HUITT-ZOLLARS

Huitt-Zollars, Inc. / 4742 N. 24th Street / Suite 100 / Phoenix, Arizona 85016 / 602-952-9123 / Fax 602-952-9124

July 27, 1999

Mr. Tim Phillips
Project Manager
Flood Control District of Maricopa County
2801 West Durango Street
Phoenix, AZ 85009-6399

Reference: Queen Creek/Sanokai Wash HMP and East Maricopa Floodway Capacity Mitigation Study – Contract FCD 98-26

Subject: Submittal of Project Survey Report

Dear Mr. Phillips:

Enclosed herein is the Project Survey Report, submitted in accordance with Subtask 4.5.6 - Project Survey Report Annex of the contract scope of work.

Please do not hesitate to contact us if there are any questions or comments.

Very truly yours,

HUITT-ZOLLARS, INC.

Fred K. Duren, Jr., P.E., P.G.
Project Manager

HUITT-ZOLLARS

Huitt-Zollars, Inc. / 4742 N. 24th Street / Suite 100 / Phoenix, Arizona 85016 / 602-952-9123 / Fax 602-952-9124

Queen Creek & Sanokai Wash
Project Survey Report

To: Fred Duren (Project Manager)
From: Steve Long (Survey Manager)

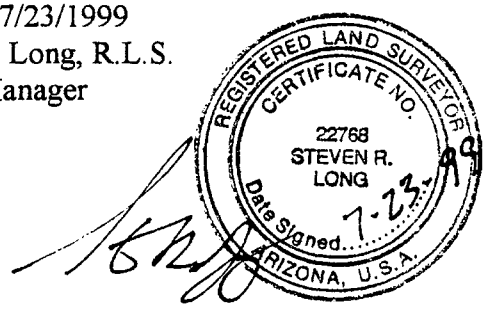
Fred:

The attached information pertains to the work the field crew performed on the area around Queen Creek Wash from the Maricopa and Pinal County line to the Central Arizona Project alignment. The length of the wash and the corresponding aerial mapping control covered an area four and one-half miles in length and approximately 600 feet wide.

The attachments contain 1.) The map prepared for Kenny Aerial showing the panel locations along with the final coordinate values and elevations for each point. 2.) A hard copy of the download information from the data collector showing the metric values of each panel point and each GPS control point used for this project. The measured latitude and longitude for each GPS point is also shown. 3.) The GPS data sheets as provided by the National Geodetic Survey along with the relevant conversion data.

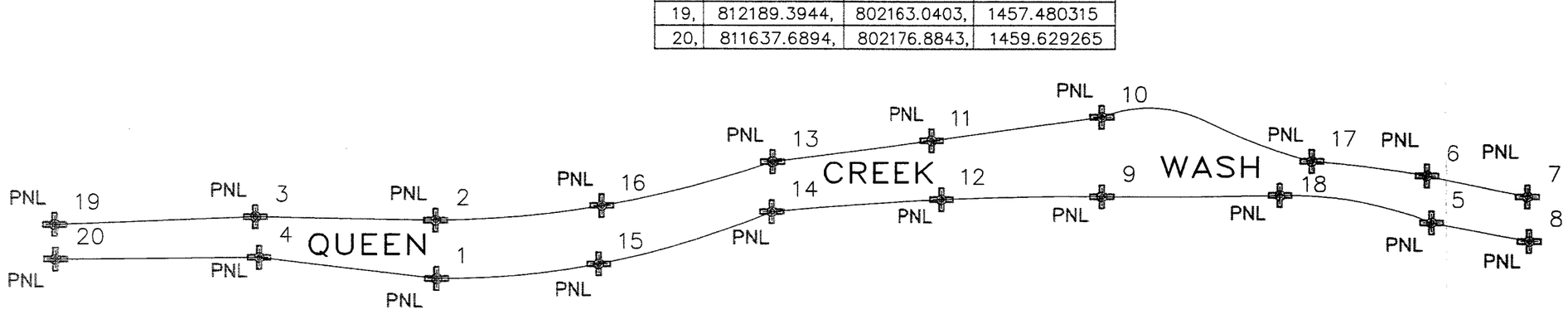
The work performed on this phase of the project was done by GPS methods, and not conventional methods, therefore there are no field books to go with this report. The GPS data sheets provided not only the information needed to complete this phase of the project, but also provided the related information requested in Subtask 4.5.6- Project Survey Report Annex of the contract Scope of Work.

Prepared 7/23/1999
Steven R. Long, R.L.S.
Survey Manager



AERIAL MAPPING CONTROL DIAGRAM & FINAL COORDINATE DATA

CONTROL TABLE			
1,	811337.3187,	808175.215,	1484.445538
2,	812263.405,	808160.7148,	1481.660105
3,	812312.5562,	805317.6297,	1468.366142
4,	811667.4577,	805379.2467,	1470.406824
5,	812245.8662,	823952.5261,	1555.643045
6,	812992.5485,	823876.2415,	1551.377953
7,	812662.4489,	825462.1136,	1564.10105
8,	811949.3216,	825491.6194,	1564.822835
9,	812648.2801,	818734.3309,	1533.999344
10,	813917.7259,	818730.1078,	1532.309711
11,	813537.9763,	816023.2181,	1517.982283
12,	812599.9164,	816186.8848,	1520.902231
13,	813199.9129,	813477.4323,	1508.536745
14,	812402.9801,	813464.4874,	1502.634514
15,	811570.5925,	810738.7201,	1491.75853
16,	812496.8101,	810785.1478,	1489.593176
17,	813222.4983,	822050.6215,	1543.881234
18,	812677.2477,	821539.1228,	1544.498031
19,	812189.3944,	802163.0403,	1457.480315
20,	811637.6894,	802176.8843,	1459.629265



GRAPHIC SCALE

1000 0 500 1000 2000 4000

(IN FEET)
1 inch = 1000 ft.

REVISIONS

DESIGNED BY: PHIL
DRAWN BY: PHIL
CHECKED BY: LONG

HUITT-ZOLLARS
Engineering
Huitt-Zollars, Inc.
4742 N. 24th Street, Suite 100 Phoenix, AZ 85016
Phone: (602) 952-9123 Fax: (602) 952-9124

CONTROL SHEET
QUEEN CREEK DRAINAGE STUDY
PART OF THE SOUTH HALH OF
TOWNSHIP 2 SOUTH, RANGE 8 EAST, G&S.R.B&M.
MARICOPA COUNTY, ARIZONA

REGISTERED LAND SURVEYOR
CERTIFICATE NO.
22768
STEVEN R.
LONG
Date Signed
ARIZONA, U.S.A.

DATE:
DEC. 14, 1998

H-Z JOB NO.:
05-0949-01

SHEET
1
OF
1

FILE:
G:\PROJ\05094901\
SURVEY\CONTROL.DWG

QUEEN CREEK (MCFCD)- COORDINATES FOR AERIAL CONTROL POINTS

POINT	GRID N (M)	GRID E (M)	ELEV (M)	GRND N (M)	GRND E (M)	GRND N (IF)	GRND E (IF)	ELEV (IF)
1	247257.848	246294.186	452.459	247295.6147	246331.8055	811337.3187	808175.215	1484.446
2	247540.076	246289.767	451.61	247577.8858	246327.3859	812263.405	808160.7148	1481.66
3	247555.055	245423.327	447.558	247592.8671	245460.8135	812312.5562	805317.6297	1468.366
4	247358.459	245442.105	448.18	247396.2411	245479.5944	811667.4577	805379.2467	1470.407
5	247534.731	251102.376	474.16	247572.54	251140.73	812245.8662	823952.5261	1555.643
6	247762.285	251079.128	472.86	247800.1288	251117.4784	812992.5485	823876.2415	1551.378
7	247661.686	251562.428	476.738	247699.5144	251600.8522	812662.4489	825462.1136	1564.101
8	247444.358	251571.42	476.958	247482.1532	251609.8456	811949.3216	825491.6194	1564.823
9	247657.368	249512.113	467.563	247695.1958	249550.2241	812648.2801	818734.3309	1533.999
10	248044.236	249510.826	467.048	248082.1229	249548.9369	813917.7259	818730.1078	1532.31
11	247928.506	248685.892	462.681	247966.3752	248723.8769	813537.9763	816023.2181	1517.982
12	247642.629	248735.77	463.571	247680.4545	248773.7625	812599.9164	816186.8848	1520.902
13	247825.48	247910.055	459.802	247863.3334	247947.9214	813199.9129	813477.4323	1508.537
14	247582.612	247906.11	458.003	247620.4283	247943.9758	812402.9801	813464.4874	1502.635
15	247328.939	247075.423	454.688	247366.7166	247113.1619	811570.5925	810738.7201	1491.759
16	247611.207	247089.572	454.028	247649.0277	247127.313	812496.8101	810785.1478	1489.593
17	247832.363	250522.764	470.575	247870.2175	250561.0294	813222.4983	822050.6215	1543.881
18	247666.196	250366.883	470.763	247704.0251	250405.1246	812677.2477	821539.1228	1544.498
19	247517.521	244461.955	444.24	247555.3274	244499.2947	812189.3944	802163.0403	1457.48
20	247349.387	244466.174	444.895	247387.1677	244503.5143	811637.6894	802176.8843	1459.629
AVG:	247605.0471	248250.4137	460.919					

NOTES:

All Horizontal Coordinates are based on NAD83(1992).
All Elevations are based on NAVD88.
Average Grid to Ground Scale factor for the job site is 0.999847281
International Feet used per Arizona state statute.

GPS DATA COLLECTION HARD COPY INFORMATION

0949-01a

000001,247257.848,246294.186,452.459,MEAS,
000002,247540.076,246289.767,451.610,MEAS,
000003,247555.055,245423.327,447.558,MEAS,
000005,247534.731,251102.376,476.099,MEAS,
000006,247762.285,251079.128,474.799,MEAS,
000007,247661.686,251562.428,478.677,MEAS,
000008,247444.358,251571.420,478.897,MEAS,
000009,247657.368,249512.113,467.563,MEAS,
000010,248044.236,249510.826,467.048,MEAS,
000011,247928.506,248685.892,462.681,MEAS,
000012,247642.629,248735.770,463.571,MEAS,
000013,247825.480,247910.055,459.802,MEAS,
000014,247582.612,247906.110,458.003,MEAS,
000015,247328.939,247075.423,454.688,MEAS,
000016,247611.207,247089.572,454.028,MEAS,
000017,247832.363,250522.764,470.575,MEAS,
000018,247666.196,250366.883,470.763,MEAS,
000019,247517.521,244461.955,444.240,MEAS,
000020,247349.387,244466.174,444.895,MEAS,
000021,247534.718,251102.361,474.156,MEAS,
00004,247358.459,245442.105,448.180,MEAS,
D 517,0.000,0.000,448.605,FIX,
G 68,248447.706,242037.441,434.925,FIX,
KLEIN 2,250110.029,252350.407,0.000,FIX,
P 364,0.000,0.000,444.060,FIX,
PECOS,253568.031,250875.464,0.000,FIX,
Q 282,242517.116,247359.657,454.444,FIX,
Q 364,0.000,0.000,440.618,FIX,

474.160
472.860
476.738
476.958

NOTE:
ELEV.'s FOR 5-8 WHEN SHOT W/ BAD ROD HT AND NEEDED TO BE ADJUSTED -1.939 m.

0949geo1

D 517,33.122915623,-111.342197978,387.41431,MEAS,
G 68,33.142517145,-111.363194830,373.67337,MEAS,
KLEIN 2,33.151797285,-111.295329984,427.60534,MEAS,
P 364,33.131218431,-111.350204637,382.88918,MEAS,
PECOS,33.171041300,-111.304977283,420.93330,MEAS,
Q 282,33.111209504,-111.330714979,393.27812,MEAS,
Q 364,33.135574208,-111.354489957,379.37807,MEAS,
START,33.135112259,-111.304130321,415.45950,MEAS,
base,33.135270179,-111.303691673,418.18561,FIX,

GPS DATA CONVERSION DATA
&
GPS DATA SHEETS

Project QUEEN CREEK
Client
Task RESULTS OF GPS TRANSFORMATION

HUITT ZOLLARS INCORPORATED

Job No. 05-0749-01
By DGF Date 12-3-98
Chkd Date
Sheet of

	dX	dY	dHgt
✓ D517	—	—	0.003
✓ 668	-0.010	-0.046	-0.001
✓ KLEIN 2	-0.026	0.008	—
✓ P364	—	—	-0.030
✓ PECOS	-0.006	0.011	—
✓ Q282	0.042	0.028	0.006
✓ Q364	—	—	0.022

2-D HELMERT PARAMETERS & RMS

SHIFT dX:	248659.8970	0.0189 m
SHIFT dY:	248156.4005	0.0189 m
ROTATION:	-735.905365	0.6905 "
SCALE:	-95.051502	3.3480 ppm
ORIGIN XØ:	0.8235 m	
ORIGIN YØ:	-0.6582 m	

HEIGHT TRANSFORMATION & RMS

SLOPE dH/dX:	$-3.078295 * 10^{-5}$	$6.706 * 10^{-5}$
SLOPE dH/dY:	$-5.216416 * 10^{-5}$	$7.726 * 10^{-5}$
SHIFT dHØ:	61.2038	0.0121 m
ORIGIN XØ:	-2726.9680 m	
ORIGIN YØ:	-3678.3595 m	

Project QUEEN CREEK(MCFCD)
Client
Task GRID TO GROUND CONVERSION

HUITT ZOLLARS INCORPORATED

Job No. 05-0949-01
By DGF Date 12-10-98
Chkd Date
Sheet of

GRID TO GROUND CONVERSION [NAD 83]

REDUCTION TO ELLIPSOID: $S = D \times [R/(R+N+H)]$

S = DISTANCE ON ELLIPSOID
D = HOZ. DISTANCE ON SURFACE
R = MEAN RADIUS OF CURV. OF ELL. = 6,370,000m
H = ELEV. (AMSL)
N = GEOID HT.

$$\frac{6,370,000}{6,370,000 + [-29.46] + 460.919} = 0.999932272$$

AVERAGE "EASTING" OF JOB: 248250.4137 m

$E' = (213,360 - 248,250.4137) = -34,890.4137$ m

REDUCTION TO GRID $0.9999 + [(E')^2 \times 1.23244 \times 10^{-14}]$

K = GRID SCALE FACTOR $= 0.9999 + [(-34890.4137)^2 \times 1.23244 \times 10^{-14}]$

$= 0.9999 + 0.000015003$

$= 0.999915003$

COMBINED FACTORS = (REDUCTION TO ELLIPSOID) x (REDUCTION TO GRID)

$= (0.999932272) \times (0.999915003) = 0.999847281$

Project QUEEN CREEK (MCFCD)
Client
Task AVGS. FOR GRID/GRND COMB.

HUITT ZOLLARS INCORPORATED

Job No. 05-0949-01
By DGF Date 12-10-98
Chkd Date
Sheet of

AVG ELEV, JOB SITE: 460.919m [BY AVG. NAVD 88 EL. FOR ALL PANEL POINTS ON JOB]

AVG. GEOID HT: KLEIN 2 -29.38m H
PECOS -29.36m H
D 517 -29.47m V
Q 282 -29.44m H V
P 364 -29.50m V
~~G 68 -29.46m H V~~
~~Q 364 -29.43m V~~
G 68 -29.54m H V
Q 364 -29.52m V

AVG = -29.46

The NGS Data Sheet

```
DATABASE = Sybase ,PROGRAM = datasheet, VERSION = 5.70
Starting Datasheet Retrieval...
1        National Geodetic Survey,   Retrieval Date = NOVEMBER 30, 1998
 DU0676 ***********************************************************************
 DU0676  DESIGNATION -  P 364
 DU0676  PID         -  DU0676
 DU0676  STATE/COUNTY-  AZ/MARICOPA
 DU0676  USGS QUAD   -  SACATON NE (1975)
 DU0676
 DU0676                          *CURRENT SURVEY CONTROL
 DU0676 ______________________________________________________________________
 DU0676* NAD 83(1986)-  33 13 08.      (N)     111 34 57.      (W)      SCALED
 DU0676* NAVD 88     -       444.060   (meters)    1456.89    (feet)   ADJUSTED
 DU0676 ______________________________________________________________________
 DU0676  GEOID HEIGHT-          -29.50  (meters)                        GEOID96
 DU0676  DYNAMIC HT  -          443.523 (meters)    1455.12    (feet)   COMP
 DU0676  MODELED GRAV-      979,415.3   (mgal)                          NAVD 88
 DU0676
 DU0676  VERT ORDER  -  FIRST     CLASS II
 DU0676
 DU0676.The horizontal coordinates were scaled from a topographic map and have
 DU0676.an estimated accuracy of +/- 6 seconds.
 DU0676
 DU0676.The orthometric height was determined by differential leveling
 DU0676.and adjusted by the National Geodetic Survey in November 1993.
 DU0676
 DU0676.The geoid height was determined by GEOID96.
 DU0676
 DU0676.The dynamic height is computed by dividing the NAVD 88
 DU0676.geopotential number by the normal gravity value computed on the
 DU0676.Geodetic Reference System of 1980 (GRS 80) ellipsoid at 45
 DU0676.degrees latitude (G = 980.6199 gals.).
 DU0676
 DU0676.The modeled gravity was interpolated from observed gravity values.
 DU0676
 DU0676;                      North         East     Units  Estimated Accuracy
 DU0676;SPC AZ C     -   246,080.      244,510.       MT  (+/- 180 meters Scaled)
 DU0676
 DU0676                          SUPERSEDED SURVEY CONTROL
 DU0676
 DU0676  NGVD 29     -       444.248  (m)          1457.50   (f) ADJ UNCH    1 2
 DU0676
 DU0676.Superseded values are not recommended for survey control.
 DU0676.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.
 DU0676.See file format.dat to determine how the superseded data were derived.
 DU0676
 DU0676_MARKER: DB = BENCH MARK DISK
 DU0676_SETTING: 46 = COPPER-CLAD STEEL ROD W/O SLEEVE (10 FT.+)
 DU0676_STAMPING: P 364 1967
 DU0676_STABILITY: B = PROBABLY HOLD POSITION/ELEVATION WELL
 DU0676_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR
 DU0676+SATELLITE: SATELLITE OBSERVATIONS - January 11, 1992
 DU0676
 DU0676  HISTORY     - Date     Condition        Recov. By
 DU0676  HISTORY     - 1967     MONUMENTED       CGS
 DU0676  HISTORY     - 19920111 GOOD             NGS
 DU0676
 DU0676                           STATION DESCRIPTION
 DU0676
 DU0676'DESCRIBED BY COAST AND GEODETIC SURVEY 1967
```

DU0676'4.2 MI SE FROM QUEEN CREEK.
DU0676'ABOUT 0.4 MILE SOUTH ALONG ELLSWORTH AVENUE FROM THE QUEEN CREEK
DU0676'SCHOOL AT QUEEN CREEK, THENCE 3.8 MILES SOUTHEAST ALONG THE SOUTHERN
DU0676'PACIFIC RAILROAD, IN S 25, T 2 S, R 7 E, 0.1 MILE SOUTHEAST OF A
DU0676'LOADING DOCK, 27 FEET SOUTHWEST OF THE SOUTHWEST RAIL OF THE TRACK, 2
DU0676'FEET NORTHEAST OF MILEPOST 942, 103 FEET NORTHEAST OF THE CENTER LINE
DU0676'OF A ROAD WHICH PARALLELS THE TRACKS, 102 FEET NORTH OF THE CENTER
DU0676'LINE OF A ROAD WHICH LEADS EAST, 1.3 FEET SOUTHWEST OF A METAL WITNESS
DU0676'POST, ABOUT 5 FEET BELOW THE LEVEL OF THE TRACKS, AND ON THE TOP OF A
DU0676'5/8-INCH COPPER COATED ROD THAT IS DRIVEN TO A DEPTH OF 25 FEET AND IS
DU0676'ENCASED IN A 5-INCH IRON PIPE PROJECTING 2 INCHES.
DU0676

DU0676 STATION RECOVERY (1992)

DU0676
DU0676'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 1992
DU0676'0.2 KM (0.10 MI) NORTHERLY ALONG ELLSWORTH ROAD FROM THE POST OFFICE
DU0676'IN QUEEN CREEK, THENCE 1.2 KM (0.75 MI) EASTERLY ALONG OCOTILLO ROAD,
DU0676'THENCE 4.8 KM (3.00 MI) SOUTHEASTERLY ALONG THE SOUTHERN PACIFIC
DU0676'RAILROAD, 31.4 M (103.0 FT) NORTHEAST OF THE CENTERLINE OF
DU0676'RITTENHOUSE ROAD, 29.4 M (96.5 FT) NORTH OF THE CENTER OF RIGGS ROAD,
DU0676'7.6 M (24.9 FT) SOUTHWEST OF THE NEAR RAIL, 1.1 M (3.6 FT) NORTHEAST
DU0676'OF MILEPOST 942, 1.0 M (3.3 FT) BELOW THE LEVEL OF RITTENHOUSE ROAD,
DU0676'AND 0.4 M (1.3 FT) SOUTHWEST OF A WITNESS POST. NOTE--THE DISK IS
DU0676'ENCASED IN A 5-INCH METAL PIPE AND IS FLUSH WITH THE GROUND SURFACE.
1 National Geodetic Survey, Retrieval Date = NOVEMBER 30, 1998
DU0678 **********
DU0678 DESIGNATION - Q 364
DU0678 PID - DU0678
DU0678 STATE/COUNTY- AZ/MARICOPA
DU0678 USGS QUAD - SACATON NE (1975)
DU0678

DU0678 *CURRENT SURVEY CONTROL

DU0678 ---
DU0678* NAD 83(1986)- 33 13 52. (N) 111 35 39. (W) SCALED
DU0678* NAVD 88 - 440.618 (meters) 1445.59 (feet) ADJUSTED
DU0678 ---
DU0678 GEOID HEIGHT- -29.52 (meters) GEOID96
DU0678 DYNAMIC HT - 440.084 (meters) 1443.84 (feet) COMP
DU0678 MODELED GRAV- 979,413.0 (mgal) NAVD 88
DU0678
DU0678 VERT ORDER - FIRST CLASS II
DU0678
DU0678.The horizontal coordinates were scaled from a topographic map and have
DU0678.an estimated accuracy of +/- 6 seconds.
DU0678
DU0678.The orthometric height was determined by differential leveling
DU0678.and adjusted by the National Geodetic Survey in November 1993.
DU0678
DU0678.The geoid height was determined by GEOID96.
DU0678
DU0678.The dynamic height is computed by dividing the NAVD 88
DU0678.geopotential number by the normal gravity value computed on the
DU0678.Geodetic Reference System of 1980 (GRS 80) ellipsoid at 45
DU0678.degrees latitude (G = 980.6199 gals.).
DU0678
DU0678.The modeled gravity was interpolated from observed gravity values.
DU0678
DU0678; North East Units Estimated Accuracy
DU0678;SPC AZ C - 247,430. 243,420. MT (+/- 180 meters Scaled)
DU0678

DU0678 SUPERSEDED SURVEY CONTROL

DU0678
DU0678 NGVD 29 - 440.712 (m) 1445.90 (f) ADJ UNCH 1 2
DU0678

```
DU0678.Superseded values are not recommended for survey control.
DU0678.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.
DU0678.See file format.dat to determine how the superseded data were derived.
DU0678
DU0678_MARKER: DB = BENCH MARK DISK
DU0678_SETTING: 7 = SET IN TOP OF CONCRETE MONUMENT (ROUND)
DU0678_STAMPING: Q 364 1967
DU0678_STABILITY: C = MAY HOLD, BUT OF TYPE COMMONLY SUBJECT TO
DU0678+STABILITY: SURFACE MOTION
DU0678_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR
DU0678+SATELLITE: SATELLITE OBSERVATIONS - January 11, 1992
DU0678
DU0678  HISTORY      - Date     Condition        Recov. By
DU0678  HISTORY      - 1967     MONUMENTED       CGS
DU0678  HISTORY      - 19920111 GOOD             NGS
DU0678
DU0678                          STATION DESCRIPTION
DU0678
DU0678'DESCRIBED BY COAST AND GEODETIC SURVEY 1967
DU0678'3.2 MI SE FROM QUEEN CREEK.
DU0678'ABOUT 0.4 MILE SOUTH ALONG ELLSWORTH AVENUE FROM THE QUEEN CREEK
DU0678'SCHOOL AT QUEEN CREEK, THENCE 2.8 MILES SOUTHEAST ALONG THE SOUTHERN
DU0678'PACIFIC RAILROAD, IN S 24, T 2 S, R 7 E, 3 1/2 FEET SOUTHEAST OF THE
DU0678'1ST POLE NORTHWEST OF MILEPOST 941, 29 FEET SOUTHWEST OF THE SOUTHWEST
DU0678'RAIL OF THE TRACKS, 159 FEET NORTHWEST OF THE CENTER OF A CROSSING OF
DU0678'THE RAILROAD AND A ROAD, 1.8 FEET NORTHWEST OF A METAL WITNESS POST,
DU0678'ABOUT 5 FEET BELOW THE LEVEL OF THE TRACKS, AND SET IN THE TOP OF A
DU0678'CONCRETE POST PROJECTING 4 INCHES.
DU0678
DU0678                          STATION RECOVERY (1992)
DU0678
DU0678'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 1992
DU0678'0.2 KM (0.10 MI) NORTHERLY ALONG ELLSWORTH ROAD FROM THE POST OFFICE
DU0678'IN QUEEN CREEK, THENCE 1.2 KM (0.75 MI) EASTERLY ALONG OCOTILLO ROAD,
DU0678'THENCE 3.1 KM (1.90 MI) SOUTHEASTERLY ALONG THE SOUTHERN PACIFIC
DU0678'RAILROAD, 30.8 M (101.0 FT) NORTHEAST OF AND LEVEL WITH THE
DU0678'CENTERLINE OF RITTENHOUSE ROAD, 8.9 M (29.2 FT) SOUTHWEST OF THE NEAR
DU0678'RAIL, 1.2 M (3.9 FT) SOUTHEAST OF UTILITY POLE NUMBER 28F (FIRST POLE
DU0678'NORTHWEST OF MILEPOST 941), 0.4 NORTHWEST OF A WITNESS POST, AND THE
DU0678'MONUMENT IS FLUSH WITH THE GROUND SURFACE.
1        National Geodetic Survey,   Retrieval Date = NOVEMBER 30, 1998
DU1573 ***********************************************************************
DU1573  CBN          - This is a Cooperative Base Network Control Station.
DU1573  DESIGNATION - G 68
DU1573  PID          - DU1573
DU1573  STATE/COUNTY- AZ/MARICOPA
DU1573  USGS QUAD    - SACATON NE (1975)
DU1573
DU1573                          *CURRENT SURVEY CONTROL
DU1573  ______________________________________________________________________
DU1573* NAD 83(1992)- 33 14 25.26695(N)    111 36 32.16722(W)      ADJUSTED
DU1573* NAVD 88      -       434.925  (meters)    1426.92   (feet)  ADJUSTED
DU1573  ______________________________________________________________________
DU1573  X            - -1,966,650.990 (meters)                     COMP
DU1573  Y            - -4,964,931.069 (meters)                     COMP
DU1573  Z            -  3,476,506.443 (meters)                     COMP
DU1573  LAPLACE CORR-           1.68  (seconds)                    DEFLEC96
DU1573  ELLIP HEIGHT-         405.36  (meters)                     GPS OBS
DU1573  GEOID HEIGHT-         -29.54  (meters)                     GEOID96
DU1573  DYNAMIC HT   -        434.399 (meters)    1425.19  (feet)  COMP
DU1573  MODELED GRAV-     979,415.5   (mgal)                       NAVD 88
DU1573
DU1573  HORZ ORDER   - B
DU1573  VERT ORDER   - FIRST     CLASS II
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DU1573  ELLP ORDER  -  SECOND    CLASS I
DU1573
DU1573.The horizontal coordinates were established by GPS observations
DU1573.and adjusted by the National Geodetic Survey in September 1992.
DU1573
DU1573.The orthometric height was determined by differential leveling
DU1573.and adjusted by the National Geodetic Survey in November 1993.
DU1573
DU1573.The X, Y, and Z were computed from the position and the ellipsoidal ht.
DU1573
DU1573.The Laplace correction was computed from DEFLEC96 derived deflections.
DU1573
DU1573.The ellipsoidal height was determined by GPS observations
DU1573.and is referenced to NAD 83.
DU1573
DU1573.The geoid height was determined by GEOID96.
DU1573
DU1573.The dynamic height is computed by dividing the NAVD 88
DU1573.geopotential number by the normal gravity value computed on the
DU1573.Geodetic Reference System of 1980 (GRS 80) ellipsoid at 45
DU1573.degrees latitude (G = 980.6199 gals.).
DU1573
DU1573.The modeled gravity was interpolated from observed gravity values.
DU1573
DU1573;                      North          East      Units   Scale      Converg.
DU1573;SPC AZ C      -   248,447.706   242,037.441   MT  0.99991014 +0 10 07.3
DU1573;UTM  12       - 3,678,098.146   443,270.103   MT  0.99963968 -0 20 01.7
DU1573
DU1573                              SUPERSEDED SURVEY CONTROL
DU1573
DU1573  NAD 83(1986)-  33 14 25.25819(N)     111 36 32.16924(W) AD(        ) 1
DU1573  NAD 83(1986)-  33 14 25.25819(N)     111 36 32.16924(W) AD(        ) B
DU1573  NGVD 29      -       435.104  (m)          1427.50    (f) ADJ UNCH    1 2
DU1573
DU1573.Superseded values are not recommended for survey control.
DU1573.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.
DU1573.See file format.dat to determine how the superseded data were derived.
DU1573
DU1573_MARKER: DB = BENCH MARK DISK
DU1573_SETTING: 7 = SET IN TOP OF CONCRETE MONUMENT (ROUND)
DU1573_STAMPING: G 68 1934
DU1573_STABILITY: C = MAY HOLD, BUT OF TYPE COMMONLY SUBJECT TO
DU1573+STABILITY: SURFACE MOTION
DU1573_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR
DU1573+SATELLITE: SATELLITE OBSERVATIONS - December 17, 1995
DU1573
DU1573  HISTORY      - Date     Condition        Recov. By
DU1573  HISTORY      - UNK      MONUMENTED
DU1573  HISTORY      - 19840406 GOOD
DU1573  HISTORY      - 19920110 GOOD             NGS
DU1573  HISTORY      - 19920204 GOOD             NGS
DU1573  HISTORY      - 19951217 GOOD             CHANCE
DU1573
DU1573                              STATION DESCRIPTION
DU1573
DU1573'DESCRIBED 1984
DU1573'RECOVERED IN GOOD CONDITION.
DU1573
DU1573                              STATION RECOVERY (1992)
DU1573
DU1573'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 1992
DU1573'0.2 KM (0.10 MI) NORTHERLY ALONG ELLSWORTH ROAD FROM THE POST OFFICE
DU1573'IN QUEEN CREEK, THENCE 1.2 KM (0.75 MI) EASTERLY ALONG OCOTILLO ROAD,
DU1573'THENCE 1.5 KM (0.95 MI) SOUTHEASTERLY ALONG THE SOUTHERN PACIFIC
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DU1573'RAILROAD, 33.0 M (108.3 FT) NORTHEAST OF THE CENTERLINE OF
DU1573'RITTENHOUSE ROAD, 9.1 M (29.9 FT) SOUTHWEST OF THE NEAR RIAL, 5.6 M
DU1573'(18.4 FT) NORTHWEST OF MILEPOST 940, 0.5 M (1.6 FT) ABOVE THE LEVEL
DU1573'OF THE ROAD, 0.4 M (1.3 FT) SOUTHEAST OF A WITNESS POST, AND THE
DU1573'MONUMENT IS FLUSH WITH THE GROUND SURFACE.
DU1573
DU1573 STATION RECOVERY (1992)
DU1573
DU1573'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 1992
DU1573'THE STATION IS LOCATED ABOUT 2.5 KM (1.6 MI) EAST-SOUTHEAST OF QUEEN
DU1573'CREEK, ALONG THE SOUTHERN PACIFIC RAILROAD TRACK, BETWEEN THE TRACK
DU1573'AND A PAVED ROAD, UNDER A LARGE CREOSOTE BUSH. OWNERSHIP--SOUTHERN
DU1573'PACIFIC RAILROAD.
DU1573'TO REACH THE STATION FROM THE QUEEN CREEK POST OFFICE, GO NORTH ON
DU1573'ELLSWORTH ROAD FOR 0.16 KM (0.10 MI) TO A PAVED CROSSROAD. TURN
DU1573'RIGHT, EAST, ON OCOTILLO ROAD FOR 1.08 KM (0.67 MI) TO A SLANTED
DU1573'PAVED CROSSROAD AT RAILROAD TRACK. BEAR RIGHT, SOUTHEAST, ON
DU1573'RITTENHOUSE ROAD FOR 0.98 KM (0.61 MI) TO A SQUARE CONCRETE
DU1573'IRRIGATION UNIT ON THE RIGHT. CONTINUE AHEAD ON RITTENHOUSE ROAD FOR
DU1573'0.59 KM (0.37 MI) TO THE STATION ON THE LEFT.
DU1573'THE STATION IS SET IN THE TOP OF A 30-CM SQUARE CONCRETE POST FLUSH
DU1573'WITH THE GROUND. LOCATED 33.1 M (108.6 FT) NORTHEAST OF AND LEVEL
DU1573'WITH THE ROAD CENTER, 23.1 M (75.8 FT) EAST-NORTHEAST OF A UTILITY
DU1573'POLE ALONG THE ROAD, 8.9 M (29.2 FT) SOUTHWEST OF THE SOUTHWEST RAIL
DU1573'OF THE TRACK, 5.7 M (18.7 FT) NORTHWEST OF A UTILITY POLE WITH MILE
DU1573'MARKER 940 AND 0.5 M (1.6 FT) SOUTHEAST OF A METAL WITNESS POST.
DU1573
DU1573 STATION RECOVERY (1995)
DU1573
DU1573'RECOVERY NOTE BY JE CHANCE AND ASSOCIATES 1995 (MFY)
DU1573'RECOVERED IN GOOD CONDITION. A NEW AND COMPLETE DESCRIPTION FOLLOWS
DU1573'THE STATION IS LOCATED APPROXIMATELY 2.5 KM (1.55 MI) EAST-SOUTHEAST
DU1573'OF QUEEN CREEK ALONG THE SOUTHERN PACIFIC RAILROAD TRACK BETWEN THE
DU1573'TRACK AND RITTENHOUSE ROAD. OWNERSHIP -- SOUTHERN PACIFIC RAILROAD TO
DU1573'REACH THE STATION FROM THE JUNCTION OF ELLSWORTH ROAD AND OCOTILLO
DU1573'ROAD, GO EAST ON OCOTILLO ROAD FOR 1.08 KM (0.65 MI) TO A PAVED ROAD
DU1573'AT THE RAILROAD TRACK, RITTENHOUSE ROAD. BEAR RIGHT AND PROCEED
DU1573'SOUTHEAST ON RITTENHOUSE ROAD FOR 0.98 KM (0.60 MI) TO A SQUARE
DU1573'CONCRETE IRRIGATION UNIT ON THE RIGHT. CONTINUE SOUTHEAST ON
DU1573'RITTENHOUSE ROAD FOR 0.59 KM (0.35 MI) TO THE STATION ON THE LEFT THE
DU1573'STATION IS A BENCH MARK DISK SET INTO THE TOP OF A 30-CM SQUARE
DU1573'CONCRETE POST FLUSH WITH THE GROUND. THE STATION IS LOCATED 33.0 M
DU1573'(108.3 FT) NORTHEAST OF THE RITTENHOUSE ROAD CENTERLINE, 23.1 M (75.8
DU1573'FT) EAST-NORTHEAST OF A UTILITY POLE ALONG RITTENHOUSE ROAD, 8.9 M
DU1573'(29.2 FT) SOUTHWEST OF THE SOUTHWEST RAIL OF THE RAILROAD TRACK, 5.7 M
DU1573'(18.7 FT) NORTHWEST OF A UTILITY POLE LOCATED NEAR MILE MARKER 940,
DU1573'0.5 M (1.6 FT) SOUTHEAST OF A METAL WITNESS POST, AND LEVEL WITH THE
DU1573'RITTENHOUSE ROAD CENTERLINE
1 National Geodetic Survey, Retrieval Date = NOVEMBER 30, 1998
DU1572 **********
DU1572 DESIGNATION - R 364
DU1572 PID - DU1572
DU1572 STATE/COUNTY- AZ/MARICOPA
DU1572 USGS QUAD - SACATON NE (1975)
DU1572
DU1572 *CURRENT SURVEY CONTROL
DU1572 ---
DU1572* NAD 83(1986)- 33 14 47. (N) 111 37 07. (W) SCALED
DU1572* NAVD 88 - 430.957 (meters) 1413.90 (feet) ADJUSTED
DU1572 ---
DU1572 GEOID HEIGHT- -29.56 (meters) GEOID96
DU1572 DYNAMIC HT - 430.436 (meters) 1412.19 (feet) COMP
DU1572 MODELED GRAV- 979,417.1 (mgal) NAVD 88
DU1572

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DU1572  VERT ORDER  -  FIRST     CLASS II
DU1572
DU1572.The horizontal coordinates were scaled from a topographic map and have
DU1572.an estimated accuracy of +/- 6 seconds.
DU1572
DU1572.The orthometric height was determined by differential leveling
DU1572.and adjusted by the National Geodetic Survey in November 1993.
DU1572
DU1572.The geoid height was determined by GEOID96.
DU1572
DU1572.The dynamic height is computed by dividing the NAVD 88
DU1572.geopotential number by the normal gravity value computed on the
DU1572.Geodetic Reference System of 1980 (GRS 80) ellipsoid at 45
DU1572.degrees latitude (G = 980.6199 gals.).
DU1572
DU1572.The modeled gravity was interpolated from observed gravity values.
DU1572
DU1572;                      North         East     Units  Estimated Accuracy
DU1572;SPC AZ C      -   249,120.      241,130.       MT  (+/- 180 meters Scaled)
DU1572
DU1572                             SUPERSEDED SURVEY CONTROL
DU1572
DU1572  NGVD 29      -       431.147  (m)             1414.52    (f) ADJ UNCH    1 2
DU1572
DU1572.Superseded values are not recommended for survey control.
DU1572.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.
DU1572.See file format.dat to determine how the superseded data were derived.
DU1572
DU1572_MARKER: DB = BENCH MARK DISK
DU1572_SETTING: 7 = SET IN TOP OF CONCRETE MONUMENT (ROUND)
DU1572_STAMPING: R 364 1967
DU1572_STABILITY: C = MAY HOLD, BUT OF TYPE COMMONLY SUBJECT TO
DU1572+STABILITY: SURFACE MOTION
DU1572_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR
DU1572+SATELLITE: SATELLITE OBSERVATIONS - January 10, 1992
DU1572
DU1572  HISTORY      - Date     Condition        Recov. By
DU1572  HISTORY      - UNK      MONUMENTED
DU1572  HISTORY      - 19920110 GOOD             NGS
DU1572
DU1572                              STATION DESCRIPTION
DU1572
DU1572'DESCRIBED BY NATIONAL GEODETIC SURVEY 1992
DU1572'0.2 KM (0.10 MI) NORTHERLY ALONG ELLSWORTH ROAD FROM THE POST OFFICE
DU1572'IN QUEEN CREEK, THENCE 1.2 KM (0.75 MI) EASTERLY ALONG OCOTILLO ROAD,
DU1572'THENCE 0.2 KM (0.10 MI) SOUTHEASTERLY ALONG THE SOUTHERN PACIFIC
DU1572'RAILROAD, 31.3 M (102.7 FT) NORTHEAST OF AND LEVEL WITH THE CENTER OF
DU1572'RITTENHOUSE ROAD, 26.2 M (86.0 FT) SOUTHEAST OF A UTILITY POLE, 9.1 M
DU1572'(29.9 FT) SOUTHWEST OF THE NEAR RAIL, 0.4 M (1.3 FT) NORTHWEST OF A
DU1572'WITNESS POST, AND THE MONUMENT IS FLUSH WITH THE GROUND SURFACE.
Elapsed Time = 00:00:12
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[redacted] Found

DU2084 **
DU2084 DESIGNATION - KLEINZ ("KLEIN 2" = SPACE TWO)
DU2084 PID - DU2084
DU2084 STATE/COUNTY- AZ/PINAL
DU2084 USGS QUAD - SUPERSTITION MTS SW (1982)
DU2084
DU2084 *CURRENT SURVEY CONTROL
DU2084 ______
DU2084* NAD 83(1992)- 33 15 18.06552(N) 111 29 53.51988(W) ADJUSTED
DU2084* NAVD 88 - 488.7 (meters) 1603. (feet) VERTCON
DU2084 ______
DU2084 LAPLACE CORR- 2.92 (seconds) DEFLEC96
DU2084 GEOID HEIGHT- -29.38 (meters) GEOID96
DU2084
DU2084 [redacted] - SECOND
DU2084
DU2084.The horizontal coordinates were established by classical geodetic methods
DU2084.and adjusted by the National Geodetic Survey in August 1993.
DU2084
DU2084.The NAVD 88 height was computed by applying the VERTCON shift value to
DU2084.the NGVD 29 height (displayed under SUPERSEDED SURVEY CONTROL.)
DU2084
DU2084.The Laplace correction was computed from DEFLEC96 derived deflections.
DU2084
DU2084.The geoid height was determined by GEOID96.
DU2084
DU2084; North East Units Scale Converg.
DU2084;SPC AZ C - 250,110.029 252,350.407 MT 0.99991874 +0 13 46.1
DU2084;UTM 12 - 3,679,669.502 453,594.347 MT 0.99962655 -0 16 23.5
DU2084
DU2084: Primary Azimuth Mark Grid Az
DU2084:SPC AZ C - PECOS 336 54 01.4
DU2084:UTM 12 - PECOS 337 24 11.0
DU2084
DU2084|---|
DU2084| PID Reference Object Distance Geod. Az |
DU2084| dddmmss.s |
DU2084| KLEINZ RM 1 13.688 METERS 14409 |
DU2084| KLEINZ RM 2 13.798 METERS 33140 |
DU2084| DU2090 PECOS APPROX. 3.8 KM 3370747.5 |
DU2084|---|
DU2084
DU2084 SUPERSEDED SURVEY CONTROL
DU2084
DU2084 NAD 83(1986)- 33 15 18.06099(N) 111 29 53.52262(W) ADJUSTED
DU2084 NAD 27 - 33 15 17.86774(N) 111 29 51.05587(W) ADJUSTED
DU2084 NGVD 29 - 488.2 (meters) 1602. (feet) VERT ANG
DU2084
DU2084.Superseded values are not recommended for survey control.
DU2084.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.
DU2084.See file format.dat to determine how the superseded data were derived.
DU2084
DU2084_MARKER: DD = SURVEY DISK
DU2084_SETTING: 7 = SET IN TOP OF CONCRETE MONUMENT (ROUND)
DU2084
DU2084 HISTORY - Date Condition Recov. By
DU2084 HISTORY - 1975 MONUMENTED AZDT

DU2084
DU2084 STATION DESCRIPTION
DU2084
DU2084'DESCRIBED BY ARIZONA DEPARTMENT OF TRANSPORTATION 1975 (TT)
DU2084'THE STATION IS LOCATED ABOUT 11.5 MILES EAST SOUTHEAST OF APACHE
DU2084'JUNCTION AND 16.3 MILES WEST NORTHWEST OF FLORENCE ON TOP OF A
DU2084'FLOOD CONTROL DIKE.
DU2084'
DU2084'THE STATION IS AN ADOT HWY. DIVISION DISK STAMPED KLEINZ 1975
DU2084'AND IS SET IN A 10 INCH DIAMETER CONCRETE MONUMENT. THE STATION
DU2084'IS ON THE SOUTHWEST CORNER OF DIKE AND MARKED WITH A WITNESS POST
DU2084'AND SIGN 2.7 FEET TO THE WEST.
DU2084'
DU2084'REFERENCE MARK 1 IS A ADOT HWY. DIVISION DISK STAMPED RM1-KLEINZ
DU2084'1975 AND IS SET IN A 10 INCH DIAMETER CONCRETE MONUMENT ON TOP
DU2084'OF DIKE.
DU2084'
DU2084'REFERENCE MARK 2 IS A ADOT HWY. DIVISION DISK STAMPED RM 2
DU2084'KLEINZ 1975 AND IS SET IN A 10 INCH DIAMETER CONCRETE MONUMENT
DU2084'ON TOP OF DIKE.
DU2084'
DU2084'TO REACH THE STATION FROM APACHE JUNCTION, GO WEST ON
DU2084'U.S. HIGHWAY 60 FOR 0.85 MILE TO IRONWOOD ST., GO LEFT (SOUTH)
DU2084'FOR 1.5 MILES TO SOUTHERN AVENUE AND HIGH SCHOOL ON THE
DU2084'LEFT. CONTINUE SOUTH FOR 3.45 MILES TO A CONCRETE LINED
DU2084'WATERSHED DITCH, GO LEFT THROUGH GATE ON THE NORTH SIDE OF DITCH
DU2084'AND FOLLOW DITCH NORTH EASTERLY FOR 1.2 MILES TO ANOTHER GATE,
DU2084'PASS THROUGH GATE AND GO 200 FEET THEN MAKE A SHARP RIGHT
DU2084'TURN ACROSS DITCH. FOLLOW TRAIL SOUTHEAST FOR 0.3 MILE TO
DU2084'BASE OF DIKE, GO LEFT FOR 0.4 MILE TO NORTHEAST END OF DIKE.
DU2084'AT THIS POINT, MAKE HARD RIGHT TURN AND FOLLOW ROAD ON TOP OF
DU2084'DIKE FOR 0.35 MILE TO BEND IN DIKE TO THE SOUTHEAST, CONTINUE
DU2084'SOUTHEAST FOR 1.14 MILES TO A GATE IN FENCELINE ACROSS THE DIKE.
DU2084'GO THROUGH GATE AND CONTINUE FOR 0.76 MILE TO STATION WARNER,
DU2084'CONTINUE ON DIKE ROAD FOR 1.35 MILES TO A GATE,
DU2084'PASS THROUGH GATE AND GO 1.59 MILES TO THE STATION PECOS ON
DU2084'THE RIGHT ON THE SOUTHWEST CORNER OF DIKE, CONTINUE ON
DU2084'DIKE ROAD 0.26 MILE TO END OF DIKE. MAKE A HARD RIGHT TURN AND
DU2084'GO 100 FEET ON TRACK ROAD THEN TURN LEFT ACROSS A DITCH AND
DU2084'FOLLOW TRAIL 0.26 MILE TO BASE OF DIKE, TURN RIGHT AND FOLLOW
DU2084'TRAIL 0.55 MILE ALONG BASE OF DIKE TO A GATE AND RAMP. PASS
DU2084'THROUGH GATE AND MAKE HARD LEFT UP RAMP TO TOP OF DIKE,
DU2084'TURN RIGHT ON DIKE ROAD AND GO 1.0 MILE TO GATE, PASS THROUGH
DU2084'GATE AND GO 0.64 MILE TO STATION ON THE RIGHT AT SOUTHWEST
DU2084'CORNER OF DIKE.
DU2084'
DU2084'HEIGHT OF LIGHT ABOVE STATION MARK 1.5 METERS.

Found [redacted]

DU2090 **
DU2090 DESIGNATION - PECOS
DU2090 PID - DU2090
DU2090 STATE/COUNTY- AZ/PINAL
DU2090 USGS QUAD - DESERT WELL (1982)
DU2090
DU2090 *CURRENT SURVEY CONTROL
DU2090 ---
DU2090* NAD 83(1992)- 33 17 10.50526(N) 111 30 49.99103(W) ADJUSTED
DU2090* NAVD 88 - 482.1 (meters) 1582. (feet) VERTCON
DU2090 ---
DU2090 LAPLACE CORR- 3.26 (seconds) DEFLEC96
DU2090 GEOID HEIGHT- -29.36 (meters) GEOID96
DU2090
DU2090 [redacted]
DU2090
DU2090.The horizontal coordinates were established by classical geodetic methods
DU2090.and adjusted by the National Geodetic Survey in August 1993.
DU2090
DU2090.The NAVD 88 height was computed by applying the VERTCON shift value to
DU2090.the NGVD 29 height (displayed under SUPERSEDED SURVEY CONTROL.)
DU2090
DU2090.The Laplace correction was computed from DEFLEC96 derived deflections.
DU2090
DU2090.The geoid height was determined by GEOID96.
DU2090
DU2090; North East Units Scale Converg.
DU2090;SPC AZ C - 253,568.031 250,875.464 MT 0.99991735 +0 13 15.8
DU2090;UTM 12 - 3,683,139.307 452,150.232 MT 0.99962823 -0 16 55.3
DU2090
DU2090: Primary Azimuth Mark Grid Az
DU2090:SPC AZ C - GOLDMINE MT 223 38 53.2
DU2090:UTM 12 - GOLDMINE MT 224 09 04.3
DU2090
DU2090|---|
DU2090| PID Reference Object Distance Geod. Az |
DU2090| dddmmss.s |
DU2090| PECOS RM 1 13.683 METERS 09739 |
DU2090| DU2124 GOLDMINE MT APPROX.15.5 KM 2235209.0 |
DU2090| PECOS RM 2 13.839 METERS 29521 |
DU2090|---|
DU2090
DU2090 SUPERSEDED SURVEY CONTROL
DU2090
DU2090 NAD 83(1986)- 33 17 10.50068(N) 111 30 49.99399(W) ADJUSTED
DU2090 NAD 27 - 33 17 10.31125(N) 111 30 47.52422(W) ADJUSTED
DU2090 NGVD 29 - 481.6 (meters) 1580. (feet) VERT ANG
DU2090
DU2090.Superseded values are not recommended for survey control.
DU2090.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.
DU2090.See file format.dat to determine how the superseded data were derived.
DU2090
DU2090_MARKER: DD = SURVEY DISK
DU2090_SETTING: 7 = SET IN TOP OF CONCRETE MONUMENT (ROUND)
DU2090
DU2090 HISTORY - Date Condition Recov. By
DU2090 HISTORY - 1975 MONUMENTED AZDT

DU2090
DU2090 STATION DESCRIPTION
DU2090
DU2090'DESCRIBED BY ARIZONA DEPARTMENT OF TRANSPORTATION 1975 (TT)
DU2090'THE STATION IS ABOUT 9 MILES EAST SOUTHEAST OF APACHE JUNCTION AND
DU2090'18.9 MILES WEST NORTHWEST OF FLORENCE ON A FLOOD CONTROL DIKE.
DU2090'
DU2090'THE STATION IS AN ADOT HIGHWAY DIVISION DISK STAMPED PECOS 1975
DU2090'AND IS SET IN A 10 INCH DIAMETER CONCRETE MONUMENT ON THE SOUTHWEST
DU2090'CORNER OF DIKE. THE STATION IS MARKED BY A WITNESS POST AND SIGN
DU2090'2.7 FEET TO THE SOUTH.
DU2090'
DU2090'REFERENCE MARK 1 IS AN ADOT HIGHWAY DIVISION DISK STAMPED RM 1
DU2090'PECOS 1975 AND IS SET IN A 10 INCH DIAMETER CONCRETE MONUMENT ON
DU2090'TOP OF DIKE.
DU2090'
DU2090'REFERENCE MARK 2 IS A ADOT HIGHWAY DIVISION DISK STAMPED RM 2
DU2090'PECOS 1975 AND IS SET IN A 10 INCH DIAMETER CONCRETE MONUMENT ON
DU2090'THE TOP OF DIKE.
DU2090'
DU2090'TO REACH THE STATION FROM APACHE JUNCTION, GO WEST ON U.S. HIGHWAY
DU2090'60 FOR 0.85 MILE TO IRONWOOD ST., GO LEFT (SOUTH) FOR 1.5 MILES
DU2090'TO SOUTHERN AVENUE AND HIGH SCHOOL ON THE LEFT. CONTINUE SOUTH
DU2090'FOR 3.45 MILES TO A CONCRETE LINED WATERSHED DITCH, GO LEFT
DU2090'THROUGH GATE ON THE NORTH SIDE OF DITCH AND FOLLOW DITCH NORTH
DU2090'EASTERLY FOR 1.2 MILES TO ANOTHER GATE, PASS THROUGH GATE AND
DU2090'GO 200 FEET THEN MAKE A SHARP RIGHT TURN ACROSS DITCH. FOLLOW
DU2090'TRAIL SOUTHEAST FOR 0.3 MILE TO BASE OF DIKE, GO LEFT FOR 0.4
DU2090'MILE TO NORTHEAST END OF DIKE. AT THIS POINT, MAKE HARD RIGHT
DU2090'TURN AND FOLLOW ROAD ON TOP OF DIKE FOR 0.35 MILE TO BEND IN
DU2090'DIKE TO THE SOUTHEAST, CONTINUE SOUTHEAST FOR 1.14 MILES TO A
DU2090'GATE IN FENCELINE ACROSS THE DIKE. GO THROUGH GATE AND
DU2090'CONTINUE FOR 0.76 MILE TO STATION WARNER, CONTINUE ON DIKE ROAD
DU2090'FOR 1.35 MILES TO A GATE, PASS THROUGH GATE AND GO 1.59
DU2090'MILES TO THE STATION ON THE RIGHT ON THE SOUTHWEST CORNER OF
DU2090'DIKE. A CAR CAN BE DRIVEN TO THE STATION IN DRY WEATHER.
DU2090'
DU2090'HEIGHT OF LIGHT ABOVE STATION MARK 1.5 METERS.

DU2295 **
DU2295 DESIGNATION - D 517
DU2295 PID - DU2295
DU2295 STATE/COUNTY- AZ/PINAL
DU2295 USGS QUAD - SACATON NE (1975)
DU2295
DU2295 *CURRENT SURVEY CONTROL
DU2295 ____
DU2295* NAD 83(1986)- 33 12 28. (N) 111 34 22. (W) SCALED
DU2295* NAVD 88 - 448.605 (meters) 1471.80 (feet) ADJUSTED
DU2295 ____
DU2295 GEOID HEIGHT- -29.47 (meters) GEOID96
DU2295 DYNAMIC HT - 448.064 (meters) 1470.02 (feet) COMP
DU2295 MODELED GRAV- 979,417.4 (mgal) NAVD 88
DU2295
DU2295 VERT ORDER - FIRST CLASS II
DU2295
DU2295.The horizontal coordinates were scaled from a topographic map and have an estimated accuracy of +/- 6 seconds.
DU2295 The orthometric height was determined by differential leveling and adjusted by the National Geodetic Survey in November 1993. The geoid height was determined by GEOID96. The dynamic height is computed by dividing the NAVD 88 geopotential number by the normal gravity value computed on the Geodetic Reference System of 1980 (GRS 80) ellipsoid at 45 degrees latitude (G = 980.6199 gals.). The modeled gravity was interpolated from observed gravity values.
DU2295
DU2295; North East Units Estimated Accuracy
DU2295;SPC AZ C - 244,850. 245,420. MT (+/- 180 meters Scaled)
DU2295
DU2295_MARKER: I = METAL ROD
DU2295_SETTING: 59 = STAINLESS STEEL ROD IN SLEEVE (10 FT.+).
DU2295_STAMPING: D 517 1992
DU2295_PROJECTION: FLUSH
DU2295_STABILITY: B = PROBABLY HOLD POSITION/ELEVATION WELL
DU2295_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR
DU2295+SATELLITE: SATELLITE OBSERVATIONS - 1992
DU2295_ROD/PIPE-DEPTH: 7.4 meters
DU2295_SLEEVE-DEPTH : 0.9 meters
DU2295
DU2295 HISTORY - Date Condition Recov. By
DU2295 HISTORY - 1992 MONUMENTED NGS
DU2295
DU2295 STATION DESCRIPTION
DU2295'DESCRIBED BY NATIONAL GEODETIC SURVEY 1992
DU2295'0.2 KM (0.10 MI) NORTHERLY ALONG ELLSWORTH ROAD FROM THE POST OFFICE
DU2295'IN QUEEN CREEK, THENCE 1.2 KM (0.75 MI) EASTERLY ALONG OCOTILLO ROAD,
DU2295'THENCE 6.5 KM (4.05 MI) SOUTHEASTERLY ALONG THE SOUTHERN PACIFIC
DU2295'RAILROAD, 31.1 M (102.0 FT) SOUTHWEST OF THE NEAR RAIL, 22.3 M (73.2
DU2295'FT) NORTHWEST OF THE EAST CORNER OF A STOCK PEN, 5.5 M (18.0 FT)
DU2295'SOUTHWEST OF AND LEVEL WITH THE CENTER OF A GRAVELED ROAD, 2.2 M (7.2
DU2295'FT) SOUTHEAST OF A UTILITY POLE, AND 0.4 M (1.3 FT) NORTHWEST OF A
DU2295'WITNESS POST. NOTE--ACCESS TO THE DATUM POINT IS THROUGH A 5-INCH
DU2295'LOGO CAP.

FOUND [redacted]

DU0672 **
DU0672 CBN - This is a Cooperative Base Network Control Station.
DU0672 DESIGNATION - Q 282
DU0672 PID - DU0672
DU0672 STATE/COUNTY- AZ/PINAL
DU0672 USGS QUAD - SACATON NE (1975)
DU0672
DU0672 *CURRENT SURVEY CONTROL
DU0672 ---
DU0672* NAD 83(1992)- 33 11 12.19321(N) 111 33 07.36766(W) ADJUSTED
DU0672* NAVD 88 - 454.444 (meters) 1490.95 (feet) ADJUSTED
DU0672 ---
DU0672 X - -1,962,923.361 (meters) COMP
DU0672 Y - -4,969,927.181 (meters) COMP
DU0672 Z - 3,471,540.425 (meters) COMP
DU0672 LAPLACE CORR- 0.82 (seconds) DEFLEC96
DU0672 ELLIP HEIGHT- 425.02 (meters) GPS OBS
DU0672 GEOID HEIGHT- -29.44 (meters) GEOID96
DU0672 DYNAMIC HT - 453.896 (meters) 1489.16 (feet) COMP
DU0672 MODELED GRAV- 979,418.3 (mgal) NAVD 88
DU0672
DU0672 HORZ ORDER - B
DU0672 VERT ORDER - FIRST CLASS II
DU0672 ELLP ORDER - SECOND CLASS I
DU0672
DU0672.The horizontal coordinates were established by GPS observations
DU0672.and adjusted by the National Geodetic Survey in September 1992.
DU0672
DU0672.The orthometric height was determined by differential leveling
DU0672.and adjusted by the National Geodetic Survey in November 1993.
DU0672
DU0672.The X, Y, and Z were computed from the position and the ellipsoidal ht.
DU0672
DU0672.The Laplace correction was computed from DEFLEC96 derived deflections.
DU0672
DU0672.The ellipsoidal height was determined by GPS observations
DU0672.and is referenced to NAD 83.
DU0672
DU0672.The geoid height was determined by GEOID96.
DU0672
DU0672.The dynamic height is computed by dividing the NAVD 88
DU0672.geopotential number by the normal gravity value computed on the
DU0672.Geodetic Reference System of 1980 (GRS 80) ellipsoid at 45
DU0672.degrees latitude (G = 980.6199 gals.).
DU0672
DU0672.The modeled gravity was interpolated from observed gravity values.
DU0672
DU0672; North East Units Scale Converg.
DU0672;SPC AZ C - 242,517.116 247,359.657 MT 0.99991425 +0 11 58.5
DU0672;UTM 12 - 3,672,122.792 448,538.686 MT 0.99963265 -0 18 07.8
DU0672
DU0672 SUPERSEDED SURVEY CONTROL
DU0672
DU0672 NAD 83(1986)- 33 11 12.18511(N) 111 33 07.36986(W) ADJUSTED
DU0672 NGVD 29 - 454.372 (meters) 1490.72 (feet) ADJ UNCH
DU0672
DU0672.Superseded values are not recommended for survey control.

DU0672.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.
DU0672.See file format.dat to determine how the superseded data were derived.
DU0672
DU0672_MARKER: DB = BENCH MARK DISK
DU0672_SETTING: 7 = SET IN TOP OF CONCRETE MONUMENT (ROUND)
DU0672_STAMPING: Q 282 1948
DU0672_STABILITY: C = MAY HOLD, BUT OF TYPE COMMONLY SUBJECT TO
DU0672+STABILITY: SURFACE MOTION
DU0672_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR
DU0672+SATELLITE: SATELLITE OBSERVATIONS - February 04, 1992
DU0672
DU0672 HISTORY - Date Condition Recov. By
DU0672 HISTORY - 1948 MONUMENTED CGS
DU0672 HISTORY - 1967 GOOD NGS
DU0672 HISTORY - 19840404 GOOD
DU0672 HISTORY - 19920110 GOOD NGS
DU0672 HISTORY - 19920204 GOOD NGS
DU0672
DU0672 STATION DESCRIPTION
DU0672
DU0672'DESCRIBED BY NATIONAL GEODETIC SURVEY 1967
DU0672'4.8 MI NW FROM MAGMA.
DU0672'ABOUT 4.8 MILES NORTHWEST ALONG THE SOUTHERN PACIFIC RAILROAD FROM THE
DU0672'STATION SIGN AT MAGMA, IN S 8, T 3 S, R 8 E, 28 1/2 FEET SOUTHWEST OF
DU0672'THE SOUTHWEST RAIL OF THE TRACKS, 37 FEET NORTHWEST OF MILEPOST 945,
DU0672'30 FEET NORTHEAST OF THE CENTER LINE OF A TRAIL ROAD WHICH PARALLELS
DU0672'THE TRACKS, 1.1 FEET SOUTHEAST OF A METAL WITNESS POST, ABOUT 4 FEET
DU0672'BELOW THE LEVEL OF THE TRACKS, AND SET IN THE TOP OF A CONCRETE POST
DU0672'PROJECTING 6 INCHES.
DU0672
DU0672 STATION RECOVERY (1984)
DU0672
DU0672'RECOVERED 1984
DU0672'RECOVERED IN GOOD CONDITION.
DU0672
DU0672 STATION RECOVERY (1992)
DU0672
DU0672'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 1992
DU0672'0.2 KM (0.10 MI) NORTHERLY ALONG ELLSWORTH ROAD FROM THE POST OFFICE
DU0672'IN QUEEN CREEK, THENCE 1.2 KM (0.75 MI) EASTERLY ALONG OCOTILLO ROAD,
DU0672'THENCE 9.6 KM (5.95 MI) SOUTHEASTERLY ALONG THE SOUTHERN PACIFIC
DU0672'RAILROAD, 14.5 M (47.6 FT) NORTHEAST OF AND LEVEL WITH THE CENTER OF
DU0672'A DIRT ROAD, 11.0 M (36.1 FT) NORTHWEST OF MILEPOST 945, 8.8 M (28.9
DU0672'FT) SOUTHWEST OF THE NEAR RAIL, 8.6 M (28.2 FT) NORTH OF A UTILITY
DU0672'POLE WITH A METER ATTACHED, 0.4 M (1.3 FT) SOUTHEAST OF A WITNESS
DU0672'POST, AND THE MONUMENT PROJECTS 0.1 M (0.3 FT) ABOVE THE GROUND
DU0672'SURFACE.
DU0672
DU0672 STATION RECOVERY (1992)
DU0672
DU0672'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 1992
DU0672'THE STATION IS LOCATED ABOUT 8 KM (5.0 MI) NOTHEAST OF MAGMA, 7 KM
DU0672'(4.3 MI) SOUTHEAST OF QUEEN CREEK, ALONG THE SOUTHERN PACIFIC
DU0672'RAILROAD TRACK, AT MILE 945, 2.5 KM (1.6 MI) SOUTHEAST OF A TRACK
DU0672'SIDING AT STOCK PENS, BETWEEN THE TRACK AND A DIRT ROAD.
DU0672'OWNERSHIP--SOUTHERN PACIFIC RAILROAD.
DU0672'TO REACH THE STATION FROM THE QUEEN CREEK POST OFFICE, GO NORTH ON

DU0672'ELLSWORTH ROAD FOR 0.16 KM (0.10 MI) TO A PAVED CROSSROAD. TURN
DU0672'RIGHT, EAST, ON OCOTILLO ROAD FOR 1.08 KM (0.67 MI) TO A SLANTED
DU0672'PAVED CROSSROAD AT TRACKS. BEAR RIGHT, SOUTHEAST, ON RITTENHOUSE ROAD
DU0672'FOR 4.86 KM (3.02 MI) TO END OF PAVEMENT AT RIGGS ROAD. CONTINUE
DU0672'AHEAD FOR 2.64 KM (1.64 MI) TO AN OVERHEAD ELECTRIC WIRE AND THE
DU0672'STATION ON THE LEFT.
DU0672'THE STATION IS SET IN THE TOP OF A 25-CM SQUARE CONCRETE POST
DU0672'PROJECTING 10-CM. LOCATED 14.8 M (48.6 FT) NORTHEAST OF AND SLIGHTLY
DU0672'HIGHER THAN THE ROAD CENTER, 11.2 M (36.7 FT) NORTHWEST OF A UTILITY
DU0672'POLE WITH MILE MARKER 945, 8.9 M (29.2 FT) NORTH OF A UTILITY POLE
DU0672'WITH METER AND PIPELINE WEATHER UNIY 53-16, 8.9 M (29.2 FT) SOUTHWEST
DU0672'OF THE SOUTHWEST RAIL OF THE TRACK AND 0.4 M (1.3 FT) SOUTHEAST OF A
DU0672'METAL WITNESS POST.