

(1)	M. S. Bright	1903	A 5124
(2)	"	1904	"
(3)	"	"	"
(4)	"	"	"
(5)	E. E. Harris	1946	V 233
(6)	"	"	"
(7)	D.θ. Richardson	1975	PV938
(8)	D.O. Richardson	1975	PV938
(9)	M.D. Cummins	1976	PV 982
(10)	M.D. Cummins	1976	PV 980
(11)	M.D. Cummins	1976	PV 980
(12)	M.D. Cummins	1977	PV 1006

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

THIRD-ORDER LEVELING
Sea Level Datum of 1929

MT. LEMMON QUADRANGLE
ARIZONA 70
N3215--W11045/15

Pima County

Edition of 8/1/67

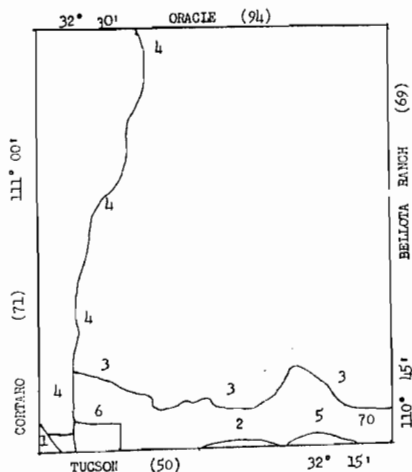
Only the standard tablets
are listed for lines run
more than 25 years before
the edition date.

USGS

C&GS

C&GS LIST 32 110 3

ADJUSTED 1967



(4) FROM A POINT 2 MILES NORTH OF TUCSON NORTH ALONG U.S. HIGHWAY 80 AND 89 INTO ORACLE QUADRANGLE (94) (by M.S. BRIGHT, 1904; Book A5124)

- Tucson, 5.9 mi. N. along U.S. Highway 80 from post office; 0.5 mi. N. of bridge over Rillito Creek; near base of highway embankment; 124 ft. N. of a point opposite the S. one of two transmission line poles on the crest of a hill; 50 ft. SE. of a tree with a 7-inch green trunk; 37 ft. W. of center of highway; standard iron post with bronze cap stamped "2325 NOGLS" (Recovered by USC&GS, 1933) (Not found, 1957) 2337.249
- Benedict Ranch, 4.8 mi. N. of; 3.5 mi. S. of steam pump; on E. edge of rd.; standard iron post with bronze cap stamped "2616 NOGLS" 2628.024
- T. 12 S., R. 14 E., sec. 7, at Pascha steam pump; 2 ft. S. of NE. corner of pump house; on W. side of rd.; standard iron post with bronze cap stamped "2573 NOGLS" 2585.091
- Catalina School, 1.5 mi. N. of along U.S. Highway 80; on a ridge; 20 ft. E. of center of highway; standard iron post with bronze cap stamped "2835 NOGLS" (Recovered by USC&GS, 1933) 2847.251
- Oracle, 17.2 mi. SW. of along U.S. Highway 80; 0.5 mi. NE. along old rd. leading from highway into a large wash; 600 ft. SW. of center of highway; 12 ft. SW. of center of rd.; standard iron post with bronze cap stamped "3069 NOGLS" (Recovered by USC&GS, 1933) 3080.857

(5) FROM TUCSON QUADRANGLE (50) NORTH ALONG ROAD TO TANQUE VERDE THENCE WEST ALONG PAVED ROAD TO INTERSECTION WITH PIMA AVENUE THENCE SOUTHWEST ALONG PIMA AVENUE INTO TUCSON QUADRANGLE (50) (by E.E. HARRIS, 1946; Book V233a)

- Tanque Verde, 350 ft. N. of school; 28 ft. S. and 150 ft. E. of center of T-rd. S.; 13 ft. E. of center of dirt rd. N. (Bradshaw Road); 4 ft. NW. of powerline pole; in concrete post, Pima County Highway Department standard tablet stamped "SEC COR 25 FT 1939" 2620.969
- Tanque Verde, 1 mi. W. of; 30 ft. S. of center of highway; 14 ft. W. of gate; 4 ft. N. of fence line; 4 ft. SE. of powerline pole; in concrete post; Pima County Highway Department tablet 2590.568
- Tanque Verde, 1.8 mi. W. of; 150 ft. E. of junction of dirt rd. N.; 37 ft. S. of center of paved rd.; 16 ft. W. of telephone pole; PCHD tablet stamped "CL 37.5 FT 1939 RWBC" 2572.091
- Tanque Verde, 2.5 mi. W. of; 700 ft. E. of deserted house; 38 ft. S. of center of paved rd.; in fence line; PCHD tablet stamped "37.5 FT 1939 BCRW" 2563.960
- Tanque Verde, 3.1 mi. W. of; 42 ft. W. of center of private rd. S. to El Estacado Ranch; 30 ft. S. of center of paved rd.; 1 ft. N. of fence corner; PCHD tablet stamped "SC 30 FT 1939 RM" 2538.460
- Tanque Verde, 4 mi. W. of; in NE. corner of concrete highway bridge over wash; Arizona State Highway Department tablet stamped "2509.91 STA 73-75 1940" 2509.694
- Tanque Verde, 4 mi. W. of; in SE. corner of concrete highway bridge over wash; ASHD tablet stamped "2509.82 STA 71-74 1940" 2509.598
- Tanque Verde, 4.9 mi. W. of; on S. edge of paved highway in wash; in W. end of the concrete retaining wall of rd.; ASHD tablet stamped "2521.68 STA 25-91 1940" 2521.420
- Tanque Verde, 5.4 mi. W. of; on S. edge of highway; 40 ft. E. of Sabino Canyon Road; in center of concrete headwall of culvert; ASHD tablet stamped "2523.63 STA 0-30 1940" 2523.371

REPORTED DEST. 12-84
REPORTED DEST. 12-84

Index to Permanent Marks

Mark	Line No.
2325 NOGLS	4
2400 NOGLS	3
2573 NOGLS	4
2596 NOGLS	3
2616 NOGLS	4
2635 NOGLS	3
2733 NOGLS	3
2835 NOGLS	4
3069 NOGLS	4
CL 37.5 FT 1939 RWBC (PCHD)	5
SEC COR 25 FT 1939 (PCHD)	5
SC 30 FT 1939 RM (PCHD)	5
37.5 FT 1939 BCRW (PCHD)	5
2523.63 STA 0-30 1940 (ASHD)	5
2521.68 STA 25-91 1940 (ASHD)	5
2509.82 STA 71-74 1940 (ASHD)	5
2509.91 STA 73-75 1940 (ASHD)	5
2326.938 s 19 1933 (USC&GS)	6

(1) FROM CORTARO QUADRANGLE (71) SOUTHEAST ALONG SOUTHERN PACIFIC RAILROAD IN SOUTHWEST CORNER OF QUADRANGLE INTO TUCSON QUADRANGLE (50) (by M. S. Bright, 1903; Book A5124)

(Part of First order Line Yuma, Arizona to New Mexico State Line, adjusted by USC&GS and incorporated in First order level net in 1937)

No permanent bench marks fall on this quadrangle.

(2) FROM TUCSON QUADRANGLE (50) NORTHEAST AND SOUTHEAST ALONG ROAD AT SOUTH BORDER OF QUADRANGLE INTO TUCSON QUADRANGLE (50) (by M. S. Bright, 1904; Book A5124)

No permanent bench marks fall on this quadrangle.

(3) FROM BELLOTA HANCH QUADRANGLE (69) GENERALLY WEST TO BENEDICTS RANCH (by M.S. Bright, 1904; Book A5124)

T. 13 S., R. 15 E., sec. 26, 3 mi. W. of Caliente Spring along Sabina Canyon; 0.2 mi. NE. of two buttes; 8 ft. S. of rd.; standard iron post with bronze cap stamped "2635 NOGLS" (Not found, 1956) 2647.10

Corrillo Ranch house, 60 ft. NE. of; 70 ft. W. of wash; in granite boulder; aluminum tablet stamped "2596 NOGLS" RESET 2610.77 (Not found, 1956) 1974" See attachm.

Fort Lowell, 2.8 mi. N. of; on ridge in gap; 25 ft. N. of rd.; standard iron post with bronze cap stamped "2733 NOGLS" (Not found, 1956) 2744.8

Manuel Brooks Ranch, 0.8 mi. W. of; 35 ft. N. of wire fence and S. edge of rd. junction; standard iron post with bronze cap stamped "2400 NOGLS" 2412.0

(6) FROM TUCSON QUADRANGLE (50) NORTH ALONG CAMPBELL AVENUE TO FORT LOWELL ROAD THENCE WEST ALONG FORT LOWELL ROAD TO A POINT 3.3 MILES NORTH ALONG U.S. HIGHWAY 80 FROM TUCSON (by E.E. Harris, 1946; Book V233a)

Intersection of N. Campbell Avenue and Indio Road, 32 ft. S. and 30 ft. W. of intersection; 7 ft. SW. of telephone pole; in concrete post; Pima County Highway Department tablet (not stamped) 2398.031

Intersection of North Campbell Avenue and Fort Lowell Road, in SE. corner of intersection; in center of headwall of culvert; PCHD tablet (not stamped) 2385.467

Note: - Line turns W. at this point along Fort Lowell Road to Tucson-Florence Highway to tie.

Intersection of Fort Lowell Road and North Mountain Avenue, in SE. corner of intersection; in concrete headwall of culvert; PCHD tablet (not stamped) 2370.768

Intersection of Fort Lowell Road and North First Avenue, in SE. corner of intersection; in center of concrete headwall of culvert; PCHD tablet (not stamped) 2351.699

"2326.938 s 19 1933" (USC&GS) 2326.650

MOUNT LEMMON (70)

Arizona

32 110 31

D.O. Richardson, 1975

First Order Adjusted Elevations Based on National Geodetic Vertical Datum of 1929

Book: PV 938 Holding 1962 Suppl. Adj. at BM B315 and BM R19 Latitude 32°15' Longitude 110°45'

(7) FROM THE NORTH EDGE OF TUCSON QUADRANGLE (50) NORTH ALONG CRAYCROFT ROAD TO GLENN STREET THENCE WEST TO SWAN ROAD THENCE NORTH TO THE JUNCTION OF SWAN AND INA ROADS (By D.O. Richardson, 1975; Book: PV 938)

At Tucson; 50 ft E. of Craycroft Rd.; in west end of concrete curb of center island in center of Grant Rd.; an AHD tablet stamped "2474.46" 2474.489

At Tucson; about 85 ft S. of Glenn Street, about 40 ft W. of Craycroft Rd., 10 ft S. of power pole; set on a copper-coated rod enclosed by a black plastic pipe; standard tablet stamped "20 DOR 1975" 2455.730

Tucson; 0.49 mi W. of, along Glenn Street from the intersection of Glenn Street and Craycroft Rd.; in east end of northeast concrete wingwall of a five-section box culvert; standard tablet stamped "21 DOR 1975" 2443.474

At Tucson; 108 ft NNE. of a church, 50 ft S. of Glenn Street, 45 ft W. of Swan Rd.; set on a copper-coated rod enclosed by a black plastic pipe; standard tablet stamped "22 DOR 1975" 2439.923

Tucson, 0.46 mi S. of, along Swan Rd. from the south end of Rillito Creek Bridge; 111 ft W. of Swan Rd., 2 ft S. of signpost; set on a copper-coated rod enclosed by a black plastic pipe; standard tablet stamped "23 DOR 1975" 2418.444

At Tucson; 1 ft N. of south end of Swan Rd. bridge over Rillito Creek; in east concrete sidewalk; an AHD tablet stamped "STA 234+48.05 ELEV 2417.62 1967" 2417.116

At Tucson; 1 ft S. of north end of Swan Rd. bridge over Rillito Creek; in east concrete sidewalk; an AHD tablet stamped "STA 239+26.50 ELEV 2418.45" 2417.939

Tucson, 0.51 mi N. of, along Swan Rd. from Rillito Creek Bridge to River Rd.; 95 ft N. of River Rd.; in center of Swan Rd.; in small iron-covered hole; an AHD tablet stamped "22 23 27 26 1967" 2484.513

not be reset when road is widened. 5/23/75 R.F. Reed

At Tucson; 100 ft E. of Swan Rd., 88 ft NE. of La Linda Rama Rd., 6 ft S. of power pole; set on a copper-coated rod enclosed by a plastic pipe; standard tablet stamped "24 DOR 1975" *9-1165* 2567.970

FILE COPY

First Order Adjusted Elevations Based on National Geodetic Vertical Datum of 1929

Book: PV 938 Holding 1962 Suppl. Adj. at BM B315 and BM R19

*Reset 1981
2646.82!*

(7) At Tucson; 80 ft S. of Calle Barril, 60 ft E. of Swan Rd.; set on a copper-coated rod enclosed by a black plastic pipe; standard tablet stamped "25 DOR 1975" *9-1165* *Reset Elev. → 46.825*
2637.148

At Tucson; 0.54 mi N. along Swan Rd. from Calle Barril; at small T-rd. E.; 74 ft E. of Swan Rd., 13 ft N. of the T-rd.; set on a copper-coated rod enclosed by a black plastic pipe; standard tablet stamped "26 DOR 1975" *9-1165* 2732.244

At Tucson; 0.13 mi N. along Swan Rd. from the jct. of Sunrise Dr. to top of a slight rise; 75 ft W. of Swan Rd., 3 ft NW. of power pole SB A9; set on a copper-coated rod enclosed by a black plastic pipe; standard tablet stamped "27 DOR 1975" 2746.754

At Tucson; 0.7 mi N. along Swan Rd. from the jct. with Sunrise Dr.; 50 ft W. of and 3 ft higher than Swan Rd., 10 ft S. of power pole with a capacitor; set on a copper-coated rod enclosed by a black plastic pipe; standard tablet stamped "28 DOR 1975" *9-1165* 2823.192

At Tucson; 0.17 mi N. along Swan Rd. from the jct. of Skyline Dr.; 57 ft W. of Swan Rd. at entrance to a country club, 25 ft N. of power pole SK 2; set on copper-coated rod enclosed by a black plastic pipe; standard tablet stamped "29 DOR 1975" 2863.596

At Tucson; 300 ft NE. of and 34 ft higher than jct. of Swan Rd. and Ina Rd.; in solid bedrock in bottom of dry wash; standard tablet stamped "30 DOR 1975" 3115.575

*may be reset when Swan road is widened
D.R. Reed 5/27/80*

First Order Adjusted Elevations Based on National
Geodetic Vertical Datum of 1929
Book: PV 938 Holding 1962 Suppl. Adj. at BM B315 and BM R19
Latitude 32°15' Longitude 110°45'

- (8) FROM THE NORTH EDGE OF TUCSON QUADRANGLE (50) NORTH ALONG STATE HIGHWAY 89 TO THE JUNCTION OF STATE HIGHWAY 89 AND LOS ALTOS ROAD (By D.O. Richardson, 1975; Book: PV 938)

At Tucson; 50 ft S. of Grant Rd., 1 ft S. of an AHD tablet with no stampings; near north end of south concrete island in center of Miracle Mile; standard tablet stamped "37 DOR 1975"	2351.905
BM AHD "2363.66 56+40 1937" (NGS Quad 32 110 3, line 102) [1975 USGS ELEVATION]	2362.851
At Tucson; 47 ft S. of Glenn Street, 15 ft NW. of brass sign "TUCSON OLD WALLED CITY FOUNDED 1776"; in west side of concrete base of lamppost; standard tablet stamped "38 DOR 1975"	2345.329
BM AHD "2338.33 1937 81+10.5" (NGS Quad 32 110 3, line 102) [1975 USGS ELEVATION]	2337.613
BM AHD "2334.88 1937 79+440" (NGS Quad 32 110 3, line 102) [1975 USGS ELEVATION]	2334.135
At Tucson; 37 ft E. of Oracle Rd., 35 ft S. of Ft. Lowell Rd.; near center of concrete headwall of 28-ft box culvert; an AHD tablet stamped "2328.14"	2327.870
BM "S 19 1933 2326.936" (NGS Quad 32 110 3, line 102) [1975 USGS ELEVATION]	2326.616
At Tucson; 60 ft W. of Oracle Rd., 36 ft N. of Prince Rd.; in southeast corner of 3 x 3-ft concrete base of lamppost; standard tablet stamped "39 DOR 1975" <i>9-1165</i>	2331.442
At Tucson; 28 ft N. of Roger Rd.; in south end of concrete island in center of Oracle Rd.; an AHD tablet stamped "145x17 2319.69 1972"	2319.706
At Tucson; 50 ft S. of East Wetmore Rd.; in north end of concrete island in center of Oracle Rd.; an AHD tablet stamped "2316.30"	2316.267
At Tucson; 30 ft S. of south end of bridge over Rillito Creek, 7 ft E. of center of Oracle Rd.; on small brass disk stamped "14 13 23 24 T13S R13E 1958"	2310.188
At Tucson; in south end of west concrete sidewalk of bridge over Rillito Creek at Oracle Rd.; an AHD tablet stamped "2309.84"	2309.830

FILE COPY

First Order Adjusted Elevations Based on National
 Geodetic Vertical Datum of 1929

Book: PV 938 Holding 1962 Suppl. Adj. at BM B315 and BM R19

- (8) At Tucson; 0.17 mi S. of Oracle Rd. and River Rd.; in north end of west concrete sidewalk of bridge over Rillito Creek at Oracle Rd.; an AHD tablet stamped "2309.82" 2309.819
- BM "2305.323 R 19 1933" (NGS Quad 32 110 3, line 102) 2305.061
- At Tucson; 0.5 mi N. along Oracle Rd. from the concrete bridge over Rillito Creek; in north end of concrete island in center of Oracle Rd. at south side of Yvon Dr.; an AHD tablet stamped "2348.50 1971" 2348.510
- At Tucson; 1.1 mi N. along Oracle Rd. from the concrete bridge over Rillito Creek; in north end of concrete island in center of Oracle Rd. at south side of Las Lomas Rd.; an AHD tablet stamped "2435.81 1971" 2435.852
- At Tucson; 1.6 mi N. along Oracle Rd. from the concrete bridge over Rillito Creek; in north end of concrete island in center of Oracle Rd. at south side of Lavery Line; an AHD tablet stamped "2471.85 1971" 2471.889
- BM "Q 19 1933 2909.988" (NGS Quad 32 110 3, line 102) [1975 USGS ELEVATION] 2509.831

FILE COPY

BENCH MARK DESCRIPTIONS, FIELD SUMMARY				32 110 31
Page	Quads.	State	By	Altitude by
Bk. — Page	Miles	Adj.	Date	Field Book
		MOUNT LEMMON (70)	Arizona	M.D. Cummins, 1976
		Third Order	Field Elevations	
		Book: PV 982		
		Latitude 32°15' Longitude 110°45'		
		(9) FROM A POINT ABOUT 14 MILES NORTH OF TUCSON SOUTH ALONG HIGHWAY 80 AND 89 TO FIRST AVENUE THENCE WESTERLY ALONG COUNTY AND TRACK ROADS INTO THE EAST SIDE OF CORTARO QUADRANGLE (71)		
a/2	0.00	BM "2835 NOGLS" (USGS) New Description by MDC: Tucson, 13.5 mi N. of, along Hwy. 80 and 89 from intersection of Miracle Mile and N. Oracle Rd., about 0.2 mi N. of single-pole power line crossing rd.; 124 ft E. of and across old rd. bed from centerline of hwy., 24 ft E. of hwy. right-of-way fence, 3 ft N. of cairn; set on 3 1/2-inch iron pipe, projecting 1.0 ft; standard brass cap stamped "2835 NOGLS" (Previously described in USGS line 4 and NGS Quad 32 110 3, line 102, also in USGS line ___)		2847.227
		2835 by NGS 2847.251 2835 this run 2847.227 Difference = -0.024		
	1.18	Tucson, 12.5 mi N. of, along Hwy. 80 and 89 from intersection of Miracle Mile and N. Oracle Rd.; about 0.4 mi S. of milepost 82; at culvert under rd.; 28 ft SE. of and about level with centerline of hwy., set in top center of concrete headwall of culvert; 2 1/2-inch AHD brass disk stamped "00 MDC 1976" (Also in USGS line ___)		2713.416
	1.66	BM "M 19 1933" (NGS) New Description by MDC: Tucson, 11.8 mi N. of, along Hwy. 80 and 89 from intersection of Miracle Mile and N. Oracle Rd.; 0.2 mi N. of milepost 81, 0.2 mi N. of northern end of concrete bridge over Cañon Del Oro; at private driveway SE. to Cielo Tierra Ranch; 270 ft SW. of centerline of driveway, 77 ft SE. of centerline of hwy., 28 ft SE. of hwy. right-of-way fence, 26 ft NE. of T-fence line SE., in center of clear sandy area; set in concrete post, projecting 0.7 ft; NGS brass disk stamped "M 19 1933" (NGS Quad 32 110 3, line 102, also in USGS line ___)		2647.378
		M 19 by NGS 2647.452 M 19 this run 2647.378 Difference = -0.074		
		Page 1 of 4 1		6/25/76 d1

BENCH MARK DESCRIPTIONS, FIELD SUMMARY				32 110 31
Page	Quads.	State	By	Altitude by
Bk. — Page	Miles	Adj.	Date	Field Book
		MOUNT LEMMON (70)	Arizona	M.D. Cummins, 1976
		Third Order	Field Elevations	
		Book: PV 982		
a/12	3.15	BM "1 MDC 1976 2575" (As on previous page)		2575.408
	3.96	Tucson, 9.5 mi N. of, along Hwy. 80 and 89 from intersection of Miracle Mile and N. Oracle Rd.; about 0.1 mi SW. of intersection of First Ave.; at concrete box culvert under hwy.; 41 ft SE. of and about level with centerline of hwy.; cemented in top center of southeast concrete headwall of box culvert; 2 1/2-inch AHD brass disk stamped "2 MDC 1976" (Also in USGS line ___)		2542.753
	4.25	UE: Centerline of first Ave. and projected centerline W. of Lambert Lane; nail and ribbon		2546.202
	5.19	Tucson, 9.6 mi N. and NE. of, along Hwy. 80 and 89 from intersection of Miracle Mile and N. Oracle Rd., thence 1.1 mi N. along First Ave.; at T-rd. W., at "M" in power line; 115 ft N. of centerline of Marala Drive, 67 ft W. of and 3 ft higher than centerline of First Ave., 1 ft NE. of "T" power pole with witness sign attached; set on 5/8-inch copper-coated rod encased in 6-inch drainpipe; standard tablet stamped "3 MDC 1976 2649"		2649.078
	6.11	Tucson, 9.6 mi N. and NE. of, along Hwy. 80 and 89 from intersection of Miracle Mile and N. Oracle Rd., thence 2.0 mi N. along First Ave.; just before curve W. where First Ave. becomes Tangerine Rd.; about 265 ft SE. of center of curve, at culvert under rd.; 76 ft SE. of east end of culvert, 55 ft E. of centerline of First Ave., about 2 ft higher than rd. bed, in line with N.-S. fence with witness sign attached; set on 5/8-inch copper-coated rod encased in 6-inch drainpipe; standard tablet stamped "4 MDC 1976 2763"		2763.236
	6.16	Sec Cor T11S R13E T12S R14E S36 S31 S1 S6 G10 1921		2761.490
	6.63	UE: Double power line pole X-ing.; north side west pole, rail spike		2783.625
	7.30	Tucson, 9.6 mi N. and NE. of, along Hwy. 80 and 89 from intersection of Miracle Mile and N. Oracle Rd., thence 2.05 mi N. along First Ave., thence 1.15 mi W. along Tangerine Rd.; at east end of cut, at Y-rd. SW. to gravel pit; 52 ft S. of centerline of Tangerine Rd., 24 ft W. of centerline of Y-rd. SW. from center of cattle-guard at point where Y-rd. passes through fence line, about 3 ft higher than rd. bed, in line with W.-E. fence line; set on 5/8-inch copper-coated rod encased in 6-inch drainpipe; standard tablet stamped "5 MDC 1976 2814"		2813.703
		3 Page 3 of 4		6/25/76 d1d

BENCH MARK DESCRIPTIONS, FIELD SUMMARY				32 110 31
Page	Quads.	State	By	Altitude by
Bk. — Page	Miles	Adj.	Date	Field Book
		MOUNT LEMMON (70)	Arizona	M.D. Cummins, 1976
		Third Order	Field Elevations	
		Book: PV 982		
a/7	1.91	Tucson, (at intersection of Miracle Mile and N. Oracle Rd.), 11.55 mi N. of, along Hwy. 80 and 89; at concrete bridge over Cañon Del Oro, on curbing at northwest edge of southeast concrete sidewall of bridge, 1 ft higher than rd. bed; cemented 6 ft SW. of northeast end of southeast concrete sidewall of bridge; 2 1/2-inch AHD brass disk stamped "2642.51+682+44.9 1946" (Also in USGS line ___)		2641.928
	1.97	Tucson, 11.5 mi N. of, along Hwy. 80 and 89 from intersection of Miracle Mile and N. Oracle Rd.; at concrete bridge over Cañon Del Oro, on curbing at southeast edge of northwest concrete sidewall of bridge, 1 ft higher than rd. bed; cemented 9 ft NE. of southwest end of northwest concrete sidewall of bridge; 2 1/2-inch AHD brass disk stamped "2640.96+679+56.6 1946" (Also in USGS line ___)		2640.375
	3.15	Tucson, 10.35 mi N. of, along Hwy. 80 and 89 from intersection of Miracle Mile and N. Oracle Rd., about 0.4 mi S. of milepost 80; at private driveway NW. to Cañada Del Oro Ranch; 93 ft NW. of centerline of hwy., 72 ft SW. of centerline of driveway, 5 ft SE. of hwy. right-of-way fence, 2 ft NW. of power pole with 3 transformers and a guy wire; set on 5/8-inch copper-coated rod encased in 6-inch drainpipe; standard tablet stamped "1 MDC 1976 2575" (Also in USGS line ___)		2575.408
		SPUR LINE TO BM "2573 NOGLS"		
a/40	0.20	BM "2573 NOGLS" (USGS) New Description by MDC: Tucson, 10.55 mi N. of, along Hwy. 80 and 89 from intersection of Miracle Mile and N. Oracle Rd.; about 0.15 mi S. of milepost 80, at old ruins of Steam Pump Ranch house, 0.2 mi NE. of 1 MDC 1976; 147 ft NW. of centerline of hwy., 66 ft NNW. of power pole with 3 transformers, 47 ft NW. of hwy. right-of-way fence, 2 ft S. of and 1 ft E. of northeast corner of old Steam Pump Ranch house ruins; set on 3 1/2-inch iron pipe, projecting 1.0 ft; standard brass cap stamped "2573 NOGLS" (Previously described in USGS line 4, also USGS line ___)		2585.141
		2573 prev. elev. 2585.091 2573 this run 2585.141 Difference = +0.050		
		RETURN TO MAIN LINE Page 2 of 4 2		6/25/76 d1d

BENCH MARK DESCRIPTIONS, FIELD SUMMARY				32 110 31
Page	Quads.	State	By	Altitude by
Bk. — Page	Miles	Adj.	Date	Field Book
		MOUNT LEMMON (70)	Arizona	M.D. Cummins, 1976
		Third Order	Field Elevations	
		Book: PV 982		
a/25	8.15	Tucson, 9.6 mi N. and NE. of, along Hwy. 80 and 89 from intersection of Miracle Mile and N. Oracle Rd., thence 2.05 mi N. along First Ave., thence 2.0 mi W. along Tangerine Rd.; at private drive N.; 133 ft W. of centerline of private drive N., 47 ft N. of centerline of Tangerine Rd., about 2 ft higher than rd. bed, in line with W.-E. fence line; set on 5/8-inch copper-coated rod encased in 6-inch drainpipe; standard tablet stamped "6 MDC 1976 2800"		2799.957
		Page 4 of 4 4		6/25/76 d1d

FILE COPY

Page		Quads.	State	By	32 110 34
Bk.—Page	Miles	Adj.	Date	Altitude by	Field Book
		MOUNT LEMMON (70)	Arizona	M.D. Cummins	1976
		First Order	Field Elevations		
		Book: PV 980	Latitude 32°15' Longitude 110°45'		
(10)		FROM THE JUNCTION OF HIGHWAYS 80 AND 89 AND LOS ALTOS ROAD NORTH ALONG HIGHWAY 80 AND 89 TO A POINT ABOUT 14 MILES NORTH OF INTERSECTION OF MIRACLE MILE AND NORTH ORACLE ROADS IN TUCSON			
c/3	0.00	BM "Q 19 1933" (Found as described in NGS Quad 32 110 3, line 102) [1975 FIRST ORDER ELEVATION BY D.O. RICHARDSON IN USGS LINE 8]			2509.831
	0.44	Tucson, 5.2 mi N. of, along Hwy. 80 and 89 from intersection of Miracle Mile and N. Oracle Rd.; 0.1 mi S. of Gioconda Way (a T-rd. E.); at concrete box culvert under hwy.; 60 ft E. of and 1 ft higher than centerline of hwy.; cemented in top center of east concrete headwall of culvert; 2 1/2-inch AHD brass disk stamped "2534.22 ELEV 1971"			2534.276
	0.54	Tucson, 5.25 mi N. of, along Hwy. 80 and 89 from intersection of Miracle Mile and N. Oracle Rd.; at Gioconda Way (a T-rd. E.), at concrete box culvert under hwy.; 78 ft S. of centerline of Gioconda Way, 60 ft E. of and 1 ft higher than centerline of hwy.; cemented in top center of east concrete headwall of culvert; 2 1/2-inch AHD brass disk stamped "2536.84 ELEV"			2536.658
	1.30	Tucson, 6.0 mi N. of, along Hwy. 80 and 89 from intersection of Miracle Mile and N. Oracle Rd.; at Suffolk Drive (a T-rd. E.); 106 ft N. of centerline of Suffolk Drive, 28 ft E. of and 1 ft higher than centerline of hwy.; at concrete box culvert under hwy.; cemented in top center of east concrete headwall of culvert; 2 1/2-inch AHD brass disk stamped "2556.67 ELEV +389+00 STA 1953"			2556.515
	1.53	Tucson, 6.25 mi N. of, along Hwy. 80 and 89 from intersection of Miracle Mile and N. Oracle Rd.; 0.2 mi S. of milepost 76; at concrete box culvert under hwy.; 28 ft E. of and 1 ft higher than centerline of hwy.; cemented in top center of east concrete headwall of culvert; 2 1/2-inch AHD brass disk stamped "2581.31 ELEV +401+00 STA 1953"			2581.171
		Page 1 of 3			6/15/76 dld

Page		Quads.	State	By	32 110 34
Bk.—Page	Miles	Adj.	Date	Altitude by	Field Book
		MOUNT LEMMON (70)	Arizona	M.D. Cummins	1976
		First Order	Field Elevations		
		Book: PV 980			
c/23	6.75	BM "2640.96 ELEV +679+56.6 STA 1946 AHD" (Described in USGS line ___)			2640.375
	6.81	BM "2642.51 ELEV +682+44.9 STA 1946 AHD" (Described in USGS line ___)			2641.928
	7.06	BM "M 19 1933 (NGS Quad 32 110 3, line 102) (Redescribed in USGS line ___)			2647.378
	7.54	BM "00 MDC 1976" AHD (Described in USGS line ___)			2713.416
	8.72	BM "2835 NOGLS USGS" (Described in USGS line ___)			2847.227
		Page 3 of 3			6/15/76 dld

Page		Quads.	State	By	32 110 34
Bk.—Page	Miles	Adj.	Date	Altitude by	Field Book
		MOUNT LEMMON (70)	Arizona	M.D. Cummins	1976
		First Order	Field Elevations		
		Book: PV 980			
c/8	1.94	Tucson, 6.65 mi N. of, along Hwy. 80 and 89 from intersection of Miracle Mile and N. Oracle Rd.; 264 ft N. of milepost 76, at concrete box culvert under hwy.; 28 ft E. of and about 0.5 ft lower than centerline of hwy.; cemented in top center of east concrete headwall of culvert; 2 1/2-inch AHD brass disk stamped "2595.71 ELEV +421+145 STA 1953"			2595.559
	2.58	Tucson, 7.3 mi N. of, along Hwy. 80 and 89 from intersection of Miracle Mile and N. Oracle Rd.; at large concrete box culvert under hwy.; 28 ft E. of and 1 ft higher than centerline of hwy.; cemented in top center of east concrete headwall of culvert; 2 1/2-inch AHD brass disk stamped "2623.82 ELEV +455+1667 STA 1953"			2623.696
	2.83	Tucson, 7.55 mi N. of, along Hwy. 80 and 89 from intersection of Miracle Mile and N. Oracle Rd.; at X-ing. of Hardy Rd., at concrete box culvert under hwy.; 75 ft N. of centerline of Hardy Rd., 28 ft E. of and 1 ft higher than centerline of hwy.; cemented in top center of east concrete headwall of culvert; 2 1/2-inch AHD brass disk stamped "GS 8 1976"			2627.597
	3.41	Tucson, 8.15 mi N. of, along Hwy. 80 and 89 from intersection of Miracle Mile and N. Oracle Rd.; at X-ing. of Calle Concordia, at concrete box culvert under hwy.; 268 ft N. of centerline of Calle Concordia, 28 ft E. of and 1 ft higher than centerline of hwy.; cemented in top center of east concrete headwall of culvert; 2 1/2-inch AHD brass disk stamped "2646.60 ELEV +498+55 STA 1953"			2646.449
	3.88	BM: In pole; rail spike			2641.441
	4.75	BM "2 MDC 1976" AHD (Described in USGS line ___)			2542.753
	5.57	BM "1 MDC 1976 2575" (Described in USGS line ___) SPUR LINE TO BM "2573 NOGLS"			2575.408
	0.20	BM "2573 NOGLS USGS" (Described in USGS line ___) RETURN TO MAIN LINE			2585.141
	5.57	BM "1 MDC 1976 2575" (As above)			2575.408
		Page 2 of 3			6/15/76 dld

Page		Quads.	State	By	32 110 34
Bk.—Page	Miles	Adj.	Date	Altitude by	Field Book
		MOUNT LEMMON (70)	Arizona	M.D. Cummins	1976
		First Order	Field Elevations		
		Book: PV 980			
e/2	0.00	BM "2646.60 ELEV +498+55 STA 1953" (see line ___)			2646.449
	0.41	Tucson, 8.1 mi N. of along Hwy. 80 and 89 from intersection of Miracle Mile and N. Oracle Rd., thence 0.2 mi W. along Calle Concordia, thence 0.2 mi S. along Shadow Mtn. Drive; at residence of Mr. Robert D. Mead (9060 N. Shadow Mtn. Drive), 58 ft E. of and about 4 ft higher than centerline of drive surface, 18 ft NW. of southeast corner of desert plant garden that is encircled by horseshoe-shaped driveway; riveted on top of iron pipe projecting 1.0 ft above surrounding garden area; USGS brass cap stamped "2625 1977"			2624.557
		RETURN TO MAIN LINE			
		Page 3 of 3			6/15/76 dld

BENCH MARK DESCRIPTIONS, FIELD SUMMARY

Page	Quads.	State	By	Altitude by
Bk.—Page	Miles	Adj.	Date	Field Book
		MOUNT LEMMON (70)	Arizona	M.D. Cummins, 1976
		First Order	Mean Field Elevations	
		Book: PV 980	Latitude 32°15' Longitude 110°45'	
		(11) FROM THE SOUTH END OF THE BRIDGE OVER RILLITO CREEK AT ORACLE ROAD IN TUCSON 0.1 MILE TO A USGS REFERENCE MARK GAGING STATION		
c/2	0.00	BM "2309.84 AHD 1970" (Described in USGS line 8)[1975 FIRST ORDER ELEVATION BY USGS)		2309.830
	0.12	BM USGS reference mark "GAGING STATION" (Found as described in horizontal control for Mount Lemmon (70))		2303.444
			9-1165	

FILE COPY

A270

REPORT ON PERMANENT SURVEY MARK

AREA OFFICE

STATE Ariz COUNTY Pima QUADRANGLE Mt Lemmon (70)
 QUOTE PRIMARY REFERENCE Corillo Ranch House, 60 ft NE of; 70 ft W of ----
 (Direction and distance) Line 3

DESIGNATION { LISTED 2596 NOGLS
 STAMPED " " } TYPE OF MARK: BM X TT _____ TRIANG. _____

Lat. _____ ° _____ ' _____ "	CONDITION	ESTABLISHED BY
Long. _____ ° _____ ' _____ "	Disturbed <input type="checkbox"/>	USGS <input checked="" type="checkbox"/> USBR <input type="checkbox"/>
Elev. <u>old elev 2607.15</u> feet	Destroyed <input checked="" type="checkbox"/>	USC&GS <input type="checkbox"/> State GS <input type="checkbox"/>
<u>Reset elev 2610.77</u>	Not Found <input type="checkbox"/>	USNPS <input type="checkbox"/> USNFS <input type="checkbox"/>
		USGLO } <input type="checkbox"/> (Other) <input type="checkbox"/>
		USBLM }

~~REMARKS FOR REVIEW~~ DESCRIPTION: (Reset)

Intersection of Tanque Verde Rd. and Sabino Canyon Rd. in NE. Tucson, 3.2 mi N. on Sabino Canyon Rd. to Snyder Rd., turn E. on Snyder Rd. for 0.8 mi to Hidden Valley Rd., turn N. for 0.2 mi to Rawhide St., approx. 125 ft N. of Rawhide St., 20 ft S. of property line, 2 ft E. of lot line on W. side of Hidden Valley Rd., in a concrete post projecting 3 inches; Standard aluminum tablet stamped "2596 NOGL RESET 1974"

SUBMITTED BY Pima County Sanitation Dist.

TITLE _____

DATE 9/4/74

AGENCY _____

Marks found in good condition need not be reported.

FILL IN ALL AVAILABLE INFORMATION

Please prepare in triplicate and send to nearest address shown on reverse side.

REPORT ON PERMANENT SURVEY MARK

20
AREA OFFICE

STATE Arizona COUNTY Pima QUADRANGLE Tucson North
QUOTE PRIMARY REFERENCE At Tucson, 100 ft E of Swan rd, 88ft NE of La Linda Rama
(Direction and distance) Line 7

DESIGNATION { LISTED _____
STAMPED 24 DOR 1975 TYPE OF MARK: BM X TT _____ TRIANG. _____

Lat. _____ ' _____ " CONDITION
Disturbed USGS USBR
Long. _____ ' _____ " Destroyed USC&GS State GS
Elev. 2567.970 feet Not Found USNPS USNFS
USGLO } _____ _____
USBLM } _____ (Other)

REMARKS OR REVISED DESCRIPTION:

At Tucson, 100 ft E. of Swan Rd., 88 ft NE of La Linda Rama Rd, 156 ft S. of power pole marked CDK R 1, set on a copper-coated rod, standard tablet stamped "24 DOR 1975"

SUBMITTED BY Eugene E. Moe
TITLE Cartographer DATE 11/80
AGENCY USGS NMD

Marks found in good condition need not be reported.

FILL IN ALL AVAILABLE INFORMATION

16-54252-4

(OVER)

REPORT ON PERMANENT SURVEY MARK

AREA OFFICE

STATE ARIZONA COUNTY PIMA QUADRANGLE TUCSON NORTH
QUOTE PRIMARY REFERENCE AT TUCSON, 80ft. S. OF CALLE BARRIL (Line 7)
(Direction and distance)

DESIGNATION { LISTED _____
STAMPED 25 DOR 1975 TYPE OF MARK: BM X TT _____ TRIANG. _____

Lat. _____ ' _____ " CONDITION
Disturbed USGS USBR
Long. _____ ' _____ " Destroyed USC&GS State GS
Elev. 2637.148 feet Not Found USNPS USNFS
USGLO } _____ _____
USBLM } _____ (Other)

REMARKS OR REVISED DESCRIPTION:

25 DOR 1975 WILL BE DESTROYED IN THE NEAR FUTURE WHEN SWAN ROAD IS WIDENED. THERE IS A RESET TABLET SET AT THE INTERSECTION OF CALLE BARRIL AND CAMINO ESPLENDORA IN CONC. CURB. (SEE LEVELING NOTES)

SUBMITTED BY GARY N. KRUEGER
TITLE CARTOGRAPHIC TECH. DATE 04-28-81
AGENCY USGS WMD

Marks found in good condition need not be reported.

FILL IN ALL AVAILABLE INFORMATION

GPO 16-54252-0

Please prepare in triplicate and send to nearest (or indicate) address shown on reverse side.

Please prepare in triplicate.

REPORT ON PERMANENT SURVEY MARK

AREA OFFICE

STATE ARIZONA COUNTY PIMA QUADRANGLE TUCSON NORTH
QUOTE PRIMARY REFERENCE AT TUCSON, 0.54 MI. N. ALONG SWAN RD. FROM CALLE BARRI
(Direction and distance)

DESIGNATION { LISTED 26 DOR 1975
STAMPED _____ TYPE OF MARK: BM X TT _____ TRIANG. _____

Lat. _____ ° _____ ' _____ " CONDITION
Disturbed
Long. 2732.244 ° _____ ' _____ " Destroyed
Elev. _____ feet Not Found ESTABLISHED BY
USGS USBR
USC&GS State GS
USNPS USNFS
USGLO (Other)
USBLM

REMARKS OR REVISED DESCRIPTION:
EXTENSIVE HOUSING DEVELOPMENT IN AREA. MARK PROBABLY DESTROYED
WHEN DRIVEWAYS WERE CONSTRUCTED TO HOUSES. NO TRACE OF TABLET OR
COPPER COATED ROD COULD BE FOUND.

Please prepare in triplicate.

SUBMITTED BY GARY N. KRUEGER
TITLE CARTOGRAPHIC TECH.
AGENCY USGS WMC

DATE 11-20-80

Marks found in good condition need not be reported.

FILL IN ALL AVAILABLE INFORMATION

GPO 16-54252-6

REPORT ON PERMANENT SURVEY MARK

AREA OFFICE

STATE ARIZONA COUNTY PIMA QUADRANGLE TUCSON NORTH
QUOTE PRIMARY REFERENCE AT TUCSON, 0.7 MI. N. ALONG SWAN RD. FROM SUNRISE DR.
(Direction and distance) USGS LINE 7

DESIGNATION { LISTED 28 DOR 1975
STAMPED _____ TYPE OF MARK: BM X TT _____ TRIANG. _____

Lat. _____ ° _____ ' _____ " CONDITION
Disturbed
Long. _____ ° _____ ' _____ " Destroyed
Elev. 2823.192 feet Not Found ESTABLISHED BY
USGS USBR
USC&GS State GS
USNPS USNFS
USGLO (Other)
USBLM

REMARKS OR REVISED DESCRIPTION:
NO TRACE OF TABLET OR COPPER COATED ROD COULD BE FOUND.

Please prepare in triplicate.

SUBMITTED BY GARY N. KRUEGER
TITLE CARTOGRAPHIC TECH.
AGENCY USGS WMC

DATE 11-20-80

Marks found in good condition need not be reported.

FILL IN ALL AVAILABLE INFORMATION

GPO 16-54252-6

REPORT ON PERMANENT SURVEY MARK

AREA OFFICE

STATE Arizona COUNTY Pima QUADRANGLE Tucson North
 QUOTE PRIMARY REFERENCE At Tucson, 60 ft W of Oracle Rd, 36 ft N of Prince R
 (Direction and distance) Line 8

DESIGNATION { LISTED _____
 STAMPED 39 DOR 1975 TYPE OF MARK: BM X TT _____ TRIANG. _____

Lat. _____° _____' _____"	CONDITION	ESTABLISHED BY
Long. _____° _____' _____"	Disturbed <input type="checkbox"/>	USGS <input checked="" type="checkbox"/> USBR <input type="checkbox"/>
Elev. <u>2331.442</u> feet	Destroyed <input type="checkbox"/>	USC&GS <input type="checkbox"/> State GS <input type="checkbox"/>
	Not Found <input checked="" type="checkbox"/>	USNPS <input type="checkbox"/> USNFS <input type="checkbox"/>
		USGLO <input type="checkbox"/> (Other) <input type="checkbox"/>
		USBLM <input type="checkbox"/>

REMARKS OR REVISED DESCRIPTION:

The old lamp posts along Oracle Road have been replace with new posts and the bases were different in size, so new concrete footings were poured destroying the old ones.

Please prepare in triplicate.

SUBMITTED BY Eugene E. Moe
 TITLE Cartographer
 AGENCY USGS Topo Div

DATE 11/80

Marks found in good condition need not be reported.

FILL IN ALL AVAILABLE INFORMATION

REPORT ON PERMANENT SURVEY MARK

AREA OFFICE

STATE Arizona COUNTY Pima QUADRANGLE Tucson North
 QUOTE PRIMARY REFERENCE BW Ref. Mark, "GAGING STATION" Mt. Lemon Hor. Contr
 (Direction and distance)

DESIGNATION { LISTED GAGING STATION RM
 STAMPED _____ TYPE OF MARK: BM X TT _____ TRIANG. _____

Lat. _____° _____' _____"	CONDITION	ESTABLISHED BY
Long. _____° _____' _____"	Disturbed <input type="checkbox"/>	USGS <input checked="" type="checkbox"/> USBR <input type="checkbox"/>
Elev. <u>2303.444</u> feet	Destroyed <input type="checkbox"/>	USC&GS <input type="checkbox"/> State GS <input type="checkbox"/>
	Not Found <input checked="" type="checkbox"/>	USNPS <input type="checkbox"/> USNFS <input type="checkbox"/>
		USGLO <input type="checkbox"/> (Other) <input type="checkbox"/>
		USBLM <input type="checkbox"/>

REMARKS OR REVISED DESCRIPTION:

The Gaging Station has been destroyed and moved to another location and it is assumed the RM too, has been destroyed. No evidence could be found.

Please prepare in triplicate and send to nearest (or indicate) address shown on reverse side.

SUBMITTED BY Eugene E. Moe
 TITLE Cartographer
 AGENCY USGS NMD

DATE 11/80

Marks found in good condition need not be reported.

FILL IN ALL AVAILABLE INFORMATION

BENCH MARK DESCRIPTIONS

9-1165 required	<input type="checkbox"/>
9-1165 not required	<input type="checkbox"/>

BM 25 DOR 1975 RESET 1981 ACCUM. DISTANCE .07 k ELEV 806.7540 m

AT TUCSON; 275 ft. E. ALONG CALLE BARRIL FROM SWAN RD. TO THE
JUNCTION OF CALLE BARRIL AND CAMINO ESPLENDORA, EAST OF INTERSECTION
IN CONC. CURB, 3.3ft. N. OF THE N. END OF GUARD RAIL, 4.9ft. ~~DE~~ W. OF
STREET SIGN(CAMINO ESPLENDORA & CALLE BARRIL) AND 15ft. SE. OF THE
CENTERLINE OF CAMINO ESPLENDORA. A STANDARD ALUM. TABLET SET IN
CONC. CURB .5ft. ABOVE BLACKTOP. STAMPED 25 DOR 1975 RESET 1981.

9-1165 required	<input type="checkbox"/>
9-1165 not required	<input type="checkbox"/>

BM _____ ACCUM. DISTANCE _____ k ELEV _____ m