5.26	4.72	89-39-50	3474.38	-20.90	21.11	2079.86
P-12	4.98	5.26	90-20-49		+21.32		2101.03
109	5.19	5.11	92-56-31.5	549.77	-28.14	-28.16	2000.87
ERM 9-1	5.39	5.19	87-05.00		+28.17		1972.71
110	5.07	4.90	92-07-39	359.60	-13.18	-13.18	1965.74
P-17							1952.56
113	5.25	4.77	91-36-50.5	1332.34	-37.05	-37.04	2125.64
P-18	5.04	5.25	88-23-53		+37.04		2088.60
113	5.25	4.15	92-29-24.25	979.72	-41.47	-41.46	2125.64
ERM 13-1	4.41	5.25	87-31-31.5		+41.46		2084.18
111	5.21	4.83	91-38-56.5	3921.19	-112.46	-112.20	1955.15
P-16	5.06	5.21	88-21-43.5		+111.93		1842.95

SIDE SHOTS CONTINUED ON NEXT PAGE

SIDE SHOTS - ELEVATIONS BY TRIG METHOD (continued)

STATION	HEIGHT	TARGET	MEAN ZENITH ANGLE	SLOPE DISTANCE	VERTICAL DIFFERENCE	VERTICAL DIFF. MEAN	ELEVATION
103	5.30	4.43	90-15-45.25	2255.48	-9.47	-9.35	2560.27
P-3	4.68	5.30	89-45-00		+9.22		2550.92
103	5.30	8.50	90-56-45	1803.54	-32.97	-32.97	2560.27
ERM 3-1							2527.30
117	5.18	4.75	88-41-30.75	8890-96	+203.40	+205.63	2064.96
P-13	4.85	5.18	91-20-14.75		-207.85		2270.59
118	5.19	4.82	93-27-54.5	1725.28	-103.91	-103.91	2042.28
P-15							1938.37
202	4.62	5.60	90-24-12.25	8094.80	-57.97	-57.97	2249.46
P-14							2191.49
106	5.22	5.10	89-15-46.25	5199.43	+67.01	+67.01	2107.07
P-9							2174.08
108	5.08	4.40	91-44-54	4563.35	-138.55	-138.29	2053.65
P-14	4.67	5.08	88-15-41.5		+138.03		1915.36
106	5.26	5.05	93-19-03	2794.34	-161.50	-161.22	2107.07
P-11	5.05	5.26	86-41-39		+160.93		1945.85
107	5.24	5.12	88-58-25	6427.88	+115.26	+115.26	2079.86
120							2195.12
110	5.07	4.97	90-20-36	5163.81	-30.84	-30.15	1965.74
114	5.25	5.07	89-40-31		+29.45		1935.59
114	5.17	4.58	90-31-44	4132.88	-37.56	-37.24	1935.59
115	4.84	5.17	89-29-01		+36.92		1898.39
114	5.17	8.50	91-13-15	364.96	-11.11	-11.00	1935.59
ERM 14-1							1924.48
115	5.07	4.84	90-02-18	2070.58	-1.16	-1.07	1898.39
P-19	5.08	5.07	89-58-23.5		+0.98		1897.32

f:misc/sideshot

INDEX BOOK #1 (vertical)
(Office Reference #69)

DESCRIPTION	PAGE NO.
Loop #1	3
Loop #2	4 - 5
Loop #3, Panel #20	6
Loop #4	7
Loop #5, Panel #17	8
Loop #6	9
Loop #7 Panel #4	10
Loop #8	11 - 12
Loop #9 Panel #403 (McLain Harbers)	13 - 14
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Check to Panel #1-A	20
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Level Check Panel #407 (McLain Harbers) to Panel #8	23
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Centerline Roadway Checks (Recero Road)	27
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Found ADOT Bench Marks	30

WICKENBURG
90.022
VERT. CONTROL
BX #1
"Rite in the Rain"

WEATHER[illegible]

LEVEL [illegible]

No. 310

69

12/20/90
R.D
L.G

LOOP #1

STA	+	HI	-	ELEV	
B.m.	14.465	1970.367		1955.902	USC&GS B.C. (H-24) TOP OF CONC. PED.
TP 1			2.16	1968.207	
	4.615	1972.82			
TBm#1			1.785	1971.04	TOP CONC. CURB E.B. WICKENBURG HIGHWAY
	2.29	1973.33			MARKED WITH ORANGE PAINT
TP 3			5.12	1968.21	
	2.41	1970.62			
B.m.			14.71	1955.91	

12/28/90

Loop #2

STA	+	HI	-	ELEV	
TBm #1	6.57	77.61		1971.04	SEE PG. 3
T.P. #1			3.29	74.32	
	6.30	80.62			
T.P. #2			3.76	76.86	
	6.64	83.50			
T.P. #3			4.81	78.69	
	5.16	83.85			
T.P. #4			5.75	78.10	
	4.59	82.69			
T.P. #5			5.25	77.44	
	4.29	81.73			
T.B.M. #2			5.16	76.57	
		RETURN			
	5.27	81.84			
TP #6			4.40	77.44	
	5.22	82.66			
TP #7			4.56	78.10	
	5.72	83.82			
TP #8			5.12	78.70	
	4.67	83.37			
TP #9			6.51	76.86	

PAINT SPOT T/C, B/C B.C.R. U.S. 60 E.B. @ GATES [illegible]

STA.	+	HI	−	ELEV.	
				76.86	
	3.58	80.44			
TP # 10			6.13	74.31	
	3.27	77.58			
TBM#1			6.56	(M) 71.02	(R) 1971.04

-.02 CLOSURE DIST. TRAVERSED 1.02 mi ±

TBM #2 BEGIN CURB RETURN, PAINT SPOT T/C, B/C @ U.S. 60 E.B. & GATES Rd.

RUN TO PANEL #20
LOOP #3

STA.	+	HI	−	ELEV.		
TBm#2	6.84	83.41		1976.57		SEE PAGE 4
T.P. #1			1.31	82.10		
	8.85	90.95				
PANEL #20			2.27	88.68		ALUM CAP .15' ABOVE GRd.
	2.44	91.12			Alum. CAP .15' ABOVE GRd.	
			9.01	82.11		
	1.24	83.35				
				(m)	(R)	
TBm#2			6.77	76.58	76.57	+.01 CLOSURE DIST. TRAVERSED .2 MI. ±

1/2/91

LOOP #4

STA	+	HI	-	ELEV		
TBM #1	4.29	1975.33		1971.04		SEE PG 3
T.P. #1			6.81	1968.52		
	3.57	1972.09				
T.P. #2			6.605	1965.485		
	3.58	1969.065				
T.P. #3			7.175	1961.89		
	4.60	1966.49				
TBM #3			10.29	1956.20		TOP HDWL 400' W. WICKENBURG & CAREFREE HWY. W.B., & 100' E. M.P. 120
		RETURN				
	10.12	1966.32				
T.P. #4			4.42	1961.90		
	7.08	1968.98				
TP #5			3.49	1965.49		
	6.635	1972.125				
TP #6			3.60	1968.525		
	7.16	1975.685				
			4.66	(M) 1971.025	(R) 1971.04	-.01 CLOSURE, & DIST. TRAVERSED .9 MILES ±

Loop #5

STA.	+	HI	−	ELEV.		
TBm#3	7.00	1963.20		1956.20		SEE PG. #7
TP #1			7.32	1955.88		
	3.95	1959.83				
TP #2			7.03	1952.80		
	3.98	1956.78				
TP #3			7.23	1949.55		
	17.74	1967.29				
C.P. #10			1.55	1965.74		60 D NAIL FLUSH
	1.10	1966.84				
PANEL#17			14.25	1952.59		ALUM CAP .15' ABOVE GRD.
	13.59	1966.18				
TP#4			16.65	1949.53		
	6.84	1956.37				
TP#5			3.59	1952.775		
	6.625	1959.40				
TP #6			3.54	1955.86		
	7.37	1963.23				
TBm ✓IN			7.05	(m) 1956.18	(R) 1956.20	−.02 CLOSURE, DIST. TRAVERSED 1.0 MILE ±

1/7/91 LOOP #6

STA	+	HI	-	ELEV
B.m. N-24	7.09	2066.905		2059.815
TP #1			0.62	66.285
	9.47	75.755		
TP #2			3.52	72.235
	7.30	79.535		
TP #3			1.73	77.805
	9.75	87.555		
TP #4			15.915	71.64
	2.13	73.77		
TBm #4			6.58	2067.19
	7.64	74.83		
TP #5			0.37	74.46
	12.775	87.235		
TP #6			9.44	77.795
	1.76	79.555		
TP #7			7.34	72.215
	3.47	75.685		
TP #8			9.43	66.255
	0.835	67.09		
TBm ✓IN			7.29	(m) 2059.80 (R) 2059.815

A.D.O.T. B.C. TOP BARRIER S.E. COR SOLS WASH BRIDGE
STAMPED 1958, STA. 803+76.28, ELEV. 2067.58

-.01 CLOSURE DIST. TRAVERSED 1.0 MILE

Loop #7

STA.	+	HI	−	ELEV.		
TBm#4	1.95	69.14		2067.19		SEE Pg. #9
B.C.			4.835	64.305		B.C. IN SIDEWALK S.W. COR. SOLS WASH BRIDGE.
	4.70	69.005				
TP #1			6.365	62.64		
	4.74	67.38				
TP #2			4.08	63.30		
	6.455	69.755				
TP #3			3.195	66.56		
	9.58	76.14				
TP #4			1.40	74.74		
	8.54	83.28				
PANEL #4			3.205	80.075		ALUM. CAP .10' ABOVE GRD.
	3.55	83.625				
TP #5			8.89	74.735		
	1.465	76.14				
TP #6			9.59	66.55		
	3.18	69.73				
TP #7			6.44	63.29		
	4.09	67.38				
TP #8			4.75	62.63		
	6.465	69.095				
				(M)	(R)	
JBm ✓ IN			1.92	2067.18	2067.19	−.01 CLOSURE, DIST. TRAVERSED 1.0 MILE

Loop #8

STA.	+	HI	−	ELEV.	
PANEL #4	9.44	89.515		2080.075	SEE Pg. 10
TP #1			1.99	87.525	
	8.435	95.96			
TP #2			3.385	92.575	
	6.99	99.565			
TP #3			4.105	95.46	
	6.525	2101.985			
SS			5.725	2096.26	A.D.O.T. B.C. ELEV. 2096.99, STA. 890+09.54
TP #4			4.21	2097.775	
	6.37	2104.145			
TP #5			5.08	2099.065	
	4.40	2103.465			
TBM #5			5.71	2097.755	TOP ROCK
	5.84	2103.595			
TP #6			4.52	2099.075	
	5.105	2104.18			
TP #7			6.39	2097.79	
	4.03	2101.82			
TP #8			6.35	2095.47	
	3.93	2099.40			
TP #9			6.825	2092.575	
	3.41	2095.985			

CONT. NEXT

Loop #8 CONT.

STA.	+	HI	—	ELEV.	
		2095.985			
TP #10			8.46	2087.525	
	1.93	2089.455		(M)	(R)
			9.39	2080.065	2080.075

-.01 CLOSURE DIST. TRAVERSED 1.4 MILE

Loop #9

STA.	+	HI	−	ELEV.	
TBm #5	4.35	2102.10		2097.75	SEE Pg. 11
TP #1			7.38	2094.72	A.D.O.T. B.C. ELEV. 2095.34, STA. 910+46.66 (A-2)
	4.16	2098.88			
TP #2			3.605	2095.275	
	9.61	2104.88			
TP #3		-	1.00	2103.88	
	13.43	2117.31			
TP #4			0.885	2116.425	
	13.69	2130.115			
TP #5			0.88	2129.235	
	13.28	2142.51			
TP #6			0.24	2142.275	
	13.25	2155.525			
TP #7			0.24	2155.285	
	20.49	2175.775			
PANEL #403			0.26	2175.515	ALUM. CAP FLUSH
	0.425	2175.94			
TP #8			20.65	2155.29	
	0.73	2156.02			
TP #9			13.74	2142.28	
	1.805	2144.085			
TP #10			14.835	2129.25	
	1.795	2131.045			

CONT. NEXT

STA	+	HI	−	ELEV.	
		2131.045			
TP #11			14.60	2116.445	
	1.60	2118.045			
TP #12			14.15	2103.895	
	1.005	2104.90			
TP #13			9.61	2095.29	
	3.94	2099.23			
TP #14			4.49	2094.74	
	7.33	2102.07		(M)	(R)
TBM			4.28	2097.79	2097.75

+.04 CLOSURE DIST. TRAVERSED 1.2 MILE

LOOP #10

STA.	+	HI	−	ELEV.		
PANEL#17	1.51	54.10		1952.59		SEE Pg. #8
TP #1			10.42	43.68		
	3.75	47.43				
TP #2			6.83	40.60		
	4.28	44.88				
TP #3			5.43	39.45		
	5.76	45.21				
TP #4			4.21	41.00		
	7.62	48.62				
TBm#6			1.64	46.98		SET ½" REBAR BY M.P. 119 6' EAST ±
	1.75	48.73				
TP#5			7.72	41.01		
	4.06	45.07				
TP #6			5.62	39.45		
	5.46	44.91				
TP #7			4.31	40.60		
	6.93	47.53				
TP #8			3.85	43.68		
	10.59	54.27		(m)	(R)	
TBm			1.69	1952.58	1952.59	-.01 CLOSURE, DIST. TRAVERSED 1.0 MILE ±

Loop #11

STA.	+	HI	−	ELEV.		
TBm #6	8.88	55.86		1946.98		SEE Pg. #15
TP #1			2.67	53.19		
	7.29	60.48				
TP #2			4.56	55.92		
	5.40	61.32				
C.P. #11			6.10	1955.22		C.P. #11 60 D. NAIL FLUSH
	6.19	61.41				
TP #3			5.48	55.93		
	4.53	60.46				
TP #4			7.27	53.19		
	2.90	56.09				
TBM			9.11	(M) 1946.98	(R) 1946.98	FLAT DIST. TRAVERSED 1.0 MILE ±

LOOP # 12

STA	+	HI	-	ELEV		
C.P # 11	3.53	58.75		1955.22		SEE PG 16
TP#1			7.67	1951.08		
	0.93	1952.01				
TP #2			9.02	1942.99		
	0.66	1943.65				
TP #3			10.75	1932.90		
	0.21	1933.11				
TBm.#7			12.37	1920.74		PAINT SPOT T/C W.B. SIDE OF MEDIAN
	12.51	1933.25				
TP #4			0.35	1932.90		
	10.64	1943.54				
TP#5			0.55	1942.99		
	9.31	1952.30				
TP #6			1.23	1951.07		
	6.68	1957.75				
			2.54	(M) 1955.21	(R) 1955.22	-.01 CLOSURE DIST. TRAVERSED 1.0 MILE ±

LOOP # 13

STA	+	HI	−		
TBM #7	0.47	1921.21		1920.74	
TP #1			12.01	1909.20	
	0.23	1909.43			
TP #2			10.75	1898.68	
	0.54	1899.22			
TBM #8			8.09	1891.13	
~~TBM #8~~	7.98	1899.11			
TP #3			0.44	1898.67	
	10.79	1909.46			
TP #4			0.26	1909.20	
	12.02	1921.22		(M)	(R)
TBM #7			0.49	1920.73	1920.74

SEE Pg. 17

A.D.O.T. B.C. ELEV. 1891.44, STA. 1216+83.9 RT. SIDE EAST END SAN DOMINGO WASH BRIDGE

-.01 CLOSURE DIST. TRAVERSED .7 MILE ±

C. TSCHINKEL
L. GOODMAN

2/14/91

STA	+	HI	-	ELEV
PP-(403)	22 06	2197.58		2175 52
TP#1	~~19 97~~ 21 29	2217 95	0 92	2196 66
PP-1	1 41	2218 00	1 36	2216 59
TP#2	0 23	2196 88	21 35	2196 65
			~~24 26~~ 21 32	2175 56
	44 91		44 95	

2-15-91
L.G.
E.M.

STA	+	HI	−	ELEV.	
TBM	20.91	96.42		2175.51	P.P. # 403
			3.57	2192.85	PP # 1A
	2.79	95.64			
			20.13	2175.51	

STA.	+	HI	−	ELEV.
BM	11.02	2070.83		2059.81
TP #1			5.61	2065.22
	1.34	2066.56		
TP #2			14.91	2051.65
	2.55	2054.20		
TP #3			3.82	2050.38
	8.71	2059.09		
TP #4			4.01	2055.08
	3.71	2058.79		
TP #5			7.99	2050.80
	0.60	2051.40		
TP #6			1.08	2050.32
	11.66	2061.98		
TP #7			0.85	2061.13
	18.94	2080.07		
TP #8			2.99	2077.08
	7.64	2084.72		
P.P. 406			3.16	2081.56
	1.93	2083.49		
TP #9			22.37	2061.12
	0.51	2061.63		

N-24

STA	+	HI	−	ELEV.
		2061.63		
TP #~~10~~ 6			11.33	2050.30
	1.18	51.48		
TP #~~11~~ 5			0.71	2050.77
	7.08	2057.85		
TP #~~12~~ 4			2.80	2055.05
	3.87	2058.92		
TP #3			8.56	2050.36
	3.93	2054.29		
TP #2			2.67	2051.62
	15.85	2067.47		
TP #1			2.28	2065.19
	6.23	2071.42		
BM			11.65	2059.77

STA	+	HI	−	ELEV, ASSUMED
	5.05	1050.50		100.00
TP #1			8.57	96.48
	24.85	121.33		
TP #2			1.05	120.28
	22.63	142.91		
TP #3			4.52	138.39
	22.05	160.44		
P.P. #407			1.79	158.65
	1.57	160.22		
TP # 3			21.84	138.38
	4.43	142.81		
TP # 2			22.55	120.26
	0.47	120.73		
TP #1			24.29	96.44
	8.47	104.91		
P.P. #8			4.94	99.97

P.P. #8 ...1970.15

AL. CAP F.C.D.M.C. #407 2028.30

1970.12
-A 003

2-18-91
L.G.
C.B.

STA	+	HI	−	ELEV.	
		2069.40		2064.30	
TBM	5.10	~~648.15~~		~~643.05~~	B.C. IN SIDEWALK S.W. CR. SOLS WASH BRIDGE (AJ-1)
				2067.18	
			2.22	~~645.93~~	B.C. ON ABUT. S.E. COR. OF BRIDGE. ELEV. 2067.58
				2063.94	
			5.46	~~642.19~~	℄ Rd. N. SOLS WASH BRIDGE
		2069.62			
	5.68	~~648.37~~			
				2064.31	
			5.31	~~643.06~~	

2067.58
62.64

STA.	+	HI	−	ELEV.
		2066.41		2064.30
	2.11	~~645.46~~		~~643.05~~
SS				2059.76
~~TP#1~~			6.65	~~638.51~~
				2059.62
TP#1			6.79	~~638.39~~
		2061.60		
	1.98	~~644.35~~		
				2055.22
TP#2			6.38	~~633.97~~
		2059.03		
	3.81	~~637.78~~		
				2051.40
			7.63	~~630.15~~
		2059.19		
	7.74	~~637.09~~		
				2058.71
FH			0.43	~~637.46~~
		2065.55		
	6.84	~~644.30~~		
				2064.34
			1.21	~~643.09~~

SEE Pg 26

℄ INTERSECTION CAVAZOS AVE. & WEAVER

STA.	+	HI	−	ELEV.	
	2.11	2069.30		2067.19	
			6.65	2062.65	
			6.79	2062.51	
	1.98	2064.49			
			6.38	2058.11	
	3.81	2061.92			
			7.63	2054.29	℄ INTERSECTION RAVAVCSS & WEAVER
	7.74 ~~77.4~~	2062.03			
			0.43	2061.60	
	6.84	2068.44			
			1.21	2067.23	

STA	+	HI	−	ELEV.
	7.11	2057.91		2050.80
TP#1			6.27	2051.64
	3.26	2054.90		
TP#2			5.00	2049.90 ✓
	11.36	2061.26		
TP#3			0.82	2060.44 ✓
	6.99	2067.43		
TP#4			5.97	2061.46 ✓
	5.77	2067.23		
TP#5			17.35	2049.88
	5.01	2054.89		
TP#6			3.28	2051.61
	6.19	2057.80		
			7.03	2050.77

TP. 5 p. 21

℄ RECERO DR. & WICKENBURG

℄ BASS Rd. & RECERO

℄ RECERO NEXT TO LAST HOUSE

STA	+	HI	−	ELEV.
N-24	1.86	2061.67		2059.81
TP #1			10.54	2051.13
	2.78	2053.91		
TP #2			12.47	2041.44
	0.87	2042.31		
TP #3			13.28	2029.03
	3.45	2032.48		
TP #4			5.80	2026.68
	3.83	2030.51		
TP #5			4.14	2026.37
	12.41	2038.78		
TP #6			0.72	2038.06
	6.76	2044.82		
TP #7			10.41	2034.41
	9.37	2043.78		
TP #8			2.33	2041.45
	9.11	2050.56		
TP #9			0.28	2050.28
	23.01	2073.29		
TP #10			2.33	2070.96
	23.84	2094.80		
~~TP #11~~				

STA	+	HI	−	ELEV.
TP #~~12~~ 11			2.32	2092.48
	21.14	2113.62		
			0.97	2112.65
	12.40	2125.05		
PP #7			0.93	2124.12
	1.18	2125.30		
TP ~~PP~~ #~~8~~ 12			12.65	2112.65
	1.06	2113.71		
TP #~~9~~ 13			21.22	2092.49
	2.41	2094.90		
TP #14			23.91	2070.99
	1.77	2072.76		
TP #15			22.44	2050.32
	0.35	2050.67		
TP #16			2.92	2047.75

8/19/91

ADOT BENCH MARKS

WASH "O" TOP NORTH HEADWALL ADOT BRASS DISK STA NOT LEGIBLE, ELEV. 2020.09

WASH AF ADOT BRASS DISK STA 868+95.5 ELEV 2033.41 TOP NORTH HEADWALL

WASH E ADOT BRASS DISK TOP SOUTH HEADWALL STA 966+02.35 ELEV 1992.76

WASH L ADOT BRASS DISK TOP SOUTH HEADWALL E.B. STA 1013+99.12 ELEV 1977.77

WASH K ADOT BRASS DISK TOP NORTH HEADWALL W.B. STA 1027+53.81 ELEV. 1954.47 (13)

WASH J ADOT BRASS DISK TOP NORTH HEADWALL W.B. STA 1062+30 ELEV 1931.02

WASH I ADOT BRASS DISK NORTH HEADWALL W.B. STA 1070+08.06 ELEV 1930.02

MONARCH WASH ADOT BRASS DISK TOP OF CONC. CURB N.E. COR. MONARCH WASH BRIDGE STA 1092+42.4 ELEV. 1919.11

WASH H ADOT BRASS DISK TOP NORTH HEADWALL W.B. STA 1126+16.6 ELEV. 1894.74

SAN DOMINGO WASH ADOT BRASS DISK TOP CONC. CURB N.E. COR. SAN DOMINGOO WASH BRIDGE STA 1216+83.9 ELEV. 1891.44

"M" BLUE PAINT SPOT WITH "+" TOP N. HEADWALL W.B. RTE 89 ELEV. 1986.57 (SEE PG 43 BK 2)

"G" ADOT BRASS DISK TOP S. HEADWALL E.B. STA 1169+54.3 ELEV 1875.48

9/21/91
R.D.
C.T.

STA	+	HI	-	ELEV	
TBm	6.93	67.37		2060.44	INTER EL RECREO & BASS RD (PK NAIL) P.27.
			6.29	61.08	PK NAIL IN SHINER ℄ EL RECREO JUST NORTH OF BASS RD
			3.30	64.07	PK IN SHINER ℄ EL RECREO
	9.92	73.99			
			10.44	63.55	B.C. ℄ CONSTELLATION RD
	10.20	73.75			
			9.68	64.07	
	3.31	67.38			
			6.93	60.45	
TBm	6.47	67.55		61.08	
			6.07	61.48	

INDEX BOOK #2 (vertical)
(Office Reference #70 & #72)

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WICKENBURG
90.022
VERT.
BK. 2

TELEDYNE
415
LEVEL BOOK

2.20.06

70

8/20/91

PROFILE CHECKS

WICKENBURG

R. DESMOND

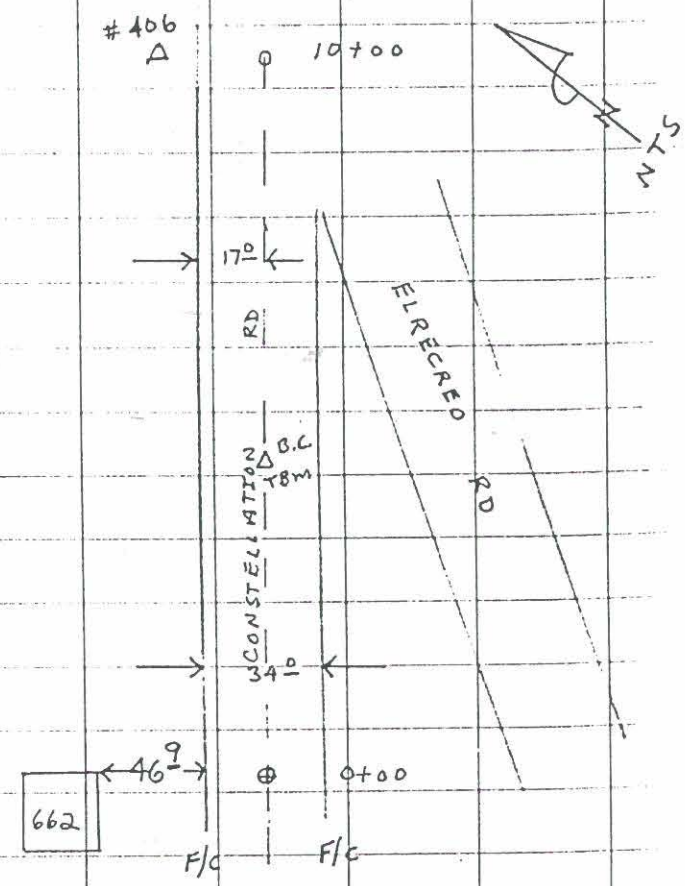
C. TSCHINKEL

AA-1

STA	+	HI	-	ELEV
TB.m	2.54	66.09		2063.55
0+00			11.00	55.09
1+00			8.64	57.45
2+00			6.04	60.05
3+00			3.33	62.76
4+00			0.75	65.34
	9.23	74.57		
5+00			6.57	68.00
6+00			3.80	70.77
7+00			0.58	73.99
	10.09	84.08		

B.C. FLUSH ℄ CONSTELLATION RD

STA 3+32 ±



AA-1 CONT.

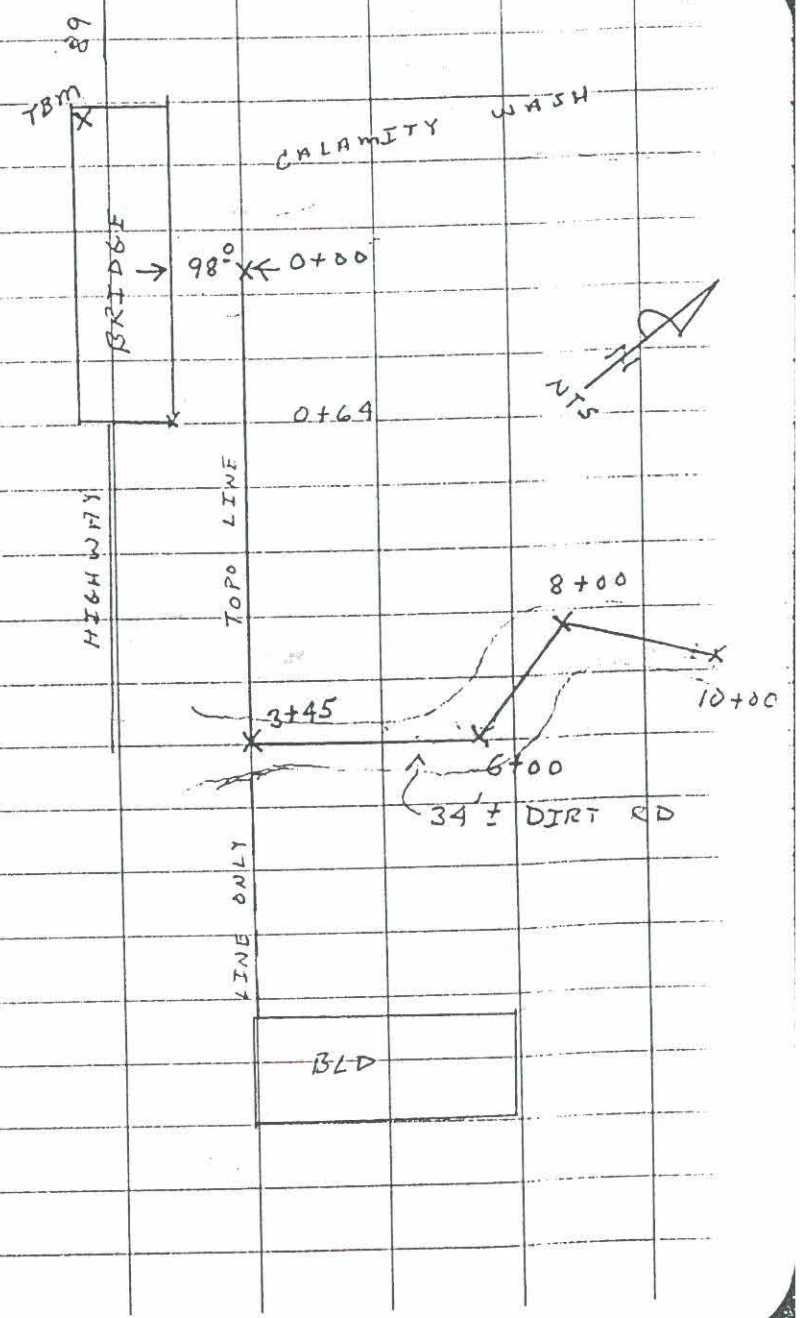
STA	+	HI	−	ELEV		
		84.08				
8+00			8.30	75.78		
9+00			6.63	77.45		
10+00			3.66	80.42		
P.P. #406			2.50	81.58		TOP RECAP w/ AL CAP .31 ABOVE GR.
T.P.			10.09	73.99		
	0.70	74.69				
T.B.m			11.12	(M) 63.57	(R) 63.55	+.02 CLOSURE
	[illegible]		[illegible]			

8/20/91

B-1

B - 1

STA	+	HI	-	ELEV	
TBm	9.05	44.25		2035.195	X S.W COR BRIDGE
0+00			20.33	23.92	℄ WASH
+45			20.36	23.89	TOE
+79			4.22	40.03	TOP
1+00			5.36	38.89	
2+00			4.01	40.24	
3+00			3.29	40.96	
	8.60	49.56			
+16			7.63	41.93	TOE
+28			5.21	44.35	TOP EDGE RD



STA	+	B-1 HI	CONT -	ELEV							
		49.56									
3+45			5.08	44.48	X PT						
4+00			5.15	44.41							
5+00			4.60	44.96							
6+00			3.95	45.61	X PT						
7+00			4.44	45.12							
	4.80	49.92									
8+00			5.74	44.18	X PT						
9+00			4.57	45.35							
10+00			1.98	47.94							
T.P.			4.81	45.11							
	4.17	49.28	14.07	(M) 35.21	(R) 35.20		+.01	CLOSURE			
	26.62		26.61								

STA	+	HI	−	ELEV		
TBM	3.37	36.78		2033.41		ADOT AL CAP IN N. HEADWALL STA 868+95.5
			7.98	28.80		
	5.10	33.90				
			4.25	29.65		
	6.03	35.68				
			4.11	31.57		
	5.865	37.435				
			2.24	35.195		+ CHISELED IN SW COR. CALAMITY
	2.33	37.525				WASH BRIDGE
			5.96	31.565		
	3.51	35.075				
			5.62	29.455		
	4.17	33.625				
			2.75	30.875		
	6.31	37.185				
			3.79	33.395	33.41	− .015 CLOSURE

WASH

E-2

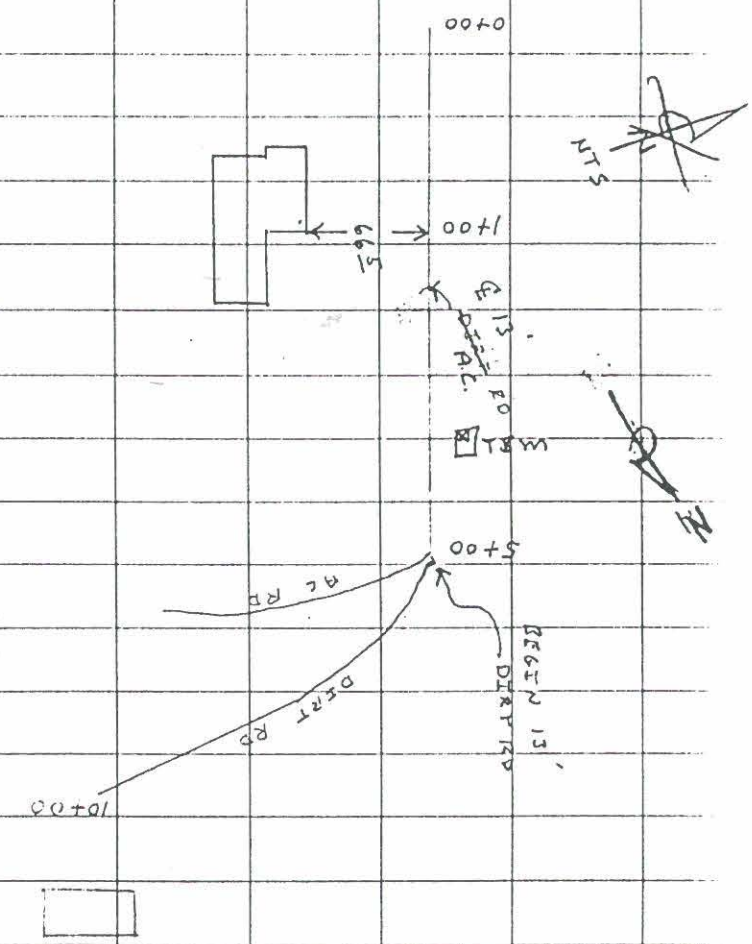
8/21/91

R.D

C.T.

STA	+	HI	−	ELEV	
TBM	3.30	215.63		212.33	SEE PG 42
0+00			4.70	210.93	
1+00			4.82	210.81	
2+00			5.51	210.12	
3+00			5.00	210.63	
4+00			11.18	204.45	
5+00			4.40	211.23	
	3.43	214.66			
6+00			6.03	208.63	
7+00			8.12	206.54	
	9.65	216.19			

TOP APS TRANSFORMER STA 2+30 ±



STA	+	HI	−	ELEV		
		216.19				
8+00			7.35	208.84		
9+00			2.26	213.93		
	6.87	220.80				
10+00			2.76	218.04		
			13.05	207.75		
3	7.81	215.56				
			4.88	210.68		
4	5.63	216.31				
TBM			3.95	(m) 212.36	(R) 212.33	+.03 CLOSURE
5						
6						
7						

WASH T-1

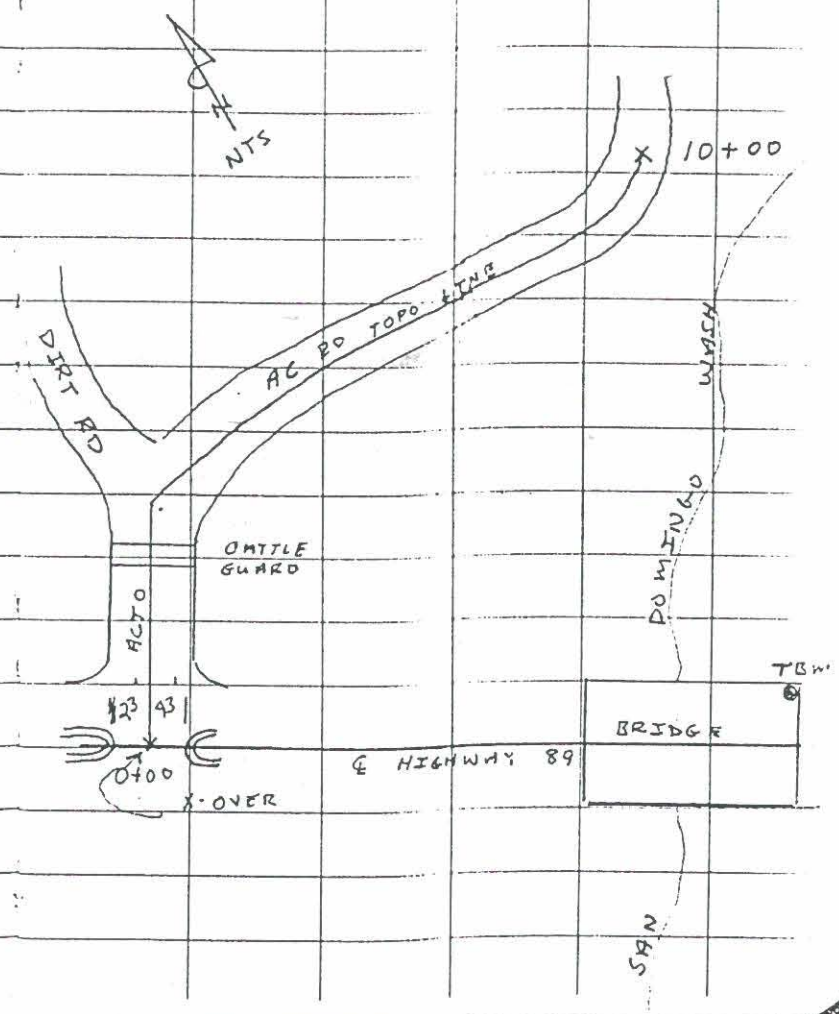
SAN DOMINGO WASH

8/22/91

R.D

C.T.

STA	+	HI	-	ELEV	
TBm	2.96	94.40		1891.44	B.C. IN CONC. CURB N.E. COR. SAN DOMINGO
					BRIDGE STA 1216+83.9
0+00			5.06 ~~4.98~~	89.34	
+41			5.33	89.07	BRK
+69			6.71	87.69	BRK
1+00			4.75	89.65	
+45			2.44	91.96	∡ PT
2+00			6.81	87.59	
+23			9.09	85.31	BRK
3+00			10.41	83.99	
	2.01	86.00			



STA	+	HI	−	ELEV
		86.00		
4+00			2.87	83.13
5+00			2.95	83.05
6+00			2.12	83.88
7+00			12.04	73.96
	0.34	74.30		
8+00			10.34	63.96
9+00			13.08	61.22
10+00			11.65	62.65
	~~6.~~			
			0.18	74.12
	12.57	86.69		

STA	+	HI	−	ELEV						
		86.69								
			2.90	83.79						
	10.49	94.28								
				(m)	(R)					
			2.84	91.44	91.44	Ø	CLOSURE			

WASH 5

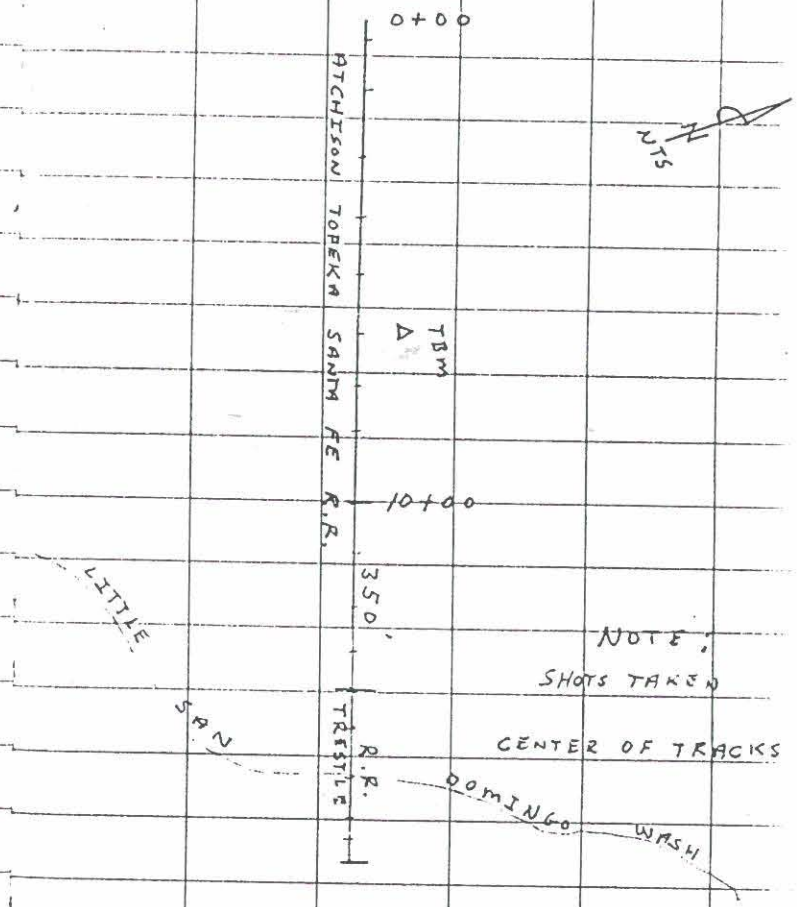
8/22/91

R.D.

C.T.

℄ STA	+	HI	-	ELEV
TBm	0.21	56.11		1955.90
10+00			3.44	52.67
9+00			3.56	52.55
8+00			3.57	52.54
7+00			3.65	52.46
6+00			3.76	52.35
5+00			3.89	52.22
	2.62	54.84		
4+00			2.87	51.97
3+00			3.02	51.82

USC&G.S. B.C. (H-24) TOP CONC. PED.



NOTE:
SHOTS TAKEN
CENTER OF TRACKS

STA	+	HI	-	ELEV						
		54.84								
2+00			3.08	51.76						
1+00			3.23	51.61						
0+00			3.37	51.47						
			2.35	52.49						
	5.09	57.58								
				(m)	(R)					
TBM			1.66	55.92	55.90.		+.02	CLOSURE		

3 - WIRE LEVELS

TO AREA E-2

8/23/91

R.D.

C.T.

STA	3 WIRE	MN	STADIA DIST	HI	ELEV
					2003.20
TBM	8.53				
	7.58	7.58		10.78	
	6.62				
	2.72				
#1	2.04	2.04			8.74
	1.36				
	13.43				
	12.73	12.73		21.47	
	12.03				
	2.62				
#2	2.25	2.25			19.22
	1.89				

STA	3 WIRE	STADIA	HI	ELEV
	14.05			
	13.50	13.50	32.72	
	12.95			
	1.45			
#3	1.22	1.22		31.50
	0.99			
	17.65			
	16.85	16.85	48.35	
	16.05			
	1.46			
#4	1.23	1.23		47.12
	1.00			

STA	3 WIRE	MN	STADIA DIST	HI	ELEV	STA	3 WIRE	MN	STADIA	HI	ELEV
	15.50						19.25				
	14.42	14.42		61.54			18.67	18.67		94.62	
	13.34						18.09				
	1.61						1.89				
#5	1.27	1.27			60.27	#7	1.76	1.76			92.86
	0.94						1.64				
	17.08						17.22				
	16.55	16.55		76.82			16.76	16.76		109.62	
	16.02						16.30				
	1.04						0.51				
#6	0.87	0.87			75.95	#8	0.35	0.35			109.27
	0.70						0.18				

STA	3 WIRE	MN	STADIA DIST	HI	ELEV
	17.85				
	17.31	17.31		126.58	
	16.76				
	1.32				
#9	1.125	1.125			125.45
	0.93				
	17.90				
	~~17~~ 16.63	16.63		142.08	
	15.36				
	1.40				
#10	1.25	1.25			140.83
	1.10				

STA	3 WIRE	MN	STADIA	HI	ELEV
	13.02				
	13.~~20~~ 25	12.25		153.08	
	11.48				
	17.43				
#11	16.86	16.86			136.22
	16.29				
	1.77				
	1.51	1.51		137.73	
	1.25				
	15.89				
#12	14.86	14.86			122.87
	13.83				

STA	3 WIRE	MN	STA DIN DIST	HI	ELEV	STA	3 WIRE	MN	STA DIN	HI	ELEV
	1.32						8.64				
	0.85	0.85		123.72			7.83	7.83		141.89	
	0.38						7.02				
	5.52						17.10				
#13	3.92	3.93			119.79	#15	16.55	16.55			125.34
	2.35						16.00				
	16.30						2.92				
	15.15	15.15		134.94			2.04	2.04		127.38	
	14.00						1.15				
	1.22						4.80				
#14	0.88	0.88			134.06	#16	3.00	3.00			124.38
	0.54						1.20				

STA	3 WIRE	MN	STADIA DIST	HI	ELEV	STA	3 WIRE	MN	STADIA	HI	ELEV
	16.85						13.71				
	15.07	15.07		139.45			12.20	12.20		163.36	
	13.28						10.69				
	1.91						3.73				
# 17	1.70	1.70			137.75	# 19	2.03	2.03			161.33
	1.50						0.32				
	16.36						17.76				
	15.15	15.15		152.90			16.38	16.38		177.71	
	13.93						15.01				
	1.98						2.31				
# 18	1.74	1.74			151.16	# 20	2.10	2.10			175.61
	1.49						1.89				

STA	3 WIRE	MN	STADIA DIST	HI	ELEV	STA	3 WIRE	MN	STADIA	HI	ELEV
	16.96						10.52				
	16.09	16.09		191.70			9.34	9.34		215.54	
	15.23						8.16				
	1.36						4.59				
#21.	1.08	1.08			190.62	TBM	3.21	3.21			212.33 SEE PG 15
	0.80						1.83				
	17.24										
	16.52	16.52		207.14							
	15.81										
	1.18										
#22	0.94	0.94			206.20						
	0.71										

~~STA~~	~~3 WIRE~~	~~MN~~	~~STADIA DIST~~	~~HI~~	~~ELEV~~		
STA	+	HI	-	ELEV			
TBm	2.70	7.45		2004.75	SEE PG 12		LEVEL LOOP
			5.27	2.18		←	FOR DRAINAGE
	3.38	5.46					AREA "m"
			7.25	1998.21			
	3.14	2001.35					8/23/91
TBm			14.78	1986.57	+ W/BLUE PAINT SPOT N. HEADWALL W.B.		
	14.91	2001.48					R.D.
			3.27	1998.21			C.T.
	7.42	2005.63					
			2.73	2002.90			
	4.74	9007.64					
			2.91	(MT) 2004.73	(R) 2004.75	-.02	CLOSURE

ERM

LITTLE SAN DOMINGO WASH

10/15/92

TS RD

STA	+	HI	-	ELEV	
TBM	5.80	81.74		75.94	BC TOP HEADWALL WB S.R. 60 PG 4
TP#1			3.82	77.92	STRUCTURE BK
	5.01	82.93			
TP#2			4.23	78.70	
	5.07	83.77			
TP#3			5.06	78.71	
	4.76	83.47			
TP#4			6.27	77.20	
	4.06	81.26			
TP#5			4.98	76.28	TOP CURB
	5.08	81.36			
			4.16	77.20	
	6.22	83.42			
			4.70	78.72	
	5.07	83.79			
			5.08	78.71	
	4.24	82.95			
			5.02	77.93	

STA	+	HI	-	ELEV		
				77.93		
	4.03	81.96				
TBm			6.02	75.94		∅ CLOSURE
TP#5	0.26	76.54		76.28		
			16.68	59.86		CHISLED SQUARE EAST END E.B.
	16.80	76.66				HEADWALL OVER LITTLE SAN DOMINGO
			.38	76.28	✓	WASH

ERm

WASH "G" & H

10/15/92

TS RD

T

STA	+	HI	-	ELEV
TBm	3.11	914.34		1911.23
TP#1			6.83	907.51
	2.85	910.36		
TP#2			7.31	903.05
	3.02	906.07		
TP#3			7.43	898.64
	3.26	901.90		
TP#4			6.48	895.42
	4.90	900.32		
TP#5			5.80	894.52
	4.84	899.36		
TP#6			5.48	893.88
	5.06	898.94		
TP#7			5.32	893.62
	5.22	898.84		
			4.96	893.88
	5.65	899.53		

ERm 10 ADOT B.C. STA 1106+50 MEDIAN

BULL NOSE

STA	+	HI	-	ELEV
		899.53		
			5.02	894.51
	5.63	900.14		
			4.73	895.41
	6.53	901.94		
			3.31	898.63
	7.33	905.96		
			2.92	903.04
	7.19	910.23		
			2.73	907.50
	6.85	914.35		
ERM #10			3.12	911.23

∅ CLOSURE

STA	+	HI	−	ELEV	
TP#4	3.85	899.27		895.42	
WASH "H"			5.56	893.71	
	5.65	899.36			
			3.94	895.42	✓
TP#7	3.89	897.51		893.62	
WASH "G"			18.20	879.31	
	18.49	897.80			
			4.19	893.61	✓

ADOT BC TOP N. HEADWALL WB STA 1126+16.6 STAMPED ELEV 1894.74

ADOT BC TOP S HEADWALL EB STA 1144+76.7 STAMPED ELEV. 1879.62

ERM
WASH "K"
10/15/92

TS RD

STA	+	HI	-	ELEV
ERM#9	6.23	949.15		1942.92
TP#1			2.16	946.99
	5.98	952.97		
TP#2			2.18	950.79
	7.27	958.06		
TP#3			3.22	954.84
	5.92	960.76		
TP#4			3.30	957.46
	8.27	965.73		
TP#5			2.76	962.97
	2.73	965.70		
			8.23	957.47
	3.27	960.74		
			5.90	954.84
	1.04	955.88		
			5.09	950.79
	2.29	953.08		

ADOT BC IN BULLNOSE 1/4 MI ± NORTH MP 114

STA	+	HI	−	ELEV		
		953.08				
			6.09	946.99		
	2.19	949.18				
ERM#9			6.27	942.91	.92	−.01 CLOSURE
TP#5	5.66	968.63		962.97		
WASH "K"			14.34	954.29		ADOT BC IN HEADWALL N. SIDE
	14.41	968.70				
			5.74	962.96	✓	

ERM

WASH "E"

10/15/92

TS RD

STA	+	HI	-	ELEV			
ERM #7	13.92	2025.08		2011.16			
TP# 1			5.76	2019.32			
	2.40	2021.72					
TP# 2			7.72	2014.00			
	0.48	2014.48					
TP# 3			12.75	2001.73			
	0.98	2002.71					
TP# 4			7.60	1995.11			
	7.56	2002.67					
			0.94	2001.73			
	12.80	2014.53					
			0.54	2013.99			
	7.99	2021.98					
			2.68	2019.30			
	5.81	2025.11					
			13.97	2011.14		+.02	CLOSURE

STA	+	HI	-	ELEV	
TP#4	4.27	1999.38		1995.11	
WASH "E"			4.58	1994.80	ADOT BC TOP HEADWALL N SIDE W.B. STA
	4.70	1999.50			(COULD NOT READ) STAMPED 1995.?
			4.40	1995.10	✓

ERM

WASH "AF"

10/15/92

TS RD

STA	+	HI	−	ELEV	
TBm	1.35	2036.55		2035.20	CALAMITY WASH BRIDGE SEE PG 7
TP#1			5.88	2030.67	
	3.84	2034.51			
TP#2			6.03	2028.48	
	7.76	2036.24			
TP#3			0.98	2035.26	
	5.68	2040.94			
WASH "AF"			7.55	2033.39	ADOT BC
	7.64	2041.03			
			5.77	2035.26	
	1.14	2036.40			
			7.92	2028.48	
	6.22	2034.70			
			4.03	2030.67	
	6.08	2036.75			
TBm			1.54	2035.21 ✓	

ERm

WASH "N"

10/15/92

TS RD

STA	+	HI	-	ELEV	
TBm	2.02	2065.57		2063.55	B.C. ℄ Constellation Rd p.31 Book #1 Ucd.
TP #1			12.35	2053.22	
	1.55	2054.77			
TP #2			9.68	2045.09	
	3.72	2048.81			
TP #3			4.22	2044.59	
	6.55	2051.14			
TP #4			4.72	2046.42	
	7.02	2053.44			
TP #5			2.28	2051.16	
	14.46	2065.62			
TP #6			0.70	2064.92	
	1.82	2066.74			
TP #7			5.35	2061.39	
	1.86	2063.25			
TP #8			5.78	2057.47	
	6.98	2064.45			

STA	+	HI	-	ELEV	
		2064.45			
WASH "N"			4.17	2060.28	LEFT SIDE CATTLE GUARD ENTRANCE TO REMUDA RANCH ON JACK BURDEN RD
	4.36	2064.64			
			7.17	2057.47	
	5.26	2062.73			
			1.39	2061.34	
	2.36	2063.70			
			3.83	2059.87	
	9.40	2069.27			
			4.37	2064.90	
	0.84	2065.74			
			14.59	2051.15	
	2.32	2053.47			
			7.06	2046.41	
	4.55	2050.96			
			6.37	2044.59	
	4.27	2048.86			

STA	+	HI	-	ELEV	
		2048.86			
			3.77	2045.09	
	8.98	2054.07			
			0.85	2053.22	
	9.96	2063.18			
			0.80	2062.38	
	6.37	2068.75			
			5.22	2063.53	-.02 CLOSURE

ERm 214 SAN DOMINGO WASH

STA	3 WIRE	MN	STADIA DIST.	HI	ELEV.	STA	3 WIRE	MN	STADIA DIST.	HI	ELEV.
15 PE	22.19				1938.17						1944.14
	21.58	21.58	122	1959.75			11.02				
	20.97						9.41	9.41	322	1953.55	
							7.80				
S.S. ERm 214	7.09										
	7.05	7.05	8'		1952.70						
	7.01					#2	3.48				
	SET AL. CAP IN CONCRETE FLUSH						2.37	2.37	222		1951.18
	ON RIGHT SIDE OF WASH 14± AB.						1.26				
	WASH 1.2 mi. N.E. OF SAN DOMINGO										
	WASH BRIDGE ON ROUTE 93.						12.65				
	17.98						10.85	10.85	360	1962.03	
#1	15.61	15.61	473		1944.14		9.05				
	13.25										
							2.80				
						#3	1.72	1.72	216		1960.31
							0.64				

STA	3 WIRE	MN	STADIA DIST.	HI	ELEV.	STA	3 WIRE	MN	STADIA DIST.	HI	ELEV.
					1960.31						1977.82
	12.75						14.21				
	10.88	10.88	375	1971.19			12.03	12.03	438	1989.85	
	9.00						9.83				
	2.68						2.82				
#4	1.61	1.61	215		1969.58	#6	1.73	1.73	218		1988.12
	0.53						0.64				
	12.35						12.25				
	10.58	10.58	355	1950.16			10.73	10.73	304	1998.85	
	8.80						9.21				
	3.39						2.62				
#5	2.34	2.34	209		1977.82	#7	1.47	1.47	229		1997.38
	1.30						0.33				

STA	3 WIRE	MN	STADIA DIST.	HI	ELEV.
					1997.38
	16.69				
	14.65	14.65	409	2012.03	
	12.60				
	5.60				
#8	5.20	5.20	79'		2006.83
	4.81				
	19.01				
	18.26	18.26	149	2025.09	
	17.52				
	2.30				
ERM 216	2.25	2.25	10'		2022.84
	2.20				

ERM 216

SET AL CAP 0.2 ABOVE GROUND

RIGHT SIDE OF WASH ON RIDGE

10' ± ABOVE WASH 2.1 mi. N.E.

OF SAN DOMINGO WASH BRIDGE

ON ROUTE 93

STRUCTURE EKM 5

& POWDERHOUSE WASH "AA" ERM 203

Name

Address

Phone

Projects

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WASH "S"
STRUCTURE ERM #1

STA	+	HI	-	ELEV	
ERM 20PE	7.59	1996.27		1988.68	
T.P. #1			3.24	1993.03	
	10.19	2003.22			
T.P. #2			5.40	1997.82	
	7.23	2005.05			
T.P. #3			3.73	2001.32	
	8.52	2009.84			
T.P. #4			3.02	2006.82	
	14.15	2020.97			
T.P. #5			5.41	2015.56	
	9.04	2024.60			
STRUCTURE E.R.M.			9.75	2014.85	
	12.54	2027.39			
			6.70	2020.69	
	1.48	2022.17			
			7.63	2014.54	
	1.51	2016.05			
			7.90	2008.15	
	1.13	2009.28			
			9.20	2000.08	
	1.41	2001.49		(m)	(R)
ERM 20 PE			12.83	1988.66	1988.68

PANEL PT. AL. CAP SEE PAGE #6 VERT. BK. #1

CENTER SOUTH HDWL, STAMPED A.D.O.T. CAP, ELEV. 2014.78, STA. 66+00, 1964. 500'± WEST OF CASTLE HOT SPRING RD. @ LITTLE SAN DOMINGO WASH SEE PAGE #28 IN STRUCTURE BK. (WASH "S")

-.02 CLOSURE

WASH "F"
STRUCTURE ERM #2

STA.	+	HI	−	ELEV.	
ERM 107	3.06	1894.19		1891.13	A.D.O.T. BRASS CAP, N.E. COR. SAN DOMINGO BRIDGE.
T.P. #1			6.03	1888.16	
	4.15	1892.31			
T.P. #2			6.36	1885.95	
	3.85	1889.80			
T.P. #3			6.69	1883.11	
	3.84	1886.95			
T.P. #4			6.15	1880.80	
	4.21	1885.01			
T.P. #5			7.02	1877.99	
	3.25	1881.24			
STRUCTURE ERM			17.12	1864.12	BRASS CAP IN CENTER HDWL .6 MI. WEST OF SAN DOMINGO WASH. (WASH "F") LEFT SIDE ROUTE 93 NO DESCRIPTION OF ADOT CAP
	17.33	1881.45			
			3.44	1878.01	
	6.86	1884.87			
			4.05	1880.82	
	6.03	1886.85			
			3.71	1883.14	
	6.70	1889.84			
			3.87	1885.97	
	6.28	1892.25			

STA.	+	HI	−	ELEV	
		1892.25			
			4.08	1888.17	
	6.18	1894.35			
				(m)	(R)
ERM 107			3.21	1891.14	1891.13

+.01 CLOSURE

STRUCTURE #3 MONARCH WASH

STA.	+	HI	−	ELEV.	
ERM 105	7.29	1901.00		1893.71	
T.P. #1			3.21	1897.79	
	7.58	1905.37			
T.P. #2			2.40	1902.97	
	7.59	1910.56			
T.P. #3			2.88	1907.68	
	7.58	1915.26			
T.P. #4			2.67	1912.59	
	7.51	1920.10			
T.P. #5			3.75	1916.35	
	5.57	1921.92			
STRUCTURE #3			3.93	1917.99	
	3.79	1921.78			
			5.43	1916.35	
	3.81	1920.16			
			7.56	1912.60	
	2.61	1915.21			
			7.53	1907.68	
	2.90	1910.58			
			7.61	1902.97	
	2.38	1905.35			
			7.55	1897.80	
	3.21	1901.01			
ERM 105			7.29	(M) 1893.72	(R) 1893.71

BRASS CAP STAMPED, A.D.O.T. STA. 1126+16.6

A.D.O.T. AL. CAP S.E. COR. MONARCH WASH BRIDGE W/B TOP OF BARRIAR WALL

+.01 CLOSURE

STRUCTURE #4 WASH "I"

STA	+	HI	−	ELEV.	
STRUCTURE #3	3.93	1921.92		1917.99	
T.P. #1			3.45	1918.47	
	8.56	1927.03			
T.P. #2			2.06	1924.97	
	7.09	1932.06			
T.P. #3			3.22	1928.84	
	6.93	1935.77			
STRUCTURE #4			5.92	1929.85	
	5.79	1935.64			
			6.80	1928.84	
	3.23	1932.07			
			7.10	1924.97	
	1.72	1926.69			
			8.22	1918.47	
	3.20	1921.67		(M)	(R)
STRUCTURE #3			3.67	1918.00	1917.99

A.D.O.T. AL CAP S.E. COR. MONARCH WASH BRIDGE W/B TOP OF BARRIAR WALL

A.D.O.T. BRASS DISK NORTH HDWL. W/B STA. 1070+08.06, .4 mi. WEST OF MONARCH WASH BRIDGE

+ .01 CLOSURE

STRUCTURE #5 WASH "J"

STA.	+	HI	−	ELEV.
STRUCTURE #4	9.05	1938.90		1929.85
T.P. #1			4.13	1934.77
	5.58	1940.35		
STRUCTURE #5			9.50	1930.85
	9.41	1940.26		
			5.49	1934.77
	3.96	1938.73		
STRUCTURE #4			8.88	1929.85

A.D.O.T. BRASS DISK NORTH HDWL W/B STA. 1070+08.06, .4 mi. WEST OF MONARCH WASH BRIDGE.

A.D.O.T. BRASS DISK TOP NORTH HDWL. W/B STA. 1062+30, .6 mi. WEST OF MONARCH WASH BRIDGE.

FLAT

STRUCTURE #9 WASH "B"

STA.	+	HI	−	ELEV.	
	2.43	2037.63		2035.20	
B.C			4.71	2032.92	
	4.55	2037.47			
			2.27	2035.20	FLAT

CHISLED X S. W. COR. OF THE CALAMITY WASH BRIDGE.
U.S. DEPT. OF AGRICULTURE BRASS CAP SET IN CONCRETE, 60 ± NORTH CENTERLINE ROUTE 93 AND 50 ± N.W. OF N.W. CORN. OF CALAMITY WASH BRIDGE.

STRUCTURE #6 WASH "L"

STA.	+	HI	−	ELEV.	
ERM 104	16.89	1971.18		1954.29	
T.P. #1			0.90	1970.28	
	9.17	1979.95			
T.P. #2			1.19	1978.26	
	7.57	1985.83			
STRUCTURE #6			3.80	1982.03	
	3.89	1985.92			
			7.67	1978.25	
	1.20	1979.45			
			9.19	1970.26	
	1.38	1971.64			
ERM 104			17.37	1954.27	1954.29

A.D.O.T. BRASS CAP WASH "K"

A.D.O.T. BRASS CAP ON TOP OF NORTH HDWL. STA. 1011+57.5, ELEV. = 1983.00 1938, 100'± WEST OF MILE POST 114.

-.02 CLOSURE

STRUCTURE #7 WASH "M"

STA.	+	HI	—	ELEV.	
STRUCTURE #6	10.61	1992.64		1982.03	
T.P. #1			4.47	1988.17	
	8.60	1996.77			
STRUCTURE #7			13.90	1982.87	
	13.70	1996.57			
			8.40	1988.17	
	5.73	1993.90			
STRUCTURE #6			11.87	1982.03	FLAT

A.D.O.T. BRASS CAP STA. 1011+57.5

A.D.O.T. BRASS CAP SOUTH HDWL. E/B ROUTE 93. 400' ± WEST OF HASSAYAMPA RIVER PRESERVE

STRUCTURE #8 WASH "O"

STA.	+	HI	−	ELEV.	
ERM 103	4.47	1999.27		1994.80	
T.P. #1			4.17	1995.10	
	7.00	2002.10			
T.P. #2			1.55	2000.55	
	10.77	2011.32			
T.P. #3			1.25	2010.07	
	11.19	2021.26			
T.P. #4			2.56	2018.70	
	6.36	2025.06			
T.P. #5			3.62	2021.44	
	6.51	2027.95			
STRUCTURE #8			8.32	2019.63	
	8.81	2028.44			
			7.01	2021.43	
	3.47	2024.90			
			6.22	2018.68	
	2.45	2021.13			
			11.07	2010.06	
	0.35	2010.41			
			9.86	2000.55	
	1.66	2002.21			
			7.10	1995.11	
	3.95	1999.06		(M)	(R)
ERM 103				1994.81	1994.80

A.D.O.T. BRASS CAP TOP HDWL. EAST SIDE ROUTE 93

A.D.O.T. BRASS CAP TOP NORTH HDWL, NOT LEGIBLE, 0.6 mi. WEST OF MILE POST 113.

+ .01 CLOSURE

(AA) POWDER HOUSE WASH

STA.	+	HI	−	ELEV.	
	11.31	2074.96		2063.65	
T.P. #1			1.36	2073.60	
	8.75	2082.35			
T.P. #2			1.35	2081.00	
	11.12	2092.12			
T.P. #3			0.76	2091.36	
	7.38	2098.74			
WASH			3.32	2095.42	
	3.58	2099.00			
			7.64	2091.36	
	0.78	2092.14			
			11.13	2081.01	
	1.61	2082.62			
			9.01	2073.61	
	1.67	2075.28		(M)	(R)
			11.62	2063.66	2063.65

BRASS CAP CENTER LINE CONSTELLATION Rd.

+.01 CLOSURE

STA.	3 WIRE	MN	STADIA DIST.	HI	ELEV.
					2095.42
TBm	11.43				
	10.15	10.15	255	2105.57	
	8.88				
	2.15				104.30
#1	1.27	1.27	176		
	0.39				
	13.01				
	11.68	11.68	266	115.98	
	10.35				
	1.93				
#2	1.12	1.12	163		114.86
	0.30				
	11.70				
	10.36	10.36	267	125.22	
	9.03				

STA.	3 WIRE	MN	STADIA DIST.	HI	ELEV.
	1.86				
#3	1.10	1.10	152		124.12
	0.34				
	12.39				
	11.11	11.11	256	135.23	
	9.83				
#4	2.37				
	1.33	1.33	207		133.90
	0.30				
	13.75				
	12.31	12.31	289	146.21	
	10.86				
	2.21				
#5	1.45	1.45	153		144.76
	0.68				

STA	3 WIRE	MN	STADIA DIST.	HI	ELEV.
					144.76
	15.70				
	14.50	14.50	241	159.26	
	13.29				
	6.48				
#6	5.09	5.09	279		154.17
	3.69				
	24.29				
	22.99	22.99	250	177.16	
	21.74				
	9.05				
#7	6.71	6.71	470		170.45
	4.35				
	11.56				
	10.11	10.11	289	180.56	
	8.67				

STA	3 WIRE	MN	STADIA DIST.	HI	ELEV.
				180.56	
	2.24				
#8	1.21	1.21	207		179.35
	0.17				
	24.25				
	22.41	22.41	368	201.76	
	20.57				
	9.52				
#9	8.16	8.16	272		193.60
	6.80				
	16.59				
	15.24	15.24	270	208.84	
	13.89				
	6.84				
#10	6.26	6.26			202.58
	5.67				

STA.	3 WIRE	MN	STADIA DIST.	HI	ELEV.
					202.58
	24.42				
	24.14	24.14	56	226.72	
	23.86				
	8.39				
ERM 203	8.36	8.36	7		218.36
	8.32				

AL. CAP FLUSH STAMPED WITH M.C.F.C.D. ERM 203 ELEV. 221.836 L.S. 22282 1993, 0.9 mi. N.E. ON POWDER HOUSE WASH FROM CONSTELLATION RD., ON SOUTH SIDE WASH 15' ± ABOVE FLOW LINE ON EDGE OF RIDGE JUST BEFORE WASH DAYLIGHTS INTO OPEN AREA.

STA	3 WIRE	MN	STADIA DIST	HI	ELEV.

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(Office Reference #70-A)

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WICKENBURG

VERT.

BK. #3

TELEDYNE

415

LEVEL BOOK

Property of _____

_____

Address _____

_____

Telephone _____

This Book is manufactured of a High Grade 50% Rag Paper having a Water Resisting Surface, and is sewed with Nylon Waterproof Thread.

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VERT BK 2
48 PROFILES NEAR MORRIS TOWN

	RIVER						ROAD			
①	+	H.I	−	ELEV.			+	H.I.	−	ELEV.	①
	6.37	2066.65		2060.28							
			4.73	2061.92		T.P.			4.70	2061.95	
	5.745	2067.67					5.71	2067.66			
			3.255	2064.41		T.P.			3.15	2064.51	
	11.635	2076.10					11.57	2076.08			
			5.19	2070.91		T.P.			5.305	2070.78	
	5.75	2076.66					5.86	2076.64			
			0.905	2075.75		T.P.			1.085	2075.55	
	3.12	2078.87					3.29	2073.84			
			5.33	2073.54		T.P.			5.35	2073.49	
	21.54	2095.08					21.55	2095.04			
T.P.			3.89	2091.19		T.P.			3.82	2091.22	
	4.25	2095.44					4.18	2095.40			

	+	Right H.I.	−	ELEV	
		2095.44			
T.P.			1.91	2093.53	
	0.25	2093.78			
T.P.			13.51	2080.27	
	2.82	2083.09			
T.P.			3.61	2079.48	
	6.73	2086.21			
T.P.			1.29	2084.92	
	9.92	2094.84			
T.P.			0.86	2093.98	
	10.10	2104.08			
	PAINTED HUBS.				
T.P.			0.80	2103.28	
	24.55	2127.83			

	+	Road H.I.	−	ELEV.	(2)
		2095.40			
T.P.			1.82	2093.58	
	0.15	2093.73			
T.P.			13.65	2080.08	
	2.96	2083.04			
T.P.			3.69	2079.35	
	6.81	2086.16			
T.P.			1.38	2084.78	
	10.02	2094.80			
T.P.			0.915	2093.89	
	10.16	2104.05			
T.P.			0.795	2103.25	
	24.55	2127.80			

	+	H.I.	−	ELEV.
	PAINTED	2127.83		
T.P.			3.25	2124.58
	16.235	2140.82		
ERm 200			7.83	2132.99

SET AL CAP FLUSH STAMPED MCFCD, ERm 200, ELEV. 2132.98, L.S. 22282, 1993

	+	H.I.	−	ELEV.
		2127.80		
T.P.			2.99	2124.81
	15.985	2140.80		
			7.83	2132.97
	MEAN =	2132.98		

ERM # 201
WASH "C"

	+	HI	−	ELEV
	6.74	2080.23		2073.49
TP			3.04	2077.19
	9.83	2087.02		
TP			2.10	2084.92
	13.03	2097.95		
TP			1.79	2096.16
	10.85	2107.01		
TP			1.61	2105.40
	13.17	2118.57		
TP			2.97	2115.60
	23.96	2139.56		
Alum Cap Set			9.72	2129.84

	+	HI	−	ELEV
	6.72	2086.26		2073.54
TP			2.90	2077.36
	9.69	2087.05		
TP			1.94	2085.11
	12.87	2097.98		
TP			1.68	2096.30
	10.73	2107.03		
TP			1.41	2105.62
	12.97	2118.59		
TP			2.85	2115.74
	23.85	2139.59		
Alum Cap Set			9.72	2129.87

MEAN 2129.85

CALAMITY WASH

ERM 204

	+	PAINTED H.I.	−	ELEV.
B.M.	9.065	44.27		2035.20
			2.945	41.32
	10.91	52.23		
T.P.			0.67	51.56
	16.83	68.39		
T.P.			0.875	67.51
	12.95	80.46		
			0.33	80.13
	11.79	91.92		
T.P.			1.635	90.28
	10.65	100.93		
T.P.			4.00	96.93
	LAST [illegible] ± [illegible]			

	+	H.I.	−	ELEV.
"X" SW COR CALAMITY WASH BRIDGE				
T.P.			3.04	41.23
	11.01	52.24		
T.P.			0.46	51.78
	16.62	68.40		
T.P.			0.725	67.67
	12.79	80.46		
T.P.			0.23	80.23
	11.68	91.91		
T.P.			1.54	90.37
	10.56	100.93		
			3.91	97.02

STA.	3 WIRE	MN	STADIA DIST.	HI	ELEV.
					2096.93
	13.92				
HI	12.38	12.38	307	109.31	
	10.85				
	1.94				
#1	1.18	1.18	152		108.13
	0.42				
	9.41				
	8.73	8.73	136	116.86	
	8.05				
	1.62				
#2	0.83	0.83	158		116.03
	0.04				

STA	3 WIRE	MN	STADIA DIST.	HI	(B) ELEV.
					116.03
	11.89				
	11.08	11.08	162	127.11	
	10.27				
	3.51				
#3	3.20	3.20	62		123.91
	2.89				
	7.78				
	7.26	7.26	103	131.17	
	6.75				
	2.00				
#4	1.30	1.30	140		129.87
	0.60				

STA	3 WIRE	MN	STADIA DIST.	HI	ELEV.
					129.87
	10.69				
	9.91	9.91	156	139.78	
	9.13				
	2.41				
#5	1.41	1.41	200		138.37
	0.41				
	15.29				
	11.86	11.86	286	150.23	
	10.43				
	2.20				
#6	1.35	1.35	170		148.88
	0.50				

STA.	3 WIRE	MN	STADIA DIST.	HI	ELEV.
					148.88
	13.47				
	12.04	12.04	286	160.92	
	10.61				
	2.72				
#7	2.23	2.23	97		158.69
	1.75				
	8.66				
	8.04	8.04	123	166.73	
	7.43				
	2.33				
#8	1.50	1.50	164		165.23
	0.67				

STA	3 WIRE	MN	STADIA DIST	HI	ELEV
	10.97				
	9.89	9.89	216	175.21	
	8.81				
	2.04				
#9	1.38	1.38	132		173.83
	0.72				
	12.12				
	10.91	10.91	241	184.74	
	9.71				
	1.93				
#10	1.07	1.07	173		183.67
	0.20				

STA.	3 WIRE	MN	STADIA DIST	HI	(10) ELEV
					183.67
	13.31				
	11.84	11.84	294	195.51	
	10.37				
	2.13				
#11	1.36	1.36	154		194.15
	0.59				
	13.27				
	11.88	11.88	277	206.03	
	10.50				
	1.87				
#12	0.97	0.97	180		205.06
	0.07				

STA	3 WIRE	MN	STADIA DIST	HI	ELEV.
					205.06
	14.55				
	12.91	12.91	329	217.97	
	11.26				
	2.53				
#13	1.63	1.63	180		216.34
	0.73				
	15.87				
	14.10	14.10	354	230.44	
	12.33				
	2.00				
#14	1.15	1.15	170		229.29
	0.30				

STA	3 WIRE	MN	STADIA DIST	HI	11 ELEV.
					229.29
	14.28				
	12.78	12.78	300	242.07	
	11.28				
	2.12				
#15	1.19	1.19	187		240.88
	0.25				
	18.14				
	17.75	17.75	79	258.63	
	17.35				
	3.60				
ERM 204	3.51	3.51	18		2255.12
	3.42				

AL. CAP FLUSH, EAST SIDE OF RIDGE
15'± ABOVE FLOW LINE OF CALAMITY WASH,
1.7 mi. N.E. ROUTE 93

		WASH	"N"			
ERM 101	5.07	2065.35		2060.28		LEFT SIDE CATTLE GUARD ENTRANCE TO REMUDA RANCH, SEE VERT. BK. #2 PAGE 62
NEW ERM # 101			4.45	2060.90		
	4.22	2065.12				
			4.84	2060.28	FLAT	NEW ERM 101 SET IN CONCRETE 3'± S.W. OF CATTLE GUARD.

STA.	3 WIRE	MN	STADIA DIST	HI	ELEV.
	WASH "0"		ERM 205		2019.65
	10.60				
	10.52	10.52	16'	2030.15	
	10.44				
	14.69				
#1	13.40	13.40			2016.75
	12.11				
	15.64				
	13.45	13.45	437	2030.21	
	11.27				
	2.36				
#2	1.40	1.40	193		2028.81
	0.43				

STA	3 WIRE	MN.	STADIA DIST.	HI	13 ELEV.
					2028.81
	9.07				
	8.32	8.32	151	2037.13 ~~2027.13~~	
	7.56				
	2.15				
#3	1.27	1.27	176		2035.86
	0.39				
	14.13				
	12.46	12.46	337	2048.32	
	10.76				
	2.57				
#4	1.92	1.92	131		2046.40
	1.24				

STA.	3 WIRE	MN	STADIA DIST.	HI	ELEV.
					2046.40
	2.33				
	1.46	1.46	174	2047.86	
	0.59				
	10.80				
5	9.95	9.95	169		2037.91
	9.11				
	11.77				
	10.67	10.67	220	2048.58	
	9.57				
	2.41				
#6	1.70	1.70	141		2046.88
	1.00				

STA.	3 WIRE	MN	STADIA DIST.	HI	14 ELEV.
					2046.88
	15.92				
	14.35	14.35	313	2061.23	
	12.79				
	3.09				
#7	2.38	2.38	141		2058.85
	1.68				
	14.48				
	12.81	12.81	331	2071.66	
	11.17				
	2.21				
#8	1.36	1.36	171		2070.30
	0.50				

STA	3 WIRE	MN	STADIA DIST.	HI	ELEV.
					2070.30
	18.44				
	17.32	17.32	224	2087.62	
	16.20				
	2.25				
#9	1.52	1.52	146		2086.10
	0.79				
	26.60				
	24.27	24.27	440	2110.57	
	22.06				
	4.91				
#10	2.77	2.77	427		2107.60
	0.64				

STA	3 WIRE	MN	STADIA DIST.	HI	15 ELEV.
					2107.60
	24.91				
	23.81	23.81	219	2131.41	
	22.72				
	7.59				
#11	5.03	5.03	512		2128.94
	2.47				
	18.80				
	16.39	16.39	488	2145.33	
	13.92				
	1.82				
#12	0.98	0.98			2144.35
	0.15				

STA	3 WIRE	MN	STADIA DIST.	HI	ELEV.	STA.	3 WIRE	MN	STADIA DIST	HI	16 ELEV.
					214435						2184.80
	24.41						18.34				
	22.50	22.50	380	216685			17.85	17.85	98	2202.65	
	20.61						17.36				
	4.28						3.39				
#13	2.81	2.81	345		216123	ERM 205	3.30	3.30	18'		2199.35
	1.36						3.21				
							AL CAP 0.50 ABOVE GROUND,				
	26.95						15'± ABOVE FOW LINE OF				
	24.30	24.30	530	2185.53			WASH ON SMALL RIDGE				
	21.65						1.5 mi. N.E. OF ROUTE 93				
							ON WASH "O". STAMPED				
	1.37						M.C.F.C.D., ERM 205, ELEV.				
#14	0.73	0.73	128		2184.80		ABOVE, 1993, L.S. # 22282				
	0.09										

MOCKING BIRD WASH "E"
ERM 206

STA	3 WIRE	MN	STADIA DIST.	HI	ELEV.
ERM 103	7.64				1994.80
	5.60	5.60	406	2000.40	
	3.58				
	2.50				
#1	1.56	1.56			1998.84
	0.63				
	14.49				
	12.92	12.92	354	2011.76	
	11.15				
	1.86				
#2	1.01	1.01			2010.75
	0.16				

STA	3 WIRE	MN	STADIA DIST.	HI	ELEV.
	16.85				
	15.46	15.46	279	2026.21	
	14.06				
	5.50				
#4	4.44	4.44	212		2021.77
	3.38				
	14.96				
	13.10	13.10	372	2034.87	
	11.24				
	2.05				
#5	1.10	1.10	190		2033.77
	0.15				

STA	3 WIRE	MN	STADIA DIST	HI	ELEV.
					2033.77 ~~2034.97~~
	13.54				
	12.61	12.61	186	2046.38 ~~2047.58~~	
	11.68				
	4.94				
#6	4.16	4.16			2042.22
	3.38				
	16.53				
	14.91	14.91	322	2057.13	~~2032.17~~
	13.31				
	4.21				
#7	3.27	3.27	187	~~2035.99~~	2053.86
	2.34				

STA.	3 WIRE	MN	STADIA DIST.	HI	18 ELEV.
				~~2055.14~~	2053.86
	13.87				
	~~12.53~~	12.53	269	2066.39	~~2055.41~~
	11.18				
	1.83				
#8	0.97	0.97			2065.42
	0.11				
	12.60				
	11.22	11.22	278	2076.64 ~~2034.13~~	
	9.82				
	2.92				
#9	2.28	2.28	127		2074.36 ~~2032.35~~
	1.65				

STA	3 WIRE	MN	STADIA DIST	HI	ELEV.
					2074.36 ~~2032.35~~
	18.42				
	16.57	16.57	369	2090.93 ~~2043.92~~	
	14.73				
	2.70				
#10	1.86	1.86	169		2089.07 ~~2047.00~~
	1.01				
	20.82				
	18.53	18.53	458	2107.60	
	16.24				
	2.18				
#11	1.14	1.14	209		2106.46
	0.09				

STA.	3 WIRE	MN	STADIA DIST.	HI	19 ELEV.
					2106.46
	14.91				
	13.22	13.22	339	2119.68	
	11.52				
	1.77				
#12	1.00	1.00	153		2118.68
	0.24				
	18.95				
	17.21	17.21	3.48	2135.89	
	15.47				
	3.87				
#13	2.69	2.69	237		2133.20
	1.50				

STA	3 WIRE	MN	STADIA DIST.	HI	ELEV.	STA	3 WIRE	MN	STADIA DIST	HI	20 ELEV.
					2133.20						2146.71
	12.42						22.14				
	11.13	11.13	254	2144.33			21.37	21.37	154	2168.08	
	9.88						20.60				
	1.65						11.92				
#14	0.83	0.83	1.65		2142.68	#16	10.91	10.91	200		2157.17
	0.00						9.92				
	6.53						17.69				
	6.26	6.26	54	2148.94			16.47	16.47	243	2173.64	
	5.99						15.26				
	2.74						3.00				
#15	2.23	2.23	102		2146.71	#17	1.62	1.62	277		2172.02
	1.72						0.23				

STA.	3 WIRE	MN	STADIA DIST.	HI	ELEV.
					2172.02
	16.97				
	16.08	16.08	177	2188.10	
	15.20				
	0.76				
#18	0.59	0.59	35		2187.51
	0.41				
	20.53				
	20.32	20.32	42	2207.83	
	20.11				
	1.54				
RM # 206	1.48	1.48	11		2206.35
	1.43				

SET AL. CAP 0.40 ABOVE GROUND, AND 18' ± ABOVE FLOW LINE, 1.70 MILES N.E. ROUTE 93.

WASH "L" ERm 207

T@ ERm 9PE ELEV 2174.08

HI = 4.97

FS	VERT ∡	SD	TAR HT	VERT DIFF	ELEV
	D 91-53-51				
ERm 207	R 268-06-00				
	MN 91-53-55	1120.50	4.97	-37.13	2136.95

SET AL CAP .1 ABOVE GROUND ON TOP OF RIDGE AT NARROWING OF WASH. PT. IS ON RIGHT SIDE GOING INTO BOX CANYON OPPOSITE HOUSE ON LEFT SIDE PT IS .6 MI NE OF RT 93 ALONG WASH

WASH "K"

ERM's 208, 209, & 210

STA	3 WIRE	MN	STADIA DIST.	HI	ELEV.	STA	3 WIRE	MN	STADIA DIST.	HI	ELEV.
ERM104	8.55				1954.29		11.18				
	6.92	6.92	326	1961.21			10.06	10.06	224	1978.75	
	5.29						8.94				
	3.13						2.13				
#1	2.50	2.50	124		1958.71	#3	1.26	1.26	173		1977.49
	1.89						0.40				
	12.25						12.95				
	10.92	10.92	266	1969.63			11.67	11.67	256	1989.16	
	9.59						10.39				
	1.84						2.44				
#2	0.94	0.94	180		1968.69	#4	1.52	1.52	184		1987.64
	0.04						0.60				

STA	3 WIRE	MN	STADIA DIST.	HI	ELEV.
					1987.64
	11.06				
	9.94	9.94	224	1997.58	
	8.82				
	3.19				
#5	2.76	2.76	86		1994.82
	2.33				
	11.98				
	10.91	10.91	214	2005.73	
	9.84				
	2.22				
#6	1.59	1.59	126		2004.14
	0.96				

STA	3 WIRE	MN	STADIA DIST.	HI	ELEV.
					2004.14
	11.51				
	10.77	10.77	147	2014.91	
	10.04				
	3.10				
#7	2.34	2.34	152		2012.57
	1.58				
	10.33				
	9.50	9.50	166	2022.07	
	8.67				
	3.40				
#8	3.01	3.01	77		2019.06
	2.63				

STA	3 WIRE	MN	STADIA DIST	HI	ELEV.
					2019.00
	14.44				
	14.11	14.11	65	2033.17	
	13.79				
	2.22				
9	1.90	1.90	65		2031.27
	1.57				
	13.43				
	12.64	12.64	158	2043.91	
	11.85				
	2.89				
10	2.50	2.50	77		2041.41
	2.12				

STA.	3 WIRE	MN	STADIA DIST	HI	25 ELEV.
					2041.41
	11.81				
	10.79	10.79	203	2052.20	
	9.78				
	3.55				
#11	3.22	3.22	66		2048.98
	2.89				
	10.58				
	9.84	9.84	148	2058.82	
	9.10				
	2.07				
#12	1.30	1.30	155		2057.52
	0.52				

STA	3 WIRE	MN	STADIA DIST.	HI	ELEV.
					2057.52
	14.18				
	13.09	13.09	218	2070.61	
	12.00				
	2.88				
#13	1.86	1.86	204		2068.75
	0.84				
	15.83				
	14.13	14.13	341	2082.88	
	12.42				
	2.50				
#14	1.55	1.55	190		2081.33
	0.60				

STA	3 WIRE	MN	STADIA DIST.	HI	26 ELEV.
					2081.33
	15.58				
	13.64	13.64	389	2094.97	
	11.69				
	2.49				
#15	1.57	1.57	185		2093.40
	0.64				
	14.48				
	12.84	12.84	328	2106.24	
	11.20				
	1.98				
#16	1.10	1.10	177		2105.14
	0.21				

STA	3 WIRE	MN	STADIA DIST.	HI	ELEV.
					2105.14
	10.94				
	10.12	10.12	165	2115.26	
	9.29				
	2.03				
#17	1.16	1.16	173		2114.10
	0.30				
	15.33				
	13.44	13.44	377	2127.54	
	11.56				
	2.23				
#18	1.46	1.46	159		2126.08
	0.64				

STA	3 WIRE	MN	STADIA DIST.	HI	27 ELEV.
					2126.08
	12.29				
	11.10	11.10	241	2137.18	
	9.88				
	2.31				
#19	1.38	1.38	186		2135.80
	0.45				
	15.51				
	13.69	13.69	363	2149.49	
	11.88				
	2.58				
#20	1.76	1.76	164		2147.73
	0.94				

STA	3 WIRE	MN	STADIA DIST	HI	ELEV.	STA	3 WIRE	MN	STADIA DIST	HI	29 ELEV
					2197.53					2221.50	
	10.99						12.94				
	9.82	9.82	233	2207.35		#26	11.71	11.71	247		2209.79
	8.66						10.47				
	4.44						14.80				
#25	4.22	4.22	43		2203.13		12.80	12.80	401	2222.59	
	4.01						10.79				
	18.66						2.26				
	18.37	18.37	58	2221.50		#27	1.40	1.40			2221.19
	18.08						0.55				
	4.51		1.9 mi.				11.20				
S.S. ERM 208	4.44	4.44	14		2217.06		10.13	10.13	213	2231.32	
	4.37						9.07				

STA	3 WIRE	MN	STADIA DIST.	HI	ELEV.	STA	3 WIRE	MN	STADIA DIST.	HI	31 ELEV.
				2286.70							2275.10
	5.53		2.4 mi.				10.22				
ERM #209	5.33	5.33	40		2281.37		9.21	9.21	201	2289.31	
	5.13						8.21				
	40										
	20.80						2.73				
#32	19.15	1915	331		2267.55	#34	2.11	2.11	124		2282.20
	17.49						1.49				
	9.84						13.48				
	8.86	8.86	196	2276.41			12.17	12.17	263	2294.37	
	7.88						10.85				
	2.19						2.77				
#33	1.31	1.31	175		2275.10	#35	2.12	2.12	130		2292.25
	0.44						1.47				

STA	3 WIRE	MN	STADIA DIST.	HI	ELEV.
					2292.25
	26.65				
E	24.87	24.87	356	2317.12	
	23.09				
	5.05		2.7 mi.		
ERM #210	5.00	5.00	9'		2312.12
	4.96				

AL. CAP FLUSH RIGHT SIDE WASH, 10' ± ABOVE WASH 2.7 MI. UP WASH "K" FROM ROUTE 93. STAMPED M.C.F.C.D. ERM 210 ELEV. 2312.12 L.S. 22282 1993.

SEE PAGE 31 ERM 209
AL. CAP FLUSH RIGHT SIDE WASH 11' ± ABOVE WASH "K", 200' ± NORTH OF DIRT ROAD CROSSING WASH, 2.4 mi. UP WASH "K" FROM ROUTE 93, STAMPED M.C.F.C.D. ERM 209 ELEV. 2281.37, L.S. 22282 1993.

SEE PAGE 29 ERM 208
AL. CAP FLUSH RIGHT SIDE WASH 12' ± ABOVE WASH, 1.9 mi. UP WASH "K" FROM ROUTE 93, STAMPED M.C.F.C.D. ERM 208, ELEV. 2217.06 L.S. 22282 1993.

MONARCH WASH "D"

STA	3 WIRE	MN	STADIA DIST.	HI	ELEV.
PANEL #10					2195.11
	4.65				
	4.21	4.21	89	2199.32	
	3.76				
	19.97				
#1	19.60	19.60	74		2179.72
	19.23				
	0.64				
	0.54	0.54	20'	2180.26	
	0.44				
	22.19				
#2	21.91	21.91	58'		2158.35
	21.61				

STA	3 WIRE	MN	STADIA DIST.	HI	ELEV.
	0.66				
	0.60	0.60	11'	2158.95	
	0.55				
	21.72				
#3	21.50	21.50	46'		2137.45
	21.26				
	1.27				
	1.23	1.23	7'	2138.68	
	1.20				
	15.24				
#4	12.95	12.95	459		2125.73
	10.65				

STA	3 WIRE	MN	STADIA DIST.	HI	ELEV.	STA.	3 WIRE	MN	STADIA DIST.	HI	34 ELEV.
					2125.73						2148.71
	13.61						13.34				
	12.28	12.28	265	2138.01			11.67	11.67	334	2160.38	
	10.96						10.00				
	2.70						2.52				
#5	1.60	1.60	220		2136.41	#7	1.74	1.74	156		2158.64
	0.50						0.96				
	14.87						12.53				
	13.36	13.36	303	2149.77			11.08	11.08	290	2169.72	
	11.84						9.63				
	1.88						2.06				
#6	1.06	1.06	163		2148.71	#8	1.30	1.30	151		2168.42
	0.25						0.55				

STA	3 WIRE	MN	STADIA DIST.	HI	ELEV.
					2168.42
	19.41				
	17.95	17.95	293	2186.37	
	16.48				
	2.56				
#9	1.73	1.73	166		2184.64
	0.90				
	11.78				
	10.88	10.88	181	2195.52	
	9.97				
	1.57				
#10	0.87	0.87	140		2194.65
	0.17				

STA	3 WIRE	MN	STADIA DIST.	HI	35 ELEV.
					2194.65
	19.45				
	17.47	17.47	394	2212.12	
	15.48				
	3.18				
#11	2.49	2.49	139		2209.63
	1.79				
	13.37				
	12.11	12.11	252	2221.74	
	10.85				
	2.03				
#12	1.26	1.26	153		2220.48
	0.50				

STA	3 WIRE	MN	STADIA DIST.	HI	ELEV.	STA	3 WIRE	MN	STADIA DIST	HI	36 ELEV.
					2220.48						2244.90
	16.60						11.69				
	14.74	14.74	372	2235.22			10.80	10.80	179	2255.70	
	12.88						9.90				
	2.15						2.82				
#13	1.32	1.32	167		2233.90	#15	2.18	2.18	129		2253.52
	0.48						1.53				
	14.77						17.36				
	13.33	13.33	287	2247.23			16.83	16.83	106	2270.35	
	11.90						16.30				
	3.00						1.91				
#14	2.33	2.33	133		2244.90	ERM 211	1.78	1.78	26		2268.57
	1.67						1.65				

AL. CAP FLUSH LEFT SID OF WASH, 18'± ABOVE WASH "D", 3.0 mi. N.E. OF ROUTE 93, STAMPED M.C.F.C.D., ERM211 ELEV. 2268.57, L.S. 22282, 1993.

STA	3 WIRE	MN	STADIA DIST.	HI	ELEV.
#15					2253.52
	12.31				
	11.14	11.14	234	2264.66	
	9.97				
	1.79				
#16	0.96	0.96	1.66		2263.70
	0.13				
	13.67				
	12.38	12.38	259	2276.08	
	11.08				
	2.01				
#17	1.22	1.22	159		2274.86
	0.42				

STA.	3 WIRE	MN	STADIA DIST.	HI	37 ELEV.
					2274.86
	15.98				
	14.40	14.40	316	2289.26	
	12.82				
	2.20				
#18	1.27	1.27	185		2287.99
	0.35				
	13.34				
	11.99	11.99	271	2299.98	
	10.63				
	1.84				
#19	1.06	1.06	157		2298.82
	0.27				

STA	3 WIRE	MN	STADIA DIST	HI	ELEV.
					2298.92
	14.55				
	13.08	13.08	294	2312.00	
	11.61				
	1.89				
#20	1.13	1.13	152		2310.87
	0.37				
	13.61				
	12.36	12.36	250	2323.23	
	11.11				
	1.87				
#21	1.12	1.12	150		2322.11
	0.37				

STA	3 WIRE	MN	STADIA DIST	HI	38 ELEV.
					2322.11
	14.96				
	13.53	13.53	286	2335.64	
	12.10				
#22	1.81				
	0.95	0.95	171		2334.69
	0.10				
	15.02				
	13.45	13.45	314	2348.14	
	11.88				
	1.98				
#23	1.06	1.06	183		2347.08
	0.15				

STA	3 WIRE	MN	STADIA DIST.	HI	ELEV.
					2347.08
	21.18				
	19.36	19.36	362	2366.44	
	17.56				
	2.92				
#24	2.74	2.74	35		2363.70
	2.57				
	9.31				
	9.20	9.20	22	2372.90	
	9.09				
	3.34				
ERM 212	3.29	3.29	11		2369.61
	3.23				

ERM 212

AL. CAP 0.4 ABOVE GROUND RIGHT SIDE NOIB IN CENTER OF WASH 12' ± ABOVE WASH "D", 3.7 mi. N.E. OF ROUTE 93. STAMPED M.C.F.C.D. ERM 212, ELEV. 2369.61, L.S. 22282 1993.

ERM 217 OX WASH

STA	+	HI	−	ELEV.	
BP #11	3.82	1958.97		1955.15	
[illegible]			7.46	1951.51	
	7.61	1959.12			
CP #11			3.97	1955.15	FLAT

TRIG BM ℄ MEDIAN @ OX WASH
RT 93

π @ ERM 217 BS TRIG BM
ELEV @ BM 1951.51 TAR HT = 4.24
π HT = 5.27

VERT ∡
D 90-38-12
R 269-21-40
MN VERT 90-38-20
SD 4980.87 VERT HT -55.54
ELEV ERM 217 2006.02

SET AL CAP FLUSH TOP OF KNOLL
RIGHT SIDE OF WASH UP LEFT WASH
AT INTERSECTION OF WASH 44' ± ABOVE
WASH .9 MI NE OF RT 93. STAMPED
M.C.F.C.D., ERM 217, EL 2006.02,
L.S. 22282, 1993

WASH "H"

STA	3 WIRE	MN	STADIA DIST.	HI	ELEV.
BM 105	4.78				1893.71
	3.37	3.37	281	1897.08	
	1.97				
	2.50				
#1	1.48	148	205		1895.60
	0.45				
	11.50				
	10.12	10.12	277	1905.72	
	8.73				
#2	3.21				
	2.47	247	148		1903.25
	1.73				

STA	3 WIRE	MN	STADIA DIST.	HI	ELEV.
					1903.25
	9.71				
	8.88	8.88	166	1912.13	
	8.05				
	4.43				
#3	3.96	3.96	92		1908.17
	3.51				
	9.67				
	8.88	8.88	157	1917.05	
	8.10				
	3.79				
#4	3.14	314	129		1913.91
	2.50				

STA	3 WIRE	MN	STADIA DIST.	HI	ELEV.
					1913.91
	14.85				
	13.53	13.53	264	1927.44	
	12.21				
	5.09				
#5	4.73	4.73	70		1922.71
	4.39				
	13.57				
	11.92	11.92	332	1934.63	
	10.25				
	3.36				
#6	2.81	2.81	109		1931.82
	2.27				

STA	3 WIRE	MN	STADIA DIST.	HI	42 ELEV.
					1931.82
	12.00				
	10.68	10.68	264	1942.50	
	9.36				
	3.36				
#7	2.62	2.62	149		1939.88
	1.87				
	9.88				
	9.05	9.05	166	1948.93	
	8.22				
	3.01				
#8	2.11	2.11	180		1946.82
	1.21				

STA	3 WIRE	MN	STADIA DIST.	HI	ELEV.
					1946.82
	15.21				
	13.62	13.62	318	1960.44	
	12.03				
	3.13				
#9	2.06	2.06	212	1958.38	
	1.01				
	12.37				
	10.50	10.50	374	1968.88	
	8.63				
	2.77				
#10	1.73	1.73	209		1967.15
	0.68				

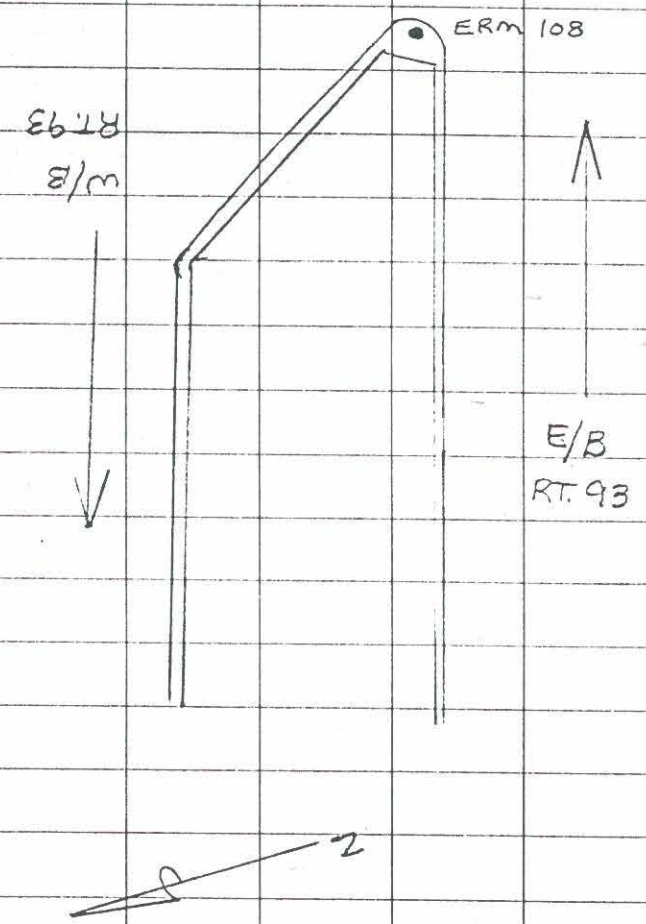
STA	3 WIRE	MN	STADIA DIST.	HI	43 ELEV.
					1967.15
	11.22				
	9.76	9.76	291	1976.91	
	8.31				
	3.36				
#11	2.26	2.26	220		1974.65
	1.16				
	11.71				
	10.24	10.24	294	1984.89	
	8.77				
	2.88				
#12	1.90	1.90	197		1982.99
	0.91				

STA	3 WIRE	MN	STADIA DIST.	HI	ELEV.	
					1982.99	
	10.42					
	9.37	9.37	211	1992.36		
	8.31					
	2.24					
#13	1.48	1.48	152		1990.88	
	0.72					
	24.02					
	23.05	23.05	193	2013.93		
	22.09					
	1.28					
Sm213	1.21	1.21	13'		2012.72	SET AL CAP FLUSH LEFT SIDE WASH
	1.15					ON SMALL RIDGE PROJECTING INTO
						WASH 12' ± ABOVE WASH 1.4 MI.
						NE OF RT 93

ERm 108 WASH "V"
OX WASH

	+	HI	-	ELEV		
CP # 11	5.99	1961.14		1955.15		
BRASS CAP			5.07	1956.07		
	5.24	1961.31				
				(m)	(R)	
			6.17	1955.14	1955.15	

AZ. HWY. DEPT. BRASS CAP SET FLUSH IN BULL NOSE OF MEDIAN, ELEV. 1956.41, STA. 1261+00 1965

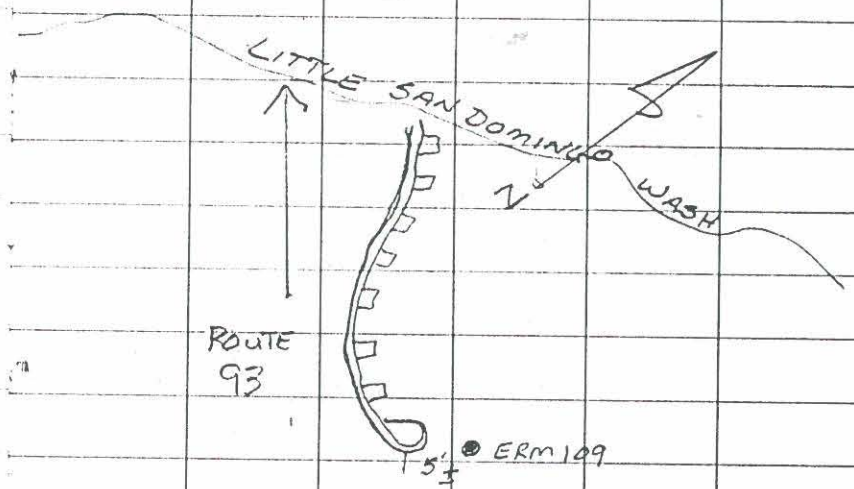


ERM 109 LITTLE SAN DOMINGO

	+	HI	−	ELEV.	
T.P. #5	6.49	1932.77		1976.28	
ERM 109			5.30	1977.47	
	5.41	1932.88			
			6.60	1976.28	FLAT

SEE PAGE # 47 VERT. BK. #2

SET IN CONC.
AL. CAP 0.2 ABOVE GROUND, BEHIND GUARD RAIL W/B ROUTE 93 0.5 mi. EAST ROUTE 74. M.C.F.C.D., ERM 109, ELEV. 1977.47, L.S. 22282 1993



ERM'S 214 & 216
SEE PG'S 64 & 66
VERT BK 2

T @ PANAL #20

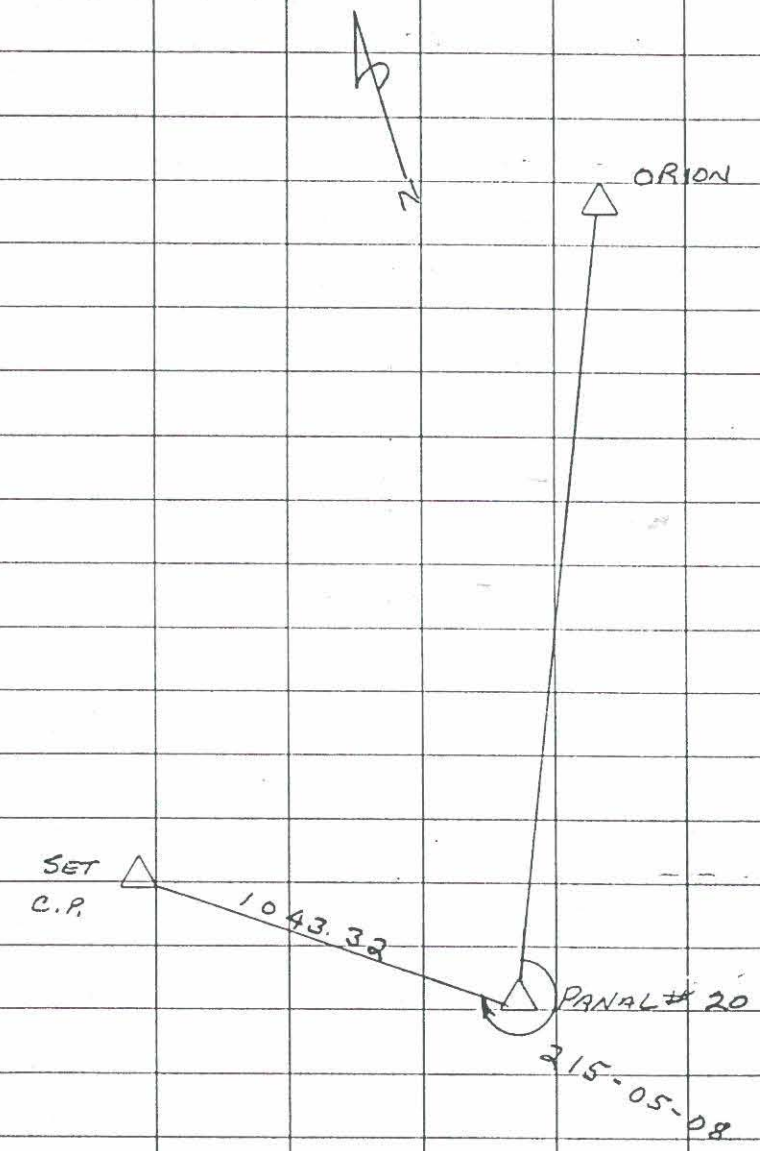
B.S. ORION

D 215-05-13

R 70-10-17

mN 215-05-08

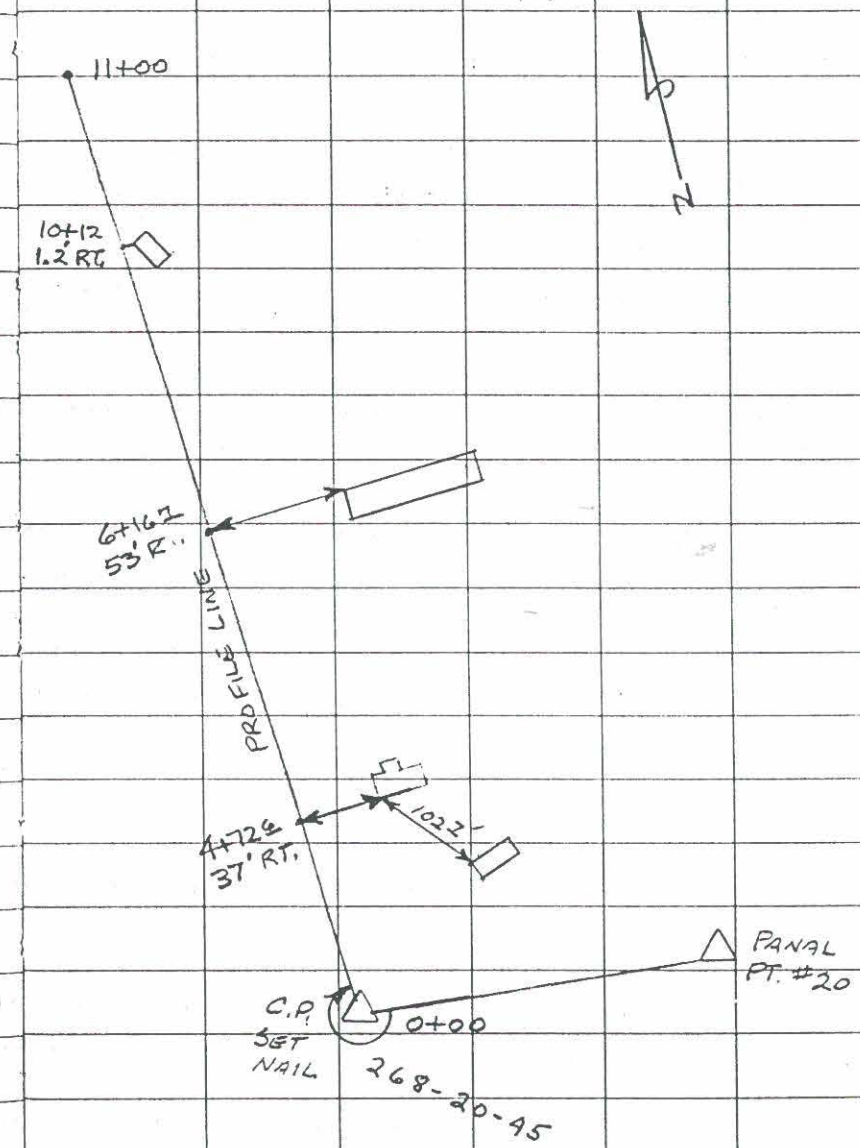
H.D. 1043.32



T @ C.P. #1

B.S. PANAL PT. #20

∢ RT 268-20-45



STA	+	HI	−	ELEV.		
B.M.	5.94	1883.41		1877.47	ERM 109	SEE PAGE #46 THIS BK.
TP #1			4.01	1879.40		
	4.52	1883.92				
TP #2			5.83	1878.09		
	6.36	1884.45				
C.P. #1			2.31	1882.14		
	2.16	1884.30				
			6.21	1878.09		
	6.05	1884.14				
			4.75	1879.39		
	3.71	1883.10				
B.M.			5.65	(M) 1877.45	(R) 1877.47	-0.2 CLOSURE

PROFILE'S

STA	+	HI	−	ELEV
CP#1 0+00	6.59	1888.73		1882.14
1+00			6.01	1882.72
2+00			5.68	1883.05
3+00			5.43	1883.30
4+00			3.61	1885.12
TP#1 5+00			5.07	1883.66
	6.56	1890.22		
6+00			6.61	1883.61
7+00			5.93	1884.29
8+00			2.62	1887.60

STA	+	HI	−	ELEV.	
T.P.#2 9+00			0.40	1889.82	
	7.98	1897.80			
10+00			4.81	1892.99	
G/B 10+80			4.59	1893.21	
11+00			7.63	1890.17	
TOP 11+34			12.61	1885.19	
			11.65	1886.15	
	4.27	1890.42			
✓ IN			8.29	(M) 1882.13	(R) 1882.14

SECTION D:

- COORDINATE LISTING OF PROJECT
- LISTING OF BENCHMARK ELEVATION ALONG STATE ROUTE 93

Program: SURVEY 3.03
Filename: WICK\CTR

Job: WICK. AREIAL
PHOTO CONTROL

By: JGS/CT

Point	Quad	Direction	Distance	Northing	Easting	Elevation
List						
101	CP-1			1083173.071	457933.486	2378.000
102	CP-2			1079862.401	459816.382	2273.030
103	CP-3			1089185.924	465395.129	2560.270
104	CP-4			1076738.325	459774.363	2163.520
105	CP-5			1071967.140	464544.984	2215.320
106	CP-6			1065604.415	468872.810	2107.070
107	CP-7			1062315.249	470978.082	2079.860
108	CP-8			1058031.559	473470.839	2053.650
109	CP-9			1049534.900	475435.132	2000.870
110	CP-10			1044620.022	480550.521	1965.740
111	CP-11			1048106.228	476866.004	1955.150
112	CP-12			1044442.981	485866.240	2047.620
113	CP-13			1043616.237	491218.695	2125.640
114	CP-14			1039519.857	481353.184	1935.590
115	CP-15			1036947.721	478119.270	1893.390
116	CP-16			1078249.573	471760.138	2420.370
117	CP-17			1053032.837	479210.150	2064.960
118	CP-18			1052860.725	478008.951	2042.280
119	CP-19			1054804.241	480205.420	0.000
120	CP-20			1067104.662	475262.131	2195.120
202	McLAIN PT			1085827.830	454107.660	2249.460
301	P-1			1090505.657	446612.357	2215.100
302	P-2			1092154.879	456163.918	2367.390
303	P-3			1090942.383	466809.475	2550.920
304	P-4			1085101.305	451230.244	2080.080
305	P-5			1081688.228	460189.194	2257.140
306	P-6			1080618.487	472911.194	2446.690
307	P-7			1076562.653	454330.238	2124.900
308	P-8			1071106.669	461399.142	1970.150
309	P-9			1070477.821	467064.194	2174.080
310	P-10			1067090.519	475254.844	2195.100
311	P-11			1064723.904	466226.218	1945.850
312	P-12			1063518.365	474236.864	2101.030

Additional ERM Descriptions and Elevations

March, 1993

ERM LOCATION AND ELEVATION

LOCATION	ERM NO.	ELEV.	DESCRIPTION
Wash "P"	200	2132.98	ERM located on south side of Wash approx. 870'± east of existing dirt road. Set 3-1/2" alum. cap on 5/8" bar driven firmly into the ground. Stamped MCFCD; ERM 200; Elev. 2132.98; LS 22282; 1993. (Vertical Datum Only)
Wash "C" Blue Tank Wash	201	2129.85	ERM located on south side of Wash approx. 2000'± east of Jack Burden Rd.. Set 3-1/2" alum. cap on 5/8" bar driven firmly into the ground. Stamped MCFCD; ERM 201; Elev. 2129.85; LS 22282; 1993. (Vertical Datum Only)
Wash "N"	101	2060.90	ERM located 3'± southwest of existing cattle guard at the intersection of Jack Burden Rd. and entrance to Remuda Ranch. Set 3-1/2" alum. cap on 5/8" bar set in concrete. Stamped MCFCD; ERM 101; Elev. 2060.90; LS 22282; 1993. (Vertical Datum Only)
Wash "AH" Powder House Wash	203	2218.36	ERM located 0.9 miles northeast along Powder House Wash from Constellation Rd. on south side of Wash 15'± above flow line on edge of ridge, just before wash daylights into open area. Set 3-1/2" alum. cap on 5/8" bar driven firmly and flush with the ground. Stamped MCFCD; ERM 203; Elev. 2218.36; L.S. 22282; 1993 (Vertical Datum Only)
Wash "AF"	102	2033.39	Found ADOT Brass Cap stamped Elev. 2033.41; Sta. 868+95.5; located top of headwall on east side of SR 93, approx. 0.5 miles south of Wickenburg.
Wash "B" Calamity Wash	118	2032.92	Found U.S. Dept of Agriculture Brass Cap set in concrete. No stampings located 60'± forth along centerline of SR 93 and 50'± northwest of northwest corner of Calamity Wash Bridge.
	204	2255.12	ERM located 1.7 miles northeast along Calamity Wash from the intersection of SR 93 and Calamity Wash south side of wash, east side of ridge, approx. 15'± above flow line. Set 3-1/2" alum. cap on 5/8" bar driven firmly and flush with the ground. Stamped MCFCD; ERM 204; Elev. 2255.12; LS 22282; 1993 (Vertical Datum Only)
Wash "O"	117	2019.63	Found ADOT Brass Cap, stamping not legible, located top of north headwall on east side of SR 93 approx. 0.6 miles northwest of mile post marker #113.
	205	2199.35	ERM located 1.5 miles northeast along wash from the intersection of SR 93 and wash, approx. 15'± above andsouth of flow line of wash on small ridge. Set 3-1/2" alum. cap on 5/8" bar driven firmly into the ground standing 0.50' above ground. Stamped MCFCD; ERM 205; Elev. 2199.35; LS 22282; 1993. (Vertical Datum Only)
Wash "E" Mockingbird Wash	103	1994.80	Found ADOT Brass Cap, stamping noT legible, located top of headwall on east side of SR 93, approx. 2.5 miles south of Wickenburg.
	206	2206.35	ERM located 1.7 Miles northeast of the Intersection SR 93 and Mockingbird Wash. 18'± above and north of the flow line of Mockingbird Wash. Set 3-1/2" alum. cap on 5/8" bar Driven firmly into the ground with 0.40' standing above ground. Stamped MCFCD; ERM 206; Elev. 2206.35; LS 22282; 1993. (Vertical Datum Only)
Wash "M"	116	1982.87	Found ADOT Brass Cap, no stamping. Located south headwall on west side of SR 93. 400'±west of Hassayampa River Preserve.
Wash "L"	115	1982.03	Found ADOT Brass Cap, stamped Elev. 1983.00; Sta. 1011+57.5, 1938. Located on top of north headwall east side of SR 93, 100'± northwest of mile post 114.
	207	2136.95	ERM located 0.6 miles northeast of the intersection of SR 93 and Wash, approx. 40'± above and south of the flow line of Wash. Set 3-1/2" alum. cap on 5/8" bar driven firmly into the ground and flush. Stamped MCFCD; ERM 207; Elev. 2136.95; LS 22282; 1993. (Vertical Datum Only)
Wash "K"	104	1954.29	Found ADOT Brass Cap, stamped Elev. 1954.47; Sta. 1027+53.81. Located top of headwall on east side SR 93, approx. 3.6 miles south of Wickenburg

LOCATION	ERM NO.	ELEV.	DESCRIPTION
Wash "V" Ox Wash	108	1956.07	Found ADOT Brass Cap, stamped Elev. 1956.41; Sta. 1261+00; 1965. Located in T/C east end of center median at east side of Ox Wash.
	217	2006.02	ERM located 0.9 miles northeast along Ox Wash from SR 93 on top of Knoll right side of Wash up left Wash at intersection of Wash, 44'± above Wash. Set 3-1/2" alum. cap on 5/8" bar driven firmly into ground and flush. Stamped MCFCD; ERM 217; Elev. 2206.02; LS 22282; 1993. (Vertical Datum Only)
Wash "S" Little San Domingo Wash	109	1977.47	ERM Located behind east end guard rail westbound SR 93 0.5 miles east of SR 74. Set 3-1/2" alum. cap on 5/8" bar in concrete 0.2' above ground. Stamped MCFCD; ERM 109; Elev. 1977.47; LS 22282; 1993. (Vertical Datum Only)
	110	2014.85	Found ADOT Brass Cap, stamped Elev. 2014.78; Sta. 66+00; 1964, located in center of headwall south side of SR 74, approx. 500'± west of intersection of SR 74 and Castle Hot Springs Rd.

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LOCATION	ERM NO.	ELEV.	DESCRIPTION
Wash "K" (cont.)	208	2217.06	ERM located 1.9 miles northeast of the intersection of SR 93 and Wash, approx. 12'± above and south of the flow line of Wash. Set 3-1/2" alum. cap on 5/8" bar driven firmly into the ground and flush. Stamped MCFCD; ERM 208; Elev. 2217.06; LS 22282; 1993. (Vertical Datum Only)
	209	2281.37	ERM located 2.4 miles northeast of the intersection of SR 93 and Wash, also 200'± north of dirt road crossing Wash, approx. 11'± above and south of the flow line of Wash. Set 3-1/2" alum. cap on 5/8" bar driven firmly into the ground and flush. Stamped MCFCD; ERM 209; Elev. 2281.37; LS 22282; 1993. (Vertical Datum Only)
	210	2312.12	ERM located 2.7 miles northeast of the intersection of SR 93 and Wash approx. 10'± above and south of the flow line. Set 3-1/2" alum. cap on 5/8" bar driven firmly into the ground and flush. Stamped MCFCD; ERM 210; Elev. 2312.12; LS 22282; 1993. (Vertical Datum Only)
Wash "J"	114	1930.85	Found ADOT Brass Cap, stamped Sta. 1062+30. Located top of north headwall on east side of SR 93, approx. 0.6 miles northwest of Monarch Wash Bridge.
Wash "I"	113	1929.85	Found ADOT Brass Cap, stamped Sta. 1070+08.06, located top of north headwall on east side of SR 93, approx. 0.4 miles northwest of Monarch Wash Bridge.
Wash "D"	112	1917.99	Found ADOT Brass Cap, no stamping, located southeast corner of Monarch Wash Bridge, top of barrier wall, along northwest bound, traffic side.
	211	2268.57	ERM located 3 miles northeast along Monarch Wash from SR 93 on left side of Wash 18'± above Wash. Set 3-1/2" alum. cap on 5/8" bar driven firmly into ground and flush. Stamped MCFCD; ERM 211; Elev. 2268.57; LS 22282; 1993. (Vertical Datum Only)
	212	2369.61	ERM located 3.7 miles along Monarch Wash northeast from SR 93 on right side of knob in middle of Wash 12'± above Wash. Set 3-1/2" alum. cap on 5/8" bar driven firmly into ground, 0.4' above ground. Stamped MCFCD; ERM 212; Elev. 2369.61; LS 22282; 1993. (Vertical Datum Only)
Wash "H"	105	1893.71	Found ADOT Brass Cap, stamped Elev. 1894.74; Sta. 1126+16.6 located top of headwall on east side of SR 93, approx. 3.9 miles north of the intersection of SR 93 and SR 74.
	213	2012.72	ERM located 1.4 miles northeast along Wash "H" from SR 93 on small ridge projecting into left side of Wash 12'± above Wash. Set 3-1/2" alum. cap on 5/8" bar driven firmly into ground and flush. Stamped MCFCD; ERM 213; Elev. 2012.72; LS 22282; 1993. (Vertical Datum Only)
Wash "G"	106	1879.31	Found ADOT Brass Cap, stamped elev. 1879.62; Sta. 1144.76.7, located top of headwall on west side of SR 93, approx. 3.6 miles north of the intersection of SR 93 and SR 74.
Wash "F"	111	1864.12	Found ADOT Brass Cap, no stampings. Located in center of headwall on east side of SR 93, approx. 0.6 miles northwest of San Domingo Wash Bridge.
Wash "T" San Domingo Wash	107	1891.13	Found ADOT Brass Cap, stamped Elev. 1891.44; Sta. 1216+83.9 located at the northeast corner of San Domingo Wash Bridge, approx. 2.2 miles north of the intersection SR 93 and SR 74.
	214	1952.70	ERM located 1.2 miles northeast along San Domingo Wash from SR 93 on right side of Wash and 14'± above wash. Set 3-1/2" alum. cap on 5/8" bar driven firmly into ground and set in concrete. Stamped MCFCD; ERM 214; Elev. 1952.70; LS 22282; 1993. (Vertical Datum Only)
	216	2022.84	ERM located 2.1 miles northeast along San Domingo Wash from SR 93, right side of Wash on ridge 10'± above Wash. Set 3-1/2" alum. cap on 5/8" bar driven firmly into ground and 0.2' above ground. Stamped MCFCD; ERM 216; Elev. 2022.84; LS 22282; 1993. (Vertical Datum Only)

WICKENBURG AREA DRAINAGE MASTER STUDY - EAST AREA

APPROXIMATE COORDINATE LOCATIONS OF ADDITIONAL ERM'S ESTABLISHED IN MARCH, 1993

ERM #	Wash & Sheet		Northing	Easting	Elevation
200	P-1	6	1090960	451824	2132.98
201	C-1	7	1089039	454001	2129.85
101	N-1	8	1085590	453418	2060.90
203	AA-2	10	1087798	458816	2218.36
102	AF-1	12	1079994	456333	2033.39
118	B-1	13	1079923	457546	2032.92
204	B-2	14	1084880	463427	2255.12
117	O-1	16	1074808	459961	2019.63
205	O-2	17	1079601	463490	2199.35
103	E-1	18	1072300	461858	1994.80
206	E-2	19	1076440	467529	2206.35
116	M-1	20	1069317	464269	1982.87
115	L-1	21	1068814	464782	1982.03
207	L-1	21	1071622	466861	2136.95
104	K-1	23	1067466	465642	1954.29
208	K-2	24	1073545	470641	2217.06
209	K-3	25	1075950	471746	2281.37
210	K-5	27	1077098	472712	2312.12
114	J-1	28	1064597	476556	1930.85
113	I-1	29	1063970	468052	1929.85
112	D-1	31	1062223	469489	1917.99
211	D-3	33	1069841	478360	2268.57
212	D-3	33	1072338	481406	2369.61
105	H-1	35	1058921	470203	1893.71
213	H-1	35	1060603	473926	2012.72
106	G-1	37	1057361	470789	1879.31
111	F-1	38	1053658	472223	1864.12
107	T-1	40	1051012	473665	1891.13
214	T-2	41	1054205	478342	1952.70
216	T-2	41	1058185	480138	2022.84
108	V-1	43	1048132	476812	1956.07
217	V-1	43	1051355	480509	2006.02
109	S-3	47	1040570	484496	1977.47
110	S-4	48	1042051	487796	2014.85

SECTION E:

- ERM REFERENCE DIAGRAM SHEETS
- ERM DESCRIPTIONS
- GENERAL LOCATION MAPS OF ERM POINTS

COUNTRY	TYPE OF MARK	STATION	
USA	3" ALUMINUM CAP	ERM-1PE	
LOCALITY	STAMPING ON MARK	AGENCY (CAST IN MARKS)	ELEVATION (FT) ~~(M)~~
WICKENBURG	ERM-1PE	MCFC	2215.100
LATITUDE	LONGITUDE	DATUM	DATUM
			MSL 1929
(NORTHING)(EASTING) (FT) (M)	(EASTING)(NORTHING) (FT) (M)	GRID AND ZONE	ESTABLISHED BY (AGENCY)
1090505.657	446612.357	GRID, AZ CENTRAL	MM/CSSA
(NORTHING)(EASTING) (FT) (M)	(EASTING)(NORTHING) (FT) (M)	GRID AND ZONE	DATE / ORDER
			1/91 / 2ND

TO OBTAIN GRID AZIMUTH, ADD ° ' " TO THE GEODETIC AZIMUTH

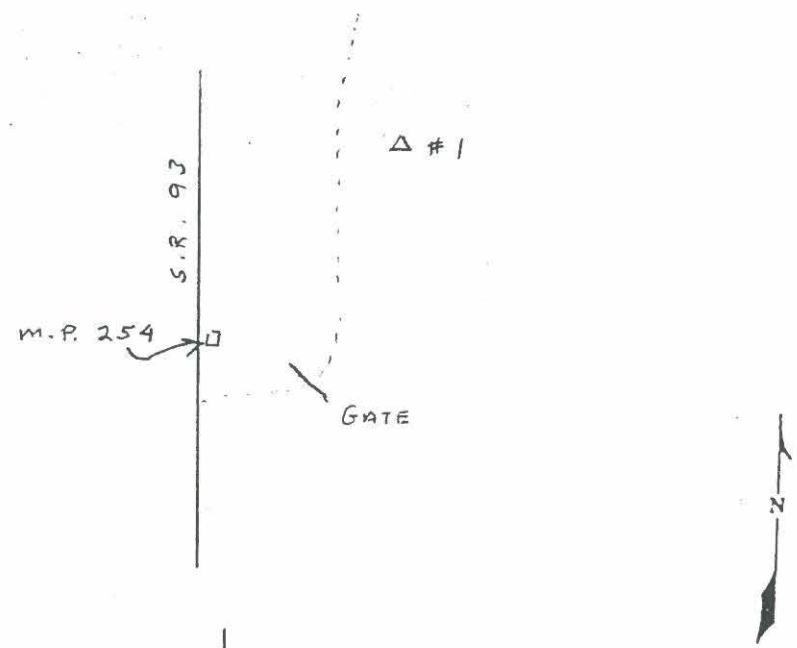
TO OBTAIN GRID AZ. (ADD)(SUB.) ° ' " TO THE GEODETIC AZIMUTH

OBJECT	AZIMUTH OR DIRECTION (GEODETIC)(GRID) (MAGNETIC)	BACK AZIMUTH	GEOD. DISTANCE (METERS) (FEET)	GRID DISTANCE (METERS) (FEET)
	° ' "	° ' "		

P.P. #1 IS A 3" ALUM CAP FLUSH WITH GROUND 600'± EAST OF S.R. 93, 500'± ALONG DIRT RD WITH ENTRANCE SIGN G.D.L.E. THEN 100' EAST OF DIRT RD.

POINT CAN BE SEEN FROM ALL DIRECTIONS

POINT IS 2± MI. FROM DOWNTOWN WICKENBURG



SKETCH

DA FORM 1 OCT 64 1959 REPLACES DA FORMS 1959 AND 1960, 1 FEB 57, WHICH ARE OBSOLETE.

DESCRIPTION OR RECOVERY OF HORIZONTAL CONTROL STATION
For use of this form, see TM 5-237; the proponent agency is TRADOC.

COUNTRY	TYPE OF MARK	STATION	
U.S.A	3" ALUMINUM CAP	ERM-2PE	
LOCALITY: WICKENBURG	STAMPING ON MARK: ERM-2PE	AGENCY (CAST IN MARKS): MCFC	ELEVATION: 2367.39 (FT) (M)
LATITUDE	LONGITUDE	DATUM	DATUM: MSL 1929
(NORTHING)(EASTING) (FT) (M): 1092154.879	(EASTING)(NORTHING) (FT) (M): 456163.918	GRID AND ZONE: GRID, AZ. CENTRAL	ESTABLISHED BY (AGENCY): MM/CSSA
(NORTHING)(EASTING) (FT) (M)	(EASTING)(NORTHING) (FT) (M)	GRID AND ZONE	DATE: 1/91 ; ORDER: 2ND

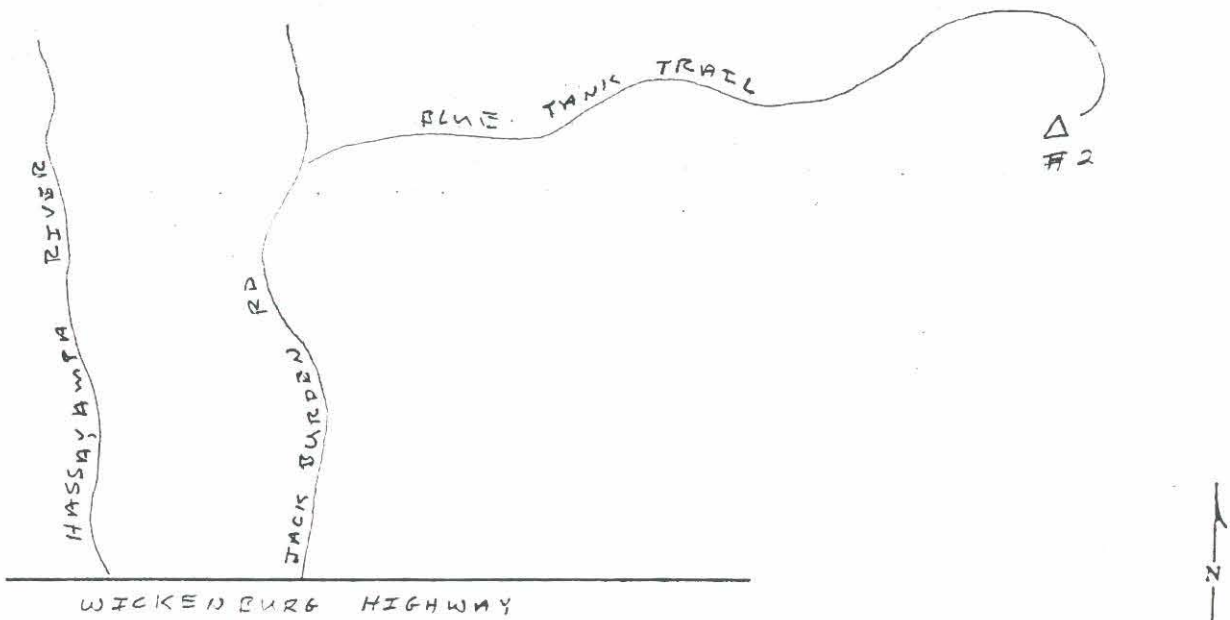
TO OBTAIN GRID AZIMUTH, ADD ° ' " TO THE GEODETIC AZIMUTH

TO OBTAIN GRID AZ. (ADD)(SUB.) ° ' " TO THE GEODETIC AZIMUTH

OBJECT	AZIMUTH OR DIRECTION (GEODETIC)(GRID) (MAGNETIC)	BACK AZIMUTH	GEOD. DISTANCE (METERS) (FEET)	GRID DISTANCE (METERS) (FEET)
	° ' "	° ' "		

P.P. #2 IS A 3" ALUM CAP .4 ABOVE GROUND ON GRADED PAD & CAN BE SEEN FROM ALL DIRECTIONS EXCEPT NORTH

FROM WICKENBURG HIGHWAY 1.3 MI. ALONG JACK BURDEN RD THEN RT ON BLUE TANK TRAIL 1.2 MI. TO END OF TRAIL. FORKS IN TRAIL MARKED WITH YELLOW FLAGGING.



SKETCH

DA FORM 1 OCT 64 1959 REPLACES DA FORMS 1959 AND 1960, 1 FEB 57, WHICH ARE OBSOLETE.

DESCRIPTION OR RECOVERY OF HORIZONTAL CONTROL STATION
For use of this form, see TM 5-237; the proponent agency is TRADOC.

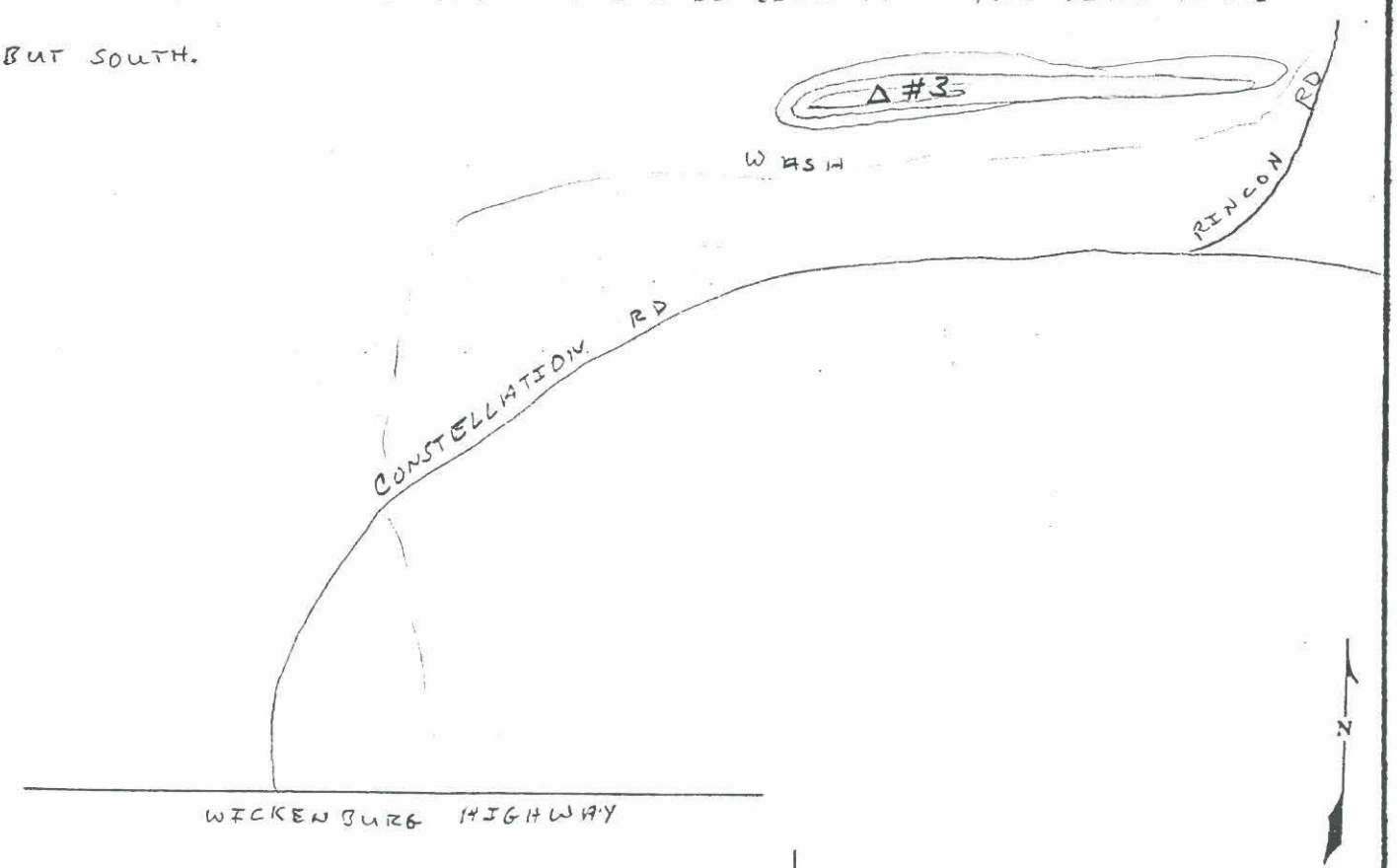
COUNTRY	TYPE OF MARK	STATION	
U.S.A.	3" ALUMINUM CAP	ERM-3PE	
LOCALITY: WICKENBURG	STAMPING ON MARK: ERM-3PE	AGENCY (CAST IN MARKS): MCFC	ELEVATION: 2550.92 (FT) (M)
LATITUDE	LONGITUDE	DATUM	DATUM: MSL 1929
(NORTHING)(EASTING) (FT) (M): 1090942.333	(EASTING)(NORTHING) (FT) (M): 466309.475	GRID AND ZONE: GRID, AZ. CENTRAL	ESTABLISHED BY (AGENCY): MM/CSSA
(NORTHING)(EASTING) (FT) (M)	(EASTING)(NORTHING) (FT) (M)	GRID AND ZONE	DATE: 1/91 ORDER: 2ND

TO OBTAIN GRID AZIMUTH, ADD ° ' " TO THE GEODETIC AZIMUTH

TO OBTAIN GRID AZ. (ADD)(SUB.) ° ' " TO THE GEODETIC AZIMUTH

OBJECT	AZIMUTH OR DIRECTION (GEODETIC)(GRID)(MAGNETIC)	BACK AZIMUTH	GEOD. DISTANCE (METERS) (FEET)	GRID DISTANCE (METERS) (FEET)
	° ' "	° ' "		

P.P. #3 IS A 3" ALUM CAP .4 ABOVE GROUND. FROM WICKENBURG HIGHWAY 2.5 MI ALONG CONSTELLATION RD. THEN LEFT ON RINCON RANCH RD 1000'± POINT IS 1000'± WEST OF RINCON RANCH RD ON TOP OF RIDGE. POINT CAN BE SEEN FROM ALL DIRECTIONS BUT SOUTH.



SKETCH

DA FORM 1 OCT 64 1959 REPLACES DA FORMS 1958 AND 1960, 1 FEB 57, WHICH ARE OBSOLETE.

DESCRIPTION OR RECOVERY OF HORIZONTAL CONTROL STATION

For use of this form, see TM 5-237; the proponent agency is TRADOC.

COUNTRY	TYPE OF MARK	STATION	
U.S.A.	3" ALUMINUM CAP	ERM-4PE	
LOCALITY: WICKENBURG	STAMPING ON MARK: ERM-4PE	AGENCY (CAST IN MARKS): MCFC	ELEVATION: 2080.08 (FT) (M)
LATITUDE	LONGITUDE	DATUM	DATUM: MSL 1929
(NORTHING)(EASTING) (FT) (M): 085101.305	(EASTING)(NORTHING) (FT) (M): 451230.244	GRID AND ZONE: GRID, AZ. CENTRAL	ESTABLISHED BY (AGENCY): MM/CESA
(NORTHING)(EASTING) (FT) (M)	(EASTING)(NORTHING) (FT) (M)	GRID AND ZONE	DATE: 1/91 ; ORDER: 2ND

TO OBTAIN GRID AZIMUTH, ADD ° ' " TO THE GEODETIC AZIMUTH

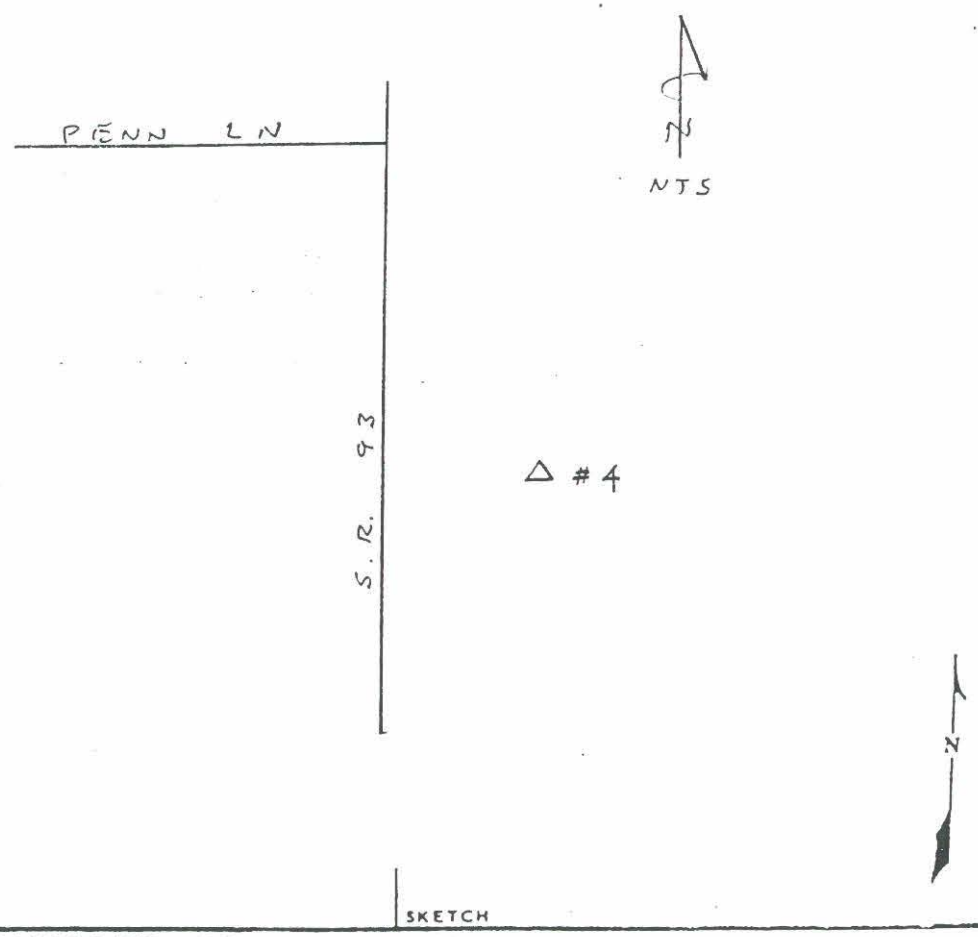
TO OBTAIN GRID AZ. (ADD)(SUB.) ° ' " TO THE GEODETIC AZIMUTH

OBJECT	AZIMUTH OR DIRECTION (GEODETIC)(GRID) (MAGNETIC) ° ' "	BACK AZIMUTH ° ' "	GEOD. DISTANCE (METERS) (FEET)	GRID DISTANCE (METERS) (FEET)

P.P. #4 IS A 3" ALUM CAP .10 ABOVE GROUND. POINT IS LOCATED 75'± EAST OF S.R. 93 & 250'± SOUTH OF PENN. LN..

POINT IS EASY TO BE SEEN FROM ALL DIRECTIONS.

POINT IS .75± MI N.W. FROM DOWNTOWN WICKENBURG, AZ.



SKETCH

DA FORM 1 OCT 44 1959 REPLACES DA FORMS 1959 AND 1960, 1 FEB 57, WHICH ARE OBSOLETE.

DESCRIPTION OR RECOVERY OF HORIZONTAL CONTROL STATION

* For use of this form, see TM 5-237; the proponent agency is TRADOC.

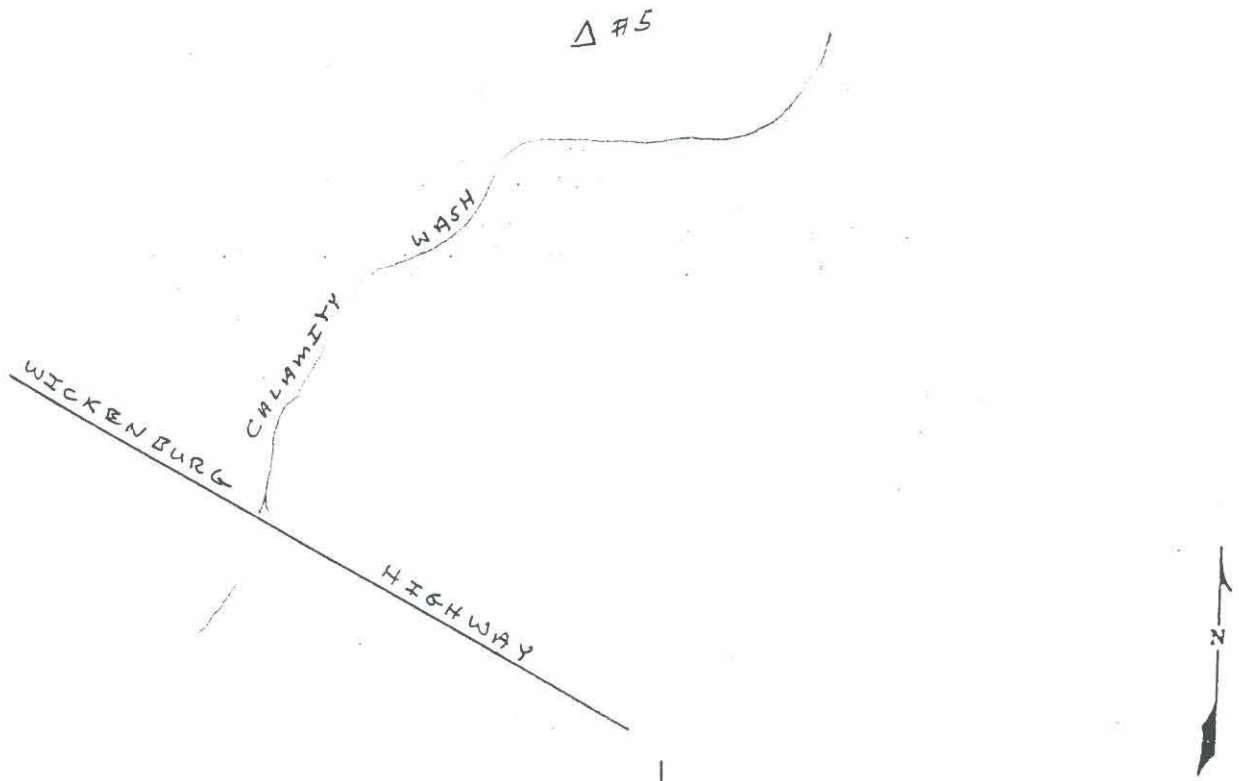
COUNTRY	TYPE OF MARK	STATION	
U.S.A.	3" ALUMINUM CAP	ERM-SPE	
LOCALITY: WICKENBURG	STAMPING ON MARK: ERM-SPE	AGENCY (CAST IN MARKS): NCFC	ELEVATION: 2257.14 (FT) (M)
LATITUDE	LONGITUDE	DATUM	DATUM: MSL 1929
(NORTHING)(EASTING) (FT) (M): 231633.223	(EASTING)(NORTHING) (FT) (M): 460139.194	GRID AND ZONE: 4203, AZ. CENTRAL	ESTABLISHED BY (AGENCY): MM/USSA
(NORTHING)(EASTING) (FT) (M)	(EASTING)(NORTHING) (FT) (M)	GRID AND ZONE	DATE: 1/91 ; ORDER: 2ND

TO OBTAIN GRID AZIMUTH, ADD ° ' " TO THE GEODETIC AZIMUTH

TO OBTAIN GRID AZ. (ADD)(SUB.) ° ' " TO THE GEODETIC AZIMUTH

OBJECT	AZIMUTH OR DIRECTION (GEODETIC)(GRID) (MAGNETIC)	BACK AZIMUTH	GEOD. DISTANCE (METERS) (FEET)	GRID DISTANCE (METERS) (FEET)
	° ' "	° ' "		

P.P. #5 IS 3" ALUM CAP .10 ABOVE GROUND. FROM WICKENBURG HIGHWAY .7± MI UP CALAMITY WASH. POINT IS ON RIDGE ON NORTH SIDE OF WASH. POINT CAN BE SEEN FROM ALL DIRECTIONS



SKETCH

DA FORM 1 OCT 64 1959 REPLACES DA FORMS 1959 AND 1960, 1 FEB 57, WHICH ARE OBSOLETE.

DESCRIPTION OR RECOVERY OF HORIZONTAL CONTROL STATION

For use of this form, see TM 5-237; the proponent agency is TRADOC.

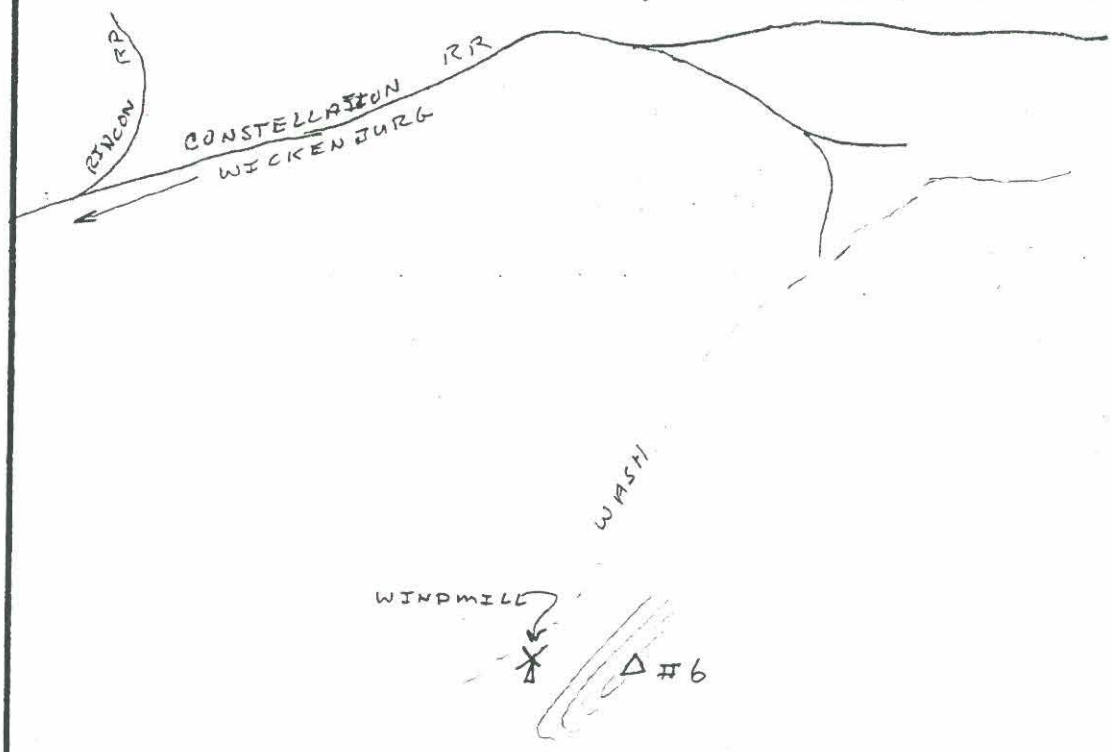
COUNTRY	TYPE OF MARK	STATION	
U.S.A.	3" ALUMINUM CAP	ERM - 6PE	
LOCALITY: WICKENBURG	STAMPING ON MARK: ERM-6PE	AGENCY (CAST IN MARKS): MCFC	ELEVATION: 2446.69 (FT) (M)
LATITUDE	LONGITUDE	DATUM	DATUM: MSL 1929
(NORTHING)(EASTING) (FT) 1080613.437 (M)	(EASTING)(NORTHING) (FT) 422911.194 (M)	GRID AND ZONE: GRID, AZ. CENTRAL	ESTABLISHED BY (AGENCY): YMA/CESA
(NORTHING)(EASTING) (FT) (M)	(EASTING)(NORTHING) (FT) (M)	GRID AND ZONE	DATE: 1/91 ORDER: 2ND

TO OBTAIN GRID AZIMUTH, ADD ° ' " TO THE GEODETIC AZIMUTH

TO OBTAIN GRID AZ. (ADD)(SUB.) ° ' " TO THE GEODETIC AZIMUTH

OBJECT	AZIMUTH OR DIRECTION (GEODETIC)(GRID) (MAGNETIC)	BACK AZIMUTH	GEOD. DISTANCE (METERS) (FEET)	GRID DISTANCE (METERS) (FEET)
	° ' "	° ' "		

P.P. #6 IS 3" ALUM CAP .4 ABOVE GROUND. FROM INTER. CONSTELLATION RD & RINCON RANCH RD 1 MI ALONG CONSTELLATION RD, THEN SE ALONG DIRT RD ½ MI. TO FORK. TAKE RT. FORK GO THROUGH GATE & SOUTH TO WASH. FOLLOW WASH S.W, 1.5 MI ± TO WINDMILL. P.P. #6 IS ON RIDGE 500' ± EAST OF WINDMILL. POINT CAN BE SEEN FROM ALL DIRECTIONS.



SKETCH

DA FORM 1 OCT 64 1959 REPLACES DA FORMS 1959 AND 1960, 1 FEB 57, WHICH ARE OBSOLETE.

DESCRIPTION OR RECOVERY OF HORIZONTAL CONTROL STATION
For use of this form, see TM 5-237; the proponent agency is TRADOC.

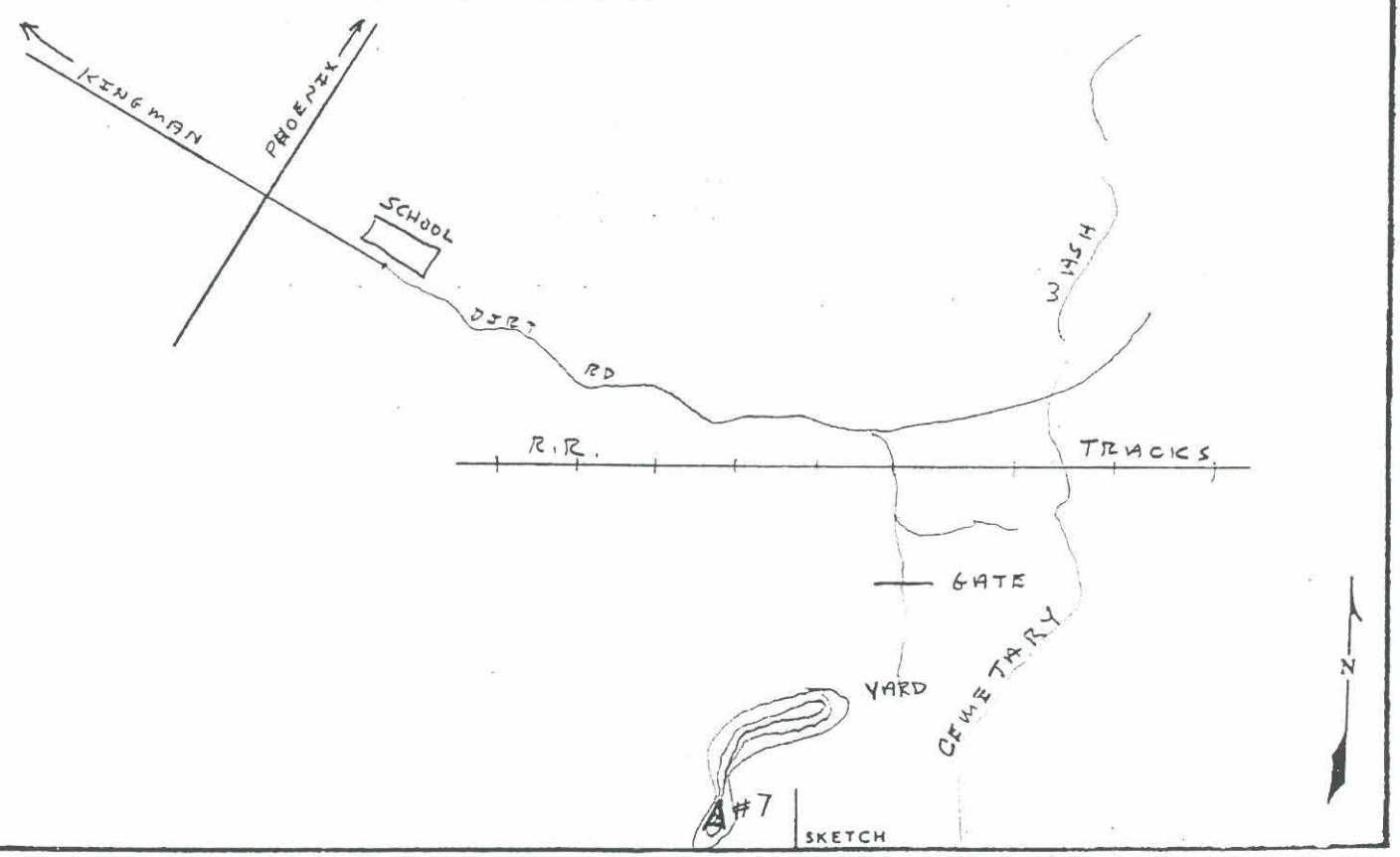
COUNTRY	TYPE OF MARK	STATION	
U.S.A.	3" ALUMINUM CAP	ERM-7PE	
LOCALITY: WICKENBURG	STAMPING ON MARK: ERM-7PE	AGENCY (CAST IN MARKS): MLFC	ELEVATION: 2124.90 (FT) (M)
LATITUDE	LONGITUDE	DATUM	DATUM: NGSL 1929
(NORTHING)(EASTING) (FT) 1076562.653 (M)	(EASTING)(NORTHING) (FT) 454330.238 (M)	GRID AND ZONE: GRID, AZ. CENTRAL	ESTABLISHED BY (AGENCY): MMLCSEA
(NORTHING)(EASTING) (FT) (M)	(EASTING)(NORTHING) (FT) (M)	GRID AND ZONE	DATE: 1/91 ; ORDER: 2ND

TO OBTAIN GRID AZIMUTH, ADD ° ' " TO THE GEODETIC AZIMUTH

TO OBTAIN GRID AZ. (ADD)(SUB.) ° ' " TO THE GEODETIC AZIMUTH

OBJECT	AZIMUTH OR DIRECTION (GEODETIC)(GRID) (MAGNETIC)	BACK AZIMUTH	GEOD. DISTANCE (METERS) (FEET)	GRID DISTANCE (METERS) (FEET)
	° ' "	° ' "		

P.P. #7 IS 3" ALUM CAP .35 ABOVE GROUND. FROM TRAFFIC LIGHT IN WICKENBURG SOUTH PAST HIGHSCHOOL .7 MI TO CROSSING OVER R.R. TRACKS. FOLLOW RD OVER TRACKS & THROUGH GATE & TO END OF RD @ A STORAGE YARD. FOLLOW RIDGE BEHIND YARD 600'± TO POINT. POINT CAN BE SEEN FROM ALL DIRECTIONS



SKETCH

DA FORM 1 OCT 64 1959 REPLACES DA FORMS 1959 AND 1960, 1 FEB 57, WHICH ARE OBSOLETE.

DESCRIPTION OR RECOVERY OF HORIZONTAL CONTROL STATION

For use of this form, see TM 5-237; the proponent agency is TRADOC.

COUNTRY	TYPE OF MARK	STATION	
U.S.A	3" ALUMINUM CAP	ERM-8PE	
LOCALITY: WICKENBURG	STAMPING ON MARK: ERM-8PE	AGENCY (CAST IN MARKS): MCFC	ELEVATION: 1970.15 (FT) (M)
LATITUDE	LONGITUDE	DATUM	DATUM: MSL 1929
(NORTHING)(EASTING) (FT) (M): 107106.669	(EASTING)(NORTHING) (FT) (M): 461399.142	GRID AND ZONE: GRID, AZ. CENTRAL	ESTABLISHED BY (AGENCY): MM / CSSA
(NORTHING)(EASTING) (FT) (M)	(EASTING)(NORTHING) (FT) (M)	GRID AND ZONE	DATE: 1/91 ; ORDER: 2ND

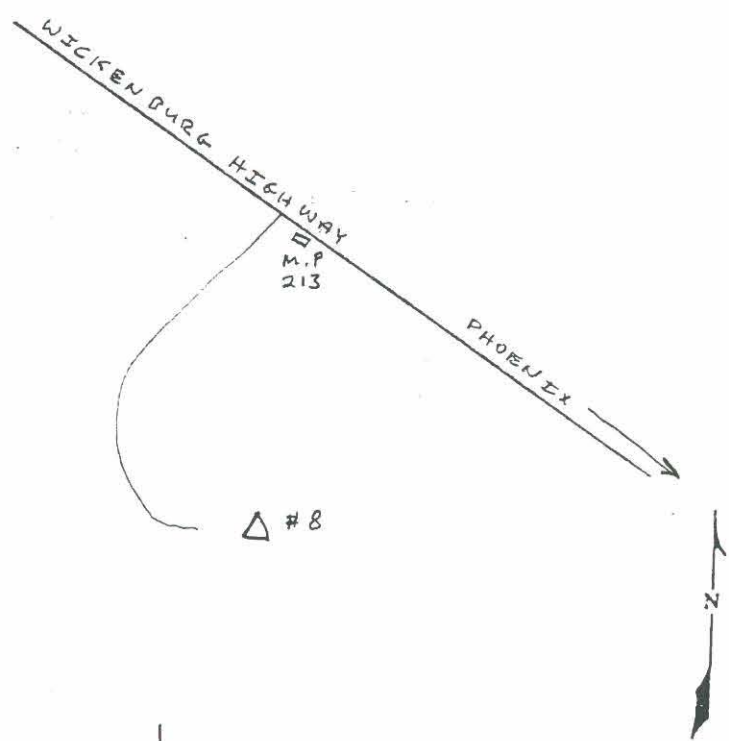
TO OBTAIN GRID AZIMUTH, ADD ° ' " TO THE GEODETIC AZIMUTH

TO OBTAIN GRID AZ. (ADD)(SUB.) ° ' " TO THE GEODETIC AZIMUTH

OBJECT	AZIMUTH OR DIRECTION (GEODETIC)(GRID) (MAGNETIC)	BACK AZIMUTH	GEOD. DISTANCE (METERS) (FEET)	GRID DISTANCE (METERS) (FEET)
	° ' "	° ' "		

FROM E.B. WICKENBURG HIGHWAY AT M.P. 213 RIGHT .3 MI, ALONG DIRT RD TO END.

POINT IS ALUM CAP .2 ABOVE GROUND IN FIELD BY TWO LARGE STEEL DRUMS. POINT CAN BE SEEN ONLY FROM THE NORTH.



SKETCH

DA FORM 1 OCT 64 1959 REPLACES DA FORMS 1958 AND 1960, 1 FEB 57, WHICH ARE OBSOLETE.

DESCRIPTION OR RECOVERY OF HORIZONTAL CONTROL STATION

For use of this form, see TM 5-237; the proponent agency is TRADOC.

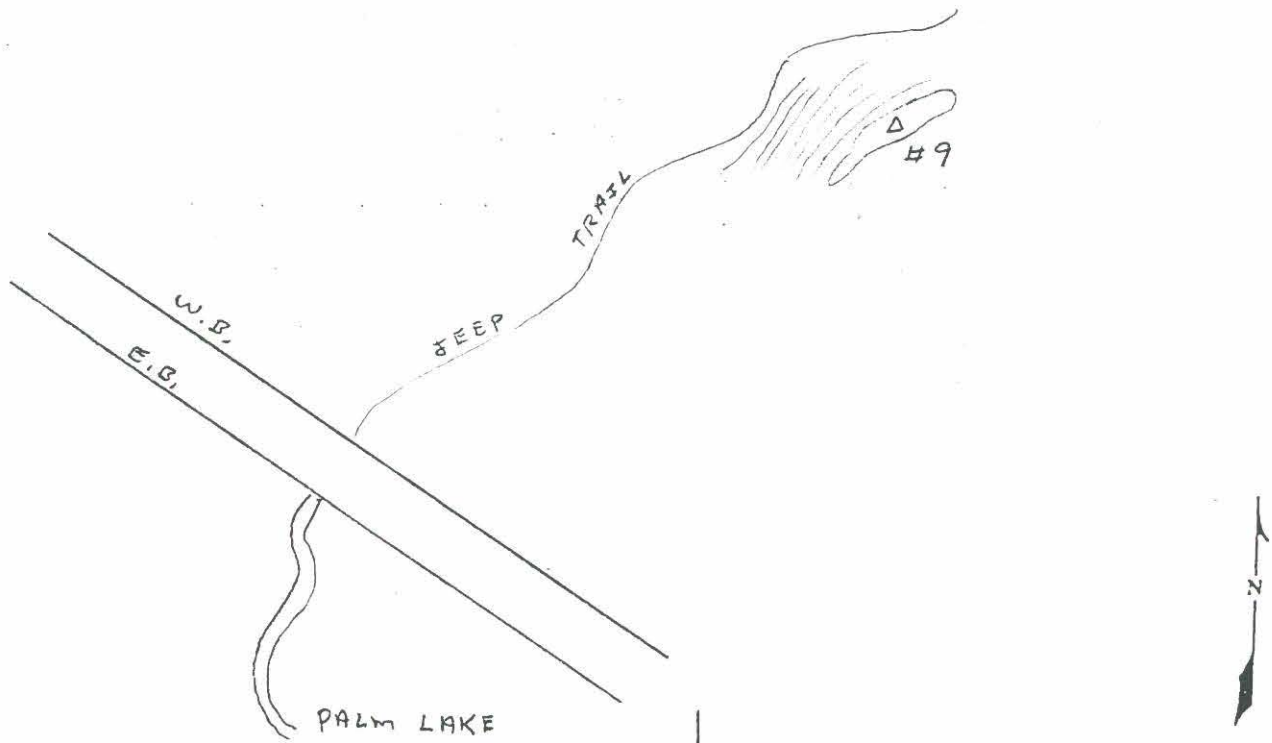
COUNTRY	TYPE OF MARK	STATION	
U.S.A	3" ALUMINUM CAP	ERM-9PE	
LOCALITY: WICKENBURG	STAMPING ON MARK: ERM-9PE	AGENCY (CAST IN MARKS): MCFC	ELEVATION: 2174.03 (FT) (M)
LATITUDE	LONGITUDE	DATUM	DATUM: MSL 1929
(NORTHING)(EASTING) (FT) (M): 107-0477.821	(EASTING)(NORTHING) (FT) (M): 467064.194	GRID AND ZONE: GRID, AZ. CENTRAL	ESTABLISHED BY (AGENCY): MM/CSSA
(NORTHING)(EASTING) (FT) (M)	(EASTING)(NORTHING) (FT) (M)	GRID AND ZONE	DATE: 1/91 ; ORDER: 2ND

TO OBTAIN GRID AZIMUTH, ADD ° ' " TO THE GEODETIC AZIMUTH

TO OBTAIN GRID AZ. (ADD)(SUB.) ° ' " TO THE GEODETIC AZIMUTH

OBJECT	AZIMUTH OR DIRECTION (GEODETIC)(GRID) (MAGNETIC)	BACK AZIMUTH	GEOD. DISTANCE (METERS) (FEET)	GRID DISTANCE (METERS) (FEET)
	° ' "	° ' "		

P.P. #9 IS 3" ALUM CAP .2 ABOVE GROUND. FROM MP 212 W.B. WICKENBURG HIGHWAY N.E. ON JEEP TRAIL .9 MI. POINT IS ON RIDGE EAST SIDE OF TRAIL



SKETCH

DA FORM 1 OCT 64 1959 REPLACES DA FORMS 1959 AND 1960, 1 FEB 57, WHICH ARE OBSOLETE.

DESCRIPTION OR RECOVERY OF HORIZONTAL CONTROL STATION

For use of this form, see TM 5-237; the proponent agency is TRADOC.

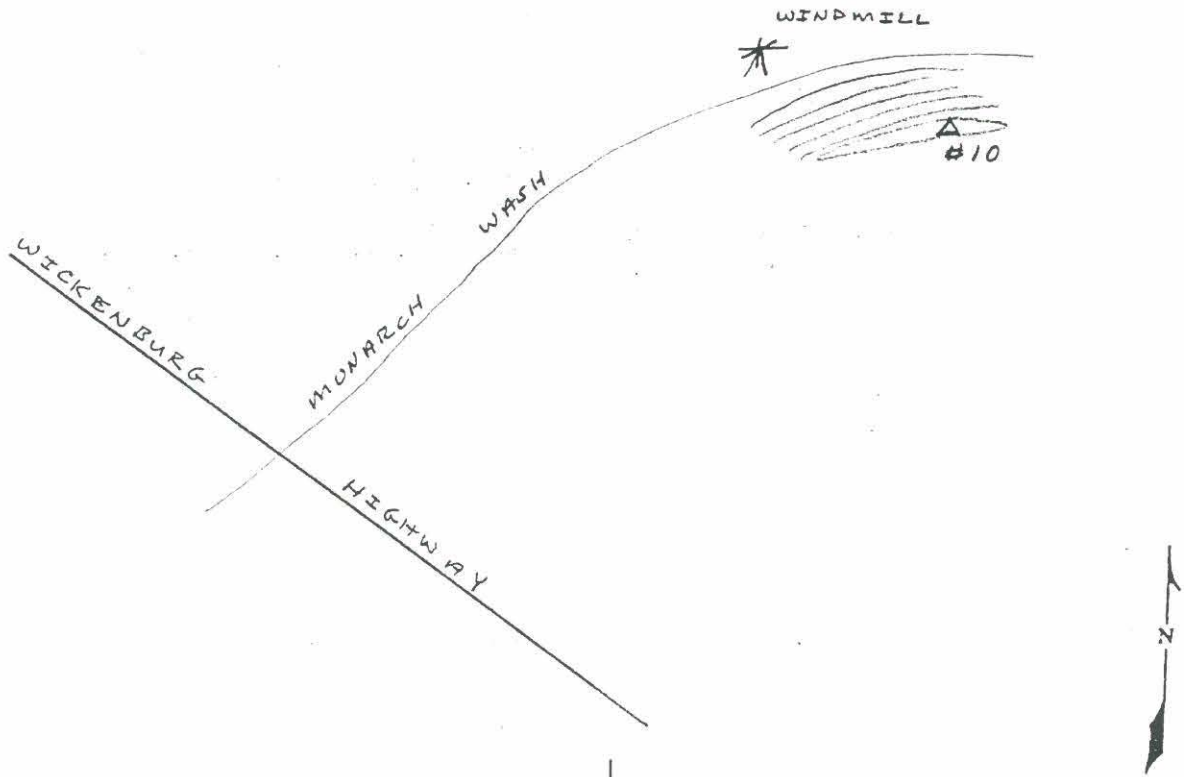
COUNTRY	TYPE OF MARK	STATION	
U.S.A	3" ALUMINUM CAP	ERM-10 PE	
LOCALITY: WICKENBURG	STAMPING ON MARK: ERM-10PE	AGENCY (CAST IN MARKS): MCFC	ELEVATION: 2195.10 (FT) (M)
LATITUDE	LONGITUDE	DATUM	DATUM: MSL 1929
(NORTHING)(EASTING) (FT) (M): 067090.519	(EASTING)(NORTHING) (FT) (M): 475254.344	GRID AND ZONE: GRID, AZ. CENTRAL	ESTABLISHED BY (AGENCY): MM/CESA
(NORTHING)(EASTING) (FT) (M)	(EASTING)(NORTHING) (FT) (M)	GRID AND ZONE	DATE: 1/91 ; ORDER: 2ND

TO OBTAIN GRID AZIMUTH, ADD ° ' " TO THE GEODETIC AZIMUTH

TO OBTAIN GRID AZ. (ADD)(SUB.) ° ' " TO THE GEODETIC AZIMUTH

OBJECT	AZIMUTH OR DIRECTION (GEODETIC)(GRID) (MAGNETIC)	BACK AZIMUTH	GEOD. DISTANCE (METERS) (FEET)	GRID DISTANCE (METERS) (FEET)
	° ' "	° ' "		

P.P. # 10 IS ALUM CAP .10 ABOVE GROUND. FROM WICKENBURG HIGHWAY 2 MI ± NE UP MONARCH WASH TO WELL WITH WINDMILL. POINT IS ON RIDGE JUST SOUTH OF WINDMILL. POINT CAN BE SEEN IN ALL DIRECTIONS EXCEPT S.W. ALONG THE RIDGE



SKETCH

DA FORM 1 OCT 64 1959 REPLACES DA FORMS 1959 AND 1960, 1 FEB 57, WHICH ARE OBSOLETE.

DESCRIPTION OR RECOVERY OF HORIZONTAL CONTROL STATION

For use of this form, see TM 5-237; the proponent agency is TRADOC.

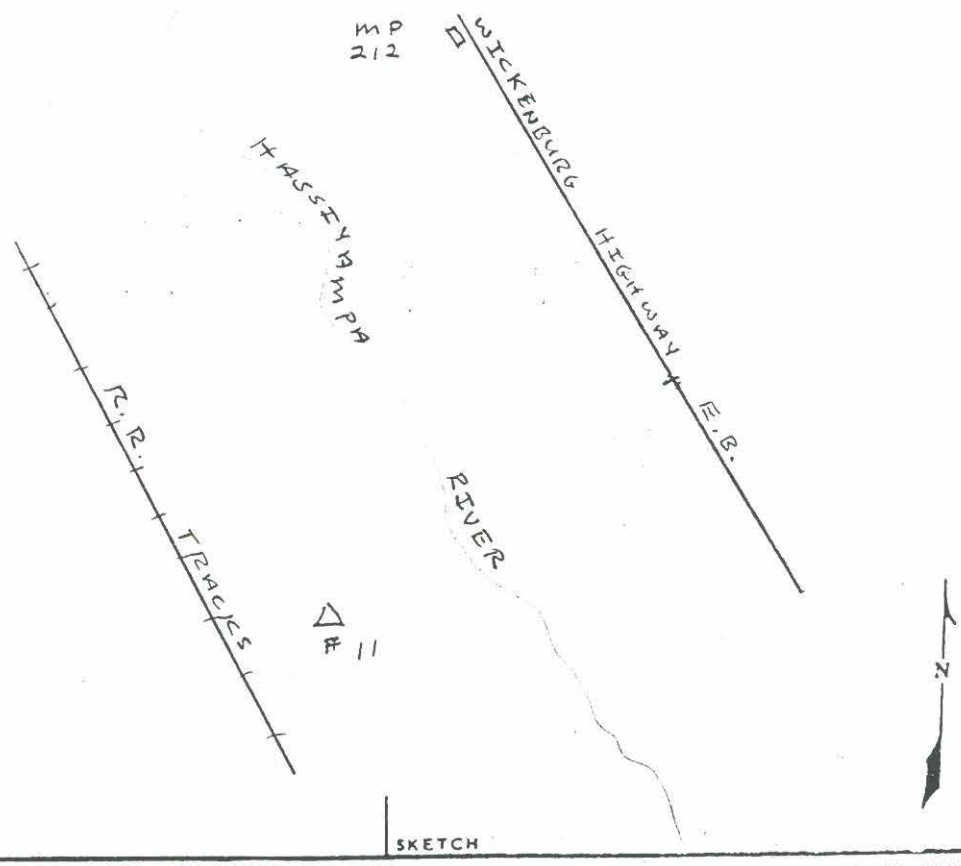
COUNTRY	TYPE OF MARK	STATION	
U.S.A.	3" ALUMINUM CAP	ERM-11 PE	
LOCALITY: WICKENBURG	STAMPING ON MARK: ERM-11PE	AGENCY (CAST IN MARKS): WCFC	ELEVATION (FT) (M): 1945.85
LATITUDE	LONGITUDE	DATUM	DATUM: MSL 1929
(NORTHING)(EASTING) (FT) (M): 1064723.904	(EASTING)(NORTHING) (FT) (M): 466226.218	GRID AND ZONE: GRID, AZ. CENTRAL	ESTABLISHED BY (AGENCY): WM/CSSA
(NORTHING)(EASTING) (FT) (M)	(EASTING)(NORTHING) (FT) (M)	GRID AND ZONE	DATE: 1/91 ; ORDER: 2ND

TO OBTAIN GRID AZIMUTH, ADD ° ' " TO THE GEODETIC AZIMUTH

TO OBTAIN GRID AZ. (ADD)(SUB.) ° ' " TO THE GEODETIC AZIMUTH

OBJECT	AZIMUTH OR DIRECTION (GEODETIC)(GRID) (MAGNETIC)	BACK AZIMUTH	GEOD. DISTANCE (METERS) (FEET)	GRID DISTANCE (METERS) (FEET)
	° ' "	° ' "		

P.P #11 IS 3" ALUM CAP. 2 ABOVE GROUND. FROM MP 212 ON WICKENBURG HIGHWAY E.B. .75 MI. EAST. THEN ON FOOT ACROSS HASSIYAMPA RIVER BED 700'± TO POINT WHICH IS ON A FLAT CLEARED AREA EAST SIDE OF TRACKS



DA FORM 1 OCT 64 1959 REPLACES DA FORMS 1959 AND 1960, 1 FEB 57, WHICH ARE OBSOLETE.

DESCRIPTION OR RECOVERY OF HORIZONTAL CONTROL STATION

For use of this form, see TM 5-237; the proponent agency is TRADOC.

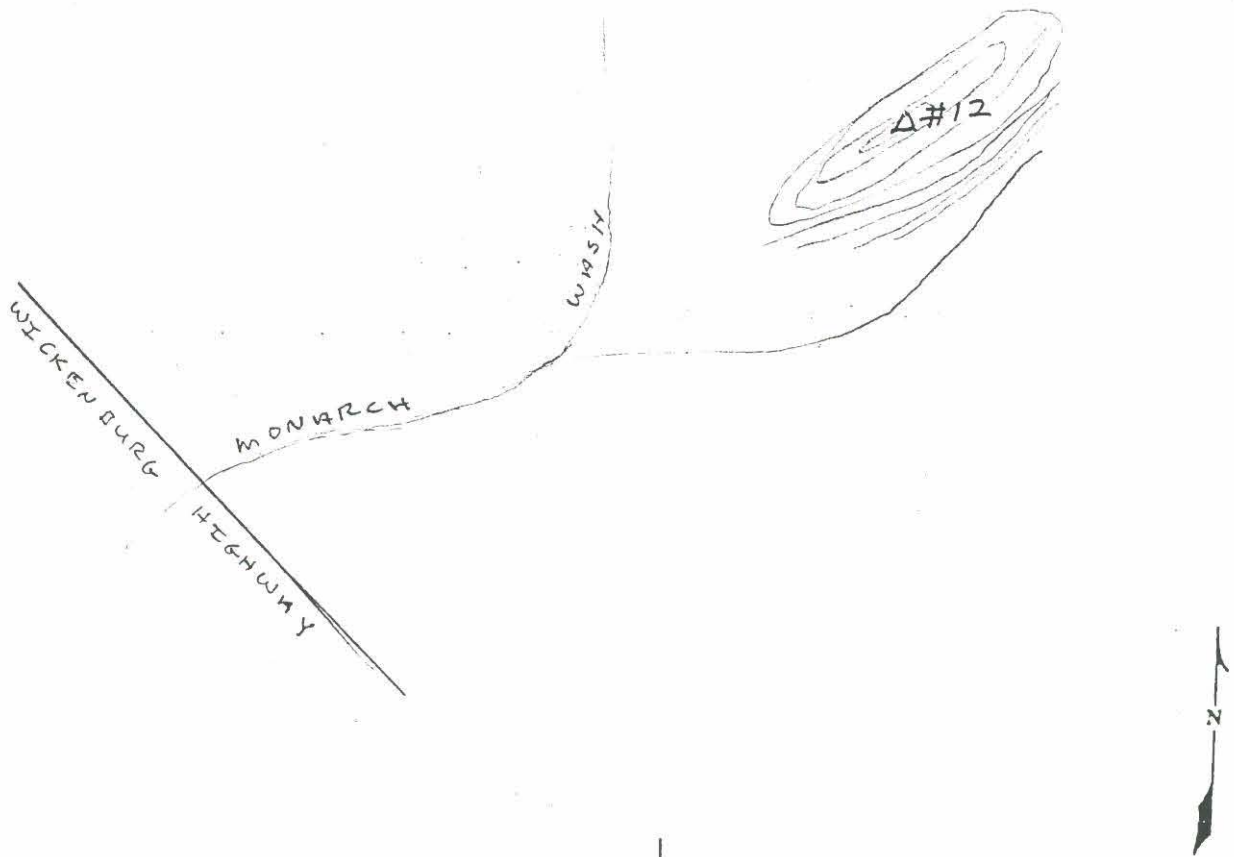
COUNTRY	TYPE OF MARK	STATION	
U.S.A	3" ALUMINUM CAP	ERM-12PE	
LOCALITY: WICKENBURG	STAMPING ON MARK: ERM-12PE	AGENCY (CAST IN MARKS): MCFC	ELEVATION: 2101.03 (FT) (M)
LATITUDE	LONGITUDE	DATUM	DATUM: MSL 1929
(NORTHING)(EASTING) (FT) (M): 063518.365	(EASTING)(NORTHING) (FT) (M): 474236.364	GRID AND ZONE: GRID, AZ. CENTRAL	ESTABLISHED BY (AGENCY): MM / CSSA
(NORTHING)(EASTING) (FT) (M)	(EASTING)(NORTHING) (FT) (M)	GRID AND ZONE	DATE: 1/91 ; ORDER: 2ND

TO OBTAIN GRID AZIMUTH, ADD ° ' " TO THE GEODETIC AZIMUTH

TO OBTAIN GRID AZ. (ADD)(SUB.) ° ' " TO THE GEODETIC AZIMUTH

OBJECT	AZIMUTH OR DIRECTION (GEODETIC)(GRID) (MAGNETIC)	BACK AZIMUTH	GEOD. DISTANCE (METERS) (FEET)	GRID DISTANCE (METERS) (FEET)
	° ' "	° ' "		

P.P.-12 IS 3" ALUM CAP .25 ABOVE GROUND. FROM WICKENBURG HIGHWAY N.E UP MONARCH WASH .5 MI. TO FORK IN WASH. FOLLOW RT FORK .5 MI. POINT IS ON RIDGE LEFT OF WASH & CAN BE SEEN FROM ALL DIRECTIONS.



SKETCH

DA FORM 1 OCT 64 1959 REPLACES DA FORMS 1959 AND 1960, 1 FEB 57, WHICH ARE OBSOLETE.

DESCRIPTION OR RECOVERY OF HORIZONTAL CONTROL STATION

For use of this form, see TM 5-237; the proponent agency is TRADOC.

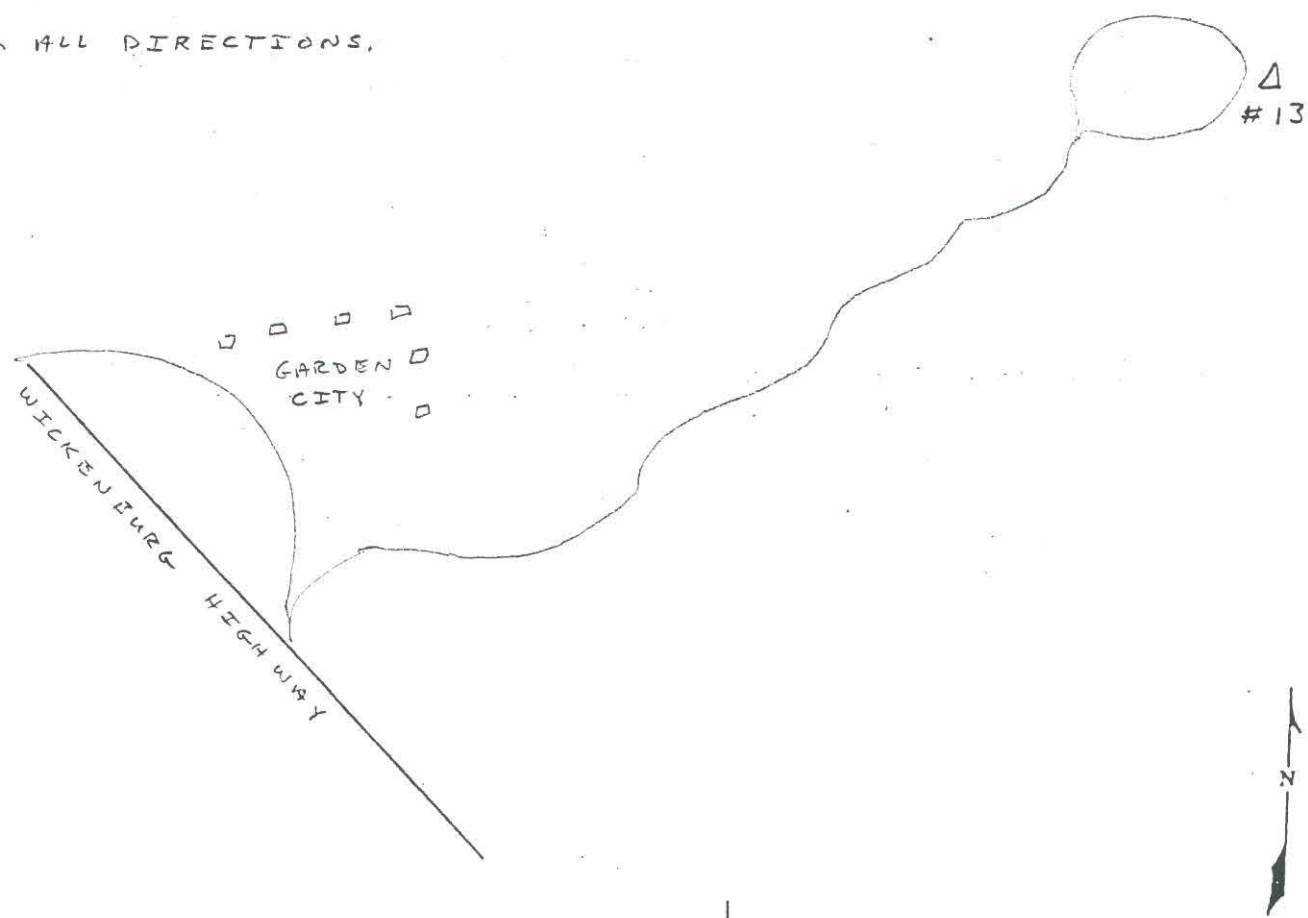
COUNTRY	TYPE OF MARK	STATION	
U.S.A.	3" ALUMINUM CAP	ERM-13PE	
LOCALITY: WICKENBURG	STAMPING ON MARK: ERM-13PE	AGENCY (CAST IN MARKS): MCFC	ELEVATION: 2270.59 (FT) (M)
LATITUDE	LONGITUDE	DATUM	DATUM: MSL 1929
(NORTHING)(EASTING) (FT) (M): 1060399.202	(EASTING)(NORTHING) (FT) (M): 454132.130	GRID AND ZONE: GRID, AZ. CENTRAL	ESTABLISHED BY (AGENCY): MM/CSSA
(NORTHING)(EASTING) (FT) (M)	(EASTING)(NORTHING) (FT) (M)	GRID AND ZONE	DATE: 1/91 ; ORDER: 2ND

TO OBTAIN GRID AZIMUTH, ADD ° ' " TO THE GEODETIC AZIMUTH

TO OBTAIN GRID AZ. (ADD)(SUB.) ° ' " TO THE GEODETIC AZIMUTH

OBJECT	AZIMUTH OR DIRECTION (GEODETIC)(GRID)(MAGNETIC)	BACK AZIMUTH	GEOD. DISTANCE (METERS) (FEET)	GRID DISTANCE (METERS) (FEET)
	° ' "	° ' "		

P.P. IS 3" ALUM CAP .3 ABOVE GROUND. FROM WICKENBURG HIGHWAY AT GARDEN CITY FOLLOW JEEP TRAIL 2.5 MI. ± TO CIRCLE IN ROAD BEAR RT AROUND CIRCLE. POINT IS AT 3:00 ON CIRCLE & CAN BE SEEN FROM ALL DIRECTIONS.



SKETCH

DA FORM 1 OCT 64 1959 REPLACES DA FORMS 1959 AND 1960, 1 FEB 57, WHICH ARE OBSOLETE.

DESCRIPTION OR RECOVERY OF HORIZONTAL CONTROL STATION

For use of this form, see TM 5-237; the proponent agency is TRADOC.

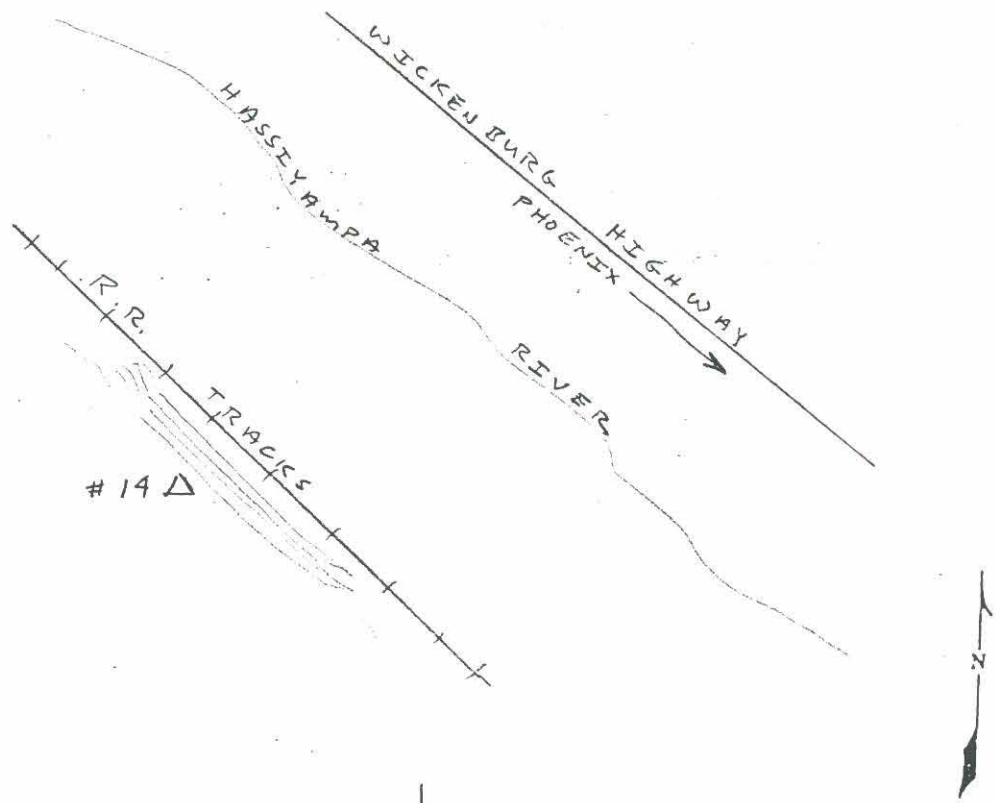
COUNTRY	TYPE OF MARK	STATION	
U.S.A.	3" ALUMINUM CAP	ERM-14PE	
LOCALITY: WICKENBURG	STAMPING ON MARK: ERM-14PE	AGENCY (CAST IN MARKS): MCFC	ELEVATION: 1915.36 (FT) ~~(M)~~
LATITUDE	LONGITUDE	DATUM	DATUM: MSL 1929
(NORTHING)(EASTING) (FT) ~~(M)~~: 1056123.610	(EASTING)(NORTHING) (FT) ~~(M)~~: 470118.537	GRID AND ZONE: GRID, AZ. CENTRAL	ESTABLISHED BY (AGENCY): YAM/CSSA
(NORTHING)(EASTING) (FT) (M)	(EASTING)(NORTHING) (FT) (M)	GRID AND ZONE	DATE: 1/91 ; ORDER: 2ND

TO OBTAIN GRID AZIMUTH, ADD ° ' " TO THE GEODETIC AZIMUTH

TO OBTAIN GRID AZ. (ADD)(SUB.) ° ' " TO THE GEODETIC AZIMUTH

OBJECT	AZIMUTH OR DIRECTION (GEODETIC)(GRID) (MAGNETIC)	BACK AZIMUTH	GEOD. DISTANCE (METERS) (FEET)	GRID DISTANCE (METERS) (FEET)
	° ' "	° ' "		

P.P. #14 IS 3" ALUM CAP. A ABOVE GROUND. FROM WICKENBURG HIGHWAY W.B. @ SAN DOMINGO WASH BRIDGE 1 MI N.W, THEN ON FOOT 1500'± ACROSS HASSIYAMPA RIVER BED & ACROSS R.R. TRACKS. POINT IS ON TOP OF CUT ON WEST SIDE OF TRACKS.



SKETCH

DA FORM 1 OCT 64 1959 REPLACES DA FORMS 1959 AND 1960, 1 FEB 57, WHICH ARE OBSOLETE.

DESCRIPTION OR RECOVERY OF HORIZONTAL CONTROL STATION

For use of this form, see TM 5-237; the proponent agency is TRADOC.

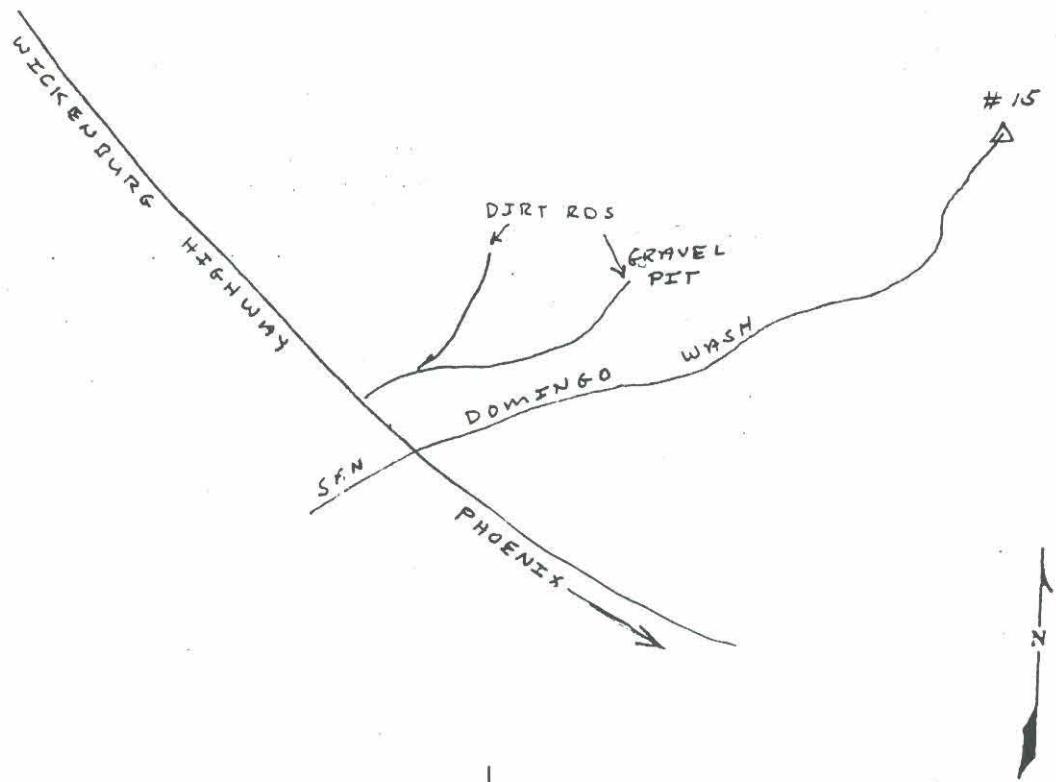
COUNTRY	TYPE OF MARK	STATION	
U.S.A.	3" ALUMINUM CAP	ERM-1SPE	
LOCALITY: WICKENBURG	STAMPING ON MARK: ERM-1SPE	AGENCY (CAST IN MARKS): MCFC	ELEVATION (FT) (M): 838.37
LATITUDE	LONGITUDE	DATUM	DATUM: MSL 1929
(NORTHING)(EASTING) (FT) (M): 1054570.315	(EASTING)(NORTHING) (FT) (M): 478214.229	GRID AND ZONE: GRID, AZ. CENTRAL	ESTABLISHED BY (AGENCY): MM/CSSA
(NORTHING)(EASTING) (FT) (M)	(EASTING)(NORTHING) (FT) (M)	GRID AND ZONE	DATE: 1/91 ; ORDER: 2ND

TO OBTAIN GRID AZIMUTH, ADD ° ' " TO THE GEODETIC AZIMUTH

TO OBTAIN GRID AZ. (ADD)(SUB.) ° ' " TO THE GEODETIC AZIMUTH

OBJECT	AZIMUTH OR DIRECTION (GEODETIC)(GRID) (MAGNETIC)	BACK AZIMUTH	GEOD. DISTANCE (METERS) (FEET)	GRID DISTANCE (METERS) (FEET)
	° ' "	° ' "		

P.P. # 15 IS ALUM. CAP .10 ABOVE GROUND. FROM WICKENBURG HIGHWAY AT SAN DOMINGO WASH BRIDGE 1.2 MI NE UP MIDDLE OF WASH. PT IS IN CENTER OF WASH AND NOT READILY SEEN EXCEPT FROM EDGE OF CLIFFS ON BOTH SIDES OF WASH.



SKETCH

DA FORM 1 OCT 64 1959 REPLACES DA FORMS 1958 AND 1960, 1 FEB 57, WHICH ARE OBSOLETE.

DESCRIPTION OR RECOVERY OF HORIZONTAL CONTROL STATION

For use of this form, see TM 5-237; the proponent agency is TRADOC.

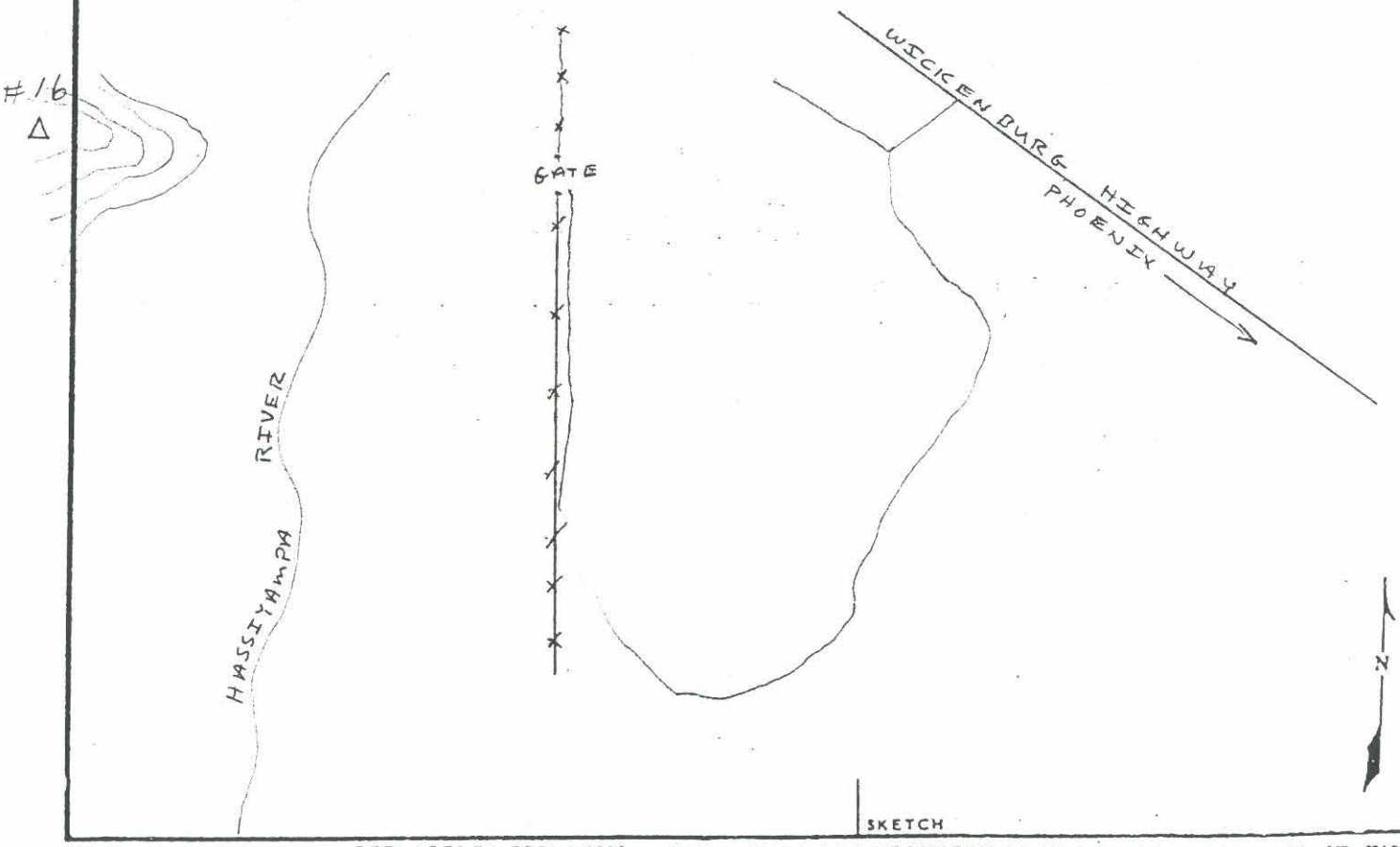
COUNTRY	TYPE OF MARK	STATION	
U.S.A.	3" ALUMINUM CAP	ERM-16PE	
LOCALITY: WICKENBURG	STAMPING ON MARK: ERM-16PE	AGENCY (CAST IN MARKS): MCFC	ELEVATION: 1842.95 (FT) (M)
LATITUDE	LONGITUDE	DATUM	DATUM: MSL 1929
(NORTHING)(EASTING) (FT) (M): 1046264.626	(EASTING)(NORTHING) (FT) (M): 473406.694	GRID AND ZONE: GRID, AZ. CENTRAL	ESTABLISHED BY (AGENCY): MM/CSSA
(NORTHING)(EASTING) (FT) (M)	(EASTING)(NORTHING) (FT) (M)	GRID AND ZONE	DATE: 1/91 ; ORDER: 2ND

TO OBTAIN GRID AZIMUTH, ADD ° ' " TO THE GEODETIC AZIMUTH

TO OBTAIN GRID AZ. (ADD)(SUB.) ° ' " TO THE GEODETIC AZIMUTH

OBJECT	AZIMUTH OR DIRECTION (GEODETIC)(GRID) (MAGNETIC) ° ' "	BACK AZIMUTH ° ' "	GEOD. DISTANCE (METERS) (FEET)	GRID DISTANCE (METERS) (FEET)

P.P. #16 IS 60D NAIL FLUSH WITH GROUND. FROM WICKENBURG HIGHWAY E.B. @ GARDEN CITY FOLLOW DIRT RD S.W. TO END OF ROAD @ GATE CROSS HASSIYAMPA RIVER BED 1000'± PT. IS ON FIRST RIDGE OVER LOOKING RIVER & CAN BE SEEN FROM ALL DIRECTIONS



SKETCH

DA FORM 1 OCT 64 1959 REPLACES DA FORMS 1959 AND 1960, 1 FEB 57, WHICH ARE OBSOLETE.

DESCRIPTION OR RECOVERY OF HORIZONTAL CONTROL STATION

For use of this form, see TM 5-237; the proponent agency is TRADOC.

COUNTRY	TYPE OF MARK	STATION	
U.S.A	3" ALUMINUM CAP	EBM-17PE	
LOCALITY: WICKENBURG	STAMPING ON MARK: EBM-17PE	AGENCY (CAST IN MARKS): YMCFC	ELEVATION: 1952.56 (FT) (M)
LATITUDE	LONGITUDE	DATUM	DATUM: MSL 1929
(NORTHING)(EASTING) (FT) (M): 1544363.956	(EASTING)(NORTHING) (FT) (M): 430291.430	GRID AND ZONE: GRID, AZ. CENTRAL	ESTABLISHED BY (AGENCY): YMM/CGSA
(NORTHING)(EASTING) (FT) (M)	(EASTING)(NORTHING) (FT) (M)	GRID AND ZONE	DATE: 1/91 ; ORDER: 2ND

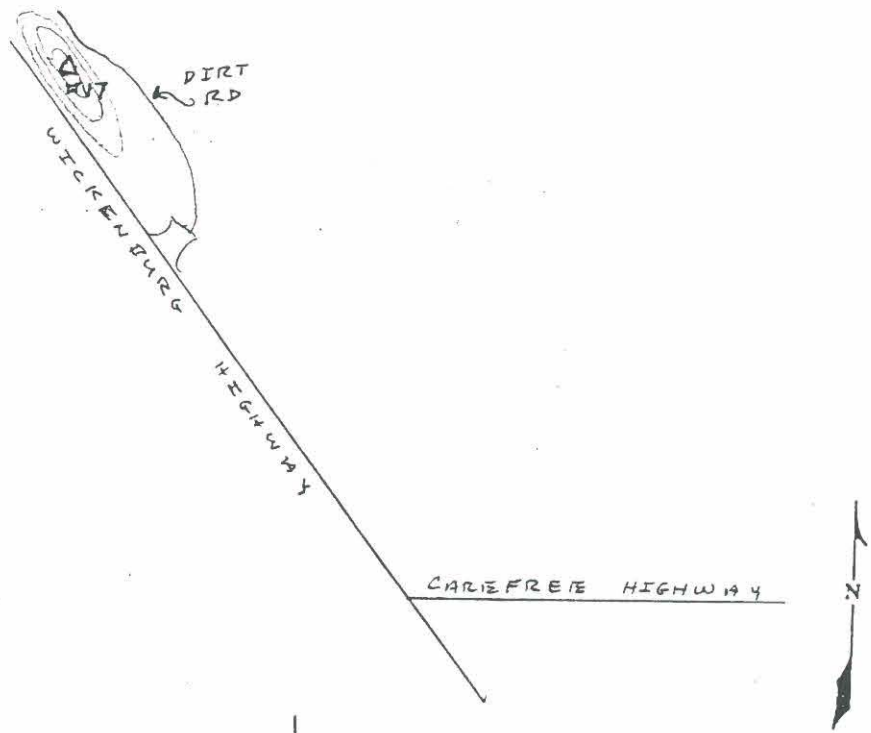
TO OBTAIN GRID AZIMUTH, ADD ° ' " TO THE GEODETIC AZIMUTH

TO OBTAIN GRID AZ. (ADD)(SUB.) ° ' " TO THE GEODETIC AZIMUTH

OBJECT	AZIMUTH OR DIRECTION (GEODETIC)(GRID) (MAGNETIC)	BACK AZIMUTH	GEOD. DISTANCE (METERS) (FEET)	GRID DISTANCE (METERS) (FEET)
	° ' "	° ' "		

P.P. #17 IS ALUM CAP .12 ABOVE GROUND.

FROM INTERSECTION CAREFREE HIGHWAY & WICKENBURG HIGHWAY NW .5 MI. TO DIRT RD WITH A.C. TURNOUT. 500'± ALONG DIRT RD WHICH PARALELS HIGHWAY. POINT IS ON TOP OF CUT OVERLOOKING HIGHWAY & CAN BE SEEN FROM ALL DIRECTIONS.



SKETCH

DA FORM 1 OCT 64 1959 REPLACES DA FORMS 1959 AND 1960, 1 FEB 57, WHICH ARE OBSOLETE.

DESCRIPTION OR RECOVERY OF HORIZONTAL CONTROL STATION

For use of this form, see TM 5-237; the proponent agency is TRADOC.

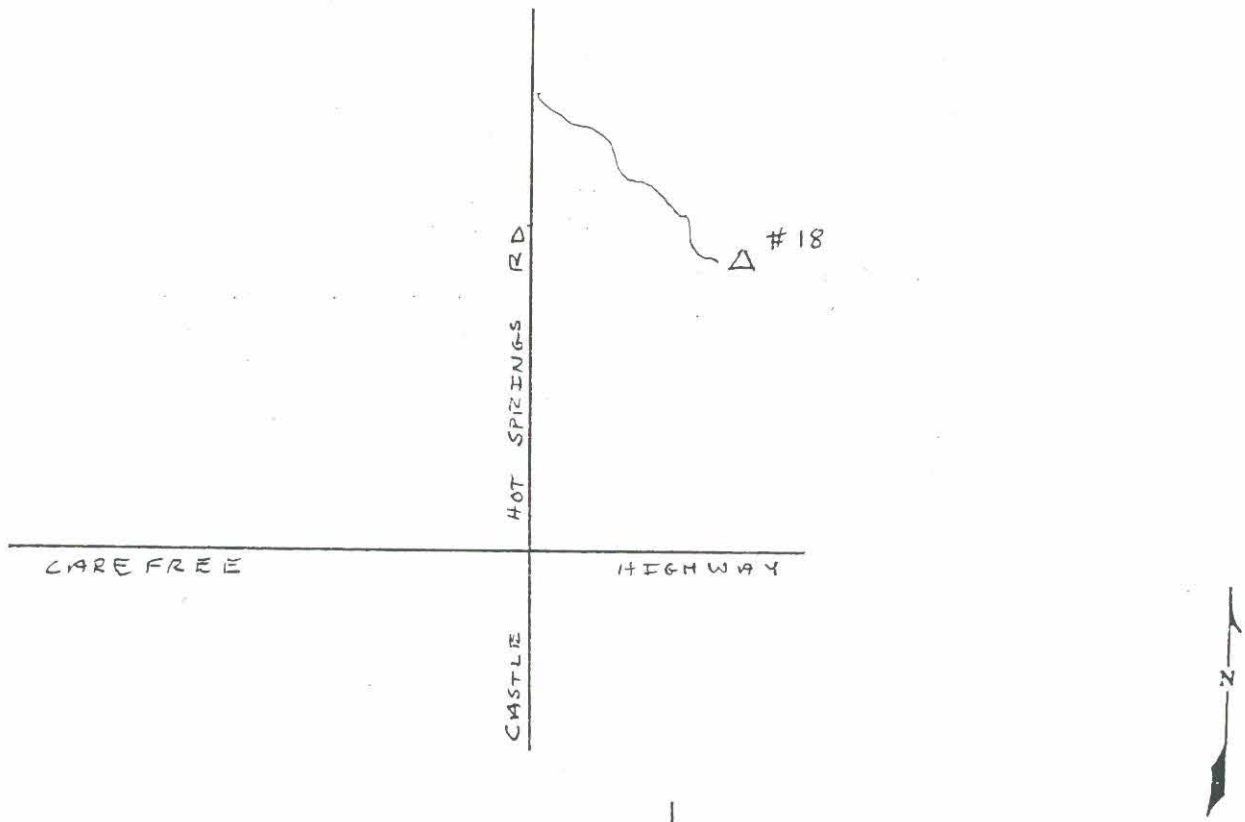
COUNTRY	TYPE OF MARK	STATION	
U.S.A.	3" ALUMINUM CAP	ERM-18PE	
LOCALITY: WICKENBURG	STAMPING ON MARK: ERM-18PE	AGENCY (CAST IN MARKS)	ELEVATION: 2088.60 (FT) (M)
LATITUDE	LONGITUDE	DATUM	DATUM: MSL 1929
(NORTHING)(EASTING) (FT) (M): 1044730.594	(EASTING)(NORTHING) (FT) (M): 491364.805	GRID AND ZONE: GRID, AZ. CENTRAL	ESTABLISHED BY (AGENCY): WM/LSSA
(NORTHING)(EASTING) (FT) (M)	(EASTING)(NORTHING) (FT) (M)	GRID AND ZONE	DATE: 1/91 ; ORDER: 2ND

TO OBTAIN GRID AZIMUTH, ADD ° ' " TO THE GEODETIC AZIMUTH

TO OBTAIN GRID AZ. (ADD)(SUB.) ° ' " TO THE GEODETIC AZIMUTH

OBJECT	AZIMUTH OR DIRECTION (GEODETIC)(GRID) (MAGNETIC)	BACK AZIMUTH	GEOD. DISTANCE (METERS) (FEET)	GRID DISTANCE (METERS) (FEET)
	° ' "	° ' "		

P.P. #18 IS ALUM CAP .15 ABOVE GROUND. FROM CAREFREE HIGHWAY 1.2 MI NORTH ON CASTLE HOT SPRINGS RD. THEN .2 MI. SE ON DIRT RD TO POINT.



SKETCH

DA FORM 1 OCT 64 1959 REPLACES DA FORMS 1959 AND 1960, 1 FEB 57, WHICH ARE OBSOLETE.

DESCRIPTION OR RECOVERY OF HORIZONTAL CONTROL STATION

For use of this form, see TM 5-237; the proponent agency is TRADOC.

COUNTRY	TYPE OF MARK	STATION	
U.S.A.	3" ALUMINUM CAP	ERM-19PE	
LOCALITY: WICKENBURG	STAMPING ON MARK: ERM-19PE	AGENCY (CAST IN MARKS): MCFC	ELEVATION: 1897.32 (FT) (M)
LATITUDE	LONGITUDE	DATUM	DATUM: MSL 1929
(NORTHING)(EASTING) (FT) (M): 1038374.268	(EASTING)(NORTHING) (FT) (M): 476618.528	GRID AND ZONE: GRID, AZ. CENTRAL	ESTABLISHED BY (AGENCY): MM/USSA
(NORTHING)(EASTING) (FT) (M)	(EASTING)(NORTHING) (FT) (M)	GRID AND ZONE	DATE: 1/91 ORDER: 2ND

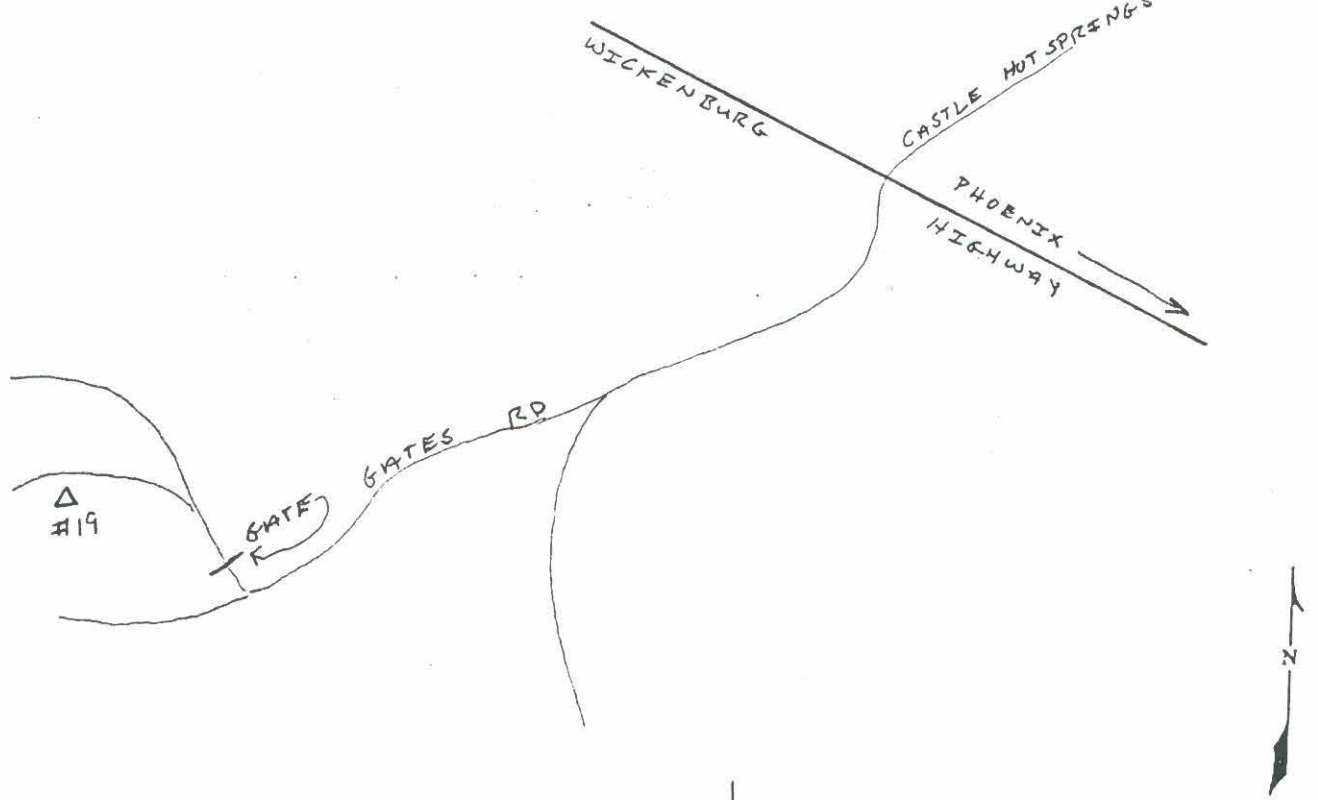
TO OBTAIN GRID AZIMUTH, ADD ° ' " TO THE GEODETIC AZIMUTH

TO OBTAIN GRID AZ. (ADD)(SUB.) ° ' " TO THE GEODETIC AZIMUTH

OBJECT	AZIMUTH OR DIRECTION (GEODETIC)(GRID) (MAGNETIC)	BACK AZIMUTH	GEOD. DISTANCE (METERS) (FEET)	GRID DISTANCE (METERS) (FEET)
	° ' "	° ' "		

P.P. #19 IS 80 PENNY SPIKE FLUSH WITH GROUND. FROM WICKENBURG HIGHWAY & CASTLE HOT SPRINGS RD SOUTH ON GATES RD 2.2 MI. TO GATE WITH SIGN 062152. TURN RIGHT AND BEAR LEFT ON DIRT RD TOP OF RIDGE 500'± TO POINT.

POINT CAN BE SEEN FROM ALL DIRECTIONS



SKETCH

DA FORM 1 OCT 64 1959 REPLACES DA FORMS 1958 AND 1960, 1 FEB 57, WHICH ARE OBSOLETE.

DESCRIPTION OR RECOVERY OF HORIZONTAL CONTROL STATION

For use of this form, see TM 5-237; the proponent agency is TRADOC.

COUNTRY	TYPE OF MARK	STATION	
U.S.A.	3" ALUMINUM CAP	ERM-20 PE	
LOCALITY: WICKENBURG	STAMPING ON MARK: ERM-20PE	AGENCY (CAST IN MARKS): MCFC	ELEVATION: 1988.68 (FT) (M)
LATITUDE	LONGITUDE	DATUM	DATUM: MSL 1929
(NORTHING)(EASTING) (FT) (M): 1039627.732	(EASTING)(NORTHING) (FT) (M): 436410.803	GRID AND ZONE: GRID, AZ. CENTRAL	ESTABLISHED BY (AGENCY): MM / CSSA
(NORTHING)(EASTING) (FT) (M)	(EASTING)(NORTHING) (FT) (M)	GRID AND ZONE	DATE: 1/91 ; ORDER: 2ND

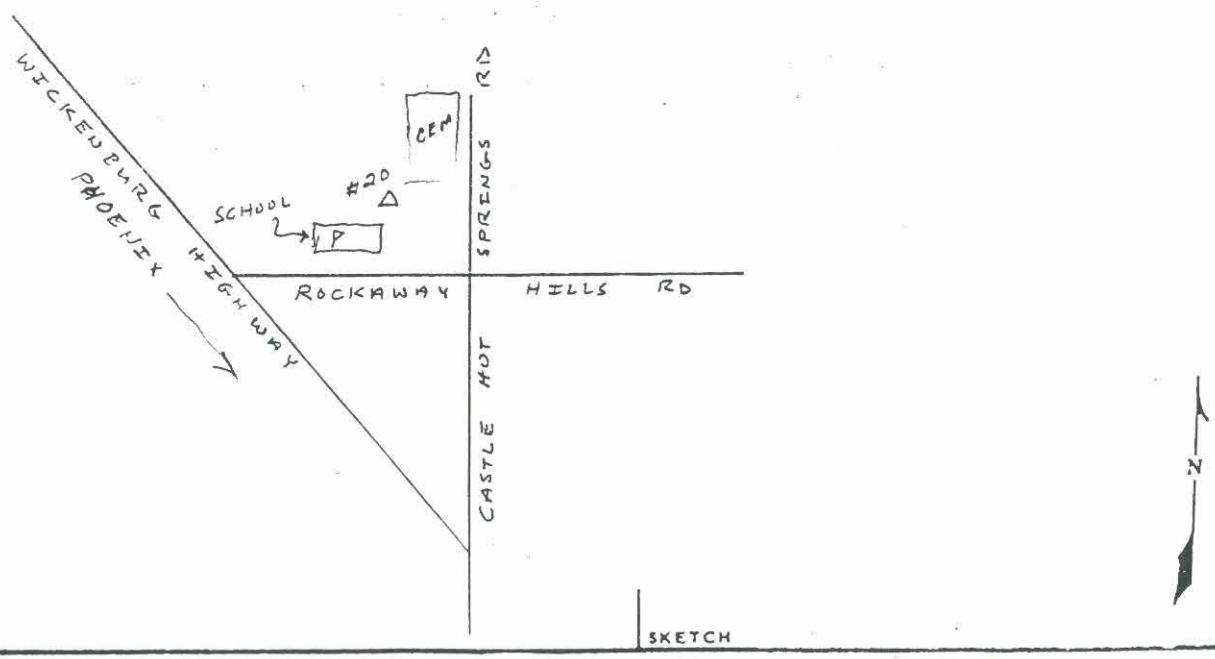
TO OBTAIN GRID AZIMUTH, ADD ° ' " TO THE GEODETIC AZIMUTH

TO OBTAIN GRID AZ. (ADD)(SUB.) ° ' " TO THE GEODETIC AZIMUTH

OBJECT	AZIMUTH OR DIRECTION (GEODETIC)(GRID) (MAGNETIC)	BACK AZIMUTH	GEOD. DISTANCE (METERS) (FEET)	GRID DISTANCE (METERS) (FEET)
	° ' "	° ' "		

P.P. #20 IS ALUM CAP .15 ABOVE GROUND, 300'± WEST OF CASTLE HOT SPRINGS RD & 300'± NORTH OF ROCKAWALL HILLS RD JUST SOUTH OF CEMETARY IN MORRISTOWN.

POINT CAN BE SEEN BEST FROM NORTH. VIEW IS OBSTRUCTED BY TREES AND BUILDINGS IN OTHER DIRECTIONS.



SKETCH

DA FORM 1 OCT 64 1959 REPLACES DA FORMS 1959 AND 1960, 1 FEB 57, WHICH ARE OBSOLETE.

DESCRIPTION OR RECOVERY OF HORIZONTAL CONTROL STATION

For use of this form, see TM 5-237; the proponent agency is TRADOC.

COUNTRY	TYPE OF MARK	STATION	
U.S.A.	GLO BRASS CAP	ERM-3E	
LOCALITY	**STAMPING ON MARK**	**AGENCY (CAST IN MARKS)**	**ELEVATION** (FT) (M)
WICKENBURG	ERM-3E	MCFC	2527.30
LATITUDE	**LONGITUDE**	**DATUM**	**DATUM**
			MSL 1929
(NORTHING)(EASTING) (FT) (M)	**(EASTING)(NORTHING)** (FT) (M)	**GRID AND ZONE**	**ESTABLISHED BY (AGENCY)**
1089542.412	467162.576	ARIZ. AZ. CENTRAL	MM/CSSA
(NORTHING)(EASTING) (FT) (M)	**(EASTING)(NORTHING)** (FT) (M)	**GRID AND ZONE**	**DATE** / **ORDER**
			1/91 / 2ND

TO OBTAIN GRID AZIMUTH, ADD ° ' " TO THE GEODETIC AZIMUTH

TO OBTAIN GRID AZ. (ADD)(SUB.) ° ' " TO THE GEODETIC AZIMUTH

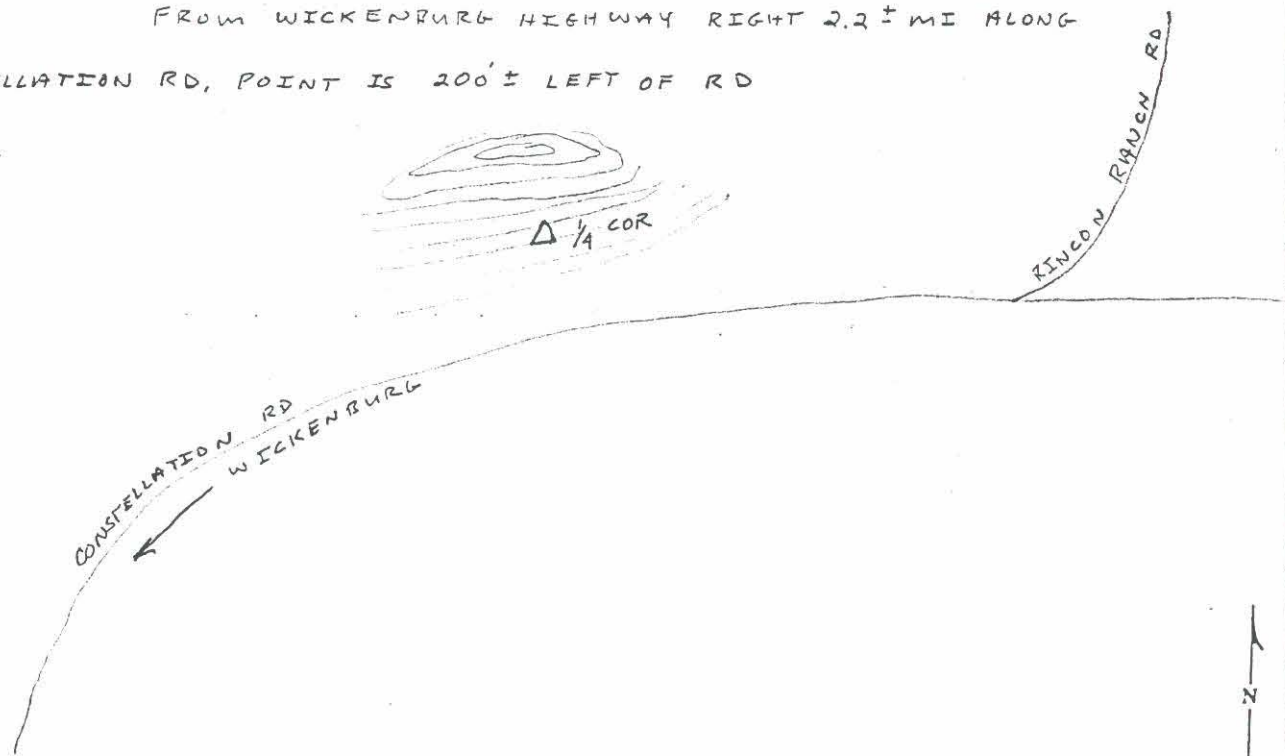
OBJECT	AZIMUTH OR DIRECTION (GEODETIC)(GRID) (MAGNETIC)	BACK AZIMUTH	GEOD. DISTANCE (METERS) (FEET)	GRID DISTANCE (METERS) (FEET)
	° ' "	° ' "		

ERM 3-1 IS A GLO BRASS CAP MARKED 32|33

1'± ABOVE GROUND. T8N R4W

POINT IS SET ON SIDE OF HILL IN LARGE ROCKS & CAN BE SEEN FROM THE EAST & WEST BUT NOT NORTH & SOUTH

FROM WICKENBURG HIGHWAY RIGHT 2.2± MI ALONG CONSTELLATION RD, POINT IS 200'± LEFT OF RD



SKETCH

DA FORM 1 OCT 64 1959 REPLACES DA FORMS 1958 AND 1960, 1 FEB 57, WHICH ARE OBSOLETE.

DESCRIPTION OR RECOVERY OF HORIZONTAL CONTROL STATION

For use of this form, see TM 5-237; the proponent agency is TRADOC.

COUNTRY	TYPE OF MARK	STATION	
U.S.A.	GLO BRASS CAP	ERM-9E	
LOCALITY: WICKENBURG	STAMPING ON MARK: ERM-9E	AGENCY (CAST IN MARKS): MCFC	ELEVATION: 1972.71 (FT) (M)
LATITUDE	LONGITUDE	DATUM	DATUM: MSL 1929
(NORTHING)(EASTING) (FT) (M): 1049884.580	(EASTING)(NORTHING) (FT) (M): 475858.260	GRID AND ZONE: GRID, AZ. CENTRAL	ESTABLISHED BY (AGENCY): MM/CSSA
(NORTHING)(EASTING) (FT) (M)	(EASTING)(NORTHING) (FT) (M)	GRID AND ZONE	DATE: 1/91 ORDER: 2ND

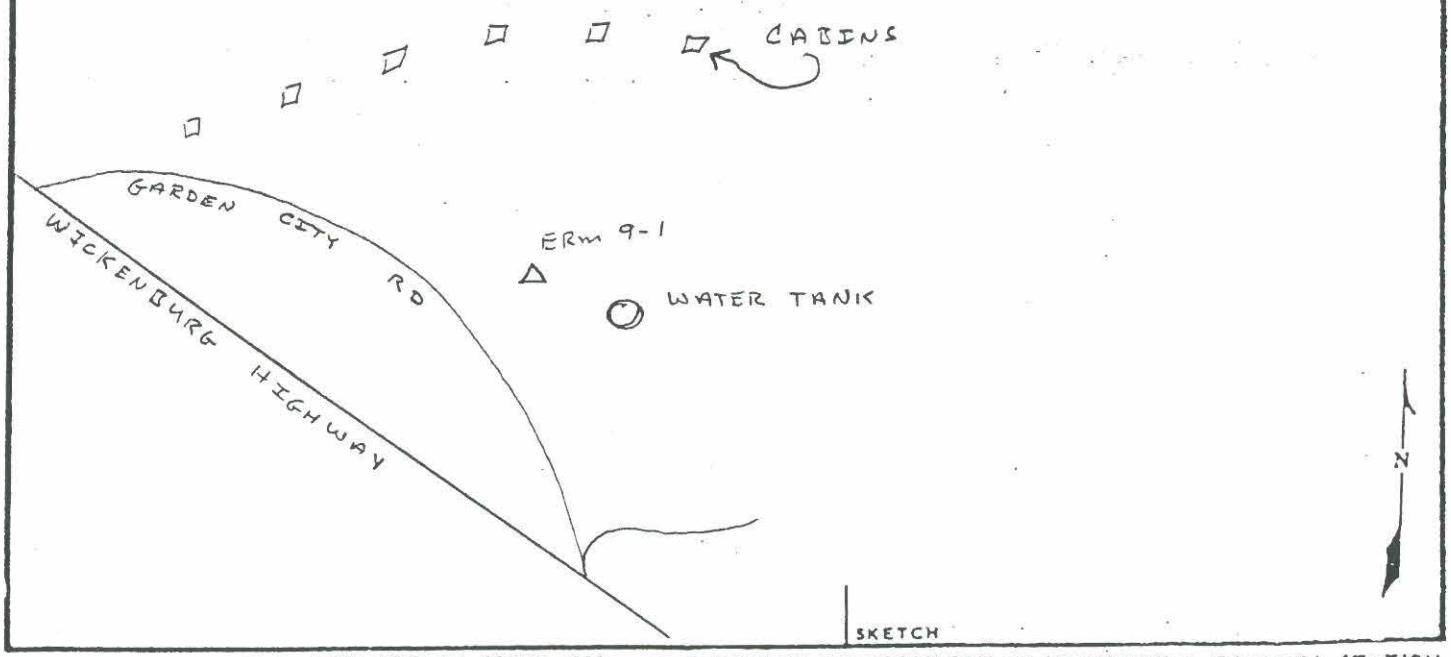
TO OBTAIN GRID AZIMUTH, ADD ° ' " TO THE GEODETIC AZIMUTH

TO OBTAIN GRID AZ. (ADD)(SUB.) ° ' " TO THE GEODETIC AZIMUTH

OBJECT	AZIMUTH OR DIRECTION (GEODETIC)(GRID) (MAGNETIC)	BACK AZIMUTH	GEOD. DISTANCE (METERS) (FEET)	GRID DISTANCE (METERS) (FEET)
	° ' "	° ' "		

ERM 9-1 IS GLO B.C. 2' ABOVE GROUND MARKED 3/2 10/11 T6N R4W

FROM WICKENBURG HIGHWAY W.B., RT ON GARDEN CITY RD TO CABINS. POINT IS 100'± RT. OF RD.



SKETCH

DA FORM 1 OCT 64 1959 REPLACES DA FORMS 1959 AND 1960, 1 FEB 57, WHICH ARE OBSOLETE.

DESCRIPTION OR RECOVERY OF HORIZONTAL CONTROL STATION

For use of this form, see TM 5-237; the proponent agency is TRADOC.

COUNTRY	TYPE OF MARK	STATION	
U.S.A.	GLO BRASS CAP	ERM-13E	
LOCALITY: WICKENBURG	STAMPING ON MARK: ERM-13E	AGENCY (CAST IN MARKS): MCFC	ELEVATION: 2084.15 (FT) (M)
LATITUDE	LONGITUDE	DATUM	DATUM: MSL 1929
(NORTHING)(EASTING) (FT) (M): 1044507.777	(EASTING)(NORTHING) (FT) (M): 491622.295	GRID AND ZONE: GRID, AZ. CENTRAL	ESTABLISHED BY (AGENCY): MM/CGSA
(NORTHING)(EASTING) (FT) (M)	(EASTING)(NORTHING) (FT) (M)	GRID AND ZONE	DATE: 1/91 ; ORDER: 2ND

TO OBTAIN GRID AZIMUTH, ADD ° ' " TO THE GEODETIC AZIMUTH

TO OBTAIN GRID AZ. (ADD)(SUB.) ° ' " TO THE GEODETIC AZIMUTH

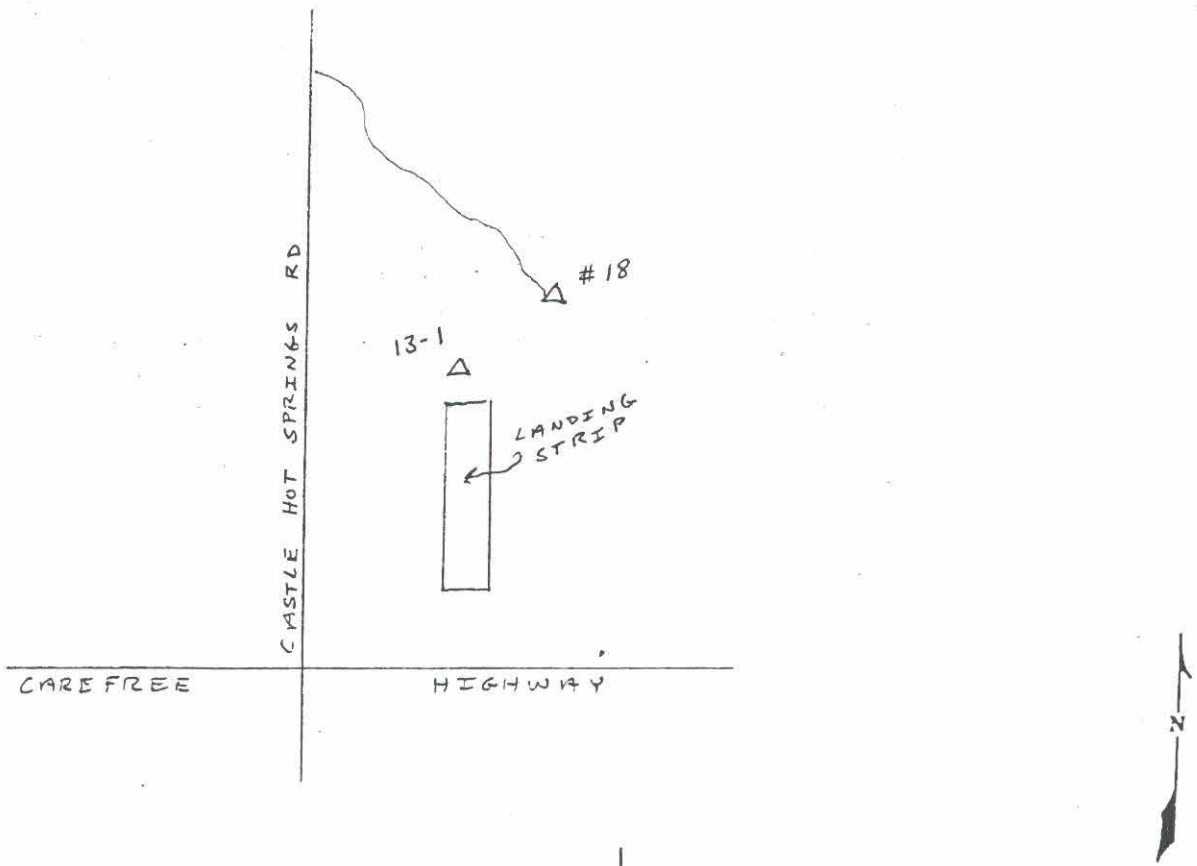
OBJECT	AZIMUTH OR DIRECTION (GEODETIC)(GRID) (MAGNETIC)	BACK AZIMUTH	GEOD. DISTANCE (METERS) (FEET)	GRID DISTANCE (METERS) (FEET)
	° ' "	° ' "		

ERM 13-1 IS GLO BRASS CAP MARKED

7	8
18	17

T6N R3W

LOCATED 350'± SW OF P.P. # 18



SKETCH

DA FORM 1 OCT 64 1959 REPLACES DA FORMS 1959 AND 1960, 1 FEB 57, WHICH ARE OBSOLETE.

DESCRIPTION OR RECOVERY OF HORIZONTAL CONTROL STATION

For use of this form, see TM 5-237; the proponent agency is TRADOC.

COUNTRY	TYPE OF MARK	STATION	
U.S.A.	GLO BRASS CAP	ERM-14E	
LOCALITY: WICKENBURG	STAMPING ON MARK: ERM-14E	AGENCY (CAST IN MARKS): MCFC	ELEVATION: 1924.48 (FT) ~~(M)~~
LATITUDE	LONGITUDE	DATUM	DATUM: MSL 1929
(NORTHING)(EASTING) (FT) ~~(M)~~: 1039296.480	(EASTING)(NORTHING) (FT) ~~(M)~~: 481064.821	GRID AND ZONE: GRID, AZ. CENTRAL	ESTABLISHED BY (AGENCY): MM/CSSA
(NORTHING)(EASTING) (FT) (M)	(EASTING)(NORTHING) (FT) (M)	GRID AND ZONE	DATE: 1/91 ; ORDER: 2ND

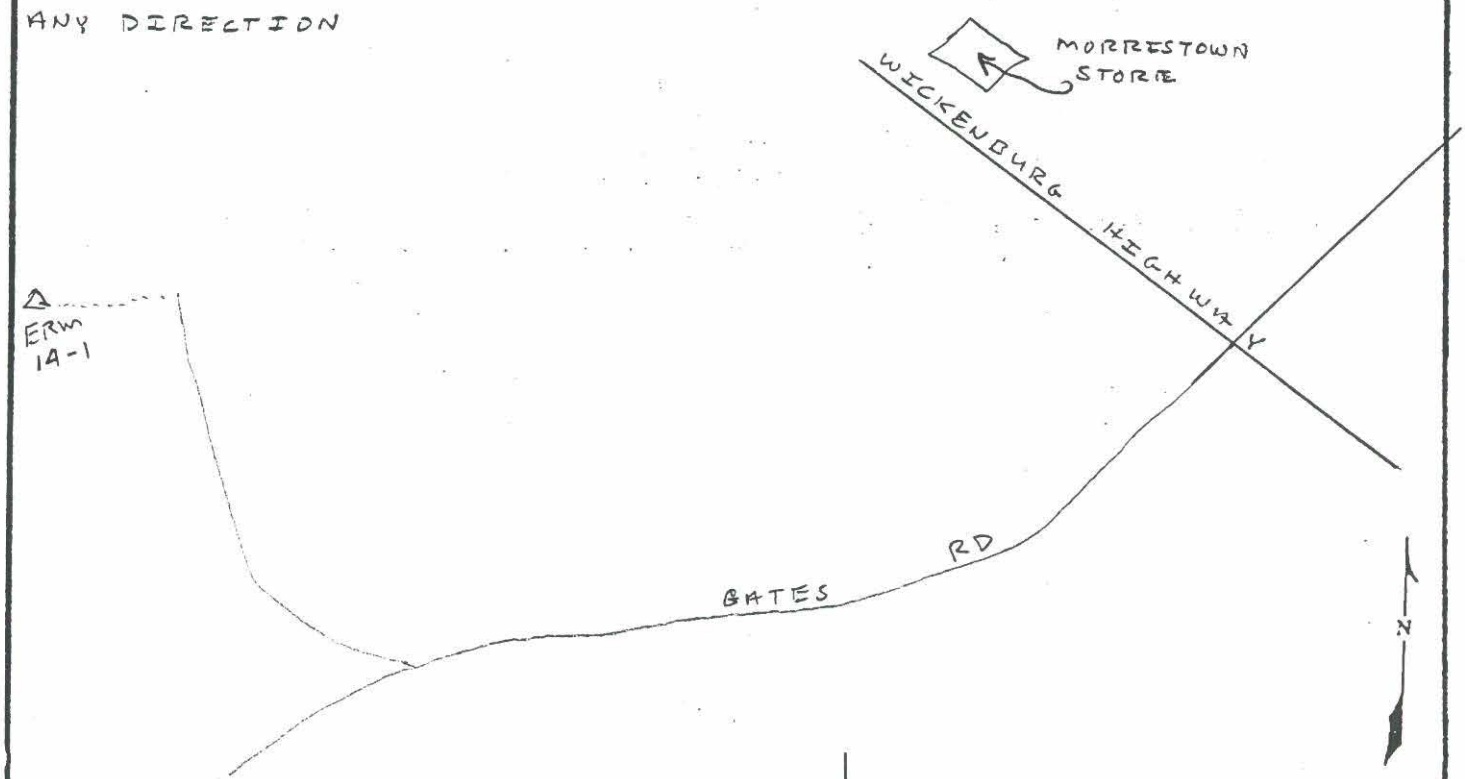
TO OBTAIN GRID AZIMUTH, ADD ° ' " TO THE GEODETIC AZIMUTH

TO OBTAIN GRID AZ. (ADD)(SUB.) ° ' " TO THE GEODETIC AZIMUTH

OBJECT	AZIMUTH OR DIRECTION (GEODETIC)(GRID) (MAGNETIC)	BACK AZIMUTH	GEOD. DISTANCE (METERS) (FEET)	GRID DISTANCE (METERS) (FEET)
	° ' "	° ' "		

ERM 14-1 IS GLO CAP 1.1 ABOVE GROUND MARKED 14 | 13 / 23 | 24 T6N R4W

FROM WICKENBURG HIGHWAY IN MORRISTOWN WEST ON GATES RD .5 MI. THEN NORTH ON DIRT RD 2000'± . THEN LEFT ON DIRT TRAIL 600'± TO MONUMENT. POINT IS IN GULLY AND NOT EASILY SEEN FROM ANY DIRECTION



SKETCH

DA FORM 1 OCT 64 1959 REPLACES DA FORMS 1958 AND 1960, 1 FEB 57, WHICH ARE OBSOLETE.

DESCRIPTION OR RECOVERY OF HORIZONTAL CONTROL STATION

For use of this form, see TM 5-237; the proponent agency is TRADOC.

ERM LOCATION AND ELEVATION DATA: EAST SIDE

ERM NO.	Elevation	Description of Location
ERMs from East Side Control Survey		
ERM1PE	2215.10	3 in. aluminum cap marked "MCFC ERM-1PE" flush with ground approximately 600 ft east of State Route 93, 2 miles north of Wickenburg. Approximately 500 ft along dirt road near milepost 254 with entrance sign "G.D.L.E.", then 100 ft east of dirt road. N 1090505.657 E 44612.357
ERM2PE	2367.39	3 in. aluminum cap marked "MCFC ERM-2PE" 0.4 ft above ground on graded pad. 1.3 miles north of State Route 93 on Jack Burden Road, then right on Blue Tank Trail 1.2 miles to end of trail. N 1092154.879 E 456163.918
ERM3PE	2550.92	3 in. aluminum cap marked "MCFC ERM-3PE" 0.4 ft above grade. 2.5 miles northeast of State Route 93 on Constellation Rd; north approximately 1000 ft on Rincon Ranch Rd.; west approximately 1000 ft to top of ridge. N 1090942.383 E 466809.475
ERM4PE	2080.08	3 in. aluminum cap marked "MCFC ERM-4PE" 0.1 ft above grade. Approximately 75 ft east of State Route 93 and 650 ft north of Rose Lane. N 1085101.305 E 451230.244
ERM5PE	2257.14	3 in. aluminum cap marked "MCFC ERM-5PE" 0.1 ft above grade. From Calamity Wash culvert at State Route 93, approximately 0.7 miles upstream, then to top of ridge on north side of wash. N 1081688.228 E 460189.194
ERM6PE	2446.69	3 in. aluminum cap marked "MCFC ERM-6PE" 0.4 ft above grade. 1 mile northeast along Constellation Rd from intersection with Rincon Ranch Rd to dirt road, southeast 0.5 miles to fork, right fork through gate and south to wash; follow wash 1.5 miles

		southwest to windmill, then 500 ft east to top of ridge. N 1080618.437 E 472911.194
ERM7PE	2124.90	3 in. aluminum cap marked "MCFC ERM-7PE" 0.35 ft above grade. 0.7 miles southeast of U. S. 60 on Tegner St. to crossing over AT&SF RR tracks; over tracks, through gate to end of road at storage yard; 600 ft along ridge behind storage yard. N 1076562.653 E 454330.238
ERM8PE	1970.15	3 in. aluminum cap marked "MCFC ERM-8PE" 0.2 ft above grade. At State Route 93 milepost 213 turn southwest on dirt road, go 0.3 miles to end of road, between two large steel drums. N 1071106.669 E 461399.142
ERM9PE	2174.08	3 in. aluminum cap marked "MCFC ERM-9PE" 0.2 ft above grade. 0.9 miles northeast of State Route 93 milepost 212 along 4WD trail; to top of ridge on southeast side of trail. N 1070477.821 E 467064.194
ERM10PE	2195.10	3 in. aluminum cap marked "MCFC ERM-10PE" 0.1 ft above grade. From Monarch Wash bridge northeast 2 miles along wash to a well with windmill; to top of ridge south of windmill. N 1067090.519 E 475254.844
ERM11PE	1945.85	3 in. aluminum cap marked "MCFC ERM-11PE" 0.2 ft above grade. 0.75 miles southeast of milepost 212 along State Route 93, then 700 ft across Hassayampa River bed to a flat, cleared area just east of AT&SF tracks. N 1064723.904 E 466226.218
ERM12PE	2101.03	3 in. aluminum cap marked "MCFC ERM-12PE" 0.25 ft above grade. From Monarch Wash bridge upstream 0.5 miles to fork in wash; 0.5 miles up south fork, to top of ridge on left. N 1063518.365 E 474236.864

ERM13PE 2270.59	3 in. aluminum cap marked "MCFC ERM-13PE" 0.3 ft above grade. From south intersection of Garden City Rd and State Route 93, 2.5 miles northeast along 4WD trail to circle; along east edge of circle. N 1060399.202 E 484182.130
ERM14PE 1915.36	3 in. aluminum cap marked "MCFC ERM-14PE" 0.4 ft above grade. From San Domingo Wash bridge, 1 mile northwest along State Route 93; 1500 ft across Hassayampa River and AT&SF RR tracks to top of cut on west side of tracks. N 1056123.610 E 470118.537
ERM15PE 1938.37	3 in. aluminum cap in concrete marked "MCFC ERM-15PE" 0.1 ft above grade. From San Domingo Wash bridge, 1.2 miles northeast along wash, in center of wash. N 1054570.315 E 478214.229
ERM17PE 1952.56	3 in. aluminum cap marked "MCFC ERM-17PE" 0.12 ft above grade. 0.5 miles northwest of State Route 74 along State Route 93 to dirt road, 500 ft along dirt road parallel to highway to top of cut overlooking State Route 93. N 1044868.956 E 480291.430
ERM18PE 2088.60	3 in. aluminum cap marked "MCFC ERM-18PE" 0.15 ft above grade. 1.2 miles north from State Route 47 along Castle Hot Springs Road, then 0.2 miles southeast along dirt road. N 1044780.594 E 491864.805
ERM19PE 1897.32	80d spike flush with ground. 2.2 miles southwest of State Route 93 along Gates Road to gate marked "062152"; north through gate and bear left on dirt road for 500 ft to top of ridge. N 1038374.268 E 476618.528
ERM20PE 1988.68	3 in. aluminum cap marked "MCFC ERM-20PE" 0.15 ft above grade. 300 ft west of Castle Hot Springs Rd and 300 ft north of Rockaway Hills Rd, just south of Morristown cemetery. N 1039627.732 E 486410.803

EXISTING CONTROL POINTS FOR EAST AREA

ERM3E	2527.30	GLO brass cap 1 ft above grade at the quarter corner of sections 32 and 33, T8N R4W. 2.2 miles from State Route 93 along Constellation Rd, approximately 200 ft north of road on side of hill in large rocks. N 1089542.412 E 467162.576
ERM9E	1972.71	GLO brass cap 2 ft above grade at the corner of sections 2, 3, 10, and 11 in T6N R4W. Approximately 100 ft northeast of Garden City Rd and 100 ft northwest of Garden City water tank. N 1049884.580 E 475858.260
ERM13E	2084.18	GLO brass cap at the corner of sections 7, 8, 17, and 18, T6N R3W. At the north end of landing strip in the northwest quadrant of the intersection of State Route 74 and Castle Hot Springs Rd. N 1044507.777 E 491622.295
ERM14E	1924.48	GLO brass cap 1.1 ft above grade at the corner of sections 13, 14, 23, and 24, T6N R4W. 0.5 miles west of State Route 93 on Gates Road, north 2000 ft on dirt road, then west 600 ft on dirt trail to monument. N 1039296.480 E 481064.821

CULVERT HEADWALLS/MISC.

ERM101	2060.28	West side center rail of cattle guard on Jack Burden Road at the entrance to Remuda Ranch. (Wash N)
ERM102	2033.39	Brass cap stamped "ADOT, Elev. 2033.41, Sta 868+95.5". Top of culvert headwall on east side of State Route 93, approximately 0.5 miles south of Wickenburg. (Wash AF)
ERM103	1994.80	Brass cap stamped "ADOT" with elevation and station not legible. Located on the east headwall of the State Route 93 culvert over Mockingbird Wash, approximately 2.5 miles south of Wickenburg. (Wash E)
ERM104	1954.29	Brass cap stamped "ADOT, Elev. 1954.47, Sta 1027+53.81". Located on the top of the culvert headwall on the east side of State Route 93, approximately 3.6 miles south of Wickenburg. (Wash K)

ERM105	1893.71	Brass cap stamped "ADOT, Elev. 1894.74, Sta. 1126+16.6". Located on the top of the culvert headwall on east side of State Route 93, approximately 3.9 miles north of the intersection of State Routes 93 and 74. (Wash H)
ERM 106	1879.31	Brass cap stamped "ADOT, Elev. 1879.62, Sta. 1144+76.7". Located on the top of the culvert headwall on west side of State Route 93, approximately 3.6 miles north of the intersection of State Routes 93 and 74. (Wash G)
ERM107	1819.13	Brass cap stamped "ADOT, Elev. 1891.44, Sta. 1216+83.9". Located at the northeast corner of the San Domingo Wash bridge on State Route 93, approximately 2.2 miles north of the intersection of State Routes 93 and 74. (Wash T)
ERM108	1886.54	Scribed 2" x 2" square in concrete. Located on the center top of the culvert headwall on west side of State Route 93, approximately 1.5 miles north of the intersection of State Routes 93 and 74. (Wash V)
ERM109	1859.86	Scribed 2" x 2" square in concrete. Located on the top of the culvert headwall northwest corner on east side of State Route 93, approximately 0.5 miles south of the intersection of State Routes 93 and 74. (Wash S)

Additional ERM Descriptions and Elevations

March, 1993

ERM LOCATION AND ELEVATION

LOCATION	ERM NO.	ELEV.	DESCRIPTION
Wash "P"	200	2132.98	ERM located on south side of Wash approx. 870'± east of existing dirt road. Set 3-1/2" alum. cap on 5/8" bar driven firmly into the ground. Stamped MCFCD; ERM 200; Elev. 2132.98; LS 22282; 1993. (Vertical Datum Only)
Wash "C" Blue Tank Wash	201	2129.85	ERM located on south side of Wash approx. 2000'± east of Jack Burden Rd.. Set 3-1/2" alum. cap on 5/8" bar driven firmly into the ground. Stamped MCFCD; ERM 201; Elev. 2129.85; LS 22282; 1993. (Vertical Datum Only)
Wash "N"	101	2060.90	ERM located 3'± southwest of existing cattle guard at the intersection of Jack Burden Rd. and entrance to Remuda Ranch. Set 3-1/2" alum. cap on 5/8" bar set in concrete. Stamped MCFCD; ERM 101; Elev. 2060.90; LS 22282; 1993. (Vertical Datum Only)
Wash "AH" Powder House Wash	203	2218.36	ERM located 0.9 miles northeast along Powder House Wash from Constellation Rd. on south side of Wash 15'± above flow line on edge of ridge, just before wash daylights into open area. Set 3-1/2" alum. cap on 5/8" bar driven firmly and flush with the ground. Stamped MCFCD; ERM 203; Elev. 2218.36; L.S. 22282; 1993 (Vertical Datum Only)
Wash "AF"	102	2033.39	Found ADOT Brass Cap stamped Elev. 2033.41; Sta. 868+95.5; located top of headwall on east side of SR 93, approx. 0.5 miles south of Wickenburg.
Wash "B" Calamity Wash	118	2032.92	Found U.S. Dept of Agriculture Brass Cap set in concrete. No stampings located 60'± forth along centerline of SR 93 and 50'± northwest of northwest corner of Calamity Wash Bridge.
	204	2255.12	ERM located 1.7 miles northeast along Calamity Wash from the intersection of SR 93 and Calamity Wash south side of wash, east side of ridge, approx. 15'± above flow line. Set 3-1/2" alum. cap on 5/8" bar driven firmly and flush with the ground. Stamped MCFCD; ERM 204; Elev. 2255.12; LS 22282; 1993 (Vertical Datum Only)
Wash "O"	117	2019.63	Found ADOT Brass Cap, stamping not legible, located top of north headwall on east side of SR 93 approx. 0.6 miles northwest of mile post marker #113.
	205	2199.35	ERM located 1.5 miles northeast along wash from the intersection of SR 93 and wash, approx. 15'± above andsouth of flow line of wash on small ridge. Set 3-1/2" alum. cap on 5/8" bar driven firmly into the ground standing 0.50' above ground. Stamped MCFCD; ERM 205; Elev. 2199.35; LS 22282; 1993. (Vertical Datum Only)
Wash "E" Mockingbird Wash	103	1994.80	Found ADOT Brass Cap, stamping noT legible, located top of headwall on east side of SR 93, approx. 2.5 miles south of Wickenburg.
	206	2206.35	ERM located 1.7 Miles northeast of the Intersection SR 93 and Mockingbird Wash. 18'± above and north of the flow line of Mockingbird Wash. Set 3-1/2" alum. cap on 5/8" bar Driven firmly into the ground with 0.40' standing above ground. Stamped MCFCD; ERM 206; Elev. 2206.35; LS 22282; 1993. (Vertical Datum Only)
Wash "M"	116	1982.87	Found ADOT Brass Cap, no stamping. Located south headwall on west side of SR 93. 400'±west of Hassayampa River Preserve.
Wash "L"	115	1982.03	Found ADOT Brass Cap, stamped Elev. 1983.00; Sta. 1011+57.5, 1938. Located on top of north headwall east side of SR 93, 100'± northwest of mile post 114.
	207	2136.95	ERM located 0.6 miles northeast of the intersection of SR 93 and Wash, approx. 40'± above and south of the flow line of Wash. Set 3-1/2" alum. cap on 5/8" bar driven firmly into the ground and flush. Stamped MCFCD; ERM 207; Elev. 2136.95; LS 22282; 1993. (Vertical Datum Only)
Wash "K"	104	1954.29	Found ADOT Brass Cap, stamped Elev. 1954.47; Sta. 1027+53.81. Located top of headwall on east side SR 93, approx. 3.6 miles south of Wickenburg

LOCATION	ERM NO.	ELEV.	DESCRIPTION
Wash "K" (cont.)	208	2217.06	ERM located 1.9 miles northeast of the intersection of SR 93 and Wash, approx. 12'± above and south of the flow line of Wash. Set 3-1/2" alum. cap on 5/8" bar driven firmly into the ground and flush. Stamped MCFCD; ERM 208; Elev. 2217.06; LS 22282; 1993. (Vertical Datum Only)
	209	2281.37	ERM located 2.4 miles northeast of the intersection of SR 93 and Wash, also 200'± north of dirt road crossing Wash, approx. 11'± above and south of the flow line of Wash. Set 3-1/2" alum. cap on 5/8" bar driven firmly into the ground and flush. Stamped MCFCD; ERM 209; Elev. 2281.37; LS 22282; 1993. (Vertical Datum Only)
	210	2312.12	ERM located 2.7 miles northeast of the intersection of SR 93 and Wash approx. 10'± above and south of the flow line. Set 3-1/2" alum. cap on 5/8" bar driven firmly into the ground and flush. Stamped MCFCD; ERM 210; Elev. 2312.12; LS 22282; 1993. (Vertical Datum Only)
Wash "J"	114	1930.85	Found ADOT Brass Cap, stamped Sta. 1062+30. Located top of north headwall on east side of SR 93, approx. 0.6 miles northwest of Monarch Wash Bridge.
Wash "I"	113	1929.85	Found ADOT Brass Cap, stamped Sta. 1070+08.06, located top of north headwall on east side of SR 93, approx. 0.4 miles northwest of Monarch Wash Bridge.
Wash "D"	112	1917.99	Found ADOT Brass Cap, no stamping, located southeast corner of Monarch Wash Bridge, top of barrier wall, along northwest bound, traffic side.
	211	2268.57	ERM located 3 miles northeast along Monarch Wash from SR 93 on left side of Wash 18'± above Wash. Set 3-1/2" alum. cap on 5/8" bar driven firmly into ground and flush. Stamped MCFCD; ERM 211; Elev. 2268.57; LS 22282; 1993. (Vertical Datum Only)
	212	2369.61	ERM located 3.7 miles along Monarch Wash northeast from SR 93 on right side of knob in middle of Wash 12'± above Wash. Set 3-1/2" alum. cap on 5/8" bar driven firmly into ground, 0.4' above ground. Stamped MCFCD; ERM 212; Elev. 2369.61; LS 22282; 1993. (Vertical Datum Only)
Wash "H"	105	1893.71	Found ADOT Brass Cap, stamped Elev. 1894.74; Sta. 1126+16.6 located top of headwall on east side of SR 93, approx. 3.9 miles north of the intersection of SR 93 and SR 74.
	213	2012.72	ERM located 1.4 miles northeast along Wash "H" from SR 93 on small ridge projecting into left side of Wash 12'± above Wash. Set 3-1/2" alum. cap on 5/8" bar driven firmly into ground and flush. Stamped MCFCD; ERM 213; Elev. 2012.72; LS 22282; 1993. (Vertical Datum Only)
Wash "G"	106	1879.31	Found ADOT Brass Cap, stamped elev. 1879.62; Sta. 1144.76.7, located top of headwall on west side of SR 93, approx. 3.6 miles north of the intersection of SR 93 and SR 74.
Wash "F"	111	1864.12	Found ADOT Brass Cap, no stampings. Located in center of headwall on east side of SR 93, approx. 0.6 miles northwest of San Domingo Wash Bridge.
Wash "T" San Domingo Wash	107	1891.13	Found ADOT Brass Cap, stamped Elev. 1891.44; Sta. 1216+83.9 located at the northeast corner of San Domingo Wash Bridge, approx. 2.2 miles north of the intersection SR 93 and SR 74.
	214	1952.70	ERM located 1.2 miles northeast along San Domingo Wash from SR 93 on right side of Wash and 14'± above wash. Set 3-1/2" alum. cap on 5/8" bar driven firmly into ground and set in concrete. Stamped MCFCD; ERM 214; Elev. 1952.70; LS 22282; 1993. (Vertical Datum Only)
	216	2022.84	ERM located 2.1 miles northeast along San Domingo Wash from SR 93, right side of Wash on ridge 10'± above Wash. Set 3-1/2" alum. cap on 5/8" bar driven firmly into ground and 0.2' above ground. Stamped MCFCD; ERM 216; Elev. 2022.84; LS 22282; 1993. (Vertical Datum Only)

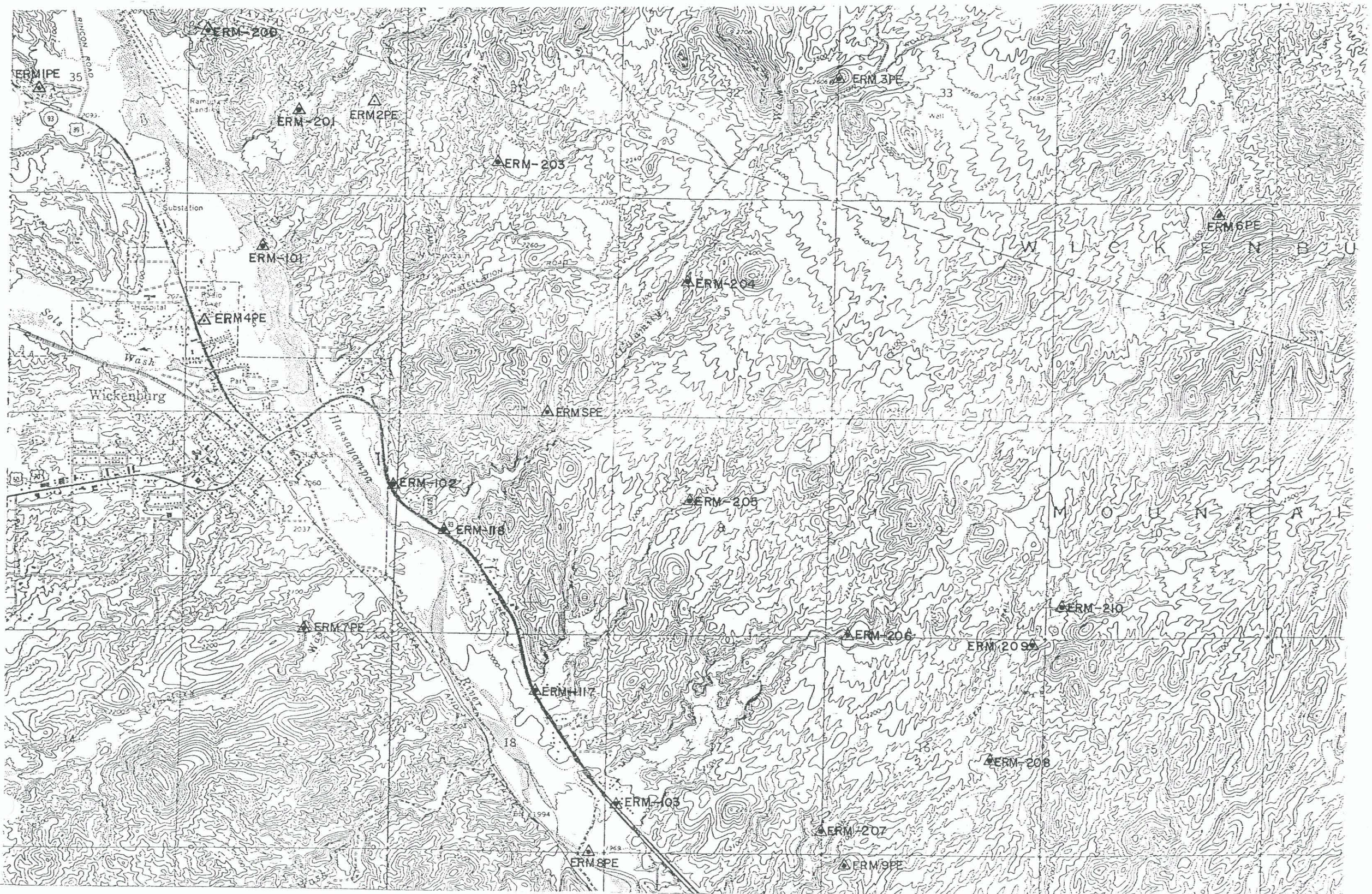
LOCATION	ERM NO.	ELEV.	DESCRIPTION
Wash "V" Ox Wash	108	1956.07	Found ADOT Brass Cap, stamped Elev. 1956.41; Sta. 1261+00; 1965. Located in T/C east end of center median at east side of Ox Wash.
	217	2006.02	ERM located 0.9 miles northeast along Ox Wash from SR 93 on top of Knoll right side of Wash up left Wash at intersection of Wash, 44'± above Wash. Set 3-1/2" alum. cap on 5/8" bar driven firmly into ground and flush. Stamped MCFCD; ERM 217; Elev. 2206.02; LS 22282; 1993. (Vertical Datum Only)
Wash "S" Little San Domingo Wash	109	1977.47	ERM Located behind east end guard rail westbound SR 93 0.5 miles east of SR 74. Set 3-1/2" alum. cap on 5/8" bar in concrete 0.2' above ground. Stamped MCFCD; ERM 109; Elev. 1977.47; LS 22282; 1993. (Vertical Datum Only)
	110	2014.85	Found ADOT Brass Cap, stamped Elev. 2014.78; Sta. 66+00; 1964, located in center of headwall south side of SR 74, approx. 500'± west of intersection of SR 74 and Castle Hot Springs Rd.

f:\misc\90022.erm

WICKENBURG AREA DRAINAGE MASTER STUDY - EAST AREA

APPROXIMATE COORDINATE LOCATIONS OF ADDITIONAL ERM'S ESTABLISHED IN MARCH, 1993

ERM #	Wash & Sheet		Northing	Easting	Elevation
200	P-1	6	1090960	451824	2132.98
201	C-1	7	1089039	454001	2129.85
101	N-1	8	1085590	453418	2060.90
203	AA-2	10	1087798	458816	2218.36
102	AF-1	12	1079994	456333	2033.39
118	B-1	13	1079923	457546	2032.92
204	B-2	14	1084880	463427	2255.12
117	O-1	16	1074808	459961	2019.63
205	O-2	17	1079601	463490	2199.35
103	E-1	18	1072300	461858	1994.80
206	E-2	19	1076440	467529	2206.35
116	M-1	20	1069317	464269	1982.87
115	L-1	21	1068814	464782	1982.03
207	L-1	21	1071622	466861	2136.95
104	K-1	23	1067466	465642	1954.29
208	K-2	24	1073545	470641	2217.06
209	K-3	25	1075950	471746	2281.37
210	K-5	27	1077098	472712	2312.12
114	J-1	28	1064597	476556	1930.85
113	I-1	29	1063970	468052	1929.85
112	D-1	31	1062223	469489	1917.99
211	D-3	33	1069841	478360	2268.57
212	D-3	33	1072338	481406	2369.61
105	H-1	35	1058921	470203	1893.71
213	H-1	35	1060603	473926	2012.72
106	G-1	37	1057361	470789	1879.31
111	F-1	38	1053658	472223	1864.12
107	T-1	40	1051012	473665	1891.13
214	T-2	41	1054205	478342	1952.70
216	T-2	41	1058185	480138	2022.84
108	V-1	43	1048132	476812	1956.07
217	V-1	43	1051355	480509	2006.02
109	S-3	47	1040570	484496	1977.47
110	S-4	48	1042051	487796	2014.85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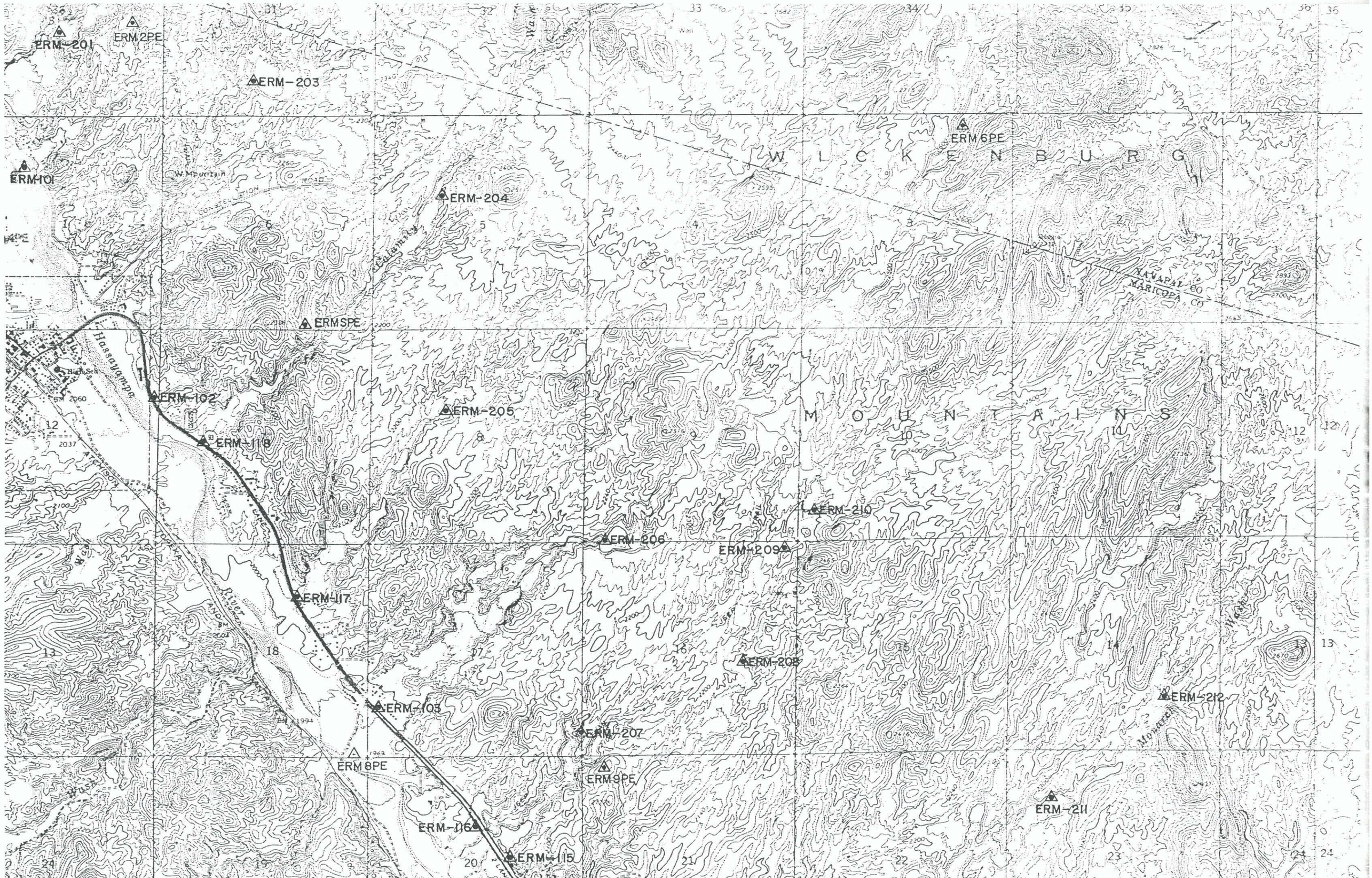
ERM1PE
ERM-201
ERM2PE
ERM-203
ERM3PE
ERM6PE
ERM-101
ERM-204
ERM4PE
ERM5PE
ERM-102
ERM-205
ERM-118
ERM7PE
ERM-210
ERM-206
ERM-209
ERM-117
ERM-208
ERM-103
ERM-207
ERM8PE
ERM9PE
Wickenburg
Sols Wash
Hassayampa
Substation
Hospital
Park
Well
W I C K E N B U
M O U N T A I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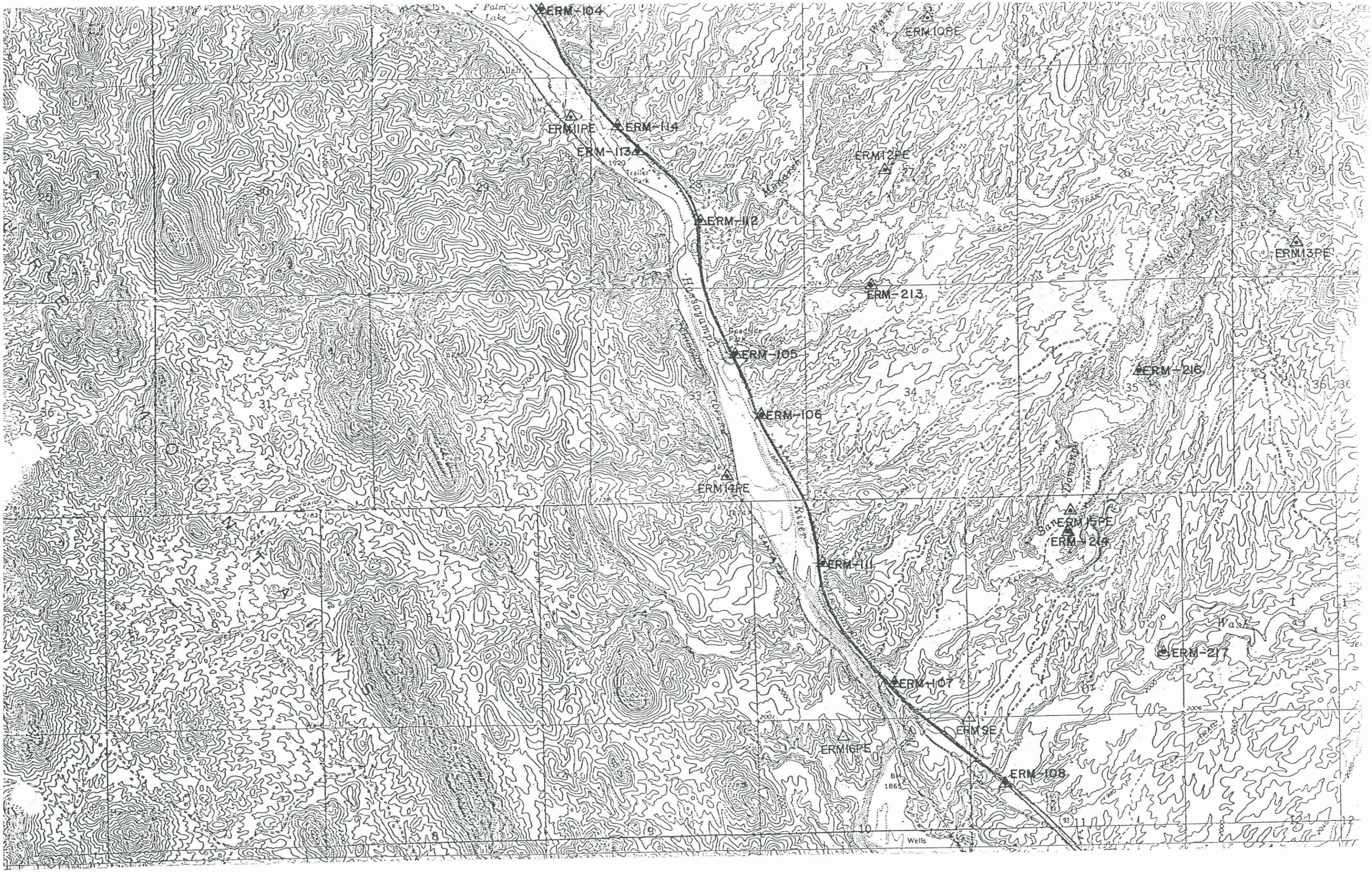
ERM 2PE
ERM-203
ERM-101
ERM-204
ERM 6PE
W L C K E N B U R G
ERM 5PE
Hassayampa
ERM-102
ERM-205
ERM-118
M O U N T A I N S
ERM-210
ERM-206
ERM-209
ERM-117
ERM-208
ERM-103
ERM-212
ERM-207
ERM 8PE
ERM 9PE
ERM-211
ERM-116
ERM-115
MARICOPA CO
Monarch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ERM-114
ERM-113
ERM12PE
ERM-112
ERM13PE
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ERM-105
ERM-216
ERM-106
ERM14PE
ERM15PE
ERM-214
ERM-111
ERM-217
ERM-107
ERM9E
ERM16PE
ERM-108
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Trailer Park
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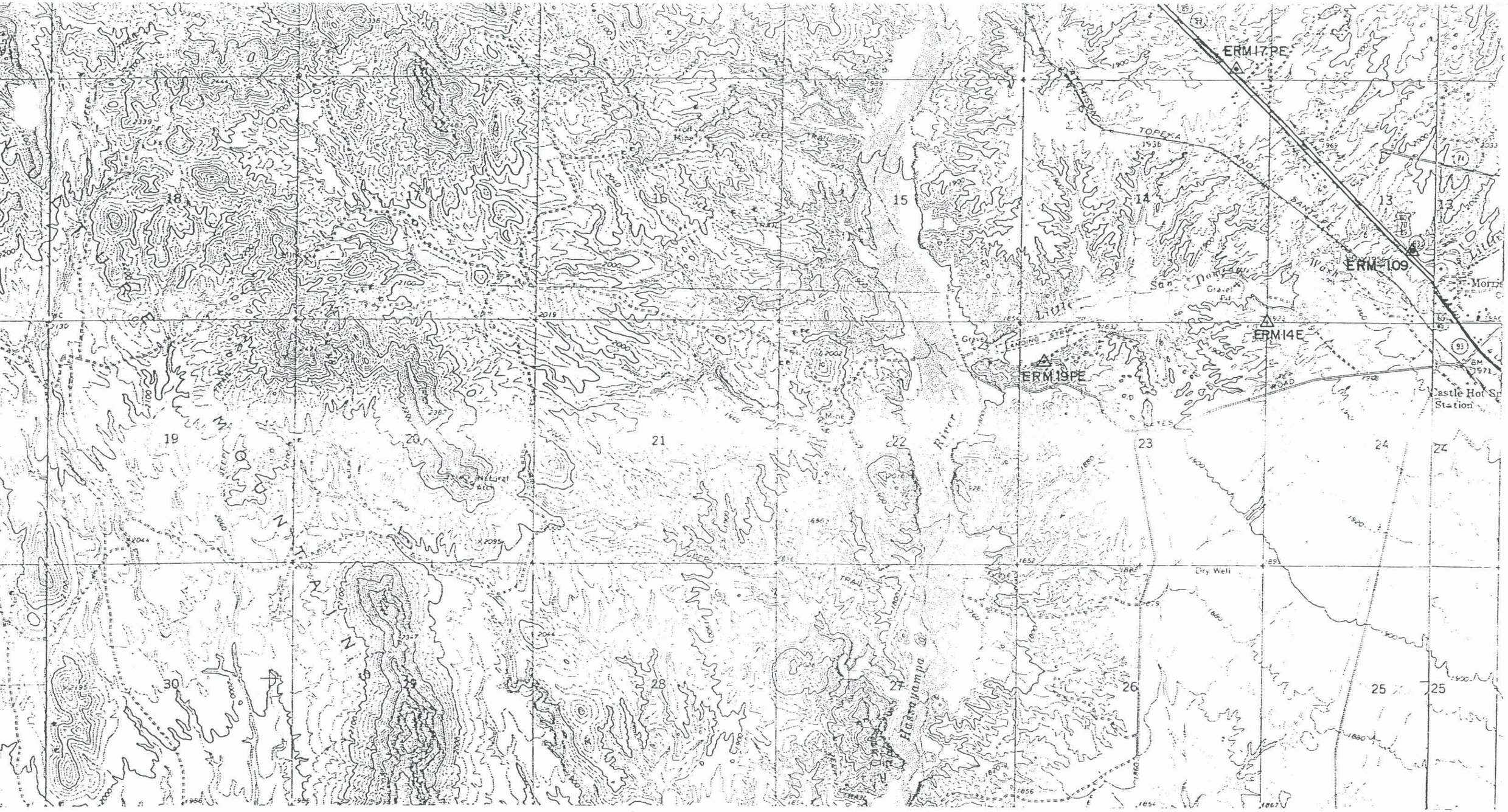
River
Wash
Wells


ERM 17PE
ERM 1.09
ERM 14E
ERM 19PE
TOPEKA AND SANTA FE
Castle Hot Sp
Station
Dry Well
Hassayampa
River
Little
San Domingo
Wash
Gravel Pit
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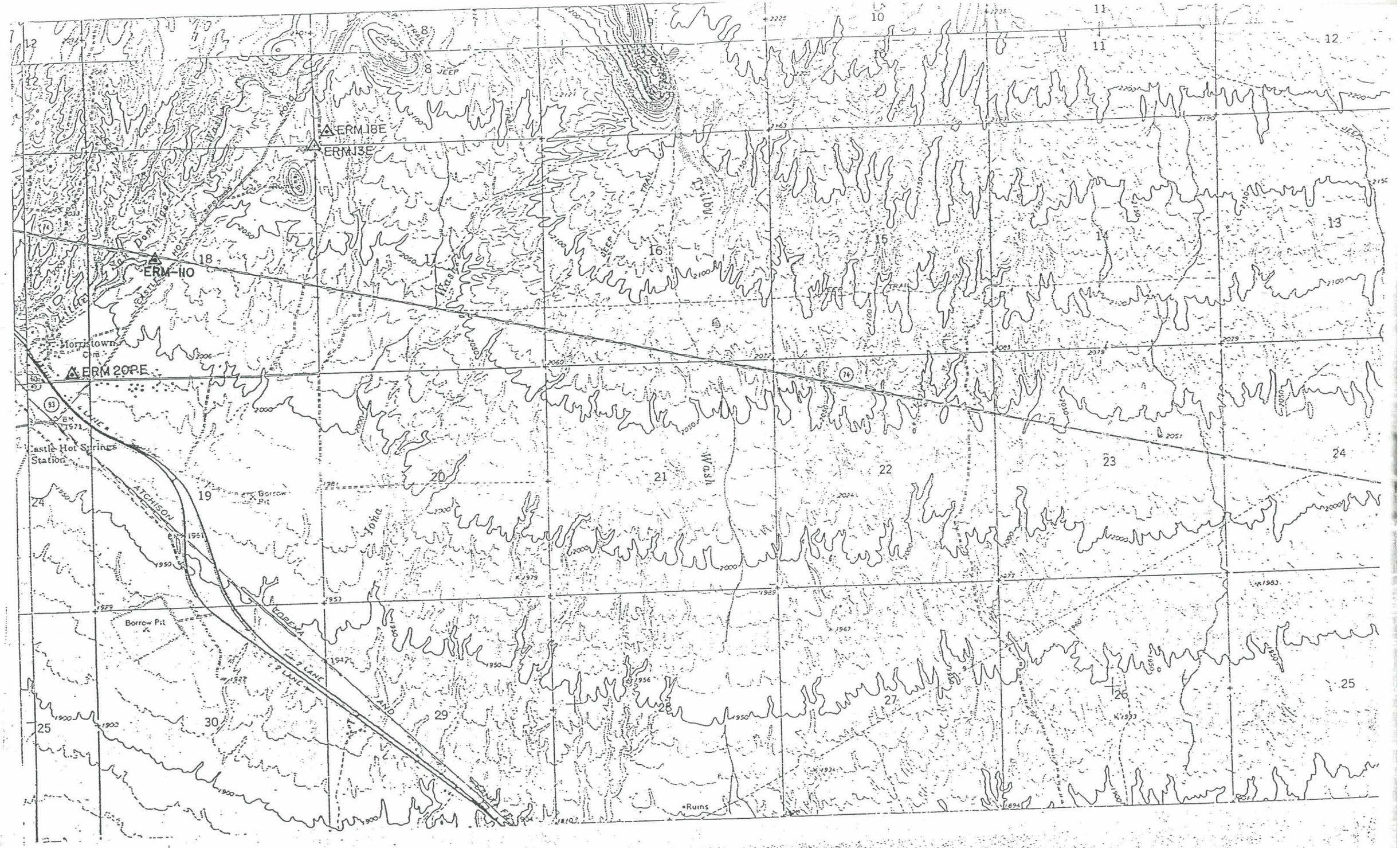

ERM 18E
ERM 13E
ERM-110
ERM 20PE
Morristown Cem
Castle Hot Springs Station
Borrow Pit
Borrow Pit
ATCHISON
TOPEKA
AND
SANTA FE
2 LANE
Iola
Wabash
Ruins
JEEP
TRAIL

WESTERN AIR MAPS, INC.
P.O. BOX 14988 • LENEXA, KANSAS 66285 • (913) 888-5266
FAX (913) 888-5361

April 22, 1993

Mr. Timothy K. Meyer, P.E.
Black & Veatch
2111 East Highland Avenue, Suite 305
Phoenix, Arizona 85016

Dear Mr. Meyer:

The purpose of this letter is to summarize and explain the results of the field profile map checks of the topographic mapping compiled by Western Air Maps for the Wickenburg area Drainage Master Study East Area. The field work was performed by Morrison Maierle/CSSA of Phoenix, Arizona from August to October, 1991 and March 1993. The profile data was collected at approximately one hundred foot intervals along roads as selected by Black and Veatch. Profile lines were tied horizontally to planimetric objects plotted on the maps.

All topographic information for the twenty washes in the study area was compiled from eighteen stereo photogrammetric models. In reference to the flight index diagram enclosed in the survey report, the photogrammetric models set were Flight 1- #0/1 through #10/11, Flight 2- #0/1, 2/3 through 4/5 and Flight 2A - #2/3, 4/5, 6/7. In accordance with FEMA 37 specifications, a field check profile needed to be taken every third model along the project corridor, or a total of six profiles for the eighteen models set up. The profiles were taken at washes A, B, E, M, T and S to insure that there would be no more than two photogrammetric models between the models containing the check profile locations. Because of the unique configuration of the project (each wash being a relatively short length in a northeast orientation compared to the overall project) the photography was flown perpendicular to the washes, rather than parallel to the approximate wash centerline. Even though no one wash contained three adjacent models, the criteria of a check profile at least every third model was adhered to by counting the models along the flight line which covered the low terminus of every wash, and parallel to the major axis of the entire project area.

The ruggedness of terrain, poor accessibility and lack of distinct planimetric features caused the test profiles to be run along road and trails where an adequate number of contours could be checked. The beginning and ending point of each test profile was related to Arizona State Plane Coordinates or a distinct planimetric feature. Intermediate ties made between planimetric features along the test profile run were used to check the horizontal scale accuracy of the maps. Since the majority of field observations did not fall precisely on the contour crossings, an interpolation between the contour lines had to be used to determine the elevation from the topographic map at the field point location.

The criteria used for determining the acceptability of test profile observations are that the field observation must be within two feet of the elevation interpolated between contours for ninety percent of the observations and no more than four feet distant anywhere, as described in the FEMA 37 specifications. For spot elevations that fall on the check profile line, ninety percent will be within one foot with no observations at spot elevations differing by more than two feet. The following is a tabular listing by wash of the field observation test profiles acceptability.

As can be seen in the table below, Wash "S" did not have an acceptable percentage of spot elevations falling within the ninety percent criteria of plus or minus one foot discrepancy. After this result was discovered, a second test profile was run at the nearby vicinity of the first profile, with the acceptable data shown in the table. The map sheets were corrected to reflect the discrepancies found in the spot elevations of the first check profile.

CONTOURS

WASH DESIGNATION	NO. OF CONTOUR CROSSINGS	NO. OF FIELD OBSERVATIONS	OBSERVATIONS MEETING 90% CRITERIA	OBSERVATIONS WITHIN 100% CRITERIA	ACCEPTABLE %
A	6	9	9	9	100
B	5	13	12	13	92
E	6	10	10	10	100
M	8	11	11	11	100
T	12	14	14	14	100
S	0	11	0	0	N/A
S (reshot)	5	11	10	11	91

	CONTOURS		SPOTS		
WASH DESIGNATION	NO. OF CONTOUR CROSSINGS	NO. OF FIELD OBSERVATIONS	SPOTS MEETING 90% CRITERIA	SPOTS WITHIN 100% CRITERIA	ACCEPTABLE %
A	6	9	0	0	N/A
B	5	13	0	0	N/A
E	6	10	0	0	N/A
M	8	11	1	1	100
T	12	14	1	1	100
S	0	11	1	2	33
S (reshot)	5	11	0	0	N/A

We believe that these check profiles verify the accuracy of the mapping performed in the study area. If you have any questions or would like a further explanation on any point, please call me.

Sincerely,

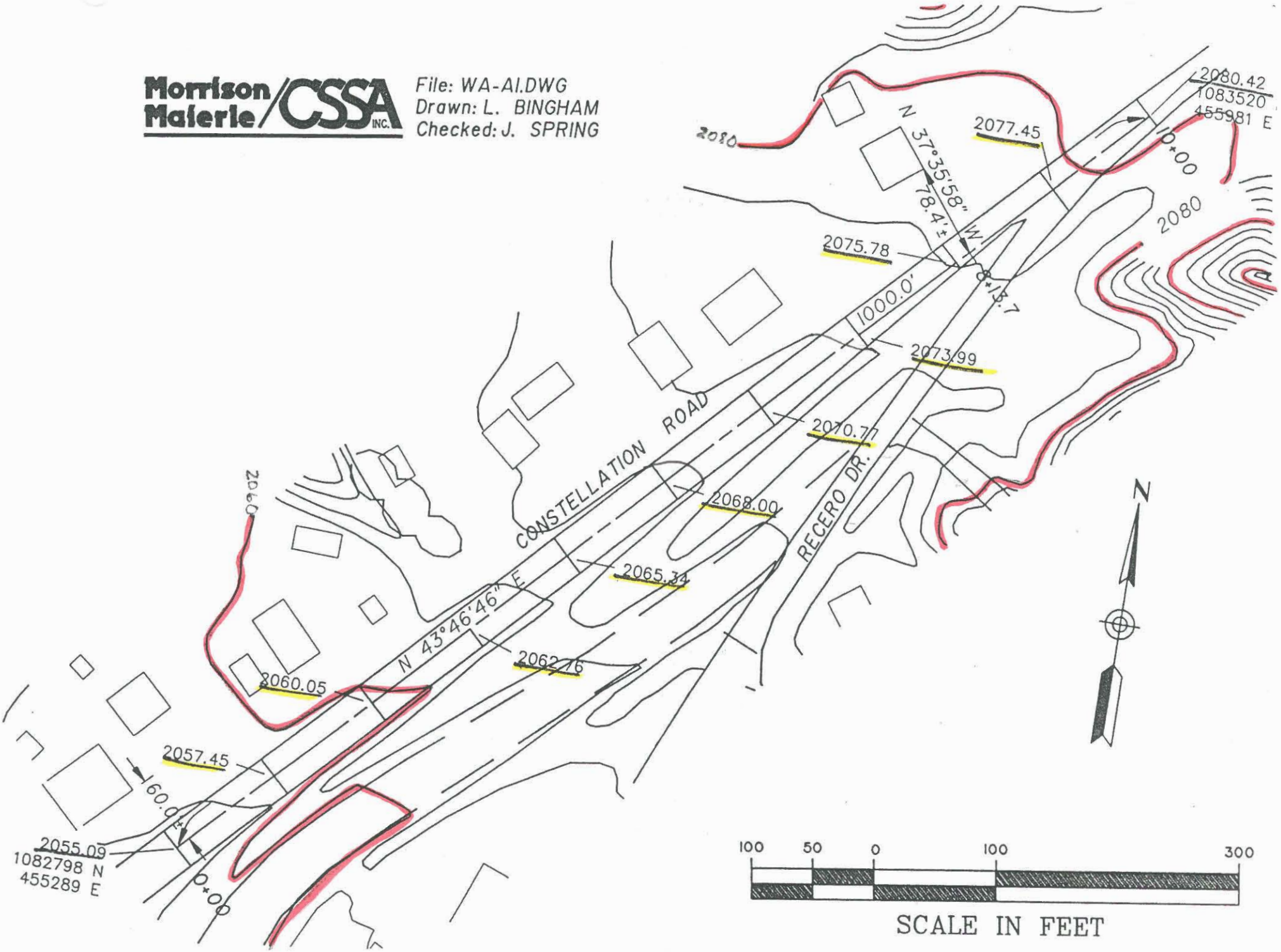
WESTERN AIR MAPS, INC.

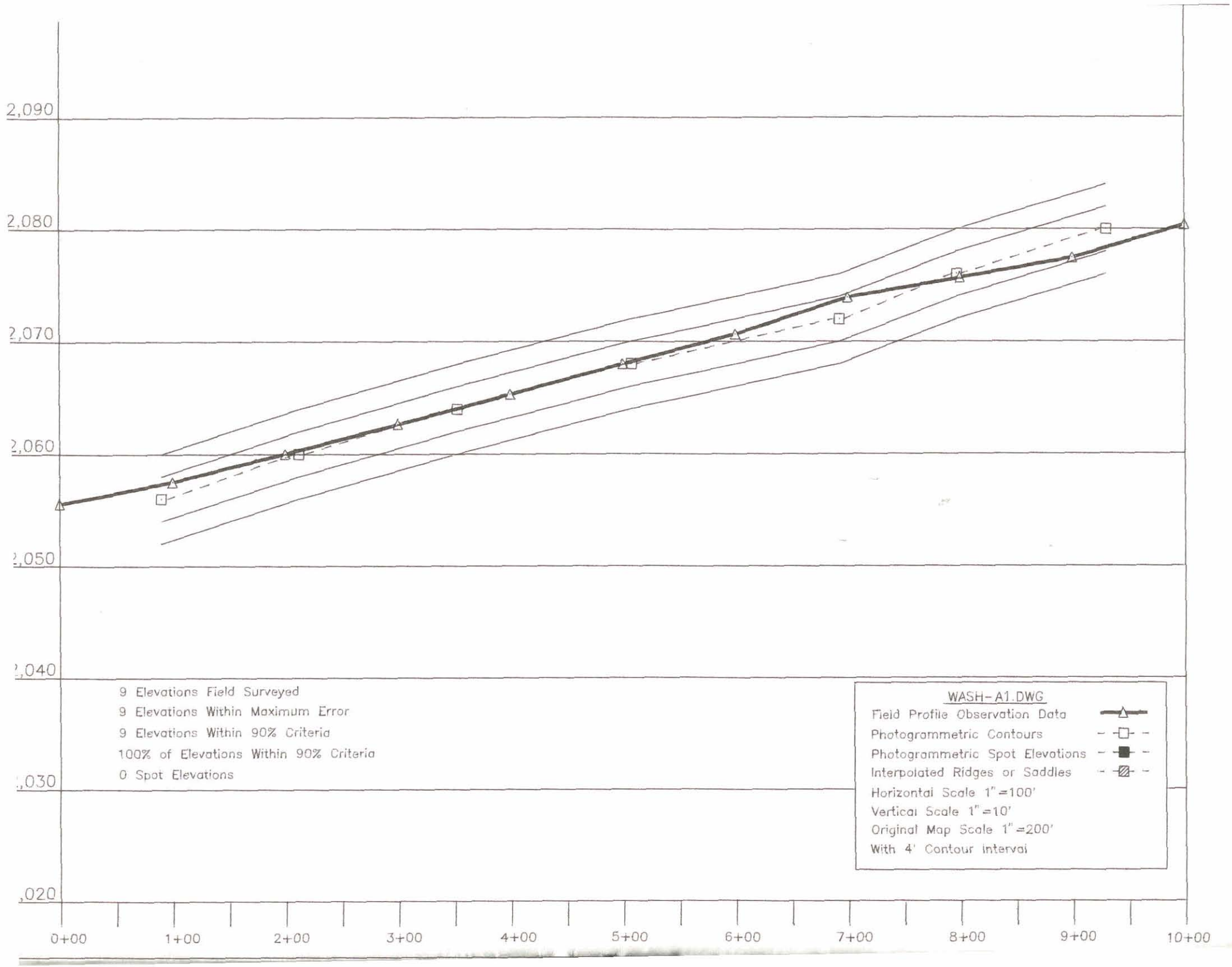
Eric Cenovich, R.L.S., C.P.
Vice President, Operations

EC:dj

Morrison Maierle/CSSA INC.

File: WA-A1.DWG
Drawn: L. BINGHAM
Checked: J. SPRING

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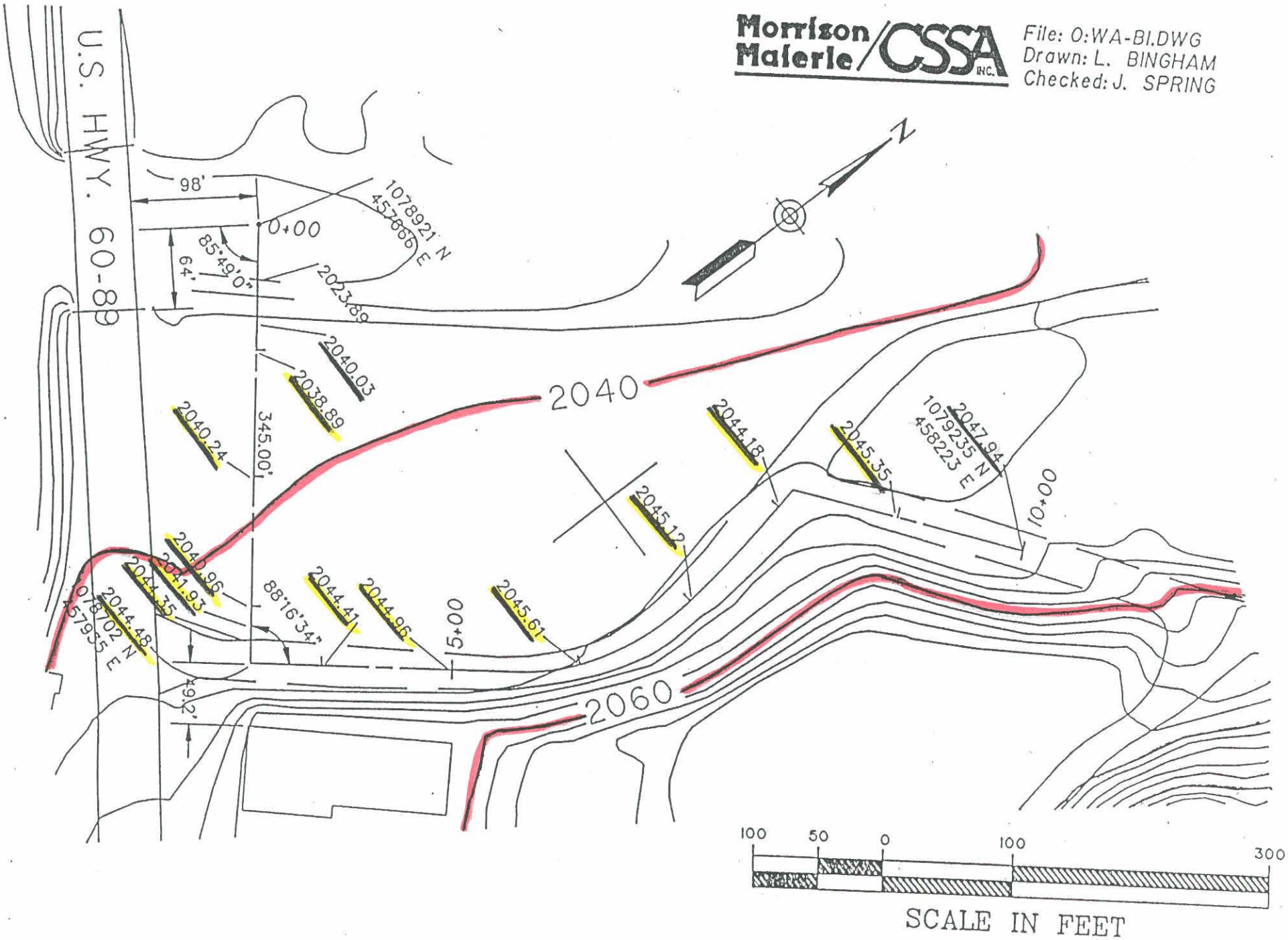
7+00
8+00
9+00
10+00
9 Elevations Field Surveyed
9 Elevations Within Maximum Error
9 Elevations Within 90% Criteria
100% of Elevations Within 90% Criteria
0 Spot Elevations
WASH-A1.DWG
Field Profile Observation Data
Photogrammetric Contours
Photogrammetric Spot Elevations
Interpolated Ridges or Saddles
Horizontal Scale 1"=100'
Vertical Scale 1"=10'
Original Map Scale 1"=200'
With 4' Contour Interval


Morrison Maierle/CSSA INC.
File: O:WA-BI.DWG
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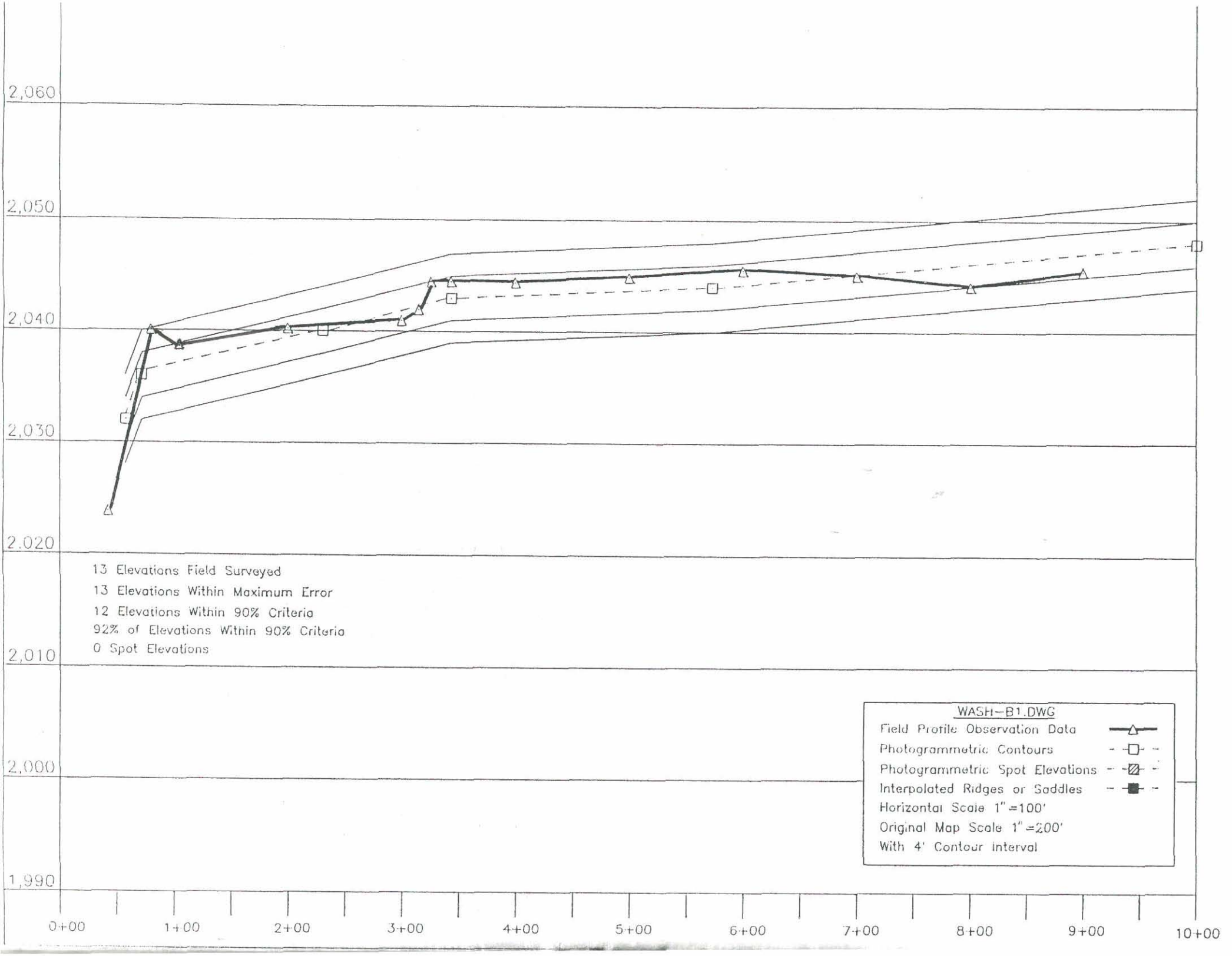
Checked: J. SPRING
U.S. HWY. 60-89
98'
0+00
1078921 N
457866 E
85°49'0"
64'
2023.89
2040.03
2038.89
2040.24
345.00'
2040
2044.18
2045.35
2047.94
1079235 N
458223 E
10+00
2045.12
2040.96
2041.93
2044.35
2044.48
1078702 N
457955 E
88°16'34"
2044.41
2044.96
5+00
2045.61
49.2'
2060
N
100
50
0
100
300
SCALE IN FEET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0+00
1+00
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3+00
4+00
5+00
6+00
7+00
8+00
9+00
10+00
13 Elevations Field Surveyed
13 Elevations Within Maximum Error
12 Elevations Within 90% Criteria
92% of Elevations Within 90% Criteria
0 Spot Elevations
WASH-B1.DWG
Field Profile Observation Data
Photogrammetric Contours
Photogrammetric Spot Elevations
Interpolated Ridges or Saddles
Horizontal Scale 1"=100'
Original Map Scale 1"=200'
With 4' Contour Interval

Morrison Maierle / CSSA INC.

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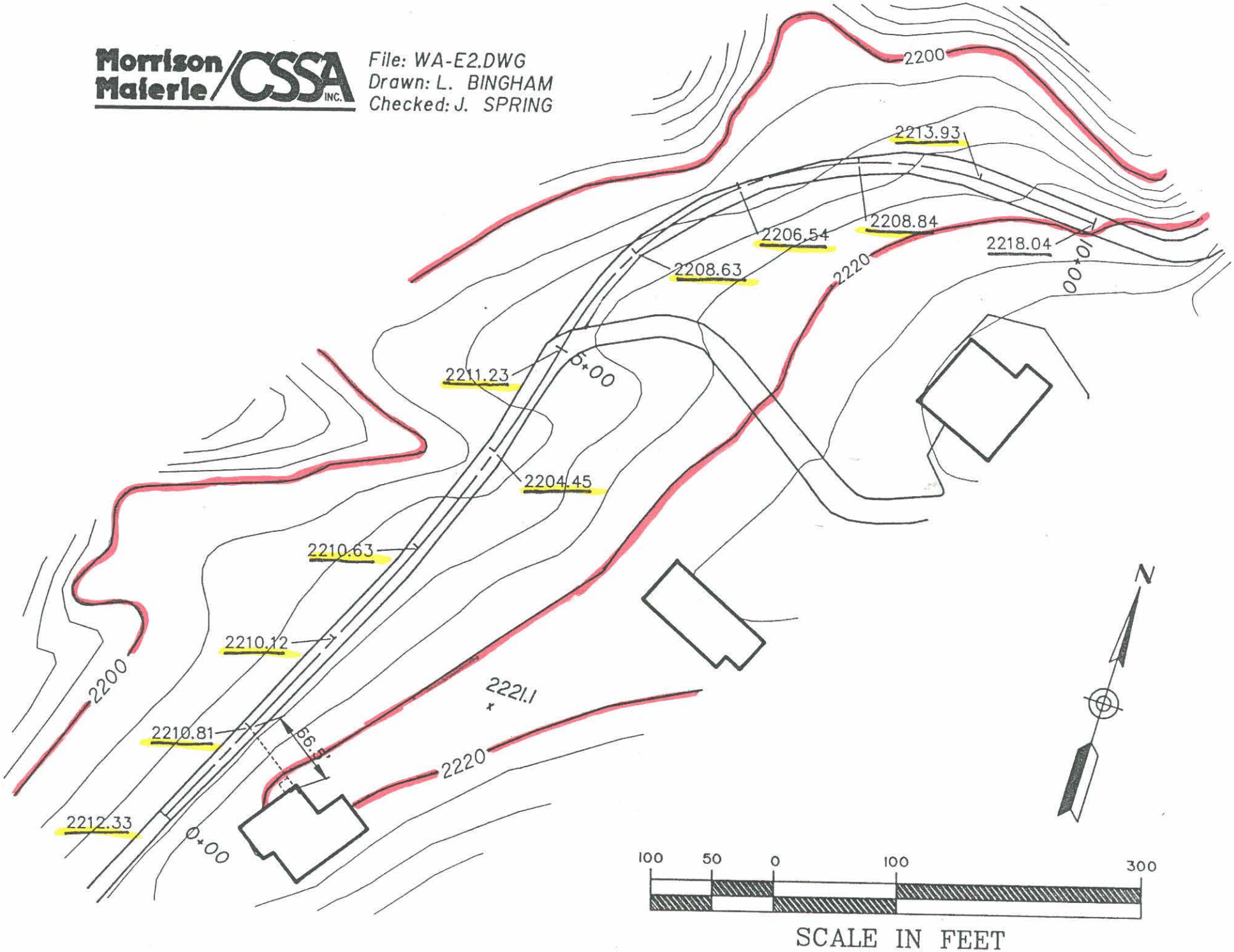
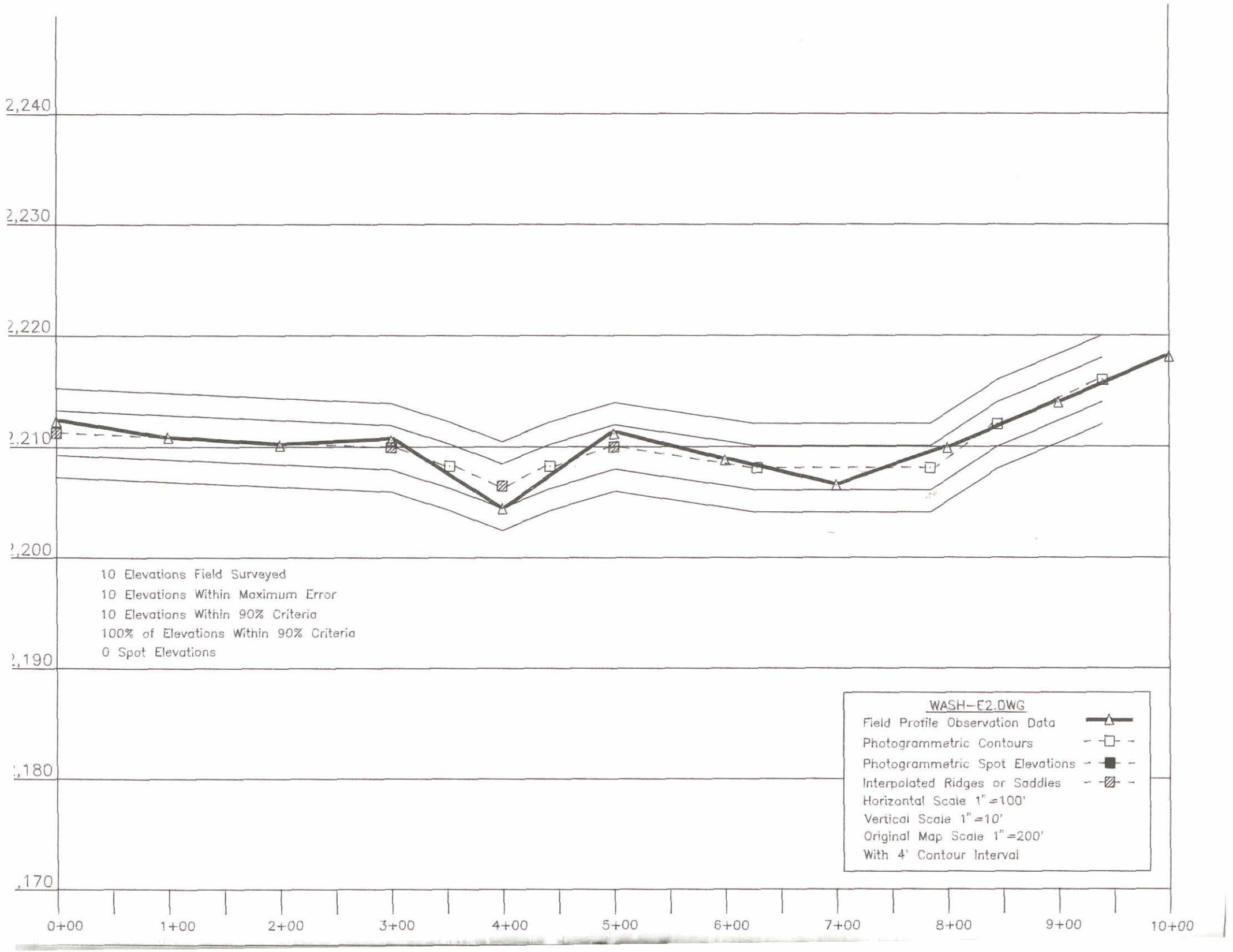
Checked: J. SPRING

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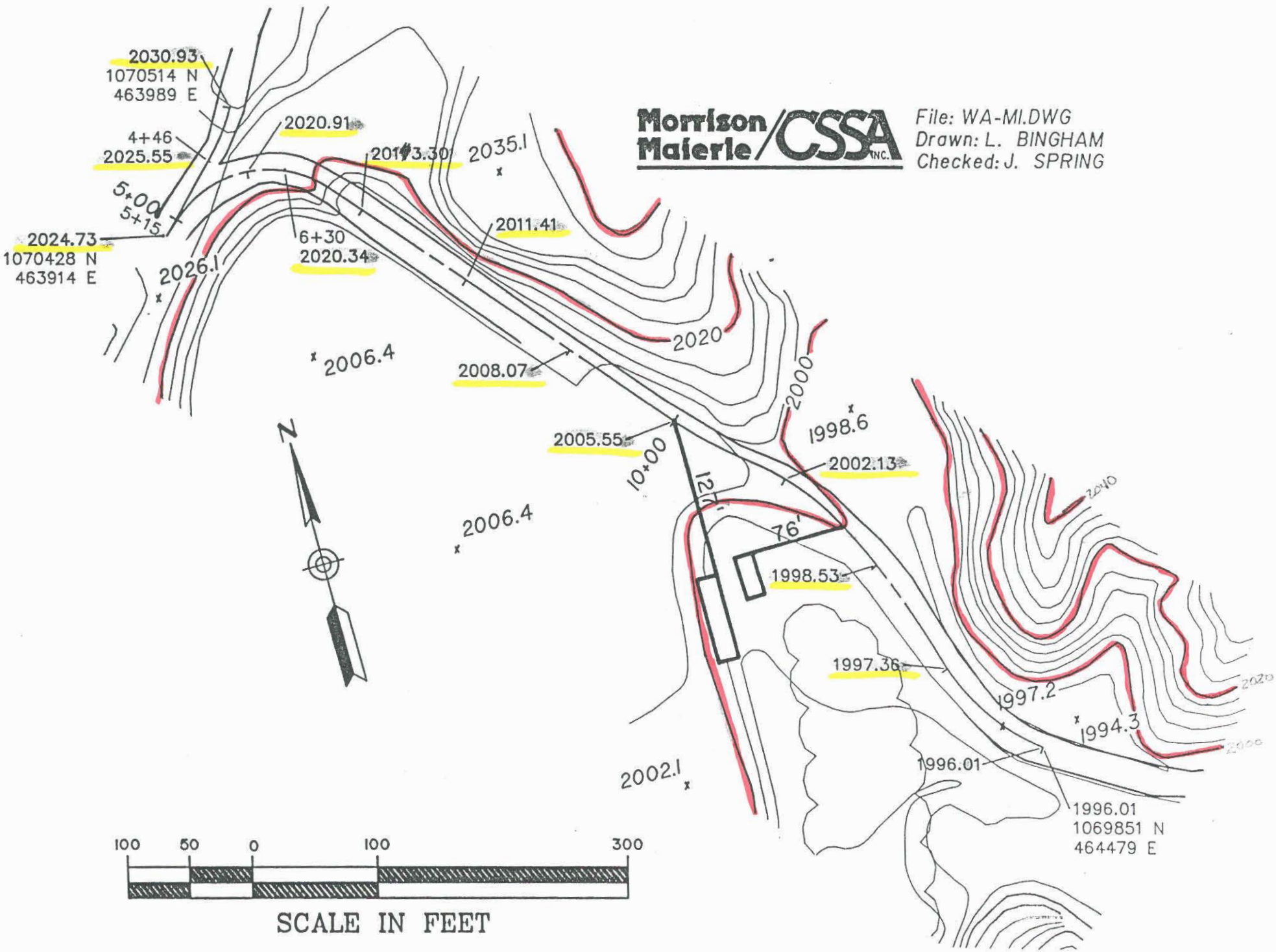
3+00
4+00
5+00
6+00
7+00
8+00
9+00
10+00
10 Elevations Field Surveyed
10 Elevations Within Maximum Error
10 Elevations Within 90% Criteria
100% of Elevations Within 90% Criteria
0 Spot Elevations
WASH-E2.DWG
Field Profile Observation Data
Photogrammetric Contours
Photogrammetric Spot Elevations
Interpolated Ridges or Saddles
Horizontal Scale 1"=100'
Vertical Scale 1"=10'
Original Map Scale 1"=200'
With 4' Contour Interval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Checked: J. SPRING
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2020.91
4+46
2025.55
2013.30
2035.1
5+00
5+15
2011.41
2024.73
1070428 N
463914 E
6+30
2020.34
2026.1
2020
2006.4
2008.07
2000
1998.6
2005.55
10+00
2002.13
N
2006.4
76'
1998.53
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1997.2
1994.3
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1996.01
1069851 N
464479 E
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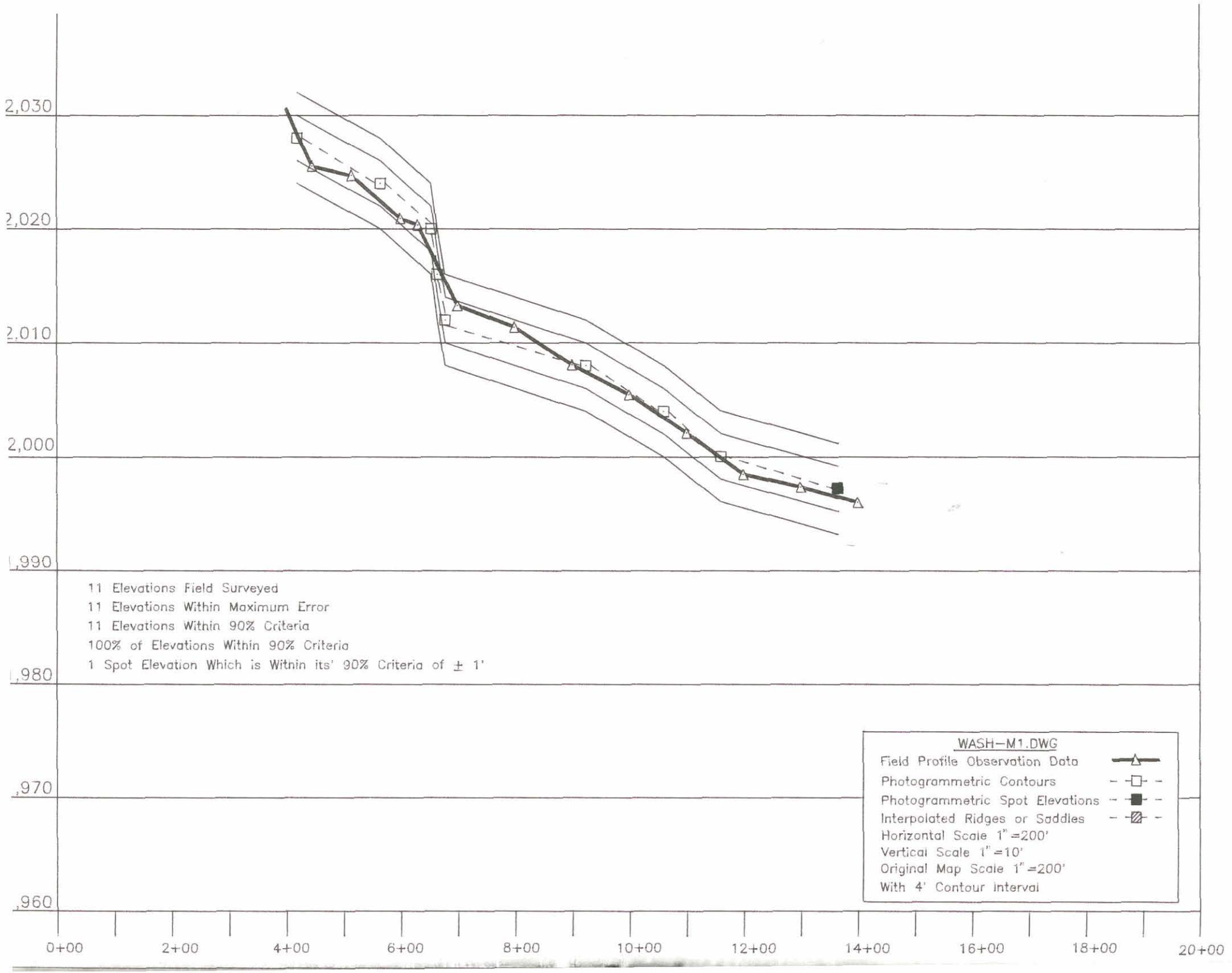
SCALE IN FEET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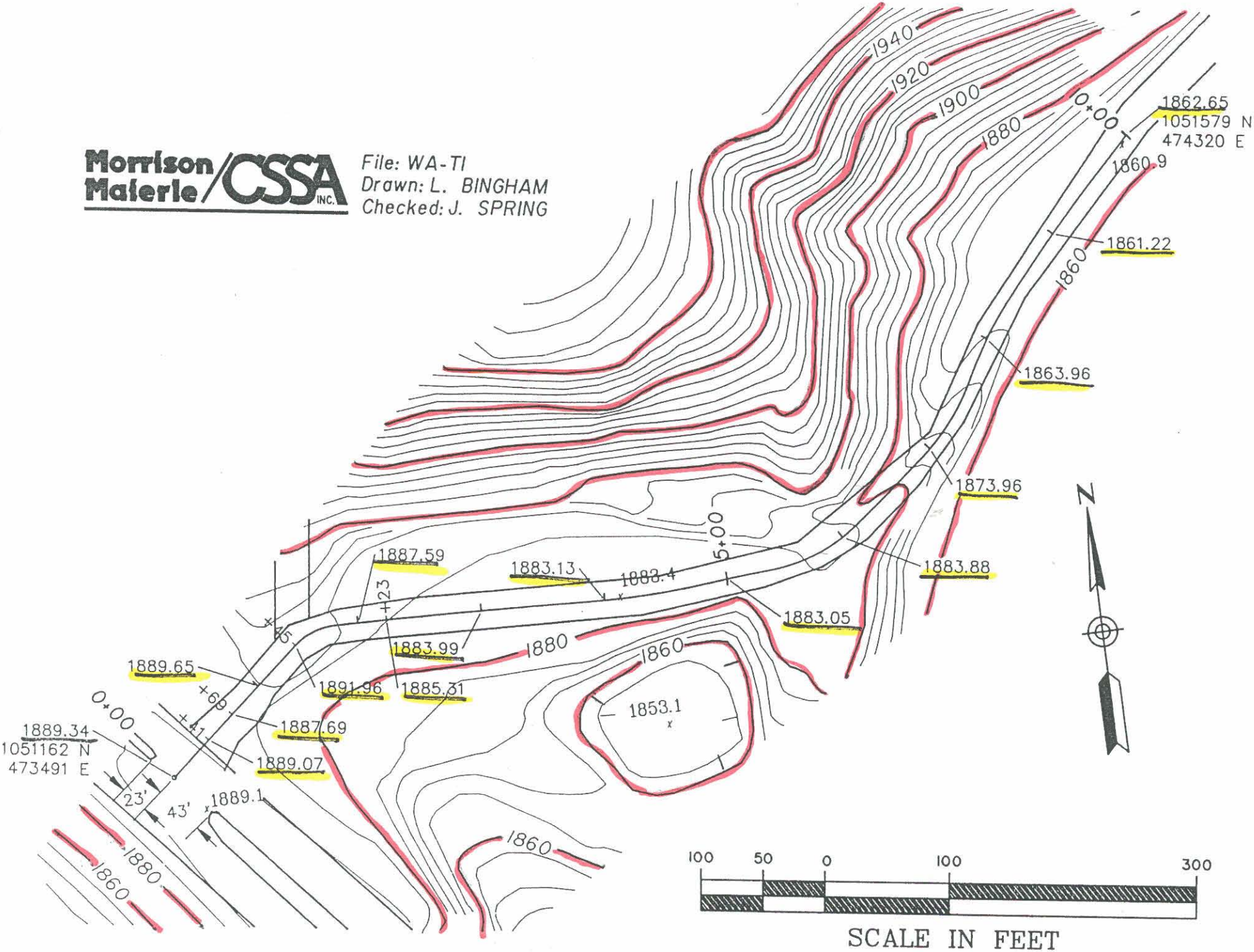
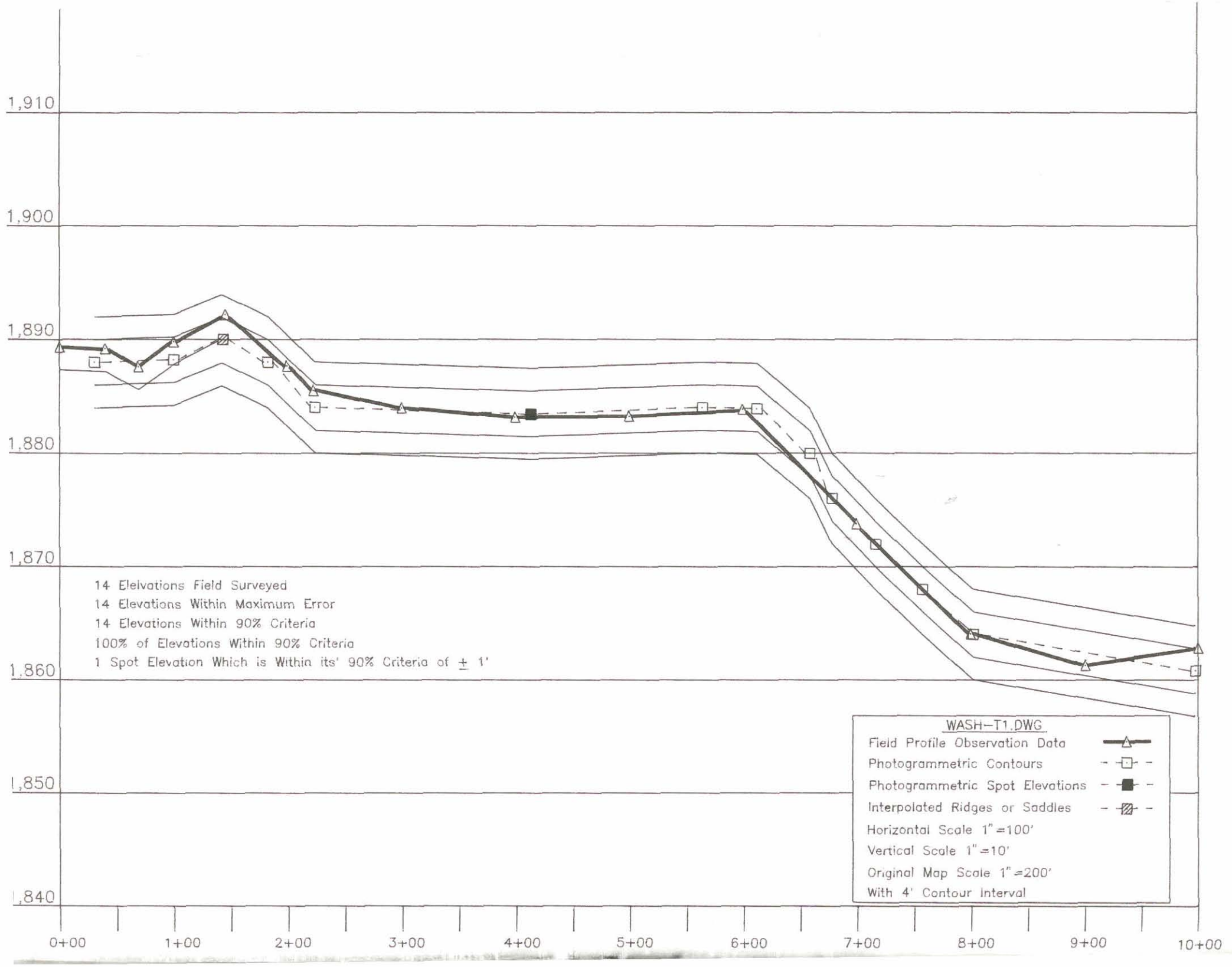
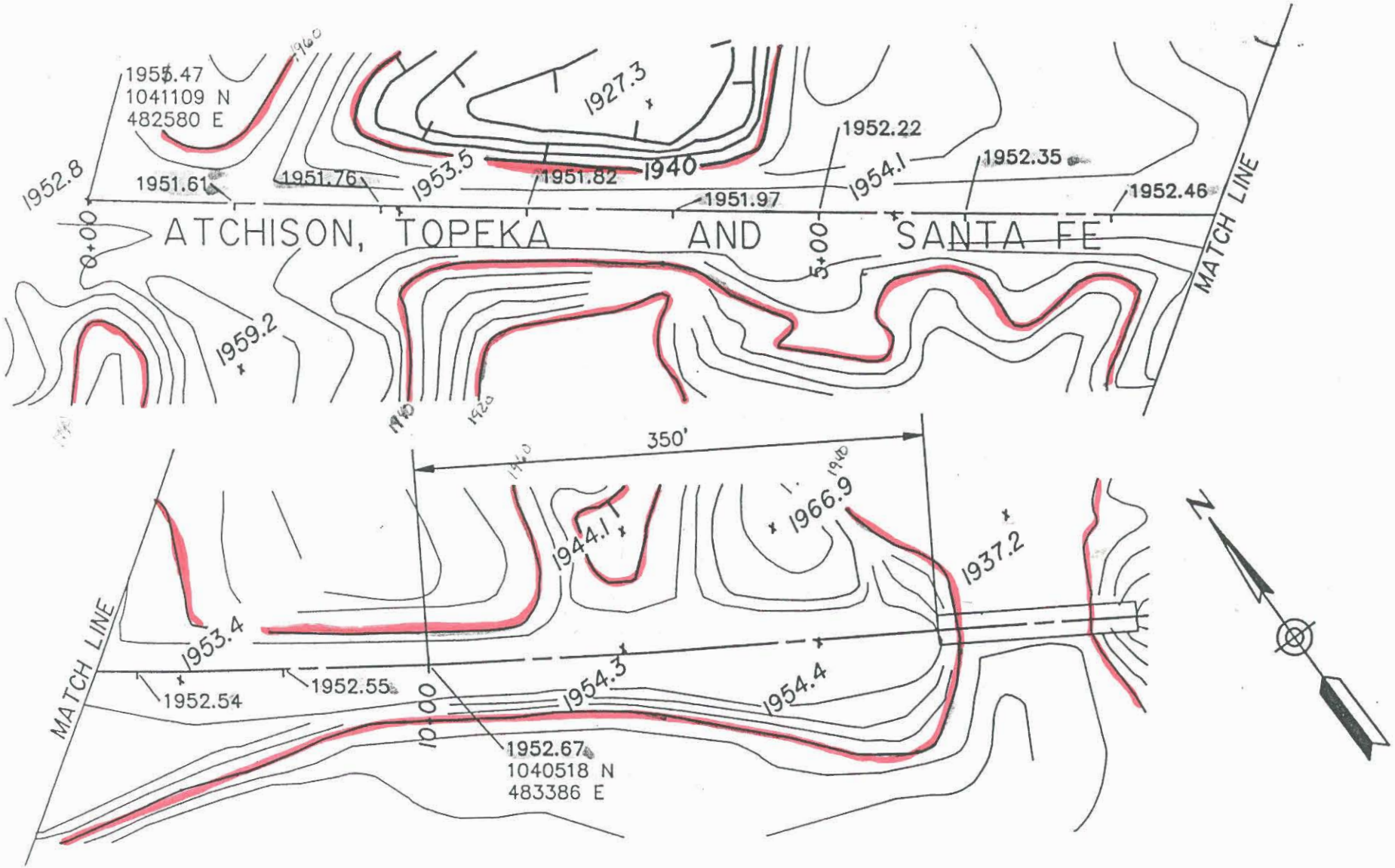
2+00
4+00
6+00
8+00
10+00
12+00
14+00
16+00
18+00
20+00
11 Elevations Field Surveyed
11 Elevations Within Maximum Error
11 Elevations Within 90% Criteria
100% of Elevations Within 90% Criteria
1 Spot Elevation Which is Witnin its' 90% Criteria of ± 1'
WASH-M1.DWG
Field Profile Observation Data
Photogrammetric Contours
Photogrammetric Spot Elevations
Interpolated Ridges or Saddles
Horizontal Scale 1"=200'
Vertical Scale 1"=10'
Original Map Scale 1"=200'
With 4' Contour Interval


Morrison Maierle/CSSA INC.
File: WA-TI
Drawn: L. BINGHAM
Checked: J. SPRING
1940
1920
1900
1880
1860
0+00
1862.65
1051579 N
474320 E
1860.9
1861.22
1863.96
1873.96
1883.88
5+00
1883.13
1883.4
1883.05
1887.59
+23
+35
1883.99
1889.65
+69
+41
1891.96
1885.31
1887.69
1889.07
0+00
1889.34
1051162 N
473491 E
23'
43'
1889.1
1853.1
N
100
50
0
100
300
SCALE IN FEET

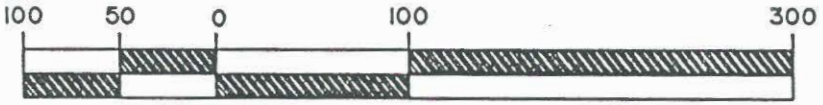

1,910
1,900
1,890
1,880
1,870
1,860
1,850
1,840
0+00
1+00
2+00
3+00
4+00
5+00
6+00
7+00
8+00
9+00
10+00
14 Elelvations Field Surveyed
14 Elevations Within Maximum Error
14 Elevations Within 90% Criteria
100% of Elevations Within 90% Criteria
1 Spot Elevation Which is Within its' 90% Criteria of ± 1'
WASH-T1.DWG
Field Profile Observation Data
Photogrammetric Contours
Photogrammetric Spot Elevations
Interpolated Ridges or Saddles
Horizontal Scale 1"=100'
Vertical Scale 1"=10'
Original Map Scale 1"=200'
With 4' Contour Interval



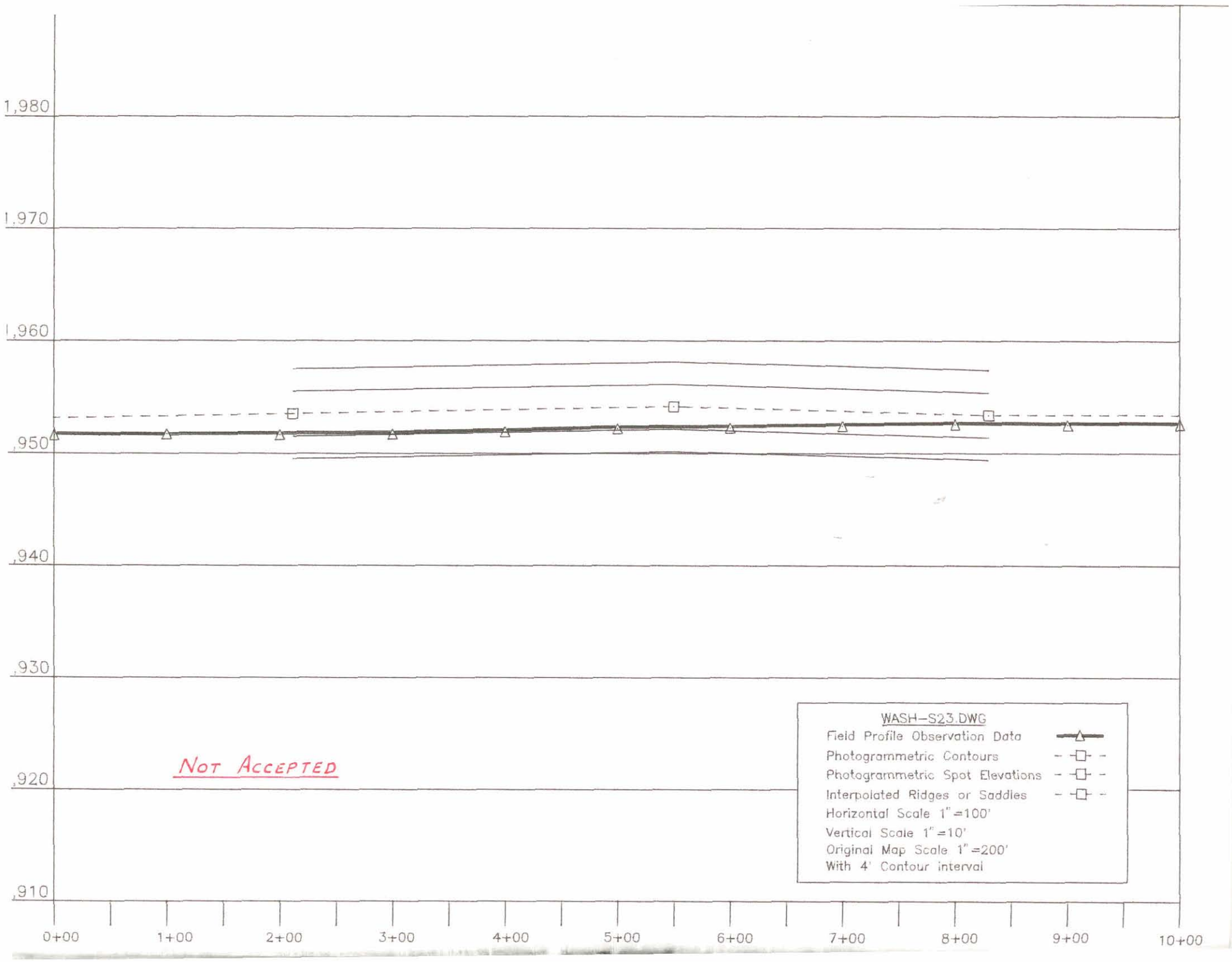
NOT ACCEPTED

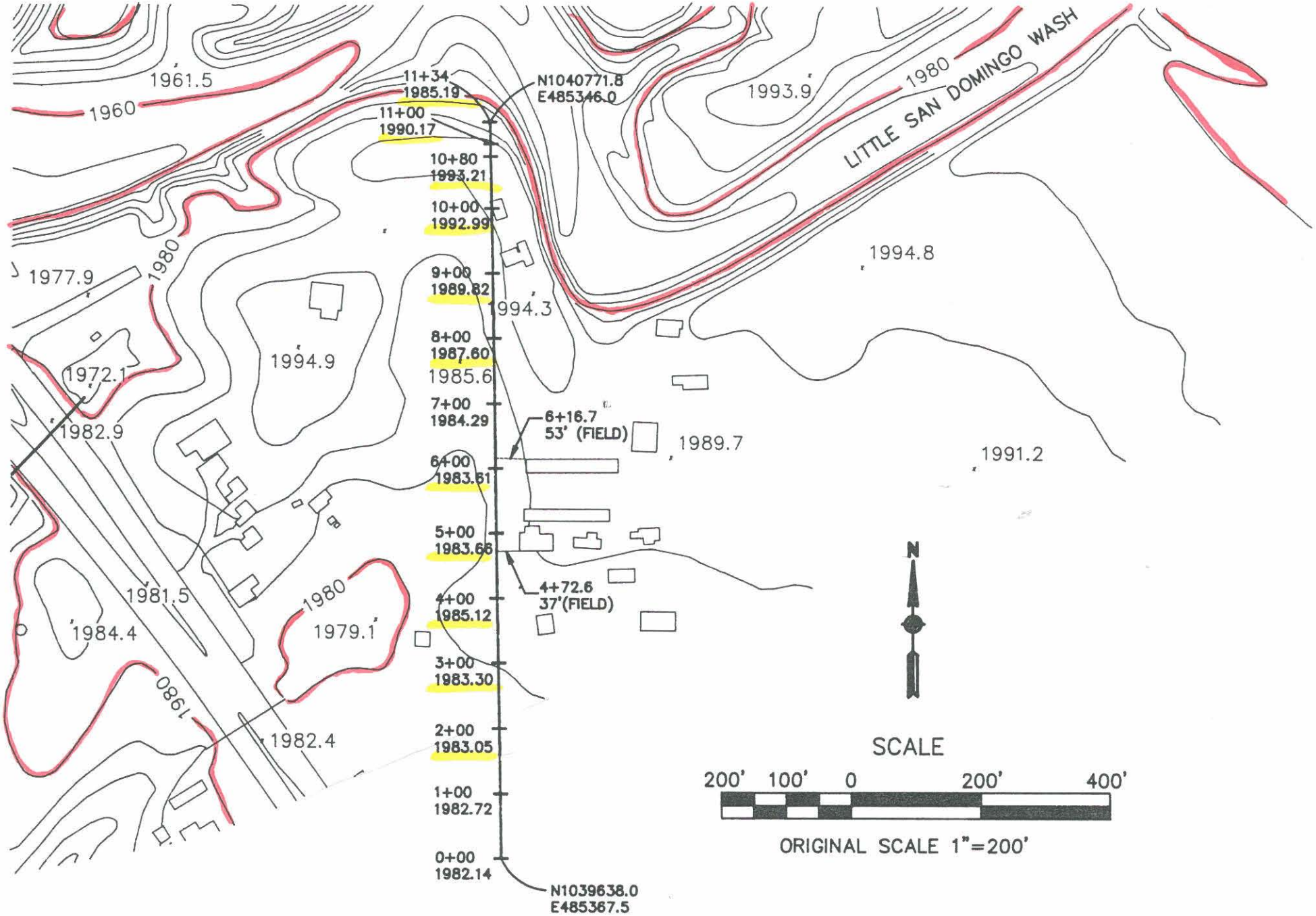
Morrison Maierle/CSSA INC.

File: WA-S23
Drawn: L. BINGHAM
Checked: J. SPRING



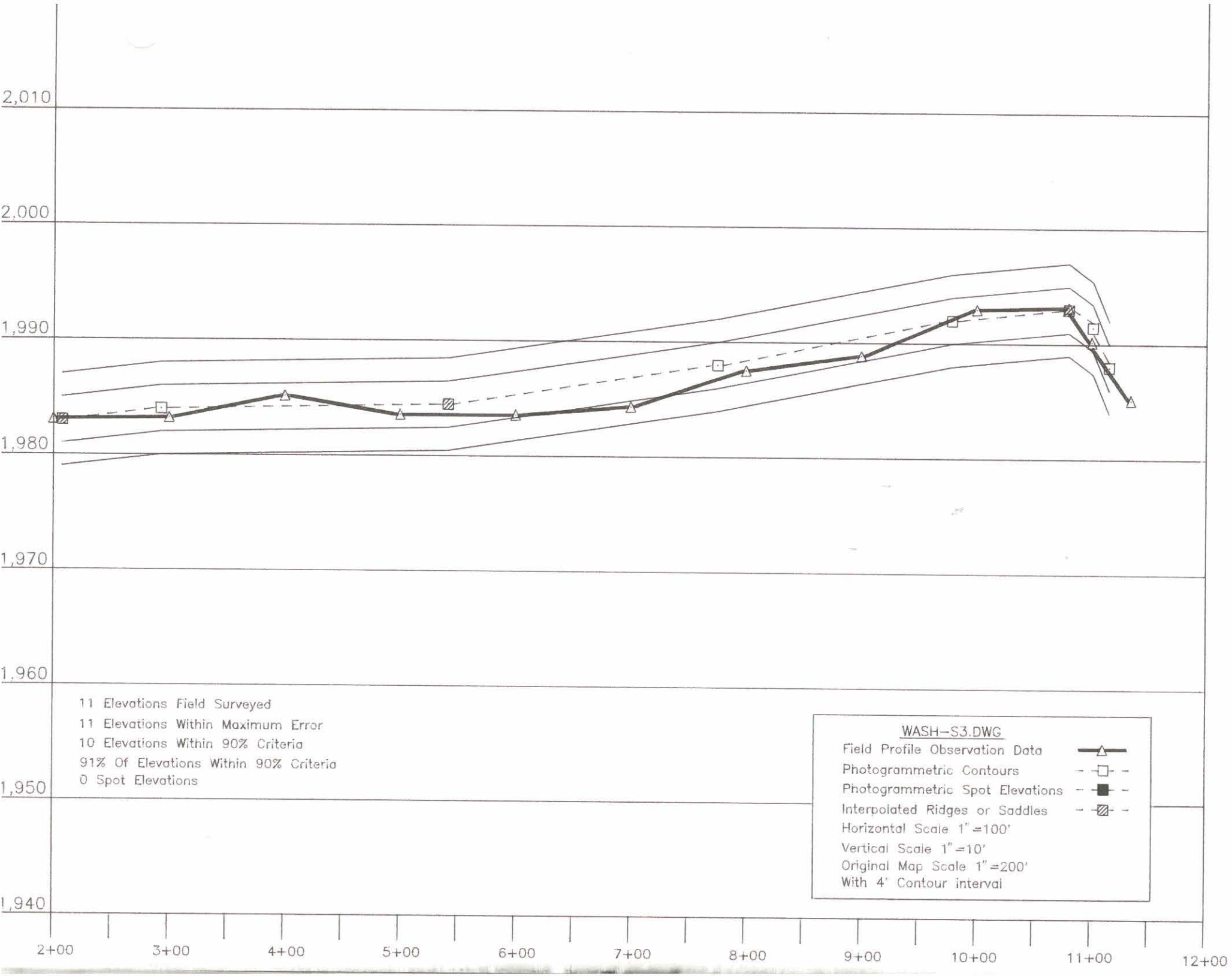
SCALE IN FEET


1,980
1,970
1,960
,950
,940
,930
,920
,910
0+00
1+00
2+00
3+00
4+00
5+00
6+00
7+00
8+00
9+00
10+00
NOT ACCEPTED
WASH-S23.DWG
Field Profile Observation Data
Photogrammetric Contours
Photogrammetric Spot Elevations
Interpolated Ridges or Saddles
Horizontal Scale 1"=100'
Vertical Scale 1"=10'
Original Map Scale 1"=200'
With 4' Contour interval



Morrison Maierle/CSSA INC.

File: WA-S3.DWG
Drawn by: C. PANIZO
Checked by: J. SPRING


2,010
2,000
1,990
1,980
1,970
1,960
1,950
1,940
2+00
3+00
4+00
5+00
6+00
7+00
8+00
9+00
10+00
11+00
12+00
11 Elevations Field Surveyed
11 Elevations Within Maximum Error
10 Elevations Within 90% Criteria
91% Of Elevations Within 90% Criteria
0 Spot Elevations
WASH-S3.DWG
Field Profile Observation Data
Photogrammetric Contours
Photogrammetric Spot Elevations
Interpolated Ridges or Saddles
Horizontal Scale 1"=100'
Vertical Scale 1"=10'
Original Map Scale 1"=200'
With 4' Contour interval

SECTION G:

- FLIGHT INDEX MAP
- AERIAL TRIANGULATION REPORT and GROUND CONTROL LISTING

PHOTOGRAMMETRIC GROUND CONTROL POINTS

Control Point	Easting	Northing	Elevation
P-1	446612.36	1090505.66	2216.59
P-2	456163.91	1092154.88	2367.40
P-3	466809.48	1090942.38	2250.92
P-4	451230.24	1085101.30	2080.08
P-5	460189.19	1081688.23	2257.14
P-6	472911.19	1080618.49	2446.69
P-7	454330.24	1076562.65	2124.90
P-8	461399.14	1071106.67	1970.15
P-9	467064.19	1070477.82	2174.08
P-10	475254.84	1067090.52	2195.11
P-11	466226.22	1064723.90	1945.85
P-12	474236.86	1063518.37	2101.03
P-13	484182.13	1060399.20	2270.59
P-14	470118.54	1056123.61	1915.36
P-15	478214.23	1054570.32	1938.37
P-16	473406.69	1046264.63	1842.95
P-17	480291.43	1044868.96	1952.56
P-18	491864.81	1044780.59	2088.60
P-19	476618.53	1038374.27	1897.32
P-20	486410.80	1039627.73	1988.68
CP3	465397.98	1089181.93	2560.27
CP16	471760.14	1078249.57	2420.37
406	455984.98	1083575.99	2081.66

1SIMULTANEOUS BLOCK ADJUSTMENT OF MODELS WESTERN AIR MAPS INC. LENEXA, KANSA:

**** BLACK & VEATCH WICKENBURG FLT 1,2,2A -6844- FEBRUARY 20, 1991 ****

LINEAR PLAN-HEIGHT SOLUTION

POINT	E	N	Z	VE	VN	VZ	CON II
299999.	480875.01	1035228.85	12721.96				
299999.	478311.57	1040428.15	12748.07	-2.27	0.53	4.19	
201004.	487210.52	1039323.57	1986.61	-0.89	-0.27	0.05	
201001.	486322.74	1038342.70	1969.15				
201002.	480946.06	1035327.06	1899.65				
201003.	476056.65	1032919.32	1791.31				
201013.	473403.72	1037785.37	1788.42	-2.58	-0.11	0.84	
201012.	478341.25	1040444.17	1844.89	-1.27	0.09	0.80	
201011.	483656.72	1043382.29	1997.42	0.43	0.79	0.12	
202014.	484464.15	1044299.75	2008.09	0.06	0.53	0.51	
201005.	485083.42	1042687.21	2012.00	-0.18	0.55	0.55	
102011.	486410.80	1039627.73	1988.68	-0.29	-0.44	-0.86	P-20
101011.	476618.53	1038374.27	1897.32	1.21	-0.12	0.09	P-19
299999.	478311.57	1040428.15	12748.07	2.27	-0.53	-4.19	
299999.	475787.35	1046160.78	12767.11	-2.74	2.41	0.62	
202014.	484464.15	1044299.75	2008.09	-1.09	-1.09	-1.07	
201011.	483656.72	1043382.29	1997.42	-0.16	-0.71	-0.72	
201012.	478341.25	1040444.17	1844.89	1.27	-0.09	-0.80	
201013.	473403.72	1037785.37	1788.42	2.58	0.11	-0.84	
201024.	469944.19	1043337.35	1978.01	-1.36	0.30	0.20	
201023.	473601.22	1045538.02	1815.39	-0.28	0.47	0.02	
201022.	477517.12	1046570.43	1953.81	-0.77	-0.07	0.43	
201021.	481220.04	1048539.40	2017.20	0.07	0.32	-0.13	
202024.	482481.12	1049520.40	2019.08	0.47	0.79	0.96	
201015.	482367.93	1047242.28	2023.54	0.18	-0.51	-0.32	
101012.	480291.43	1044868.96	1952.56	-0.05	0.25	0.61	P-17
299999.	475787.35	1046160.78	12767.11	2.74	-2.41	-0.62	
299999.	473077.63	1051907.95	12788.02	-2.48	3.53	1.53	
202024.	482481.12	1049520.40	2019.08	-0.86	-0.08	-0.17	
201021.	481220.04	1048539.40	2017.20	-0.07	-0.32	0.13	
201022.	477517.12	1046570.43	1953.81	0.77	0.07	-0.43	
201023.	473601.22	1045538.02	1815.39	0.28	-0.47	-0.02	
201024.	469944.19	1043337.35	1978.01	1.36	-0.30	-0.20	
201034.	468252.94	1048896.41	2041.69	-0.82	-0.12	0.13	
201033.	470605.36	1050533.46	2004.68	-0.75	0.12	0.37	
201032.	474850.45	1052575.80	1912.57	-0.90	-0.01	0.07	
201031.	478432.14	1055024.24	1948.20	-0.00	-0.18	-0.26	
102031.	478214.23	1054570.32	1938.37	0.45	0.42	0.28	P-15
201025.	480312.15	1052780.09	2055.54	0.26	-0.05	0.51	
101021.	473406.69	1046264.63	1842.95	-0.09	0.22	-0.24	P-16
202034.	478817.70	1054862.45	2068.99	-0.00	-0.64	0.06	
299999.	473077.63	1051907.95	12788.02	2.48	-3.53	-1.53	
299999.	470099.38	1057685.25	12750.78	-3.83	3.73	0.80	
201031.	478432.14	1055024.24	1948.20	0.25	-0.45	0.10	

POINT	E	N	Z	VE	VN	VZ	CON ID
201032.	474850.45	1052575.80	1912.57	0.90	0.01	-0.07	
201033.	470605.36	1050533.46	2004.68	0.75	-0.12	-0.37	
201034.	468252.94	1048896.41	2041.69	0.82	0.12	-0.13	
201044.	464687.66	1054887.02	2129.91	-0.72	0.21	0.61	
201043.	468153.86	1057083.87	1947.04	-0.39	-0.19	0.20	
201042.	471902.04	1058541.51	2000.89	-0.69	0.26	0.16	
201041.	474921.51	1060399.05	2049.36	-1.06	0.30	0.04	
202044.	475488.76	1059896.60	2091.70	-0.17	-0.09	-0.27	
101041.	470118.54	1056123.61	1915.36	0.40	0.53	0.23	P-14
202034.	478817.70	1054862.45	2068.99	-0.21	-1.08	-0.52	
299999.	470099.38	1057685.25	12750.78	3.83	-3.73	-0.80	
299999.	467507.34	1063364.61	12750.62	-3.71	5.02	0.42	
202044.	475488.76	1059896.60	2091.70	0.01	-0.77	0.17	
201041.	474921.51	1060399.05	2049.36	-0.07	0.51	-0.77	
201042.	471902.04	1058541.51	2000.89	0.69	-0.26	-0.16	
201043.	468153.86	1057083.87	1947.04	0.39	0.19	-0.20	
201044.	464687.66	1054887.02	2129.91	0.72	-0.21	-0.61	
201054.	462489.42	1060980.04	2219.26	-0.35	0.22	0.02	
201053.	465124.30	1062384.48	2244.12	0.22	0.51	0.01	
201052.	469258.45	1063975.06	2008.85	-0.38	-0.02	0.61	
201051.	472875.36	1066072.51	2033.52	0.30	0.86	0.68	
203024.	474755.76	1063378.24	2067.82	-0.52	-0.86	-0.79	
102051.	474236.86	1063518.37	2101.03	-0.13	0.20	0.45	P-12
299999.	467507.34	1063364.61	12750.62	3.71	-5.02	-0.42	
299999.	464881.39	1068963.52	12763.10	-4.16	5.00	0.68	
201051.	472875.36	1066072.51	2033.52	0.17	-0.29	0.11	
201052.	469258.45	1063975.06	2008.85	0.38	0.02	-0.61	
201053.	465124.30	1062384.48	2244.12	-0.22	-0.51	-0.01	
201054.	462489.42	1060980.04	2219.26	0.35	-0.22	-0.02	
201064.	459482.20	1066346.92	2194.80	-0.57	-0.22	-0.17	
201063.	462076.75	1068033.51	2076.83	-0.19	0.39	0.03	
201062.	466091.75	1069616.48	2089.24	-0.70	0.04	-0.15	
201061.	469657.56	1071528.69	2135.60	0.06	-0.25	0.63	
203034.	472219.28	1069235.98	2167.68	-0.37	-0.52	-0.95	
101062.	466226.22	1064723.90	1945.85	0.26	0.47	0.28	P-11
299999.	464881.39	1068963.52	12763.10	4.16	-5.00	-0.68	
299999.	462449.05	1074599.53	12779.48	-4.64	3.82	-0.09	
201061.	469657.56	1071528.69	2135.60	-0.16	-0.17	-0.65	
201062.	466091.75	1069616.48	2089.24	0.70	-0.04	0.15	
201063.	462076.75	1068033.51	2076.83	0.19	-0.39	-0.03	
201064.	459482.20	1066346.92	2194.80	0.57	0.22	0.17	
201074.	456885.87	1071789.75	2135.32	-1.10	0.61	-0.39	
201073.	460660.07	1073953.49	2027.59	-1.03	-0.10	-1.07	
201072.	464594.68	1075335.00	2153.94	-0.93	-0.49	-0.65	
201071.	467396.96	1076854.65	2229.38	-0.56	-0.50	-0.29	
203044.	468987.66	1074327.71	2215.33	-0.04	-0.62	-0.33	
101061.	467064.19	1070477.82	2174.08	0.46	0.02	0.33	P-9
101063.	461399.14	1071106.67	1970.15	0.15	0.46	0.50	P-8
299999.	462449.05	1074599.53	12779.48	4.64	-3.82	0.09	

POINT	E	N	Z	VE	VN	VZ	CON II
299999.	459782.55	1080189.47	12834.20	-1.11	3.35	0.79	
201071.	467396.96	1076854.65	2229.38	-0.54	0.25	1.21	
201072.	464594.68	1075335.00	2153.94	0.93	0.49	0.65	
201073.	460660.07	1073953.49	2027.59	1.03	0.10	1.07	
201074.	456885.87	1071789.75	2135.32	1.10	-0.61	0.39	
201084.	454484.27	1077662.11	2104.32	-0.08	3.66	-1.04	
201083.	456989.77	1079094.65	2017.72	0.97	-0.04	-0.93	
201082.	461679.50	1081159.47	2219.35	0.09	0.36	-0.12	
201081.	464560.05	1082785.87	2310.03	-0.74	-0.03	0.64	
203054.	466041.49	1079613.71	2280.21	-0.05	-1.44	-0.40	
101081.	454330.24	1076562.65	2124.90	-0.45	-0.47	-0.49	P-7
299999.	459782.55	1080189.47	12834.20	1.11	-3.35	-0.79	
299999.	456771.51	1085650.02	12827.74	-2.51	1.68	-1.46	
201081.	464560.05	1082785.87	2310.03	-0.78	0.02	-1.23	
201082.	461679.50	1081159.47	2219.35	-0.09	-0.36	0.12	
201083.	456989.77	1079094.65	2017.72	-0.97	0.04	0.93	
201084.	454484.27	1077662.11	2104.32	0.08	-3.66	1.04	
201094.	451090.86	1082653.75	2065.09	-0.55	0.62	-0.57	
201093.	454202.54	1084585.78	2112.12	0.50	0.20	-0.46	
201092.	458489.05	1086291.78	2218.14	-0.47	-0.45	-0.68	
201091.	461539.90	1088144.87	2335.87	-0.50	-0.47	-0.69	
101084.	460189.19	1081688.23	2257.14	0.02	0.31	0.25	P-5
101089.	455984.98	1083575.99	2081.66	0.74	0.64	0.31	406
299999.	456771.51	1085650.02	12827.74	2.51	-1.68	1.46	
299999.	453880.00	1091156.23	12834.39	-2.19	-0.47	-0.38	
201091.	461539.90	1088144.87	2335.87	-0.38	0.30	0.60	
201092.	458489.05	1086291.78	2218.14	0.47	0.45	0.68	
201093.	454202.54	1084585.78	2112.12	-0.50	-0.20	0.46	
201094.	451090.86	1082653.75	2065.09	0.55	-0.62	0.57	
201104.	448191.37	1088487.40	2104.73	-0.26	0.09	-1.13	
201103.	451594.09	1090273.63	2134.62	0.12	0.29	-0.93	
201102.	455399.07	1091599.75	2289.77	0.01	0.27	0.54	
201101.	459174.92	1093415.58	2421.80	0.51	0.07	0.77	
101102.	456163.91	1092154.88	2367.40	0.14	0.22	-0.74	P-2
101104.	451230.24	1085101.30	2080.08	0.05	-0.09	0.48	P-4
203074.	460695.17	1090460.50	2360.51	-0.93	-0.94	-0.72	
299999.	453880.00	1091156.23	12834.39	2.19	0.47	0.38	
299999.	451124.58	1096779.99	12805.59				
201101.	459174.92	1093415.58	2421.80	0.01	0.79	0.46	
201102.	455399.07	1091599.75	2289.77	-0.01	-0.27	-0.54	
201103.	451594.09	1090273.63	2134.62	-0.12	-0.29	0.93	
201104.	448191.37	1088487.40	2104.73	0.26	-0.09	1.13	
201114.	445609.39	1094364.70	2130.93				
201113.	449499.58	1096244.15	2107.15				
201112.	453499.14	1097481.41	2236.25				
201111.	456382.24	1098854.76	2397.91				
201105.	457867.87	1095505.25	2420.51	0.01	-0.56	0.44	
203084.	458797.95	1096510.35	2403.52	0.12	-0.35	0.64	
101101.	446612.36	1090505.66	2216.59	-0.06	0.08	-0.73	P-1

POINT	E	N	Z	VE	VN	VZ	CON I

**** BLACK & VEATCH WICKENBURG FLT 1,2,2A -6844- FEBRUARY 20, 1991 ****

STRIP 11. PAGE

POINT	E	N	Z	VE	VN	VZ	CON ID
299999.	493120.61	1042292.31	12819.73				
299999.	490035.03	1047291.99	12866.82	0.45	2.21	2.35	
202001.	498404.89	1045691.69	2117.30				
202002.	493792.72	1042771.57	2060.80				
202003.	488817.75	1039180.66	1987.65				
201004.	487210.52	1039323.57	1986.61	0.89	0.27	-0.05	
201011.	483656.72	1043382.29	1997.42	-0.27	-0.08	0.59	
202014.	484464.15	1044299.75	2008.09	0.14	0.03	0.74	
202013.	487069.50	1046163.32	2066.45	0.17	0.42	0.58	
202012.	491976.04	1048155.00	2115.16	0.11	0.02	0.67	
202011.	494841.18	1050074.17	2165.96	0.92	0.74	0.26	
102012.	491864.81	1044780.59	2088.60	-0.47	-0.29	0.13	P-18
201005.	485083.42	1042687.21	2012.00	0.18	-0.55	-0.55	
102011.	486410.80	1039627.73	1988.68	-0.01	0.10	-0.86	P-20
299999.	490035.03	1047291.99	12866.82	-0.45	-2.21	-2.35	
299999.	487453.35	1052733.60	12867.27	0.14	3.13	1.39	
202011.	494841.18	1050074.17	2165.96	-0.92	-0.74	-0.26	
202012.	491976.04	1048155.00	2115.16	-0.11	-0.02	-0.67	
202013.	487069.50	1046163.32	2066.45	-0.17	-0.42	-0.58	
202014.	484464.15	1044299.75	2008.09	0.89	0.53	-0.18	
202024.	482481.12	1049520.40	2019.08	-0.64	-0.61	-0.18	
202023.	485612.64	1051648.60	2106.94	-0.25	-0.00	1.23	
202022.	489576.51	1053664.12	2131.08	-0.02	0.39	0.38	
202021.	492741.93	1055842.77	2238.37	1.16	0.44	0.30	
201015.	482367.93	1047242.28	2023.54	-0.18	0.51	0.32	
299999.	487453.35	1052733.60	12867.27	-0.14	-3.13	-1.39	
299999.	484237.80	1058089.30	12909.44	-0.74	4.92	0.26	
202021.	492741.93	1055842.77	2238.37	-1.16	-0.44	-0.30	
202022.	489576.51	1053664.12	2131.08	0.02	-0.39	-0.38	
202023.	485612.64	1051648.60	2106.94	0.25	0.00	-1.23	
202024.	482481.12	1049520.40	2019.08	1.03	-0.10	-0.60	
201031.	478432.14	1055024.24	1948.20	-0.33	0.37	0.36	
202033.	482094.05	1056968.04	2157.91	1.04	0.66	-0.10	
202032.	485264.85	1058621.29	2297.35	-0.01	0.16	0.74	
202031.	488794.35	1061055.36	2304.78	0.10	-0.26	0.92	
201025.	480312.15	1052780.09	2055.54	-0.26	0.05	-0.51	
102031.	478214.23	1054570.32	1938.37	-0.14	-0.40	0.42	P-15
202034.	478817.70	1054862.45	2068.99	-0.39	0.75	-0.27	
299999.	484237.80	1058089.30	12909.44	0.74	-4.92	-0.26	
299999.	480988.55	1063379.09	12953.47	-0.56	3.33	-0.96	
202031.	488794.35	1061055.36	2304.78	-0.10	0.26	-0.92	
202032.	485264.85	1058621.29	2297.35	0.01	-0.16	-0.74	
202033.	482094.05	1056968.04	2157.91	-1.04	-0.66	0.10	
201031.	478432.14	1055024.24	1948.20	0.08	0.26	-0.19	
201041.	474921.51	1060399.05	2049.36	0.52	-0.38	-0.35	
202044.	475488.76	1059896.60	2091.70	-0.67	0.21	-0.46	
202043.	478963.89	1062430.91	2138.11	-0.02	0.65	-0.06	
202042.	482565.41	1064161.90	2247.06	-0.37	0.88	-0.59	

POINT	E	N	Z	VE	VN	VZ	CON ID
202041.	485221.26	1066205.95	2242.70	-0.67	1.31	-1.17	
102032.	484182.13	1060399.20	2270.59	0.29	-0.95	0.64	P-13
203011.	486667.74	1062560.63	2645.78	0.20	-0.16	-0.16	
203012.	483711.63	1061415.17	2230.25	-0.26	-0.53	1.20	
203013.	480607.82	1059664.79	2039.27	0.16	-0.48	1.02	
203014.	477669.19	1057521.16	2113.75	0.38	0.26	-0.19	
202034.	478817.70	1054862.45	2068.99	0.60	0.97	0.73	
299999.	480988.55	1063379.09	12953.47	0.56	-3.33	0.96	
299999.	477563.29	1068820.42	12794.32	-1.32	-0.83	-0.79	
202041.	485221.26	1066205.95	2242.70	0.35	-1.05	0.78	
202042.	482565.41	1064161.90	2247.06	0.37	-0.88	0.59	
202043.	478963.89	1062430.91	2138.11	0.02	-0.65	0.06	
202044.	475488.76	1059896.60	2091.70	0.72	0.55	0.78	
201041.	474921.51	1060399.05	2049.36	0.60	-0.43	1.09	
202054.	472872.00	1065424.28	2097.45	0.23	-0.53	0.43	
202053.	475473.39	1067162.27	2126.15	-0.39	-0.55	-0.06	
202052.	478701.78	1069204.87	2284.62	-0.47	-0.21	-0.43	
202051.	482557.89	1071586.51	2395.54	0.29	0.82	-1.04	
203021.	483538.49	1068480.96	2275.21	0.36	0.28	-0.69	
102052.	475254.84	1067090.52	2195.11	-0.64	-0.87	-0.93	P-10
203024.	474755.76	1063378.24	2067.82	-0.24	0.48	-0.01	
102051.	474236.86	1063518.37	2101.03	-0.18	1.28	0.17	P-12
299999.	477563.29	1068820.42	12794.32	1.32	0.83	0.79	
299999.	473951.89	1074304.86	12823.61				
202051.	482557.89	1071586.51	2395.54	-0.12	-0.09	0.94	
202052.	478701.78	1069204.87	2284.62	0.47	0.21	0.43	
202053.	475473.39	1067162.27	2126.15	-0.26	0.02	-0.58	
202054.	472872.00	1065424.28	2097.45	0.07	-0.07	-0.65	
202064.	469394.40	1071454.95	2138.78				
202063.	472218.36	1073054.31	2246.90				
202062.	475757.33	1075112.37	2367.34				
202061.	478717.37	1076904.91	2453.42				

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POINT	E	N	Z	VE	VN	VZ	CON II
299999.	482320.48	1060416.27	12676.62				
299999.	479628.10	1066111.22	12689.76	-2.53	2.85	1.05	
203011.	486667.74	1062560.63	2645.78	-0.20	0.16	0.16	
203012.	483711.63	1061415.17	2230.25	0.26	0.53	-1.20	
203013.	480607.82	1059664.79	2039.27	-0.16	0.48	-1.02	
203014.	477669.19	1057521.16	2113.75	-0.38	-0.26	0.19	
203024.	474755.76	1063378.24	2067.82	-0.08	0.11	1.40	
203023.	476841.99	1064662.14	2162.92	0.20	-0.00	0.64	
203022.	480263.03	1066511.08	2261.87	-0.31	-0.05	0.79	
203021.	483538.49	1068480.96	2275.21	-0.52	-0.12	0.90	
202041.	485221.26	1066205.95	2242.70	0.32	-0.26	0.38	
102032.	484182.13	1060399.20	2270.59	0.17	-0.16	-0.84	P-13
202044.	475488.76	1059896.60	2091.70	0.11	0.10	-0.22	
299999.	479628.10	1066111.22	12689.76	2.53	-2.85	-1.05	
299999.	476851.23	1071490.86	12719.44	-3.53	4.42	0.24	
203021.	483538.49	1068480.96	2275.21	0.16	-0.16	-0.21	
203022.	480263.03	1066511.08	2261.87	0.31	0.05	-0.79	
203023.	476841.99	1064662.14	2162.92	-0.20	0.00	-0.64	
203024.	474755.76	1063378.24	2067.82	0.84	0.27	-0.60	
203033.	475010.44	1070679.61	2276.65	-0.16	0.45	0.85	
203032.	478192.17	1072485.16	2292.13	-0.56	0.33	0.36	
203031.	481661.70	1074149.71	2401.73	-0.26	0.47	-0.31	
202051.	482557.89	1071586.51	2395.54	-0.17	-0.73	0.11	
202053.	475473.39	1067162.27	2126.15	0.65	0.54	0.64	
201051.	472875.36	1066072.51	2033.52	-0.47	-0.57	-0.79	
202054.	472872.00	1065424.28	2097.45	-0.29	0.59	0.22	
102051.	474236.86	1063518.37	2101.03	-0.28	0.00	-0.11	P-12
102052.	475254.84	1067090.52	2195.11	0.12	-0.31	0.04	P-10
203034.	472219.28	1069235.98	2167.68	0.07	0.01	1.41	
299999.	476851.23	1071490.86	12719.44	3.53	-4.42	-0.24	
299999.	474240.81	1076843.97	12758.64	-3.42	5.43	0.27	
203031.	481661.70	1074149.71	2401.73	0.26	-0.47	0.31	
203032.	478192.17	1072485.16	2292.13	0.56	-0.33	-0.36	
203033.	475010.44	1070679.61	2276.65	0.16	-0.45	-0.85	
203034.	472219.28	1069235.98	2167.68	0.29	0.52	-0.46	
203044.	468987.66	1074327.71	2215.33	-0.13	-0.04	0.50	
203043.	472235.54	1076012.18	2287.99	-0.67	-0.11	-0.14	
203042.	475999.11	1077782.05	2426.70	-0.48	-0.25	0.40	
203041.	479143.76	1079187.27	2530.29	-0.23	0.27	0.53	
201061.	469657.56	1071528.69	2135.60	0.10	0.42	0.03	
299999.	474240.81	1076843.97	12758.64	3.42	-5.43	-0.27	
299999.	471655.05	1082155.40	12795.52	-2.65	5.04	-0.81	
203041.	479143.76	1079187.27	2530.29	0.23	-0.27	-0.53	
203042.	475999.11	1077782.05	2426.70	0.48	0.25	-0.40	
203043.	472235.54	1076012.18	2287.99	0.67	0.11	0.14	
203044.	468987.66	1074327.71	2215.33	0.18	0.66	-0.17	
203054.	466041.49	1079613.71	2280.21	0.44	1.13	-0.55	
203053.	469561.78	1081125.76	2362.44	-0.30	0.50	-1.04	

POINT	E	N	Z	VE	VN	VZ	CON ID
203052.	472459.39	1082903.57	2505.00	0.16	0.51	-0.82	
203051.	475718.64	1084201.79	2582.43	-0.28	1.11	-0.53	
103051.	472911.19	1080618.49	2446.69	-0.40	0.23	0.46	P-6
201071.	467396.96	1076854.65	2229.38	1.11	0.24	-0.92	
403055.	471760.14	1078249.57	2420.37	-0.38	-1.40	0.79	CP16
299999.	471655.05	1082155.40	12795.52	2.65	-5.04	0.81	
299999.	468843.52	1087490.01	12786.74	-3.04	2.12	-1.83	
203051.	475718.64	1084201.79	2582.43	0.28	-1.11	0.53	
203052.	472459.39	1082903.57	2505.00	-0.16	-0.51	0.82	
203053.	469561.78	1081125.76	2362.44	0.30	-0.50	1.04	
203054.	466041.49	1079613.71	2280.21	-0.39	0.32	0.95	
203064.	464061.64	1084660.14	2326.25	-0.60	0.03	-0.68	
203063.	467282.08	1086521.21	2432.35	-0.18	0.39	-1.08	
203062.	470272.51	1088744.06	2537.90	-0.84	0.76	-1.70	
203061.	473686.43	1090275.59	2671.39	-0.50	0.44	-1.25	
201081.	464560.05	1082785.87	2310.03	1.52	0.02	0.59	
299999.	468843.52	1087490.01	12786.74	3.04	-2.12	1.83	
299999.	466053.00	1092872.49	12809.35	-2.09	0.41	-0.39	
203061.	473686.43	1090275.59	2671.39	0.50	-0.44	1.25	
203062.	470272.51	1088744.06	2537.90	0.84	-0.76	1.70	
203063.	467282.08	1086521.21	2432.35	0.18	-0.39	1.08	
203064.	464061.64	1084660.14	2326.25	0.60	-0.03	0.68	
203074.	460695.17	1090460.50	2360.51	0.26	0.33	0.30	
203073.	463416.01	1091949.49	2425.33	0.04	0.31	-0.64	
203072.	468052.92	1093558.74	2566.60	-0.13	-0.07	-0.78	
203071.	470795.12	1094952.52	2661.75	0.18	0.29	-0.87	
103071.	466809.48	1090942.38	2550.92	-0.87	0.07	-0.31	P-3
201091.	461539.90	1088144.87	2335.87	0.88	0.18	0.09	
403065.	465397.98	1089181.93	2560.27			-0.35	CP3
299999.	466053.00	1092872.49	12809.35	2.09	-0.41	0.39	
299999.	463836.03	1098454.37	12784.76				
203071.	470795.12	1094952.52	2661.75	-0.18	-0.29	0.87	
203072.	468052.92	1093558.74	2566.60	0.13	0.07	0.78	
203073.	463416.01	1091949.49	2425.33	-0.04	-0.31	0.64	
203074.	460695.17	1090460.50	2360.51	0.67	0.61	0.42	
201105.	457867.87	1095505.25	2420.51	-0.01	0.56	-0.44	
203084.	458797.95	1096510.35	2403.52	-0.12	0.35	-0.64	
203083.	461862.50	1097578.07	2504.46				
203082.	465274.07	1098791.31	2604.47				
203081.	468492.39	1099912.65	2768.27				
201101.	459174.92	1093415.58	2421.80	-0.52	-0.86	-1.22	

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RMSE SUMMARY

	HELD CONTROL PTS	TIE POINTS	UNHELD CONTROL PTS
POINTS	28	114	0
EAST	0.42	0.59	0.00

NORTH	0.52	0.58	0.00
PLAN	0.67	0.83	0.00
POINTS	29	114	0
HEIGHT	0.51	0.66	0.00

BLOCK SIZE= 24 MODELS
BANDWIDTH= 15 MODELS

FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

WICKENBURG AREA DRAINAGE MASTER STUDY
FLOODPLAIN DELINEATION – WEST AREA

~~ERM DATA~~ – WEST AREA

Moder

RECOMMENDED	DATE :	OF
APPROVED BY:	DATE :	
FLOODPLAIN ADMINISTRATOR		
FCDMC CONTRACT NO.89–79 B&V PROJECT NO.17676		